Welcome to TRX-Manager V5 !

Welcome to TRX-Manager, an interactive software for HAM Radio Operators!

TRX-manager supports almost all the functions of more than 130 commercial transceivers as well as many accessories (rotators, amplifiers, antennas, keyers, wattmeters...) fully integrated in a comprehensive package for Radio Amateurs. TRX-Manager implements all these functions in conjunction with very fast monitoring and easier, more effective SW Listening, DX Spotting, Logging, Award tracking, Satellite, Rotator control and much more... In addition it can even operate simultaneously with several other programs including PDA's LOGic logging program. A control of a remote HF station by packet, Internet or a LAN is also provided along with many other original features...

If you are impatient to use the program, please see first:

Features map
Getting started
On line-help

But please take time to learn more about all the TRX-Manager's features:

Main Transceiver

- Large digital display of the transmitted and received frequencies
- Animated VFO knob
- S-meter with memory
- Joystick control
- Easy and quick operation in split and QSX,
- Automatic mode and filter switching
- Extended control (if supported): Volume, DSP, Keyer...
- Transverter option
- Remote control of a rig via Packet or Telnet (standard or real)
- Remote control using a Web Server
- Memory channels management
- Graphic band scope for band activity checking

Advanced functions,

- Keyboard shortcuts
- Compact and comprehensive display, DX Bar
- Control of up to 3 Sub-Transceivers
- Programmable Band Decoder (LPT or COM Port)
- Support for SO4R (Single Operator Four Radios) operation
- PTT Switching using an external line

- Quick Memories
- Programmable Band Plan
- Drag and drop of frequencies between windows
- OLE Link, TCP/IP Interface (TRXNET Protocol)
- Compatibility with LOGic, Swisslog
- High precision S-Meter
- Macro commands
- Synchro for SteppIR beam, ACOM 2000 & ACOM 600S amplifiers, third party program and other controllers via RS-232,
- Linear-Reminder for manual linear amplifier (or antenna tuner)
- Support for CW Skimmer
- Support for digital Wattmeters
- TRX-Pan a Spectrum Analyser for SDR
- Digital modes: MMVARI Engine embedded, Interface with Fldigi, MULTIPSK, HB9HQX (JT65), WSJT-X
- Data base for Short Wave Listening, Automatic identification of stations
- Sound Recorder

DXing

- Web Cluster interface (Internet)
- Data terminal (Packet Telnet)
- DX Cluster interface, sound announcement
- DX Map (Plot spots & NCDXF Beacons), interface with DX Atlas and Google Earth
- HF Propagation predictor
- Automatic DX Tracking, Black lists
- Rotator control
- Satellite Interface
- CW Interface via Serial or LPT Port, Winkey or CAT Interface

Intuitive logging, Awards tracking

- Log-book with advanced Import/Export utility
- Logbook's Explorer
- Comprehensive DXCC information
- Prefix database editing (customization, 11m possible)
- Real-time tracking of the DXCC IOTA WAZ WAS and VUCC awards
- Support for the DDFM/DPF awards
- Support possible for other awards
- Advanced searches using the SQL language
- QSL labels printing
- Compatibility with HamQTH QRZ Callbook and HAMCall CD-Roms or Internet database
- Automatic lookup of the FCC License records
- Callsign lookup from various Internet websites
- Contest mode
- Support for the LogBook of The World
- Cloud Logging (eQSL, HRDLOG.net, QRZ, CLUBLOG), CLUBLOG DXCC Query
- Link with LOGic, ADIF Capture N1MM+ UDP Broadcasts, WSJT-X UDP Broadcasts

Graphic Interface

- Multi language interface (French/English/Spanish/Swedish/German/Polish)
- Configurable Tool Bar (Office type) and Sessions
- Comprehensive on line help
- Internet browser, Quick EMailer
- Screen saver and desktop background

Specifications

The software runs under any 32 bits or 64 bits version of Windows (Except NT3.51) and supports the following transceivers defined as Main transceiver:

YAESU
FT-212 FT-412 FT-736 FT-450 FT-747 FT-757GX FT-757GXII FT-767GX FT-817 FT-840 FT-847 FT-857 FT-890 FT-891 FT-897 FT-900 FT-920 FT-980 FT-990 FT-991 FT1000MP /MKV FT1000D FT-990 and FT-1000 ROM 1.2 FRG-100 FT-100 FRG-9600 VR-5000 FTDX-1200 FT-2000 FTDX3000 FTDX5000 FTDX9000

KENWOOD
R-5000 TS-440 TS-450 TS-480 TS-570 TS-590S TS-590SG TS-680 TS-690 TS-711 TS-790 TS-811 TS-850 TS-870 TS-940 TS-950 TS-990 TS-2000

ICOM
IC-703 IC-706MKII IC-706MKIIG IC-718 IC-725/6 IC-7300 IC-735 IC-746 IC-746PRO IC-7400 IC-7410 IC-751 IC-751A IC-756 IC-756PRO/PRO2/PRO3 IC-765 IC-271 IC-471 IC-275 IC-475 IC-775 IC-781 IC-820/821 IC-910 IC-9100 IC-970 IC-R75 IC-R7000 IC-R7100 IC-R8500 IC-R9000 IC-R9500 IC-7000 IC-7100 IC-7200 IC-7600 IC-7610 IC-7700 IC-7800/7850/7851 IC-PCR1000

TENTEC
Omni-VI Omni-VI+ Omni-VII RX320 Argonaut-V Jupiter Eagle Argonaut-VI

JST
NRD-535 NRD-545 JST-145 JST-245

ALINCO
DX-77

ELECRAFT
K2 K3 KX2 KX3 KPA500 KAT500

Other brands
CODAN NGT RACAL 6790
OMNI-RIG's Library (by VE3NEA See List of supported rigs)
JUMA TRX2
ACOM 600S/1200S, ACOM 2000
SMARTSDR-CAT

Only the following Transceivers are supported as Sub-Transceivers:

All ICOM, Kenwood and Elecraft transceivers, Yaesu FT-450 FT-736 FT-840 FT-890 FT-900 FT-950 FT-990 F-1000D FT-1000MP FT-920 FT-817 FT-847 FT-857 FT-891 FT-897 VR5000 FT-991 FTDX-1200 FT-2000 FTDX3000 FTDX5000 FTDX9000 FT-450 NRD535/545 RX320 ARGONAUT JUPITER ICPCR1000 CODAN RACAL OMNIRIG EAGLE SMARTSDR-CAT

Please note some of the above functions do not run with all transceivers.

Distribution

TRX-Manager is not a free software. You may test TRX-Manager to determine the compatibility with your system and the various elements of your station. Please check the license conditions before using and copying the software and see how to order.

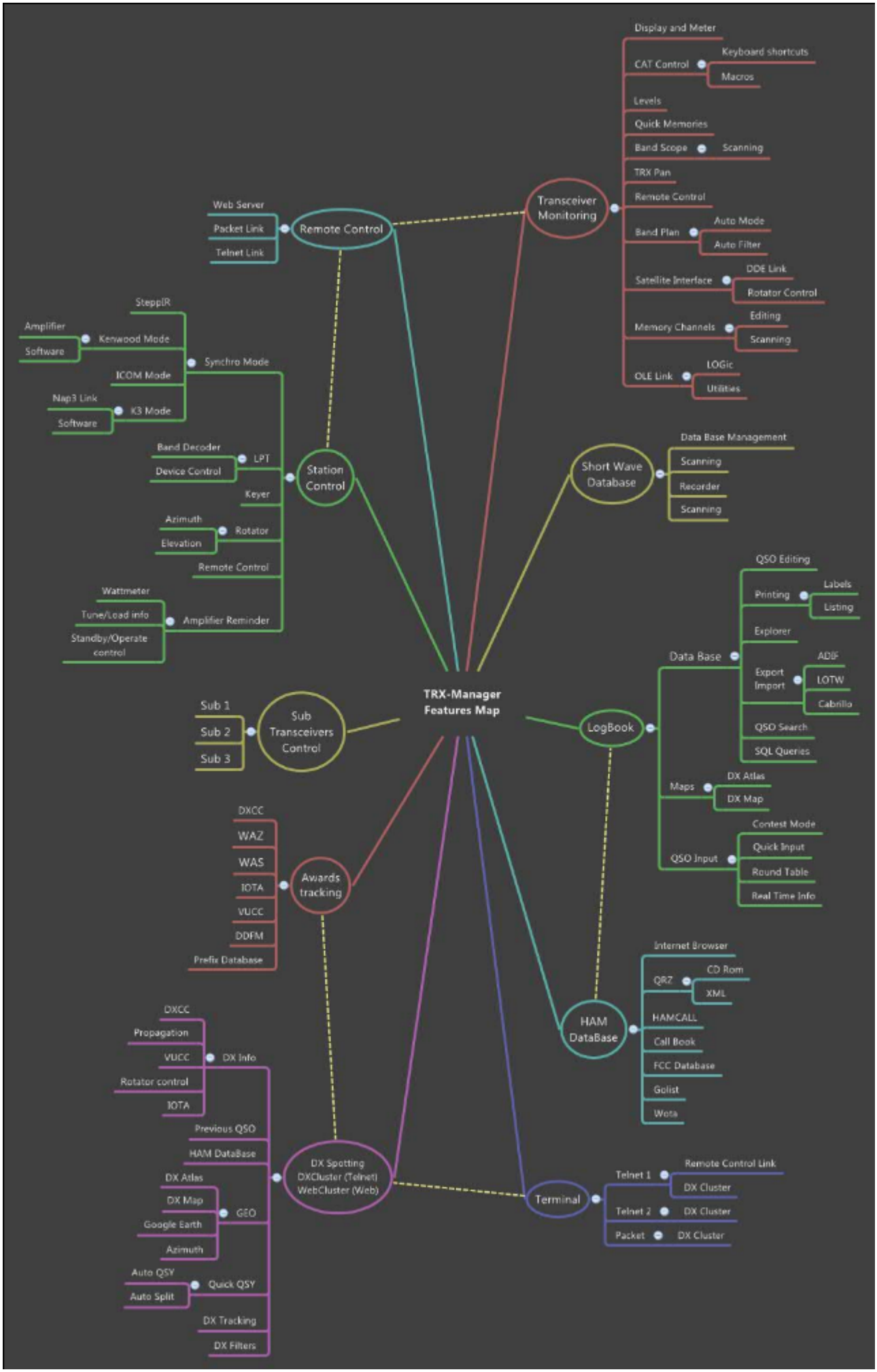
An HAM Radio amateurs team has contributed in helping to test the software. I thank also GES (F6ELU), RADIO 33 (F5OLS), ICOM France (F6FOW) John KI4JPL (TenTec) Stan LZ1IU (ACOM) for the technical assistance brought to the implementation of the Yaesu, Kenwood TenTec

ICOM ACOM transceivers/amplifiers.

IDDN.FR.001.180003.00.R.P.1999.000.31400

TRX-Manager: features map

This diagram shows the various functions grouped by main features.


TRX-Manager
Features Map
Transceiver Monitoring
Display and Meter
CAT Control
Keyboard shortcuts
Macros
Levels
Quick Memories
Band Scope
Scanning
TRX Pan
Remote Control
Band Plan
Auto Mode
Auto Filter
Satellite Interface
DDE Link
Rotator Control
Memory Channels
Editing
Scanning
OLE Link
LOGic
Utilities
Remote Control
Web Server
Packet Link
Telnet Link
Station Control
SteppIR
Amplifier
Kenwood Mode
Software
Synchro Mode
ICOM Mode
Nap3 Link
K3 Mode
Software
Band Decoder
LPT
Device Control
Keyer
Azimuth
Rotator
Elevation
Remote Control
Wattmeter
Tune/Load info
Amplifier Reminder
Standby/Operate control
Short Wave Database
Data Base Management
Scanning
Recorder
Scanning
Sub Transceivers Control
Sub 1
Sub 2
Sub 3
LogBook
Data Base
QSO Editing
Printing
Labels
Listing
Explorer
Export Import
ADIF
LOTW
Cabrillo
QSO Search
SQL Queries
Maps
DX Atlas
DX Map
QSO Input
Contest Mode
Quick Input
Round Table
Real Time Info
Awards tracking
DXCC
WAZ
WAS
IOTA
VUCC
DDFM
Prefix Database
HAM DataBase
Internet Browser
QRZ
CD Rom
XML
HAMCALL
Call Book
FCC Database
Golist
Wota
DX Spotting
DXCluster (Telnet)
WebCluster (Web)
DXCC
Propagation
VUCC
DX Info
Rotator control
IOTA
Previous QSO
HAM DataBase
DX Atlas
DX Map
Google Earth
Azimuth
GEO
Auto QSY
Auto Split
Quick QSY
DX Tracking
DX Filters
Terminal
Telnet 1
Remote Control Link
DX Cluster
Telnet 2
DX Cluster
Packet
DX Cluster

Getting help

TRX-manager features a very comprehensive help system. Most windows have a help button and many controls have touch help.

Index is the best approach to search for a specific information using known Keywords. If you don't find you may try the Search function.

You may also print any section or all the topic using the Print button.

See also

Welcome to TRX-Manager V5

Getting started

Features map

Versions history

Troubleshooting

How to order ?

Support and update policy

Requirements

TRX-Manager requires:

- Probably a transceiver or a receiver!...
- A Personal Computer and any 32 bits or 64 bits version of Windows (except NT3.51), an X-VGA monitor (minimum)
- A free serial port for the radio interface or an USB/Serial adapter (Com 1-32 supported)
- Eventually an RS232/TTL Level converter (but most recent rigs include this converter)
- A Connection to the Internet (optional but recommended)

DBCS Systems

TRX-Manager is NOT compatible with any version of Windows using DBCS (China, Japan, Taiwan, Korea) and Windows NT3.51.

Disk space

The necessary disk space to install the software is about 50 Mb (it may depend on the software already installed). At least, 200 MB of free disk space are required to run the program.

RAM

Recommended minimal requirement is 124 MB (Windows 9.X). Much more RAM is required under XP and later. However, this is no more an issue with recent computers.

Display

The preference menu Software tab offers you a choice of suitable colors, font type and size.

The program is optimized for a 1024*768 / 32 bits color display or more. You may have to adjust your Windows settings (size of title bars) if some dialogs are truncated.

RS 232/TTL interface

This section is of concern only with the older transceivers (before year 2000/2005) since all transceivers now include an RS232 port and/or an USB port. The ICOM transceivers still provide a TTL port (labelled Remote) but - now - also and systematically, an USB port.

If your transceiver provide a TTL port, a TTL/RS232 interface (to not confuse with an RS232/USB interface) is required to convert the TTL Level signal to the RS232 standard. In some cases you may need two devices: one TTL/RS232 converter and one RS232/USB cable (or interface)... The following TTL/RS232 interfaces are recommended : FIF232C (Yaesu), CT-62 (FT-100), IF-232C (Kenwood) or IF-10 (TS-440/940/50), CT-17 (ICOM) or all converters (LCU-3...) distributed by W1GEE (USA). Other reasonably priced TTL/RS232 interfaces are available on the market.

Cable

Generally the cable between the computer and the interface (or the radio) is a straight wired serial data cable (RS232 DB9/DB9). Exceptions are: FT-847 (null modem cable), FT-100 (Yaesu CT-62 cable), SteppIR (special wiring) and JRC (special wiring).

RS 232/USB converters

This section applies if you use the RS232 port located on the rear panel of your transceiver and if you don't have a com port on your computer.

While a com port on the mother card is always preferable, if your computer does not have a serial RS232 input (so called com port), you need an RS232/USB converter. Make sure your converter supports RTS/DTR/CTS/CTS as required for CW/PTT keying/TX Interrupt... or by protocols using RTS/CTS handshaking.

How to choose your "Serial to USB" Converter

USB to Serial converters built with FTDI chips are strongly recommended (http://www.ftdichip.com/); they are very reliable and provide very fast communications.

The cheap converters built with PROLIFIC chips (and all clones) are prone to malfunctions and slow communications with TRX-Manager.

A multi-ports PCI card (internal to the computer) is a very good solution which minimizes RFI and a cheaper alternative to 2/4/8 separate USB/Interface Cable.

See also Serial Port and USB

Once your RS232/USB converter is recognized by Windows, in order to set up TRX-Manager, you must determine the number assigned to the com port created by the driver. You have to go into the Device Manager and expand the Ports line to see the list (the com port number may be different depending on which USB device is connected to your computer).
TRX-Manager supports com ports from #1 to #32. If a com port has been created outside that range, you can re-assign the com port number (between 1-32) from the device manager.

Warning

If you use the integrated USB interface of your transceiver, don't forget to power your transceiver before running TRX-Manager. If this interface is not powered (power supply on), the USB interface does not work and the com port can not be recognized by TRX-Manager.

Supported TNC

TRX-Manager supports TNCs with TAPR (KAM, PK232) or TF (TNC2S,TNC3S) PROM. Hostmode are not supported.

Supported rotator interface

TRX-Manager supports SARTEK, Orion (PA PX), HyGain, Prosistel, Yaesu/Kenpro, EA4TX's ARSWin , WinRotor, Green Heron, AlfaSPID, MicroHAM and KCT rotator

interfaces. It is possible to control up to two rotators.

See also Rotator control

Parallel port

The TRX-Manager's band decoder emulates a Yaesu radio on pins 2-5 of a parallel port (other band data formats are possible). Parallel port can also be used for CW keying and is programmable for the control of an external device (such as amplifier...) or for SO4R information.


Windows 8/10/64bits (and later)

Under recent versions of Windows 64 bits, a test with your system is strongly recommended. According to our own tests, the LPT port appears to work provided the LPT port you are using is the one of the motherboard. If you use an LPT/USB adapter, it does not work properly in most of the cases. No fix will be available.

Other devices

TRX-Manager supports SteppIR beams (Synchro), Alpha amplifiers (TRX-Synchro), ACOM amplifiers and Winkey CW Interface.

Digital Vector Wattmeter LP-100 and LP-100A ALPHAPOWER 4500 series Elecraft W2 are supported.

Installing TRX-Manager

TRX-Manager is installed by a program which copies the required files and registers the system resources.

Preparing your system for installation

Under XP, Vista, W7, W8, W10

You must have administrator rigths to install TRX-Manager. Installing TRX-Manager with restricted rights is not possible.

Installing TRX-Manager

Licensed version

Run your personal file: SETUP_TRX5_DYYYYMMDD_IDXXXX.EXE as downloaded after your payment. Once installed, TRX-Manager must be registered.

Demo version (from a downloaded file)

You need to run the auto extractable file (trmde5.exe) in order to install the program.

Installation options

If the installation software asks you to keep the files present on your system : Please press first YES or (OUI). However, if the program does not run properly, uninstall and press NO the next time you install it.

It is also possible that Setup asks you to power off your computer: this is normal and necessary for the update of certain shared resources; once the computer is powered on again you may have to run Setup in order to finish the installation.

Folders structure used by TRX-Manager ("Use AppData" option)

Prior to CD Version 4.5.5 TRX-Manager used the Program Files folder as the default folder; this old scheme does not comply with the current specifications of Windows, especially if UAC is set to ON.

TRX-Manager V5.X uses:

- ..\AppData\Local\TRX-Manager as the default folder for all personal files (you may backup this folder for reinstallation)
- ..\ProgramData\TRX-Manager as the default folder for utility files (you don't need to backup this folder)

Tip

You may browse AppData\Local\TRX-Manager from the Parameters\Browse submenu. TRX-Tools.exe (distributed with TRX-Manager) lets you browse all the folders that TRX-Manager uses including the Backup folder.

Note

If you own an older installation (CD prior to 5.0), TRX-Manager switches using the new folder structure. Please note:

TRX-Manager will automatically copy temporary and utility files located in the TRX-manager's main folder to the new \Misc subfolders (located in ProgramData\TRX-manager and in AppData\Local\TRX-Manager),

BUT TRX-Manager does NOT move your personal files (i.e files created using the Open/Save buttons, your LOG or SWL database, your MEM files and generally all files located in the TRX-Manager's subfolders...). Consequently, almost all files located in the TRX-Manager's subfolders will NOT be moved and will stay in the Program files\TRX-manager's folder and TRX-manager continues to write Program Files!. It is up to you (but strongly recommended) to transfer these files to the new location (AppData\Local\TRX-manager's subfolders) and to configure TRX-Manager accordingly.

Running TRX-Manager under VISTA/Win7/Win8/Win10

TRX-Manager is compatible with Vista/Win7/Win8/Win10: so please DO NOT use WIN98 or WINXP compatibility modes. In the Compatibility tab for TRX-Manager.exe, you have to keep this option NOT checked. The "Compatiblity" mode can introduce unpredictable issues...

See also: Getting started

Installing an update

To install a TRX-Manager update, you must have administrator privileges.

Installing the updates is automated : after you download the trmup5xx.exe file from the TRX-Manager's Whatsnew page, you run the patch file. Its setup will find the installation folders, checks for your registration and updates the necessary files.

System upgrade and registration

If you upgrade your system (e.g W7/8 to W10), your registration will be deleted by Windows. Please reinstall TRX-manager as indicated above. You don't need to uninstall TRX-manager! This process will preserves all your personal files and settings. After your Registration is completed and confirmed, you can update TRX-manager again.

Installing an upgrade (new version)

If you need to uninstall and reinstall the program, or to install a new copy of the program, the following procedures are recommended:

- Do not delete any file or folder manually!
- Backup you most important files such as Logbook (*.mdb), memory files (.mem), short wave database files (.mdb). It is recommended you backup all the TRX-Manager's subfolders located in AppData\Local\TRX-Manager,

- Install the new version on top of the existing version (same folder)
- Register the new version

Installing TRX-manager on a new computer

From the old computer:

- Make sure you don't use the program files folder to save your data (logbook...) (see folders structure above)
- Save your parameters ,
- Make a copy of the (username\app data\local\) TRX-Manager folder
From the new computer

- Make sure this new computer uses the same folders structure than the old one (same username)
- Install TRX-Manager on the new computer
- Exit TRX-Manager
- Copy the (user\app data\local\) TRX-Manager from the old computer to the new computer (this may erase some of the data created after the recent installation)
- Double click the TRX-Manager.reg file located in the backup folder to restore your parameters (see Instructions and cautions)
- Running TRX-Tools, set ALL DEVICES = NONE. This process avoids any crash at startup of TRX-Manager due to a different enumeration of the com ports
- Run TRX-Manager, register your copy, restart.
- Now you can open the Parameters/Setup dialog to configure all your devices according to the new enumeration of the com ports...

Copying system or executable files

For a reinstallation, the installation procedure must be followed completely. Copying any EXE/DLL/OCX files or copying the hard disk (Drive Copy) or the system files from one computer to the other can make the application unstable and may prevent any further installation.

Never copy the content of the main Program Files\TRX-Manager's folder (with EXE/DLL/OCX files) on another computer since this can make the installation unstable.

Running TRX-Manager on Linux, Mac...

TRX-Manager is NOT compatible with Linux, Mac.. however some tests have been successfull with Windows emulators for MAC or Linux.

For this purpose, without opening TRX-Manager and using TRX-Tools.exe, it is recommended you set the following options from the Compatibilty menu before running TRX-Manager:

Windows emulator checked: TRX-Manager avoids using the Internet Explorer resources; some other functions may be disabled or limited.
OLE Enabled by default. Unchecked if necessary (e.g repetitive crash at Startup or during a session). If this option is unchecked the OLE Link is disabled.
Please understand that installing and running all the functions of TRX-Manager can not be guaranteed - and in any cases - not supported.

Getting started

Please run TRX-Manager from the Start menu.

Your first session (Setup)

For your first session the software prompts you to choose the Language, the IARU Region and pops up the Setup dialog box.

TIP

For this first session, please KEEP THE DEFAULT settings unless you understand exactly your changes. The only exception is DTR which may be required to power on your RS232/TTL interface (if used).

Related Topics

Overview and Settings

Features map

Specifications ICOM, Yaesu, Kenwood, Elecraft, TenTec, Alinco, JST, Others

Usually, you only need to choose your transceiver under TRX1, the desired serial port and (if available) the Speed. If you use a TTL/RS232 converter, it is possible that you have to check DTR or RTS to power on the converter.

RTS/CTS Handshaking will be automatically set by the program if you select a Kenwood (speed above 4800bds) or a TenTec transceiver. With recent Yaesu transceivers (FT450 to FTDX9000), the RTS check box must match the RTS Enable setting of the transceiver in order to enable the RTS/CTS handshaking protocol. Otherwise, Handshaking is NOT required and may lock up the program at startup if your transceiver does not support handshaking (in fact this option - which appears for some rigs - only exists for a compatibility with serial servers). See also Troubleshooting.

If you use an ICOM, please fill in its address, fill in the number of memories and check C00 if the channels are numbered starting from #00. From your ICOM, set the TRANSCEIVE function ON.

Initially, you DO NOT need to fill in the PTT or TRX-Interrupt frames (please let TX Interrupt NOT checked) to make the software operating. In the same way, the IP Port option which provides a remote control of the com port but requires a good knowledge of the program remains unchecked.

Later on, you can add an other Transceiver under TRX2 to TRX4, choose your Preferences : language, colors, filters and other miscellaneous settings (Terminal, Rotator, CW, Synchro , SO4R)...

IMPORTANT

Make sure of your settings (especially Transceiver, Speed and Serial Port) are correct. From Setup, click the summary button to see the list of the selected com ports and check for the duplicate selections.

Running the Monitoring

To check if the software correctly communicates with your transceiver, close the Setup window, re-start the program and activate the Monitoring module using the Transceiver/Monitoring sub menu or the corresponding button (F6). With some Transceivers, you must press the CAT button (main tool-bar or Transceiver sub menu) to engage computer control.

The Monitoring is the heart of TRX-Manager. If all has been properly configured, the Monitoring window displays the current state of the main transceiver and you can control it from the computer.

If necessary, you can also access more controls from the Levels window (Transceiver/Levels sub menu).

Internet

TRX-Manager uses Internet Explorer's settings. Please configure you firewall to allow TRX-Manager accessing to the Internet or your personal network.

User manual

Now, please read some of the help topics... for this purpose, a printable help is available for download from the TRX-Manager's website . Reading the sections related to the graphical interface and windows layout is particularly recommended.

Some VERY frequently asked questions

1) TRX-manager offers a great number of programmable automatisms: some of them can be disconcerting... One of the most frequently asked questions is related to the mode and filter settings (including DSP or EDSP, Slope Tuning, Filters).

> *Frequently asked question:*
> *The program is buggy ! It sends commands (mode or filter, DSP, Slope changes...) to the transceiver...*
> *Answer :*
> *TRX-Manager provides an auto-mode function: the mode change is done according to a programmable band plan. Please see the section related to the modes and filters (including DSP, PBT...) and to the band plan for understanding the logic of the program and set auto-mode OFF (Monitoring) or from the Preferences/Transceiver/Band Plan tab if you don't like this function.*

2) An other frequent question is related to the configuration of the screen at startup...

> *Frequently asked question:*
>
> *How to do so that the windows which have been opened during a session open*

automatically at the next session?

Answer:

TRX-manager can save the position and the size of each window from one session to another. To activate this feature you must check the Previous session option under the Software tab of the Preferences . This option should be checked only after you make sure the program correctly communicates with all your devices in order to avoid a repetitive look-up at startup...

Activating the Previous session option

3) About Time and Date

Frequently asked question:

When in edit mode (Normal QSO mode) the Log time is 24 hour Zulu format but when switching to List mode the time is displayed in 12 hour am/pm mode?

Answer:

TRX-Manager follows Windows Regional Settings for Time, date, etc... See also Graphical interface and preferences.

Use with old computers

TRX-Manager is still compatible with old computers running Windows 95SP1/98 and Pentium II/III 500M/1GHz class processors. On these computers, you may notice that the program seems to slow down the PC... This is possible because TRX-Manager is a real-time control program: it constantly exchanges data with the devices under control and does many computations... and represents a charge for the processor. The communication loop may also slow down the use of other software. It is therefore better to minimize the software as a task bar's icon while using other software since the CAT loop pauses while you minimize the main window.

Please read also the section related to the use of the TRX-Manager's OLE interface with LOGic to get more information about this particular case.

However, with recent computers running true multi-tasks OS like Windows XP/Vista/Win7/8,

this drawback is generally not perceptible: TRX-Manager uses less than 2% of CPU time.

System Resources

TRX-Manager implements a large number of graphic functions in each independent module. If necessary, please only open the modules which you need in order to free up the resources for other programs.

Graphical interface and preferences

The program allows choosing various preferences from the Preference sub menu. Each Tab of the Preferences dialog boxes is related to a particular module. Please click the help button for getting help about the displayed tab. Below, only general settings are described.

Related Topics

Windows layout

Database Grids

Saving your parameters

Installation, reinstallation

Interface overview

The software uses the Multi Documents Interface system : each window is displayed inside the same container. You can minimize or resize most windows in order to adjust your interface as you want.

The program keeps in registry window's position and size. You may also automatically recall the last session.

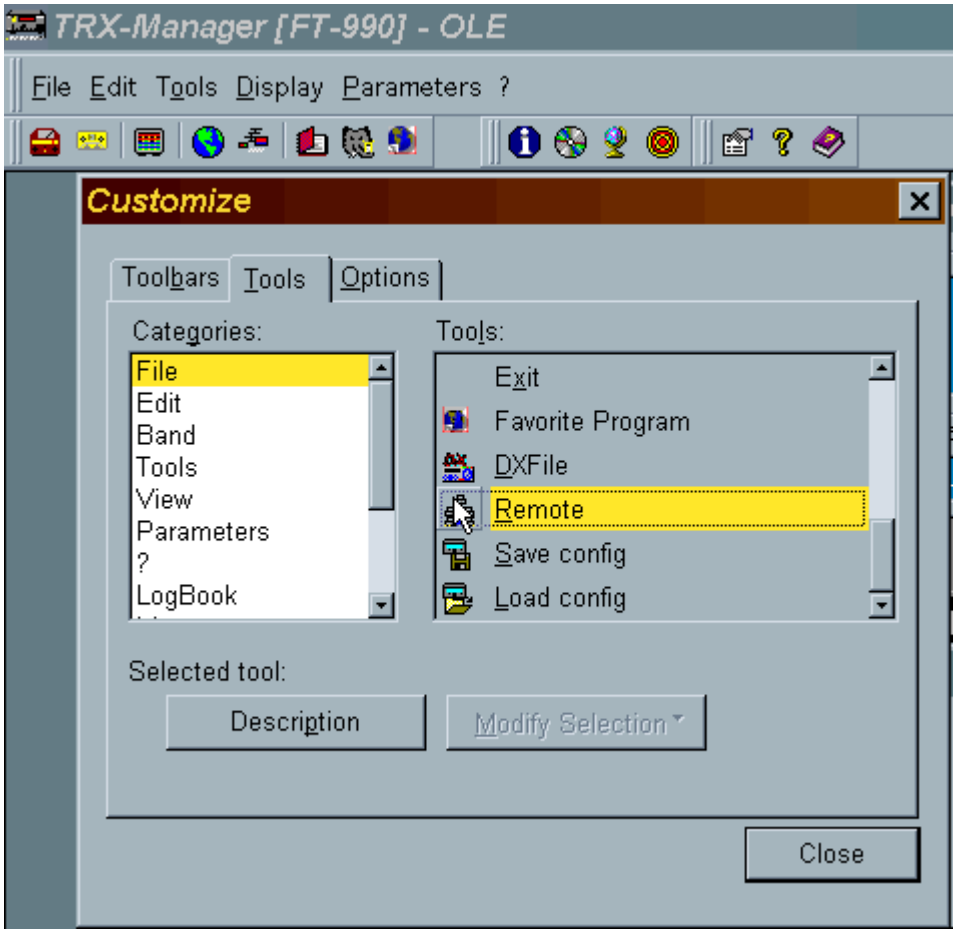
You may quickly re-open the last screen's configuration from the File/Previous session submenu. You also may automate this procedure by checking the Previous session option (Preferences , under Software).

Related Topic

Windows layout.

Customizing the main tool bar

The user may customize the main tool bar: a right click on the tool bar or the Display/Toolbars... menu opens the editor (Customize). It is possible to remove, to move (...) any button, and to set Large icons. Moving, adding or removing of the buttons are done by drag and drop when the customization window is open.



Custom buttons

It is possible to associate up to five buttons with any program of your choice. Please open the Preference submenu, under software, to associate a button with a program. TRX-Manager extracts the icon so it appears on the tool bar.

Please note that the corresponding program opens from its directory. To remove a program, first press the delete button then the button to delete.

If the associated icon is not properly extracted (like with MS-DOS programs), please copy the desired icon (16 X 16 pixels) into the TRX-Manager's directory and rename it as PROGi.BMP (i= 0 to 4).

Personalized Menus (Office 2000 type)

By default, TRX-Manager shows all submenus (menu commands).

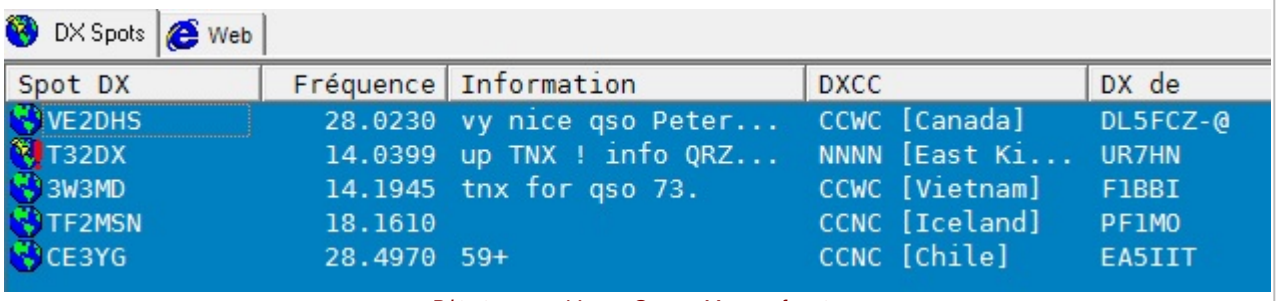
TRX-Manager's Personalized Menus feature enables to focus on just the commands you need and use. To enable the Personalized menus, please open the Customize dialog box (as indicated above) and check Menus show recently... under Options. Once this option is checked, the menus will contain those primary commands that are used some 95 percent of the time; infrequently used commands, known as secondary, are not displayed, resulting in a simplified user interface. At the bottom of each menu is a button that expands the menus to the full selection of choices so you can still easily find all menu commands. As you access menu commands, those commands are "promoted," while unused menu commands are not displayed. Over time the user interface will be tailored to your needs. If you need to reset the usage patterns back to the original settings, please open the Customize dialog box (Display/Toolbars submenu) and under Options , click Reset my usage data.

Customizing the modules

Under the software tab (Preferences) you may set different options to customize the colors, the font for some labels or lists and how the controls are displayed for the different modules.

Recommended fonts

By default, TRX-Manager uses the Lucida Console and Arial fonts (size 10) for Terminal and Lists respectively. These fonts are suitable for all computers. Furthermore, TRX-Manager installs the Bitstream Vera Sans Mono fonts. These fonts are particularly well suited to TRX-Manager by distinguishing zero and O (Oscar); However, since these fonts are not always displayed properly on older systems that do not have ClearType, a try is recommended (Size 9 for Terminal and 10 for Lists). You can always return to the default fonts. If applicable, these fonts can be set for the Logbook and the SW Database using the Font buttons of the corresponding toolbars.



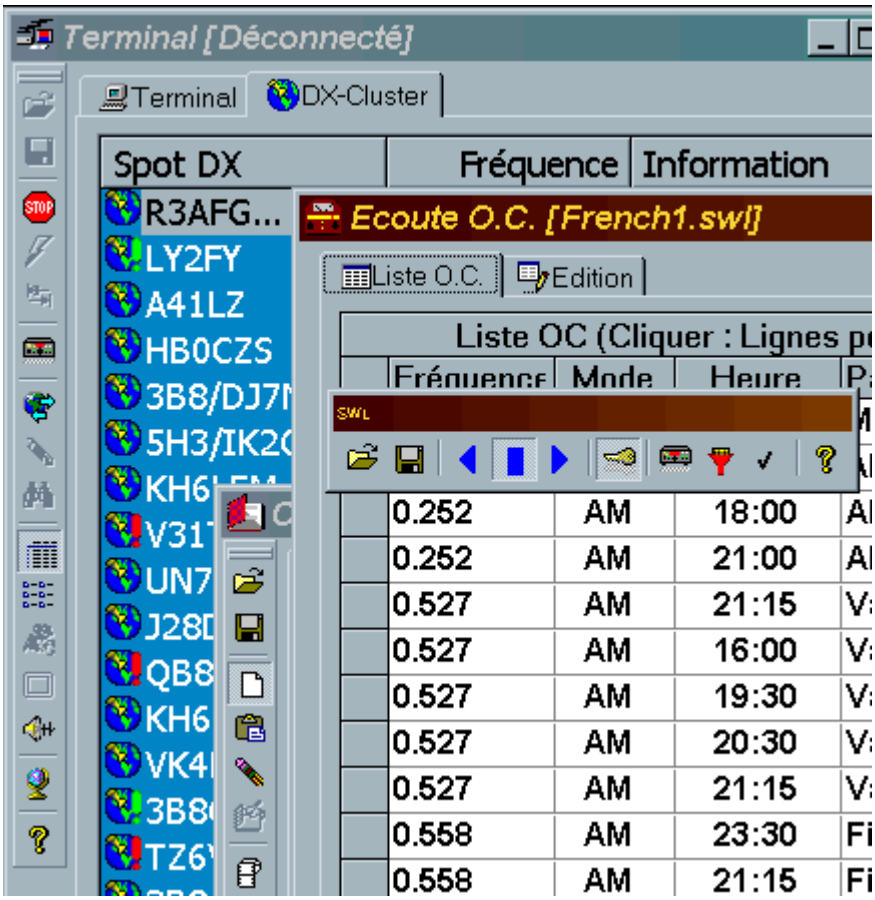
Bitstream Vera Sans Mono fonts

The Active colors check box determines whether the picture displayed for each toolbar's button is changed to grayscale when the mouse pointer is not over the button.

Active Color OFF

Active Color ON

The Large Icons check box determines whether the pictures displayed for buttons are enlarged. Please note these options have no effect on the main toolbar which is fully customizable (see above). Any toolbar can be docked in any one of the four sides of its container, as well as be made to float. Hold the mouse and drag the toolbar where you want...



You may choose to display the icons related to each tab by checking the Icons check box (Preferences under Software). Note, on some PC, the size of icons may be too large and cause a wrong display.

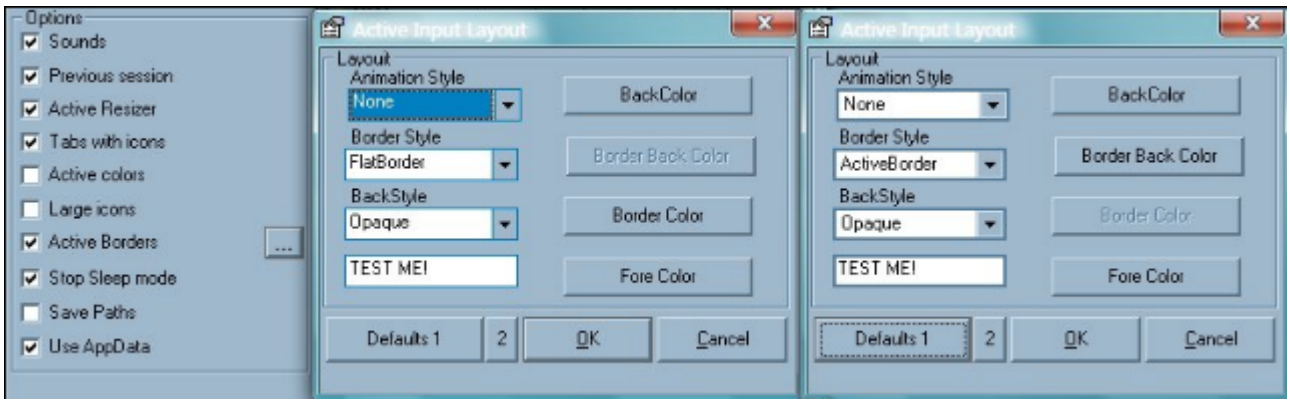
The Active Resizer check box resizes most windows. It maintains the same proportions and locations of controls relative to one another. This option optimizes the available space but slows down the loading of the program.

The Active Borders check box gives a raised 3-D border that appears only when the mouse pointer is over some controls:

Active Border OFF

Active Border ON

By clicking the follow upbutton ... you can access more settings:



Setting time and geographical position

You have to set up the parameters for Time via the Preferences submenu under Location . By default, TRX-Manager uses the system time; the system time should be equal to the UTC time. If you prefer, or if the displayed UTC time is not correct, you also may use the local time with a convenient offset (PC-UTC).

Then you have to set Longitude and Latitude (sexagesimal format while East from Greenwhich and North from Equator are positive values) to get correct azimuths and distances.

Date and Time are displayed using the Windows regional settings.

Stop Sleep Mode

If Stop Sleep mode is checked, TRX-Manager prevents Windows from going into sleep mode and running a ScreenSaver. TRX-Manager does not really disable these functions but moves the mouse (by some pixels) to simulate an activity each 5 minutes (unless a real activity is detected). The corresponding mouse movement is not perceptible.

Language

You can choose your preference language for the interface : French, English, Swedish Spanish German or Polish from the Preferences sub menu under Software.

Help is tranlated in English and French only. Spanish (F) displays the French help and Spanish (E) displays the English help.

TRX-Manager itself is translated ~100% in English, ~99% in French and from 50% to 90% in other the languages. However, many error message may appear in English only and sometime in French. Since the software is conceived as a multi language software, with your help, it is possible to quickly translate each label into any language (please contact the author). It is also possible to improve the various translations - thank you for your indulgence!

Distances

The distances can be displayed in Miles or Kilometers.

Regional settings (Windows)

Dates and Times are displayed according to the format defined for Windows : please set these preferences from the Windows's Regional Settings Panel (Date and Time property pages).

Using the period (.) as decimal separator is highly recommended! Please set this parameter from the Numbers property page (Windows's Regional Settings Panel).

Windows layout

TRX-manager features various functions relating to the windows.

Fonts and colors

The Preference/Software dialog allows setting the default colors and fonts for most windows.

It is recommended you choose a non proportional font for Terminal. A non proportional font is required for an accurate alignement of data in many modules of TRX-Manager. Courrier New is the default, but Consolas (available with all recent computers) gives the best results. A non proportional font can also be selected for Lists.

TRX-Manager uses Arial or MS Sans Serif by default as proportional font. Many windows provide a specific option to customize fonts, font sizes and/or the colors (Monitoring, Logbook, SW database...).

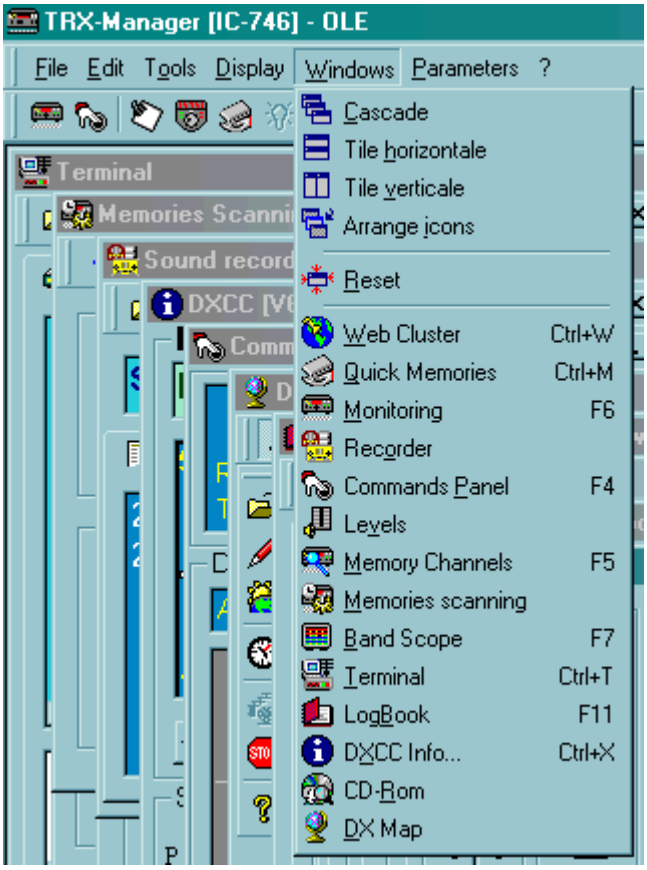
Position and size of the windows

All the windows can be laid out on the screen as you wish. Most windows can be minimized as icons in the lower display area but only a limited number of windows can be maximized (i.e. to occupy all of the screen). However, most windows can be resized with the mouse to adjust the size of the characters or the data.

Normalizing a window can be done by clicking its title bar.

How to locate the open windows?

The Windows menu lists the titles of all open or minimized windows. Just click on the title of the desired window. If the selected window is minimized, it will be normalized.



Reorganization of the windows

The Windows menu offers the standard Windows's functions:

Cascade : positions all the windows in cascading fashion. The windows are resized with their default size.
Tile horizontal : lays out the windows - one on top of the other.
Vertical mosaic : lays out the windows - one beside the others.
Arrange icons : the icons of the minimized windows are re-aligned.
Reset : the windows are re-initialized with their size by default without changing their position.

Note

The Tile Horizontal/Vertical menus resizes the windows to occupy the maximum area of the display. In practice, this function produces rather undesirable results.

Active resizing option

Some windows provide active resizing: Active Resizer maintains the same proportions and locations of controls relative to one another. The Active Resizer also dynamically adjusts the size of the fonts used in the controls, so the size of the text in a control remains proportional relative to the overall size of the control. This option optimizes the available space. This option is set from the Preference dialog box, under Software.

This option does not affect all the controls: for example, grids and listings are not affected. For those controls, you may have to adjust the size of the font manually (if available).

Saving the position of the windows, recalling a session

At the end of each session, the program saves the size and position of each window. This configuration is automatically recalled the next time you start TRX-Manager if the previous session option in (Preference/Software) is checked.

In addition, saving and recalling a particular session (i.e. position and sizes of each window) is possible from the File  Open /  Save Session sub menus. Sessions are saved as .trx files.

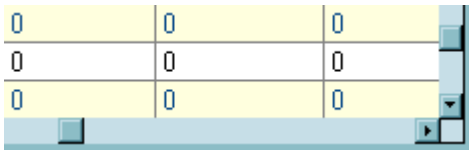
Database Grids

TRX-Manager uses configurable grids (Infragistics Data Widget 3 library) to display the database (SW List, LogBook, Prefix...). This section summarizes the common methods for the use and the configuration of these grids.

Manipulating and configuring the grids

Scrolling the database

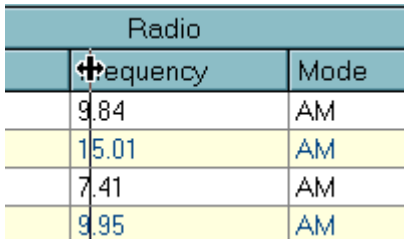
Scrolling the database is possible using the horizontal and vertical scrollbars.



horizontal and vertical scrollbars

Resizing the columns

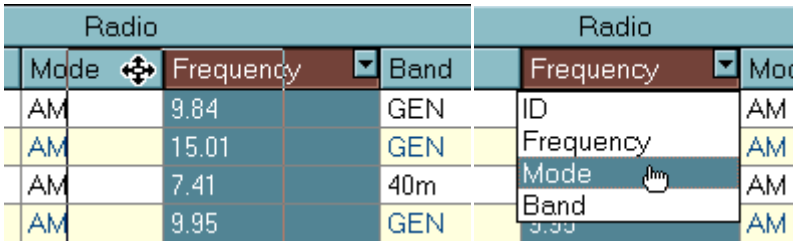
The columns may be resized using the mouse in the same way as with Windows's Explorer.



resizing the columns

Moving the columns

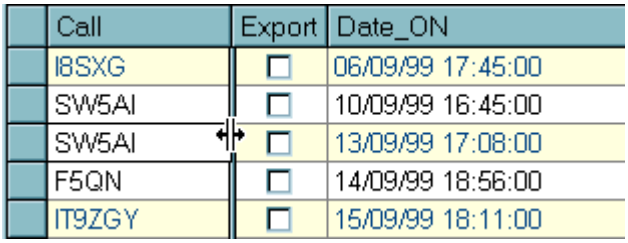
The columns are moveable by moving their header or from the drop down menu which appears in the header. SW Database is displayed by groups of data: groups may also be swapped.



moving or swapping the columns

Splitting the grid

Grids may be divided by moving the splitter. This provides horizontal scrolling while keeping a fixed section.



moving the splitter

Colours

Odd lines uses Windows default colours ; colour of even lines may be set from the Preference dialog under Software.

Saving a layout

Layout changes (position and width of the columns) may be saved by pressing the layout button . The layout is then saved as a .grd file having the same name as the corresponding database; this file will be recalled when opening the database.

Example

You are working under TRX-Log.mdb. When you press the layout button, TRX-Manager creates or updates the layout file TRX-Log.grd; this file will be recalled each time you open the TRX-Log.mdb database.

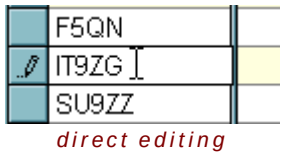
Editing the records, sorting

Selecting a record

Selecting a record is done by clicking any field of the corresponding line. This record becomes the current record.

Direct editing

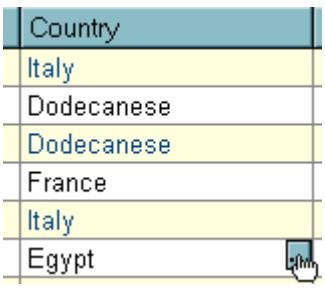
In some cases, records may be edited from the grid directly : a click on any other record validates the changes.



direct editing

Buttons

For some fields, a button appears when you click the field and provides various functions.



column button

Sorting

To sort a column, you have to select this column by selecting any record from this column or the header ; an action on and buttons provides sorting by ascending or descending values.

Navigation bar

The navigation bar provides additional functions :

navigation bar

: these buttons jump to the previous/next page/record in the database.

(Update) : validates the changes made from the Grid.
(Cancel) : Cancels the changes made from the Grid (before validation)..
(Delete) : Deletes the current record
(Add Bookmark) : Adds a bookmark for the current record
(Clear All Bookmarks) : Clears all stored bookmarks.
(Go to Bookmark) : Presents a list of all stored bookmarks :

(Find) : Invokes a Find dialog, allowing a search of the database. Select a field (Column to search), the search criteria (Match), the direction (Up/Down) and the value of the field (Find).
(Find Previous Find Next) : Searches backwards/forwards in the database for the next occurrence of data specified in the Find dialog.

Possible problems

1) After updating the program, the new fields do not appear: please delete the layout file (.GRD) associated with the current database in order to reset the layout of the grid to the default.

2) I f the grids appears empty or corrupted, you have to delete the layout file associated with the database. The next time you open the database, the default layout will be displayed.

Saving your parameters

Saving your parameters

The Parameters/Save Parameters subenu saves all your current settings (Setup and Preferences) into a reg file (TRX-Manager.reg).

Depending on your system and version, the TRX-Manager.reg file may be located:

1. in the TRX-Manager\Backup folder
2. in the \User\AppData\Local\TRX-Manager\Backup folder (by default since TRX-Manager V5.X)

Restoring your parameters

To restore your parameters, you have to exit TRX-Manager and double click the TRX-Manager.reg file or use the TRX-Tools software delivered with TRX-Manager (Restore Parameters command). Pay attention to the file paths which will be restored with your settings...

Exporting the parameters

It is sometime possible to restore your parameters into an other computer by running the TRX-Manager.reg file.

Please pay attention to the file paths and com port numbers which must be the same ones as on the computer on which the TRX-Manager.reg file has been created. You must then use the same organization of your hard disk, the same system, the same com ports, the same UserName and the same screen resolution.


Warnings (incompatibilities)

Do not export the parameters into an other computer if it does not have the same screen resolution or does not have the same folders structure and the same UserName
Use the reg file with caution from a 32 bit system to a 64 bits system: file paths of the program file folder are generally different between 32 and 64 bit systems. However, if you don't use this folder to store your data, this should not be an issue.
To avoid any crash at startup due to a different enumeration of the com ports, it is recommended to set ALL DEVICES = NONE using TRX-Tools before running the new installation.

If this operation is done by mistake, you may have to invoke the TRX-Manager's Windows/Reset submenu for each layout in order to restore the default sizes of each window and/or to delete the whole Registry key (HKEY_CURRENT_USER\Software\VB and VBA Program Settings\FT-Manager) if more parameters are concerned. TRX-Tools.exe delivered with TRX-Manager allows various changes in the registry without opening TRX-Manager or the Registry.

About the registration

The Save Parameters function does not save your registration (these registry keys are not

transferable).

It is recommended your restore the parameters AFTER you register the software: in some case, restoring the parameters may erase your registration.

Saving, restoring your personal files

See also : Installation, Reinstallation and the note about the TRX-Manager's folders structure.

All personal files such as Logbook database (.mdb), SWL (.mdb), MEM (.mem)... should be located in the AppData\Local\TRX-Manager subfolders. However, if you have upgraded from an older version, your files may be still located in the TRX-Manager's subfolders depending on your version and option for Use AppData . It is recommended that you backup all these subfolders.

Warning

Please never copy any EXE/DLL/OCX file from one computer to the other. This is useless and can make a reinstallation very difficult and unstable. The only way to install TRX-Manager on a new computer is to use the Setup engine.

All temporary and utility files for the program itself are located either in the TRX-manager's main folder or in the ProgramData\TRX-Manager\Misc folder (depending on your version and option for Use AppData). You don't need to save these files since they are restored by the setup engine...

Uninstallation

Easy and clean uninstallation is provided by using Windows utilities.

Automatic uninstallation

The software may be fully uninstalled using the standard Windows's utility (configuration panel: Add/Remove applet).

During the process, the software may ask you to keep or to remove some of the shared files. You have to select REMOVE ALL for a full uninstallation (including not shared DLL or OCX files).

Whatever your choice is, the software will not delete effective shared files if they are correctly installed. But if you choose "KEPP ALL" the software will mark these files as "SHARED" and it will not be possible to remove them later.

Manual operations

It may be necessary to delete the ..\AppData\TRX-Manager folders manually because the uninstall applet doesn't recognize files created by the software. You may also save the content of this directory if you wish to reinstall TRX-Manager later.

If you don't think to reinstall TRX-Manager, you may whish to delete the whole registry key: HKEY_CURRENT_USER\Software\VB and VBA Program Settings\FT-Manager. You can use TRX-Tools. exe to delete the whole registry key just before you unisntall TRX-Manager.

Troubleshooting guide: Installation and use

Please read all!

This section summarises the most frequent problems (communications excepted) encountered during the installation or the use of TRX-Manager. Please read ALL!

See also

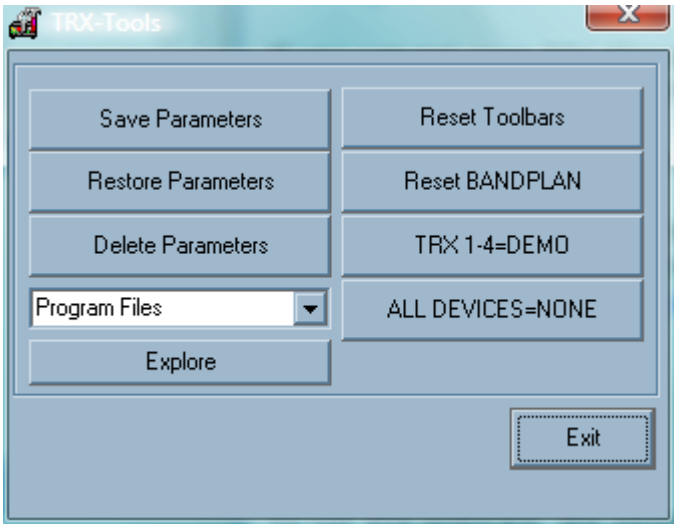
Communications
On line support

How to delete and change parameters without opening TRX-Manager?

If you can not open TRX-Manager because of wrong settings and errors at startup, you can delete or change some parameters without running the program.

TRX-Manager stores all parameters and settings in the Registry.

The little program called TRX-Tools.exe and delivered in the TRX-Manager's main folder allows you doing some operations on parameters without running TRX-Manager or opening the Registry. See also Saving your parameters.



TRX-Tools (available from the TRX-Manager's Start menu)

About the system

To run TRX-Manager, the minimum required version is Windows 95 SP1. TRX-Manager has been tested on all versions of Windows up to Windows 10, 32 bits and 64 bits.

Crash during installation

In case of a crash during the setup process please make sure to exit all software (anti-viral software included). A crash often occurs because Setup can not update the DLL loaded in

memory by other software.

Please note that 256Mb RAM is the minimal requirement on Windows 95/98, 1MB on XP and 2MB on Vista and later.

Error messages during installation

To install and update TRX-Manager under Windows Vista/Win7/Win8/Win10, you must have the (so called) administrator privilege.

Please make sure your system is up-to-date. In some cases, an error message appears because certain of your system files are out-of-date and incompatible with those necessary for the installation of the program. In theory this problem should not occur if your version of Windows is higher than 95 + SP1 and very rare since XP.

In certain cases, a system file may be failing to register because the file may be locked (in use) at the time of file transfer. Files that commonly have this problem should be registered upon reboot of the system.

Some anti-virus using Heuristic analysis are prone to display false positive warnings. If you get a message like "*Windows cannot access the specified device, path or file. You may not have the appropriate permissions to access the item",* you have to disable your anti-virus during the installation.

Error messages at run-time

Unexpected system error or crash

These problems can occur the first time you launch the program but in general after the installation of another program which crushes the system files by older versions or versions not compatible with your system. That should not occur but the experiment proves the opposite. This incompatibility exists because some of the software installed are using different version of some DLL or OCX (shared programs used by other software). You may also come across the same incompatibility with any VB5/6/VC++ software.

It will then be enough to reinstall TRX-Manager.

Frequent crashes or system lock-up at startup

Please try to reduce the number of program running in background. Try also to switch Windows into 16 bits color mode : if that fixes the problem, please try to update your video driver to the latest version.

INITIALIZATION ERROR. PARAMETER 6

You get this message:

The Jet VBA file (VBAJET.dll for 16-bit versions, or VBAJET32.dll for 32-bit versions) failed to initialize when called. Try reinstalling the applications that returned the error.
or
INITIALIZATION ERROR. PARAMETER 6 ...VBAJET32...

This error happens because the MS Jet 3.51 database engine's DLLs on your computer are

mismatched. TRX-Manager uses the MS Jet 3.50 version. It works fine with the 3.51 version but some programs feature a wrong installation package with mismatched or missing DLLs.

It is generally enough to process as follow, please :

1. Search for DAO350.DLL on your computer,
2. Rename DAO350.DLL as DAO350.BAK,
3. Reinstall TRX-Manager.
   For information, TRX-Manager is installing and requires the following MS Jet's DLL :

DLL	Version
DAO350.dll	3.50.3602.0
MSJet35.dll	3.50.3602.4
MSJInt35.dll	3.50.3602.5
MSJtEr35.dll	3.50.3602.0
MSRD2x35.dll	3.50.3602.0
MSRepl35.dll	3.50.3602.0
VB5DB.dll	5.00.3724
VBAJet32.dll	5.0.7122

-2147023067 (80070725) : Automation error

This error may occur under Windows 95/98. It is caused by the installation of OLE Automation system files not compatible with your operating system. The following table lists system files required by TRX-Manager under Win XP and Win 9.X : version 2.40 is required under Win9.X while version 3.50 is required under Win XP. Version 2.40 is installed by TRX-Manager under Win 9.X only.

DLL-> For Win XP 9X

OLEAUT32.DLL 3.502.40

ASYSFILT.DLL 3.502.40

STDOLE2.TLB 3.50 2.40

OLEPRO32.DLL 5.05.0

A repair tool is available from the TRX-Manager's support page. Please reboot your system after the installation.

Other runtime errors or crashes

You may try reinstalling TRX-Manager.

Unregistered copy

This message may happen after the installation of a new software (very rarely) but ALWAYS if you upgrade your system (e.g from W7/8 to W10). In that case, you need to reinstall TRX-Manager using your personal Setup (file labelled SETUP_TRX5_XXXX) delivered just after your purchase. You don't need to uninstall TRX-manager: please just reinstall TRX-Manager on top of your current copy. This process will preserve all your personal files and settings.

After the installation is completed, don't forget to Register using the Parameters/Registration submenu (no code is required).

Once your registration is confirmed (launch TRX-Manager at least once to confirm your registration), you can update TRX-Manager to the current version.

Drivers for band decoder not found or not installed (Setup/LPT Tab)

Please reinstall the program (or the update); don't forget to reboot your computer to complete the installation. If the problem persists, please ask for a support.

⚠ Windows 8/10/64bits

Under recent versions of Windows 8/10/64 bits, the (third party) LPT driver may not work. Please note, until now, that NO FIX is available.

Regional settings

A common problem may be coming from your Windows settings. TRX-Manager strictly uses the standard Windows interface: if you encounter a problem entering a frequency with a decimal separator such as 0.125 or 0,125 or if you get an incorrect azimuth indication please check your Regional Settings in the Control Panel under Numbers . You have to use the same separator as the separator defined for Windows.

It is best to use the period (.) as the decimal separator . It may be however that on certain international versions of Windows, this choice gives an incorrect operation: in this case choose the comma (,).

At last the digit grouping symbol must be a blank (space).

Problems with the Toolbars

It may be sometime required to reset the Toolbars to their defaults. To reset the Toolbars, please exit TRX-Manager and run TRX-Tools delivered with TRX-Manager (Reset Toolbars command).

If you don't have TRX-Tools , you may reset the Toolbars by deleting the \Toolbar folder. Depending on your operating system, the \Toolbar folder may be located under:

1. The installation folder of TRX-Manager
2. The {user}AppData\TRX-Manager folder

Some of the Toolbars disappear

Exit the program and Reset the Toolbars.

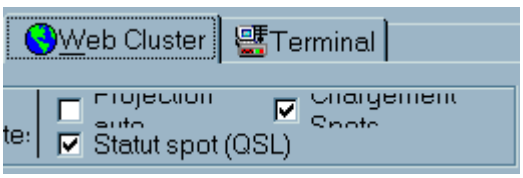
The Toolbars buttons are not visible, distorted or black

Under Vista/Windows 7, not frequently used items may appear black while using the Aero interface; the work around is simple: please just define any color of your choice for 3D Objects and Menus in Windows (Appearance) and reset the Toolbars (see above).

A (rare) incompatibility may also exist with your Video adapter: please try 16 or 32bits color video mode.

The labels are truncated

This may occur if the little font is selected under Properties for display (Windows) because the program is optimized for the large fonts. It is recommended you set Windows to use the large fonts.



truncated labels in little fonts

Somes of the windows are truncated or with wrong positions

This may happen under XP or Vista if the size (height) of the titlle bar is too large. It is enough to reduce the size of the title bar from the System's graphical preferences.

This may also occur after you change (reduce) the screen resolution. Please run the Windows/Reset submenu for each layout in order to restore the default sizes.

Last screen layout lost at startup (main window empty).

Please note that after a crash and in order to prevent automatic opening of the windows and a new crash to occur, TRX-Manager leaves the Previous option (Preferences/Software) unchecked. You may have to check this option again for normal use.

Uninstallation / reinstallation of TRX-Manager

In case of serious problems, reinstalling TRX-Manager may be a solution. In that case only, it is better if you uninstall TRX-Manager before reinstalling it!

 Note

After a system upgrade, you need to reinstall TRX-manager because the new system erases your registration. In that case, you don't need (and it is not recommended) to uninstall TRX-Manager.

Other problems with the software

TRX-Manager has been carefully tested, but as with any software, it is certain that some bugs remain. As TRX-Manager is not a classic commercial product, you have the opportunity to ask the author for a correction. Also, do not forget that each transceiver is different: a CAT command available for the FT-920 may not be available with the TS-590 or the FT-817! See your manual to check if the desired command is available...

You may also see the web site for the latest information or update at:
http://www.trx-manager.com/support.htm

Transceivers: Overview and Settings

TRX-Manager can configure up to four transceivers (Setup: TRX1 to TRX4 tabs).

Definitions

Up to four local transceivers (+ one remote transceiver) can be used at the same time:

- One Transceiver is called Main and is controlled from the Monitoring window. The Main Transceiver can be selected from the Transceiver menu.
- The other three Transceivers are called Sub-Transceivers and are controlled from the Sub-Transceivers panels. Not all Transceivers are supported as Sub-Transceiver.
- The Operating Transceiver is the one activated for the various modules of TRX-Manager. By default, at start-up, the Main Transceiver is the Operating Transceiver but a Sub-Transceiver can be defined as the Operating Transceiver at any time during a session (see below about the Operating transceiver and the OP function). The Remote transceiver can be configured as the Operating transceiver as well.
  The Main Transceiver has a comprehensive support while a Sub-Transceiver or a Remote transceiver only supports essential functions and programmable macros. Synchronization, Drag and Drop is possible between transceivers. OP function, support of SO4R mode (Single Operator Four radios) provides great flexibility in the use of five transceivers at the same time.

Sub=TS-590S (left), Main=K3 (right)
Operating transceiver =TS-590

⚠ When transmitting

There is no function in TRX-Manager to protect a transceiver in receive mode while an other is transmitting. You must switch it OFF manually!

See also

Specifications ICOM, Yaesu, Kenwood, Elecraft, TenTec, Alinco, JST, Others
Synchronization (RS232), Amplifiers, Band Decoder
Band Plan, Modes and filters

Setting up your transceiver

For each Transceiver, from Setup/TRX1..4 , you define the type of Transceiver, the Serial Port and select the communication Speed.

If you use a TTL/RS232 converter, it is possible that you have to check DTR to power on the converter.

RTS/CTS Handshaking will be automatically set by the program if you select a Kenwood (speed above 4800bds) transceiver. With recent Yaesu transceivers (FT450 to FTDX9000), the RTS check box must match the RTS Enable setting of the transceiver in order to enable the RTS/CTS handshaking protocol. For the TenTec transceivers, please see the manual of your transceiver to check if RTS/CTS Handshaking is required or not. Otherwise, selecting Handshaking may lock up the program at startup if your transceiver does not support Handshaking (in fact this option - which appears for some rigs - only exists for a compatibility with serial servers). See also Troubleshooting.

If you use an ICOM, please fill in its address, fill in the number of memories and check C00 if the channels are numbered from #00. You must configure your ICOM with the same speed (do not select auto-speed) and set the Transceive function ON.

For a TS-2000/480/590/K2/K3/KX3 (or Remote) transceiver, if you choose the internal CW Interface, check CW Internal (CW via CAT port). For these transceivers any other settings made under the CW tab will be ignored while Internal is checked.

PTT options are required in case of you don't use PTT (TX On/Off) via CAT or if your transceiver does not support PTT via computer. TX Interrup settings are rarely used.

Under TRX1 tab, you also find the SO4R option (Single Operator Four Radios) which provides various switching options or automatic selections depending on the Operating transceiver.

Ck Buffer is usually NOT checked. If checked, the program checks for an empty buffer before sending any new command. This may reduce the number of collisions and errors but the program may also lock up with some USB drivers.

If you own a Digital wattmeter, you can configure it from Setup/TRX1

Please check for all the parameters and restart TRX-Manager.

Now, you launch the Monitoring which is the heart of TRX-Manager by clicking the Monitoring button or F6. With some transceivers, you may have to click the CAT control button of the main toolbar (if it is visible) to engage the communication between the program and the transceiver. If all has been properly configured, the Monitoring window displays the current state of the main transceiver and you can control the most important functions of your transceiver from the computer.

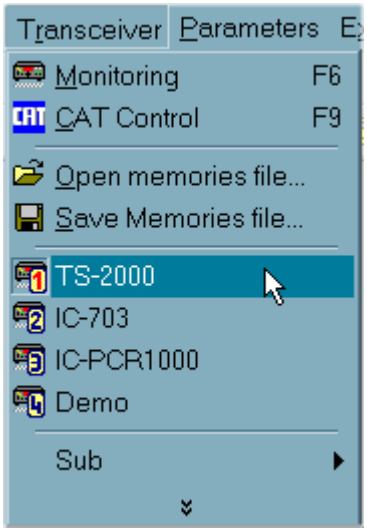
If necessary, more controls are also available from the Levels window (to open with the Transceiver/Levels submenu or the button of the Monitoring). The activated controls, the shape and appearance of the window depend on the type of transceiver.

About com ports

If you select the same com port for different transceivers or devices (from TRX-Manager), you will receive a warning message (like "Erroneous parameters..."). While this is is a Warning only and this configuration will be accepted by the program it is recommended you take care not using these different devices sharing the same com port at the same time... since this is NOT supported by Windows and may generate an error at startup of TRX-Manager.

Selecting the Main Transceiver (Monitoring)

When you start TRX-Manager for the first time, the main transceiver is generally the one defined under Setup/TRX1. The Main Transceiver can be selected at any time from the Transceiver menu. This menu displays various selections corresponding to each configured transceiver:



The Monitoring window controls the Main transceiver.

About the com port of the main transceiver

The serial port of the main transceiver is opened as soon as the program starts and closes when you exit TRX-Manager.

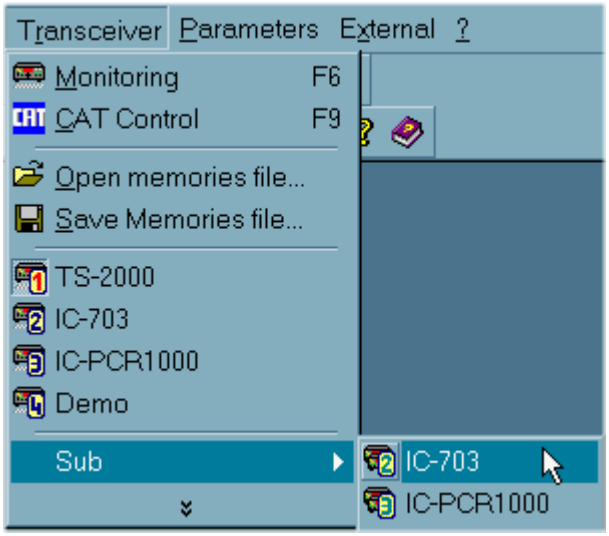
However, it can be temporarily closed using the Transceiver/Com Port ( ) submenu: e.g if you need to launch a third party software using this com port.

Whatever its state when you exit TRX-Manager, the com port is always activated (ON) at startup unless the port is "not found". If the com port is "not found" at startup, probably, this is because your transceiver is not powered ON (embedded USB interface). In such case, once your transceiver is powered ON you have to open the com port manually from the Transceiver/Com Port submenu and to refresh (update) the display from the Monitoring or to restart the program.

You can check the status of the com port and the transceiver selected from the Parameters/My Configuration sub menu.

Control of a Sub-Transceiver

To control a Sub-Transceiver you open the Sub-Transceiver panel from the Transceiver/Sub...submenu. Only Transceivers supported as Sub-Transceiver (see list) are displayed in this menu.



About com ports (sub transceivers)

The sub transceiver's com port opens only as you open the Sub-Transceiver window and closes when you closes this window.

Preferences

The Transceiver's preferences are distinct for each Transceiver (Band Plan excepted). Transceiver model and Logging TX Power are also memorized for each Transceiver.

Preferences are accessible only during the time the corresponding transceiver is selected as Main Transceiver. If you need a change in the Preferences for a Sub-Transceiver, please define it temporarily as Main from the Transceiver menu.

Definition: the Operating Transceiver

The Operating transceiver is the one from which you operate... It is activated for the DX Spots (Web& DX Cluster), the Short Wave database, the Logbook, the DXCC module, the Quick Memories, CW Interface and the DX Bar...

By default, at startup, the Main Transceiver is the Operating Transceiver.

The Operating transceiver can be selected at any time and very quickly using the OP button available from the Monitoring or the Sub-Transceiver and Remote control windows (e.g. this OP function provides logging from a Sub-Transceiver..., the Preferences for the Rotator - by band - follows the Operating transceiver...).

Some modules provide independent selection of the Operating Transceiver.

In addition, depending on the state of the SO4R option (under Setup/TRX1 tab), the OP function can also link the Band Decoder, OLE , and the Synchro ports with the Sub-Transceivers. The Op indicator blinks in Red when a synchro-command is sent to the controllers.

Selecting the operating transceiver at startup using a command line switch

A switch (/TRX1 to /TRX4) can be added to the command line to start TRX-Manager with a specific

main transceiver. The command line must look like this : "C:\Program Files\TRX-Manager.exe" /TRX2 to start TRX-Manager with TRX2 as main and operating transceiver.

In addition the /DEMO switch can be added to start TRX-Manager in Demo mode (= no com port). This can used if a third party program controls your transceiver and you have to start TRX-Manager without opening the corresponding com port. At any moment, you can resume the communications by selecting the desired transceiver from the Transceiver's menu.

Frequency range

TRX-Manager covers the frequency range from 0.1 to 2000 MHz with the following accuracy:

below 160MHz : 10Hz/1Hz

from 160MHz to 1600MHz : 100Hz/10hz

above 1600MHz : 1KHz/100Hz

The frequency accuracy also depends on your transceiver.

Troubleshooting guide : Serial port

The program doesn't communicate with your rig (or your TNC, Rotor...)

Of course, anything is possible, but please think first that a programming fault is the less likely. Please read all: almost 99% of the possible situations are covered in this guide and the TRX-Manager's support page!

Sometime, the synchronization between the transceiver and the display is lost. It is generally enough to update the synchronization using the Monitoring's Update button. This button has different layout depending on the transceiver you use : generic, Kenwood, ICOM or Elecraft.

Otherwise, review all your configuration by opening the My Configuration sub menu. All your current configuration is displayed and allows you to review all your parameters and settings. You can save this information into the clipboard by using the copy and paste button.

If the program locks up at startup, you can use TRX-Tools.exe (available from the TRX-Manager's Start menu) to reset all your settings (TRX1 to TRX4) to DEMO or ALL DEVICES TO NONE.

Related Topics

Troubleshooting (general)
Support page

Step 1 : cockpit check list

If you use a Transceiver which requires an RS232/TTL interface (FT-990, TS-450...), please check that this TTL Interface is powered up! Some RS232/TTL interface are powered up through the DTR line of the com port (DTR must be activated). Generally, with these transceivers, you must start TRX-Manager with the Transceiver in ON.

If you use a transceiver with an embedded USB port, make sure the transceiver is powered up before you start TRX-Manager. Although TRX-Manager can start with the Transceiver in OFF, if your transceiver is not powered up, the embedded USB interface does not work, the corresponding com port does not exist and TRX-Manager is unable to open a com port. In that case, TRX-Manager does not open the Com port at startup and you must open the port manually by using the Transceiver/Com Port ON/OFF menu or you must restart the program.

Make sure the right and exact model of Transceiver is selected under Setup and select the same Transceiver from the Transceiver menu (see SO4R). If the exact model is not selected (or a generic model is selected), the program may run but with limited functions.

Make sure the Com Port OFF function (Transceiver menu) is not activated. It you find it activated at startup (OFF), please make sure the USB interface is powered up and enable the com port manually. If the com port was powered up, exit TRX-Manager and delete the \Toolbar folder before you restart TRX-Manager to reset the toolbars to their default state.

If you have a doubt, you can check the status of the com port using the Parameters/My

Configuration sub menu.

Make sure that your interface is not running with another program (physically connected or not to a device like a modem, a FAX or a PDA...).

Step 2 : check your interface and your cable

Most of the communication problems come from the interface or a faulty cable (most likely). In some cases you may have to program your interface or to wire it. Please note that you may control your serial data line with help of the CAT Commands window.

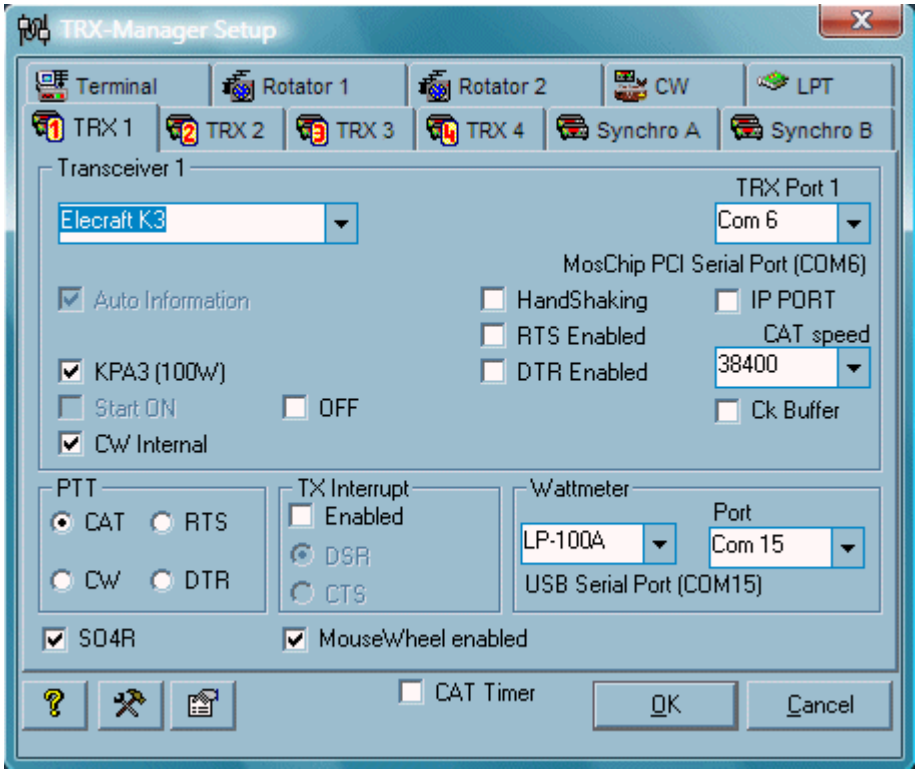
If you use an USB/Serial adapter:

- check for the com port number that has been created in the Device Manager
- use the most recent driver (to download from the Manufacturer's website)
- use preferably a black USB port (USB 2) because most drivers are not optimized for USB 3 (blue USB ports)
- make sure this interface is powered on

Step 3 : the TRX-Manager's settings

Check that the Setup's speed is the same as that definite for your transceiver; if necessary, try to decrease or increase this speed.

If you use a TTL/RS232 converter (old rigs), checking the DTR check box of the PTT frame is required to power-on this interface. In fact, except if you use this line for Transmit/Receive switching it is preferable to let this case checked and in case of any communication problem, please let [PTT/CAT] checked and check [DTR Enabled].



Default settings for a K3. RTS and DTR have no effect.

RTS/CTS Handshaking is only required with Kenwoods, some TenTecs, recent Yaesus and some serial servers. TRX-Manager automatically selects this protocol for Kenwoods (speed above 4800bds) but not for TenTec and Yaesu for which - if required - the RTS option enables the RTS/CTS handshaking protocol. If Handshaking appears and is selected (and/or

RTS) while the corresponding device does not support the RTS/CTS handshaking, TRX-Manager may look up at startup. Should this happen, you have to use the TRX-Tools program (distributed with TRX-Manager) to reset all your configuration to DEMO (TRX1-4= DEMO).

If you don't know how to use the TX Interrupt feature, please let the TX Interrupt Enabled check box NOT checked.

Ck Buffer is usually NOT checked. If it is checked, the program checks for an empty buffer before sending any new command. This may reduce the number of collisions and errors but this can not solve a communication problem. Moreover, this function is not supported by some comm drivers (like Prolific) and this may lock up the program.

If the monitoring display doesn't reflect the transceiver status, check the dual control option (Setup). Except for special cases, this option should be enabled (checked).

If your com port appears in the Device Manager but does not appear in Setup, you can use TRX-Tools to configure TRX-Manager using the Compatibility mode (Windows emulator checked, OLE checked) and restart TRX-Manager. This way, TRX-Manager lists all the com ports from 1 to 32. Warning: this may cause a crash at startup if this com port does not exist or does not run properly.

Step 4 : the Transceiver's settings

ICOM and TenTec

If you are using an ICOM or a TenTec OMNI VI, please check :

- TRANSCEIVE function is ON (CdE on TenTec). Setting methods differ according to radios. Refer to the instruction manual of each radio
  The transceiver address of the radio is the same as the one in the Setup of TRX-Manager
- AUTO Baud (or Auto-Speed) is not selected, but select a true speed : 9600 or 19200
- CI-V 731 Mode is set as OFF (except for IC-735)
- In most cases, Stop Bits = 2 gives more reliable communications ; however, in some other cases this parameter does not work properly and you must use the default Stop Bits = 1.
- The ICOM and TenTec transceivers function better at 19200 bds.
  Sometimes if you use an ICOM (or a TenTec OMNI VII), you may receive this message "*Communication error (Invalid message format)*". This is a warning only which appears once for each session. Generally, this message is without consequence ; however you can try to improve your parameter settings.

Yaesu (older: FT-990 up to FT-1000MP)

These transceivers require a TTL/RS232 converter. It has been found that the level of the TTL signal of the older Yaesus is generally not compatible with a MAX232. A transistorised interface is recommended. Speed is generally fixed at 4800Bds and DTR checked (or sometime RTS) is required to power-on the TTL/RS232 converter.

Yaesu (recent: FT-2000 and later)

With recent Yaesu transceivers (FT450 to FTDX9000), the RTS check box must match the RTS Enable setting of the transceiver in order to enable the RTS/CTS handshaking protocol. If RTS (TRX-Manager) and RTS Enable (transceiver) do not match you may have a

crash at startup and/or no communication. Using TRX-Tools is required to undo all settings without opening TRX-Manager. Make sure your cable or your interface is wired for the RTS/CTS lines. If RTS is selected for Handshaking, you can NOT use the RTS line for PTT Switching or CW Keying!

See the Specifications for the detailed settings.

KENWOOD

The Kenwood transceivers function better at high speed (57600/112500). Please select the highest speed available.

RTS checked is required for Kenwood but automatically selected by TRX-Manager to enable the RTS/CTS Handshaking protocol for all speeds above 4800bds. However, if the Handshaking parameter appears as selectable, try None (NOT checked) and/or RTS (Checked) if you don't have any communication. Make sure your cable supports RTS/CTS Handshaking if RTS is selected. If RTS is selected for Handshaking, you can NOT use the RTS line for PTT Switching or CW Keying!

ELECRAFT

The Elecraft transceivers function better at high speed (38400). Please select the highest speed available.

Elecraft

Handshaking is selectable for the K3 but NOT required and may lock up the program ; this option is only provided for compatibility with some Internet serial servers. Do not use this option with a transceiver directly connected to TRX-Manager!

Particular case : FT-847

Unlike most other transceivers, the FT-847 serial data cable is a null modem (crossed) type, not a straight serial data cable.

The FT-847's microprocessor uses the same com port to exchange data with the FC-20, CAT programs and a clone transceiver... thus this transceiver doesn't allow you to simultaneously use the FC-20 antenna tuner and the CAT system! It is not the fault of the programmer...

Step 5 : check your com ports

Choosing an USB/RS232 Interface

The RS232/USB Converters built with FTDI chips are the more reliable and are strongly recommended! A multi-ports PCI card (internal to the computer) is a very good solution which minimizes RFI and a cheaper alternative to 2/4/8 separate USB/Interface Cable.

See how to select your converter: http://www.usb-serial-adapter.org/

TRX-Manager can NOT communicate through a serial port that is already opened from an other application or an other module of TRX-Manager.

From the Windows device manager, please check there is no conflict between com ports or

USB adapters. A conflict with IRQ5 (usually used by the sound card) is not detected by Windows! If you use an ISA PC board, check the DIP switch related to addresses and IRQ are correctly configured.

Embedded USB converters

If you use the embedded USB interface of your transceiver, make sure you use the most recent driver (to download from the manufacturer's web site).

Serial to USB converters

USB to Serial converters built with FTDI chips are strongly recommended ; they are very reliable and provide very fast communications. The cheap converters built with PROLIFIC and all Clones chips are prone to malfunctions and slow communications with TRX-Manager.

Serial port on mother board

You must check that the BIOS Setup program enables the com port and reflects the correct parameters for the serial ports (the same ones as those displayed by Windows in the device manager). Note that in some cases, when something wrong happens at a com port (shortcut, defective cable or interface...), your Bios disabled this com port without warning.

In practice the following parameters are most common for COM 1 and COM 2 (port on mother board) :

COM 1 IRQ 4 address 03F8-03FF
COM 2 IRQ 3 address 02F8-02FF

Particular case : Windows ME

The software functions properly under Windows ME. However, this operating system leaves the DTR and RTS lines of the com ports in a high state at each startup. This is important to know for it can cause an unpleasant effect on the CW and PTT lines at the startup of the PC! Running TRX-Manager and opening the concerned modules will set the DTR and RTS lines to the state required by TRX. In certain cases this problem could lock up the RS-232 interface(s) when starting your PC. A little program (ComFix.exe) available on the support page allows you to set Windows ME to counter this defect.

TRX-Manager suddenly stops communicating

If a communication error happens, it may be enough to clik the update button of the Monitoring to resume the communications.

Test your device (Transceiver, TNC...) with another program. Check the com port has not been disabled by the Bios program (see above).

RFI Problems

In some cases, especially on 160m, 80m, 40m or 10m at high output power, you may have a communication error when transmitting. This is caused by Radio Frequency Interferences (RFI) between your rig and your PC. You should find a hardware solution (see any Handbook) but please note this is a minor inconvenient: TRX-Manager has been written to automatically resumes any communication error (except the first one!).

Reinstalling a com port

This is a solution of the last chance but that can be effective sometime. The steps are:

Port on mother board (for expert only)

- Remove the defective serial port from the device manager
- Reinstall the serial port
- Check you BIOS parameters

USB/Serial Interface (or PCI cards)

You can check your equipment with an other software. However, if it passes this test, your USB driver may still be faulty! (*).

If you use an USB/Serial interface, the following steps are mandatory:

- Unplug the USB interface (or the PCI card)
- Remove the com port from the device manager
- If possible delete the driver manually
- Reinstall the driver (to download from the manufacturer's web site)
- Restart Windows
- Plug in the USB interface (or the PCI card)

(*) Results depend on the way each programmer uses the com port's APIs.

ICOM Transceivers

This section applies to ICOM radios (and old TenTec radios using the ICOM protocol: Omni VI and Omni VI).

If your transceiver doesn't appear in the SETUP list, please choose the ICOM option which should function with all ICOMs using a generic (but limited) set of commands.

Settings

Controlling an ICOM via the CI-V protocol requires either a CT-17 interface (or compatible such as the W1GEE's LCU-3) or an USB cable between the USB port of the transceiver (if provided) and the computer. In fact the USB Port just connects an internal RS232/USB interface and you still have to identify the corresponding (virtual) com port on your computer from the device manager.

Some older transceivers (CI-IV standard) require the conversion interface UX-14 between the transceiver and the CT-17 interface.


Note

Using the LCU-3 interface requires checking DTR to power on the interface.
Using the RS-746 interface requires checking RTS to power on the interface.

From the SETUP dialog box of the program, you must specify:

- The com Port
- The transceiver's address such as defined by ICOM (or that which you have yourself defined),
- The PC's address (E0 by default),
- The number of channels (maximum 99),
- The channels numbering (please check C00 if the first channel is #00)
- The Baud rate.
- Stop Bits = 2 (default). Rarely, Stop Bits = 1 is required (recommanded by ICOM).
- Dual Control usually checked - unchecked only if you connect your ICOM to your computer through a serial server (*)
- Polling: Unchecked is the default. Checking this option is not recommended and NOT required in most cases (provided that the TRANSCEIVE option is selected, see Notes below).
  From your ICOM radio you have to check:

- The Baud rate: some transceivers feature an AUTO BAUD or AUTO SPEED function. However, it is recommended to NOT use this feature and to set the speed from the transceiver to the highest available value. However some models may not run properly at the maximum available speed (genreally 19200Bds) : in that case, please select 9600 Bauds.
- The number of bytes for the frequency: except for the IC-735, exchange of frequencies is done in 5 bytes : check that your ICOM is not setup for a frequency in 4 bytes.
- The TRANSCEIVE function (or CdE on TenTec): when the transceive function is ON, any changes in the operating frequency or mode on the radio is automatically notified to the computer. By default (if Polling not checked as recommended) TRX-Manager uses the Transceive function to avoid any useless pollings and in order to improve the fluidity of the control: make sure to set the ICOM's Transceive function as ON. Setting methods differ according to radios (refer to the instruction manual of each radio). Warning: Some other

software are continuously polling the transceiver and require the Transceiver function to be OFF.

Special case, several ICOM are inter-connected

The use of TRX-Manager with several ICOMs inter-connected in a network (to the same CI V bus) is not advised; indeed the collisions between commands slows down the program and some commands can not be executed. However, if you do so, the Polling option is required in order to synchronize the program and the selected transceiver after a frequency/mode change done from a second ICOM.

Sometimes, you may receive this message "*Communication error (Invalid message format)*" from TRX-Manager. This is a warning only which appears one time for each session. Generally, this message is without consequences; however you can try to improve your parameter settings.

(*) See also Disabling Dual Control. If Dual Control is checked TRX-Managers waits for NG and OK messages before displaying the new status of the transceiver. Dual Control is more secure but not compatible with the use of a serial server via the Internet.
(**) for the older ICOMS (IC-751, IC-761...) or if you select the ICOM option, TRX-Manager polls the tansceiver every 500ms since these rigs do not have a Transceive function.

IC-PCR1000

Some PCR1000 owners have reported that they have corrupted their EEPROM by running 3rd-party software and/or even the Icom's software. The PCR1000's EEPROM stores the calibration data and each EEPROM is specific. It is recommended you backup your EEPROM before using any software with your IC-PR1000. A third party application TALKPCR can save and restore your EEPROM. See also here.

Operation

The set of commands is variable from one model to the other. Due to the large number of commands available and their diversity, only the most used commands (in real-time) are supported by TRX-Manager, essentially from the Monitoring and the Levels windows (see below). Additional commands can be programmed using macros. Please see your manual for the available commands.

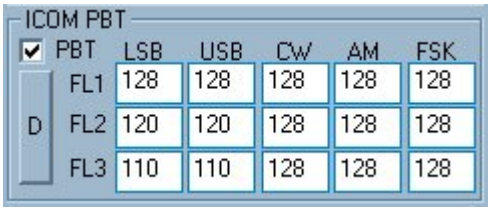
Modes and filters

You have to set up the default Filters (FIL1-N, WID/NAR...) for each Mode from the Preferences/Transceiver dialog box (See also Modes and Filters).

Auto PBT

If your transceiver supports the PBT and DSP Width functions, TRX-Manager provides a very convenient AUTO-PBT function to be enabled from the Preferences/Transceiver dialog.

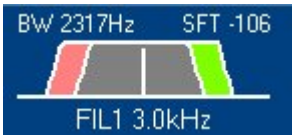
If AUTO-PBT is enabled, you have to define the desired default values for PBT Inside and PBT Outside for each mode. These values (ranging from 0 to 255) apply for both the Outside and Inside PBT commands and allow defining an IF-Shift (i.e SFT= -150hz for a value of 110 but to be tested...). 128 are the factory default values (click D to reset factory defaults).



Default values of PBT Inside and PBT Ouside for each mode

Graphical display

The Monitorings' window displays the PBT Inside and Outside bandwidths (values approximated).



PBT Graph. Display

Note about the speed of communication

ICOM transceivers automatically communicate frequency and mode changes but other parameters (channel number, Split mode, VFO...) that are made on the transceiver are not transmitted to the computer. The consequences are the following:

After TRX-Manager is started, some parameters are set by default or unavailable. The display progressively becomes available as commands are sent from the computer. If necessary, rotate the dial tuning to display the frequency,
It is highly recommended to change the VFOs or to switch the SPLIT mode from the computer.
TRX-Manager does some polling of important data but gives a priority to the most critical data (Mode, S-Meter, TX State...). Consequently the other parameters (like PBT, DSP) may refresh slowly...

Frequencies displayed

Unlike most recent transceivers of the major brands, the ICOM C-V protocol only notifies the changes of the frequencies and modes (including filters) of the selected VFO (A or B, Main or Sub) provided the Transceive option is selected in the menus. All other parameters are obtained by periodic polling. In addition, it is not always possible to determine which VFO is selected. This protocol is very reliable and stable but some drawbacks are resulting from this behavior:

- Updating of the parameters (other than those automatically notified) is relatively slow,
- When the VFO B (or SUB) is selected on the transceiver, the display can be confusing Generally, it is recommended to select VFO A (or Main) on the transceiver before starting TRX-Manager and, then, to select the VFO from TRX-Manager only.

For TRX-Manager, the main display of the Monitoring (RX and TX) is always relative to the selected VFO (A or B, Main or Sub). If available, the VFO B (or SUB) frequency is displayed in the B frame of the Monitoring or by clicking the SUB button : in this case, the VFO B (or SUB) is selected when the mouse passes over the digits to allow quick changes by right/left clicks on the digits. Once the mouse leaves this field, the VFO A or Main is selected again. The full update of the display can take about 1s.

When the mouse is over the digit, VFO B (SUB) is selected

Tips by Rich K0FUN

When TRX-Manager starts is assumes VFO A is active. If the radio is set to VFO B the program will read this value into VFO A of the program. This can be confusing. The following prevents the problem:

1. With the transceiver on. Start TRX-Manager.
2. Select VFO A from the program (This will insure the Radio is using VFO A)
3. Turn the VFO knob on the radio slightly. This may result in a Dialog Box indicating a Communications Error (Invalid message format). This only comes up once and is not serious
4. Select VFO B from the program.
5. Turn the VFO Knob on the radio slightly. 6. If Split is enable on the radio disable it from the radio. If you want to operate split enable it from the program.

New ICOMs and VFO A & B

ICOM has recently introduced commands to poll/set the frequency and mode of the unselected VFO (1A25/26 commands). TRX-Manager has been updated to support these new commands. In that case, the SUB button of the Monitoring allows a direct and fast control of the sub VFO and TRX-Manager displays the state of the unselected VFO in real time.

Features and limitations

The number of memory channels is limited to 99 for all the models (see below).

Generally, the oldest ICOMs (before IC-746) do not allow reading of the s-meter (and consequently the bandscope is not supported), SPLIT command (status write and/or read), VFO A/B, PTT controls may be not available. If PTT control is not available, you can still control TX/RX status using the RTS/DTR Lines.

Only the most recent firmware allow reading and controlling the unselected VFO in real-time (see the CI-V manual and if cmd 25 and 26 are available).

With IC-R75, please use AM Reverse to set AM Synchronous.

With IC-PCR1000, press the button of the main toolbar to power on the receiver.

With IC-820/821/910/9100 MAIN & SUB VFO are simultaneously displayed and updated only if you are in SAT mode; it is important you engage SAT mode from the program (see also Satellite interface).

Power ON/OFF

TRX-Manager assumes that the transceiver is turned on at startup. If this function is supported, use the power button to turn on/off the transceiver. After sending a "POWER ON" command, you may have to press the Monitoring's Refresh button to refresh the display.

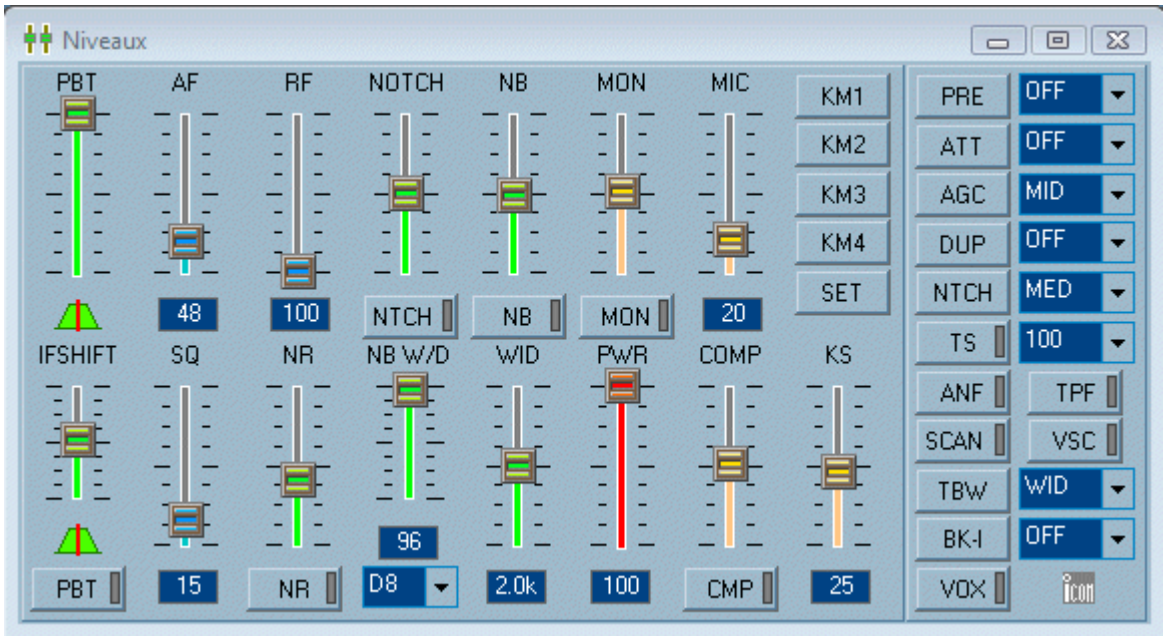
Warning

Depending on the transceiver you are using and the way the interface is powered on when you

switch off the transceiver, you may be unable to power the transceiver on again... Generally, if you use a separate CIV converter (CT17 or clone) powered by a 12v source, it should work. See the documentation provided by ICOM.

Additional functions : Levels window

If you are using a recent ICOM (since IC-746!) a lot of commands are available such as AF Level, Squelch, APF, NR, PBT , IF Shift, Keyer... Most of these commands are implemented from the Level windows (Transceiver/Levels submenu or Toolbar's button). Controls automatically update at startup; then, if needed, click ICOM to update the controls.



Levels window (IC-7100)

If necessary, additional commands may be implemented using the Monitoring's macro buttons or TRX-Command.

Tone

If available, the Tone button opens a window which allows controlling the Tone, HPF, LPF, BW settings of the various modes in RX & TX. In addition, a macro button can be assigned to the predefined TON function to open the corresponding window from the Monitoring.

About the memory channels

The number of memory channels (= number of the last channel available) is limited to 99 for all ICOMs. TRX-Manager begins memory channels numbering from #1; some ICOMs begin numbering from #0 and a shift of one unit is possible between the channel number displayed by the program and the one displayed by the transceiver. If the first channel is Channel #0, please check C00 (Setup). Selection of the memory bank (if possible like with IC-7000/7100...) is done from the Display/Memory Channels window .

The editing or the transfer of the channels from the PC to the transceiver is possible from the Edit/Memory submenu or by a right click from the channels window. Note that if you modify the contents of the memories from the transceiver, there can be a difference with the contents displayed by the program. It is therefore recommended to modify the contents of the memories only from the program.

Reading the memory channels content is not supported

TRX-Manager can NOT read the contents of the memories of ICOM transceivers. It could be done, but was not programmed in order to preserve the compatibility between the various models; moreover data like the shift, CTCSS tones etc. could be read only from some ICOMs by a specific command which is not available on the other models. Nevertheless, TRX-Manager reads the frequency and the mode of each channel when they are individually accessed from the program and preserves the values, between sessions, on hard disk.

Please note that the transfer of the memories to the transceiver can be very slow.

If these functions are available on your ICOM, TRX-Manager memorizes the receive and transmit frequencies (SPLIT mode), tonality CTCSS (repeater and T-Squelch). The repeater shift (DUP) is ALWAYS memorized as a receive-transmit shift in SPLIT mode (except IC-820/821/910/7100 for which it is memorized as a repeater offset in FM).

Recent ICOMs (since IC-746/PRO) provides editing of the memory labels from the computer. But Destination Call Sign, Access/Area Repeater, Link/Gateway Repeater and Digital Squelch settings are NOT supported.

TRX-Manager preserves the contents of the memories on hard disk between the sessions.

D-Star

DV mode and DV TX Callsigns (D-Star) are supported (compatible transceiver only) either from the Edit/Frequency (F2) dialog or the Edit/Memory Dialog.

Remote control

Like all other transceivers, your ICOM may be controlled through a LAN or the Internet using the standard remote control mode of TRX-Manager, but with limited functions. You may also take full control over your transceiver through a network using the real remote control mode: in this mode TRX-Manager behaves like if the com port is locally controlled.

Elecraft K2 K3 K3S KX2 KX3

TRX-Manager supports the Elecraft K2 K3 K3S KX2 KX3 transceivers.

Related Topic

KPA500 KAT500

Settings (Setup)

K3 and K3S are equivalent (TRX-Manager automatically adapts).

It is recommended you set up the Transceiver for the highest practical speed : 38400 bds (if you use a lower speed and a K3+P3, the P3 display may flicker). It is necessary to restart TRX-Manager and the Transceiver after each change of the communication speed. Please check KPA3 or K2/100 is the 100W module is installed (uncheck KPA3 or K2/100 if you use a K3/10 or a K2/10 or a KX2/KX3 alone).

K3/KX2/KX3: TRX-Manager uses the extended format (K22 or K31) of the rig and the normal auto-information mode ; consequently, it is highly recommended you configure your K3/KX2/KX3 for CONFIG:AUTOINF = nor (TECH MD required). You may also prefer using your K3/KX2/KX3 and TRX-Manager with CONFIG:SW TONE = OFF.

With the KX2/KX2/KX3, if you don't have the KXPA100, set PA MODE OFF in order to reduce the flow of data on the RS232 port.

If you use TRX-Manager through an RS232 Serial Server (via the Internet or Intranet) or through the Larry N8LP's LPBridge program, you may have to check the LPBridge, Serial server option in Setup (not always) ; you can leave LPBridge, Serial server unchecked (default) if it works this way with LPBridge or your serial server since the serial server option limits the TRX-Manager's ability to detect state On/Off of the Rig and accuracy of the TRX-Manager's S-Meter. See also: Alternatives to the remote control function, Disabling the dual control mode.

About LP-Bridge

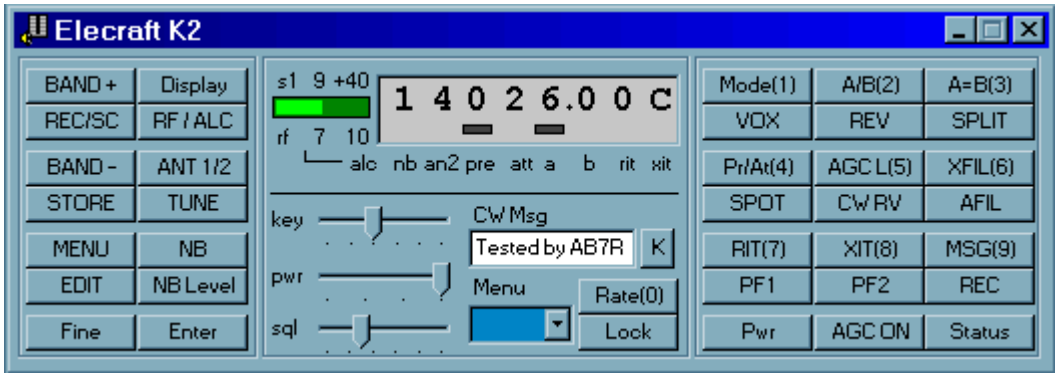
LP-Bridge is NOT required with TRX-Manager: use the Synchro function (K3 Protocol) to synchronize TRX-Manager, your Pan adapter and PowerSDR-IF Stage or Nap3. Generally, this setup works much better.

If CW Internal is checked in Setup (Internal Electronic CW Keyer of the Rig selected) you can use the CW terminal to send either CW PSK of FSK; but please note the CW Internal option overrides the choice of keyer made from the CW Tab (i.e if you use Winkey, do not check CW Internal!). However, whatever your choice, it will be always possible to send CW/FSK/PSK using the K3/KX2/KX3 since K3/KX2/KX3 levels window includes a small terminal (see below: data mode)... (what makes setup very flexible but not simple to understand!).

See also: Synchronization with PowerSDR-IF Stage or NAP3 using the K3 Synchro mode

K2

A special window (Transceiver / Levels) provides emulation of the Elecraft K2's front panel. The display of the window reflects the display of the rig with some limitations. To use this window suitably and to have the best possible interactivity with the transceiver, it is recommended to simultaneously open the Monitoring window.



A combo box provides a direct access to the menu.

Notes

The AF GAIN and RF GAIN controls cannot be emulated,
During edition of a menu or a frequency (direct entry), the TRX-Manager's display is not updated by the transceiver.

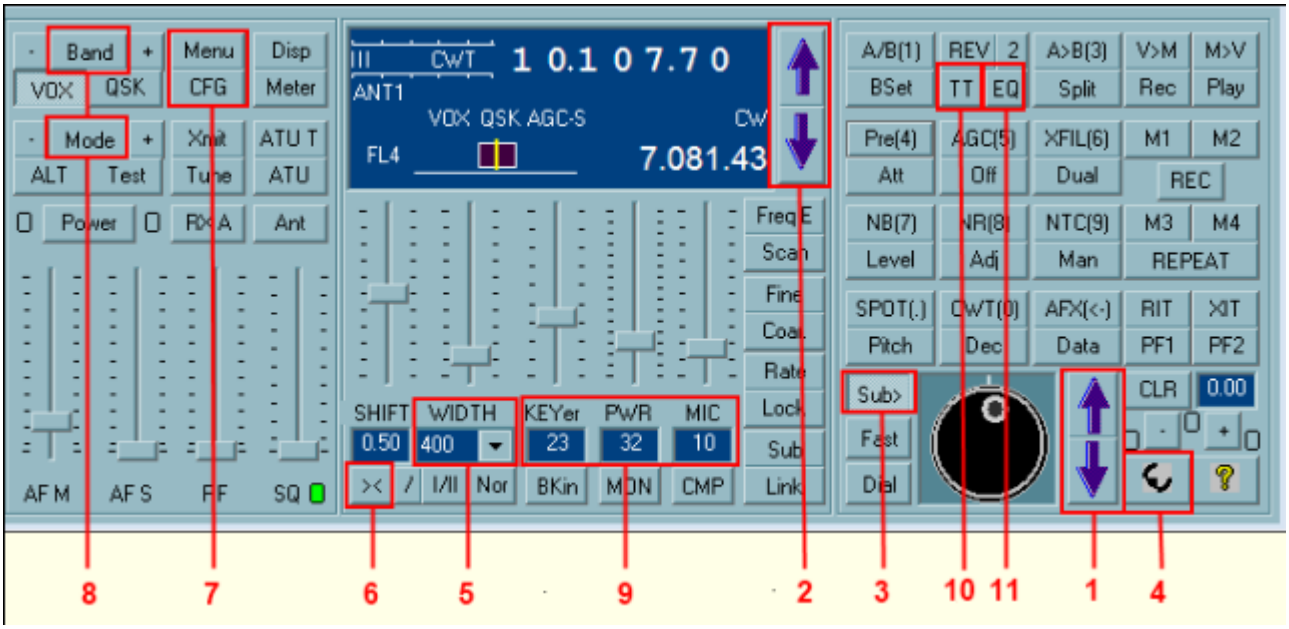
K3 / KX2 / KX3

In case of the RIG is OFF while TRX-Manager is started, once the rig is powered ON, you may have to press the Update button of the to re-initialize the communications:

Monitoring's Update button

Levels window

A special window (Transceiver / Levels) provides emulation of the Elecraft K3's or Elecraft KX's front panel. The display of the window reflects the display of the rig with some limitations. To use this window suitably and to have the best possible interactivity with the transceiver, it is recommended to simultaneously open the Monitoring window.

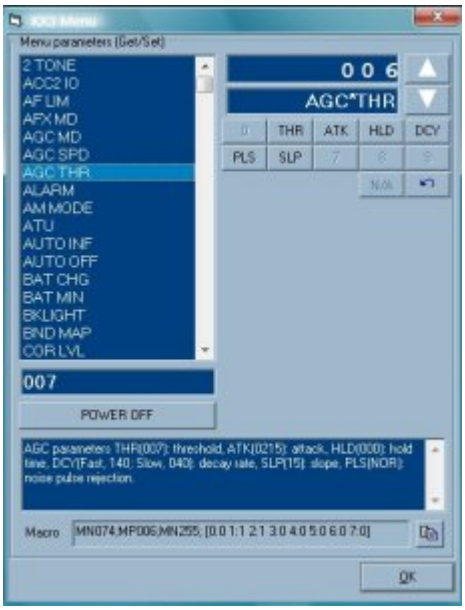


K3' virtual front panel (KX2/KX3 are different)
Colors follow Monitoring's Configuration

As the Elecraft K3 KX2 KX3 are still in development, some of the functions may be inactive; moreover other functions may be added in the future depending on the firmware development.

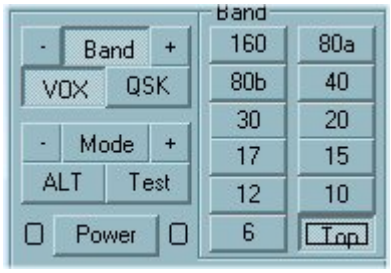
Some functions require special comments:

(1) (2) Up/Down buttons allows step by step frequency changes and to navigate through the K3's menus
(3) SUB swich allows you to toggle the VFO Knob from A to B VFO control
(4) This button allows polling the K3 for instant update of the display if it does not update automatically
(5) The two combos allows you to select a preset DSP bandwidth for Main and Sub receivers. The SHIFT/WIDTH button toggles to the HI/LO Cut mode. Please note HI/LO Cut mode in TRX-Manager is only a simulation which uses the only available CAT functions WIDTH and SHIFT. Consequently difference may appear with the display and behavior of the K3.
(6) This button allows you to center the bandwidth (IF Shift = 0)
(7) MENU and CFG buttons open a list from which you click the desired sub-menu (TECH MD and RS232 sub-menus are NOT displayed). Items are sorted by alphabetic order. Click OK to exit the menu mode. Settings up the menu entries are done using UP/DN buttons or dedicated buttons if available. Warning : not all menu parameters are selectable... This is an issue of the K3/KX2/KX3 protocol, not of the program. This is often the case with sub-menus.



K3/KX2/KX3's menu

(8) BAND and MODE switch: Click BAND or MODE to open the Switch. On Switch select TOP to keep it "on top". You may of course use +/- button to scroll through modes and bands... like with a K3/KX2/KX3.



Band Switch

(9) Sliders with double function ; you may also double click the value for a quick and precise change ; press Enter to valid or Escape to cancel.
(10) TT Opens the Data/CW Terminal
(11) EQ Opens the Graphic RX/TX EQualizer

Please note:

- K3: REV(2) is splitted in two buttons: REV (hard coded) which reverses the VFOs (*) and 2 to enter a numeric entry . Generally other buttons do the same functions as those of the K3's front panel,
- VFO selection is definitely different on the K3/KX2/KX3 from the K2. VFO A is always a receive VFO. If you're in SPLIT mode, VFO B is the transmit VFO. If the subreceiver is turned on, it is controlled by VFO B, whether SPLIT is in effect or not.
- KX2/KX3: Levels window appeareance is different but functions are very similar.
(*) It is, however, recommended using the Monitoring's XFC which implements a similar function but much more convenient in practice: First, give Monitoring focus by clicking this window or just the F6 key; then while you hold ESC on keyboard (or hold the mouse down on Monitoring's XFC), K3 is switched to B-Set and you can tune with VFO B for quick search of the current operating station (like if you own the second receiver).

Data modes

Mode selection

From the Monitoring window, you have a direct access to PSK and FSK while the Dat button allows you to cycle between the other data modes of the K3.

Selection of the digital modes

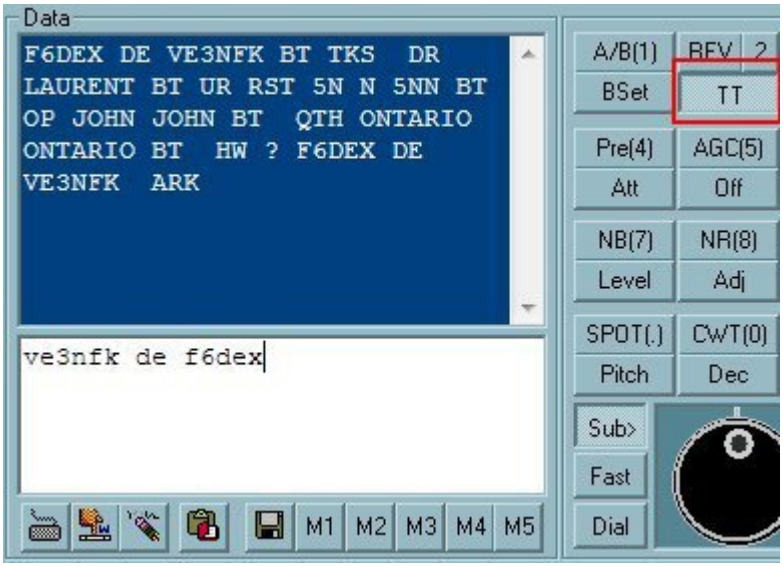
By default, TRX-Manager uses FSK-D for RTTY and PSK-D for PSK. From the Preferences/Transceiver dialog, you may select RTTY=AFSK and PSK=DATA to select the corresponding audio-modes.

Decoding data and sending modes

TRX-Manager provides support for sending/receiving FSK CW and PSK using the embedded functions of the K3 from a small terminal included in the K3 window (not to be confused with the standard CW Interface, no specific setting is required to use this little interface).

The TT button (10) of the K3 window allows you to toggle TRX-Manager and K3/KX2/KX3 in TEXT/Terminal mode. You must enable the K3/KX2/KX3's Text Decode mode first

(KX2/KX3/K3's TEXT DEC function) ; if TT is checked (from TRX-Manager), all text decoded by the K3/KX2/KX3 is forwarded via the RS232 port and displayed by TRX-Manager.



Keyer interface TEXT to Terminal (TT) mode

You may use this little terminal for sending text either in CW PSK or FSK! Just type your message and click Enter (or use character/word mode) but please don't forget to turn ON VOX since TRX-manager does not do that for you!

Buttons

Engages the character mode : the transmission starts immediately after you start typing your message. The Enter key quickly terminates the transmission (EOD)

Space bar = CR (Word mode) : message is transmitted word by word (each time you press the space bar). This mode is convenient for FSK and PSK (since character mode is not usable in these modes).

Clears the text boxes

Pastes the current callsign (highlighted string in the upper text zone) to the logbook and creates a new entry but does not save the QSO. Double-clicking the Callsign has the same effect and is faster.

Stops the transmission

1-16: Type a message in the lower text box, then click Save and the message number (CW Macros are supported). Press 1-16 to recall a message.

Limitations

- In TEXT Mode, CAT control may be partially disabled (depending on MCU version)
- The message length is limited to about 100 characters at 20 wpm in CW (depends on speed and mode); above this limit, the K3 may truncate the message, abort transmission or behaves abnormally
- The TEXT mode is not compatible with LP-Bridge (LPBridge option checked or not)
- Full editing is not supported by the lower text zone (only BackSpace is supported)
- To STOP the transmission you may also press your CW paddle.

See also

True FSK/PSK Keying from the MMVARI module

Filters

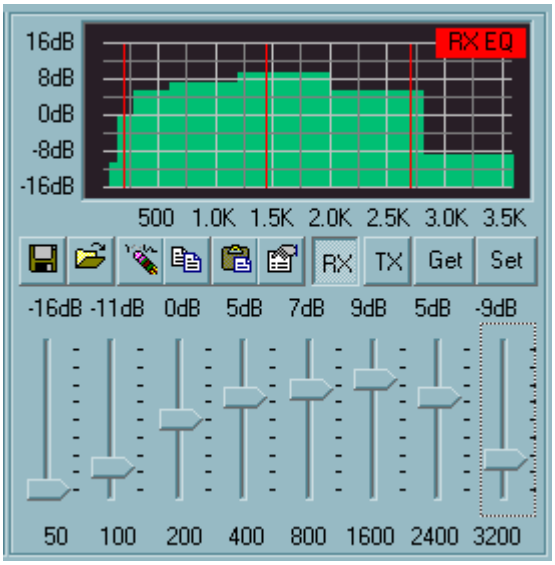
TRX-Manager implements two virtual DSP filters (Normal and Narrow) for each SSB/CW mode + a Wide filter for AM. Since TRX-Manager uses the DSP, you must check DSP under the Preferences/Transceivertab and fill in the default values for each filter. See also Modes and Filters.

Monitoring's Wid and Nar buttons are related to the TRX-Manager's virtual DSP filters (not to the K's X Filters).

Since TRX-Manager can not control the CW Pitch of the K3 (until now), it is important you fill in Pitch with the current value under Preferences/Transceiver in order to scale IF Shift range for CW and to center the CW Bandwith.

Graphic Equalizer

The EQ button (11) opens the Graphic Equalizer from which you can easily display the current settings and set up the 8 bands of the RX/TX Audio Equalization.



Equalizer (Bargraph mode)

Please press GET to read the current equalization from your K3. After a GET command, the program copies the current equalizer settings into the clipboard. If necessary press to reset your changes (unless the clipboard has been altered).

Press SET to set up your K3/KX2/KX3 using the data displayed ;

Saves the current Equalization (RX: .req files, TX:.teq files).
Opens a .teq or .req equalization file
Resets (clears data) each sliders to 0dB
Copies the current (displayed) Equalization into the clipboard. You may use this function to set up macros or to exchange your data with others...
Pastes clipboard values into the graphic
Opens the prperties dialog box (setting up of colors...)
RX/TX Toggles from RX <-> TX Equalization
GET Reads current Equalization (and copies the values into the clipboard)
SET Set up Equalization using displayed data

Notes

Data format (clipboard, files) uses the CAT command format: TE for TX Equalization, RE for RX

Equalization (RE CAT command still not supported),
While the graphic Equalizer is displayed and running, it is strongly recommended you do not make any manual change to the K3.

Power On/Off (K3/KX2/KX3)

While the K3 and KX2/KX3 have a CAT command to Power the transceiver OFF (PS0;), they do not have a Power ON CAT command. Consequently, if you power your transceiver off using the POWER button of the program, you may be unable to power it on remotely...

However, Elecraft has provided a way to power the K3 and the KX3 ON remotely:

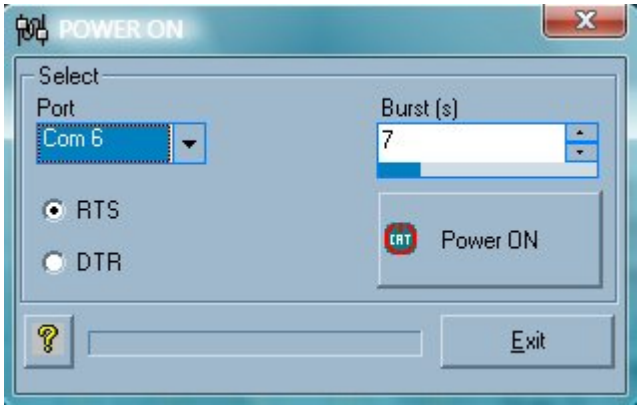
- K3: *A remote-control system can pull the POWER ON line to ground (ACC connector, pin 8) to turn the K3 ON.*
- KX3: *A remote-control system must place 8 to 12 volts DC on the mic jack's PTT line for 100 ms or longer.*

Warning

See the Elecraft manual for more accurate information and official reference.

So it is possible, from TRX-manager, using the DTR or RTS line of a com port and a small interface (built around a reed relay or a buffer and eventually a timer in the case of the KX3) to activate a dedicated line to power the K3 or the KX3 ON.

To set up this function you must have your transceiver powered OFF (TRX-Manager can take few seconds to detect the OFF state) and you click the POWER button (Levels window): a dialog prompts from which you choose the com port, the line to activate (DTR or RTS) and the duration of the Burst (signal). You can choose any free com port + the K3/KX3's com port provided at least one line (DTR or RTS) is not selected in setup and available for this function. Once you configuration is done, you click the POWER ON button of the dialog to send the signal.



Power ON dialog box. This window prompts each time you click POWER while your transceiver is powered OFF

Spectrum analyser and Pan Adapters

Various options are possible:

- See TRX-Pan: A Panoramic Spectrum Analyser for SDR or Panadaptor connected to the IF output (Audio sound card and KXV3 required).
- See also Synchronization with PowerSDR-IF or NaP3 using the K3 Synchro mode (alternative to LP-Bridge)

About the P3

TRX-Manager can send Macro commands to the P3 if it is connected to a K3. Please see the Elecraft P3 Programmers' reference for the available commands. The P3 protocol requires # as prefix for each command. e.g #DSM1; selects spectrum+waterfall display mode.

In addition, TRX-Manager provides specific macro functions for the P3 (to be selected from the Function combo box of the macro dialog).

- CTF: sets the center frequency to the main VFO frequency of the transceiver
- DSM: selects Display mode (Waterfall On/Off)
- PKM: selects Peak mode On/Off
- FXT: select Fixed-Tune mode On/Off
- P3-/P3+: selects the Fixed-Tune mode, the more suitable Span for the mode you are using (SSB/CW/Data) and Shifts the VFOA marker to the left(P3-)/right(P3+) of the screen. This command is very useful to follow the activity of a pile up. P3- must be used if the DX is listening UP (P3+ for a DX listening DOWN).

K3/KX3 Graphic virtual control screens

K3 and KX3 have specific graphic control screens similar to their real front panels. Please use External/Elecraft FP Submenu to display the virtual front panel. Functions are very similar to the K3/KX3's front panel functions however difference may exist generally due to the limitation of the protocol.

Tuning methods

- Use left/right mouse clicks to turn the knobs to the left or to the right or the mousewheel (if the control get focus).
- RX Frequency tuning: use left/right mouse clicks on the RX Frequency digits while holding the mouse buttons or use the mouse wheel
- Tuning using the numeric keypad is supported
- K3: if the PAD button (near VFOB Knob) is pressed the numeric keypad tunes VFO B

Position and appearance

- This window opens outside the main window so that you can move it to another screen. Because of the use of a true graphic display, this windows is NOT resizable. However, the size must fit any screen (width<1024px).
- The window stays On Top depending on the state of the TOP button.
- In case of difficulty to restore this window from the taskbar, please use the TRX-Manager's Windows menu and click the button.

Remote control

Like all other transceivers, your Elecraft may be controlled through a LAN or the Internet using the standard remote control mode of TRX-Manager, but with limited functions. In addition, you may also take full control over your transceiver through a network using the real remote control mode : TRX-Manager behaves exactly like if the com port is locally controlled.

A particular experience by Karsten DL1QC: CW keying using Remoterig and TRX-manager

This is my configuration: from operator to antenna-side: Cw-paddle -> Winkey -> laptop -> TRX-Manager -> RRCMicro-DongRle -> Internet -> Remoterig RRC-1258 MkII ("Radio-modem") -> K3 -> Antenna

The character, generated by paddle-echo in the winkey-window of the trx-manager, is linked to the tt-terminal of the K3-window. With pressed button "keyboard" from the TT-Window the character is send as CAT-command to the remote-K3. With a latence from 500ms to 1000 ms the K3 is transmitting. Using the internal loudspeaker of the winkey-device is necessary to achieve zero-latency from paddle-pressing and generating CW-character. I muted the sound-monitor from K3 to get not confused in sending CW.

Amplifier

See KPA500

Yaesu transceivers

Related Topics

FT-990 ROM1.2, FT-1000 V5, FT-747, FRG-100

FT-1000MP

FT-757GX

FT-767GX

FT-817/857/897

FT-847/736/212/412

FT-980

FRG-9600

FTDX3000 FTDX5000 FTDX9000 FT-2000 FT-950 FT-450

General remarks

YAESU transceivers are very different from one model to another. Consequently, many functional differences are possible depending on the transceiver selected.

Please note the following functional differences between some Yaesu transceivers:

• The generic Yaesu selection for "transceiver" should run with various (but OLD) Yaesu transceivers or receivers but with limited functions (setting of frequency and mode only - no monitoring). Except for special needs or tests, do not select Yaesu but the exact model of your transceiver.

• With FT-847 FT-736 FT-212/412, FT-767GX FT-980 to be under CAT control you must press the CAT button (located on the main toolbar) or the F9 key.

• Early FT-990 and FT-1000 firmware versions (prior to rev. 1.3 or V6), FT-747 or FRG-100 do not allow a constant communication with the PC. Please read the section about FT-990 ROM1.2, FT-1000V<6, FT-747 and FRG-100 for more information.

• FRG-9600, FT-757GX, or FT-736 have limited functions. Please see the corresponding sections of the help.

• FT-757GXII allows using all the functions of the program but editing the memories, changing the frequency or the mode is not possible when in MEMemory mode.

• With FT-817/857/897, FT-847 or FT-100 it is not possible to read/write the internal memory channels of the transceiver : memory channels implemented by TRX-Manager are virtual and not related to the channels of the transceiver. The FC-20 and FC-30 antenna tuners are not compatible with the CAT system.

• With FT-890/900 and FT-100 setting the clarifier is not supported. However, the program reads the clarifier and displays the right RX frequency. With FT-840, the clarifier (read/write) is not supported. This could cause the recalled frequency to be wrong.

• With FT-920 and FT-1000MP : SWL and BAND SCOPE are running only with VFO A selected, real time scanning functions (up down) are not supported. Some commands of the Rig's internal electronic keyer are supported (FT-920 : Tools/Rig's Keyer - FT1000MP Tools/EDSP). With FT-1000MP/MKV selected, scanning from the Monitoring's Up/down button as well as from the Command panel uses the proper scanning function (smooth tuning). This may not work properly with older FT-1000MP ; in that case, please unselect AUTO from the Range dialog of the command panel (receiver will be muted during scanning).

• With arecent Yaesu FT450 to FTDX9000, you must define the width of each DSP filter under Preferences/Software. See also Modes and Filters.

• With VR-5000, only 4800 bauds speed is supported correctly. Communication is not bidirectional: reading frequency and mode is not possible. To be under CAT control you must press the CAT button 

(located on the main toolbar) or the F9 key. Under CAT control, the display of the receiver may freeze or the S-Meter may be erratic. S-Meter only runs properly when the sub-receiver is activated. Consequently, the TRX-Manager's BandScope only runs with the sub-receiver in AM-N mode by defaut. Reading/writing the internal memory channels is not possible: memory channels implemented by TRX-Manager are virtual and not related to the channels of the receiver. VFO A = Main receiver while VFO B = Sub receiver. The Clone mode is not supported.

Operation with FT-990 ROM 1.2, FT-1000 V5, FT-747 and FRG-100

This section is about the early firmware versions of FT-990 and FT-1000, the FT-747 or the FRG-100.

The early firmware versions of FT-990 (ROM 1.2) and FT-1000 (V5), the FT-747 and the FRG-100 do not provide a real time transmission of data such as frequency, mode... You have to select FT-990 ROM 1.2 or FT-1000 V5 in the Setup dialog box to run TRX-Manager (or should this happen FRG-100 FT-747).

update function

TRX-Manager was implemented to run with these transceivers with following differences :

- The real time monitoring doesn't run : you have to press the Update button to manually update the monitoring display ; but the program does it automatically when calling specific functions such as : memory reading, QSX, memory or QM writing and parameters setting.
- It is possible to have a slight difference (10 to 20 Hz) with the displayed frequency and the right frequency ; you have to press Update to accord them,
- The automatic band scope refreshing is not working.
  However, when controlling the transceiver from the PC you should not see a great difference. In fact the program simulates a communication with the transceiver through a virtual com buffer.

Note that for the FT-1000 owners, a version 6.0 ROM chip is available from Yaesu USA and is very easy to install (just a thought).

FT-1000 MP - EDSP and Keyer Controls

This section applies to the FT-1000 MP EDSP and Keyer controls.

When writing this section of the code with help of Rocco WU2M, we thought it would be possible to control all of the EDSP menu settings via the CAT commands. In fact the problem was more complicated and we have to explain below the logic of the EDSP CAT commands to allow you to understand how to use them from the program.

General information and limitations

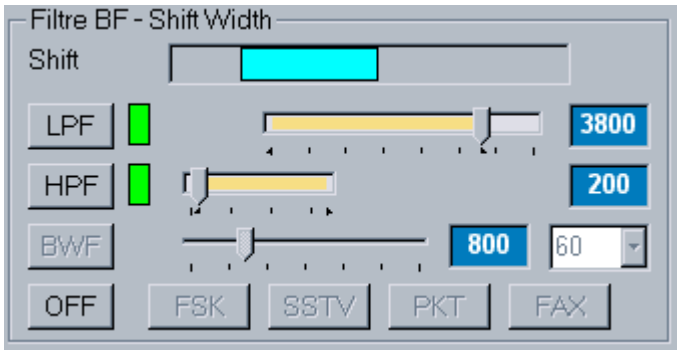
When you change the Mode/Filter or you key the rig (RX/TX), the FT-1000MP processor calculates new EDSP conditions by reference to the menu settings. Since It is not possible to access the menus via the CAT commands, after you send an EDSP command from the computer, these settings are lost as soon as you change a parameter like Mode/Filter or RX/TX !... Please don't be surprised but note TRX-Manager has been written to reset the transceiver to the program's settings provided you KEY the transceiver from the program.

To use EDSP from TRX-Manager, you have to switch EDSP settings to ON from the rig before changing them from the program (you may switch some of them to OFF via the CAT commands...).

RX-EDSP and TX-EDSP windows

You have to switch EDSP ON in order to control the EDSP via the program.

EDSP control is possible from the RX and TX-EDSP windows (Transeiver EDSP submenu or tool-bar buttons ). These windows work in conjunction with the Monitoring module. Controls are as intuitive as possible. RX-EDSP TX-EDSP and AF Filters commands are mode related. Due to an incompatibility with rig menu settings, the RX-EDSP ON button allows you to enable or disable RX-EDSP by CAT and not to switch it to OFF.



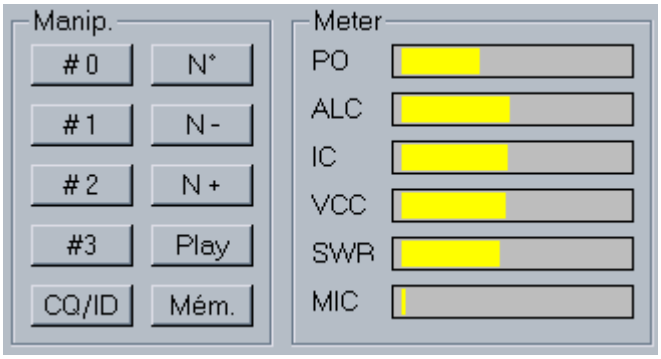
The Default button allows you to quickly send your EDSP Default settings (Tools/EDSP/Defaults).

The Initialize button allows you to retrieve the control via CAT if you lose it : remember that the FT-1000MP comes back to its internal settings each time you change a condition from the rig (TRX-Manager is only able to detect modes and TX/RX changes).

Each time the program sends EDSP CAT commands to the rig, the word EDSP will be prompted in the receive or transmit window.

When you close the RX or TX EDSP windows, the program stops controlling the EDSP.

The TX-EDSP window also allows you to control the FT-1000MP internal electronic keyer and displays some meter data.



For better results

We suggest you follow these instructions before starting the CAT EDSP control:

1. Open the Tools/EDSP/Defaults dialog box
2. Enter the exact same settings that your current EDSP settings are.
3. Click OK
4. Open RX or TX-EDSP windows
5. Click the Default button
6. You are ready to use the EDSP control.

Possible problems

When testing the FT-1000MP, we found some malfunctions or incompatibilities in either the CAT commands or with some menu settings (it may depend on your ROM version):

- CAT RX EDSP OFF command doesn't work if RX-EDSP is ON and gives undesirable result (TRX-Manager does not use this command)
- CAT RX EDSP AM/SSB-W/SSB-N doesn't work if RX-EDSP is OFF and gives undesirable results.
- CAT TX-EDSP OFF command has a bug (but we found a fix)
- CAT FSK AF filter not working
- CAT AF audio equalization - bank 4 not working.
  Note that you may experiment yourself with the EDSP CAT commands by referring to the Yaesu manual and using the CAT Commands window.

In some cases you may have a loss of audio (especially with RX-EDSP settings). Don't panic, you just have to switch EDSP ON/OFF from the rig. The TRX-Manager's interface should help you to avoid these conditions and to enjoy CAT EDSP control!

Operation with FT-757GX

This section applies when using with the FT-757GX Transceiver only (and not the FT-757GXII).

The FT-757GX has very few number of CAT control commands. Notably, it is not possible to read the transceiver status (selected frequencies, modes…) and it is not possible to set the mode from the computer!

The only CAT commands are : frequency selection, memory operation, toggle from A to B, Band up/down by 500 Khz step.

TRX-Manager was modified to work with this transceiver the best as possible. But note that any change made from the FT-757GX is not displayed by the computer.

When opening the monitoring windows for the first time, the frequency is 0 MHz: select any valid frequency from the computer to synchronize both displays.

The Short Wave data base and Web cluster operations are possible but you have to select the mode manually prior to selecting the new frequency from the computer!

Operation with FT-767GX

This section applies for use with the FT-767GX Transceiver. You may run the program as follow:

CAT Control Mode

To be under CAT control you must press the CAT button (located on the toolbar) or the F9 key. When the transceiver is under CAT Control you will not be able to set things from the transceiver's front panel (as frequencies, mode, functions, etc.) In order to gain manual control, you have to press the CAT button on the toolbar or F9 again to release the CAT control mode.

The CAT control is only active when the CAT button looks as if is depressed. The CAT light on your transceiver's front panel will also be illuminated when under CAT control. CAT control is released upon program shutdown, but it is a good idea to make it a habit when you shutdown the software BEFORE shutting turning off the transceiver.

However you may set a DX Spot or a SWL frequency without setting on the CAT Mode.

The Monitoring shows a variable tuning control.

> Warning
>
> During CAT Control, manual control is NOT possible!

Limitations

No S-Meter function

Not available through the FT-767GX CAT interface, therefore the Band Scope is not available.

Filters

Filters are not controllable via the CAT system.

Memory channels

CTCSS tone data are supported (FT-8 tone squelch unit required). However, you have to manually switch on the T Enc or the T SQL function from the front panel. Warning : if you don't own the FT-8 unit do not check Enc or Dec !

Tuner

Tuner functions and status are not controllable via the CAT system.

Operation with FT-817 FT-857 FT-897

This section has been written by Rich KOFUN.

Due to the available CAT Codes provided by Yaesu there are some limitations in the interface provided by TRX-Manager with the FT-817/857/897. The best way to understand what is possible is to take few minutes and review the available CAT Commands on page 72 (FT-817) 62 (FT-897) 115 (FT-857) of your operating manual.

Operational Notes

VFO A/B

With the CAT Codes it is only possible to switch from one VFO to the other. There is no way for TRX Manager to read if the FT-817/857/897 is on VFO A or VFO B. The TRX Manager interface has been modified to reflect Active vs. Standby VFO. If it is important to identify VFO A vs. VFO B you will need to monitor which VFO is active on the FT-817/857/897.

Memory channels

Direct FT-817/857/897 Memory Manipulation IS NOT POSIBLE : There is no CAT Code to Read or Write to the Memory Banks of the FT-817/857/897. TRX Manager has a separate set of Memories, which may be manipulated and saved to disk as described elsewherein the TRX Manager Help Files. TRX Manager does provide several short-cuts to loading FT-817/857/897 Memories as described in the Operating Tips Section and supports FTBasic's memory file which allows you programming the FT-817/897 using the Clone mode.

VFO C (Channels) Loading Procedure : The limited access to VFO functions of the FT-817/857/897 requires some rather complex code to load the TRX Manager Memory Channels to the FT-817/857/897:

1. Assuming you have loaded several memory channels on TRX Manager, press the Up Arrow adjacent to VFO C.
2. The contents of the memory you are moving to will be loaded into the Active VFO.
3. Toggle from Active to Standby VFO.
4. The previous Active VFO Frequency will be reloaded.
5. Drag the Contents of VFO C to the Active VFO. It will be loaded to the Active VFO.
6. Drag the Contents of VFO C to the Standby VFO. It will be loaded to the Standby VFO and the Standby VFO will be toggled to Active VFO.
7. The previous contents of the Active VFO are maintained in the Standby VFO.
   This is actually quite intuitive when after you experiment with it.

The Memory Channels may also be loaded to the Active VFO from the Memory Channel List Window. It is also possible to Edit the contents of a Memory from this window.

FT-817 WILL NOT TURN ON

Due to interaction between TRX Manager and the FT-817 if TRX Manager is running prior to turning on the FT-817 the Power Button on the FT-817 is disabled. This is easily corrected:

1. Turn off TRX Manager or the CAT Button  (not available with FT-857/897)
2. The CAT Button  on TRX-Manager may also be used to turn the 817 Off and On

Narrow CW Filter

There is no CAT Command to set Filters on the FT-817/857/897. The Narrow CW Filter Setting in the Parameters - Preferences - FT-817/857/897 - Filters Screen does not any effect.

Operating Tips

Preferences

Use the Parameters - Preferences - FT-817/857/897 Panel to set the following:

- S-Meter - You may want to calibrate your S-Meter with the S-Meter on TRX Manager. I found mine to be accurate by adjusting the slider three notches to the left of center.
- Repeater Offset - Set to correspond to you local offset.
- Band Plan - You may want to adjust the Band Plan to accommodate your use of the FT-817/857/897. (i.e. 160 Mtrs US Plan, Receive AM on Short-wave Bands, etc.)

Loading FT-817/897 Memories from VFO Module:

1. Turn off the Commands and the Monitoring Panels
2. Activate the VFO Panel
3. Set Frequency, Mode, Repeater Offset, CTCSS as required.
4. Load FT-817/857/897 Memory as described in the manual

Loading FT-817/897 Memories from TRX Manager Memory Files:

1. Setup a Block of Memories on TRX Manager or Recall a Memory File. I find it helpful to store Memories in Blocks of 20 so I may load an FT-817/857/897 Group as required. (i.e. SWL Group, St. Louis Repeaters, Chicago Repeaters, QRP Frequencies, etc.)
2. Turn off the Commands and the Monitoring Panels
3. Activate the Memories List Panel
4. Recall the desired Memory, Edit as required.
5. Load FT-817/857/897 Memory as described in the manual
   These techniques provide you with a relatively quick way to load the operational data to the FT-817/857/897. Loading the Memory Tag on the FT-817/857/897 still has to be done manually.

Operation with the FT-847 FT-736 FT-212/412

This section applies to the use with the FT-847 FT-736 FT-212/412 transceivers

Note that unlike other models the FT-847 requires a null modem serial data cable. Check the menu (#37) on the 847 and adjust the CAT rate at the Setup speed (4800, 9600 or 57600 bauds).

The FT-736/212/412 require a standard interface and cable.

CAT Control Mode

To be under CAT control you must press the CAT button  (located on the toolbar) or the F9 key.

The CAT control is only active when the CAT button looks as if it is pressed. The CAT light on your transceiver's front panel will also be illuminated when under CAT control. CAT control is released upon program shutdown, but it is a good idea to make it a habit to shutdown the software BEFORE turning off the transceiver.

Split mode

The FT-847 and the FT-736 are featured with a Split mode but this feature is not accessible via the CAT System. However, TRX-Manager implements a specific Split mode ; this Split mode is only available if you switch to TX via the program (Keybutton Monitoring).

Memory channels

Memory channel operation is not accessible via the CAT system. However, TRX-Manager implements the same interface as for other transceivers and gives you 99 virtual memory channels. These channels are unrelated with those of the transceiver. In addition TRX-Manager supports FTBasic's memory file which provides programming of the transceiver using the Clone mode.

Please note (as for other transceivers) that the Automode feature is disabled when working with the memory channels. Switch to the VFO mode (press the Abutton of the monitoring window) to enable the Automode feature.

DCS and CTCSS encoding are supported (see Repeater settings)

FT-736 (and FT-212/412)

When the transceiver is under CAT Control you will not be able to do certain things from the transceiver's front panel (as frequencies, mode, functions, etc.). In order to gain manual control, you have to press the CATbutton  on the toolbar or F9 again to release the CAT control mode.

Any monitoring is not possible.

It is not possible to retrieve from the FT-736/212/412 current operating conditions. Consequently, you may have a slight difference between transceiver's display and the PC's display, even when controlling the transceiver from the PC, and of course a big difference when controlling the transceiver from its front panel!

The FT-212/412 only support setting up of Frequency, CTCSS (Enc, Dec, Tone) and TX/RX switching. All other commands are not supported.

FT-847

If you own one of the early firmware versions, no monitoring is possible. In this case TRX-Manager quickly displays NO DUAL when you press the CAT button. You may contact your Yaesu dealer to upgrade the CPU.

When under CAT control, manual control is still possible. But if the FC-20 antenna tuner is connected and switched ON, CAT control is not possible.

The optional YF-115C 500Hz filter corresponds to the 250 Hz command.

Saving and loading the configuration (FT-847)

Via the cloning function of the FT-847, it is possible to save the whole configuration of the transceiver on hard disc and to recall it.

> Warning
>
> Leave the CAT mode (CAT OFF) to carry out this function.
> Check the speed for the clone mode : #94 (CLN RATE) so that it is identical at the speed of Setup of the program ; preferably use a high speed (57600 bauds).

Saving a configuration

1. open the Transceiver/Save Configurationsubmenu ,
2. choose a file (.847 as extension), press Save
3. select the menu #95 of the transceiver (SEND CLN), then press key MCK/W
4. then press the OK button of the dialog box,
5. once the transfer on disc carried out, the program confirms the save.

Loading a configuration

1. open the Transceiver/Load configurationsubmenu ,
2. choose a file (.847 as extension), press Open,
3. select the menu #96 of the transceiver (RCV CLN), press key MCK/W,
4. then press the OK button of the dialog box of the program.

Operation with FT-980

This section is only for use with the FT-980

Limitations

The FT-980 was one of the early transceivers featured with a CAT Control system. So there are some differences between the FT-980 and with later models of Yaesu CAT transceivers :

- no dual control : you have to choose between CAT Control or Manual Control,
- no S-Meter (Band scope is not available)
- no dual VFO system : the split mode uses a memory channel
- two VFO's for GENeral coverage or HAM coverage
- tuner functions and status are not controllable via the CAT system.
  Note : you may have to disconnect the PIN 4 of the DB9 plug (FT-980) to prevent the RIG from keying during CAT Control.

CAT Control Mode

To be under CAT control you have to press the CAT button (main toolbar's button) or the F9 key. When the transceiver is under CAT Control you may not change anything from the transceiver (as frequencies, mode...). You have to press CAT or F9 again to leave the CAT control mode.

When you run TRX-Manager for the first time after the XCVR was OFF, you may have to press one or more times the CAT button before the CAT Control starts, or wait a few seconds. The CAT control is only effective when the CAT button looks as if is depressed.

Memory channels

Through the CAT system, the FT-980 is provided with 16 memory channels (not 12) ;
However when the software is reading the memory channels content for the first time (after the FT-980 was OFF), the reading is false. You must change the memory content through the software to reestablish a correct reading.

Split and QSX

The split modeuses a memory channel. During the split operation TRX-Manager uses the current memory to store the TX frequency (this frequency may be recalled from the QMB).

IF Shift IF Width

One interesting feature of the FT-980 is that IF shift and IF width may be controlled from the PC. You have to drag the two corresponding sliders (monitoring) and move them to change the shift or the width. The w and s buttons centers the settings. A graphic readout is provided to see the current bandwidth and IF shift.

Note the following bug of the FT-980 Yaesu CAT control system : when you run TRX-Manager for the first time after the XCVR was OFF the Width is not updated.

HAM and GEN VFO

By default TRX-Manager uses:

- HAM for DX-SPOT frequencies
- GEN for S.W. frequencies
- HAM or GEN according to the frequency range for other settings.
  Please note that the FT-980 CAT sytem doesn't allow you to enter or to change the clarifier frequencies.

Operation with FRG-9600

This section applies for use with the FRG-9600 Receiver.

The FRG-9600 is poorly equipped in CAT commands. The only available CAT commands are the transfer of a frequency or mode FROM the PC to the FRG-9600. It is thus impossible to read the status of the receiver (frequencies, modes…) or the S-Meter (at least in a digital way). It is also not possible to up/download the memory channels.

TRX-Manager was modified to present the most complete possible interface with this receiver taking into account these characteristics. But attention: if the changes of frequency operated from TRX-Manager are correctly displayed, any manual modification of the state of the receiver is not reported.

Monitoring

When opening the monitoring window, the displayed frequency is equal to zero… Select any valid frequency using the cursor or the keyboard to set the receiver.

Filters and modes

The CW mode does not exist on FRG-9600. The CW selection involves the USB mode. For the AM and FM modes, it is necessary to fill in the Preferences under Transceiver tab with regard to the filters really available (select narrow FM preferably).

Channels reports

TRX-Manager implements 99 virtual channels without relationship with the internal channels of the FRG-9600.

Reverse CW

This section applies to FT-990/890/900/840/1000D/767GX/757GXII.

These rigs do no feature a CW Reverse function. For these rigs, TRX-Manager makes possible the reception of CW in LSB mode using split mode. Written for fun, you may find it useful ... or not!

How to use the CW Reverse function

First, it is necessary set up the correct CW Pitch from the Preferences/Transceiver dialog (range: 400 - 700 Hz).

Then:

1. adjust the operating frequency (VFO) for the selected pitch
2. press Rev (commands panel or monitoring window)
3. adjust IF Shift (1/4 clockwise) to center the signal (only if a narrow filter is in use)
4. press Rev again to reestablish normal CW mode.
   It is still possible to offset the transmit frequency with the QSX command.

Please don't forget to reset CW-REVERSE before mode or frequency changes because the transceiver is switched in split mode.

Kenwood transceivers

This section is mainly related to the older Kenwood transceivers (TS-450, 850...).

See also

TS-2000 TS-480 TS-590

TS-990

General remarks

The Kenwood generic option (Setup) should function with any Kenwood transceiver (eventually not listed) but provides basic functions only and does not allow reading of the data sent by the transceiver. Except for special needs or tests, do not select Kenwood but please select the exact model you are using (i.e TS-XXXX).

The highest CAT speed is recommended.

About RTS and Handshaking

For all speeds from 9600bds and above, RTS (Setup) must be selected in order to support the Kenwood Handshaking protocol. In such case CW Keying or PTT switching is not possible using the RTS line. If RTS enabled is required for Handshaking, TRX-Manager disables any settings for PTT or CW Keying made using the RTS line and re-assign RTS to handshaking.

Dual Control (if available) is usually checked - unchecked only if you connect your Kenwood to your computer through a serial server (see also Disabling Dual Control).

Some Differences between models

R-5000 TS-940 TS-711 TS-811 and TS-440

The rigs require the IC-10 accessory and the IF-232C interface. These rigs do not provide the selection of the filters or the reading of the S-Meter and therefore prevents the bandscope from working.

CTCSS Tone

Only TS-850 TS-950 and recent Kenwoods provide the selection of a CTCSS tone ; TS-450 and TS-690 provide On/Off setting of the tone but, curiously, not the TS-850!

TS-790

TRX-Manager uses Offset (RPT+/-=) for channels 00-29 and Split frequencies for channels 30-59. While there is no way to set up the repeater Shift by computer, you have to enter valid Shifts (i.e: a negative value for a negative Offset) to initialize the program and for compatibilty between data.

S-Meter and Band Scope may (sometime) not work properly.

Tuning steps

TS-450 TS-690 and recent Kenwood provides automatic selection of the tuning step : fill in the Fine Tuning frame under Preferences/Transceivers for Phone and CW / Data.

Filters and advanced functions

With TS-850 TS-950 and recent Kenwoods, you may couple the filter selection with the variable bandwidth filter (see Modes and filters).

Many levels and functions are adjustable from the  Transceiver / Levels panel.

CW Keying viat the CAT Port

With TS-480/570/590/870/TS-2000 direct CW keying via the CAT port is supported (see CW Interface).

Use of the channels

The Kenwood transceivers generally defines two frequencies for each channel: the receive frequency and the transmit frequency (Split). TRX-Manager takes this into account ; the channels editor allows you to enter the Shift between the two frequencies (whatever you have to introduce a repeater Shift or simply different values for RX and TX). This information may be also particularly useful for the introduction of the limit of the program scan function (channels 90 to 99); for example to scan from 14.00 to 14.35, it is necessary to introduce 14.00 as the frequency and 350 KHz as the Shift.

With TS-790 (channel 00-29) and TS-2000/480/590 you may define a repeater Offset (-/+/=).

These functions are not supported by the current TS-990's driver.

Important Notes

Old rig: The selection of Wide filters (6K or 12K) is not possible in SSB or CW. The selection of Narrow filters is not possible in AM and FM.

The repeater's Offset itself is not accessible on most Kenwood transceivers (recent rigs excepted); entering a repeater shift in a memory channel initializes the associated split frequency (see above).

It may be, after having selected a channel from the PC, that it is not possible to select a VFO from the transceiver ! It is then necessary to restart the program and to select a VFO... To limit this nuisance being repeated, TRX-Manager switches to VFO before closing the serial port.

The Clear function may make the RIT button not working properly. It is suggested to center the RIT button then to press on Clear to return to normal operation.

TS-2000 TS-480 TS-590S/SG

Kenwood TS-2000 TS-480 TS-590S/SG are particularly well suited to TRX-Manager. Fully controllable via a computer, they also have a front panel which takes advantage of the TRX-Manager's "*computer aided traffic*" concept. Consequently, TRX-Manager offers an alternative to the full control via computer.

About TS-B2000

TRX-Manager is NOT conceived as a substitute for ARCP software and TS-B2000 is not fully supported (this is why TS-B2000 does not appear in the list of supported rigs). However, TRX-Manager may be used with TS-B2000 for DXing in real-time while Kenwood's ARCP software will be required to set up the permanent settings or for some specific operations.

Setting up your transceiver and TRX-Manager

It is recommended to set up the Transceiver for the highest practical speed. It is necessary to boot TRX-Manager and the Transceiver after each change of the communication speed.

It is also recommended to set:

- Transceiver's Auto Mode = OFF ([FUNC] [LSB/USB/AUTO])
- Frequency Correction USB/CW = OFF (Menu #37 TS-2000)
- Beeper = OFF (Menu # 12 TS-2000)
  From TRX-Manager's Setup, please select TS-2000 or TS-480 or TS-480HX or TS-590S or TS-590SG and check RTS (to enable RTS/CTS Handshaking). The highest available speed is recommended : 56700 (TS-2000) or 115200 (TS-480 590S/SG).

Due to the extended control capabilities of these models, TRX-Manager may be configured for two modes of operation (Setup):

TS-2000, TS-480, TS-590S/SG :

1. Auto Information checked (recommended) : if Auto Information is checked, the transceiver automatically sends notification of all parameter changes to the computer (*). This mode is recommended because it is the more efficient and display is very fast. However, collisions between commands may (rarely) cause some errors in the display.
2. Auto Information unchecked (polling mode) : if Auto Information is not checked, TRX-Manager polls the transceiver at regular intervals (polling). This mode slows down the program and the computer but communication errors are almost impossible. For this reason, this mode is preferable if the transceiver is to be remote controlled (i.e when using the TRX-Manager's remote control ability).
   IP Port is usually unchecked. This option provides control of the com port via IP.

Warning

Please note that when a menu is activated on your transceiver, commands via PC are ignored (except commands related to this menu): make sure to exit the menu after each change.

Alternative setup for TS-590S/SG

TS-590S/SG/480/2000 share a similar driver and TS-590S or SG are listed in setup. Just for fun, you may select the TS-990 driver (with a TS-590) by directly typing TS-590 (instead of TS-590S or TS-590SG) in the Transceiver combo box; TRX-Manager will sense your TS-590S or TS-590SG automatically and configure the driver accordingly. Layout is different and you may find it more convenient (or not), however some features (like Memory channels read/write) are not supported.

Menus

Some critical menu items are accessible via TRX-Manager but not via a menu but by using contextual dialogs, preferences, etc... in addition some of them are programmable by band giving more power to computer control.

The main entry point for most advanced functions is the Levels window (see below).

Switching On/Off

The button of the main toolbar (or the F9 key) alllows switching ON/OFF the Transceiver. In addition, options for ON at Startup or OFF on exit are available from Setup/TRX... tabs.

Monitoring

If Auto Information is checked (Setup), the Refresh button polls the transceiver in order to fix errors in the display :

The Levels button (or the Transceiver/Levels submenu) opens the Levels window.

The DISP button sets up the sub receiver from the Monitoring window.

The TF-Set function is supported by the TFS button. In addition, if you give the focus to the TFS button (by pressing it once), the keyboard's space-bar toggles the TF-Set function ON/OFF.

TS-480 TS-590S/SG (PTT)

The TS-480/590S/SG transceivers offers two modes for PTT: PTT for MIC Input (TX0;) or PTT for ANY input (TX1;). By default TRX-Manager uses TX0; If your audio line is connected to the accessory jack, you have to set up a macro (TX1;) for keying SSB.

Sub Receiver (TS-2000)

From the Levels window, the ON button sets up the sub receiver ON/OFF while the Sub button toggles Control+PTT from Main to Sub. From the Monitoring, the Disp button toggles the display from Main to Sub and gives you access to specific functions of the sub receiver

(CTRL, PTT, Bands and Mode).

While the sub receiver has the control, you may use the Edit / VFO window (F2) or the Up/Down buttons, the keypad and the slider of the Monitoringto set a frequency but the Command Panel is disabled. To toggle from Memory mode to VFO (and vice versa), please use the C button of the Monitoring.

The Band Scope has the ability to scan the sub receiver.

Generally most of the commands or the modules affect the main receiver only. Consequently, when the sub receiver has the control, some informations (RX TX frequencies) or functions may be wrong or may have inexpected results.

Memory channels operation

TRX-Manager supports the 301 channels of the TS-2000 including Labels and the memory Group numbers (100 channels for TS-480 - 110 channels for TS-590S/SG).

- Reverse parameter of the Channel window is related to Mode (CW-R, FSK-R),
- Skip parameter skips a channel during a scanning (Lockout),

 TS-2000

Channel 300 is the Call channel (it is not editable from TRX-Manager),
RX-TX Split is converted into Repeater Shift in FM mode, you may select the groups to be recalled in memory mode from the Channel window,
Group numbers are displayed for each channel under the Scancolumn of the Channels window. When you change a group number from the computer, the TS-2000's display takes this change into account but the change is not effective ! You have to boot TS-2000 in order to make the new group numbers effective,
It is not possible to edit a channel opened in the sub-receiver : please deselect the memory mode of the sub-receiver before editing any channel.

See also : Channels overview

Automatic configuration of the DSP Filters
TRX-Manager automatically configures the DSP filters according to the values defined under the Transceiver tab of the Preference submenu. Please check DSP Enabled in order to activate the automatic configuration and take care to fill in the desired values for the Pitch and repeaters Shifts.

If you own a TS-480 and the additional SSB narrow filter is installed, you may check the NAR1 option: the corresponding filter will be associated with TRX-Manager's Narrow selection (SSB/FM/AM only - selected by DSP in CW).

 TS-590S

TRX-Manager memorizes the Filters A/B for each VFO. This is particulary useful in Split mode while you use the TF-Set function. To use this function you have to initialize the desired Filter for each VFO at startup either from the Levels window or directly from the transceiver and engage the AUTO Mode/Filter switching .

See also : Modes and filters

Operation with a Linear Amplifier

The TS-2000/480/590 have a selectable relay state by CAT. The state of the relay which enable (or not) the use of the linear amplifier can be selected from the

Preferences/Transceiver/Rotator Misc tab... (Linear check box) e.g you may enable your amplifier on all bands except 10m... From the same dialog you have to select the switching delay (see Relay option in the manual of your transceiver).

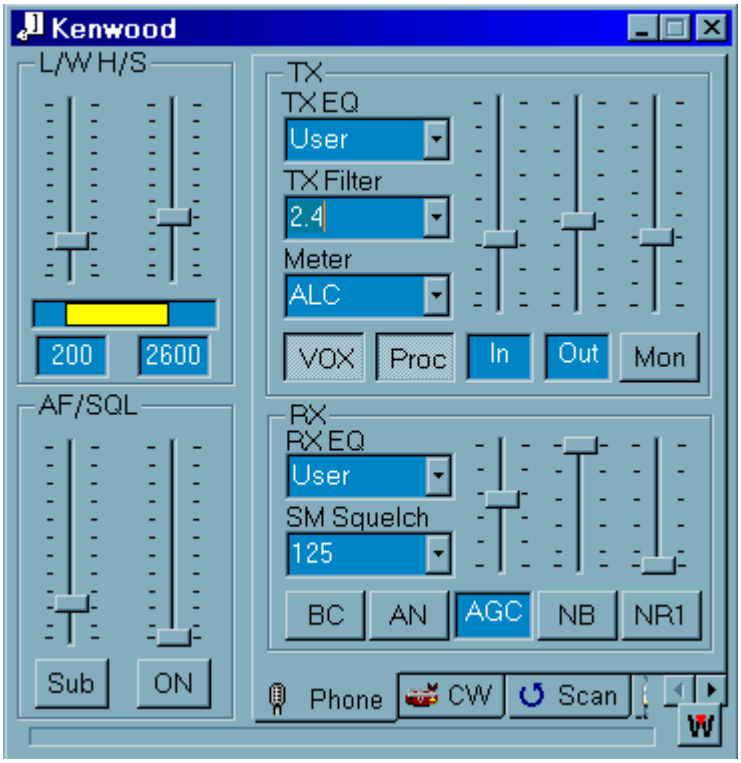
If you don't use this feature, you can disable all auto-settings from the same dialog.

See also Band Plan

Levels window

From the Levels window (Transceiver/Levels submenu), you may set-up the transceiver's parameters or access some menus or functions in an intuitive way.

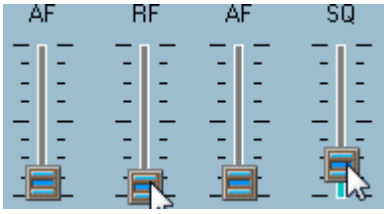
On the left, you will find AF Level, DSP and Squelch controls. The Sub button (TS-2000) gives the control to the sub receiver.



This window is updated when opening. Later, the Refresh button polls the transceiver and updates the display. However, if Auto Information is enabled, the levels (on the left) are updated in real-time.

AF/SQL or AF/RF controls

By default TRX-Manager provides controls for AF and Squelch levels. By right clicking the cursor of the RF/SQ Sliders, you may toggle from AF/SQL to AF/RF controls (AF and RF Gain levels):



Switching from AF/RF to AF/SQ

Phone Tab

From the Phone tab you can set up the parameters for RX and TX in phone.

CW Tab

From the CW tab you can set up parameters for RX and TX in CW. Please note :

- Text boxes allows you to set-up two CW messages (up to 24 characters) unrelated to the internal electronic keyer of your transceiver,
- A Memory function of the DSP filters is featured,
- The Pitch=Shift button shifts Pitch and IF-Shift simultaneously
  Please note that TRX-Manager supports direct CW Keying of the Transceiver via the CAT port. You have to check the Internaloption (Setup/TRX tab) to enable direct CW keying via the CAT port (see also CW Interface).

Scan Tab

The Scan tab provides settings of the transceiver's scanner. Conventions and functions are the same as those of the transceiver's manual. It is recommended that you read this manual to understand the different scanning modes.

Misc tab

The Misc tab provides setting of the TS-2000' internal TNC. The Misc tab also provides RF Power setting and Antenna selection.

Satellite mode (TS-2000)

The SAT module opens from the Tools/Satellite submenu.

TRX-Manager switches to Satellite mode by clicking the satellite (SAT) button

Once in Satellite mode, you can set up the Downlink or Uplink frequencies from the Edit/VFO (F2 key) or Edit/Split (F3 key) submenus. Setting up the satellite name is possible from the Edit/Info (Ctrl-I) submenu.

See also : Satellite Interface.

Internal TNC (TS-2000)

TRX-Manager supports the TS-2000's internal TNC and processes Packet Cluster data (PCT Mode).

- PCT Mode : the DX Spots are displayed under the DX Cluster tab of the Terminal window.
- TNC Mode (Terminal) : the PKT button of the Terminal's toolbar switches the TS-2000 into TNC mode. Please note PKT disables the CAT control until you toggle PKT OFF. PKT also disables the Terminal port of TRX-Manager.

About PCT Mode

While PCT mode is enabled, the commands of the menu (EX...) do not work: some controls of TRX-Manager may not work properly while PCT mode is activated (especially the linear amplifier control command...).

Remote control

Like all other transceivers, your TS-2000/B2000/480/590S/SG may be controlled through a LAN or the Internet using the standard remote control mode of TRX-Manager, but with limited functions.

In addition, you may also take full control over your TS-2000/480/590S/SG through a network using the real remote control mode: TRX-Manager behaves exactly like if the com port is locally controlled.

Limitations

TRX-Manager does not work exactly the same as the transceiver with Kenwood's ARCP software. When the sub-receiver has the control or in case of empty memory channels, TRX-Manager's behavior may be indeterminate and provide unexpected result.

TS-990S

The Kenwood TS-990S is particularly well suited to TRX-Manager. Fully controllable via a computer, it also have a rich front panel which takes advantage of the TRX-Manager's "*computer aided traffic*" concept. Consequently, TRX-Manager offers an alternative to the full control via computer.

Setting up your transceiver and TRX-Manager

It is recommended to set up the Transceiver for the highest practical speed. It is necessary to boot TRX-Manager and the Transceiver after each change of the communication speed.

It is also recommended to set:

- Transceiver's Auto Mode = OFF
- Frequency Correction USB/CW = OFF
- Beeper = OFF

From TRX-Manager's Setup, please select TS-990S and check RTS. The highest available speed is recommended : 115200.

If you use the internal CW Keyer of the TS-990S via CAT, you have to check CW Internal.

TRX-Manager may be configured for two modes of operation (Setup):

1. Polling NOT checked (recommended) : This mode enables Auto Information and minimizes polling. In fact no polling happen (except in memory channel mode and at startup). This mode is recommended because it is the more efficient and display is very fast. It is also best suited for remote operation whetever the remote mode you use but especially using a serial server.
2. Polling checked: this mode sets OFF auto information and and enables a polling for critical data. This mode is for testing purpose only and should not be used.

Warning

Please note that when a menu is activated on your transceiver, commands via PC are ignored (except commands related to this menu): make sure to exit the menu after each change.

Switching On/Off

The button of the main toolbar (or the F9 key) alllows switching ON/OFF the Transceiver. In addition, options for ON at Startup or OFF on exit are available from Setup/TRX... tabs.

Monitoring

The Refresh button polls the transceiver in order to fix errors in the display and to reactivate the auto-information mode.

The Levels button (or the Transceiver/Levels submenu) opens the Levels window.

The SUB button toggles the active receiver. If the sub-receiver is active, all controls and displays (Levels window included) are related to the sub receiver.

The TF-Set function (TFS Button) is supported. In addition, if you give the focus to the TFS button (by pressing it), the keyboard's space-bar toggles the TF-Set function ON/OFF.

REV (Reverse) is related to CW/FSK/PSK and SSB Mode (USB/LSB). DAT allows cycling through the three data mode (D1-D3).

Auxiliary Meter
From the Monitoring, below the S-Meter, select KENWOOD to display the auxiliary meter values. You may select the current meter using the MET (METER) button of the Levels window.

Reading VDD

PTT

The TS-990 offers two modes of operation for PTT switching: PTT for MIC Input (TX0;) or PTT for ANY input (TX1;). By default TRX-Manager uses TX0; If your audio line is connected to the accessory jack, you have to set up a macro (TX1;) for keying SSB.

Memory channels operation

TRX-Manager allows switching to the current memory channel mode : use the small arrows near the C button to choose the current memory channel and press C or A/B to toggle between the memory mode and the VFO mode.

This version of TRX-Manager does not support reading/writing files of memory channels.

Linear amplifier operation

The TS-990 has a selectable relay state by CAT. The state of the relay which enable (or not) the use of the linear amplifier can be selected from the Preferences/Transceiver/Rotator Misc tab... (Linear check box). e.g you may enable your amplifier on all bands except 10m... From the same dialog you have to select the type of relay control from 1 to 5 (see Relay option in the manual of your transceiver) as follow:

1. Active High
2. Active High + Relay Control
3. Active High + Relay & TX Delay Control
4. Active Low
5. Active Low + TX Delay Control

If you don't use this feature, you can disable all auto-settings from the same dialog.

See also Band Plan

Levels window

The levels window allows controlling most of the critical functions. The labels being sometime small, please use the "touch help" to understand the meaning of the labels.

Sub Receiver

The Levels window controls the operating receiver. If the Monitoring's SUB button is pressed (or if the Sub Receiver is active), the Levels window control the sub receiver's levels. All display and commands are related to the active receiver.

CW Keyer Memory (KM1-5)

TRX-Manager uses the Message TEXT type. You can store data into the memory keyer using the SET button (only messages 1-5 are supported).

Remote control

Like all other transceivers, your TS-990S may be controlled through a LAN or the Internet using the standard remote control mode of TRX-Manager, but with limited functions.

However, the TS-990S is well suited for remote control using a serial port server.

Limitations

TRX-Manager does not work exactly the same as the transceiver with Kenwood's ARCP software. In case of empty memory channels or in memory channel mode, TRX-Manager's behavior may be indeterminate and provide unexpected result.

TenTec Transceivers

General information for all models (but Omni VI/VI+)

DSP Filtering

TRX-Manager implements two virtual filters (Normal and Narrow) for each SSB/CW mode + a Wide filter for AM. Since TRX-Manager uses the DSP, you must check DSP under the Preferences/Transceiver tab and fill in the default values for each filter. If the protocol does not give the ability to set the roll-off value of the DSP, only the total bandwidth is set. See also Modes and filters .

Memory channels

The program can write the memory channels and upload memory channel files but it does not read the settings of the channels. When you recall a channel from the program, its content is transferred into the current VFO. See also Memory channels.

Levels

You may set most of the available levels (AF, RF, from the Transceiver/Levels window. Please note, the program does not synchronize with the current settings at startup. If a slider is grayed out, the corresponding level is not available from a computer.

Omni VI and Omni VI +

For Omni VI and Omni VI +, please see the instructions for ICOM transceivers.

ORION

Behavior of Orion transceiver may be erratic with TRX-Manager ; please note ORION is NOT listed as a supported rig. You can test it at your own risk.

Please select ORION in the Setup's combo box. DTR and RTS must be checked and communication Speed must be set to 57600 bauds. Orion uses hardware handshaking: make sure your cable is wired for RTS Handshaking .

Almost all main programmable functions including DSP filtering and setting of the levels (AF, RF,Power, ...) are implemented. Automatic DSP selection must be set from the Preferences/Transceiver dialog.

While TRX-Manager has been tested successfully with different firmware, some users have reported a freeze of the front panel during computer control. If the ORION's control panel freezes, please try to uncheck Polling in Setup. Please note, in that case, any change done from the rig is not reported on the display. If necessary you may press the Monitoring's update button to update the display.

OMNI VII

TRX-Manager supports Omni VII in radio mode. Please select OMNIVII in the Setup's combo box. DTR and RTS must be checked and communication Speed must be set to 57600 bauds. OmniVII uses hardware handshaking: make sure your cable is wired for RTS Handshaking.

It is recommended you set up the Omni VII's Interface menu item to SERIAL IF and not Stepp/IR CT (while TRX-Manager supports both).

Almost all main programmable functions including DSP filtering and setting of the levels (AF, RF,Power, ...) are implemented. Automatic DSP selection must be set from the Preferences/Transceiver dialog. However, PTT function do not exist in radio mode.

EAGLE, ARGONAUT VI

These transceivers include an USB interface. USB cable is a standard device cable with small square connector on one end and rectangular USB to computer connector on the other (same as normally used for a printer.) Do not expect the TenTec optional Model 712 USB Soundcard Digital Mode Adapter Cable to provide proper connection for rig control and logging : it is used for digital soundcard applications.The most recent USB driver must be obtained from the TenTec web site and installed. Please follow instructions provided by TenTec to find the virtual com port number to be selected from the TRX-Manager's Setup screen.

Communication parameters are 57600 N 8 1. RTS should be checked.

Almost all front panel commands are supported by software (or interface) and are sufficient for good DXing (see the Programmers reference guide for more information about available commands: TRX-Manager supports all functions listed).

Note

if a DSP WIDTH command is sent from the program (using the DSP WID slider), the transceiver will no longer responds to changes using the BW DSP POT on the front panel (until the next power off/on cycle). Press the DEFAULT  button of the levels window to regain control from the DSP POT. From TRX-Manager, please note DSP slider's range is variable for each mode (AM/SSB/CW).

RX320

Setup

Please select RX320 from Setup and check RTS and DTR. Communication Speed must be set to 1200 bauds.

Unlike conventional tabletop or portable radio receivers the RX-320 contains no front panel controls. The receiver hardware relies entirely on an external controller to provide radio-like functionality. In fact, the receiver is controllable via its DSP : The DSP provides control over MODE, FREQUENCY, BFO, FILTER, AGC MODE, SPEAKER LEVEL and LINE OUTPUT LEVEL. In addition, the DSP can respond to requests for SIGNAL STRENGTH (S-Meter).

Current use

DSP

The roll-off value for DSP is fixed to 200 Hz.

BFO (CW)

The BFO may be adjusted by using the Pitch function of TRX-Manager (Edit/Pitch) or from the Preferences/Transceiver dialog. The default value is 600 Hz.

AF and Line levels

These levels are adjustable from the Levels window (Sub receiver level = Line level).

AGC

AGC is adjustable from the Levels window (1=Slow, 2=Medium, 3=Fast, Off not supported).

Argonaut V

Please select Argonaut from Setup and check RTS and DTR. Communication Speed must be set to 1200 bauds.

TRX-Manager supports the Argonaut V transceiver and almost all programmable functions including DSP filtering, Keyer Speed, NB, Attenuator ; the Argonaut V's protocol does not support setting of AF & RF levels.

Jupiter

Please select Jupiter from Setup and check RTS and DTR. Communication Speed must be set to 57600 bauds.

TRX-Manager supports the Jupiter transceiver and almost all programmable functions including DSP filtering, NB, NR, Attenuator, AF, RF, SQ Levels...

Alinco transceivers

TRX-manager supports the Alinco DX-77 Transceiver.

Setting

Please choose generic model Alinco or DX-77 (Setup). Speed is always fixed on 9600 bauds.

Limitations

It is not possible to upload the memory of the DX-77. The channels are virtual unrelated with the channels of the transceiver.

JST Transceivers

TRX-manager supports JRC JST transceivers and the NRD-545 receiver with some limitations on program functionality.

Settings

Choose NRD-535 NRD-545, JST-145 or JST-245 from the Setup dialog box. Communications speed is fixed at 4800 bps (see your manual in case of different speeds are supported). DTR is not checked. See your manual in case of the RTS protocol is required (if RTS is checked and RTS Protocol not supported, you may have a lock-up of the program). Restart the program.

Note : The generic JST Protocol is equivalent to the JST-145/245 protocol, however with this setting TRX-manager will not read the data send by the radio.

Press the CAT button (

CAT control) in order to activate the remote control (CAT) mode. The CAT mode takes control over the radio after lighting the "REMOTE" light on the radio faceplate. When communications is working properly, the current state of the radio is reflected in TRX-manager, with the exception of the Split command which is not supported (if the current Frequency and Mode do not appear at startup, please turn a little the tuning dial). With most JST/JRC, there is no manual control from the radio controls while in this mode, not even the tuning dial !

If CAT is OFF, you can not control your JRC/JST from the Monitoring window. However, tuning a spot (using DXor Web-Cluster) tuning a SW Station is possible : TRX-Manager sets ON/OFF CAT during the time the transfer occurs and the corresponding changes are displayed by the program. However any change done from the rig is not reflected by the program until you press CAT ON again.

CAT ON is absolutely required for Scanning otherwise erratic behaviors may occur.

Memory channels (CAT ON only)

If CAT is ON , you can control the memories (Write only). With TRX-manager it is possible to store data into memories 1 to 99 (only). With the JST-145/245, the program memorizes the split frequencies (the repeater shifts can be entered into the memories as split frequencies).

TRX-Manager can NOT read the memory channels content.

Filters

The JST receivers and transceivers support 3 filter selections per mode. The program allows you to choose any filter bandwidth, however, the display may differ from the actual selection. See also Mode and filters.

VFO

JST-245 does not provide a CAT Split function. You may operate JST-245 in Split all the time and use the LINK function to link VFO A and B for simplex operation.

Other brands

CODAN NGT

Select CODAN in Setup. By convention TRX-Manager adresses the CODAN NGT's Channels by their name (or label) from "01" to "99". Consequently, you have to rename all names by using only 01 02 03... 99.

RACAL 6790

Select RACAL in Setup and fill in the Address field.

After you restart TRX-Manager, press the CATbutton (

CAT control) in order to activate remote control. This mode takes over control of the radio (there is NO manual control from the radio controls while in this mode, not even the tuning dial !). CAT ON is absolutely required for scanning or controlling the receiver from the Monitoring; however, tuning a spot (using DXor Web-Cluster) tuning a SW Station does not require activating CAT mode. Also displaying the current frequency/mode of the receiver does not require CAT ON.

By default TRX-Manager uses CW mode with BFO. Prior to use the CW mode, you have to set up Offset at least ONCE by setting up Pitch from the Edit/Pitch submenu or from the Preferences/Transceiver dialog. Later on TRX-Manager retains the correct Pitch. Offset is positive by default; to set up a negative Offset please use the CW REVerse mode.

To use CW with a central frequency, you have to define a nul Offset (Pitch = 0) from the Preferences/Transceiver dialog.

ISB mode is not supported by TRX-Manager as a standard mode. However, by convention, TRX-Manager displays ISB mode as FSK. Consequently, to set up ISB mode, select FSK from TRX-Manager...

Bandwidth is selectable for CW AM FM. 3 selections are available : WID (Wide) MED (Medium) NAR (Narrow). TRX-Manager polls the receiver for installed filters and selects the most approriate for each mode.

OMNI-RIG

OMNI-RIG is a COM component for transceiver/receiver CAT control written by Alex VE3NEA. It supports many rigs (some not currently supported by TRX-Manager) and multiple programs at the same time. TRX-Manager does not install OMNI-RIG on your computer. You must downloadand install/update OMNI-RIG before you configure TRX-Manager for OMNI-RIG (OmniRig's Setup may be included in the recent CDs). For more information about OmniRig and its installation, please see the Omni-Rig's web site.

From the TRX-Manager's Setup dialog, select OMNI-RIG1 or OMNI-RIG2 depending on your Setup for Omni-Rig. If necessary click Configure to configure Omni-Rig. Restarting TRX-Manager is mandatory in order to set up the TRX-Manager's interface.

CW and DIG modes: through OmniRig, CW_U and DIG_U are selected by default for CW and

DATA modes. If CW_U gives CW-R on your transceiver, check CW Reverse in the TRX-Manager's Preferences/Transceiver tab.

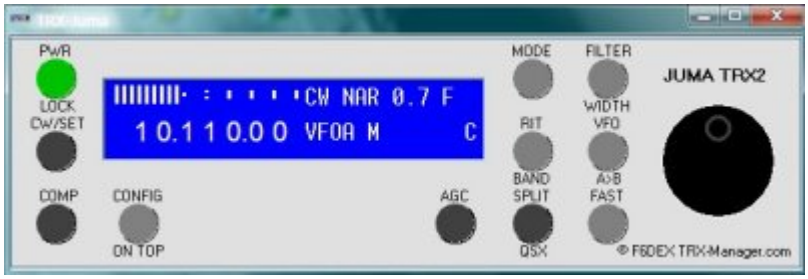
> ⚠ Warning
>
> OmniRIG and CWSkimmer save their settings in an INI file located in the program files folder ; depending on the configuration of UAC on your computer, this file may be virtualized by Windows. Make sure you launch TRX-Manager and any other program which communicates with OmniRig (CWSkimmer...) with the same administrator rights.
>
> If CAT control by Omni-Rig does not start correctly, please try to launch TRX-manager with the *Run This Program As An Administrator* option checked.

JUMA TRX2

TRX-Manager supports the JUMA TRX2 transceiver loaded with the firmware modified by Adrian 5B4AIY : Version 1.07wb10 or later. You have to configure your Juma with RS232: JUMA TRX2 and (recommended) Baud Rate:115200. TRX-Manager uses the extended auto-information mode of this firmware and simultaneous control of the PA100D is still possible using an Y cable.

TRX-Pan + TRX-Manager works fine with a JUMA TRX2 using the I/Q output of the rig. However, since TRX2 uses a phasing and I/Q are reversed between LSB and USB, you have to set up TRX-Pan with: Flip I/Q (not checked), CW:Flip (checked), USB:Flip (checked). You also have to set up an Offset = Pitch value in CW (in kHz).

With the distribution of TRX-Manager, a stand alone (freeware) application is included: TRX-Juma. TRX-Juma provides control of the main functions of this transceiver and its interface mimics the TRX2's front panel. You can not run TRX-Manager and launch TRX-Juma.exe simultanously, however, the TRX-Juma's interface is also available from TRX-Manager using the External/TRX-Juma submenu.



TRX-Juma's interface

SMARTSDR (FlexRadio)

TRX-Manager supports the FLEX-6000 transceivers provided the SmartSDR CAT interface is installed on your computer in order to bridge the legacy COM port interface to that of the FlexRadio Systems Signature Series radios. For more information about installing and configuring the SmartSDR CAT interface, please download the Smart SDR CAT Software user's guide from the FlexRadio web site.

From the TRX-Manager's Setup dialog box, please select SMARTSDR as Transceiver (at the end of the list) and select the Com Port and the Slice to be controlled (VFO A recommended). Select a speed of 115200 (default).

The SmartSDR CAT protocol is pretty limited but enough for Logging, DXIng and to automate your station (rotor, antenna, amplifier...).

Note about the VFOs

The TRX-Manager's main display and controls are always related to the VFO (Slice) for which the com port is defined. When you click Split, SmartSDR ceates a new slice with a TX flag but the VFO under the control of TRX-Manager is the VFO A (whatever the slice under the control of SmartSDR). It is however possible to control the TX Frequency (second slice) from TRX-manager using the Split related functions.

When you click the VFO A button from the Monitoring, the slice A get the focus in SmarSDR. If you click B, the second slice (TX frequency) get the focus. These buttons have NO effect in TRX-Manager.

HAMLIB NET (for experts)

TRX-Manager offers a limited support for the Ham Radio Control Libraries (HAMLIB) network server (RIGCTLD) for a compatibility with various HAM applications using this library (digital programs, logging applications...).

Related Topics

Synchronization with HAMLIB using the TRXNET Interface (a more efficient approach)

Tip

TRX-Manager supports HAMLIB but HAMLIB supports TRX-Manager (transceiver model #5) thanks to the TRXNET Server!. Yes, this may be confusing: Anyway, synchronization via HAMLIB through the TRXNET Server is more efficient than the configuration explained in this section to synchronize between two applications.

Principle, overview

HAMLIB NET Server (or RIGCTRLD) is a server that provides CAT Control sharing over a TCP/IP network socket to different applications running at the same time. If you provide the necessary information (location of RIGCTRLD, type of rig, com port, IP address, IP Port...), TRX-Manager can launch the server automatically.

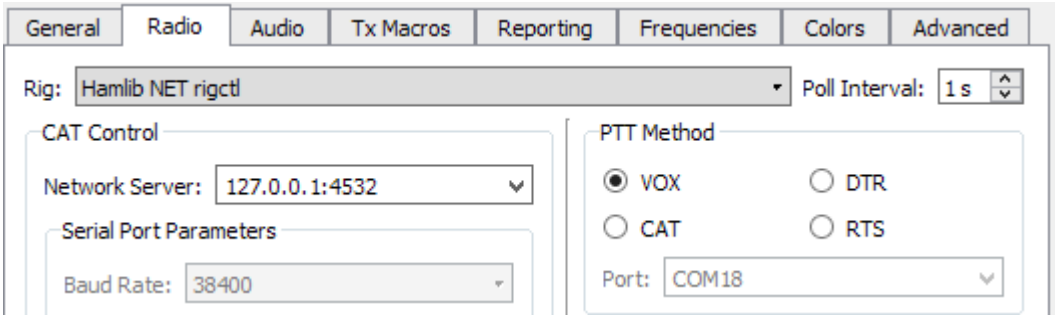
Commands offered by HAMLIB (and supported by TRX-Manager) are limited to RX Frequency/Mode/Split/RX/TX Get/Set. Other commands may exist but do not work with all rigs and are not implemented in TRX-Manager. This is enough to synchronise between TRX-Manager and other third party applications while keeping all other devices under the control of TRX-Manager (Amps, antenna switching...) or for real time logging.

Installing RIGCTRLD

The HAMLIB Net server (RIGCTRLD) must be installed on your computer (32 bits version). Please note that WSJT-X installs this server as RIGCTRLD-WSJTX.exe (please check if this is the most recent version of this server) but other applications may use different name.

Setting up your third party application

From your third party application, select HAMLIB NET as Transceiver and configure it according to the documentation. You must provide, at least, the IP PORT (any valid and free port) ; the address by default for a local control is 127.0.0.1.



Configuration of WSJT-X for HamLib net (1s polling recommended)
(WSJT-X does not configure RIGCTLRD)

Setting up TRX-Manager

From TRX-Manager and Setup/TRX1..4 :

1. Select HAMLIB NET as Transceiver from Setup TRX1..4 tabs
2. Indicate the location and name of the RIGCTRLD server using the Open/Browse button
3. Fill in the command line for the configuration of HAMLIB

Configuration for a TS-590S on com 13, ip port = 4532
TRX-Manager does configure RIGCTRLD

The command line uses the following format : rigctld -m RIGNR -r COMN -s BAUD (-c 0xHH) (-T IP) (-t PORT)

- rigcldd Keyword. Required !
- RIGNR is the rig number (see the list of supported rigs), i.e -m 229 for K3, -m 231 for a TS-590SG
- COMN is the comport number as follow COM6 for comport #6, ie: -r COM6, -r COM13
- BAUD is the baud rate for CAT control, while optional, it is recommended to set it up with the current value, ex -s 19200
- 0xHH is the ICOM IC address (HH = hexadecimal value), ex 0x88 for an IC-7100 ; if not specified, HAMLIB uses the factory default,
- IP is the IP address of the server, ie -T 127.0.0.1. If not specified 127.0.0.1 is used
- PORT is the IP Port. Any free port can be used. ie -t 4532. If not specified, 4532 is the default
- () : optional parameters

More parameters can be used... Please see the documentation of RIGCTRLD for more information.

If the server is launched by an other application FIRST, the type of rig and com port are ignored (and you can NOT configure the rig from TRX-Manager).

If IP is different from 127.0.0.1, rigctrld is supposed running on an other computer

(TRX-Manager does not launch the exe !).

If the server is launched by TRX-Manager FIRST, all the parameters above are required.

Running TRX-Manager with the HAMLIB NET server

RIGCTRLD (32bits version) may be launched either manually, by an other application or by TRX-manager (recommended). The way and the order in which you launch the various applications depend on the way RIGCTRLD is set up.

However, TRX-Manager is written to detect the state of the server :

- If the server is NOT running, TRX-Manager launches the server at the beginning of the session and closes it at the end of the session. In this case, you have to start TRX-Manager FIRST (and to close TRX-Manager AFTER the other applications).
- If the server is already running (launched either manually or by an other application or running on an other computer), the type of rig used is NOT under the control of TRX-Manager. TRX-Manager can not change the state of the server when you start or exit the program. It only connects to the server using the defined address and port number,
- In some cases, if TRX-Manager can not connect to the server or configure it properly, you may have to close the rigctrld process from the Windows's task manager before launching TRX-Manager.
  The HAMLIB NET server can be selected only once : either as a Transceiver (under Setup/TRX1..4) in which case it does really control your transceiver (but with limited features) or as Synchro mode in which case it does not control your transceiver but acts as a "buffer" between various applications thanks to its Dummy transceiver.

CAT Programming

The CAT Commands window (Tools/CAT Commands submenu) may help you testing and understanding the communication protocol between a PC and a transceiver, its limitations and features. You may send data and read the reply from this window. If necessary, this window may also help you to debug any communication problem by placing a strobe on the serial line to see if the transceiver is communicating.

Related Topic

Macro commands

Old Yaesu transceivers (FT-1000, FT-990... FT-897)

All commands sent from the computer to the transceiver consist of five-byte blocks: Byte 1 to byte 4 then OpCode . Some commands cause the transceiver to send status data.

Example

To set Split ON (FT-990/1000) you have to send the following command (hex) 00 00 00 01 01. From the CAT Command Windows, you have to declare the bytes in the same order that they need to be sent : Byte 1 2 3 4 OpCode then press the Send button. Note that for some models, the Yaesu manual give these commands in the reverse order.

This "so called" Yaesu CAT System was complicated and standardization inexistent; the parameters, number and values of data returned depend on the model you are using.

On the other hand it was efficient because the number of data was reduced to the minimum. Yaesu now uses a protocol very similar to the Kenwood protocol.

Kenwood protocol

Data are exchanged as String which is of great interest for the writing of programs. A command or a reply generally consists of two alphabetical characters (String) followed by numerical values and terminated by a semicolumn (i.e BN01;) Moreover, a small communications protocol allows controling data flows and errors... Recent models TS-2000 TS-480 FT-2000 K2, K3 have an extended auto information function (AI1 or AI2 command) which limits or avoids polling by automatically notifying the most important status changes (any status change for Kenwoods!).

Example

To set the VFO A to 7.00 MHz you have to send FA00007000000

To set the CW Pitch to 500 Hz, send PT05

To read the CW pitch, send PT

The number of commands now offered by the recent Kenwood transceivers is impressive. These commands make it possible to control all their functions. TRX-Manager is far from using them all. Kenwood has control software (RCP) available for these transceivers.

Note

A Kenwood (like) protocol has been adopted by Elecraft and Yaesu (from FTDX9000...).

However set of commands and parameters may be different from one rig to another and timing (delay between commands) varies from a very fast 20ms (Elecraft), 50ms (Kenwood) to 150-200ms (Yaesu). Anyway, a basic program written for a Kenwood model may function on another Kenwood or Elecraft model and sometime with a Yeasu model; at least if it does not work, it can be easily updated by the developper.

ICOM CI-V protocol

The ICOM CI-V protocol is fundamentally different from the two preceding systems. In fact, it is a true communication protocol which allows networking four ICOM transceivers, each transceiver transmits by interrupt its frequency and mode changes to the others... ICOM protocol is fast, efficient and very reliable. Unfortunately, unlike Kenwood and except for Mode and (main) Frequency changes, ICOM does not implement an auto-information function. Polling each parameter is required (but in practice not recommended) to retrieve the current values; in addition many of the parameter are still NOT accessible by polling: in 2010, it is still not possible to get the current value of VFO B while your listen to VFO A even with an IC-7800!

The available commands (PC to ICOM) are generally compatible between the various models.

Exchanging data requires specifying the transceiver's address in hexadecimal code (see your manual). Each command is made up from a variable number of bytes comprising a heading (FEFE), the PC and transceiver's addresses, a command code, a data area and the FD suffix. The answer provided by the transceiver makes it possible to control if the command were accepted or not. You can try yourself to exchange data with your ICOM from the CAT Commands window (Tools).

Example

To set the transceiver on 145.123450 MHz it is necessary to send : FEFEXXYY055034124501FD where XX is the transceiver's address and YY the PC's address.

JST Transceivers and receivers

The JST protocol is based on string commands. It is efficient but during a communication, REMOTE is displayed and all buttons and dials are electrically locked.

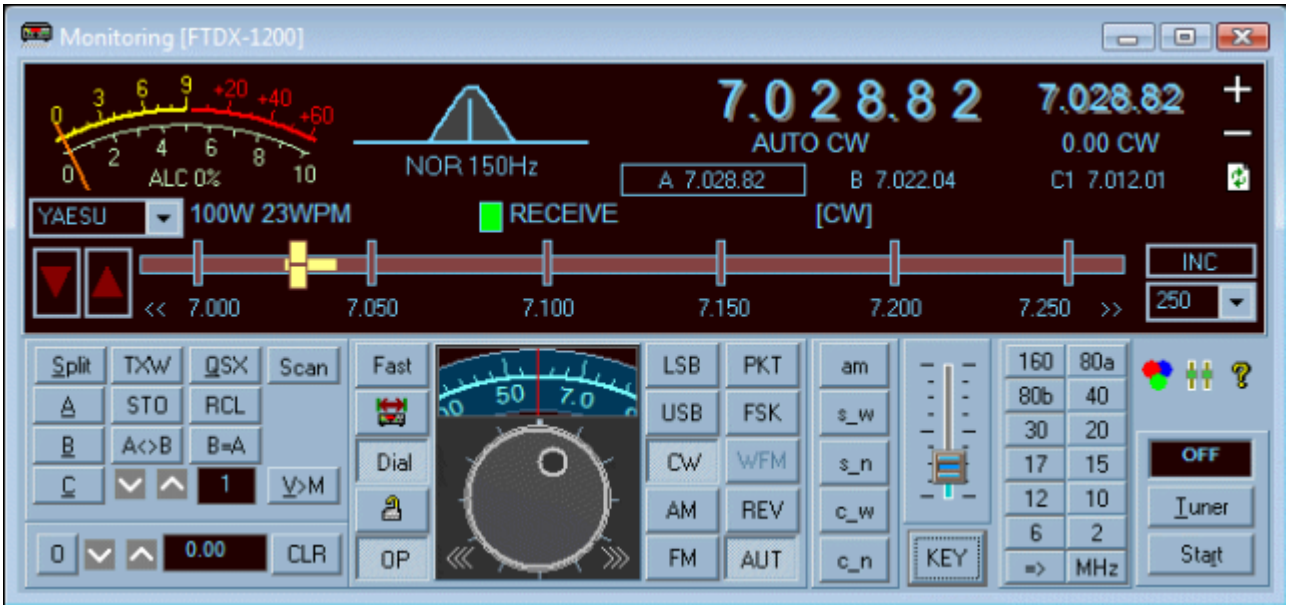
The different JST transceivers use common commands except for the frequency. Each command require a control item, a control information and a carriage return.

Example

Setting 100 KHz (NRD-545) requires the following command : F0000100000+CR

Monitoring overview

The Monitoring is the main module of TRX-Manager. The monitoring engages a constant communication between the Main Transceiver and the computer and provides real time functions. In practice, the Monitoring window should be always open even if minimized.



The Monitoring window looks different according to the transceiver you are using.
RX Frequency (Left) and TX Frequency (Right)
VFO A (Main) and B (Sub) are displayed below the RX Frequency

The Monitoring (or Monitoring screen) is activated from the tools bar by clicking corresponding button (F6). This screen complements the display of your transceiver. Layout varies from one rig to another depending on available CAT commands.

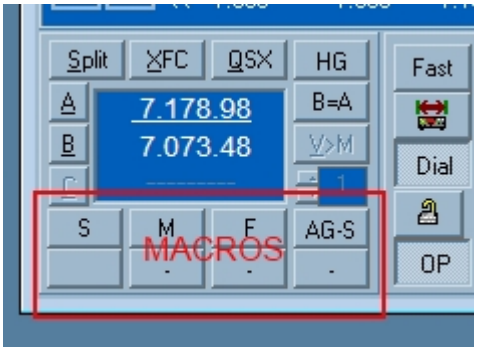
Tip

A a real-time module, the Monitoring consumes some resources; while you are using your computer for something else you may reduce this amount by minimizing TRX-Manager. Please read the Getting started topic.

Configuration and appearance

The Monitoring's Configuration button (or the Transceiver/Colors submenu) opens the Monitoring's configuration dialog box which allows you choosing different options for the current main transceiver:

- Three configurations for the S-Meter (Bargraph, Analog, Scope),
- Specific colors
- Macro option (if available) provides display of eight user-defined function buttons (while the More Macros! option enables up to 30 macros).



- Frequency resolution: HF 1Hz resolution is not supported by all transceivers (if you note a wrong behavior, please unselect this option).

Layout (colors) window

Note

At first startup, TRX-Manager applies Fore/Background colors defined from the Preferences/Software dialog.

Displayed frequencies

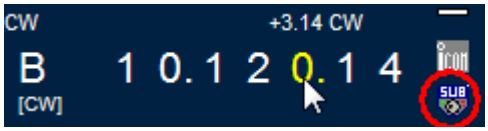
Whatever the transceiver you are using, the program always displays (from top to bottom), the RX Frequency (+ RX Mode), the TX Frequency (+ Offset and TX Mode), the VFOA and VFO B frequencies, the current channel's frequency.

Displayed frequencies

In the case of some transceivers, especially ICOMs, the selected VFO is unknown at startup and VFO A and VFO B frequencies may be reversed.

In addition, if you click the SUB icon (available with some transceivers), you can replace

the channel's frequency display by the VFO B frequency (and only by the VFO B frequency). Each digit of this display is clickable. This function is particularly useful in Split. The offset (TX-RX) is displayed just above (here +3.14, TX in CW).



SUB display

Tuning methods

The Monitoring module implements various tuning/scanning methods:

- Frequency editing (direct entry and MHz frame)
- Graphic tuning and mouse wheel control (Tuning frame)
- Tuning knob and Programmable scanning (Dial frame)
- Tuning by clicking digits
- Using the mouse wheel
- Keyboard control (+ support for USB tuning knob)
- Joystick control
- Drag and drop of frequencies are possible from/to the Monitoring window

Particular functions

Band selection

For each band, the software retains the last visited frequency (+ mode, filter, tuner) like a band stack register but unrelated with those of your transceiver. The Mhz button displays a numeric keypad from which you can enter a Frequency using the Mouse.

QMB

Buttons of QMB frame are related to Quick Memories.

Clarifier (RIT)

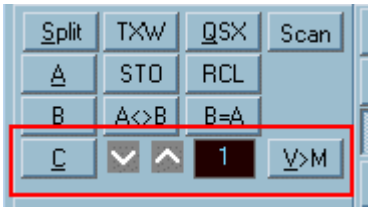
If available, Clarifier/RIT shift is displayed (+ R for RX shift and T for TX Shift). From the Configuration dialog , you may chose between this function (Default) and function buttons (Macro).

Tuning steps (ICOM)

If available, tuning steps of the transceiver may be selected from this frame. Please note the corresponding selections do not have any effect on TRX-Manager itself. From the Configuration/Preferences dialog , you may chose between this function (Default) and function buttons (Macro).

Channels

The current memory channel in use is displayed and may be changed in one channel steps by clicking the little arrows near the channel number : or by typing a channel number and pressing C.



See also : Memory channels

Lock dial function

The LOCK button allows you to lock the main tuning knob to prevent accidental frequency changes. But TRX-Manager is doing more by locking a particular VFO !. You may toggle from the locked VFO A to the unlocked VFO B. That is particularly useful when working a DX in split.

Diversity

The LINK button (FT-1000/920 IC-7800 and Kenwoods) allows VFO B to Follows VFO A. Once you engage this function, Offset between A and B remains constant. If you need VFOB=VFOA, select B=A before engaging a LINK and at any moment if the frequencies are not perfectly equal, you can set B=A again.

OP function

By default, at startup, the Main Transceiver is the Operating transceiver. In conjunction with a Sub-Transceiver panel, the OP button selects the Operating transceiver at any time and very quickly during a session. The Op indicator is Green when the corresponding transceiver is selected and blinks in Red when a Synchro command is sent to the controllers: 

Interfacing

The copy toolbar's button lets you copy the current data's (callsign frequency mode date) into the clipboard.

Update function

In some case (after a power on/off or an error), the Update function may be used to resume the communications and synchronize the display with the transceiver. If something wrong appears on the display this function may be used to fix it.

The corresponding Update button (if available) is located at the bottom right of the display. Appearance of the button may differ from one brand to another (a Kenwood , ICOM or Elecraft icon... may be used).

update function

SUB Frequency display

The SUB Icon allows displaying and tuning the SUB or VFO B frequency (see Split Operation).

Other advanced functions

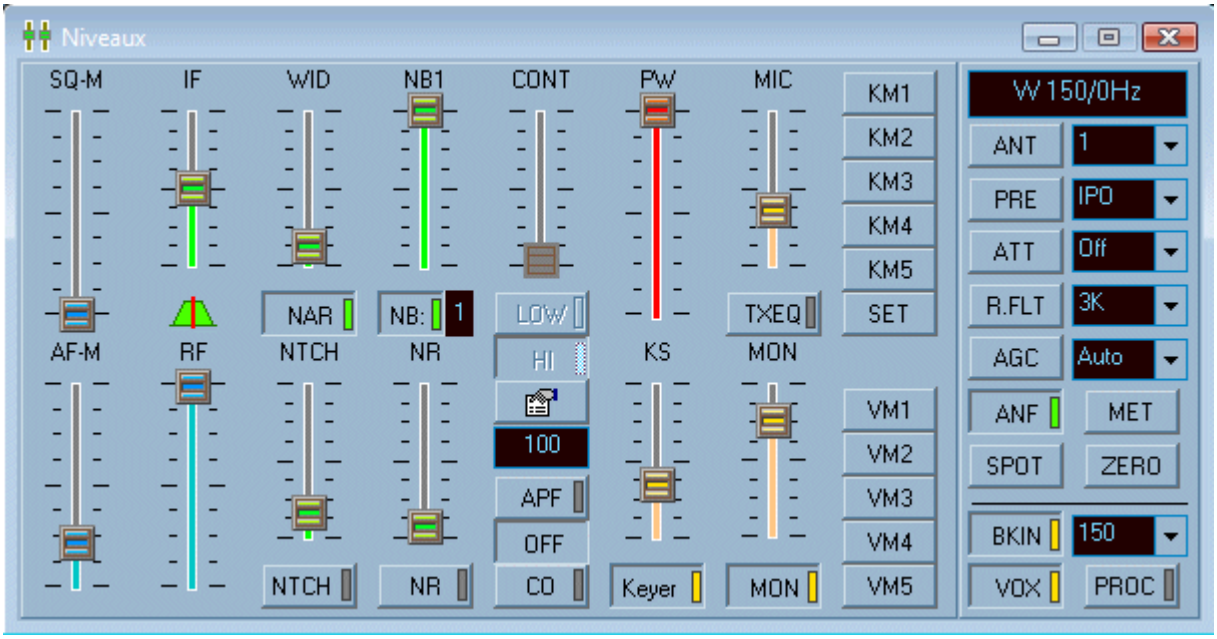
Split Operation
S-Meter and Multi-Meter
Info for Current Spot
Modes and Filters switching
Quick memories
Undo Redo
Repeater settings
Keyboard shortcuts

The Levels window

The Monitoring offers the most used controls of a transceiver with pre-set choices for the bandwidth. But many other controls are generally supported by the most recent transceivers.

The Levels window completes the Monitoring with many additional controls like Squelch, PBT, IF Shift, DSP, AGC....

The Levels window opens with the Transceiver/Levels submenu or the button of the Monitoring. The activated controls, the shape and appearance of the window depend on the type of transceiver:



Lastly if you need some other controls that are not provided by the Levels window, you can use Macro commands either from the Monitoring window itself or using the TRX-Command utility.

DX Squelch

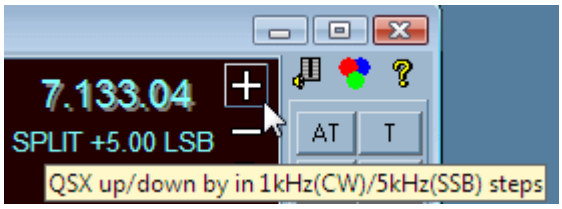
If AF gain control is supported by your transceiver and according to the status of the Main toolbar's Tools/DX Squelch button , AF is muted after a given period of inactivity. The specified delay can be defined under the Band Plan tab of the Preferences.

AF Gain is set to its previous value as soon as you set a dx-spot or you change the frequency.

Split operation

Various functions make Split operation much easier...

Quick Up/Dn function
The Monitoring's Quick Up / Dn function allows you switching Split by 1kHz(CW) or 5kHz(SSB) increments very quickly:



Quick split by 1kHz or 5kHz increment

TXW / XFC / TFS function

The XFC (TXW TF-SET) button (Monitoring) makes it possible to quickly set the TX frequency with the tuning dial of the transceiver or the mouse:

1. select SPLIT mode,
2. equalize the two VFOs (A=B),
3. click XFC and hold the left button,
4. set the TX frequency by rotating the tuning dial of the transceiver (see below how to tune VFO B from TRX-Manager using your mouse)
5. release the left button.

SUB / VFOB Frequency tuning

With some rigs, it is possible to read/tune the VFO B in real-time while you are listening to VFO A : by clicking the SUB Icon (Monitoring) the SUB Frequency becomes visible and is "clickable" (digit by digit tuning).

SUB icon, Tuning the SUB VFO

The XFC (TXW TF-SET) function and SUB/VFOB frequency tuning can be used together. First and if necessary, press F6 to give the focus to the Monitoring. Press and hold ESC (Escape) on your keyboard to listen to the VFOB frequency. While you hold ESC you can adjust the digits of the VFO B display using the mouse buttons or the mouse wheel.

Notes

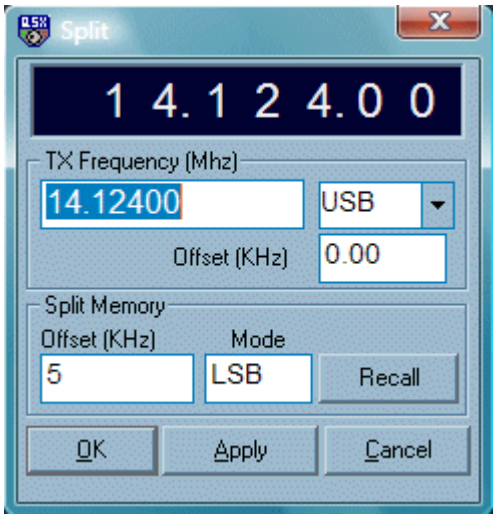
This function is only usable if RX=VFOA and TX=VFOB ; it is NOT available if the VFO B is the main VFO (or it may give unpredictable results). You may have to initialize the VFOB display before using these functions.

While TFS/XFC/TXW is activated, the Monitoring loop stops and VFO A can NOT be tuned (improper changes may happen if you try it).
ICOM Transceivers : Only the most recent firmware allows this function (see availability of cmd 25 26 in the CI-V manual). However, for the other ICOMs, a similar function has been implemented : the VFOB is selected as soon as you move the mouse over any digit of the SUB/VFOB display and tuning is possible this way ; the VFO A is selected again as soon as the cursor leaves the VFOB zone. In that case VFOB tuning is not usable in conjunction with the ESC key.
This function is not supported by all transceivers. If your transceiver does not support this function the SUB icon opens the Quick Split (QSX) window.

QSX function

The QSX function (Edit/Split or F3 or QSX button) opens the Quick Split window. You may set up either :

- a transmit frequency (MHz) and split Mode (with same operating mode as receive frequency)
- any offset (QSX) in kHz.
  The Split screen also provides a memory for split settings: Please fill in the text boxes for Offset and Mode under the Split Memory frame. The Recall button recalls these settings quickly. In addition, once the Split Memory is set-up, and if the Monitoring Window has the focus, the X key (keyboard shortcut) automatically recalls the Split Memory.



An instant digit by digit tuning of the sub VFO frequency is also supported (dual RX transceivers).

Tip

A typical use for this function is to be able to copy RTTY in FSK mode with a sound-card program and transmit on SSB: the split is 'usually' about 2.13 khz. This makes it possible to change frequencies reasonably quickly.

Auto QSX (DX Spots)

While clicking a DX Clusteror Web Cluster spot, TRX-Manager automatically sets the TX frequency if any split condition is specified in the comment field. This feature may be disabled from the Preference submenu under Terminal (Auto QSX).

Undo Redo

The Undo and Redo functions (main Toolbars) are running in conjunction with the Monitoring window. They recall the last visited frequencies.

When a frequency change is done, the software keeps in memory each frequency visited (up to 10 frequencies):

- The Undo  button goes back to the last frequency visited,
- The Redo  button cancels effect of Undo.

S-Meter and Multi-Meter

The S-Meter of the Monotoring features two modes of operation/three appearances to be selected from the Transceiver/Layout dialog. All colors of the s-meter are customizable from this dialog.

You may also toggle from one type to another by clicking the s-meter.

The S-Meter values are not displayed (or irrelevant) during a frequency change.

Related Topic

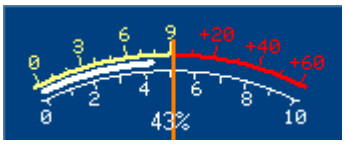
TRX-Meter: High precision S-Meter

Calibration

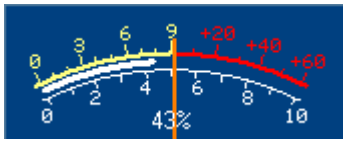
You may calibrate the software's s-meter in accordance with the s-meter of your transceiver: this calibration is done from the Preference/transceiver tab dialog box (S-Meter frame) by moving the dedicated slider.

S-Meter : Bargraph or Analog mode

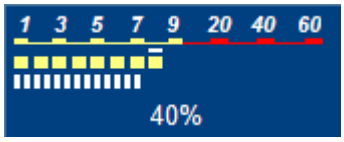
The S meter value is indicated in microvolts (S9 = 50 µV below 30 MHz, 5 µV above 30 MHz).



The Analog mode is displayed by default at startup. The linear scale (0-10) displays the auxiliary meter values (see below).



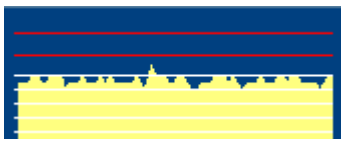
The Bargraph mode features a peak hold function. The maximum s-meter value is displayed and will be reset when beginning a new frequency change or after 2s. An auxiliary bargraph displays the auxiliary meter values.



S-Meter : Scope mode

This mode can display a graphical representation of the signal vs. time. The s-meter displays

the signal values for the last 30 seconds.



Auxiliary Meter (E-Meter)

If feedback of meter data is supported by your transceiver, please choose the value to be read (SWR, Po, ALC ...) in the combo box: an additional indicator (analog) or bargraph displays measurement of SWR/COMP/ALC... during transmission.

In addition, different other choices are possible:

- OLE: to read data sent by a third party program such as E-Meter by N8LP
- ACOM: data sent by TRX-Acom
- LP-100 ALPHA W2: data sent by a digital wattmeter LP-100 & LP-100A or ALPHAPOWER (4500) or Elecraft W2 to configure under Setup/TRX1. Power and SWR are displayed. A white bargraph shows power by scale automatically adjusted to 25/250/2500W (LP100). See also Linear-Reminder.

Repeater settings

For transceivers which support the corresponding commands by computer, TRX-Manager provides control of various parameters needed for repeater operation.

These parameters can be set either from the  Frequency window (F2) or the Channel window.

Available parameters

The parameters that are supported by the program are the following:

- Shift (Shift) and signs ()
- Encoding/Decoding CTCSS tones
- Encoding DCS codes

 Notes

The available parameters vary a lot from one transceiver to an other and it is not possible to provide a comprehensive list of the supported functions for each rig
In many cases and/or if the Repeater Offset is not supported "as is", the program offsets the TX frequency using the Split mode
If DCS encoding is supported by your transceiver, please check DCS to make visible the DCS Combo box and select the value of the DCS code.

Default settings by band

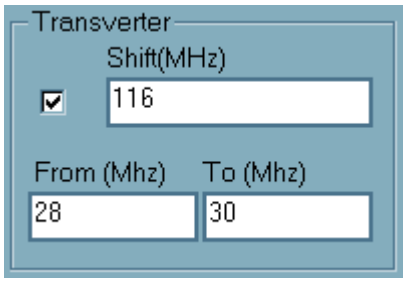
The Preferences dialog box, under Transceiver tab makes it possible to set the default parameters for each band. Take care to ensure that the parameters are valid for your transceiver. These parameters are saved for each transceiver separately (TRX1-4).

If Auto RPT is checked, the default parameters (Shift) are sent to the transceiver at each band change (only in FM).

Transverter

TRX-Manager provides settings for a Transverter from the Preferences / Band Plan tab.

By checking this option in the Transverter frame (Band Plan tab), all frequencies for the specified range will be shifted depending on band switch. I.E You may use a transverter from 28 to 30 MHz for the 144MHz band (with a 116MHz Shift) as follow :



To enable the frequency conversion, you must select (using the program) a frequency within the range of the transverter.

To disable the frequency conversion, please just select a frequency outside the range of transverter. This way, you may click dx-pots and have the right frequency conversion.

This option is not related to the Satellite's Transverter option. Using both functions at the same time is not recommended and may give unpredictable results.

Frequency editing

Direct input

The EDIT/VFO menu (F2) opens the VFO window and allows for edition of the current frequency (VFO). Please note TRX-Manager has been written to reduce typing. To set 14.200, you only need to press the following keys :

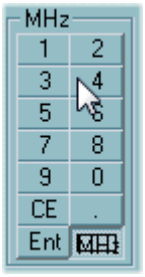
[F2] [1] [4] [.] [2] [0] [0] [Enter]

Setting up current filter, CTCSS Tone, Repeater offset... is also possible from the VFO window.
See also : Repeaters settings

Mouse input

The MHz frame of Monitoring allows a direct input of frequencies using the mouse. Please :

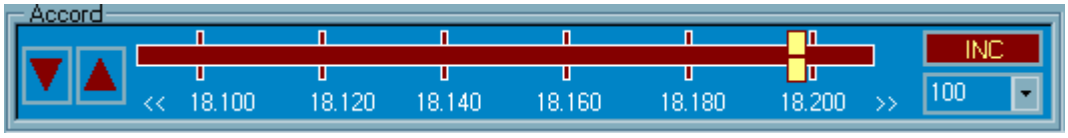
- check MHz button
- click each digit (dot between MHz and KHz)
- click Ent to enter/set the frequency
  CE allows you going back (and cancel editing)



Mouse input keyboard

Graphic tuning

In the lower part of the Monitor Window is an advanced - mouse sensitive (when highlighted) - tuning control. The combo box (on the right) lets you to define the Range (in KHz) of the control (shortcuts PgUp/PgDn).



Tuning by moving the cursor

The cursor can be grabbed with the mouse ; it is divided into two parts : the lower part tunes over the full range of the tuning control. The upper part fine tunes around the current frequency.

Large or Fine Tuning

Tuning by using the Mouse Wheel

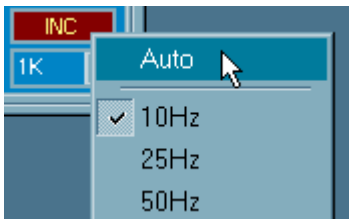
When the Monitoring is highlighted, the mouse wheel can tune the frequency. The Tuning Step is variable according to the state of the INC function:

- INC NOT activated : the step is 1/1000 of the total range (Range=100K -> Step = 100Hz)
- INC highlighted : the program uses the Step you define under the menu which opens when you right click the INC button (activated) :

  Auto Checked : the program implements (if supported) the incremental tuning of the transceiver (= Microphone's Up/Down button) which gives progressive tuning. Whatever the range or the mode, this selection provides fine tuning. If your transceiver does not support incremental tuning, the program uses a standard step (10Hz or 100Hz).

  Auto Not checked : the program implements the step you select under this menu. This selection is saved mode by mode (i.e : Auto for CW, 10Hz for USB, 12.5KHz for FM...).

  Round Off : if checked, the program rounds off the frequencies (according to Step).



Step menu

When the digits of the RX frequency display are highlighted, the mouse wheel tunes the

corresponding digits.

Variable Scanning

By holding the left mouse's button and moving the mouse pointer on the right or the left of the cursor you engage a scanning feature for which the speed (or tuning step) is variable and is a function of the distance between the mouse pointer and the cursor. The scanning stops when the mouse button is released.

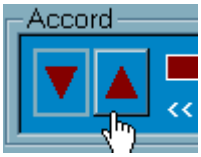
Progressive scanning
Hold the mouse button

By moving the mouse pointer during scanning from one side to another of the cursor, you can tune your transceiver in a way that is almost as convenient as with the tuning knob.

Tuning buttons

For most transceivers, the program implements the incremental tuning of the transceiver (if supported). The tuning direction depends on the selected arrows OR the depressed mouse button : the right mouse button reverses the tuning direction.

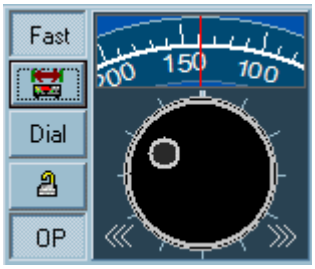
For the other transceivers (if incremental tuning is not supported), you can use the arrows for a quick increment (standard step depending on mode) or, you can display and then select a specific frequency by holding the mouse button.



Tuning knob and Scanning

Tuning Knob

There are two methods to control the VFO button according to the position of the Dial switch. Fast button makes it possible to speed up the QSY. Note that behavior is very different according to the type of transceiver.



Tuning knob

Dial switch depressed

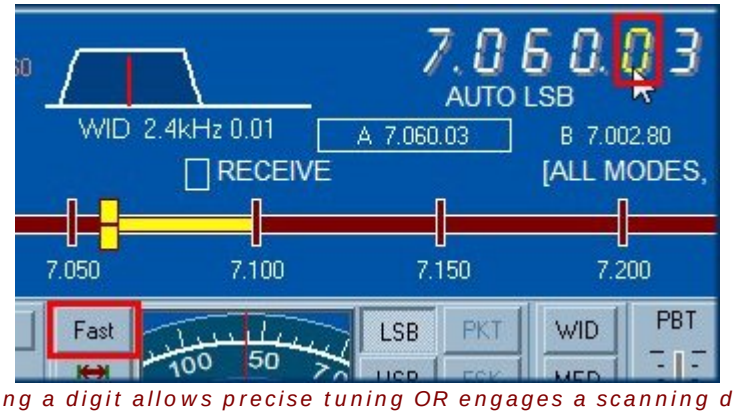
The VFO can be grabbed with the mouse : maintain the left button while making turn the cursor around the VFO knob.

Dial switch pressed

The VFO knob is controlled with the mouse buttons : a right click increases the frequency and a left click decreases the frequency. Please note the speed is variable but effect is depending on CAT system of the transceiver.

Tuning/scanning by clicking a DIGIT

In most windows which display a frequency, you can have a precise tuning or engage a scanning by left/right clicking a digit. However, the behavior of the program depends on the state of the FAST Digit tuning option (Scanning dialog , see below) and/or the state of the FAST button (If exists: Monitoring, Sub rig panel).



Left/Right clicking a digit allows precise tuning OR engages a scanning depending on the state of the FAST button

By default, the FAST digit tuning option is NOT checked. In that case :

- FAST Button NOT checked : a short click allows a precise tuning digit by digit while a long click (>1s) engages a continuous scanning
- FAST button IS checked : the short click function is disabled. The continuous tuning is engaged as soon as you click a digit.

In the case of the FAST Digit tuning option (Scanning dialog) IS checked, the short click is always disabled. This option may be useful for the windows which do not have a FAST button... or if you don't like/need the precise tuning function.

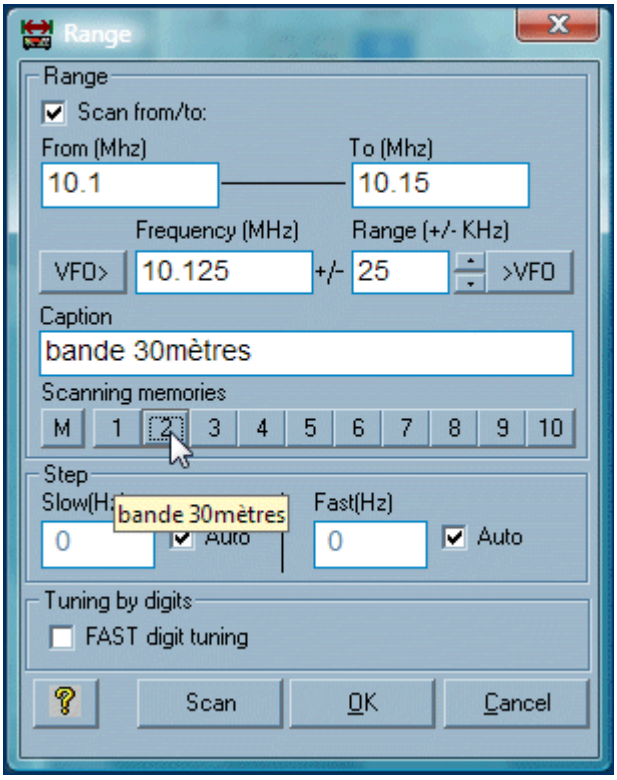
Programmable scanning

The scanning buttons <<< >>>  engage a continuous scanning around the current frequency.

How to STOP scanning?
This scanning is continuous and does not stop on busy frequencies or channels. Once Scanning is engaged, you have to click the Tuning knob to stop scanning.
How to stop on busy frequencies?
The Monitoring's scanning does not stop on busy frequencies. Please see the Band Scope topic for a scanning which stops on busy frequencies.

Scanning dialog

Steps and Scanning ranges and some other options are configurable from the Scanning dialog (this button ).



Scanning dialog

From the Scanning dialog, you may define:

- the Lower and Upper scanning limits (MHz)
- the Center frequency (MHz) and the scanning Range (KHz)...
- a comment for the scanning range (caption)
- by checking Scan from/to: enable the scanning range (or disable it for a continuous scanning)
- scanning memories by clicking M then the memory number (1-10)
- recall a particular scanning frequency & range by clicking the corresponding memory number
- a particular step or setting up the program to calculate it according to the mode and the frequency in use by clicking Auto.
- the behavior of the Tuning by digits function (see above)
  By clicking Scan, scanning starts immediately from the Center frequency. If you click OK, Scanning range will be effective only if the current frequency is within the scanning range. Clicking the Tuning knob stops scanning.

Notes

If you own a FT-990/890/840/900/1000D/980/767GX the best choice for slow scanning is AUTO. That option allows you to have the benefit of the Internal scanning function of the transceiver. The scanning step is the one defined by the transceiver. With these Yaesu transceivers, the Auto mode (Internal scanning) prevents the receiver from being chopped off during scanning,

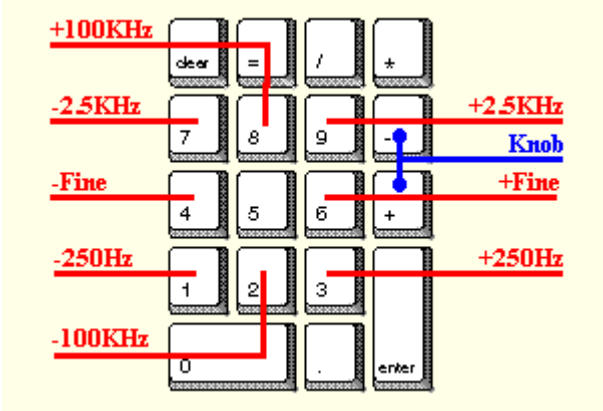
If you own a FT-1000MP, you can try to configure the program for FT-1000MP MKV in order to have the benefit of the internal scanning function (according to the versions of your ROM, this command may be supported or give unexpected behaviors),

In the other cases, if Auto is checked, the program calculates a variable step according to the mode, etc... If AUTO is not checked, step stays constant and the one defined from the Scanning dialog.

Keyboard tuning

The F2 or F3 function keys lets you direct input Frequencies for RX or TX.

If Monitoring or DXBar are highlighted, a manual scanning is possible using the numeric keypad (see also keyboard shortcuts).



Numeric keypad (Monitoring highlighted)

Using an USB Knob

The Monitoring's shortcuts (or accelerators) are particularly useful if used in conjunction with an USB Knob:

- the + and - keys (numeric keyboard) which behave exactly as the mouse wheel (see above)
- PgUp : Range Up
- PgDn : Range Down
- the I key which toggles INC tuning mode ON / OFF
- the F6 key which will highlight the Monitoring window at any time

Tip

To improve the behavior of your USB Knob you may adjust the rate of key repetition from the Control Panel (Keyboard Icon).

Joystick Control

Frequency tuning and some other functions can be carried out with a PC games joystick or a home made one. Joystick control is supported by the Monitoring module which must be opened. TRX-Manager will use the default joystick configuration on a sound card or USB port.

Activation and functions

Setting the Joystick is done from the Joystick tab of the Preferences/Transceiver. Once Joystick control has been enabled, each axis of the Joystick must be enabled and calibrated separately. If one axis is not detected, TRX-Manager automatically disables it in order to avoid an inopportune frequency drift.

Please note, if TRX-Manager is configured in SERVER mode (see Remote control), the Joystick does not have any effect.

X-Y Axis (ailerons and elevator)

These axes tune the frequencies by the step generated by the program. The step is variable according to the position of the Joystick. X-Axis variably scans while Y-Axis increases or to decreases the effect of the variable scanning. In order to understand how the tuning step is calculated, you may observe the step displayed by the program according to the position of the X-Y Axis.

R-Axis (rudders)

This axis controls the frequencies in two ways: by default, R-Axis has the same effect than X-Axis but the step may be different. If Internal Tuning is checked, the step is fixed and is determined by the scanning function of the transceiver. This give more precise tuning but this option may not run with all transceivers. It is especially recommended in remote control mode. If this function is not available, TRX-Manager displays N/A in the monitoring window.

Z-Axis (throttle)

This axis controls the AF gain (if available).

Calibrating

The joystick must be calibrated. For each axis, apply the joystick fully in each direction and press the corresponding Cal. button. Now, center the action of the Joystick while pressing the Center button.

The backlash of the Joystick (or neutral zone) may be adjusted for each axis separately. Please increase the value of the backlash (the value has no dimension) if you note a frequent frequency drift.

Lastly, scanning steps are fully configurable for each axis.

Buttons

The buttons have the following functions:

- button 1 (trigger): this button stops the scanning immediately
- buttons 2 & 6: centers the action of the joystick without opening the Preferences (both buttons have the same effect : button 6 is preferable since it is located on the base of the Joystick but button 2 may be more easily wired).
- button 3: scanning speed is divided by 10
- button 4: scanning speed is multiplied by 10

Problems and resolution

1) You note a frequency shift without any action on the Joystick:

- the joystick is not properly centered : press the button 6 (or the Center button of the Preferences/Joystick)
- backlash is too low : increase the backlash

2) You don't know the buttons number:

- open the Preferences/Joystick and press any button of the Joystick: its action will be displayed in the Buttons frame.

3) Your Joystick is a force feedback device

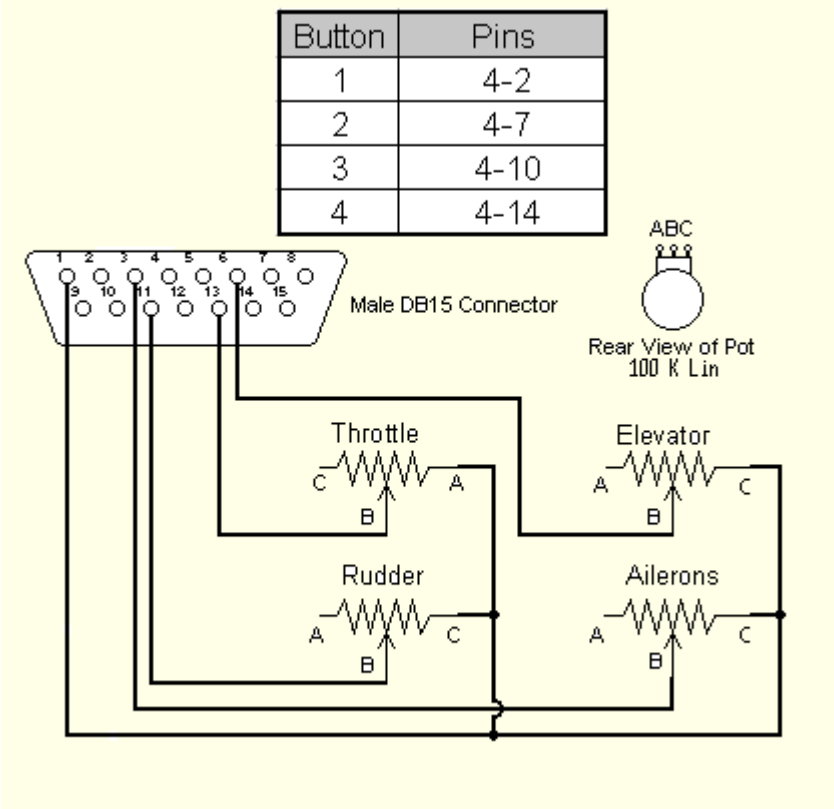
In that case you must use a driver or a program (not included) which forces the joystick to be centered. It is possible that only R-Axis may be usable...

4) You don't understand how to set the joystick

Please start from beginning by clicking the Default button of the Preferences/Joystick tab. Then activate the XY-Axis and press the button 6 of your joystick: your joystick is now ready to use. Calibrating is especially required if you don't have any driver for your joystick (for home made devices).

How to build a Joystick

Joysticks are generally cumbersome. Wiring a joystick for a sound card is not difficult (*): the wiring diagram is provided for your enjoyment but without any support of any kind.



Wiring a Joystick

Note

Sound card inputs are rare on recent computers. An USB to game port connectors is a possible and inexpensive solution.

Memory channels overview

Generally you can toggle the channel memory mode quickly from the Monitoring by selecting a valid channel (using the small arrows) and clicking the [C] button. Depending on the transceiver you are using, selecting an empty channel may load a blank channel or may have no effect (the VFO mode stays selected). The [V/M] stores the current VFO into the selected channel.

Channel 1 is selected

However, TRX-Manager makes the internal memory channels of the transceiver user friendly by offering direct access to (some of) their properties.

Moreover, the program allocates a label to each memory channel , different CTCSS encoding and repeater shift (only valid for FM and some models). These features may help you to work through FM repeaters. The label is displayed above the RX Frequency (*Monitoring*).

For more details about the supported functions for a given transceiver, please see the (Specifications) section of the help related to your transceiver.

Functions related to the memory channels

Direct editing of each memory channel

Displaying all the content of the memory,

Creating and saving the content of the memory on hard disk.

Scanning by software

Notes

With some transceivers the channels are virtual and not related to the channels of the transceiver (see Specifications)

With most transceivers (especially Kenwood and ICOM), repeater's Offset is not supported but Shift sets up the appropriate difference between the RX and TX frequencies (except TS-2000).

With ICOM transceivers (and some others), TRX-Manager does not read the contents of the whole bank of memories. However, the frequency and mode associated with each memory channel are read with selection of the channel from the monitoring window.

Warning

The memory channel module is one of the most complex of TRX-Manager. There is absolutely no standardization and each model has its own set of parameters which makes writting a standard interface almost impossible. Please understand that such a software is a compromise and that some very specific functions may be not supported.

Please take your time to test it before you purchase the program!

Editing the memory channels

Direct editing of memory channels is very easy from the Edit / Memory Window. Most of supported parameters may be edited.

You edit the parameters and click Apply to save.

You move to another channel by clicking up/down buttons 

or click OK to exit the window.

It is also possible to quickly fill the contents of the memories by drag and drop. The icon (frequency) can be dropped into the channel's display of the Monitoring window or directly into the list of the channels - in this case, with each addition of a frequency, the current channel number is incremented.

Notes

Offset may be converted into a Shift between the RX and the TX frequencies (especially on ICOM and Kenwood). See also Repeater settings.

When editing a channel, auto-mode should be disabled (OFF) ; otherwise, when checking on the memory channel by switching the transceiver, the Monitoring may reset the mode to its default value (according to the band plan).

This function does not apply to all Transceivers

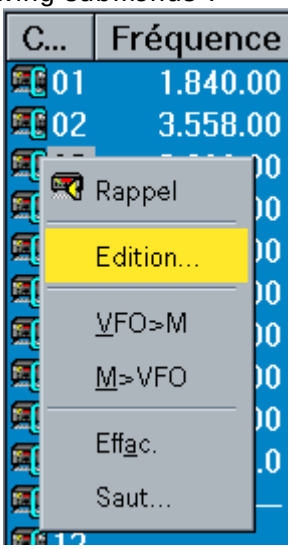
Displaying the channels

You can view all the content of your memory using the Display / Memory Channels submenu or the following tool bar button . You only need to click a channel number to recall the desired memory channel.

The tool bar duplicates main tool bar buttons : creating or saving or scanning the memories ; the Clear All button clears all memory channels in one click (if supported, Kenwood and ICOM only).

But this window also hides some powerful functions:

- Sort by number/frequency/mode or information is provided clicking each column header
- Channel status for scanning : if * is displayed, the corresponding channel is included
- Pop up menu (right click) with following submenus :



Pop up menu :
Recall : Memory channel recall

Editing… : Editing the channel

VFO>M : Memorizes the VFO into any channel

M>VFO : Recalls the channel into the VFO

Skip : Changes the status for scanning
Hide : Hides/Unhides the channel (see the manual of the transceiver)

Scanning the channels

A scanning “by soft” is possible using the Transceiver/Channels/Scanning  submenu. The software provides a signal level floor (S-Units) for busy channels and the scanner pauses and resumes after a preset Pause delay. With some rigs, you may also use the Squelch to control the scanning: the program resumes the scanning if the carrier drops (only if the Monitoring is running).

The duration of the Pause during scanning (10s by default) and the Scanning Speed (30 by default) are defined under the Transceiver tab of the Preferences.

This scanning is not related to the scanning of the transceiver; however, the program reads (if available) the status of each channel : if the channel is to be skipped by the transceiver, the program also skips this channel (It is easy to change the status for scanning from the Channels window by right clicking on the channel and choosing the Skip submenu).

From the tool bar you start the scanning in descending, ascending order and stop it.

The slider sets up the time delay for the pause. The Stop check box stops the scanning on a busy channel; then the scanning resumes when the signal level (or the squelch) drops down.

Creating memory files

The program allows you to create memories files on hard disk using the TRX-Manager's file format (.MEM) or the FTBasic's file format (.CSV). From the main tool bar, click Transceiver\Open  to load a file of memories into your transceiver. Click Transceiver\Save  to save the content of your transceiver memory on hard disk.

MEM files (TRX-Manager)

Please read the file section for more information about the *.mem file structure and do not forget to save your memory before loading a new file !

.CSV files (FTBasic)

CSV files use the format defined by FTBasic. In addition, CSV files may be opened from Excel. Please note the following conditions:

- field separator may be comma (,) or semi colon (;)
- decimal separator MUST be period (.)

Files format

When you save memories (from the Transceiver menu) the software creates a file with the name of your choice and extension .mem as default. It is a text file. It is compatible with any transceiver supported by TRX-Manager.

The content for each line is 13 data's separated by comas (, or ;) in this order :

. frequency in MHz (0= > Clear, -1= > Skip
. clarifier value in kHz status for tx clar
. status for rx clar
. status for +RPT
. status for -RPT
. status for Reverse
. status for SCAN (0 include 1 skip except FT-920)
. status for HIDE (2 unhide 1 hide)
. tuner (FT-920 only)
. status for mode (0=LSB, 1=USB, 2=CW, 3=AM, 4=FM, 5=FSK, 6=PKT, 7=WFM, 8=DV)
. status for filter (0>2.41>2.0/2>500/3>2504>6.0)
. channel information (label)
. repeater offset (KHz)
. CTCSS frequency (Hz)
. Encoding (0=no 1=yes)
. Decoding (0=no 1=yes)
. Group (TS-2000 only)

BEACONHF.MEM and BEACON28.MEM are two files delivered with TRX-Manager with HF beacons.

You may create or edit the file under MS Excel and save it as CSV which matches the mem file format.

INFO.DAT file

This file is used to store the current “information” for your memories.

It is a text file with:

- A literal information for each channel (20 characters)
- 32/90 or 99 lines of text (no blank line)
  Generally you don't need to edit this file.

Band scope overview

The band scope function gives a pleasant view of the band activity and provides graphic tuning of your transceiver.

TRX-Manager needs to scan the desired band portion to display the spectrum. This scanning may be controlled by the signal strength to pause on busy frequencies.

To open the band scope, you need to activate the Tools/Band Scope (Ctrl-B) submenu or the corresponding tools bar button .

Note

This bandscope it NOT a real time one and does not replace a panadapter!

Buttons

Below are the functions of each button:

: (or Enter) to start or to restart analysis

: (or Escape) to stop scanning

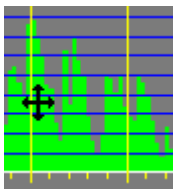
: to re-draw the spectrum if altered.

: to initialize parameters (center frequency and spectrum width) from current transceiver frequency or any HAM band

: This button toggles from FS analysis to TFS analysis (Frequency Time Signal).

Graphic tuning

When the scanning is ended and the spectrum displayed, you only need to click a desired portion on spectrum to tune your transceiver to the corresponding frequency.



Analysis mode

The band scope provides a classical representation of the spectrum (FS for Frequency, Signal) but also an analysis for a long period of time (TFS for Time, Frequency, Signal or Waterfall) : each value of the signal is translated into a colour (Blue=S0 Green=S9

Red=S9+60dB) ; it is possible to toggle at any time from FS to TFS using the TFS button 
.

Please note that the TFS mode takes a while to draw all the screen. This time depends on the accuracy (1 to 8).

Scanning

During the scanning, the signal threshold from where the scan pauses is adjustable with the vertical slider. The pause delay (or Scanning delay) is adjustable from the Preferences/Transceiver dialog box.

Scanning Step is set automatically in Auto mode or by the user in Manual mode. Manual mode is recommended for FM or AM channels while Auto mode is preferable for SSB and CW.

> Tip
>
> For a better precision of the display, please set the AGC switch on AUTO position or on FAST.

Zoom

To zoom a particular portion of the spectrum : hold the mouse button (more than 1s) and move the mouse until the upper limit is reached.

Band Scope and Monitoring

When used together, Band Scope and Monitoring are interfaced : any frequency change from Monitoring (or directly from your transceiver) influences the spectrum display ; so you don't need to scan again. Markers for current frequency and last frequency are displayed.

You may also use the band scope in conjunction with the Monitoring's scanning (but without pause on busy channels): please see also how to change some parameters of the scanning.

The scanning algorithm

Scanning is done by Steps, not continously, and Step size is defined by the Accuracy function and/or the filter width. If Step is greater than filter's width, stations may be missed. In order to minimize this situation, TRX-Manager adds a random value at the beginning of each scan. Thus, more stations will be detected over a repeated scan. The TFS mode provides a graphic display of all stations detected over a long period of time.

In Auto mode scan is done in CW in order to select the narrower filter(s) and a fast AGC. You may choose Manual scan to bypass these parameters.

Band scope parameters

Mode (Auto by default)

The software scans in CW mode. This is because, in this mode, generally AGC delay is switched to FAST by the rig. You may select manual to scan with the current mode and filter selected but with a loss of precision. Otherwise, the mode determines which mode is selected when the scan pauses: if Auto is selected the program switches to the mode defined by the band plan.

Accuracy

In Auto mode the accuracy of analysis may be defined from 1 (low) to 8 (high). This parameter has an influence on the analysis delay. In TFS mode and higher precision (8), it takes some hours to fill in all the screen but only a few minutes with the lower precision (1).

In Manual mode, you must set up the scanning Step (in KHz).

Center frequency

Any frequency allowed by your transceiver.

Sometime, you may wish to define the lower and upper end of the spectrum (to avoid a mental arithmetic): click the button  to display the corresponding text boxes.

Width

Half width of spectrum in KHz by step of 50 kHz.

Sub Transceiver Panel

Up to three Sub-Transceivers can be controlled at the same time simultaneously with the Main Transceiver.

The Sub-Transceiver control window opens from the Transceiver/Sub...submenu. Only Transceivers supported as Sub-Transceiver are displayed in this menu (see List).

Sub-Transceiver panel

It should be also noted that the corresponding serial port only opens when you load this panel and closes as soon as you unload it.

Tuning methods

The Sub-Transceiver panel uses the same tuning methods as the Monitoring:

- Tuning knob and Programmable scanning (Dial frame)
- Tuning by digits : left/right click of RX Frequency changes one digit while holding the mouse button scanning.

Preferences

A Sub-Transceiver uses its own Preferences (in particular for Rotators, Tuner, Power, band decoder...). However, Preferences are only accessible for the current Main Transceiver. If you need to change the preferences for a Sub-Transceiver, please define it temporarily as 'Main' from the Transceiver menu.

Layout

In addition to the Preferences/Software dialog from which you may select Fore/Background colors, the Configuration button opens the configuration dialog box.

Other functions

Band selection

For each band, the software retains the last visited frequency like a band stack register but unrelated with those of your transceiver.

Direct entry of Frequencies

Direct entry of frequency is provided from the Band switch (in MHz):

A Left click on >RX sets up the receive frequencies while a right click sets up the transmit frequency (TX).

Tuning steps (TS+ TS-)

Tuning Step is memorized for each Transceiver and each mode. A clic on TS+ or TS- increases or decreases the tuning Steps respectively for Fast and Slow scannings.

OP function

By default, at startup, the Main Transceiver is the Operating transceiver. In conjunction with the Monitoring, the OP button selects the Operating transceiver at any time and very quickly during a session. The Op indicator is Green when the corresponding transceiver is selected and blinks in Red when a Synchro command is sent to the controllers: 

Function buttons

Four Function buttons are user-definable.

Sync

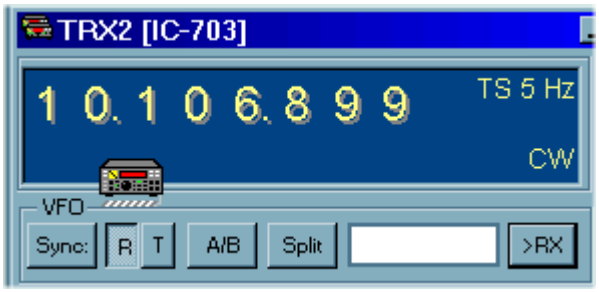
The Sync button synchronizes the Sub-Transceiver's RX frequency with the Main Transceiver for RX or TX Frequency.

Kenwood (Sub)

The Sync button synchronizes the Kenwood Sub-Transceiver's RX, TX Frequencies and Split with the Main Transceiver for RX, TX and Split.

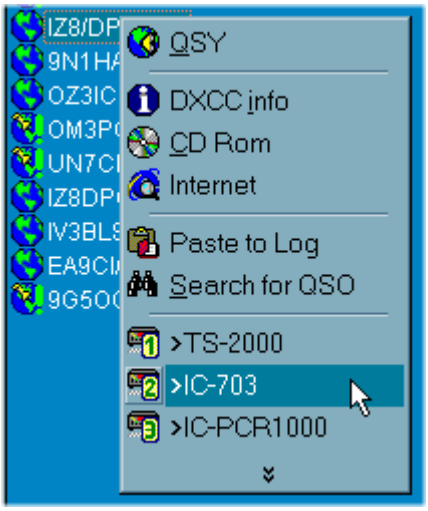
Drag and Drop

A drag and drop from a sub-transceiver can be initialized from main display (just below the frequency):



DX Spots

From the DX Cluster or the Web Cluster windows, you may send spots to a Sub-Transceiver without opening the corresponding panel and/or even if it is not the Operating Transceiver.



The DX Bar window

The DX Bar window (in the Tools/DX Bar submenu) synthesizes the most important information and controls of TRX-Manager for the Operating Transceiver in one easy to operate panel. Unlike other windows, the DX Bar window is displayed outside the main application and remains *On Top*(according to the position of the On-Top toggle). Thus, by opening the DX Bar window and while using another program, you can keep an eye on the traffic and the operation of your transceiver...

Tip

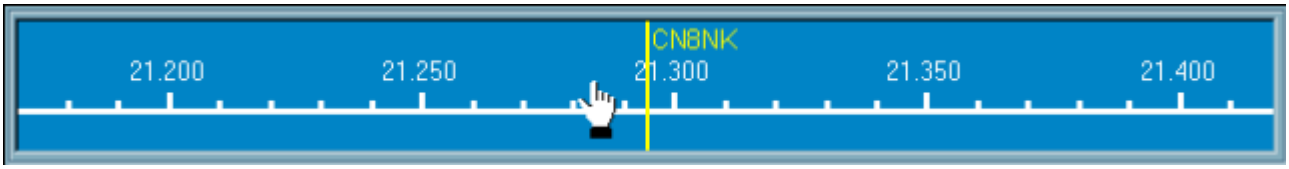
To understand all the functions of the DX Bar window, it is advisable to have a good understanding of the controls and the functions of TRX-Manager. Only some functions are described here. Indeed, the DX Bar duplicates some of the commands available from the main toolbar as well as from the other modules. Some of these modules must be active (especially the Monitoring, the Terminalor the Web-Cluster) so that their functions can be used in the DX Bar.

Transceiver control

The DX Bar window displays the current frequency, mode and filter. Each digit of the display is click able: a left/right click changes a frequency (Up/down) by one digit while holding the left/right button allows scanning.

A left/right click increases/decreases the frequency

By default, the analog display (frequency bar) is moveable with the mouse for fast QSY's (drag the bar right to go DOWN in frequency, while dragging left on the bar will increase the frequency.



Moving the analog display provides fast changes of the frequencies

If the Fixed scale option is checked , the analog display (frequency bar) does not move while the indicator bar moves to the current frequency. Just click the frequency bar to set up a new frequency. This option is recommended in HAM bands since it allows displaying the whole band with all spots.

If you have Cluster spots displayed on the bar; you can go directly to the spot by double clicking in the MIDDLE of the callsign (not on the indicator bar).

If your transceiver supports AF level control via the computer, the slider sets up the gain.

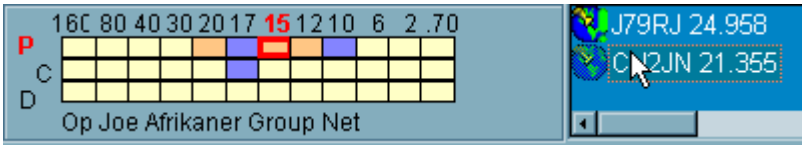
When the DXBar window is highlighted, all the Monitoring's Keyboard shorcuts are available.

Rotator

When a spot has been activated, the corresponding azimuth is graphically displayed. The Rotate button controls the rotator and will move it to the corresponding position :

DX Spots

The DX Spotsreceived from either the Terminalor the Web Cluster are displayed in a simplified format. A left click or a double click on a spot (according to the option for Drag and Drop under the Preferences/Software tab) sets the program and the transceiver appropriately, while a right click momentarily displays the spotter comments and your progress towards the DXCC award for that country.

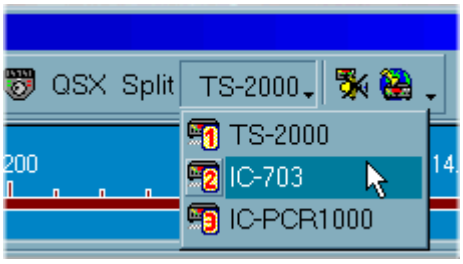


A right click on a DX Spot displays
the DXCC award progress and the comment

Tools bar

The tools bar duplicates some buttons available from the main tools bar or from various modules. It is configurable so that more functions may be available.

- The Paste button opens the logbook and inputs the fields for the current Spot; however, the QSO is not saved – you need to click on the 'log' button of the logbook. The Log button reopens TRX (if it has been minimized) – and does not paste/input the current Spot.
- The DX Squelch toggle mutes the transceiver until a spot is activated or there is a frequency change or the delay specified under the Preferences/Transceiver/Band Plan tab has expired ..whereupon the receiver is reactivated (and if AF gain control is supported, AF is set to its previous gain)
- The Auto-QSY toggle : for each new DX Spot received from the Terminal (not WebCluster), the transceiver is set to the corresponding frequency. The status of the spots for which this function is activated is configurable from the corresponding drop-down (same icon) of the Terminal...
- The Operating Transceiver can be selected from the toolsbar of the DXBar window:



Note

On some systems or computers, opening the DX-Bar window prevents the system menu of the main window from working (especially Maximize, Exit). In that case, you must use the TRX toggle  (Maximise) or the Exit button  of the DX-Bar window.

Quick memories (QMB)

The Quick Memories of TRX-Manager are - by definition - simple and quick to use. Using the Quick Memories is recommended in real-time and especially to save DX-Spots.

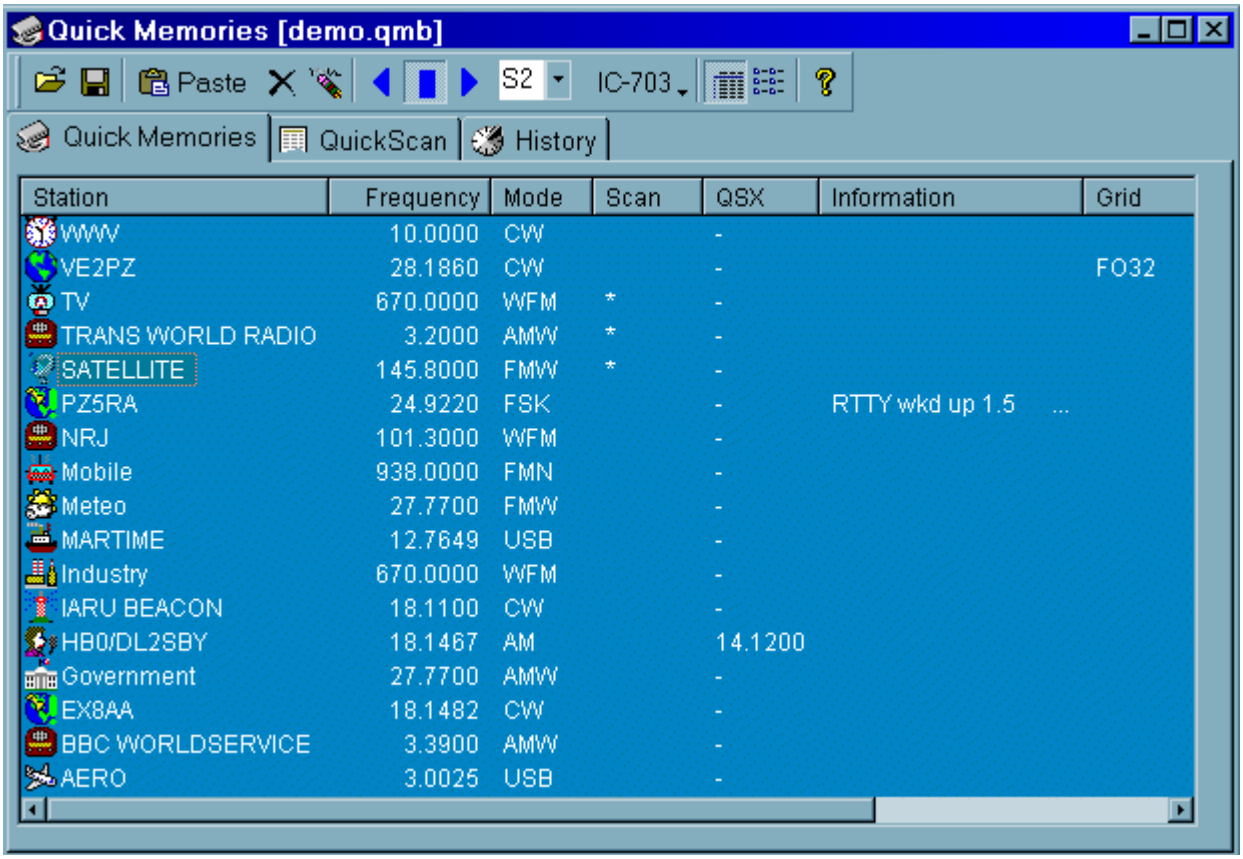
See also (alternatives)

Memory channels

Short wave database

Opening the Quick memory window

The Quick Memories window opens from the Display / Quick Memories submenu (or Ctrl-M).

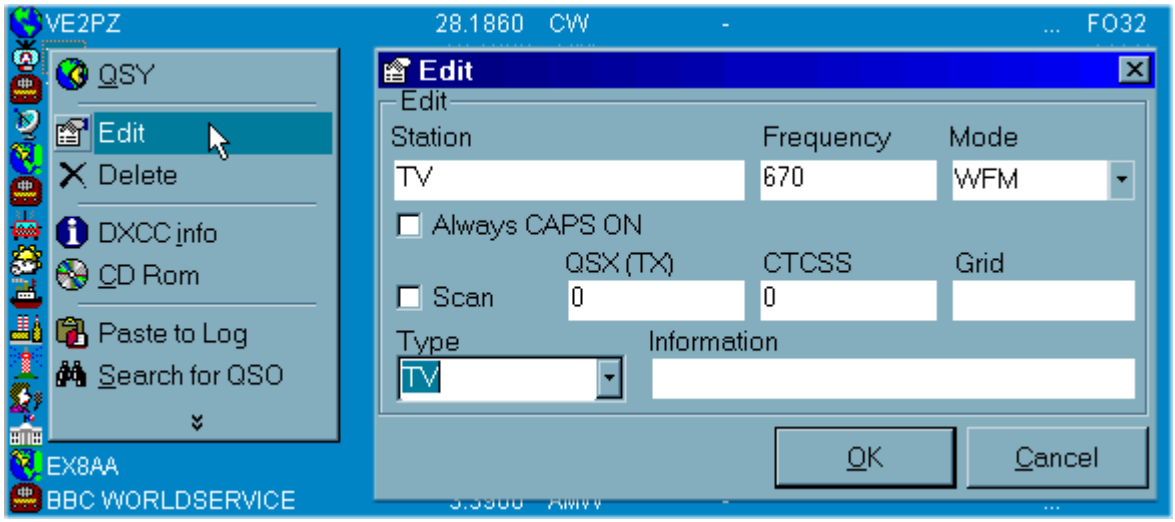


Using the QMB

Quick memories may be added by Drag and Drop or by using the Paste button. The Paste function memorizes the current frequency of the Operating transceiver as it is selected from the Quick Memory's Toolbar. The STO button in the bottom right hand corner of the Monitoring window stores the current frequency while the RCL button recalls the last entered Quick Memory.

Quick Memories store essential parameters including those required in Split (QSX) or via Repeaters as well as geographical data (Grid). An Icon may be selected to provide a pleasant display of the various frequencies.

The context menu (right click) provides various operations with the quick memories and especially direct editing.



The Erase button erases all the quick memories while the Delete deletes the selected memory.

The Open and Save manages various files of quick memories (.qmb as extension) but please note these binary files are not directly editable.

Scanning

Scanning the quick memories bank is possible by using the appropriate commands 

. Prior to scanning, you must include the desired Quick Memories into Scanning by checking the Scan option from the Edit dialog.

The S0-9 allows defines the S-Meter threshold which pauses scanning (Squelch is not supported). The duration of the Pause during scanning (10s by default) and the Scanning Speed (30 by default) are defined under the Transceiver tab of the Preferences.

Quick Scan tab

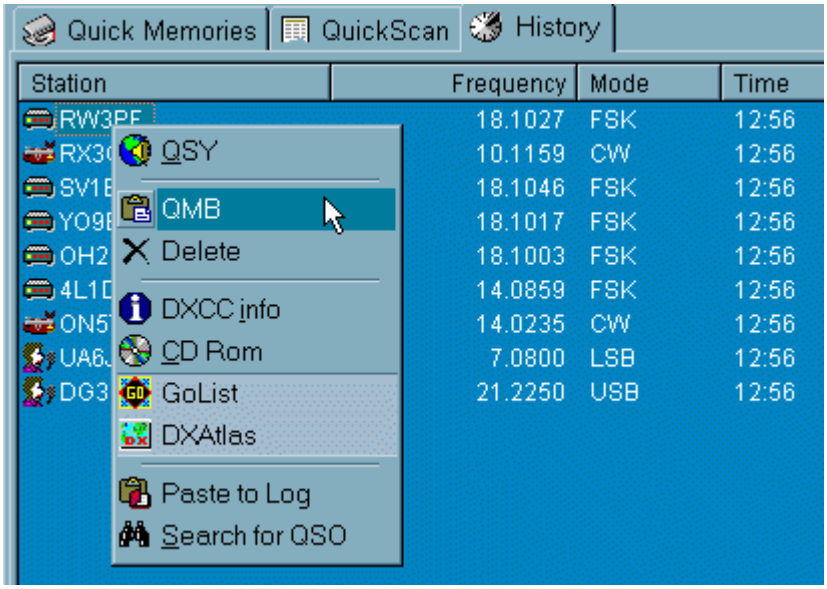
The Quick Scan tab is not related to the Quick Memories. This tab displays the whole band plan but does not allow editing it directly. The advantage of this tab is that a double clik sets up the lower and upper limits of the internal Scanner of TRX-Manager; however, starting scanning must be started manually.

A right click on a segment initializes the Band Scope.

History tab

Each time you set a new spot or a new label, the history list is updated and allows you to

fast recall of any previously visited frequency. The History tab allows you opening a context menu with various functions including PASTE to the Quick Memory Bank.



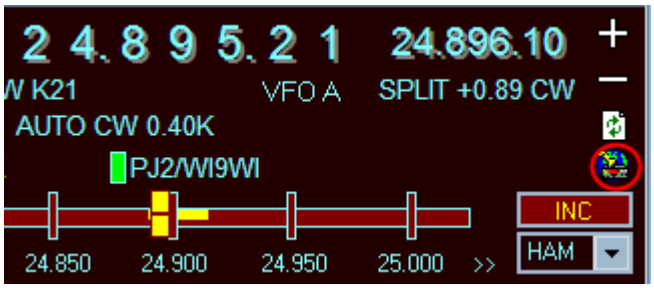
Current Spot

The Current Spot may be the name of the current channel in use, the SW station being listen to or the last DX-Spot set from a DX-Cluster or a Web-Cluster. This information is bound to the current frequency and will be memorized with the channel, the VFO or the quick memory.

It is displayed from the Monitoring or the Sub-Transceiver panels.

It is also very useful to set this spot-info manually (Main Transceiver only) from the Edit / Info (F4) submenu : then TRX-Manager immediately displays the status of your DXCC for the corresponding call sign, the beam heading and if the QSO has been worked before...

Because TRX-Manager keeps in memory the spectrum occupation, this information will be automatically displayed (for the 15 last spots) by only moving the main VFO knob! The Monitoring's Spot centering button  provides a precise tuning to the right spot frequency.



Centering a spot

When used in conjunction with the DXCC windows this feature gives a spectacular result! Any previous visited frequency may also be recalled by using the Undo function.

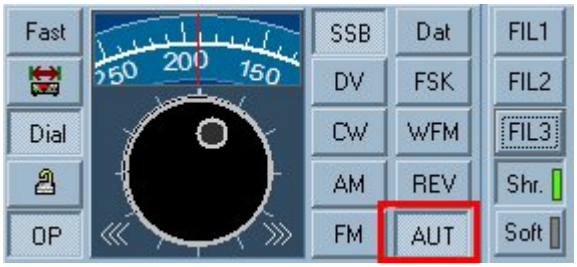
How to change the modes ?

TRX-Manager provides important functions to automate the selection of modes and filters according to your preferences.

The Auto-mode function

Eventually, you don't need to change the mode: the software does it for you by reading the the Band Plan!

By default AUTO-MODE is selected at startup but can be unselected at any time from the AUTO button (Monitoring's or Sub-transceiver's panels).



AUTO Mode activated

By default, AUTO-MODE is ON at startup. If you don't like this feature, please uncheck the Auto Mode option under Preferences/Transceiver/Band Plan. AUTO-Mode will be OFF at startup.

Notes

If a memory channel is selected from the main transceiver (mem is displayed) auto-mode is always OFF (Manual).
When using a digital interface, you may choose to disable AUTO-MODE since the mode defined in the band plan may be different from the required mode for your transceievr. However, the band plan can be adjusted for your operating needs (see below).

In case of the mode is unstable

If the Mode is unstable ?

Depending on the transceiver and especially variations of the Shift between modes (SSB/CW), mode may be unstable between two sub-bands. Activating Manual mode is a possible solution.

However, the BackLash parameter from the Preferences/Transceivers/Band Plan tab adjusts the change of modes between two sub-bands and eliminates this behaviour.

In addition with Yaesu Transceivers, you may try setting up the shift between SSB and CW by adjusting the Pitch (or the CW/SSB offset) from the Preferences/Transceiver tab... The pitch is generally between 500 and 700 Hz.

Also, please check if a special parameter of your transceiver allows setting up to OFF "frequency corrections" between SSB and CW... (as it is possible with Yaesu and Kenwood transceivers).

AUTO mode disabled in Split

In Split, if VFOA and VFOB does not belong to the same segment, TRX-manager disables the Auto-mode to prevent any mode changes.

Reverse option

The REVERSE option (CW RTTY DATA) affects the sideband in CW and digital modes:

- RTTY: this option applies to FSK AFSK and SSB-DATA
- DATA: this option applies to PSK PKT and SSB-DATA

in RTTY or (other) DATA modes, the sideband is selected depending on the band segment of the band plan.

Auto-mode with digital modes

The Band Plan offers two digital modes : RTTY and DATA. By default LSB is selected for RTTY and USB for DATA. You can select an mode (i.e USB-D1 for DATA) from the Band Plan tab of the Preferences/Dialog under RTTY=, DATA=. Please note that these options depends on your transceiver and may be combined with the other options of the Transceiver tab.

Setting up the Preferences for Filters (main transceiver)

For the Main Transceiver, you may associate a Mode and a Filter by entering your settings from the Preferences dialog under Transceiver. This selection is only valid if the mode is automatically selected by the program (band segment change, DX Spots...). If you change the mode manually (either from the transceiver's front panel or TRX-Manager) the associated filter for that mode is NOT selected.

Notes

If a DSP only is used, these filters are virtual and their bandwidths have to be defined under the DSP/PBT frame (see below),
If Quartz filters are used, please select only the filters that are installed in your transceiver. If you select a non-supported filter, the effect obtained is unforeseeable and depends on the type of transceiver,
With FT-1000MP, TS-450/690/850/950 selection of either 455 KHz AND/OR 8/9MHz IF filters is possible,
These settings are saved for each transceiver separately (TRX1 to TRX4)

Variable DSP (PBT) filters

Most recent transceivers use a DSP and allow defining preset virtual Filters. Once the virtual filters defined, you may restore any of them automatically by using the Filter functions in TRX-manager (i.e FIL1-3, WID NAR Monitoring's buttons...)

If desired, you have to enable this function by checking the DSP or PBT option and filling in the various filter settings for each mode with the valid values permitted by the DSP (please read the transceiver's manual in order to check the valid values). Generally, if you introduce an invalid value, the program selects the nearest bandwidth. You may have to adjust these parameters to match the possible settings permitted by your transceiver and to suit your requirements.

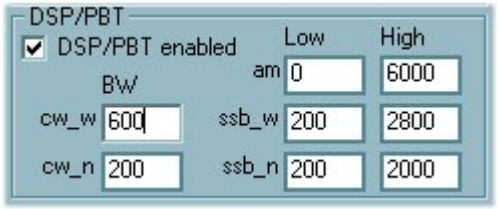
The displayed mentions, names and values depend on the brand you are using. Please read also the Specifications (this help) for the transceiver you are using for more information.

Notes

In CW, Bandwidth (BW) is centered on Pitch (*). I.E 600Hz or 200 Hz.

In SSB, Bandwidth may be defined by High and Low cut frequencies : Low=200 and High=2800 define a Wide SSB bandwidth of 2600Hz centered on 1500Hz while Low=200 and High=2000 define a Narrow bandwidth of 1800hz centered on 1100Hz.

However, if your transceiver does not provide IF-Shift function or Low/High Cut functions, High and Low values are only used to define the bandwidth (BW=High-Low) and the filter will be centered.



Suggested values (DSP filtering)

Please understand that these filters are virtual and, in most cases, without any relation with the fixed filters (eventually) installed in your rig.

(*) In CW (especially with TS-2000 TS-480 and K3), it is important you introduce the exact value of thePitch (Preferences under Transceiver) in order to set the CW bandwidth correctly.

Macro buttons

The Monitoring, Sub-Transceiver and Remote control windows have configurable Function buttons (or Macro). The Monitoring window supports up to 30 macros.

Not all transceivers support macros: generally all Kenwoods and ICOMs, Elecraft and recent Yaesus (FTDX9000 and later) support macro commands.

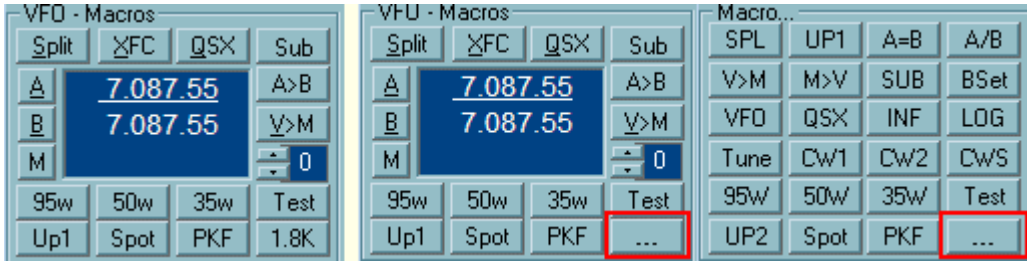
See also

TRX-Command (which allows sending powerfull macro commands) via OLE to TRX-Manager.

Displaying the macros

From the Monitoring, make sure the layout is configured to display macro buttons; if Macro buttons are not visible, please click the Monitoring's Configuration button to open the Configuration dialog.

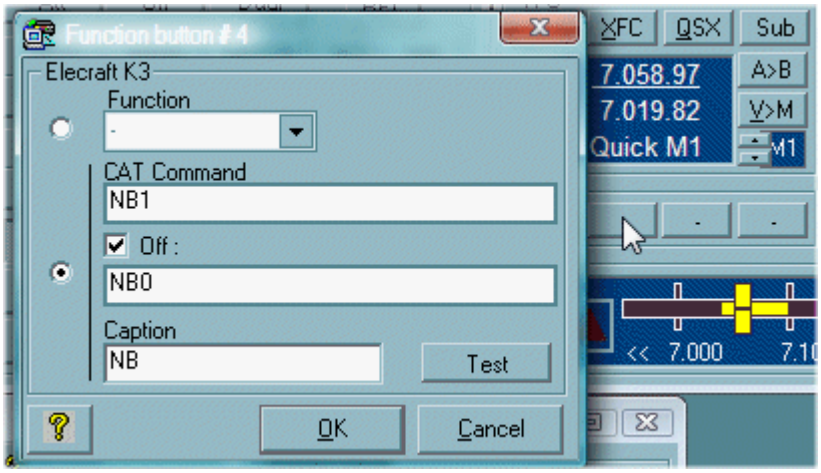
Buttons options may differ depending on your transceiver. TRX-Manager offers 8 or 7+ 23 macro-buttons. In the case of 30 macros, button #8 (...) becomes a toggle between macros #1/#7 and #9/#31.



Monitoring screen with Macros enabled
Left : 8 macros only
Right: 7+27 Macros (more macros selected) + a toggle (...)

Setting up a macro button

At startup, captions of Macro buttons are blank (no label). To set up a macro: please right click a macro button and choose (in the dialog) either a pre-defined Function or a CAT Command.



Macro dialog appears after a right click on a macro buttons

Selecting a predefined function

If you select a function, please make sure the function is available and supported by your transceiver. Predefined functions may be (*) :

NB: Noise Blanker
NR: Noise Reduction
PRE: Preamplifier
ATT: Attenuator
ANF: Automatic Notch Filter
COM: Speech processor
RXA: RX Antenna
BC : Beat Cancel (TS-2000/480)
VOX : Vox
A=B : A=B
A/B : A/B
SPL : Split
UP1 : QSX up 1 KHz
SUB : Opens/Close Sub Receiver (or dual watch)
VFO: Set Frequency, mode...
QSX: Set QSX Operation
INF: Set current Spot (Info)
LOG : Quick Log (of current Spot) and Save
M>V : Current Channel to VFO
V>M : VFO to current Channel
PWB : restore default power for the current band (Preferences).
SPO : CWT+Tune (K3), Kenwoods(CW Tune)
CTF, DSM, PKM, FXT, P3-, P3+: For the Elecraft P3 Only, please see Elecraft K3 (about the P3)
TON : Tone control window (ICOM only)

(*) The list is variable from one rig to another.

Writing a CAT Command

Please type the CAT command in the corresponding text box. If Off is checked, the macro will be an On/Off button and two CAT commands are required. If Off is NOT checked, it will be a command button and only one CAT command is required.

The Caption field allows you to display a short name for the function. The Test button (if available) allows you testing the function immediately.

Depending on the type of transceiver (ICOM or Kenwood/Yaesu), the Syntax is very different. You have to use the correct syntax by referring to the Transceiver's manual (see also CAT Programming).

 Multiple commands

Multiple commands (in a chain) are possible; the multiple commands are separated by a slash "/" (ICOM, Others) and/or a delimiter ";" (Yaesu/Kenwood/Elecraft).

Kenwood/recent Yaesus

The command is typed in using the format required by the manual (the last end delimiter " ;" is NOT required). Embedded commands are supported. i.e Mode USB = MD2

If you prefix the data with $ (i.e $Z1) the data are sent "as is" (without suffix and of course without the prefix $). This convention may be used to control an external device through the same RS232 line.

Elecraft

See kenwood. I.E : a useful macro Up2+Split = SWT13;SWT11;UP4;UP4;SWT11;FT1;

ICOM

Command is typed in using the format required by the manual but without Preamble + Addresses (FEFEXXYY) and without the End of message code (FD): only the command, the sub command and the data area are required. i.e Comp ON = 164401, Comp OFF = 164400. Multiple commands (in a chain) are possible; the multiple commands are separated by a slash (/).

If you prefix the data with $ (i.e $ FC12FB) the data are sent "as is" (without preamble, adresses and suffix) and you can add a preamble that is different from the one of the transceiver under control (ex : to control a linear amplifier).

Remote control mode

In remote control mode you can send CAT commands to the server transceiver from the client computer. You use the same syntax as above depending on the type of remote transceiver you are using (ICOM: Comp OFF = 164400).

You may also send remote control commands to the Server computer (instance of TRX-Manager). You must use the TRX-Manager's remote control syntax and add * as preamble (Example: Disconnect = *RC0).

Other devices

You can send a macro to some other devices using a preamble :

```
*     Remote control command (see above)
[...] Band Decoder (see below)
^     KPA500
{     KAT500
}     TRXNET (TCP Interface)
```

Setting up a macro slider

Applies to: TRX-Command, Remote control only.

You right click the cursor of macro-slider to set up a macro-commands. From the combo box, you select either STRING for a Kenwood/Yaesu/Elecraft transceiver (+ some others) or you select ICOM (which uses hexadecimal data).

You use the same syntax as above but you add the necessary digits for a variable command. The command string includes as many * (joker) as number of digits required by the protocol. The Min and Max values are always decimal starting from 0 to 255 (generally but not always). TheCaption field allows you to display a short name for the function.

Audio Gain (Kenwood)

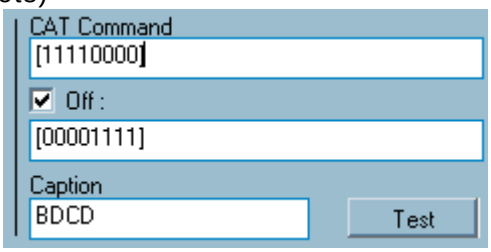
Example

ICOM : Command for AF gain is 14010000 to 14010255. Syntax = 1401**** (4 digits required) with Min=0 and Max=255
KENWOOD : Command for AF gain is AG0000 to AG0255. Syntax is AG0*** (3 digits required) with Min=0 and Max=255

Sending a command to the Band Decoder

Sending a direct command to the band decoder is possible provided:

- The format of the command is the format defined for the band decoder you are using (Parallel port = 8bits, Com port = ASCII or HEX).
- The command to the band decoder is inserted inside square brackets [xxxx] (no space before or after the square brackets)



Command sent to a parallel band decoder

Band Plan

TRX-Manager implements various functions related to the Band Plan. When you run TRX-Manager for the first time, you are prompted to define your IARU region:

- Region 1: Africa, Europe, Russia, Middle East (excluding Iran) and Mongolia.
- Region 2: North and South America including Hawaii, Johnston and Midway Is.
- Region 3: The rest of Asia and Oceania.

You may set Preferences for each band such as Mode and miscellaneous parameters (Antenna, Rotator, Tuner, Power...) under the Preferences/Transceivers dialog:

See also

Band Decoder
Synchronization (RS232)
Rotator control
Modes and filters

Band plan editing (Preferences)

Band Plans for each IARU region are provided as CSV files (region1.csv region2.csv region3.csv). The Open button lets you load/change a band plan by selecting the appropriate file. Once your Region is selected, your default band plan is saved under bandplan.csv.

You may edit bandplan.csv from Excel or edit the band plan from the Preferences dialog, under Band Plan . Please make sure you describe the entire spectrum with no error or frequency holes:

- Click a line to edit; clicking the Save button saves the changes.
- The Add button (+) adds an empty line (0-0 MHz LSB) for editing.

Specific fields

Comment field will be displayed by the Monitoring
HAM check box defines the segments for which transmission is allowed. TRX-Manager does not prevent you from transmitting outside HAM segments but displays a warning message (OUT OF BAND).
Type indicates the type of transmission (Phone, CW, Data, BCL, Air...). It is more accurate than Mode. It allows precise DX Spots filtering and graphical display of the type of transmission (by Icons) in the Quick Memories module .
The B-DCD field is optional and related to the Band Decoder : If the Band decoder's Segment option is checked (under Setup/Band Data), this field provides the command required to control the band decoder for each segment.

80a/80b or 10a/10m band option

The Band Decoder offers an option to split either the 80m or the 10m band in two segments. See Parameters/Setup/LPT and define the limit between the two segments.

Digital modes

The band plan provides two digital modes RTTY and DATA. By default LSB is affected to RTTY and USB is affected to DATA. Any other mode can be selected from the RTTY= and DATA= combo boxes, e.g: if your transceiver does not support the digital modes, you can select CW. Or you can select LSB USB FSK PKT PSK DATA (=LSB-DATA in RTTY, USB-DATA for the other digital modes) depending on the digital modes supported by your transceiver.

The REVERSE option (Transceiver tab) affects the selected sideband in RTTY or DATA modes. So if you need FSK-USB for RTTY, select RTTY=FSK and check Reverse-RTTY from the first tab!

ICOMs : RTTY=, DATA= provide selections for USB-D1...4 and LSB-D1..4. The reverse option is applicable.

See also : DX Spotting, MMVARI

Automatic mode switching

By checking Auto Mode, automatic mode switching is selected by default at startup. It is always possible to activate/deactivate this function from the Monitoring window (Auto) or a Sub-Transceiver panel for a particular session.

The Backlash field (in Hz) prevents from quick and unstable changes of mode near the limits of two segments. Generally 1000Hz is enough.

Restoring the default Bandplan

If the Auto mode is malfunctioning, your bandplan.csv file may have been altered. You may have to select your Region again by opening one of the Region*.csv file or the IARU button. This action erases any previous version of bandplan.csv.

Miscellaneous settings

Under the Rotator/../Misc... tab of the Preferences you may assign a different Rotor and depending on your transceiver (*), Antenna, TX Power, Tuner or Linear amplifier options for each HAM band.

If TX Power is blank, the program does not set any value.

The Linear option requires a recent Kenwood transceiver or a KPA500. With the Kenwoods, the CAT function controls the state of the Pin 3 of the Remote port (LINEAR AMP function).

These settings are saved for each transceiver separately (TRX1-4).

(*) they are direct commands which are not supported by all the transceivers.

DX Squelch

If AF gain control is supported by your transceiver and according to the status of the Main toolbar's Tools/DX Squelch button  , AF is muted after a given period of inactivity. The

specified delay can be defined under the Band Plan tab of the Preferences. AF Gain is set to its previous value as soon as you set a dx-spot or you change the frequency.

Band Decoder

TRX-manager can control external accessories (such as automatic selection of antenna, linear amplifier, external controller) by using band data provided on a parallel port or commands sent to an RS232 port.

Tip

Kenwood does not implement any band data directly on the radio and there is no "Kenwood format". ICOM provides the band data via an analog voltage signal. For the ICOM and Kenwood radios, the TRX-Manager's band decoder provides a simple solution for the remote control of antenna switches or other accessories.

Parallel port

The default format for the band data is compatible with the most popular software (CT, NA, TR-Log...), Yaesu accessories and many third party device (Band Decoder + Relay Box). In addition, the band decoder is programmable which allows you customizing it to your particular needs.

RS232 port

The format depends on the controller you are using. Default values are compatible with the MicroHam MK2R controller but you can adjust these values according to the wiring of the accessory port or the controller you are using. Hexadecimal or ASCII commands are supported.

Related Topics

Band plan
SO4R

Settings

You set up the band decoder from the Parameters/Setup dialog under the BAND DCD tab.

Parallel port

Please choose a free LPT port because the decoder can not be used with any other device (i.e. a printer...). However, the decoder is compatible with the CW Interface of TRX-Manager.

To set up a non standard LPT (such as USB/Parallel adapter), please do the followings :

- from the System Properties, note the base address for that LPT port. Address should be in the XXXX-YYYY format. Note only XXXX.
- from TRX-Manager, open the Setup dialog and under Band DCD select Custom LPT as LPT Port. Fill in the address box (H) with the base address XXXX of the LPT Port.

RS232 Com Port

Select a free COM port and fill in the settings accordingly (do not select Handshaking if your controller does not use it: this may lock up the program).

Default command format is ASCII. If you use the Hexadecimal format, check HEX.

Band/Segment

The Band/Segment option defines the way the band data are defined.

- If BAND is checked (default), band data are defined for each band (GEN, 160m to 70cm).
- If SEGMENT is checked (for Expert) band data are defined for each segment of the band plan under Preferences/Transceiver/Band plan .

10m and 80 m sub-bands

By default the program splits the 10m band in two sub-bands. You may choose spliting of the 80m band and/or define the limit for each subband. The choice of the sub-band applies to many parameters such as: band decoder, antenna, rotor...

COMMAND FORMAT

Parallel port

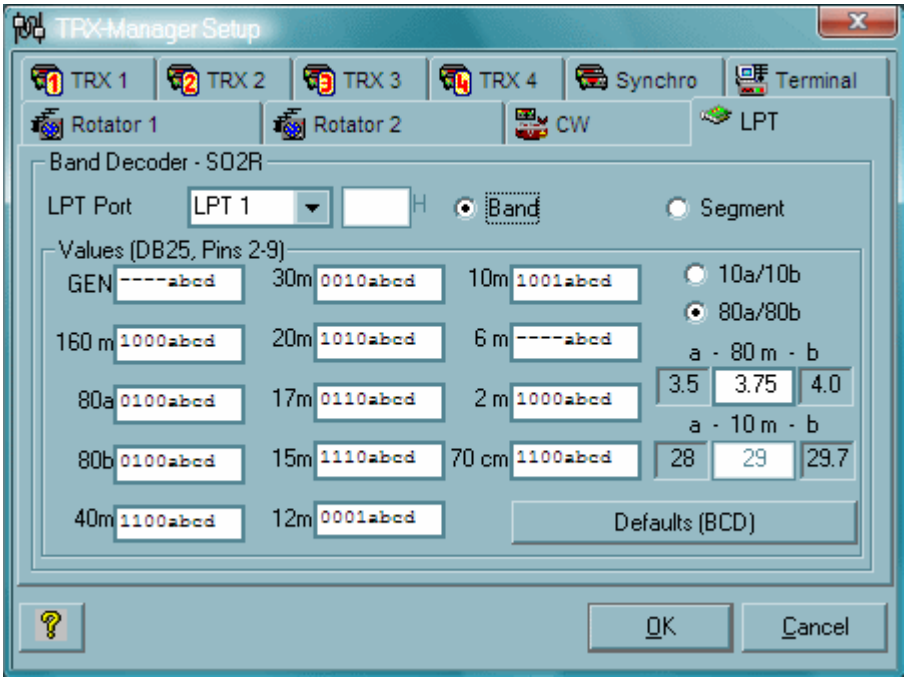
You use a BCD (Binary Coded Decimal) format on 8 bits which allows controlling pins 2 to 9 of the parallel port. The default format emulates a Yaesu radio on pins 2-5: you can always return to the Yaesu format by clicking the Default button.

You may program pins 2 to 9 by modifying the strings assigned to each band. Each character of the string represents the state of a pin (from 2 to 9), as follow :

"0" : low state
"1" : high state
"-" : not used (or reserved for the Linear reminder)
"a-d": see SO4R

Examples :

1100---- : pins 2 and 3 are at a high state, pins 4 and 5 are at a low state, pins 6 to 9 are not programmed
10010000 : pins 2 and 5 are at a high state, other pins are at a low state



LPT Band Switch (default = BAND Checked)

The length of each string is limited to 8 characters.

The band decoder can also be used to send the Transceiver Number to the LPT port (see also SO4R) by configuring the BCD code with with a b c d parameters ; in addition and for compatibility with some applications, TRX-Manager sends Transceiver number (1/3 or 2/4) to Pin 14 .

The band decoder can be used in conjunction with the linear reminder to control a linear amplifier relay ; in that case, you define "-" for the state of the corresponding pin (i.e: 0100-abc, pin 6 is not used by the band decoder and can be selected to control the linear amplifier relay).

Configuring your (LPT) band decoder

If you don't use a standard YAESU (BCD) band decoder, you can use the TRX-Tools utility distributed with TRX-Manager to configure the LPT band data. Open TRX-Tools and click the LPT Test button which opens the TEST LPT window. Click OPEN to read the state of your LPT port. Using this interface you can check the state of each pin of your LPT port (according to changes in TRX-Manager or from an other program), change manually the state of each pin (using the Write pins commands)...

RS232 Commands

The band decoder is conceived to send any numbers of characters. You have to choose between ASCII format and HEXA decimal format. ASCII is the default but Hexadecimal is mandatory if you have to send non printable characters other than CR.

ASCII format (default)

Default values are compatible with the MicroHam MK2R controller however, depending on how the accessory port is wired, you may have to adjust these commands for each band (or segment). You may also write specific ASCII commands for any other RS232 compatible device.

To send a carriage return, use the underscore character _. TRX-Manager will replace any underscore with a carrage return (<CR>). Example AS103_ : AS103<CR> is sent.

Hexadecimal format (HEX)

You write the commands using the hexadecimal format: Example 0F011A

If the commands are documented using ASCII numbers - like chr$(044) - you have to translate ASCII commands into HEXA Decimal: 44 (ascii) = 2C (hexa)...

Example: This format must be used with the ProXR Series Relay Controllers, this video by Randy K7AGE

Using the band decoder

There is only ONE Band decoder ; it is selectable (on/off) for each Transceiver (TRX1-4) from the Rotator/Ant/Misc tab of the Preferences/Transceiver.

The Monitoring must always be active in order to update the band data for the Band you are using. However, depending on your transceiver and the way you use the software, this information may be transmitted with a delay or may be erroneous: please perform many tests before "going live" and make sure the desired switching is done correctly before transmitting.

Sending macro commands to the band decoder (LPT or COM port) is possible. You must use the syntax explained above, however, in that case (only), the command must be inserted inside square brackets (no space before or after the square brackets). Example: [11110000] or [AS103_]. If the macro command is not inserted inside square brackets, it is sent to the transceiver!

Notes and possible problems

⚠ LPT Ports not working

Windows 8/10/64bits : Under recent versions of Windows 64 bits, a test with your system is strongly recommended. According to our own tests, the LPT port appears to work provided the LPT port you are using is the one of the motherboard.
USB/LPT converters: the drivers writen for the USB/LPT converters are rarely compatible with the use of a band decoder (PINS 2-9 are not programmable).
In both cases, since these problems are related to the way a third party drivers is writen, it is not possible to fix TRX-Manager. The best way to set up a band decoder is to use an RS232 compatible device: now, many exist on the market.

Drivers not found or not installed

Please login as administrator and reinstall the program; don't forget to reboot your computer to complete the installation.

Single Operator Four Radios (SO4R)

Under TRX1, SO4R check box enables support for Single Operator Four Radios operation.

SO4R has the following (optional) effects:

- "Sends" the Transceiver number to the LPT port (parallel band decoder)
- OLE, Band decoder, Synchro functions follow the Operating Transceiver (while, if SO4R is NOT checked, these functions are only activated for the main transceiver).
- Support for registry files at startup (see below)

LPT Port in SO4R Mode

Setting up the parallel port

To use the parallel port in the context of the SO4R mode, you have to set up the band decoder for a parallel port (the RS232 band decoder is not usable for this application). Choosing and setting up the parallel port is made from the BAND DCD tab of the Parameters/Setup dialog.

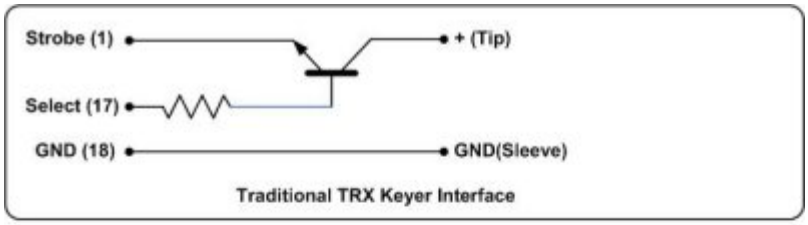
Available informations on LPT port

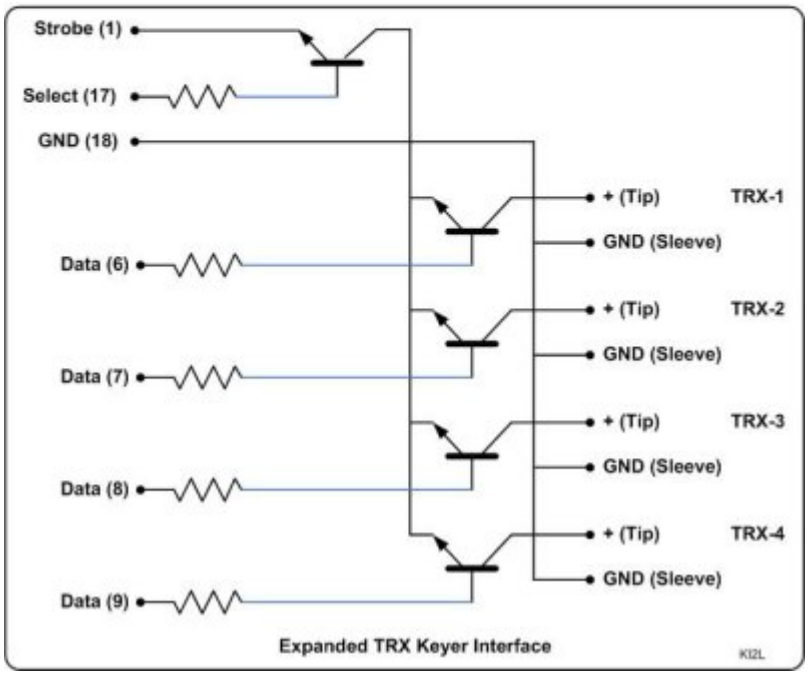
If SO4R is checked, TRX-Manager sends the Operating transceiver 's number as follow:

- Pin 14: High = TRX1, Low = TRX2, High = TRX3, Low = TRX4 (CT/WL/TR format).
- Pin 2-9, depending on the a b c d flags of the band decoder, the corresponding pins are activated at a high level as follow: a = TRX1, b = TRX2, c = TRX3, d = TRX4. The purpose of a b c d flag is to indicate which rig is operating and can be set ON for each band ; of course only one pin will be activated at the same time: the pin corresponding to the Operating transceiver abcd means the 4 rigs may be set on. 0bc0 means only rig #2 and rig#3 may be set ON. etc... If you use rig#1 on all HF bands and rif#2 on VHF bands (including 6m), you may have a000 from 160m to 10m and 0b00 for 6m to 70cm... If you use rig #0 or rig #2 on all bands, you will have ab00 on all bands but only one pin will be activated depending on which rig is Operating.

Example by Bob KI2L : A multi-radio LPT Keyer Interface.

One of the challenges when operating TRX-Manager's SO4R in CW mode is that the keyer is designed for a single radio setup. You have to move the keyer jack manually between radios... not very convenient. Bob designed a 4 rigs LPT keyer interface: the design is simple, replicates the LPT keyer once for each data line used in the band decoder that indicates which trx is in use. These are pins 6,7,8,9 by default, representing trx 1,2,3,4 respectively. The emitter of each keyer transisor is however, driven from the collector of the original LPT keyer interface.





Multikeyer interface by Bob KI2L

Example 2 : Controlling the state of your linear amplifier

A specific PIN of the LPT port may be assigned to control the state (Standby/Operate) of your linear amplifier. Of course a very basic interface (transistor, reed relay) has to be built between the remote ports of your transceiver, your linear and the LPT port since TRX-Manager does not control your amplifier directly!

The purpose of this sample is to control the state of your amplifier while you are running TRX2.

- SO4R must be checked (Setup/TRX1) and a parallel band decoder available and properly configured
- Band Decoder must be checked (Preferences/Transceiver while running TRX2 as Main transceiver).
- Example: you choose PIN 7 for this function (you may choose any PIN between 2 - 9).
- PIN 7 has to be wired to control the linear relay line between your transceiver and your amplifier
- Settings for the Band Decoder (under Setup/BAND DCD):
  b flag is assigned to TRX2 by TRX-Manager (PIN 7 uses position #6)
  160m = 1000a0cd => PIN 7 at low level => Standby
  20m = 1010abcd => PIN 7 at high level => Operate for TRX2

See also : Linear Reminder

Support for registry files

If SO4R is checked, TRX-Manager searches for TRX1.REG to TRX4.REG registry files in its

main program folder. If a TRXi.reg file is found the registry keys are set up for the corresponding transceiver (TRX1.REG for TRX1... - TRX4.REG for TRX4). This function makes it possible to switch parameters for an external program, a sound card, etc...WARNING : On VISTA/W7/8/10 this feature only works if you run TRX-Manager with Elevated Administrator Rights : "Run as Administrator" checked.

Drag and Drop

TRX-Manager provides fast transfers of frequencies by using drag and drop.

How to ?

The drag and drop feature is possible from/between some windows or labels. You only have to hold the left mouse button and to drag the corresponding icon and to drop it into an another label or window.

If a window doesn't allow dropping a frequency, the mouse pointer changes as follow : 

Windows supporting drag and drop

The drag and drop is supported by the following windows :

- Monitoring (Receive frequency's display, VFO A, VFO B, Channel)
- Sub-Transceiver panel (frequency display)
- Quick Memories
- Channels
- S.W database
- Commands panel
- Web Cluster
- Terminal
- Recorder
- Logbook
- DX-Map
- Remote
- Logbook (Data control)
- Status bar (to a second transceiver)
  Note that some of theses windows only support dropping a frequency.

Some examples of use

You will find certainly various applications but the most obvious are the followings:

- Fast loading of the channels and dynamic use of the channels with spots of a cluster,
- Fast loading of frequencies from the Monitoring to the S.W. database window,
- Adding a QSO in the logbook from any DX-Spot window (the Spot must be dropped into the datacontrol located in the lower area of the logbook window)

PTT Switching

By default, TRX-manager uses a CAT command for RX/TX switching and you don't have to configure PTT switching!

However, if this CAT function is not supported (IC-706MKIIG is a typical case), PTT Line switching is possible via the RTS or DTR line of a serial port (CAT or CW Port). In addition TRX-Manager provides a way to read the state of the transceiver's PTT line by using the DSR or CTS line of same serial serial port (TX Interrupt option).

What is the use of these functions ?

The PTT switching feature allows you, if necessary, to separately switch the PTT of a transceiver which does not support the corresponding CAT command. Moreover, in the case of use of preamplifiers or linear amplifiers, it can be preferable to have a separate switching circuit so relays can be transferred before actual transmission is started.

You have to wire an interface (see CW interface for some diagrams).

The TX interrupt (advanced) feature makes it possible for the program to detect a manual switch into TX and thus to stop certain functions such as a CW sequence or a loop (in connection with Voice Keyer Express).

PTT Time Out option (all rigs)
From Preferences, under Transceiver tab, a PTT Time Out option is available (after a specified delay in seconds).

PTT switching
Under the Parameters/Setup/TRX1 tab, PTT frame, you have different options to control TX/RX switching:

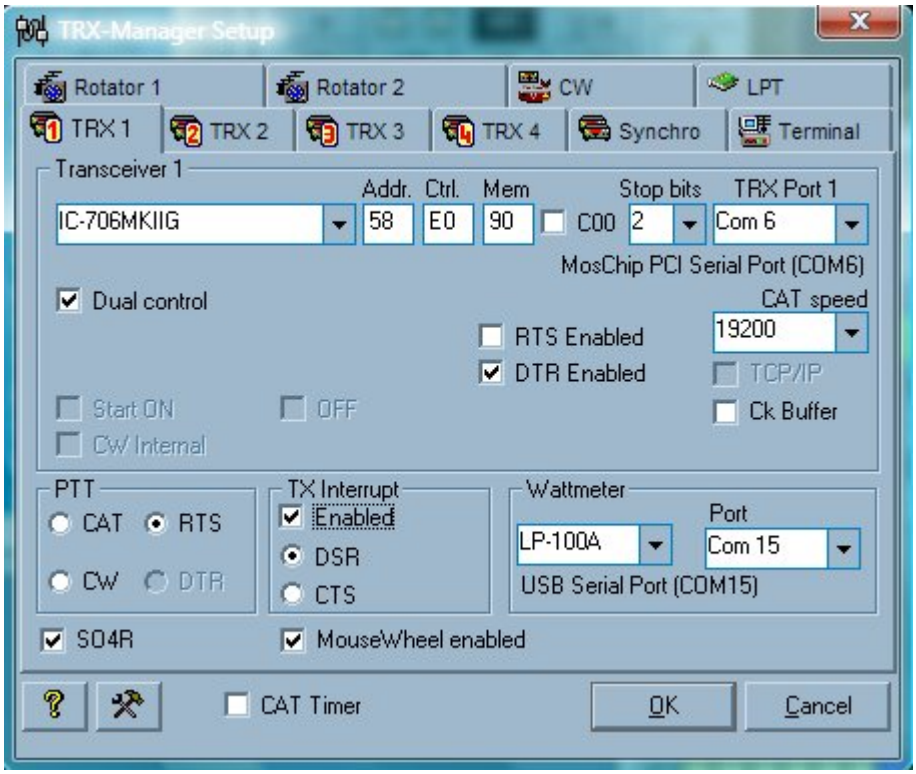
- CAT (default) is usually checked if the RX/TX command is supported by the CAT/RS232 protocol of your transceiver (please see its manual). This option sets TX/RX by direct CAT control,
- if DTR (or RTS) if checked, the program sends the TX/RX signal to the DTR (or RTS) line of the transceiver's serial port. In that case, you have to disable the corresponding line of the RS-232 interface under the Transceiver frame (see notes) to make these options available,
- CW if checked, the program sends the TX/RX signal to the unused line of the CW interface's serial port (i.e : if you key CW via DTR, RTS will be the PTT line...). Of course, if you key CW via the transceiver's serial port, this option is not available...

Notes

Generally RTS and DTR lines are not required by the RS232 protocol to control the transceiver but you may have the following cases : (1) One line may be required to power ON the interface: in that case, this line (RTS or DTR) can NOT be used for PTT Switching (see the documentation of your interface). (2) If your transceiver requires the RTS/CTS line for Handshaking (Kenwood and TenTec) you can NOT use RTS for PTT Switching (or CW Keying). Whatever the option you choose for PTT switching, the TRX-Manager's CW interface sends a TX/RX signal to its unused line (DTR if you key RTS, RTS if you key DTR...) for compatibilty with

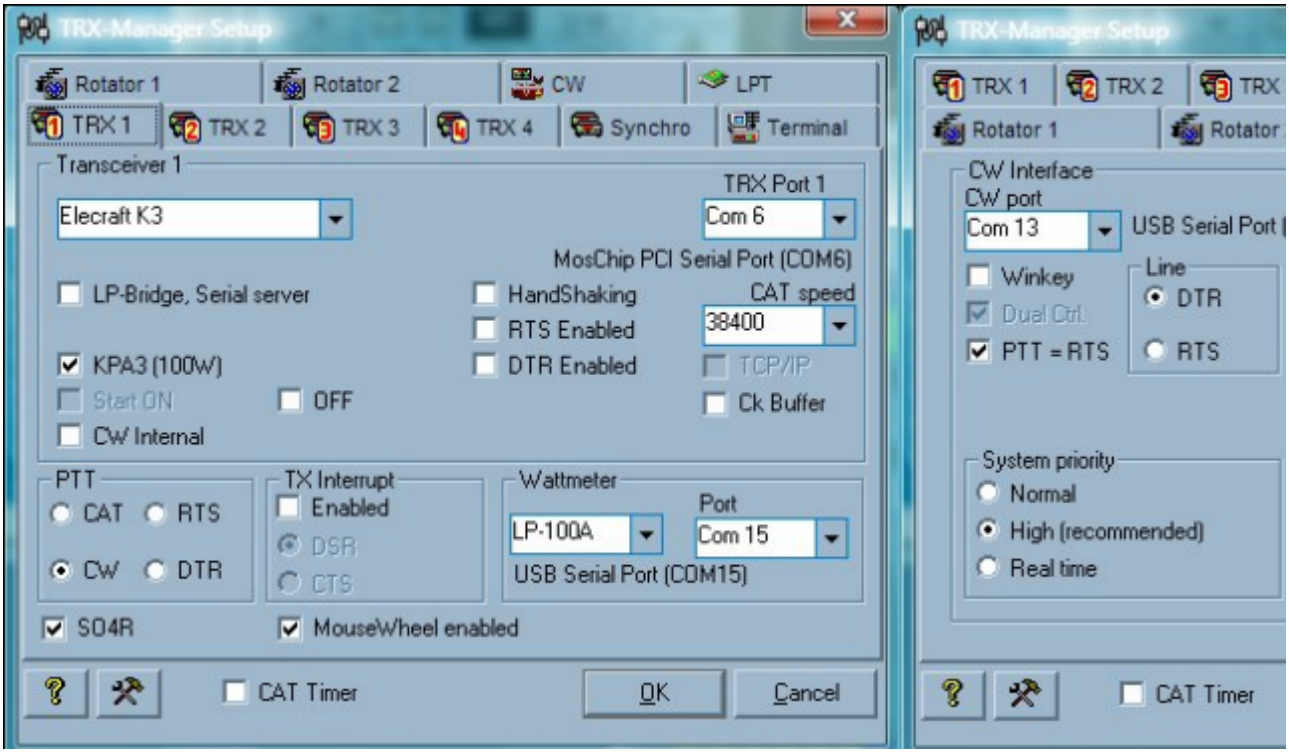
Rigblaster or other similar devices. See also CW Interface settings for more information,
If you must key the transceiver's PTT line via DTR or RTS but using a different com port that the one used for CAT control, please check the CW Option (PTT via CW Port). In that case, you must set up the CW interface (even if you don't use it) and open the Keyer module in order to activate the corresponding com port (see CW Interface settings for more information),
Under Windows ME, please see the Troubleshooting/Serial port section for more information about the DTR and RTS lines.

Example 1: CAT on COM 6, PTT Keying using COM6's RTS



Interface's RTS line is not used and free for PTT Switching
RTS line is used to switch PTT
DRS line is used to detect a TX Interrupt condition (advanced)

Example 2: CAT on COM 6, PTT Keying using RTS Line of COM13 (CW Port).



PTT Keying is selected using the CW Port
CW Port is COM 13, CW Keying uses DTR
PTT Keying is done by RTS on COM13

How to toggle from RX to TX (PTT)

Switching PTT ON/OFF is possible from the Monitoring window: Key button or K from the keyboard. Moreover, the CW interface features an Auto TX feature.

TX Interrupt (advanced)

The TX interrup line allows detection of the RX/TX state via the DSR or CTS line. It is set up for each transceiver as follow :

- The Enabled check box (TX Interrupt frame) is usually not checked
- Otherwise, you activate the TX Interrupt function by the one available circuit DSR or CTS (often the CTS line is used by the RS-232 interface and is not available for this feature).

Notes

Do not check the TX Interrupt option if you don't need if because if your RS-232 interface uses one of the DSR or CTS lines, the program could interpret this condition as a TX command
The TX Interrupt circuit must be electrically independent of the PTT line. If both PTT and TX Interrupt are mixed, the program will not be able to distinguish a manual switching from a switching via CAT (the effect is to lock the CW interface or VKE).

Synchronizations

TRX-Manager can synchronize between the transceiver under the control of TRX-Manager and any external device or software such as:

- Via RS232 with a logging program with CAT Control (i.e PowerSDR-IF which supports Kenwood ICOM K3 protocols). A port mapping software is required or a null modem cable and two free serial ports,
- Via TCP/IP with any application or device which supports the TRXNET (TCP/IP) interface (ie HAMLIB, WSJT-X),
- Via RS232 with an external accessory such as : Tokyo HP, SPE, ICOM PW1 amplifiers, ACOM600S, KPA500, Antenna Tuners.... The generic Kenwood protocol can be used if the native protocol is not supported,
- The SteppIR controller (supported with a specific setup and using the native protocol)
- The HAMLIB NET server (via a TCP/IP link)
  From Setup, you can choose to synchronize up to 8 different controllers from Synchro-A and Synchro-B tabs: e.g a SteppIR beam, an amplifier, a software and an antenna tuner. Please note, controllers #2 to #8 (Synchro B tab) are restricted to the Kenwood protocol, TRXNET and some other devices (SteppIR and some others are not selectable from Synchro-B).

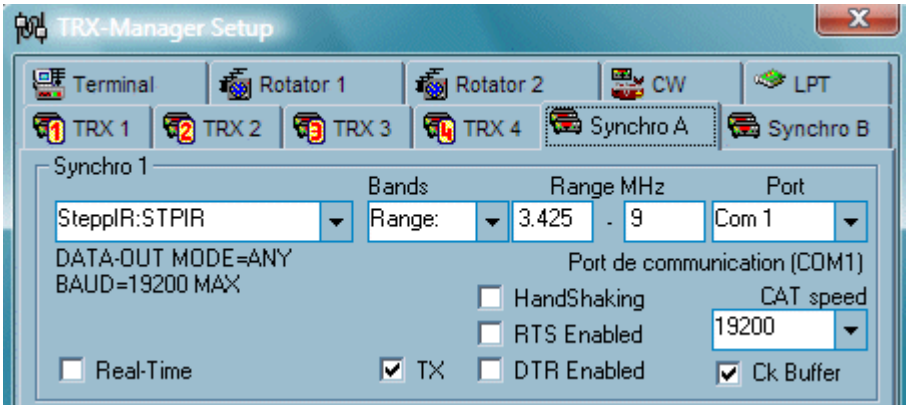
The Synchronization has to be enabled for the current transceiver by checking SYNCHRO under Preferences/Transceiver, Misc tab (see Settings below). By default, synchronization follows the Main transceiver only. However, if SO4R is checked, synchronization follows the Operating transceiver provided Synchro is enabled for this transceiver.

See also

Amplifiers
Band Decoder
OLE Link
Synchronization with N1MM (N1MM+ UDP Broadcasts)
Digital modes
TRXNET (TCP/IP) Protocol
ADIF Capture

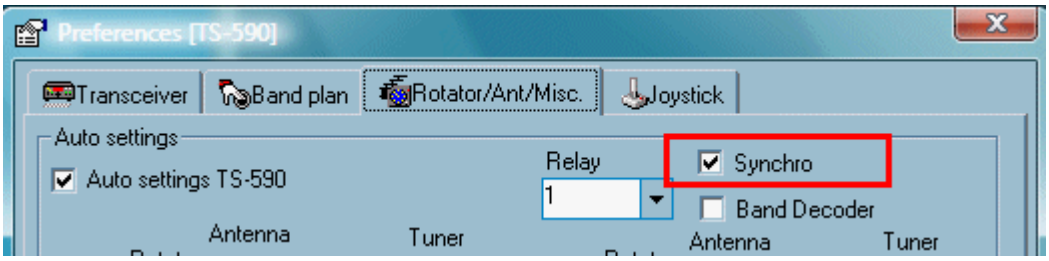
Settings

1) Synchro A tab of Setup (Synchro 1 or Synchro 2) must be set up with the desired Protocol (ICOM, ICPW1, Kenwood, SteppIR, K3...), Serial port and Speed (if applicable).



Synchro for SteppIR (native mode) selected for Com1/19200 bds (Synchro A)

2) If more than 2 controllers are required, you fill in Synchro B tab for up to 6 additional com ports (restricted to some controllers).
3) Synchronization is ONLY activated (and effective) for the transceivers for which the Synchro option is checked under Preferences/Transceivers/Rotator...



Synchro option - if required - must be checked for each transceiver (Preferences)

4) By default the Synchronization is only activated for the main transceiver. If SO4R is checked (Setup/TRX1), synchronization is also effective for the sub-transceivers (provided the Synchro mode has been activated for these transceivers).

Synchronization starts as soon as you start the program and for the whole session. If the synchro port is already in use or not found and/or a Synchro mode fails to initialize, an error message is displayed in the status bar.

The Operating/Synchro indicator (Monitoring Sub Transceiver panel ...) can be used to confirm that the Synchro mode is activated for the Operating transceiver. Op is Green when the corresponding transceiver is selected as the Operating transceiver. Op blinks in Red when synchro commands are sent to the controllers: 

Notes

- Synchronization does not work if TRX-Manager is minimized (reduced in the task bar). Please maximize TRX-manager and launch the Monitoring to activate the synchronisation.

Synchronizing a SteppIR antenna

While an Y-Cable may sometime be used to synchronize a SteppIR controller and a transceiver under the control of a logging program (with mixed results), TRX-Manager allows much better control by implementing a special tracking algorithm and providing an exclusive connection between the controller and a dedicated serial port.

A free serial port (defined under Synchro A tab) and a null-modem cable (as the one supplied by SteppIR) between the computer and the controller are required. An RF choke is recommended on all cables connected to the controller since the transceiver interface is sensible to RFI.

The Synchro A-1 tab provides three choices:

- STEPPIR:KENW:This selection uses the Kenwood protocol. Consequently, you must configure your controller for KENW mode and (preferably) 19200 bauds. You must connect the cable to the DATA-IN connector. This mode allows frequency tracking by generating Kenwood FA and IF commands,
- STEPPIR:STPIR (recommended): Synchro 1 only for full support. This selection uses the native SteppIR protocol. This mode allows remote control of the antenna from the SteppIR Window (to open from the Tools/SteppIR sub menu). You must connect the cable to the DATA-OUT connector and select any speed up to 19200 bauds from the Transceiver Interface menu (any Mode may be selected if you use the DATA-OUT connector). Ck Buffer checked is recommended in that case (the program checks for an empty buffer

before each command: the SteppIR's buffer beeing very small, this reduces the number of collisions and errors but the program may lock up with some comm drivers like Prolific).

- STEPPIR:DLL: STEPPIR:DLL is identical to STEPPIR:STPIR (native protocol, data-out) but the driver is totally different and totally outside the main program. This may help in some cases if your controller does not run properly with :STPIR.
  The Synchro A-2 tab provides the STEPPIR:KENW and STEPPIR:STPIR selections but with limited functionalities (no graphical interface, no SteppIR window).

Some options are provided from Setup (and from the SteppIR window):

- REAL-TIME NOT checked (recommended) updates the controller only when you STOP tuning (after a 2s delay) and avoids any RF noise generated by the stepper motors to happen during scanning. REAL-TIME checked updates the controller as soon as you tune the rig.
- BAND: Synchro may be enabled for all bands (ALL), a specified range of frequencies (RANGE) or a specified antenna ANT 1-4 (this last option requires your transceiver can transmit the selected antenna to the computer and it is not compatible with sub-transceivers and REAL TIME),
- TX (checked) : Synchro follows TX Frequency, Unchecked RX requency
  Once configured, the SteppIR controller must be set up for General Coverage Mode ; at this point a POWER OFF/ON sequence is recommended to reinitialize the communications.

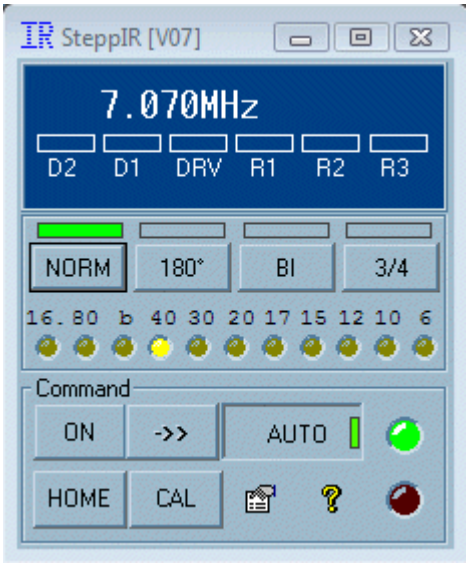
However, don't forget to activate the SYNCHRO mode for the current transceiver (if needed) from the Preferences/Transceiver/Misc tab.

By default, Synchro follows the TX frequency (or RX if TX unchecked) ; >> STEPPIR flashes in Monitoring confirming that new data has been sent to the controller ; if the controller does not follow, make sure Split is OFF! Near the middle of each 10KHz segment (xx.xx5 MHz), changes of less than 2KHz are ignored (1KHz below 7.5 MHz); this "hysterisis" avoids frequent and undesired tuning of the controller near the limits of a segment.

Ck Buffer checked is recommended with STPIR. If checked, the program checks for an empty buffer before sending any new command. This reduces the number of collisions but the program may lock up with some comm drivers (like Prolific).

The SteppIR window

The SteppIR window opens from the Tools/SteppIR submenu and provides various functions and displays (Synchro A-1 only).



SteppIR Window (DATA-OUT)

AUTO engages an auto-tracking mode (the antenna follows the operating transceiver). In some cases of operation (i.e. reversing TX/RX while Split is ON) you may find necessary to unchek the Auto button to disable frequency tracking (however, Auto OFF keeps the controller connected).

->> allows a manual update of the controller (including outside of the defined frequency range).

Additional options are provided from the Options dialog:

- Set OFF VOX allows setting OFF VOX while tuning for SSB and/or CW (only if your transceiver provides the corresponding CAT commands),
- Correction for 8.50MHz to 9.20MHz fixes a firmware's bug which does not accept frequencies between 8.50 and 9.20MHz (allows acceptable tunings for SW listening: 8.5-8.85=8.5MHz, 8.85-9.2=9.2MHz). This problem has been fixed by SteppIR for the most recent firmware.
- Polling interval (ms): delay in ms between status commands. 1200ms is the default. If your interface locks up frequently, please try to increase this value.

Notes

If the current frequency of the antenna is not displayed, press the ON button to wake up the controller,
If you use STPIR mode and connect the cable to DATA-IN, frequency updates are processed by the controller but the SteppIR window is NOT usable (commands are inoperative),
In native mode (connected to DATA-OUT), if the controller does not track properly or COMM ERROR is displayed... please try switching On the Transceiver Interface (using the ON button) or the Controller's Power button to resume normal operation,
If COMM ERROR appears too often, please try to uncheck REAL-TIME and to increase the polling interval (up to 3000ms).
Defaut for Stop Bits is 2. In some cases it appears working better with Stop Bits = 1.

SteppIR: Limitations

The SteppIR controller firmware is limited to due to the lack of memory space on the processor/buffer - THEREFORE - some functions like HOME or CALIBRATE do not always work as expected. PLEASE note the appropriate information in these instructions:

If the controller opens Setup while you press Home or Calibrate on screen please switch Power Off/On on controller to resume (a power OFF/ON sequence is always recommended before you start any communication),
If Calibrate retracts elements and stops here, press Interface to re-enable the transceiver interface.
Interface does work between ~8.55MHz and ~9.15 MHz (see options, depends on firmware)
The first time 12v is applied to the controller AMATEUR and GENERAL FREQ settings may be shifted (depends on firmware) : workaround is to select AMATEUR mode before you select GENRERAL FREQ
The null modem cable must ABSOLUTELY have no connections other than pins 2,3 and 5. SteppIR put signals used for test and alignment on the other pins and USE OF A STANDARD "FULL HANDSHAKE" NULL MODEM CABLE WILL FAIL.

RS232 Interface : with a third party software or an accessory

Se also

Linear amplifiers ACOM Elecraft supported with a specific protocol (instructions below do not apply)
ICPW1 (see below)
OMNIRIG Setup by Alex VE3NEA : an other efficient alternative to share com ports between

software

Principle

The principle is the following: for the serial port selected under the Synchro A or B tabs, TRX-Manager behaves like a Kenwood TS-690 or a generic ICOM or a K3 transceiver (according to your choice) WHATEVER the rig under the control of TRX-Manager. You must connect this serial port using a null modem cable to the unit (or the software) configured for using the same protocol (Kenwood / ICOM / K3... according to your choice).

Of course, the corresponding unit or software must support one of these protocols (Kenwood/ICOM/K3). The Kenwood protocol is recommended in most cases and you must select TS-690S (eventually TS-450S) as the Radio from your third party program or your device whatever the transceiver you are using ! The communication speed of the connector must be the same on both sides of it however, it can be totally different from the speed used to control your transceiver. A speed of 38400bds is generally recommended for the connector.

Warning

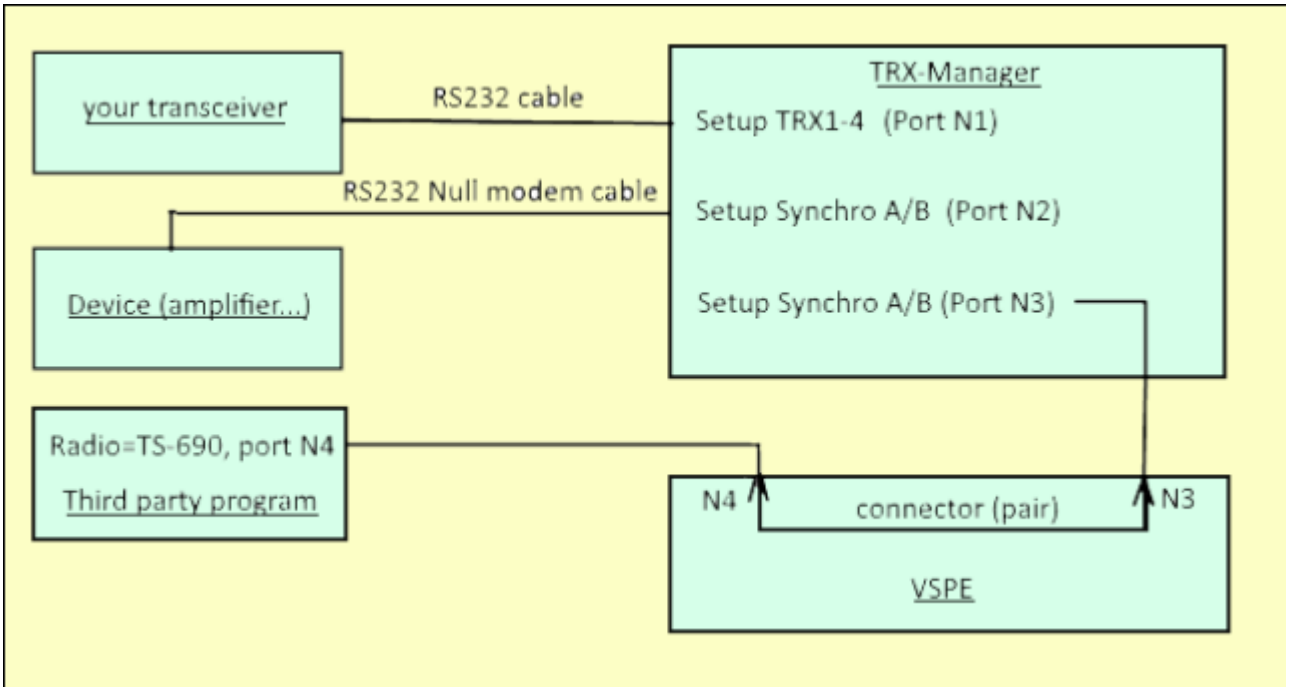
The synchro port is NOT (and NEVER) the serial port from which you control your transceiver. This is a specific free (real or virtual) serial port.

Remember

TRX-Manager must be MAXIMIZED to activate the communications with your transceiver with the Monitoring open.

In addition, if the controller is a software running on the same computer (a logging, digital or a contest program...), you can NOT connect both programs to the same com port and you need a real or virtual connector between both programs :

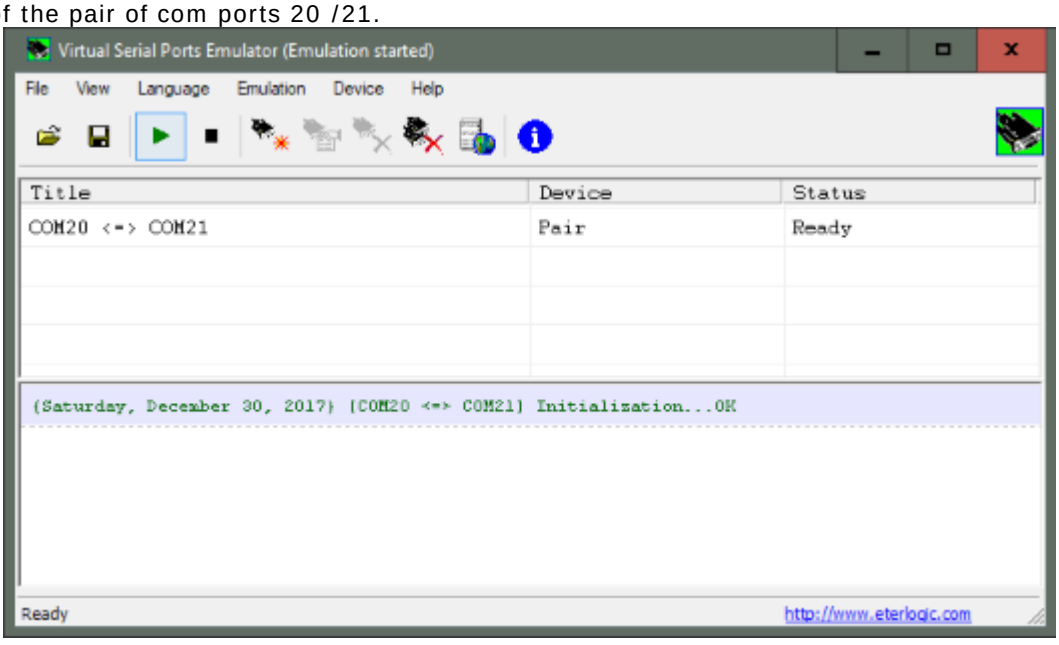
- a real connector = a free serial port for which your program is configured and a null-modem cable (the connector) for the connection to the TRX-Manager's synchro port
- a virtual connector = a serial port mapping software like ETERLOGIC's VSPE from which you create a connected PAIR of virtual com ports which serves as a bridge between TRX-Manager and your third party software.



Connecting scheme between TRX-Manager, your transceiver, a device and a third party software

Step by step instructions for the configuration of VSPE with a third party program

Download and install VSPE. The 32 bits version is free, the 64 bits version is sold for a small fee but can be tested freely : [ETERLOGIC's VSPE Service (Virtual Serial Port Emulator)]
From VSPE, create a connector consisting of a PAIR of Com ports (Device/Create/Pair - emulate baud rate NOT checked). Make sure to choose INEXISTENT com ports (just check for inexistent com ports in your device manager). In this example, ports 20 and 21 are defined in VSPE.
Open TRX-Manager and Setup. From the Synchro A or Synchro B tab, select Protocol = Kenwood, select com port = 20 (depending on your choice in VSPE), select a speed : 38400 is fine. Handshaking (HSK) preferably not checked
Open your third party program and from the Radio setup dialog, select Radio = TS-690S (or TS-450S if the 690 is not implemented), choose com port = 21 (depending on you choice in VSPE, select the same speed than in TRX-Manager
Maximize TRX-Manager and open the Monitoring window
Now TRX-Manager and the third party program are communicating using the connector consisting of the pair of com ports 20 /21.



VSPE Scren with the 20/21 pair of com ports

Notes :

It is possible that your third party software requires Handshaking with a Kenwood transceiver. If the communication fails, you may try to select Handshaking (HSK) checked in TRX-Manager.

However, it is recommended to try first with Handshaking (HSK) NOT selected (sometime labelled CTS).
You can automate the configuration of VSPE at startup using a command line (see the VSPE's documentation)
VSPE can also be started as a service using NSSM (Non-Sucking Service Manager)
Example :

You control an FT-1000MP with TRX-Manager and COM1. Your logging program is configured for a Kenwood TS-690S and COM21. TRX-Manager's Synchro A tab is configured for Kenwood and COM20. COM20 and COM21 are connected using VSPE. Now TRX-Manager is under the control of your logging program like if it is a Kenwood TS-690S transceiver... while it controls your FT-1000MP.

Kenwood mode

This mode can be selected to synchronize a third party software (logging...) or a device for which no other protocol is available.

If you select Kenwood under Synchro A or enable any of the 6 available com ports under Synchro B, TRX-Manager behaves like a basic Kenwood transceiver : TS-690S (or TS-450S or similar) for the defined serial port. A null-modem connection must be used to connect the controller (i.e an other computer running a logging program or any device such as amplifier, antenna tuner...).

Recommended setup for the third party software or device is Kenwood TS-690S. Supported settings are:

- Speed 4800 Bds, StopBits = 2, Parity None, Protocol (Handshaking or CTS) = None
- Speed 9600-57600Bds, StopBits = 1, Parity None, Protocol (Handshaking or CTS) = None

Notes about Handshaking and speeds

In principle, Kenwood transceivers require Handshaking with speeds above 4800Bds. However, if your third party program supports the Kenwood protocol without Handshaking (sometime labelled CTS), it is recommended to let it OFF. If the communication fails you can try to activate Handshaking (HSK) from TRX-Manager.

Sometime speeds above 4800Bds can not be selected with a TS-690S.

TRX-Manager automatically notifies its status changes using the IF string (if auto-information is set on). AI, IF, FA, FB, FR, FT, FL, FN, SP, MD, SM, ID commands issued by the controller are processed.

ICOM & ICPW1 mode

It is best to select this mode to synchronize an external ICOM compatible device. If you synchronize an ICOM IC-PW1 linear amplifier, it is recommended to select ICPW1 (Synchro-A only).

TRX-Manager behaves like a generic ICOM transceiver (IC-725 IC-726 or similar) for the defined serial port. A null-modem cable must be used to connect a computer (i.e to synchronize a logging program...) while a normal (straight) cable must be used to synchronize an ICOM compatible device (Transceiver, Amplifier...) at a TTL level through a CT17 (or compatible) interface.

Supported settings are: Speed 4800-57600 Bds, StopBits = 1 or 2, Parity None, Protocol = None. Transceiver's address and controller's address (generally E0 or 00) must be specified

and match the transceiver's address defined from the controller.

TRX-Manager automatically notifies mode and frequency changes (like an ICOM Transceiver with TRANSCEIVE set ON). It supports control of Frequency/Mode/Split/TX and SMeter polling. If you need more advanced features, please use the Kenwood protocol.

Notes

- Do not select IC-735 (frequencies are transmitted on 4 bits instead of 5)
- Not all ICOM transceivers support TX, Split and SMeter. Your controller may limit these functions depending on the selected transceiver.

ACOM600S

Please see specific instructions for ACOM Amplifiers

KPA500

Please see specific instructions KPA/KAT500

K3 mode (only with NaP3 and PowerSDF-IF Stage)

If you select K3 (Synchro-A only), TRX-Manager behaves like an Elecraft K3 transceiver on its Synchro port. This selection should be only used to synchronise PowerSDF-IF Stage or NAp3 and TRX-Manager (LP-Bridge not required in that case).

Note

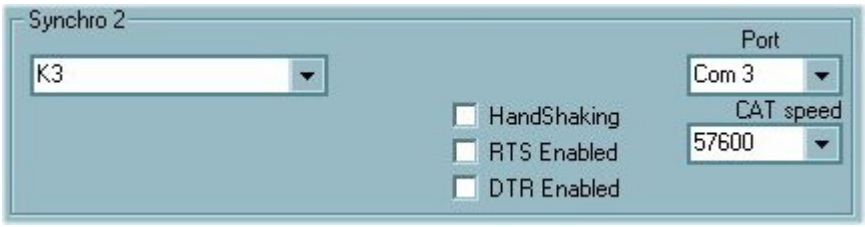
TRX-Manager's K3 synchro mode does not behave 100% like a K3 (useful commands but not all are supported) and it is NOT a bridge either, however, it is running much faster than a bridge since it does not poll the transceiver and uses internal data.

It is NOT recommended to use this protocol to synchronize a logging software but only to synchronize Power-SDF or NAp3. Indeed some commands sent by a logging sofware which are not supported by TRX-Manager may cause a lockup or a malfunction.

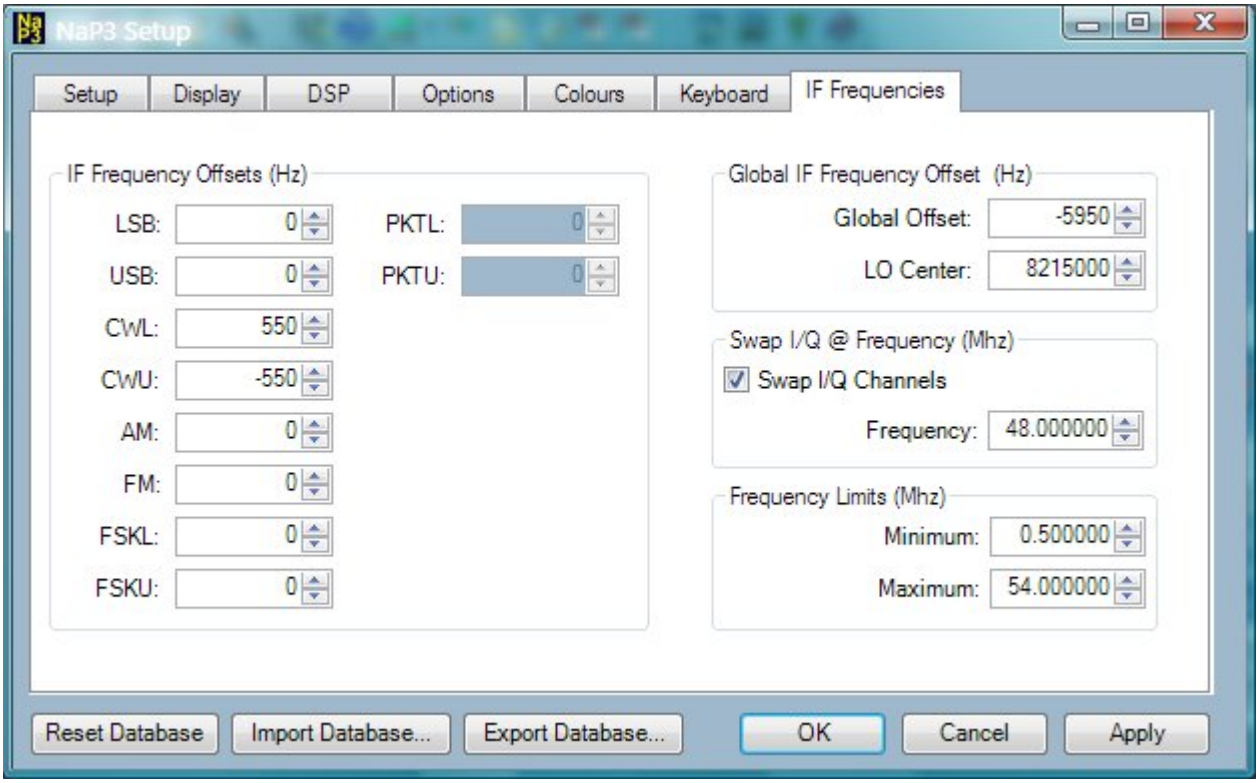
Supported settings are:

- Speed 4800 Bds, StopBits = 2, Parity None, Protocol = None
- Speed 9600-57600Bds, StopBits = 1, Parity None, Protocol = None
- Basic format but FI command (Get) supported
  Example :

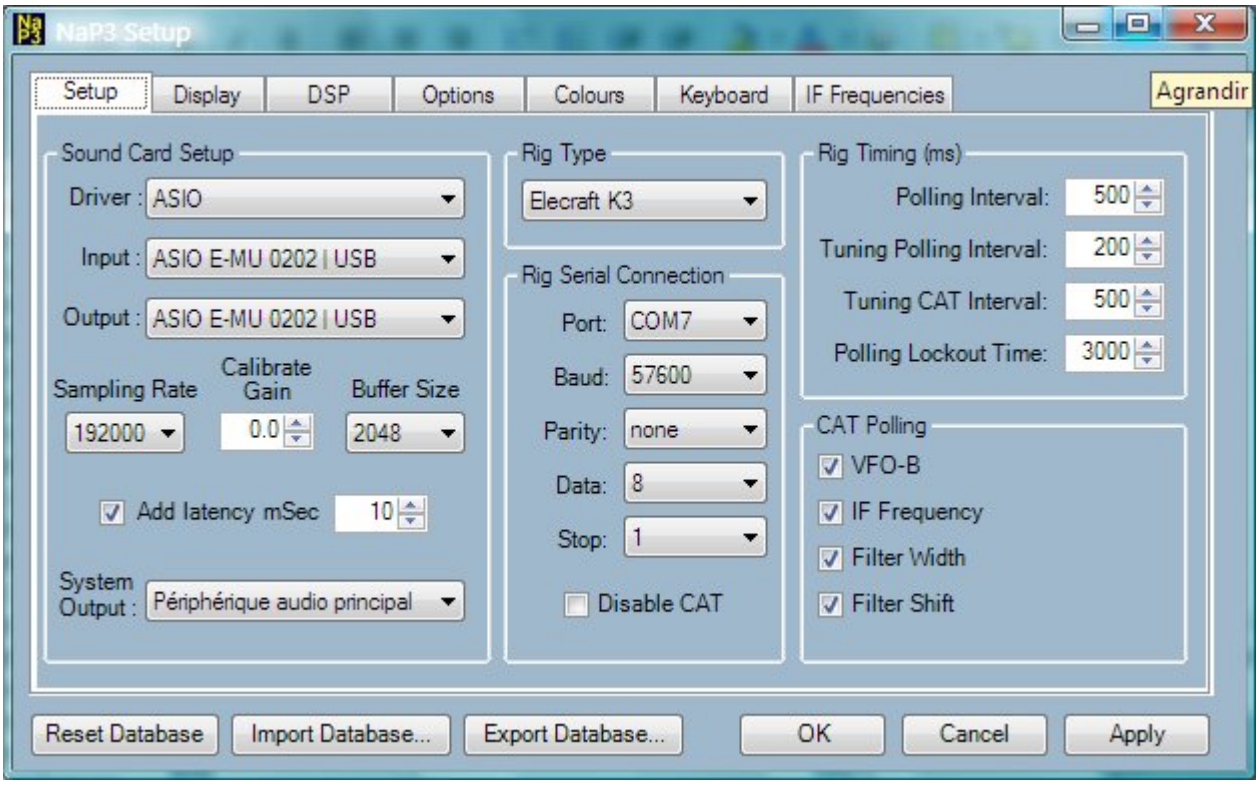
You control a K3 with TRX-Manager from COM1 (38400 bds).
TRX-Manager's Synchro tab is configured for K3 and COM3 (57600 bds).
NAP3 is configured for Setup = Elecraft K3, COM7 (57600 N 8 1), Poll:IF and Poll:VFOB checked.
COM3 and COM8 are connected using a null-modem cable or VSPE. Now TRX-Manager and NAP3 are synchronized...



TRX-Manager (Synchro tab)



With NAP3 + K3, All SSB Offsets = Zero
With [NAP3+TRX-Manager], offsets for CW and DATA modes have to be set (here CW = 550Hz) !
Global Offset = ~-6000 (to be determined).



NAP3 (Setup-IF panel): Note recommanded Rig timing with TRX-Manager

TCP/IP Interface (TRXNET)

Related Topics

TRXNET Protocol
WSJT-X (third party digital programs)
ADIF Capture (logging)

TRX-Manager provides a TCP/IP interface open to any development and usage (third party applications, your personal developments...). The protocol is similar to (and compatible with) the Kenwood protocol. The TRXNET Protocol includes extended functions for logging, rotator control... and also supports macro-commands from/to TRX-Manager. It is very simple to use and open to any development.

This interface is currently supported by HAMLIB (Transceiver model -m 5) and WSJT-X (WSJT-X only supports the radio interface).

To enable the TRX-Manager's TRXNET interface, select TRXNET under Setup/Synchro B tab (# 8 only) and restart TRX-Manager. TRX-Manager provides two ports 1003 and 1004 (not selectable). You can choose any of these ports or both if you have to synchronize with two different applications. From your third party application, configure the Network server with 127.0.0.1:1003 (or :1004).

Make sure the Synchro option is enabled for your transceiver under Preferences/Transceiver/Rotator/Misc. Open the Monitoring and maximize TRX-Manager : if TRX-Manager is in the task bar, CAT control is in iddle mode and synchronization is limited (by design).

See how to communicate with TRX-Manager using the TRXNET Protocol.

Note

It is imperative to maximize TRX-Manager (eventually in background), with the Monotoring open for synchronization to be running. When TRX-Manager is minimized (in the taskbar), all CAT communications are slowed down and synchronization is no longer active.

With a digital mode program, it is recommended to set AUTO-MODE OFF in TRX-Manager since the segments defined in the band plan may be NOT compatible with the various digital modes.

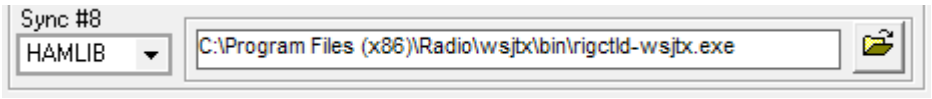
Synchronization using HAMLIB NET (HAMLIB's dummy rig) (Experts)

Related Topics

Configuring HAMLIB NET as Transceiver (a different approach, + more information about HAMLIB)
HAMLIB Online documentation
Synchronisation with HAMLIB through the TRXNET Interface (see above)

HAMLIB NET Server (or RIGCTRLD) is a server that provides CAT Control sharing over a TCP/IP network socket to different applications running at the same time. However, if HAMLIB NET is selected under Setup/Synchro B tab, HAMLIB does NOT really control your transceiver : TRX-Manager keeps the full control of your rig (as selected under Setup/TRX1..4 tabs) and uses the HAMLIB's DUMMY transceiver only to synchronize with with other software running at the same time. The advantage (over HAMLIB as transceiver) is that the comprehensive control of your transceiver offered by TRX-Manager is totally preserved.

The HAMLIB NET Synchro mode can only be selected from Setup/Synchro B tab (Sync #8). You have to indicate the location of the RIGCTRLD Software (HAMLIB NET server) on your computer using the Open/Browse button (please note that WSJT-X installs it as RIGCTRLD-WSJTX.EXE and other applications may use different names).



Synchro B tab (TRX-Manager)

TRX-Manager automatically configures the HAMLIB NET server at startup with RIG=Dummy (-m 1), IP = 127.0.0.1 and Port = 4532. You can NOT change these settings.

You have to start TRX-Manager FIRST and configure the third party application for HAMLIB NET with the same address and port.

The synchronization is limited to RX Frequency/Mode and RX/TX state. The RX/TX state has the higher priority. The Synchronisation only works with the main transceiver.

The HAMLIB NET server can be selected only once : either as a Transceiver (under Setup/TRX1..4) in which case it does really control your transceiver (but with very limited features) or as Synchro mode in which case it does not control your transceiver but acts as a "buffer" between various applications thanks to its Dummy transceiver.

Logging functions are not supported by the HAMLIB NET server. See Logbook overview

High Precision S-Meter

A high precision S-Meter is installed with TRX-Manager. It is a separate application (\TRX-Meter\ TRX-Meter.exe) running with TRX-Manager via OLE.

Features

The TRX-Meter program makes it possible to calibrate a digital S-Meter very precisely; to do so will be require a RF generator. If you don't have a generator, it is still possible to calibrate this S-Meter so that it reproduces the same indications as the transceiver.

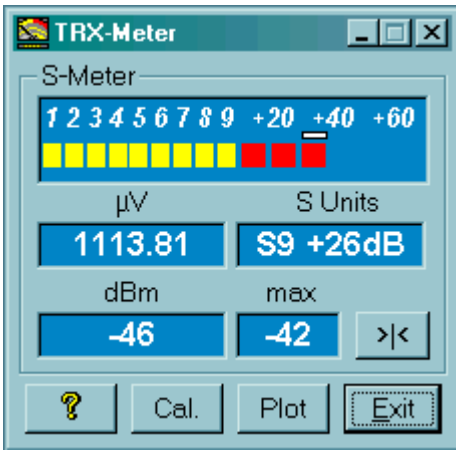
This program also makes it possible to plot directive patterns of antennas; automatic remote control of the rotor is supported (from V2.4.5 of TRX-Manager).

It should be noted that the calibration described here does not have any effect on the main S-Meter of TRX-Manager which may be calibrated (basically) from the Preferences dialog box, under Transceiver by simply moving a slider.

Running TRX-Meter

Please run TRX-Manager with OLE enabled (Setup) and run TRX-Meter.exe. The main purpose of this application is to perform measurements, it is preferable to close all the windows inside TRX-Manager but keeping it maximized : please note that TRX-Manager when minimized does not communicate with your transceiver !

The TRX-Meter's window displays the signal strength in S Units, µV (*) and dBm. The max value of the signal is displayed in dBm and can be reset by pressing >|<.



(*)50 µV = S9 below 30MHz, 5µV = S9 above 30MHz (See Table)

Calibrating

From TRX-Manager, the s-meter calibration slider (Preferences, Transceiver tab) must be

fixed and not changed. The values read by TRX-Meter are affected by this correction.

From TRX-Meter press the CAL. button. Calibration must be done for each S unit (from S1 to S9 and +10 to +60). For each button, set your RF generator according to the corresponding signal strength (value is indicated in µV), then press the button to poll your transceiver; the program is calculating an adjustment factor which will be applied to the read values.

You have to perform this calibration for each button; when you press OK, the program saves all the calculated factors as default values.

Please note that for a given transceiver, adjustment factors may be different according to the band, the pre-amplifier etc... It is useful to save these factors in separate calibration files (.cal as extension).

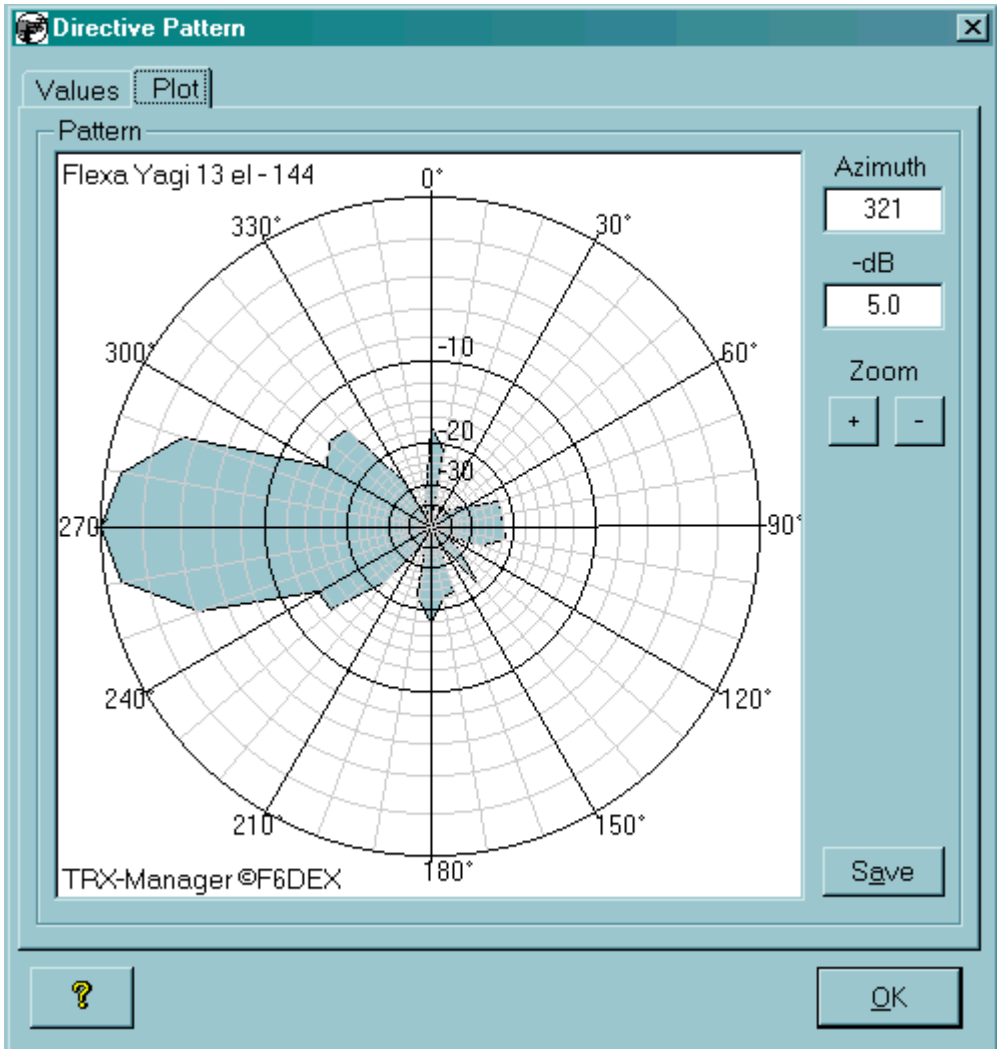
Directive patterns

From TRX-Meter, press Plot. The directive pattern of an antenna is drawn from different measurements of the signal strength done by step of 10 ° in azimuth. For each azimuth, set your rotator very precisely and press the corresponding button to make a measurement.

If your rotator is under the control of TRX-Manager, this process may be fully automated: press the Rotor button in order to control your rotator and press Auto to automate the measurements. After each rotation of the rotor, the program waits the specified delay and performs the measurement. The program does a full clockwise rotation (360 °) from any azimuth, it is important to set the rotator fully counterclockwise before beginning the process.

It should be noted that, because of inaccuracy of the remote control of the rotator, manual control gives more precise plots.

The measurements may be saved as ASCII files (.plo as extension) ; the directive patterns may be saved on BMP files.



This application has been written to the request and with the assistance of Funkamateur Magazine (Werner DL2RD).

Linear amplifiers - Overview

TRX-Manager makes the use of linear amplifiers easier by providing various functions to automate real-time operation.

Related Topics

ACOM2000A ACOM600S control

KPA500 KAT500

Alpha 87A control (TRX-Synchro)

Manual amplifiers (Linear-reminder)

Synchronization

Warning

If you encounter RFI (Radio Frequency Interference) on your computer, it can lock up while your transceiver is keying. Consequently, please always watch your transceiver's status and make sure you can stop keying manually in all situations.

Synchronization for band changes

If your amplifier provides a data input RS-232 ICOM or Kenwood compatible like the most recent solid state amplifiers (Tokyo HP, Expert 1K-FA, IC-PW1...), you may configure TRX-Manager in order to automatically control the band changes. Generally, a null modem cable must be used between the computer and the device under control (however, please the manual of your amplifier or this documentation under Synchronization for more information).

In addition, TRX-Manager supports some native protocols such as ACOM2000 & 600S, KPA500 with a dedicated graphic interface which provides access to the most important functions and parameters of your amplifier. See the manual of your amplifier or this chapter for more information. Other protocols may be added on demand.

Linear Reminder, OPR/STBY control, support for digital wattmeters

The Linear Reminder module can be used with a manual amplifier to display the Preset Tuning Settings (such as TUNE / LOAD values).

The Linear reminder module can also be used in conjunction with an LP-100 & LP-100A or ALPHAPOWER (4500) or Elecratft W2 Digital wattmeter and adds various functions and displays.

The Linear Reminder also provides a Standby/Operate function which may help to prevent from transmitting with the linear on certain prohibited segments or just after band changes. A specific wiring is required using relays...

Automatic Drive power/Linear control

Related Topics

Band Plan

If your transceiver supports setting of Power output via CAT, you can use TRX-Manager to automatically adjust the Drive power to the required values for the different bands. With a Kenwood transceiver or a KPA500, it is also possible to enable/disable the linear amplifier for specific bands.

Power output values and Linear options (by bands) are set from the Preferences/Transceiver/Rotor, Misc... tab. If power is left blank, no power control is done.

The Auto-Parameter check box must be checked to enable these functions.

Linear-Reminder - Operation

Even if you don't own an automatic - CAT controlled - linear amplifier, this little module can be very useful to help you using your manual amplifier (or your manual antenna tuner). The Linear Reminder provides the following functions:

- Alarm for band changes and cross-mode
- Display of preset values for Tune Load + 2 user defined fields (USR1 USR2) for about 260 segments between 1.8MHz to 55MHz
- Tune function : full power, reduced power, temporization
- Automatic Linear relay control (or state of transmitter) by Segments or Drive power
- Support for Telepost Inc. LP-100 & LP-100A ALPHAPOWER (4500) ELECRAFT W2 Digital Wattmeters, KPA500 (internal wattmeter)
- Gain calculation and Assisted Tune (for Experts).
  The Linear-Reminder only supports the Main transceiver; however, all options are memorized for each transceiver (TRX1..4).
  The linear reminder does NOT support Remote and OLE wattmeters.

The Linear-Reminder module opens from the Tools/Linear-Reminder submenu .

Warning

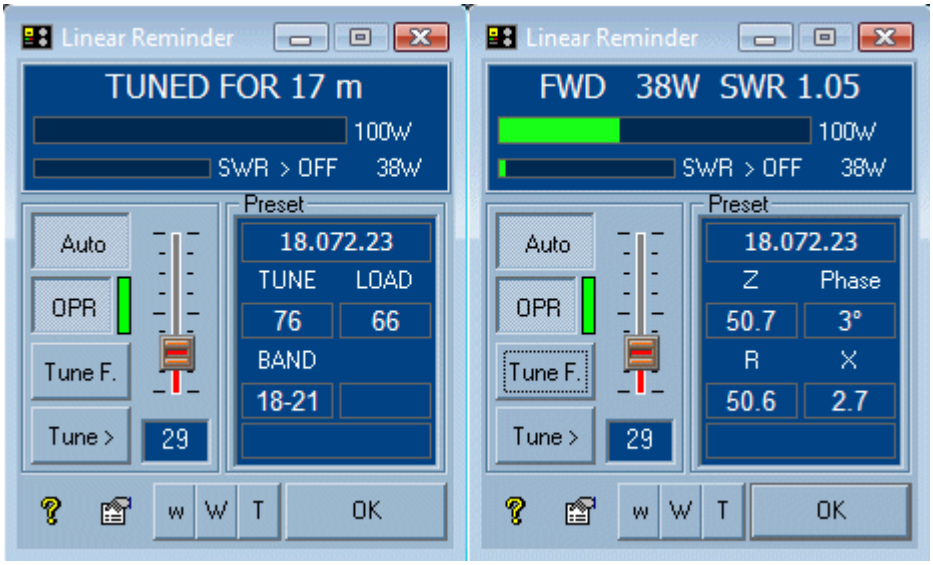
This module provides a timed Tune function. But in case you encounter RFI (Radio Frequency Interference) on your computer, it can lock up while your transceiver is keying. Consequently, please always watch your transceiver's status and make sure you can stop keying manually in all situations.

See also

Overview
Settings
Assisted Tune
KPA500

Functions

- AUTO : Set ON/OFF Alarm and automatic Relay Control after Band-Segment changes (Cross-Band Alarm remains ON whatever the state of Auto but OPR/SBY control is not activated if Auto is OFF)
- OPR: State (OPR/SBY) of Linear Amplifier or Transmitter (see below and Options), if supported
- Tune F. : Full Power Tune (power by default, see Options)
- Tune > : Reduced Power Tune (as set up from the Power slider)
- OK : Tuned (OK, acknowledge Button) = > set Alarm OFF
- : Options and Settings



Linear-Reminder (left=RX, right=TX with LP100)

OPR (Standby/Operate)

The Linear Reminder provides a Standby/Operate function (OPR). This function requires either:

- a relay inserted in the PTT line between the transceiver and the linear amplifier (to be controlled itself using the LPT port, see Settings)
- a recent Kenwood transceiver which allows controlling the state of the amplifier relay (pin 3, remote port) using a dedicated CAT function
- a KPA500

Automatic control of OPR/SBY is provided to prevent from transmitting with a linear amplifier on certain prohibited segments or just after band changes (forces standby after a band change) or even above a critical drive power. OPR controls and/or visualizes the state (Operate/Standby) of this function.

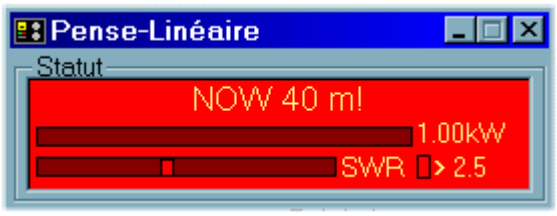
Note : If control of the linear is not possible, control of Vox or RF Power is also provided to prevent from transmitting on prohibited segments or after band changes.

Please see Options for more information.

Operation

Preset values for TUNE and LOAD capacitors (and eventually USR1 and USR2 if defined) are displayed for each segment according to your Options making tuning your linear easier and faster.

If Auto is activated, the Linear-Reminder warns you as soon as a band change happens or a cross-band condition is detected. If you use the OPR/SBY control function (see above and Options), your amplifier or your transmitter is disabled (= StandBy) while OK is not clicked.



Alarm !

When an alarm happens, please press OK to turn off alarm and re-activate the transmitter or the amplifier.

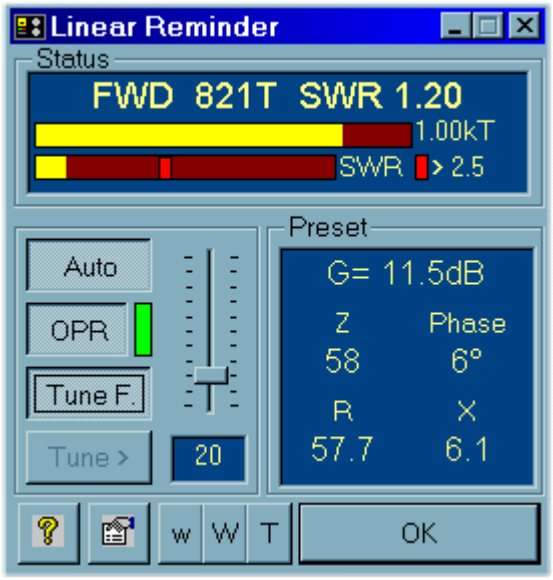
If Auto is NOT activated, only Cross-band conditions will be displayed as an alarm. However, in that case TRX-Manager does not perform any action on the relay or the transmitter.

When a Cross-Band alarm prompts, you can turn off Split to turn off the Alarm (or OPR if cross-band is needed).

Tune F. and Tune >provides a quick, timed tuning using full or reduced output power (according to your Options).

Digital Wattmeters

If a digital wattmeter LP-100 or LP-100A or ALPHAPOWER (4500) or Elecraft W2 is connected on your computer (to set up from SETUP/TRX1 tab), the linear reminder displays direct power (FWD) and SWR during the transmission. Maximal "wattage" during the last transmission stays displayed during RX.



Linear Reminder & LP-100

LP-100

w W T buttons allows fast changes of the measurement mode (see LP-100's manual). It is possible to scroll Alarm Set Pointvalues by double clicking the displayed value (<nnn). Depending of your Options for PTT SWR!, an SWR alarm stops the transmission (ONLY if you key down TX via CAT) and switches to STANDBY (see OPR/SBY function). However, please note the LP-100's PTT loop is ALWAYS faster than your computer.

ALPHA, W2

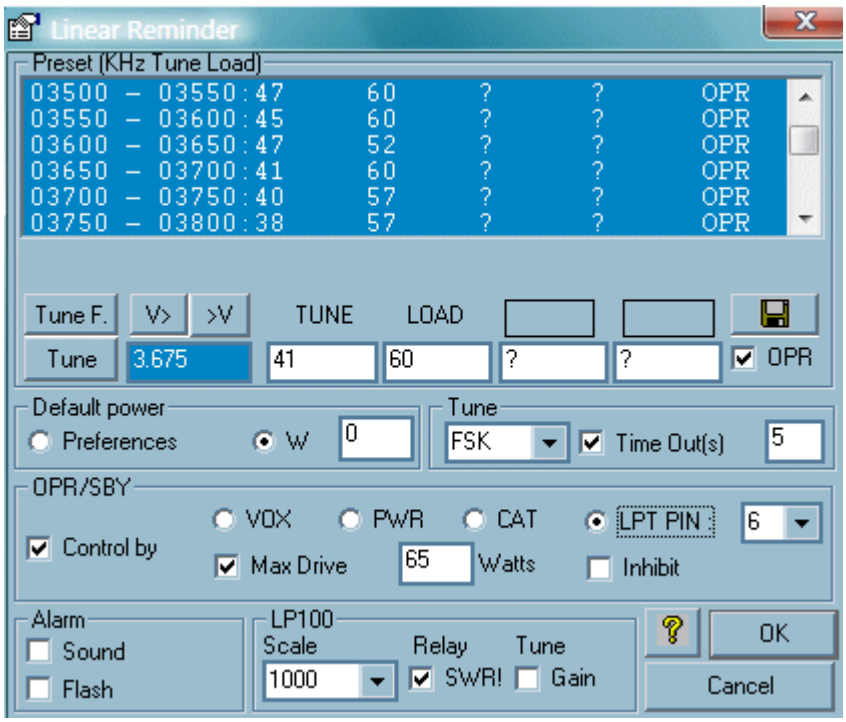
At startup, Alarm set point is fixed to 3.0. It is possible to scroll Alarm Set Pointvalues by double clicking the displayed value (<nnn). Depending of your Options for PTT SWR! a n SWR alarm stops the transmission (ONLY if you key down TX via CAT) and switches to STANDBY (see OPR/SBY function). RESET resets Autorange to 5W.

KPA500

If no Wattmeter is selected under TRX1, the KPA500's internal wattmeter is used.

Linear-Reminder - Settings

The Linear Reminder module allows numerous settings and configurations. From the Linear Reminder window, click to open the Linear-Reminder's settings dialog.



Settings dialog

Preset values

- TUNE, LOAD, USR1, USR2 define the preset values for each segment: please select a segment by clicking it in the list and edit it by filling in the corresponding text boxes with appropriate values. OPR check box activates (or not) the relay (or a warning) for the selected segment. Press to save the values.
- USR1 and USR2 labels may be modified by clicking in the corresponding labels. If you left USR1 or USR2 blank, corresponding preset values will not be displayed from Linear-Reminder.
- V> button reads the transceiver's frequency: the corresponding segment will be automatically selected and highlighted while you are changing frequency of your transceiver.
- >V button transfers the middle frequency of the selected segment to your transceiver.
- Tune F. and Tune tunes at full power or reduced power (depending on your options).

Tip

Thanks to the V and Tune buttons you can quickly edit the whole spectrum and test your values while you keep the Settings dialog opened (don't forget to cool down your amplifier after a Tune!).

Default power

This frame define the default power for TUNE F. (Tune Full Power)

- Preference: according to your options defined from the Preferences /Transceiver/Rotator...

- Or any preset value of your choice (in W). If the preset value = 0W, the program uses the current power as default.

> Warning
>
> It is recommended to set up a value compatible with your amplifier in order to prevent any overdrive (30W ~ 50W for most amplifiers).

Tune mode

This frame defines:

- The tuning Mode (FSK is recommended, if a Tune mode is implemented by your transceiver, TRX-Manager uses it),
- The Temporization for Tune in seconds.

OPR/SBY

If Control (Control by) is activated, the Linear Reminder provides a Standby/Operate function which may help to prevent from transmitting with the linear on prohibited segments or just after band changes or above a critical drive power. Control is provided either using a CAT function of the transceiver or a relay inserted in the PTT line (between the transceiver and the linear amplifier); this relay beeing itself controlled via a dedicated PIN of the parallel port defined under the band decoder settings (Setup).

You can choose Control by:

- CAT (or KPA) : This is the recommended option for TS-480/570/870/2000/590/990 transceivers. The CAT function controls the state of Pin 3 of the Remote port (LINEAR AMP function). KPA is displayed only if a KPA500 is set up: this option allows controlling the state of the amplifier using the KPA500's CAT commands.
- LPT: In that case, the Band Decoder must be defined in Setup for a parallel port and properly wired. You must indicate which PIN (2-9) of the parallel port you are using to control the relay (you select a pin not used by the band decoder itself: in the BCD codes of the band decoder you must indicate "-" for this pin instead of 0 or 1). By default the selected pin goes to a HIGH state while OPR is ON (Inhibit NOT checked) ; if Inhibit is checked, the pin goes to a HIGH state to force SBY. Example (see image above): Pin 6 of the LPT port (Band Decoder) is used to control the relay, high state = OPR, low state = SBY, TRX-Manager forces SBY above 65W.
  If control of the linear amplifier is not possible via CAT or a LPT port, TRX-Manager provides two selections which may help to prevent from transmitting on prohibited segments (or just after band changes) either by using VOX (On/Off) or by setting up RF Power (Full/Minimum). You can choose:

- PWR : Power is set up according to the desired state of the transmitter: OPR>power by default (according to Preferences), SBY>minimum power (0-5 W). This is the recommended way if control using a relay is not possible (provided RF Power control is possible via CAT),
- VOX/TEST : VOX (or TEST on K3) is set up according to the desired state of the transmitter. This is the way to go if all other options are not possible but VOX control is possible via CAT.

> Notes
>
> Computers and RS232 communications are not perfectly reliable ; some situations may be unexpected. This function does not exempt you from checking the state of your station, VOX or PWR may be not effective on several transceivers depending on supported CAT functions. Minimum power is rarely 0W but more often about 5W or more. VOX control is not 100% reliable.

Alarm

You may select the way an alarm prompts while flashing and/or the Windows critical sound.

Digital Wattmeter

 Setting up your Wattmeter

From Setup/TRX1 tab, you set up the wattmeter: LP-100 LP-100A ALPHA (ALPHAPOWER 4500) ELECRAFT-W2 and the corresponding com port. If you select OLE as WattMeter, you may use the OLE link with the programs distributed by Telepost Inc.

Available options for using a digital wattmeter from the Linear-Reminder module are:

- Scale of the wattmeter,
- PTT SWR! Alarm: Keys up the transmitter and/or opens the relay inserted in the PTT line if a high SWR is detected (higher that Alarm Set Point value),
- Tune Gain (Experts): measures the gain of your amplifier. (see Assisted Tune, for Experts). Please let this option NOT checked if you don't use assisted tune.

Linear-Reminder - Assisted Tune

The Linear-Reminder module measures the Gain of your amplifier and offers a computer assisted tuning method. This last function mimics the alternative tuning method offered by some high-end linear amplifiers generally called Nominal Gain tuning method. It is, however, absolutely necessary to understand the principle before using it safety and with efficiency.

These functions are only available if :

- A digital wattmeter is set up (from Setup / TRX1) by using a serial port (OLE and Remote not supported),
- Your transceiver allows keying up / down (PTT) via CAT control,
- The Monitoring window is open.
The following requirements are recommended but not mandatory:

- Control of the Drive power by computer: if your transceiver does not support setting of output power by computer, please take care to NOT change the power output between sessions or measurements,
- Operate / Standby controlby using a relay inserted in the PTT Line: if you don't use this function (see Overview), you will have to indicate the state of your amplifier by clicking the OPR button according to the current state of the amplifier.

Settings

You must check the TUNE GAIN option from the Linear-Reminder's Settings dialog (LP-100 frame). However, if you don't use the functions below, it is recommended you do NOT check this option.

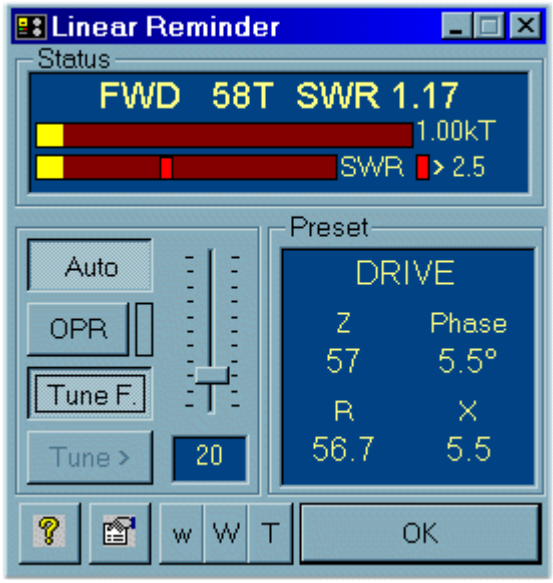
Gain measurement

It is necessary to proceed as follow:

1) Memorizing the Drive power

The Drive power (without amplifier in line) has to be memorized for each Segment and each Tune button:

1. Disable OPR which opens the relay inserted in the PTT line (your amplifier is not in line),
2. Perform a Tune at reduced power (Tune>) WITHOUT amplifier (or Tune F. if Tune> is NOT available),
3. The program switches LP-100 to Tune mode (T),
4. Thanks to the digital wattmeter, the program measures the Drive power,
5. Make sure the program stops the transmission automatically as soon as the measurement is done (or stop the Tune manually),
6. The program switches LP-100 back to Peak mode (W).



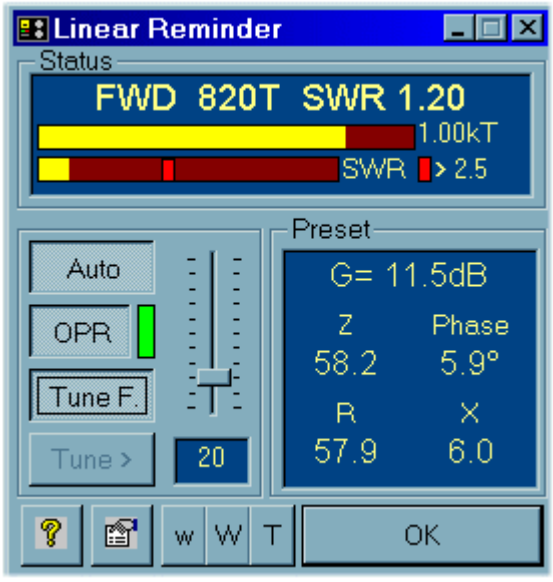
Measuring Drive power

Please REPEAT the same operation while using Tune F. (Drive full power WITHOUT amplifier).

Then, gradually, as you are Tuning and making gain measurements for the different segments, TRX-Manager will memorize the Drive Power output for each Transceiver (1-4); consequently, it is not necessary to repeat this operation each time you Tune as far as other parameters, for a given segment, remain unchanged (especially antennas and of course Drive power itself - see note b).

2) Determining the Gain

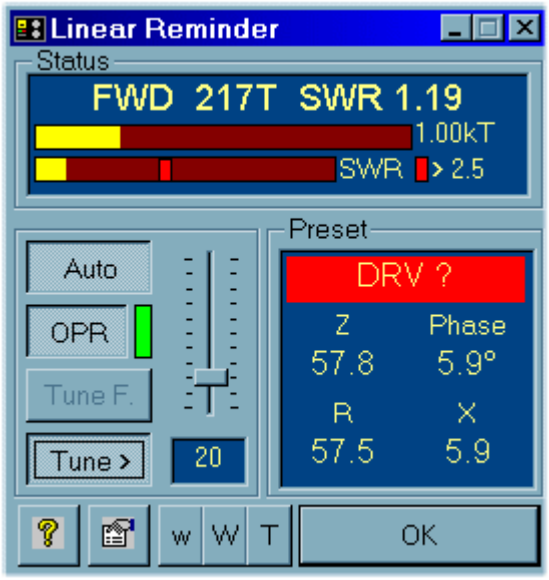
- press OPR to engage the amplifier (see note a),
- Tune from the Linear Reminder (while using Tune> or Tune F.) WITH amplifier running,
- Gain is displayed in dB
- Stop tuning



Gain measurement

The measured gain may be slightly lower than the real gain (0.2-0.5dB) since the wattmeter is inserted behind the amplifier. Also, if your antenna is not 1:1 SWR and while the amplifier is not running, your transceiver's protection circuit may slightly reduce its output power.

If you control the Transceiver's output power control by computer, TRX-Manager checks that all parameters stay unchanged. If TRX-Manager detects any change, it displays DRV? (in red) to indicate that it needs a new measure of the drive power.



Drive power value lost!

Notes

(a) If you don't have Relay control by TRX-Manager, please set up your amplifier to Standby/Operate manually and press OPR to indicate TRX-Manager in which configuration you are running your amplifier.

(b) If you don't have control of Drive power by TRX-Manager, it is probable you will have to repeat this sequence each time you Tune. In that case, this function is of no great interest...

Linear computer assisted Tune

A properly tuned linear amplifier has a constant power gain regardless of the antenna impedance. A Tuning method which optimizes Gain is generally more precise than the usually used plate "dip" (which is nearly unusable with tetrodes and pentodes) or just maximum output etc. Such method is offered by some high-end amplifiers (Nominal gain alternative method).

This method consists of tuning your amplifier for a **NOMINAL** gain by using the **LOAD** capacitor while you adjust the **TUNE** capacitor for the maximum output. The NOMINAL gain is a specification which has to be known before you start tuning. In fact even if you don't use this method, reading the gain while you are tuning is a very fast way to know if your amplifier is properly tuned.

It is possible to proceed as follow:

1. MANDATORY: knowing the NOMINAL gain of your amplifier for each band at 0.5dB (or better 0.2dB). You may obtain the nominal gain by reading the specifications of the manufacturer and confirming by a classic method of tuning (taking into account that measured gain is always slightly lower than real gain),
2. Perform a gain measurement as indicated above (1)
3. Preset amplifier with preset Tune and Load values,
4. Tune at reduced power (Tune >) WITH amplifier in line,
5. Adjust TUNE capacitor for maximum output,
6. Adjust LOAD capacitor for the nominal Gain (i.e: 11dB),
7. Adjust TUNE again for maximum output power
8. Stop Tuning
9. Repeat the same operation at full power.
   The final criteria for a good adjustment is: when peaking TUNE gives you a maximum at the recommended NOMINAL value for Gain.

Warning

It is important you do not try to maximize Gain which can only result in a signal of poor quality and may damage your amplifier. The objective of this alternative Tune-UP procedure is to reach optimum efficiency while tuning your amplifier for its NOMINAL gain. This ensures transmission of perfect quality.

Acom linears

TRX-Manager controls the ACOM 2000, ACOM 600S and ACOM 1200S amplifiers manufactured by ACOM.

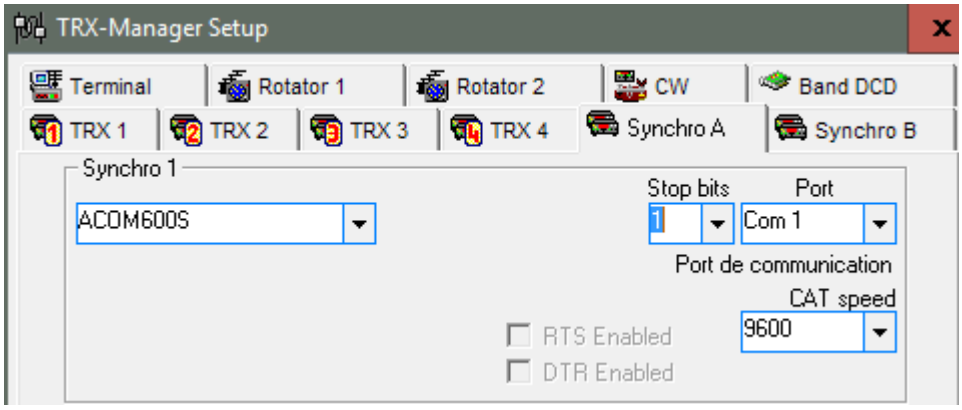
ACOM 600S ACOM1200S

Support for the ACOM 600S or 1200S is embedded in TRX-Manager.

Setup

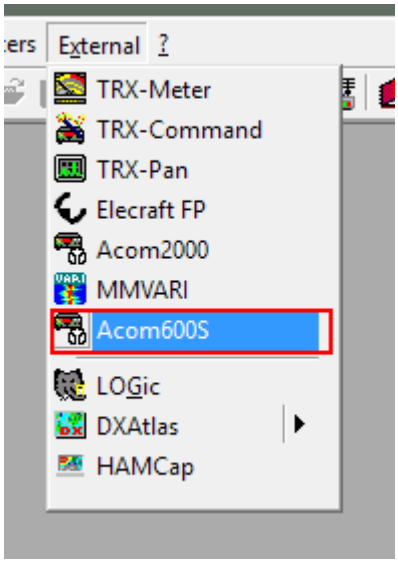
You have to set up TRX-Manager from the Parameters/Setup dialog under the SYNCHRO-A or SYNCHRO-B tab . You have to select ACOm600S (or 1200S), Speed (9600bds by default), 1 Stop bit and the com port on which your amplifier is connected. Once configured and restarted, TRX-Manager automatically synchronizes the band switch of the amplifier with your transceiver and the External menu shows an ACOM600S item...

Connect your amplifier to the computer from the DB9 RS232 port using a straight wired cable. You may have to disable the CAT/AUX Interface (CAT/AUX = OFF) and set polling rate as low as possible (not used).



Operation

The ACOM 600S/1200S module (External menu) provides additional functions and displays the more critical parameters. This window opens outside the main screen; you can press the TOP button to keep it on screen.



Opening the ACOM600S (External) window

POWER ON function requires a RS232 cable specially wired for DTR/DSR RTS/CTS (see below).

Also, please note that, by design, the amplifier does not execute band change commands in Stand By mode in order to avoid the relay clicks while checking the conditions on different bands.

Note

Make sure that TRX-Manager displays the correct firmware version of the amplifier in the titlle bar of the module
You can connect either an ACOM1200S and 600S. They use the same firmware and TRX-Managers senses the connected amplifier

How to wire the RS232 cable to support the Power ON function

The ACOM600S/1200S's RS232 protocol requires a straight wired cable (for RX and TX). However, the DTR/DSR and RTS/CTS lines must be crossed in order to support the Power On function. For a DB9, wiring is as follow :

PC - AMP
2 - 2
3 - 3
5 - 5
4 - 6
7 - 8

Remote mode

You can send the following macro commands to the amplifier through the TRX-Manager's remote control mode

- *LI0: Linear OFF
- *LI1: Linear ON
- *LI2: Linear OPER
- *LI3: Linear STAND BY

ACOM 2000

The ACOM2000A automatic amplifier is controlled using the external TRX-Acom software.

TRX-Acom.exe is distributed with TRX-Manager; it may be executed as a stand alone program but installation of TRX-Manager is required.

TRX-Acom is usable through the Internet using a serial port server. However, Auto-Tune function may give undesirable behavior if speed of your connection is too low. Also the ON function may be difficult to support.

Warning

While this program has been carefully tested by Stan LZ1IU ACOM's developer, please consider this tool as an help to use your amplifier from a computer and NOT as a replacement for the RCU. Depending on state of your amplifier, data history, changes and quality of the communication, information displayed may be wrong and commands not properly processed.

Please launch TRX-Acom.exe located in TRX-Manager's main folder (or from Start menu). Click Setup to choose com port and press Connect to connect your amplifier.

ON function requires a cable wired for DTR and RTS. You will also need an adapter, inserted in the RCU-AMP and PC_AMP connections on the rear panel of the amplifier: please contact ACOM for details and availability.

Note

Status of the RCU displayed by TRX-Acom may be wrong if you connect your amplifier while it is already ON: it is recommended you first connect your amplifier and then switch it ON while it is connected to TRX-Acom.

TRX-Acom

TOP button keeps TRX-Acom always on top of all other windows.

TRACK button connects TRX-Manager and TRX-Acom together via OLE. Once TRACK is ON, internal ACOM2000A's frequency counter is overcome, all frequency changes are controlled by

TRX-Acom and selected segments are displayed.

Note about RCU's PROT Led

When an error happens, the amplifiers goes to StandBy. If you press Esc on RCU, error message will be cancelled and RCU's PROT Led will stop flashing. However, if you cancel the error message from TRX-Acom by pressing OPR, RCU'S PROT Led will continue flashing while TRX-ACOM's PROT Led will stop flashing. This is normal since the RCU's PROT Led is a kind of "reminder for the local operator", if any at the RCU side, about a problem that has happened during the remote control operation.

Measurements

Press SET to select DATA to measure. Press START to start measurements.

Note

While in Measurement mode, TRX-Acom stops reading the RCU. Press STOP to resume RCU reading.

Auto-Tune

TRX-Acom uses ACOM2000A's AUTO-TUNE function under the control of TRX-Manager. AUTO-TUNE panel opens by clicking the >>> button.

- if you use TRX-Acom as a stand alone program (not using TRX-Manager), leave TUNE via CAT unchecked,
- if your transceiver allows switching PTT ON/OFF via TRX-Manager, please check PTT VIA CAT
- if your transceiver supports setting up RF Power via TRX-Manager, please check POWER VIA CAT and preset required RF Power values in Watts (*) for TUNE and NORMAL: 10-20W of input drive power are recommended by ACOM,
- select Tuning Mode (FSK is preferable).

(*) CAT values in Watts for POWER are indicative values only, not always very accurate (especially with ICOM transceivers) and may require adjustments.

You start AUTO-TUNE by pressing START and you follow instructions on screen. If your transceiver does not support RX/TX and/or RF Power via CAT, you are prompted to do changes and settings manually. During the Analysing step, you can press OK if you estimate Drive power properly adjusted: Then, TRX-Acom skips this step and immediately starts tuning.

TRX-Acom follows ACOM's recommendations with an adjustment of RF Power up to display 7 FWD Leds ON (2) before starting Tuning. Once a good Tune is found, it is memorized automatically and your Transceiver comes back to the initial frequency and mode.

If any problem or abnormal behaviour happens during the procedure, press STOP.

Watch dog

If Watch Dog is checked in Setup and no command sent to the amplifier during the sepecified delay, TRX-Acom will switch to Stand By .

ACOM Antenna Selector

If you use the ACOM Antenna selector, please check Antenna Switch in Setup ; if you don't use it, it is preferable to let this option unchecked since it adds useless control commands between amplifier and computer.

ACOM antenna switch is fully supported either using the TRX-Acom's antenna table (if enabled in Setup) or amplifier's memorized antenna positions. Other available options (with antenna table checked) are:

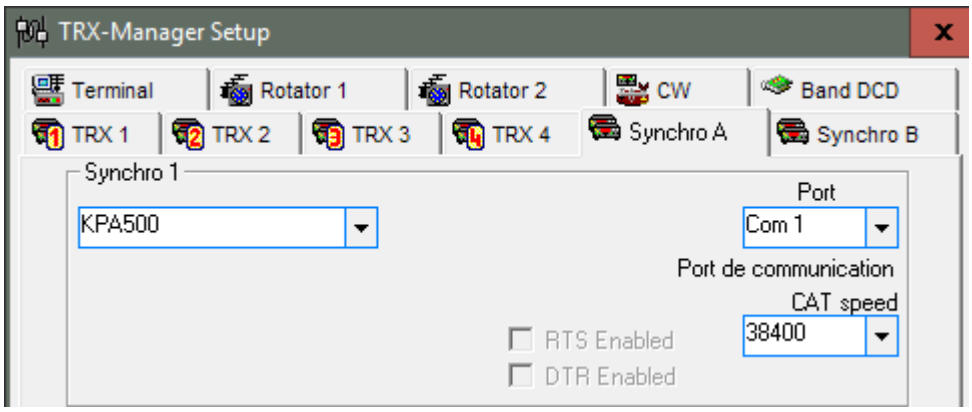
- TX freq (default). If checked the TX Frequency defines the current segment
- Hysteresis 25kHz (Default) from the edge of each segment to prevent from undesirable antenna changes
- Remember changes by HAM BAND. By default, TRX-Acom memorises an antenna change for the corresponding segment and during a same session. If this option is enabled, the memorization of an antenne change (from buttons 1-10) applies for the whole HAM Band.

KPA500 amplifier, KAT500 Antenna Tuner

TRX-Manager supports the KPA500 amplifier and the KAT500 antenna tuner manufactured by Elecraft.

Setting up TRX-Manager

You have to set up TRX-Manager from the Parameters/Setup dialog under the SYNCHRO-A or SYNCHRO-B tab by selecting KPA500 and/or KAT500, Speed (38400 recommended) and the com port on which your device is connected.



Once configured and restarted, TRX-Manager automatically synchronizes the band switch of the amplifier or the antenna tuner (*) with your transceiver. In addition, the External menu shows a KPA/KAT500 item which opens a graphical interface to control the most critical functions of the amplifier and/or the antenna tuner.

(*) If your K3 is connected to the KPA500 and/or the KAT500 via the AUX cable

If the Radio Interface of the KPA500 is set to K3, the KPA500 is supposed to follow the band selected on the transceiver automatically (through the AUX cable). Consequently, TRX-Manager detects the K3 setting of the Radio menu and disables the coordination between the computer and the amplifier to prevent any unexpected behavior. To have a real synchronization between the computer and the KPA500, make sure that K3 is not selected in the Radio menu of the KPA500 (this option can be selected from the KPA500 module). The Radio interface is also selectable from the TRX-Manager's KPA500 module.

By default TRX-Manager synchronizes the KAT500 automatically (TRACK mode ON). However, if your K3 is connected to your KAT500 using the AUX cable, this feature may cause more switches and clicks than necessary and is therefore NOT desirable. You should set the tracking mode OFF using the TRK button (TRACK Mode OFF) of the KAT500 module.

Operation

The KPA/KAT500 module (External menu) provides additional functions and displays the most critical parameters. This window opens outside the main screen; you can press the TOP button to keep it on screen.

KPA500 and KAT500 Screen
(connected to a K3 using the AUX cable)

Remote mode and macros

KPA500

You can send the following macro commands to the amplifier through the TRX-Manager's remote control mode

- *LI0: Linear OFF
- *LI1: Linear ON
- *LI2: Linear OPER
- *LI3: Linear STAND BY

You may also send any macro command to the KPA500 provided you use ^ as prefix (all commands with ^ as prefix are routed to the KPA500 by TRX-Manager).

KAT500

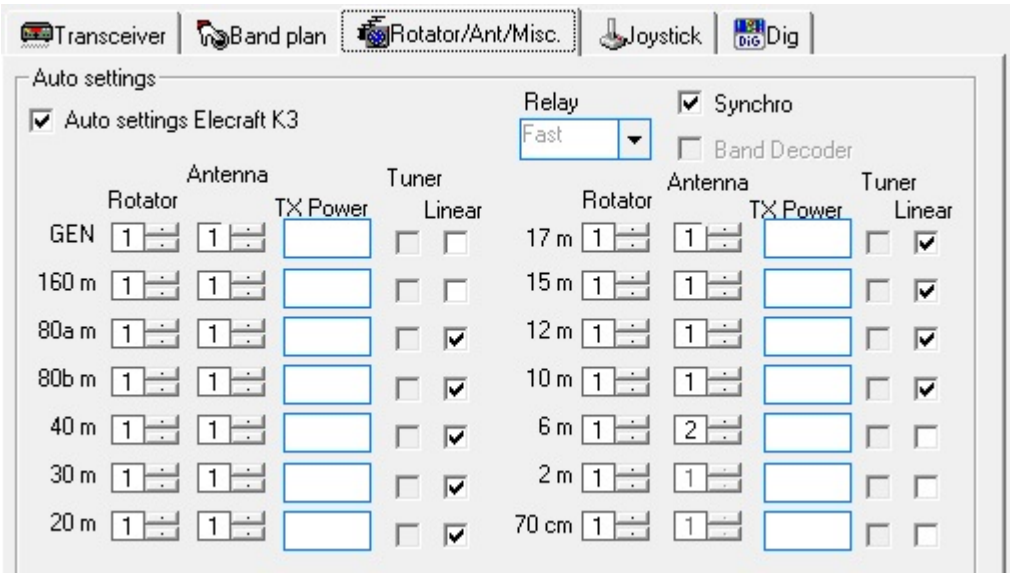
You can send any macro command to the KAT500 provided you use { as prefix (all commands with { as prefix are routed to the KAT500 by TRX-Manager). Example:

{PS0 = Set KAT500 Power OFF
{PS1 = Set KAT500 Power ON

Preferences : auto-settings and synchro mode (KPA500)

You can configure the TRX-Manager's auto-settings and the Synchro mode according to your needs from the Preferences/Transceiver dialog, Misc tab:

- check the Linear fields to activate the amplifier for the desired bands
- if needed, fill in the TX Power field or leave it blank if you don't wish an automatic configuration (see note for a K3)
- check Synchro to enable the Synchro mode (= band/frequency tracking) for the current transceiver



Note, recommended configuration with a K3

If you use a K3 line, the TX power is automatically adjusted by the transceiver depending on the state (Standby/Operate) of the amplifier. Consequently, it is recommended to set all the TX Power fields blank in order to keep the benefit of this function.

Operation using the Linear reminder module (KPA500)

The Linear Reminder Linear reminder module can be synchronized with the KPA500 as follow:

- To synchronize the STBY/OPR button with the KPA500, you must select control by : KPA

- To prevent an overdrive, it is recommended to set Tune Full Power = 30W (and NOT Preferences)
- If NO Wattmeter is selected in Setup/TRX1 (None selected), TRX-manager uses the internal Wattmeter of the KPA500, the linear reminder module displays the KPA500's most critical parameters during the transmission and provides basic functions to control the state of the amplifier.
- However, even if a third party Wattmeter is selected, some parameters of the KPA500 are displayed by the linear reminder.

Remote control overview

TRX-Manager lets you operate any transceiver by remote control through a LAN (through a local area network or the Internet) and even via Packet. TRX-Manager also offers remote operation of rotators and CW keyer.

Although many software solutions or alternatives exist to control a remote computer (including the TRX-Manager's Web Server), the standard TRX-Manager's remote control mode minimizes the information being passed on the network and thus, gives faster real-time control - with minimal latency - which a DX operation requires, with very low bandwidth requirements (even practicable via Packet at 1200 Bauds !).

Note

Audio (VOIP) is NOT supported by TRX-Manager. Various third party solutions are possible (see Audio transmission).

This standard mode of remote control (described below and called standard remote control mode) works with any transceiver BUT features a generic user interface, the same for all transceivers. However, many functions are supported and macros can be defined for particular needs.

An enhanced mode (called Real-Mode) allows using your transceiver remotely - with TRX-Manager - almost exactly as if you are controlling the transceiver locally (supports opening of the Transceiver/Levels window...). However, it requires a fast network, it is not available with all transceivers and controlling one transceiver with two software simultaneously may be somewhat disconcerting. This is why, this mode requires a good experience of the standard mode and understanding of how TRX-Manager works: so please DO NOT START configuring TRX-Manager in real-mode first...

Standard control requires you consult:

Remote control settings
Operation
Transmission of Audio
Syntax of commands

See also

Alternatives to remote control
Real remote control mode
Web Server

Requirements

You must have at least:

- a transceiver and its interface,
- a local network or a good access to the Internet (or two stations equipped with VHF TNC

for a control via packet)

- two computers with TRX-Manager installed and running,
- a voice link (VHF, Phone line, Skype...).

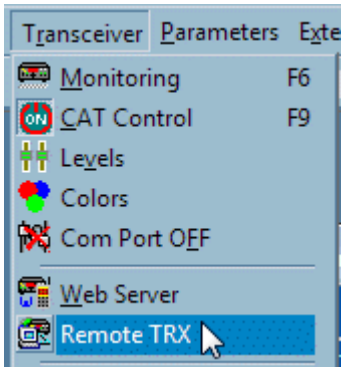
About the license

Your license for TRX-Manager is granted for any number of installations on any of your computers. In the event that you open your station to other users, they can not install your (personal) registered copy of TRX-Manager on their computer and must acquire a separate license.

Principle of operation

TRX-Manager implements its own client/server interface and can exchange commands between both stations using Windows® networking capabilities. UDP and TCP protocols are supported. A strict syntax has been implemented, such as commands controlling a transceiver and are automatically generated by the program but may also be entered on the keyboard. The Packet connections must be processed through the Terminal.

The Transceiver/Remote TRX sub-menu opens the remote control window which allows setting up your network and controlling the remote station (Transceiver, Rotor, CW Keyboard, SteppIR) through a generic interface.



Limitations

TRX-Manager allows control of virtually all elements of your remote station, economically, without any other equipment than a second networked computer. It's a fun experience and quite effective in DXing.

That said, interactivity is necessarily limited compared to the use in local control mode. Supported features are less extensive and limited to the display of critical data and/or to the control of your remote equipment using a keyboard: transceiver, rotor, keyer...

There are also efficient other solutions such as: serial port servers, Remoterig... generally also compatible with TRX-Manager. Which method works the best depends on the transceiver that you are using, other elements of your station and the speed and reliability of your network.

Important

Generally, unless stated (of course and especially in the other sections of this help), all the functions of TRX-Manager described in the documentation apply to a local control mode and NOT to a remote control mode. The remote control mode is specific. All modules are not always usable in remote mode.

Remote control Settings

All settings are defined from the Remote TRX window (Transceiver/Remote TRX submenu).

Warning

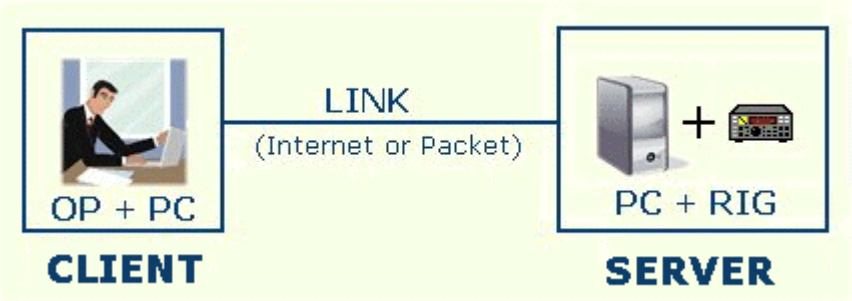
This section describes the specific settings required for remote control. It does not describe how to configure your local (real) station (choices for transceiver, cw interface, rotors...). Please do not attempt configuring TRX-Manager for remote control before your local station (called SERVER) is perfectly operational.

Tip

This section describes how to set up TRX-Manager for the standard mode of control. Once the standard mode is set up and working, you may eventually consider the real mode of control. But, please, do not attempt configuring TRX-Manager for the real mode before you are sure the standard mode is perfectly operational.

Conventions

You control the SERVER (or remote station) from the CLIENT (or base) station.



Please imagine you have to control a FT-1000 remotely + a CW Keyer, a rotator...

- SERVER will be the station equipped with a computer and a serial interface to control the FT-1000 Transceiver + a CW Keyer, a rotator...
- CLIENT will be the computer from which YOU control the remote station connected to SERVER through a Network or Packet.
  Please note you can only control SERVER from CLIENT by using a computer (+ keyboard, mouse, joystick) ; no other interface or device or hardware is required or supported from CLIENT for remote control (CW Paddle excepted: see below and Remote Operation).

About IP adresses and configuration of Routers and Firewall

Through a local network you connect the Local IP address of the SERVER computer,
Through the Internet, you connect the External IP address of the SERVER computer,
IP addresses can be displayed by clicking the MY IPs ? button

UDP: If your computers are connected to the Internet through a Router, you have to configure your Router to route all incoming packets to the corresponding computers on the specified (listening) Port of each computer
TCP : Setting up the Router is only required on SERVER. An unique port is used.
You SERVER computer is preferably configured with a static IP on your network. This way, your router is configured only once to route all packets to this computer for the listening ports (UDP and TCP).
If you use a Firewall (either from SERVER or CLIENT), it must be set to not block TRX-Manager.

Modes of transmission (SERVER <-> CLIENT)

Two modes of transmission are possible:

- Internet/LAN : You have to choose between UDP and TCP protocols

 UDP or TCP ?

UDP has generally less latency but TCP is more reliable and easier to configure:

In TCP mode through a public network (Internet), the SERVER router must be configured to forward all packets received on the specified (unique) port to the target computer. This is ideal if you connect your remote station from various locations,
In UDP mode through a public network, both SERVER and CLIENT's routers must be configured to forward all packets received on the specified (listening) port of each computer (CLIENT or SERVER).
Of course, you must use the same protocol for SERVER and CLIENT.

- Packet: In that case, the Packet Terminal will be used for connecting the server; make sure to choose a clear packet frequency. Packet is now rarely used for remote control.

CONFIGURATION: STEP BY STEP

Setting up the remote station (SERVER)

1.1) Parameters/Setup panel

You have to set up the station according to the type of transceiver, rotator and CW Interface in use. Please re-start TRX-Manager and, please make sure your station is fully functionnal as per your needs before setting up TRX-Manager for remote control!

1.2) Remote TRX window (Setup tab)

- SERVER selected,
- Protocol: Packet, UDP or TCP
- UPD: a valid listening port (1001 is the default) for the SERVER and a valid listening port for the CLIENT (1002 is the default)
- TCP: a valid (and unique) port for the TCP connection (1001 is the default)
- Packet: see specific settings below

1.3) Optional settings

1. Watch dog : SERVER disconnects if no frame is received after the specified delay. This may be useful if your connection is lost and SERVER still connected ; this also resets the password usage for a new connection. It is mandatory you set up CLIENT with the same option and the same delay.
2. Password for connecting the SERVER computer
3. Check and set the EMail address for automatic notification of the IP Address. The IP Address of the SERVER station will be automatically sent after the specified delay. Please take care to properly configure the internal emailer of TRX-Manager (this option is only

available with a registered version of the program).

1.4) Packet control only

- Address of the server station : 0 to 9 (the SERVER station must have an address so that several stations can be operated remotely on the same packet frequency)
- Auto Information : if checked the remote transceiver will notify and confirm to the client station each change of frequency, mode... and S-Meter readings
- To save resources on SERVER computer, please let Traffic Display unchecked (the Terminal will not display any data coming from the CLIENT station).
- Terminal (TNC tab): set the function buttons #9 and #10 (S1 S2). The Terminal will be automatically launched and the corresponding S1 S2 messages will be sent to the TNC 5 seconds after startup. These messages may be useful for configuring your TNC or establishing the connection automatically (S1 S2 buttons only appear once the SERVEUR mode and REMOTE Control are activated)

Setting up the base station (CLIENT)

2.1) Setup panel

No setup is required under the Parameters/Setup dialog to run the standard mode of remote control if you are using the Remote TRX window (an Alternative Setup using the Monitoring for remote control is explained under Remote Control Operation).

2.1) Remote TRX window (Setup tab)

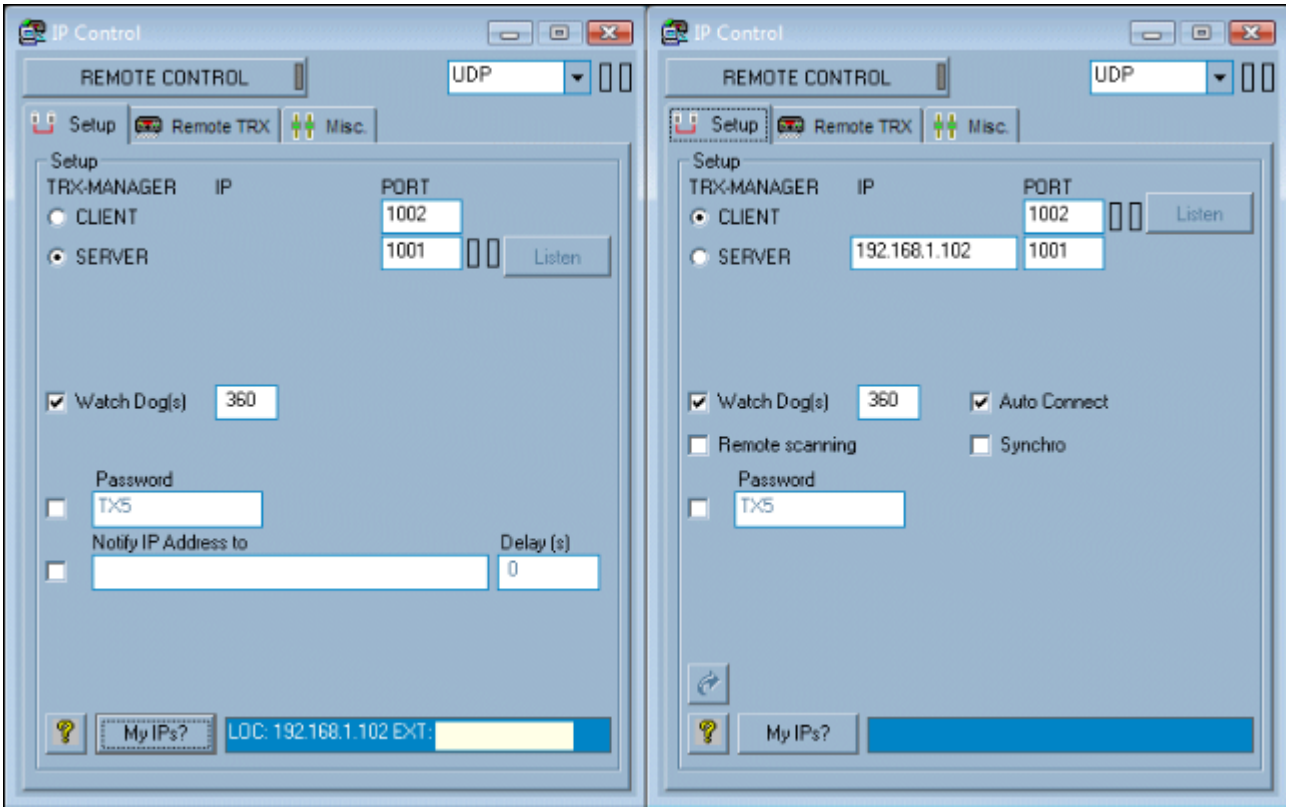
1. CLIENT selected
2. Protocol: Packet, UDP or TCP (same as the one defined from the SERVER computer)
3. UPD: a valid listening port (1001 is the default) for the SERVER and a valid listening port for the CLIENT (1002 is the default),
4. TCP: a valid (and unique) port for a TCP connection (1001 is the default)
5. TCP or UDP : IP address of the SERVER computer
6. Packet: see specific settings below

2.2) Optional settings

- Auto connect : if this option is checked (recommended), connection is established and the password is sent as soon as you engage the Remote Control Mode. If this option is not checked, the connection is manual by using the terminal mode (debug mode only).
- Watch dog : CLIENT disconnects if no packet is received after the specified delay and sends a WD frame to maintain the connection ; it is mandatory you set up CLIENT with the same option and the same delay.
- Password for the connection to the SERVER computer
- Remote scanning (CLIENT) : if this option is checked, the Monitoring's Up/Down button engage a scanning controlled from the SERVER station. If your connection is fast enough, this provides a smooth scanning. If your connection is slow or unreliable, it is preferable you let this case unchecked.
- Synchro: If checked, the Remote transceiver activates the synchro ports defined from the CLIENT instance of TRX-Manager (SteppIR synchro excepted).

2.3) Packet only

- Address of the server station: 0 to 9
- Flow control (CLIENT/Packet): the flow control reduces the amount of commands sent during the specified delay (in seconds). This option is useful if your connection can not handle the data flow.



Typical setup for SERVER and CLIENT using UDP protocol

Summary of the main steps

Configure TRX-Manager from the base station (SERVER) as if remote control is not used (remote control NOT enabled) and make sure all is working perfectly (locally: you must be physically present)
Install TRX-manager on the remote computer (CLIENT) and configure both instances of TRX-Manager (CLIENT and SERVER) for the standard mode of control as described in THIS section of the help
Please keep the defaults settings for your first tests with NO password or Watchdog.
Make sure all is working and you are able to control remotely all elements of the station (with, of course, some limitations inherent to the remote control mode)
Eventually, consider configuring TRX-Manager for the real-mode .

Please DO NOT SKIP none of these major steps and follow each step carefully.

STARTING THE REMOTE CONTROL

Once both station are configured, you engage Remote Control mode from SERVER and from CLIENT 

.

It is recommended you disable any screen saver or sleep mode on the SERVER computer. You may also use the STOP SAVER option of the TRX-Manager's Preference software tab.

TCP and UDP

From Client, you click the Connect button : remote control is established and the status of the remote transceiver is displayed under the remote control tab. As soon as you click the OP button of the Remote control window, the remote transceiver becomes the Operating transceiver and the CW Keyboard, the Rotor, the Logbook, the DX Bar window, the SW Database are linked to the Remote transceiver.

Some critical messages sent by SERVER are displayed in the small terminal and sending

small messages to SERVER is possible. However, this capability is essentially written for debugging and should not be used during normal operation.

If the auto connect option is checked, the connection is established as soon as you engage the remote control mode from CLIENT (provided the SERVER is running and listening).

For more information, please see now Remote control operation.

PACKET

1. From the Client's Terminal (TNC tab) you connect the SERVER using your TNC.
2. Once the connexion is established you send the message TRXi=PA; (i= address of the Remote station 0-9) to initialize the remote control.
3. You can control the remote station from the Remote TRX window.

Notes

The Remote TRX window is automatically launched and the Remote Control mode enabled at startup if you exit TRX-Manager with Remote Control enabled (SERVER) and auto-connect checked (CLIENT).
SERVER logs each IP connected under \Misc\Remote.log (TCP/IP only),
Communicating your IP address to anybody exposes you to malevolent intrusions.

Warning

On the SERVER computer, if you do not use the remote control, please disable Remote Control button to avoid interfering with packet or Internet connections or problems with auto-mode and other various CAT control functions necessary limited in this mode.

TROUBLESHOOTING

1) You can not connect SERVER from Client

If you can not connect TRX-Manager via the Internet or your LAN, please check your Firewall: it must be configured so that TRX-Manager, your VoIP software and IP ports required for remote control are not blocked. Common errors are mismatched ports and wrong use of LOCAL and EXTERNAL (PUBLIC) IPs.

Public and local IP addresses may be a source of confusion:

- LOCAL IP adresses (generally those with 192.168.....) are used through a home/local/personal network ; configuring the firewall is required.
- PUBLIC or EXTERNAL IP adresses are used through the Internet and require you set up both your firewall and your router accordingly.
  In TCP mode through a public network, the SERVER router must be configured to forward all packets received on the specified port to the target computer.
  In UDP mode through a public network, both SERVER and CLIENT's routers must be configured to forward all packets received on the specified port to the target computer.

By clicking MY Ips (Remote TRX window) you can get your local (LOC) and your public (EXT) IPs. Your LOCAL IP may change each time you login your computer if it does not have a static IP in your network. Your Internet provider may change sometime your PUBLIC IP.

Unfortunately, some providers do not allow using UDP or TCP for remote connections or block

some specific ports.

2) Communication stops

- Make sure Watch-Dog is enabled with the same settings on both computers
- Make sure your IPs have not changed
- If necessary press the LISTEN button to resume operation and reconnect

Remote control operation

The Remote interface of the Remote TRX window is simple to use and allows controlling most of the functions of the Remote station.

Summary of the main steps

Configure TRX-Manager from the base station (SERVER) as if remote control is not used (remote control NOT enabled) and make sure all is working perfectly (locally: you must be physically present)
Install TRX-manager on the remote computer (CLIENT) and configure both instances of TRX-Manager (CLIENT and SERVER) for the standard mode of control as described in THIS section of the help
Please keep the defaults settings for your first tests with NO password or Watchdog.
Make sure all is working and you are able to control remotely all elements of the station (with, of course, some limitations inherent to the remote control mode)
Eventually, consider configuring TRX-Manager for the real-mode .

Remote control interface

Transceiver control

The remote control interface is generic to be able to work with all the different transceivers that TRX supports. The commands available being very different from one transceiver to another, please see your transceiver manual to check the availability of certain commands via Computer especially the ability to switch to TX via the serial port, VOX control...etc.

- Manual scanning : Each digit of the display is clickable: a left/right click changes frequency (Up/down) by one digit while holding the left/right button scans.
-  gets the current status of the remote transceiver (most important parameters) and updates the display. While SERVER acknowledges any command after it is processed, this button allows you quick checking and improves the reliability...
- >|<: A Left click synchronizes the remote station (SERVER) with the local transceiver (RX, TX & Split parameters). A Right click synchronizes the local transceiver with the remote (SERVER) transceiver (Mode & RX only).
- Auto: automates the synchronization (SERVER with CLIENT) for RX Freq, Mode & Filter
- >RX >TX: set an RX or TX frequency in MHz
- TX: Keys down (PTT)
- RX: Forces Receive mode
- OP: Set the Remote transceiver as the Operating transceiver for TRX-Manager (see also: definition of the Operating transceiver).
- Filters: Five selections (FIL0 to FIL4) are provided to select the predefined filters of the Remote transceiver. However, only 2 or 3 selections are usable for a given mode, depending of your transceiver (ex: SSB: FIL0-2 SSB, CW: FIL2-4...). This may be improved in next versions of TRX-Manager.
- DSP: the two DSP sliders of the Remote TRX window control the DSP sliders of the remote transceiver. The labels display the functions under control. By clicking the labels, you can center the controls.
- VFO B  : provides direct manual scanning of VFO B; a compatible transceiver is required (recent Kenwood, recent Yaesu, Elecraft)
  The Remote window supports drag and drop.

> Macro commands
>
> From the Misc tab, additional macro buttons and sliders are provided to support specific commands for your particular transceiver (see the Macro buttons section to configure the macros).

Logbook

Whatever the remote mode you are using, TRX-Manager always uses the CLIENT's Logbook. When you press OP, the CLIENT's Logbook populates the Remote frequency and mode. The SERVER's logbook is never used.

Rotator

The Remote interface controls the Remote Rotators. Rotator 1 or 2 are selected on SERVER depending on the Preferences of the SERVER station. You may enter either an azimuth or a gridsquare (4-6 digits). A gridsquare may be more accurate if the remote station is far from the CLIENT station (with a very different location).

- When you click DX-Spot on the CLIENT computer, the location of the DX station is calculated and sent to the corresponding text box of Remote interface. By clicking  , coordinates are transferred - by GridSquare (4 digits) - to the SERVER station. If the remote rotator supports feedback, the current azimuth of the remote rotator is displayed.
- If necessary press  to force or to initialize the display (STOP forces a polling of the Remote Rotator).

CW Keyer

The Remote control iself has no specific CW Interface. However as soon as the Remote transceiver is the Operating transceiver, the TRX-Manager's CW Interface is linked to the Remote transceiver and you can use your keyboard to send CW characters to the Remote

station (provided the CW keyer is wired and properly configured on the SERVER computer).

If a Winkey device is defined from CLIENT in Setup, you can use the local Winkey device and a paddle for CW keying. Warnings: CW strings are sent "word by word". The latency of the communication may be a disconcerting factor with a paddle. Paddle EchoBack must be checked (see also Winkey configuration).


Note

TRX-Manager (CLIENT) does not control your SERVER CW keyer directly ; it communicates with the SERVER instance of TRX-Manager to control your keyer. This why configuring SERVER is important. In addition, there is absolutely no relation between the configuration of SERVER and CLIENT (CW setup are totally different).

SteppIR interface

The Misc tab of the Remote control interface allows controlling the Remote SteppIR antenna with critical and basic commands. However synchronization with the Remote transceiver is controlled by the SERVER computer only.

Synchro ports

SERVER: the Synchro ports of the SERVER computer are activated (or not) for linears, antenna and other device provided the Synchro option is checked from the Preferences for the Transceiver you use.

CLIENT: the Synchro ports (SteppIR excepted) of the CLIENT computer can be activated for the Remote transceiver provided the Synchro option of the Remote TRX window is checked and the Remote transceiver is the Operating transceiver. This may be useful for synchronizing with third party programs...

Commands to LPT or RS232 Ports

Macro commands to any LPT and RS232 port can be sent to the SERVER station using TRX-Command.

Amplifiers

No specific command (amplifier controlled by the server).

ALTERNATIVE SETUP (CLIENT): REMOTE TRANSCEIVER CONFIGURED AS MAIN TRANSCEIVER

Configuring the Remote transceiver as main transceiver (CLIENT) was the recommended setup in the previous versions of TRX-Manager. However, thanks to the concept of the Operating transceiver, this setup is no more required for remote control and the Remote TRX window is enough to control the remote station with the advantage of keeping full control over a local transceiver.

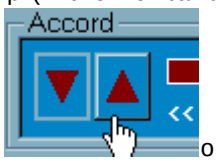
However, if you don't have the use of a local transceiver at the same time as a remote transceiver, you may prefer using the main interface for remote control.

Transceiver

Under Setup, you select REMOTE as "transceiver" WHATEVER the transceiver controlled from the SERVER station! In that case the CLIENT station sees the remote station as a generic "transceiver" and you can control the remote transceiver using standard commands from the Monitoring.

The Remote TRX window is still available and additional controls (including macro commands) not supported by the Monitoring window can be used from the IP Control window. The Levels window is not available in this mode (see Real Control mode for using the Levels window).

Operating tips

The program can check the status of the remote transceiver from time to time using the Update button of the Monitoring.
The behavior of TRX-Manager in Remote mode may be different from its behavior with a local transceiver; this mention especially applies to the scanning commands and filters. This is because the interface is simplified to be able to work with all the different transceivers that TRX supports. The commands available are very different from one transceiver to another; please see your transceiver manual to check the availability of certain commands via Computer especially the ability to switch to TX via the serial port, VOX control...etc.
If your transceiver features a step by step (incremental tuning), it is remotely controllable from the Monitoring's Up/Down buttons 

or by using a Joystick (R Axis). This function - unfortunately not available with all transceivers - gives more precise and smooth tuning.
Preferences (transceiver) : most of the preferences such as Tuner, Antenna, Linear, RF Power, Band decoder, filters selection, Band Plan (...) must be defined from the SERVER computer. However, AUTO-MODE is selectable from the CLIENT computer.

Wattmeter

TRX-Manager (CLIENT) does not read your Wattmeter directly ; it communicates with the SERVER instance of TRX-Manager to read your wattmeter. This why configuring SERVER is important. From CLIENT, if a digital wattmeter is connected to SERVER, Remote will be selected as Wattmeter. Power and SWR will be displayed in the Monitoring window if you select Remote from the meter combo box (please note the linear reminder window does not support the Remote wattmeter).

Rotator

You select Remote as the type of Rotator (1 or 2) whatever the rotator configured on the SERVER computer.

CW Keying

From the CLIENT station, the 3 possible choices are:

1. If you choose Remote as the type of Transceiver, you may select CW Internal under the TRX1..4 Tab (recommended) in order to allow CW operation from the CLIENT's Keyer window whatever the type of keyer connected to SERVER. In that case, from CLIENT, you use your keyboard for CW Keying (and only your keyboard).
2. If CW Internal is not checked, Winkey can be selected from the CW tab if you want to use a local Winkey device for CW keying. In that case, in addition to the Keyboard you may use a paddle for CW Keying from CLIENT to SERVER. Warnings: CW is sent "word by word". The

latency of the communication may be a disconcerting factor with a paddle. Paddle EchoBack must be checked (see Winkey configuration).

3. If CW Internal is not checked, REMOTE is also selectable as CW port (CW tab) for special needs (especially in real mode). In that case, from CLIENT, you use your keyboard for CW Keying.


See also

Real control mode

Audio transmision

TRX-Manager does not support audio transmission (VOIP). Many solutions to transfer the audio from SERVER <-> CLIENT has been described by users on the TRX-Manager's mailing list.

The main possibilities are the followings:

Real-time audio link

This solution requires a V/UHF link, a phone line or wireless headphones. This solution is probably the best suited for DXing because of the quality of the audio and the lack of delay during the transmission. It is - of course - not practicable over long distances such as through the Internet.

TCP or UDP audio link

This solution involves telephony (VoIP) software. More popular software for HAM Radio and DXIng are:

- Skype
- Mumble
- IP-Sound
- Rem Audio
  While Skype is very easy to use, widely distributed and does not require a static IP and port forwarding, IP-Sound has some advantages : it is a stereo-bidirectionnal software so dual RX is possible and you can monitor your audio ; also you can choose the more suitable codec however, it uses the less reliable UDP protocol and ... it is discontinued. Rem Audio is promising.

The main drawback of audio processing via TCP or UDP is the delay (from 0.5s to 2s) of the transmission which makes tuning a station in SSB or CW "acrobatic". This solution is perfect for broadcasting in AM via the Internet but less convenient for DXing. UDP is preferable.

Remote control Syntax

You don't need to learn this syntax; the commands are generated by the program automatically.

Advice to third party developers

The remote control syntax is reserved for the TRX-Manager's client/server mode only. If you are a third party developper and you have to interface your application with TRX-Manager please use the TRXNET (TCP/IP) Interface.

Sending a remote control command

Remote control can be sent :

1. Using the Terminal (IP: Remote TRX, PKT: Terminal) and the following syntax : TRXi=CMj;
- i is the address of the remote station (Packet i=0-9, IP i=0).
- CM is the command as explained below
- j is the parameter of the command as explained below
- ; a delimiter

2. Using a macro button and the following syntax *CMj where * is a preample and CMj is the macro command. The delimiter is NOT required. If *is ommitted, the command is processed as macro command for the transceiver and must follow the protocol of the transceiver as explained in the macro commands section.

Remote control commands syntax (CMj)

CM = the command
j = the parameter of the command (if available)

The remote controls available are the following ones:

```
Frequency    : FR Frequency in MHz TRX0=FR14.250;


Spot         : SOmffffffff|CALLDX|COMMENT m= MODE(=0-6/A=AUTO) ffffffff=RX
Freq(in MHz) SOA14.200|F6DEX|TRX-MANAGER


TX Frequency: FTmffffffff m= MODE(=0-6,A=AUTO) ffffffff=TX Freq in MHz
(FR-14.205 Default mode, FTX= 14.205)


UP           : UP 1 (CW) or UP5 (SSB) + Split mode
```

```
Mode         : MD Mode (0-6) TRX0=MD2;

Int. Scan    : TS 0=Up 1=Down 2=Stop

Filter       : FL Filter (0-4) TRX0=FL3;

Split        : SP 0-1 TRX0=SP1;

Sub RX       : SU 0-1 TRX0=SU1;

TX/RX        : TX 0-1 TRX0=TX1;

AutoMode     : AU0-1 TRX0=  AU0;

VFO          : VF 0-2 TRX0=VF0;

A= B         : AB 0-1 TRX0=AB;

Tuner        : TU TRX0=TU1;

Tuner start : TT TRX0=TT;

Antenna      : AN0-1 TRX0=AN0;

CAT On/Off   : CA 0-1 TRX0=CA;

VFO>M        : VM TRX0=VM;

Status       : ? TRX0=?;

Rotor        : RO Azimuth(3 digits) TRX0=RO030;
```

```
Rotor Stop  : ST TRX0=ST;

Rotor Poll  : RP0-1-2 RP1; Polling for rotor 1 / 2 (*)

TXPower     : PW Power (0-100) TRX0=PW30;

AF Volume   : AF Volume (0-255) TRX0=AF25;

RF Level    : RF Level (0-255) TRX0=RF25;

VOX         :  VX 0-1 TRX0= VX1;

CW          : KY string TRX0=KYCQ CQ CQ;

KEYBOARD (*): KB 0-1 TRX0=KB0;

CW STOP     : KS TRX0=KS;

CW SPEED    : KW WPM TRX0=KW25;

Band Dec.(*): BS 0-13 Band Decoder

DSP         : BWIJJJ I=DSP (0-1) JJJ=Value (0-255)

Channel     : CH 1-99

Dual Watch  :DW 0-1 TRX0=DW1;

LPT (*)     : LP piiiiiiii TRX0=LP211110000;

RIG         : RG Rig number (1=RIG1 2=RIG2) TRX0=RG1; (not available)
```

Tone : TO ENC+DEC+TONE (CTCSS if valid, -DCS if valid) TRX0=1+0+100.0;

RptShift : SH SHIFT Repeater Shift (-1 0 1) TRX0=-1;

RptOffset : OF OFFSET (KHz) TRX0=600.0;

Connect (*) : RC 0-1 (Packet: connection, RC1 enables S1/S2 buttons) TRX0=RC1;
IP(disconnects user only)

Scanning : SG 0-1

STEPPIR : SRx (x: H=HOME, I= INTERFACE, S=SET, 0= AUTOOFF, 1=AUTO ON,

C= CALIBRATE, N=NORMAL, B=BI-DIR, R= 180°, 3=3/4W, P= POLL)

WATCHDOG : WD 0000-3600Watch dog delay

BAND : BDJ J=Band 0-13

PASSWORD : PAXXXXXXXX; XXXXXXXX= Password (caps ON)

UPD LVL (*) : UL (update levels)

CAT Cmd : CM (reserved)

CAT Status : DT (reserved)

Type TRX : TY (reserved)

TRX-Command : MA (reserved)

Meter : ME (reserved)

OLE Data : OL (reserved)

Message : MG (reserved)

LINEAR : LI (0=OFF 1=ON 2=OPER 3=STBY)

(*) These commands are not generated by the program and must be introduced from the keyboard.

The parameters are as follows:

OFF : 0

ON : 1

VFO A : 0

VFO B : 1

VFO C : 2 (=CH)

LSB : 0

USB : 1

```
CW    : 2

AM    : 3

FM    : 4

RTTY  : 5

PKT   : 6

6K    : 4

2.4K  : 0

2.0K  : 1

0.5K  : 2

0.25K : 3

Band  : 0->13(Gen->70cm)

CH    : 1-99

p     : LPT Port (1-4)

i     : 0/1/- State for pins 2 to 9 (for LPT Port p)

      : 0=low state 1= high state -=no change

RP    : 1-2 Rotor interface number (see Setup)
```

0 Current rotor interface

Real remote control mode

For experts

The function described below is only available for the TS-480 TS-590S/SG TS-2000/B2000, Elecraft K2 K3 KX2 KX3 and ICOM transceivers.

Before reading this section it is recommend you are familiar with the standard remote control interface of TRX-Manager, IP connections and how to configure a network.

An more sophisticated method of remote control

The standard remote control mode of TRX-Manager provides the same standard interface for all transceivers, requires a low bandwidth, is simple to use, is very reliable and supports the most useful functions of a transceiver. However, if you control a TS-480 TS-590 TS-B2000, TS-2000 a K2 (Extended) K3 KX2 KX3 or an ICOM, you may find that a lot of functions are missing and not supported by the standard remote interface.

To bypass this limitation, TRX-Manager can operate the com port of a TS-480 TS-590S/SG TS-2000 (TSB-2000) K2 K3 KX2 KX3 (Extended) or any ICOM via a LAN or through the Internet: this is the real remote control mode . In fact, you use the program (almost) exactly as if the port is open from the CLIENT station: all data to/from the com port of the transceiver are forwarded by the network. This control mode is very similar to the use of a serial device server and may be even more efficient since TRX-Manager filters the useless data, avoids redundant commands and in some cases uses efficient macro-commands.

The Real-mode is only available for the transceivers listed above. Keyers, Rotators, Wattmeters are supported and controlled using the same commands than in standard mode.

Requirements

The minimal requirements are:

- a fast network (>10MB/s)
- operating the transceiver at the highest speed (>= 19200 Bauds)

Configuration

You must configure the program as follow:

1) SERVER station

- Same configuration as for the standard interface but UDP protocol is recommended.

2) CLIENT station

2.2) Setup/TRX1..4

- Transceiver: You must check select the desired transceiver (TS-2000, Elecraft K2, K3 KX2 KX3, TS-480 TS-590S/SG or any ICOM) and check IP Port.
- Rotators, Wattmeter: Remote must be selected selected

- CW Keyer: 2 possibilities
  1. REMOTE selected as com port from the Setup/CW Tab (CW Internal, if available is equivalent). You use your keyboard for CW Keying
  2. WINKEY is selected and CW Internal is NOT checked: in addition to the keyboard, you can use your paddle connected to the Winkey device for CW Keying

2.1) Remote TRX

Same configuration as for the standard control mode using the same protocol as the one set for the SERVER computer (UDP recommended).

Operation

1. You connect the SERVER computer from the CLIENT computer using exactly the same procedure and settings than for the standard mode of control. The communication is first established using the standard mode of control.
2. You open the Monitoring window
3. Once you confirm the link is established you click the REAL MODE button at the bottom of the Remote TRX window. 

4. The green led lights and the Monitoring is refreshed
   Now, you have full control over your remote transceiver via IP from the Monitoring window and all other windows of TRX-Manager.

Operating tips

You can even control the memory channels but you may find the program too slow for this application!
The Monitoring's update button forces a polling for the full status of the rig
Macro-commands and rotator control of the Remote Window are still usable in Real control mode.
Should this happen, you may toggle from Real Mode to Standard mode by clicking in the Remote control interface.
The sliders do not support the mouse-wheel in real-mode. Please use the mouse movements only.
"Auto" settings such as : Tuner, Antenna, Linear, RF Power, Band decoder are set by the SERVER computer only (the CLIENT computer's settings are ineffective). The AUTO-MODE's preset filters and Band Plan are set by the SERVER for DX Spots and by the CLIENT for a manual selection (both computers must be set up accordingly). AUTO-MODE is switchable from the CLIENT computer.

Note for ICOMs

When a command is sent using the real remote control mode, the CLIENT station does not wait for the OK message (acknowledge) from the transceiver. However, the SERVER station, by waiting for the OK message, does check if the command has been accepted and send it twice if necessary... Errors at the com port are minimized but in some rare cases, since pollings of some parameters, especially Split (*) are not supported, an erroneous display and a wrong operation is possible. From this point of view, the standard remote control mode is more secure.

(*) Frequency and Mode pollings are supported by all ICOM rigs. RX/TX polling is not supported by all ICOM rigs.

Alternatives to the remote control function

While the TRX-Manager's standard remote control mode (A) is economical, powerful and simple to use, and will work with almost any network connection, there are a couple of alternate methods available which have been used successfully in conjunction with TRX-Manager. Depending on your particular needs, these methods may be attractive to you. The most viable methods are listed below :

B) Using the real remote control mode of TRX-Manager (TS-480/2000/590 K2 K3 ICOM). This mode gives you remote control exactly as if the com port is open from the CLIENT station and is very similar to the use of a serial device server or a remoterig device with LESS data exchanged! However, it requires an excellent IP connexion,

C) The TRX-Manager's Web Server is very easy to use and universal since its Web Interface works from any system but it has very limited functions and interactivity is reduced

D) Use of serial device servers (including Remoterig device). This method of remote control involves using a remote computer running a server software and/or standalone hardware devices to make remote serial ports appear to be located at a local computer. The method provides direct control of the remote rigs, rotators, etc. In order to improve operation with this method, it is desirable to disable the Dual Control mode of TRX-Manager (see also Disabling Dual Control). On Elecraft K2, K3, you have to check the LPBridge, Serial server option.

E) Use of desktop remote control software (like pcAnywhere, winVNC, or Teamviewer...). This is a simple method to setup and use, but requires that all software be located on the remote computer. The "feel" of this method depends on the speed of the network connection.

These alternate methods of remote control are listed for reference only, and are not supported functions, beyond what is presented here. As with TRX-Manager Remote Control, these methods may not support all functions of your particular rig. For further support/information about these methods, please check the archives on the TRX-Manager mailing list... and the N8LP's web site.

Solutions >	A	B	C	D	E
Master software	TRX-Manager	TRX-Manager	any Internet Browser	TRX-Manager	Remote Desktop software
Slave software	TRX-Manager	TRX-Manager	TRX-Manager	Serial Device Server	Remote Desktop software + TRX-Manager
Remode control mode	Standard Remote	Real mode (TCP/IP)	Web Server	Serial server	-
Supported Network	Packet & Telnet (Internet, Home network)	Telnet (Internet with reservation, Ethernet)	Web (Internet, Ethernet, WiFi, Cellular network)	Home Network	Web (Internet with reservation, Home Network)
Supported transceivers	All	All ICOM, TS-2000/480 K2	All	All ICOM, TS450/850 and older Kenwoods	All
Remote control	Critical and essential functions + Rotator	All functions + Rotators	Critical functions only + rotator, Interactivity reduced	All functions	All functions + Rotator
Logging, DxSpotting	Supported	Supported	Only spotting supported	Supported	Not supported
Master Setup	Remote selected	Real rig selected TCP/IP=ON	-	Real rig selected Dual	-
Master Preferences	Remote=ON Master=ON	Remote=ON Master=ON	-	Remote=OFF Polling Delay	-
Slave Setup	Real rig selected	Real rig selected	Web Server activated	-	Real rig selected
Slave Preferences	Remote=ON Slave=ON	Remote=ON Master=ON	-	-	Remote=OFF
Pro/Con	Easy to use, fast but limited functions, recommended for Internet	Protocol optimized, very efficient for Home Network	Very easy to use, universal but interactivity reduced	Protocol not optimized	Slow, no logging (or via the remote desktop) but not specific

The various way of remote control using TRX-Manager

Web Server

TRX-Manager's Web Server is a very different and alternative approach to the standard remote control via Packet or IP.

Thanks to a Web interface, remote control is possible from any computer regardless of its operating system (Linux, Apple, Android, SmartPhone...) equipped with an audio link via Skype (or other). However, this method of remote control is more limited with less interactivity than standard remote control.

The Web interface supports the most basic functions of the transceiver and provides rotor control and a small CW interface. Audio transmission is not supported. Standard (or Real) remote control and Web Server may be used simultaneously.

Warning

Making your IP address public exposes you to malevolent intrusions.

Quick Start

Before you configure the Web Server, it is recommended you perform a quick test using the computer where TRX-Manager is running and the initial default parameters.

1. Open the WebServer from the Transceiver / Web Server submenu,
2. Keep the default parameters: (Port 80 checked, Password unchecked),
3. Activate the Web Server by clicking the OPEN button,
4. Using the same computer, from your Internet browser, type in this URL in the address bar : http://127.0.0.1 (*) and click the GO button or click
5. The Web Interface opens in the browser and you can familiarize with the controls

See also

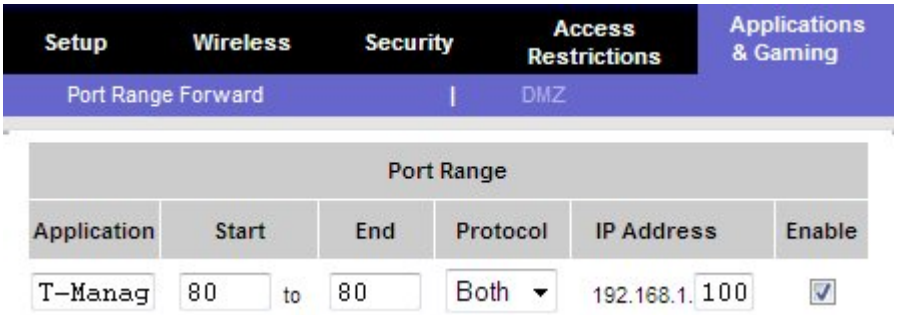
Smartphone instructions by PDA (PDF)

(*) Note : 127.0.0.1 is not a local address but a standard address only used for a loopback connection on a same computer. Do not use this address later for external access (Internet or Local).

Setting up your router and your firewall

To allow access from the Internet, setting up the router (if you use one) is mandatory in order to forward all incoming requests, for the specified port, to the computer where TRX-Manager is running.

Below is the configuration of a Linksys router for the port 80. TRX-Manager is installed on the computer which has a local address of 192.168.1.100.



Setting up a Linksys Router

Note : this setting does not affect Web activities for other computers of the local network since it only affects incoming requests, not outgoing data.

It may be necessary to set up your firewall to allow for external requests on the specified port.

Setting up the server

Port, two cases are possible :

1. Port 80 checked : the port in use is the port 80 (default port for the Web). This is the easier way to use the Web Interface but for security reasons, it is recommended you use another port.
2. Port 80 unchecked : you type in the port of your choice (i.e 8500) but you must also specify the base address of the computer; it is a local address for local access only and the Router's Internet IP for Internet access (*).
(*) Note : The specified address and port are coded in the head's Base tag (<BASE ref =… >) of the html page. If the address is wrong, the interface may display the first time but control will not be possible. Generally the Internet address of the router works even with local access.

Password, there are two choices

1. Password not checked : in that case, control is available to all users at the same time. There is no logging and (no log of users).
2. Password checked : you type in the Password (any length) and the maximum period of inactivity (in minutes) after which the server automatically disconnects. In that case, only one user can control the radio at the same time. In case of inactivity, the server disconnects after the specified delay. All users are logged in by IP in the webserver.log file.

Auto Refresh

If auto refresh is checked please specify the delay (2-30s) after which the page is refreshed. A refresh is done only once after the most cririca commands. 5s is recommended.

Viewport (iPhone)

Set up for the initial scale of the screen (in Pixels).

Tag

Adds a user defined tag in the <Head> section of the page. I.E:

<body onload="window.scrollTo(0, 1)"> hides the URL bar on the Safari browser.

<meta name="viewport" content="width=300px"> forces the zoom for a width of 300 pixels (to be adjusted to your smartphone)

Setting up remote control

You may specify some limitations such as :

- TX (authorization for TXing), Frequency Range (in MHz, for TXing), Maximum Power in Watts,
- Authorization for using the Rotor ,
- Maximum AF volume for the receiver (0-255),
- DX Spots relay, maximum number of Spots and display of the DXCC Award status (by colors) (*),
- Predefined CW messages and Macros ; however, these parameters may be edited dynamically from the Web Interface
- Logbook : allows quick logging of the current Spot (QSO must be edited for additional information such as DXCC country...).
  (*) Note : in all cases, Spots relayed by the WebServer are those received from the Telnet/Packetor WebCluster TRX-Manager's interface (if active) using the filters defined under the Preferences of the Terminal or of the WebCluster.

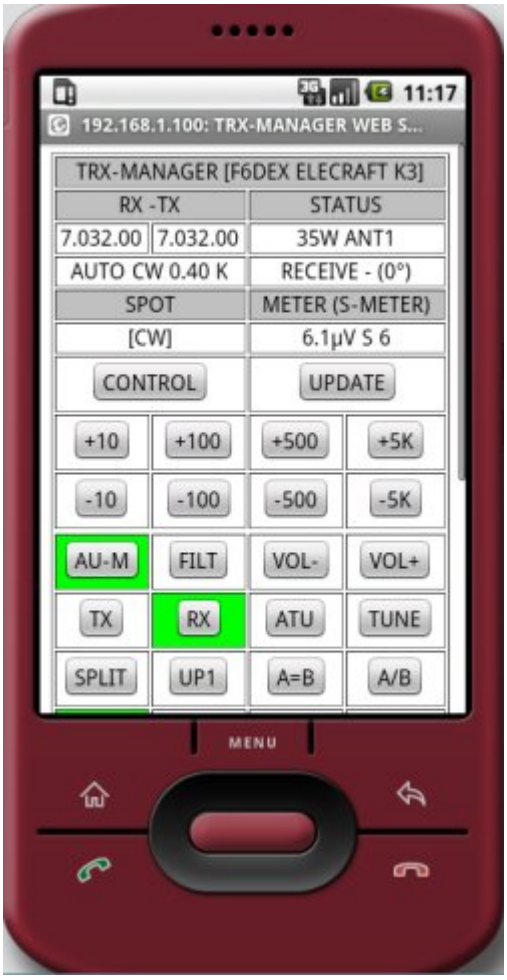
Using the Web Interface

From the Server computer (which controls the station), please launch TRX-Manager and the Monitoring. If needed launch the WebCluster or connect a Telnet Cluster to relay spots. Activate the Web Server (Transceiver / Web Server submenu) using the OPEN button.

From the remote computer or device, please launch its Internet browser and connect to TRX-Manager by typing in the Server's address in the URL field of the browser ; click the GO button of the brower. If you connect from a local network, you use a local address such as http://192..... If you connect from the Internet, you must use the Internet IP of the router.

If the defined port is not 80, you must specify the port by adding the suffix :nn(nn= port)to the web address (i.e < /FONT> http://192.168.1.100:8500 if 8500 is the specified port).

If a Password is requested, a welcome page displays. Type in the Password and click Enter. If the Password is valid, the Web Interface is displayed.



TRX-Manager from a SmartPhone (Android)

Implemented controls are simple and easy to understand. The interface is compact enough to display on small screens.

- CONTROL (PANEL) opens/closes a frequency/mode... settings entry box.
- (STATUS) UPDATE is an important button which synchronizes the display of the Web Interface and the real parameters of the station. It should be noted that often a delay of a few seconds after a command is sent and confirmation received from TRX will occur (auto-refresh checked and a delay of 5s generally solves this problem).
- DISCONNECT manually disconnects (in case a password is requested).
- SPOTS opens/closes the DX Spots display (if available).

Update of the display is automatic after the most critical commands if auto refresh is checked . It may also require, in any cases, manually clicking the (STATUS) UPDATE button. The layout of the Web Interface may differ according the remote control' options.

Tip

On iPhone the free application Vanilla Surf may give better results than Safari making possible for the user hiding the top and bottom interaction lines.

Troubleshooting

No connection possible

please do a quick test of the Web Server as indicated in the Quick Start section. Don't forget to activate the Web Server by clicking the OPEN button. If this test is successful, either the addresses are wrong or your router is not properly configured. Please consult the manuals of

your devices ; there are 3 main areas to check: 1. the router for correct port forwarding, 2. windows firewall, 3. virus software

The Web Interface displays the first time but control is never possible

Probably the specified base address is wrong (especially for internet access) or port is wrong.

Disabling Dual Control (for experts)

TRX-Manager - by default - features a "dual control" of the transceiver: any action on the rig is detected by the program and the new state of the transceiver is displayed by the interface. It uses the full communication protocol and checks that any action from the program has been accepted by the rig before displaying it on the interface.

In some cases, this dual control is not desirable: especially when your transceiver is remotely controlled, not using the remote control feature of TRX-manager (which requires two versions of the program running on two computers) but through a serial device server or any system which emulates a remote com port (virtual port). In such cases, not only is the dual control not essential, but it requires a very fast connection and increases the flow of data.

Disabling the dual control reduces the data flow to the strictly necessary bytes to control your transceiver.

To disable the dual control, you have to uncheck the Dual control option (Setup/TRX.) or to check the LPBridge, Serial server option (K2, K3). This option is not available for all rigs : if this option does not appear (TS-480/2000/590), or is grayed out, TRX-Manager does not support it for the selected rig. As implied in the introduction, this option can degrade the reliability of the CAT control, and it is not the normal mode of operation for TRX-Manager!

Using TRX-Manager with dual control disabled

The behaviour of the program may be very different from one transceiver to another and depends on the way you connect the remote transceiver to the local computer. The common characteristic is that, with dual control disabled, polling are disabled ; this does not mean that it is not possible to retrieve the state of the distant transceiver :

- On Icom, Kenwood, recent Yaesu, the rigs are interrupt driven: if your connection is bi-directional, a number of key functions will be updated at the conclusion of any tuning commands, including frequency. There is almost no difference with the "dual control" mode except that any protocol is ignored. The recent rigs send automatically any change of their status (no polling required),
- On Old Yaesus, the full display is updated at startup and, if necessary, by pressing the Update button (see below); however the update function still requires a very fast bi-directional connection. If you can not update the display properly it is advised to set up TRX-Manager for the generic Yaesu transceiver under Setup/TRX... this option stays compatible with FT-990/1000/D/MP and does not require a bi-directional connection.

Functions

It may be necessary, from time to time, to poll the transceiver for it's complete status by pressing the Update button  of the Monitoring panel.

Sending CW

TRX-Manager provides a small terminal (Tools/CW Keyer) for transmission (but not the reception) of Morse code. You may use :

- The TRX-Manager's CW generator: TRX-Manager keys the RTS or DTR line of a serial port or the Select line of a parallel port. A specific but inexpensive switching interface is required between the com port (or LPT port) and the Key line of your transceiver.
- A Winkey Keyer
- The Internal electronic keyer (CAT) of the TS-480/570/590/870/990/2000/K2/K3/KX3 transceivers

You configure the CW Keyer to be used from the Setup dialog.

Related Topics

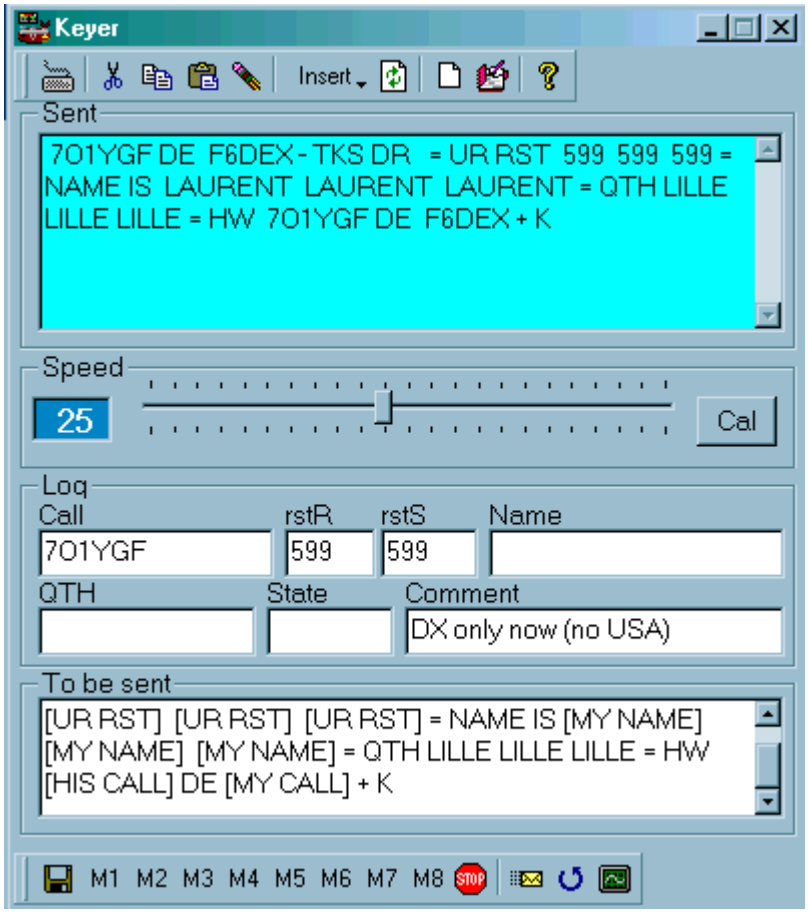
Elecraft
TS-2000/570/480/590
TS-990S
Winkey
CW Skimmer Interface

From this terminal, you:

- compose messages, send them immediately or store them in memory
- send CW messages in line mode (the message is sent after the Enter key has been pressed)
- send message in character mode (each character is sent immediately after being typed)
- have a quick access for logging
- can use macros

Support is provided for special characters, CQ sequencing, control of the TX line

Interface



Sensitive image
Move the mouse over the picture for more information

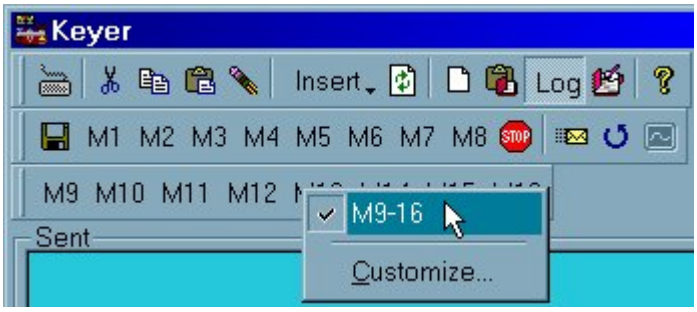
Tips

It is suggested that only experienced CW operators use this interface... it is also advised to plug a traditional key in parallel with the PC. You also have to disable the internal electronic keyer of your transceiver.

Composing, sending and storing messages

Adjust your speed (1 to 50 words minute) as you wish using the slider.

Compose your messages from the To be sent dialog box then click the Sendbutton (Ctrl-K)for an immediate transmission. You may store the message in memory by clicking the Save button then the number messageM1-16.



The Toolbar displays M1-8 by default. To display M9-16, please right click the toolbar and check M9-16

To send a stored message, click the corresponding button M1-16 (or F1 to F8 keys). You will be able to edit it and to store it again.

The Stop button (CTRL+F12) stops the transmission (sometime with a delay). The detection of a TX interrupt command also stops the transmission immediately.

> Note
>
> If you move the mouse during the transmission, speed will be slowed down or random.

Typing your messages

Line mode

Type your message and press the Enter key: the corresponding line will be transmitted. A buffer allows you to type the next lines without being obliged to wait for the end of the transmission.

Characters mode

Press the Keyboard button in order to engage the character mode and then begin typing of your message : the transmission starts immediately. The Enter key generates the +K code.

Using macros

Some different macros are available from the Insert menu. This function is not available in characters mode but it is still possible to use quick macros made up of special characters.

Quick logging

The interface displays the logbook's most often used fields (Log frame is switchable using the Log 's toolbar button.). Please fill in these fields in order to activate the corresponding macros. Press the Log button (CTRL-S or F12) to log and save the QSO or the Paste To Log button (Ctrl-P) to log without saving the QSO in order to let you to complete all fields.

CW Interface settings

This section describes how to configure the TRX-Manager for CW Keying:

A : TRX-Manager as CW Generator
B : Keying using the internal CAT Keyer of the transceiver
C : Keying using Winkey

A) TRX-MANAGER AS CW GENERATOR

TRX-Manager generates CW and keys the RTS/DTR lines of a serial port or the Select line of a parallel port.

You configure the CW keyer from the CW tab of the Parameters/Setup dialog.

However, please uncheck the Internal CW option for the transceiver to be used with this keyer since CW Internal has the priority over any other settings of the CW Tab for a transceiver which supports keying via CAT (see C).

A.1) SERIAL PORT

How to choose the serial port and the line to use ?

The CW interface keys the DTR or RTS line of a serial port. As DTR or RTS lines are not used by all the serial ports, you can use an already occupied port provided you make sure that its DTR or RTS line is free.

For your information, from TRX-Manager:

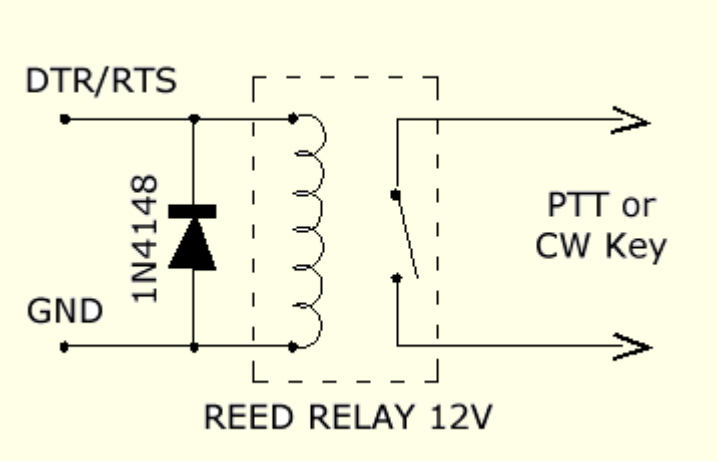
- DTR or RTS lines of the Transceiver ports can be disabled in order to be available for CW (then check the correct operation of your CAT interface)
- DTR or RTS lines of a TNC are both used and are therefore not available for CW
- RTS and DTR lines of the Rotators are reserved and are therefore not available for CW.
  If you carry out a bad selection, TRX-Manager prompts a warning message but you could also note a continuous key-down condition. Your choice must be coherent with the choice made for the PTT line.

Under Windows ME

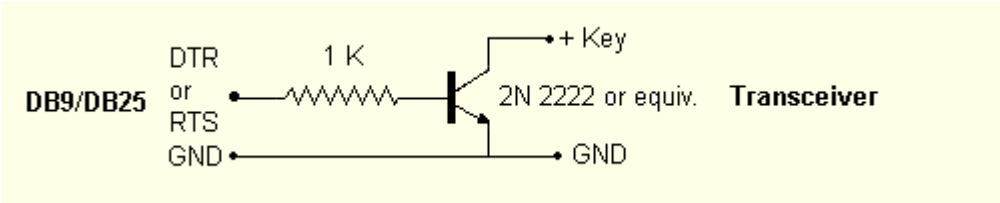
Please see the Troubleshooting/Serial port section for more information about the DTR and RTS lines.

A.2) Serial Interface Interface wiring

The interface, identical to that of other programs, is very simple to build. The level of RTS (or DTR) lines passes from -12v to +12v with the rhythm of CW Keying. A 1N4148 diode makes it possible to chop the -12v signal whereas a fast relay (standard reed DIL) is switched by the +12v. The whole unit can be assembled in a DB9 or DB 25 connector.



Serial interface using a reed relay



Serial interface using a transistor (positive keying - not isolated)

On a DB25 serial port connector, pin 20 is DTR, pin 4 is RTS, and Signal Gnd is pin 7.

On a DB9 serial port connector, pin 4 is DTR, pin 7 is RTS, and Signal Gnd is pin 5.

A.3) PTT Switching

If the CW Port is not the Transceiver Port, TRX-Manager also puts a PTT signal on the unused line of the CW port (not related with PTT switching which is always on TRX port). I.E : You key the RTS line : a PTT signal is available on DTR line for PTT switching.

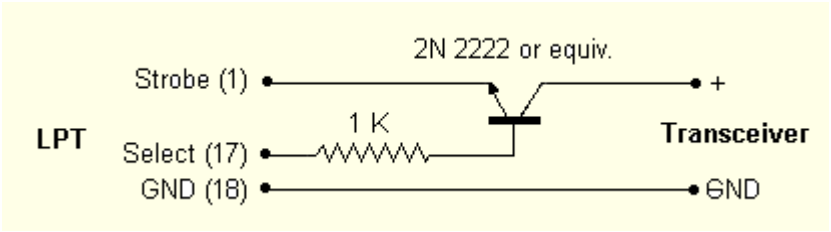
A more sophisticated PTT switching via the normal TRX-Manager's PTT Lineis also available by using the Auto TX feature.

A.4) PARALLEL PORT

How to choose the parallel port

The CW interface keys the Select line of a parallel port. You must choose a free LPT port because the CW Interface can not be used with any other device (i.e. a printer, rotor...). However, it is compatible with the band decoder of TRX-Manager.

The program keys the Select line (Pin 17) while state of Strobe (Pin 1) is low. The CW interface is compatible with the interfaces of the other popular programs :



Parallel interface (positive keying - not isolated)

A.5) System priority

An important parameter is the priority you grant to the CW transmission compared to the other programs. Indeed, Windows is a pre-emptive multitasking system : that means that it shares the CPU time to the various programs to enable them to be carried out simultaneously (at least seemingly).

This principle is not very compatible with the generation of CW code! Therefore TRX-Manager sets by default the High priority option which slows down execution of the other programs loaded in memory. Please check the Normal option if you encounter crashes or check the Real Time option to stop all the other programs.

Of course, TRX-Manager resets to its initial priorities when the CW transmission is ended.

During the CW transmission, sound is disabled the same as when the Web Cluster automatically loads. The mouse remains active but it is advised to leave it motionless in order not to slow down the keying.

B) KEYING VIA CAT (INTERNAL CW KEYER)

Direct Keying via CAT is possible for some transceivers by checking the CW Internal option under the tab of the corresponding transceiver (TRX1-4). This option is available with TS-570/870/2000/590/990 K2/K3/KX3 OR for Remote operation (from CLIENT). In these cases, you don't need any additional interface.

Please note the CW Internal options (TRX1..4 tabs) have the priority over any other settings of the CW Tab for a transceiver which supports keying via CAT. This option has no effect for a transceiver which does not support keying via CAT and in that case TRX-Manager applies settings of the CW tab.

C) KEYING USING WINKEY

Please see the specific section of the help related to Winkey.

Other settings to choose from Setup

For all configurations.

- Special characters: related to the CW Characters set,
- TX Auto: automatic switch into TX mode (not available with CW Internal and Winkey options)
- TX Delay: delay between TX mode and beginning of the transmission,
- CQ Delay: delay for the CQ Sequencer.

Auto TX

In CW, automatic switch of the station into TX is done normally by the Break-In or the VOX of the transceiver.

In certain cases (use of a linear amplifier or a preamplifier), it can be useful to sequence the switch into TX by first issuing a separate command to close the PTT line before actual transmissions begin. In this case, TRX-manager then operates as follows:

1. Switching into TX by the selected line (CAT, DTR or RTS)
2. Incorporating the TX Delayspecified in Setup
3. Checking of the state of the transceiver
4. If TX, sending of the CW.
   AUTO TX is Not supported by Winkey or a Kenwood/Elecraft CAT interface.

Activation

It is advised to not use this function if you do not have a real need for it, and the necessary electronic interfaces are constructed.

To activate AUTO TX, you have to check the Auto TX option (Setup , under CW) : the switch is done then by the CAT (RS-232) or the serial line (DTR or RTS) according to the selection for the PTT line made under TRX1. CW is sent after the specified TX delay (CW tab).

Please note that using the Break-In is then not possible and does not make any sense in this case.

Possible problems

By safety, TRX-Manager checks that the transceiver is in transmit mode before sending CW ; also, if you receive the message TX ERROR, it can have several causes :

- you choose to switch into TX by the CAT but your transceiver does not have this function,
- your transceiver does not return any data indicating the TX mode,
- the TX Delay is too short
- the monitoring module is not under operation.
  When TX ERROR is displayed, the CW interface is deactivated (you must close it then to start it again). You will have also to choose a switch into TX by DTR or RTS line and/or, if necessary, to increase the value for TX Delay.

In addition, it is possible that this function is unusable with some transceivers taking into account the variety of the behaviors of the various models.

Tip

In order to check if your transceiver communicates to the PC the TX/RX mode changes, proceed as follows:

Open the monitoring module,

Switch into TX directly from the transceiver
Check that the monitoring indicates TX... in the Status box.

If your transceiver does not communicate this data (case of old ICOM transceivers), this function is usable but there is no checking of the state of the transceiver before the sending of CW.

Warning

In spite of the apparent simplicity of this function, it invokes a complex logic. It is advised to carry out many tests before using it with a preamplifier or a linear amplifier. It is essential to switch Off VOX and BreaK In in order to prevent any undesired starting of a CW transmission. In the same way, an independent checking circuit is necessary in order to prevent any effect of the failures of the program, erratic behavior of the communications protocol, or a serial connection which is not 100% reliable.

CW Macros

The Macros are predefined fields made up of the current parameters such as your callsign but also that of the station you're working, his name etc... Extended macros allow you advanced features. Macros are used in the CW module and in the MMVARI module.

Available macros

The macros are inserted in the message at the current position of the cursor using the Insert (or Macros) menu. The program inserts the following fields :

[MY CALL] : your callsign (your UserID)

[UR RST] : the report sent to the station

[MY QTH] : your QTH (Preferences/Location)

[MY RIG] : the transceiver in use

[MY NAME] : your first name (Preferences/Location)

[PWR] : the power (Preferences/Logbook)

[TRX-MANAGER] : your favourite program !

[ID] : [HIS CALL] DE [MY CALL]

[HIS CALL] : the callsign of the station in QSO

[HIS NAME] : the first name of the station in QSO

[HIS QTH] : the QTH of the station in QSO

[DATE] : current date - Windows format (Date tab)

[TIME] : current time

[STX] : serial number (contest)

[MY GRID] : your GRID (Locator)

[MY STATE] : your State

Note

Please do not edit the text inserted inside square brackets. This may prevents the program from being able to understand the macros.

Quick macros

When using the character mode, insertion function is not available ; however, you still can use the following special characters :

µ: [MY CALL]

\: [MY CALL]

*: [MY NAME]

%: [MY QTH]

!: [RST]

@: [HIS CALL]

#: [HIS NAME]

§: [TRX-MANAGER]

{: VE

}: VA

|: AS

_: Space

Please see this strange QSO with Gerry VE6LB :

@ de µ = tks fer call = ur rst ! ! ! = name * * * = qth % % % = how dr # ? +K

Which means :

VE6LB DE F6DEX = TKS FER CALL = UR RST 599 599 599 = NAME LAURENT LAURENT LAURENT = QTH LILLE LILLE LILLE = HOW DR GERRY ? +K

Extended macros (CW Keyer only)

These macros allow you programming of the CW sequencer. These macros use the following format :

[X:Y] with X=command Y=Parameter

Value for X :

N=retries the message the specified number Y of time
D=repeats the message while duration is less than Y
M=inserts message Y
P=dynamically changes the length of the particular CQ delay mode selected to the specified Y seconds
C=0/1 permits changing the CQ mode from pause (standard) to period
S= Speed Change Buffered (Winkey only) with Y = speed in WPM.
H= HSCW Speed change (same as above for HSCW) with Y= speed in WPM
B=Cancel Buffered Speed Change (Winkey only), no parameter

Example 1) Schedule (synchronized timing) mode (CW Sequencing)

[C:1] [P:120] CQ DE F6DEX [D:60] +K

The program will repeat the message (CQ de F6DEX) during 60 seconds and end with +K. The CQ mode is period : this message will start again after the 120 seconds following the beginning of the sequence (at 00:00, then 00:02).

Note

You must press the CQ Sequencing button and the corresponding message button to engage the loop.

Example 2) Standard CQ mode (CW Sequencing)

[C:0] [P:60] CQ de F6DEX [N:3] +K

The program will repeat CQ de F6DEX 3 times then end with +K. After the message has been sent, the program pauses 60 seconds (cq mode= pause) and starts a new CQ.

Note

You must press the CQ Sequencing button and the corresponding message button to engage the loop.

CQ Sequencing

TRX-manager includes a sophisticated CQ sequencer.

Principle

The cycle button  makes it possible to launch a loop of CQ calls (or any other message). The delay between calls (CQ Delay) is specified from the Setup under CW (Pause mode is the default). This is the delay between the beginning of the first CQ and the begenning of the second CQ (this delay includes the duration of the CQ call).

Operation

Any message can be used for CQ repeating (looping) calls : press first the cycle button  followed by the number of the desired message (M1-M16) or  .

This function can be used simultaneously with the automatic switching into TX feature.

Between the calls, the loop stops automatically as soon as you switch into TX manually. During a call, you must use the STOP button  to stop the transmission or the TX interrupt function (running faster than the Stop button).

Modes Pause and Period

By default, the CQ sequencer uses the Pause mode : it means that the messages are repeated after the CQ delaydefined from the Setup. However, the extended macros make it possible to modify the duration of pause for each message or to switch into Period mode : in this last case the messages are repeated with regular intervals as from the beginning of the first message (this mode is used for meteor scatter or moonbounce operation, in which synchronized transmitting and receiving sequences are required).

CW Characters set

TRX-Manager provides support for most of the Morse characters. However some characters are not used very often and thus ignored by most HAM operators. The Special characters option (Setup) allows you to disable these characters.

Not supported by Winkey or a Kenwood CAT interface.

Standards characters

- alphabet A-Z
- number 0-9
- standard punctuation = / + ?

Special characters

- É È Ç Ä À Ö Ñ Ü Å
- punctuation - ( ) . , : ' _ & $ "

Shortcut keys (characters mode only)

- End =VA
- Home=VE
- Entrée=+K
- BkSp=Error
- Pause=AS

Quick macros codes

The µ * % ! @ # § { } |characters are used by macros .

Winkey Interface

TRX-Manager provides extensive (local) support for the K1EL's Winkey & Winkey2 interface.

Winkey2, WKUSB

TRX-Manager automatically detects Winkey2. Configuration panel slightly differs taking advantage of specific Winkey2's functions. In addition, if you use WKUSB you may assign each Winkey's PushButton either to a message (macro undchecked) or a macro-command (macro checked) to be sent to your transceiver.

Setting up TRX-Manager

To operate Winkey, please open the Parameters/Setup dialog and select the CW tab. Select the Serial Com port from Setup/CW tab and check the Winkey option.

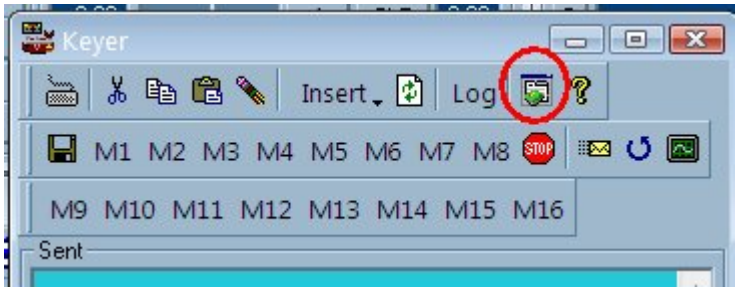
Dual Ctrl. (Dual Control) is checked by default. You should set OFF Dual Ctrl. only if you use Winkey through a serial server (in order to reduce the communications between Winkey and TRX-Manager during transmission of morse code).

Notes

Please uncheck the Internal CW option (TRX1..4 tab) for the transceiver to be used with Winkey since CW Internal has the priority over any other settings of the CW Tab for a transceiver which supports keying via CAT.
Opening the Keyer modules opens the Winkey's com port; the port is closed by closing the Keyer module. At startup, TRX-Manager displays the ROM revision code in the status bar.

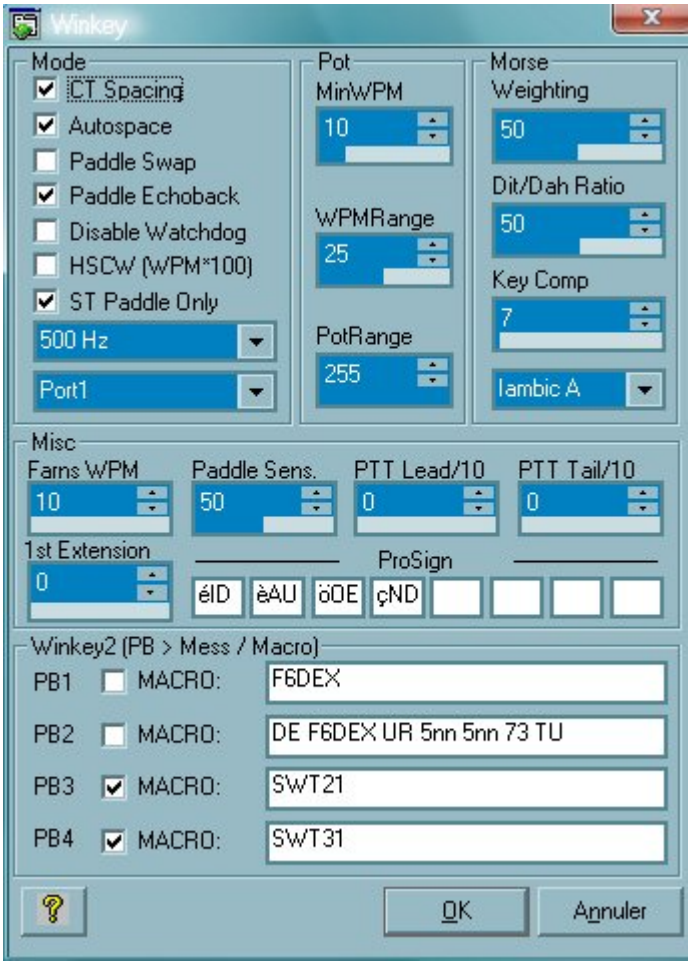
Configuring Winkey

Once TRX-manager is set up for Winkey, exit and restart. Now, please open the Keyer module from the Tools/Keyer submenu. If Winkey is properly configured, the Winkey's ROM revision code appears in the status bar and the toolbars of the keyer module shows a Winkey icon as follow:



Keyer window and Winkey icon

Please note, each time you run TRX-Manager, Winkey is configured with the TRX-Manager's settings. Consequently, the first time you run Winkey from TRX-Manager, it is important you click the the Winkey Icon in order to configure Winkey.



Winkey configuration dialog
ENLARGE the window if this icon does not appear

Please see Winkey's user manual for more information about the parameters.

Some of these parameters (Weighting, Dit/Dah ratio, Key comp, Port) are saved BY Transceiver (TRX1...4).

Prosigns

TRX-Manager's prosigns (see Macro) have the priority over Winkey's prosigns and can not be (re)defined. TRX-Manager's CW special characters set is not supported by Winkey.

From the Winkey's configuration dialog, you may merge up to 8 pairs of letters into a prosign. One application of this feature is to send special European language characters : i.e éID means letter é will be sent by merging I and D (..-..).

Following prosigns : µ \ ! % & * § @ # } { | [ ] ~ « » are not permitted since they are used by TRX-Manager.

TRX-Manager's Winkey interface understand _ (underscore) as space making possible additional spaces between letters.

Advanced functions

- BackSpace backups the input buffer pointer by one character. This command is only meaningful if there is something in the serial input buffer, otherwise it is ignored,
- CTRL+F12 stops the transmission (same effect than a paddle press),
- Pot button gives the priority to the Speed pot (at startup TRX-Manager takes the speed from Speed pot),

- Change Speed Buffered and Cancel Buffered Speed Change functions are supported by inserting macros into your messages : [S:wpm] : to change Speed and [B:] : to cancel Speed change with wpm is the desired speed in Word per Minute,
- HSCW Speed change is supported by inserting macros into your message [H:lpm] where lpm is the desired speed. Use [B:] to cancel HSCW Speed change.This allows you to insert an HSCW burst in a regular CW message or to put HSCW bursts of two different rates into the same message.

CW Skimmer Interface

CW Skimmer by Alex VE3NEA is a panoramic, multi-channel CW decoder and analyzer.

How to synchronize with CWSkimmer

TRX-Manager provides different ways to synchronize with CW Skimmer.

Telnet Link

CW Skimmer has a built-in "read-only" Telnet cluster server. The clients can connect to this server and receive DX spots. In addition, when the operator clicks on the callsign on the Band Map, in the Callsign List dialog or in the Received Text panel, the CW Skimmer server sends an announcement message to all connected clients such as "To ALL de SKIMMER <2014Z> : Clicked on "TI8/DL4MO" at 14012.9" TRX-Manager uses this feature to populate callsigns and frequencies. This way of use is only OK with an external fixed LO SDR receiver or an external wideband SDR Receiver but it does not work properly with a K3 or a classic transceiver with an IF adapter ...

Limitations

The Telnet link may also be used with a IF adapter (like LP-Pan) but with limited functionalities. You can see CW frames on CWSkimmer and click to set a frequency however, relative position of "spots" in CW skimmer are not properly updated while you change the frequency from TRX-Manager or your rig. The solution in this case is to use the OmniRig transceiver.

OmniRig setup

From the Setup dialog, you must configure TRX-Manager for OmniRig. The drawback is that OmniRig has limited CAT functionalities.

Tip

OmniRig is the recommended link between CWSkimmer and third party programs by Alex VE3NEA.

See also

Alex VE3NEA Web site
Omnirig (Other brands)

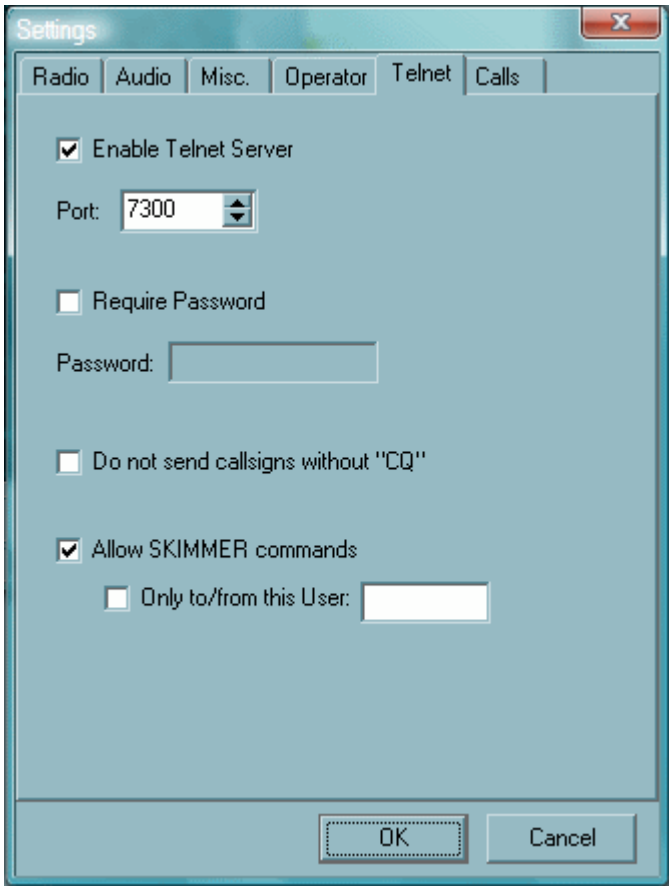
Synchro port

You use the TRX-Manager's synchro port function along with a port mapping software or a null modem cable and two free serial ports...

Setting up CW Skimmer (for a Telnet link)

Generally two cases are possible:

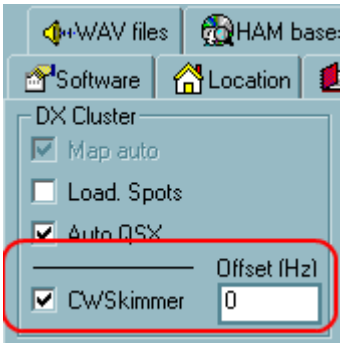
1. You use a SDR receiver with a fixed central frequency: under the Radio tab, please choose SOFTROCK or 3kHz Radio option (or any external SDR) , fill in the central frequency (LO Frequency) and the Pitch . Some adjustements of LO frequency may be required to synchronize the programs.
2. You use a panoramic adapter centered on the transceiver's local IF Frequency (typical setup for a K3 + LP-Pan): under the Radio tab, please choose SOFTROCK-IF option and fill in Pitch and Offset with the correct values. Eventually you need to adjust the Offset parameter under TRX-Manager's Preferences to synchronize frequencies between TRX-Manager and CW Skimmer (however 0 is OK in most cases). Under the Misc tab, UNCHECK Decode only in the CW Segment in order to allow CW Decoding for "relative" frequencies.
   Now, from CW Skimmer's Telnet tab, configure CW Skimmer to enable the built-in Telnet server and to allow Skimmer commands. Please keep 7300 as Telnet port.



CW Skimmer's settings

Setting up TRX-Manager

Few settings are required since you connect CW Skimmer like any DX Cluster server from the Terminal (Telnet) interface. Just check CW Skimmer under Preferences/Spots-Web Terminal tab and fill in the desired Offset (in Hz) between TRX-Manager and CW Skimmer (Offfset can be used to compensate a shift between CW Skimmer and the real frequency).

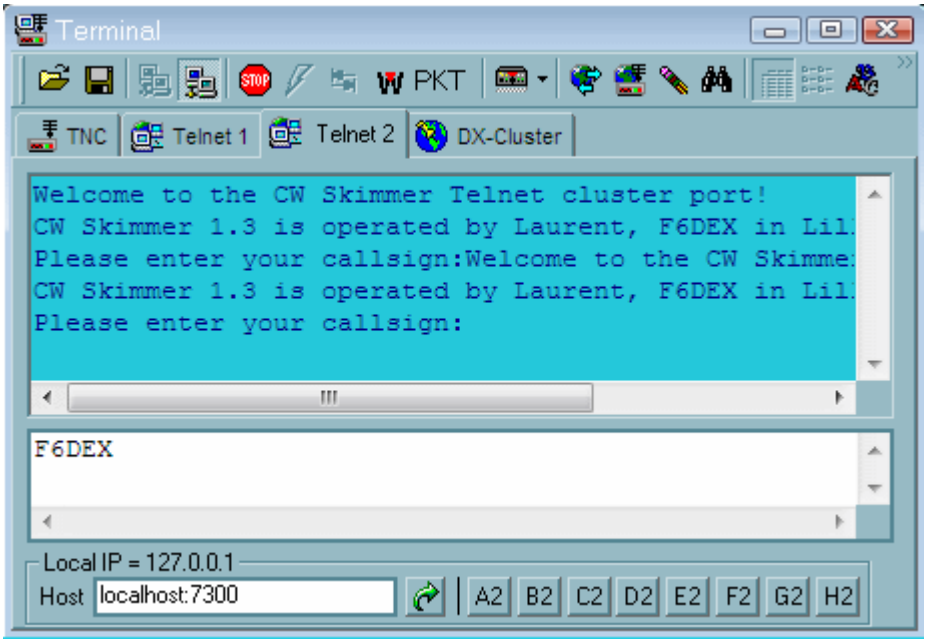


TRX-Manager's settings

Using TRX-Manager and CW Skimmer together (Telnet Link)

> **Note**
>
> Please launch TRX-Manager BEFORE CW Skimmer (to prevent CW Skimmer from opening the serial port).

Please open the TRX-Manager's Terminal and under Telnet 1 or Telnet 2, connect CW Skimmer. In a local network, Host is always localhost:7300



Connecting CW Skimmer

Now TRX-Manager populates CW Skimmer's Spots (like other spots) ; if you set CW Skimmer on a new frequency, TRX-Manager populates the callsign and set up your transceiver in synchro with CW Skimmer.

Possible problems

- if you note a shift between TRX-Manager and CW Skimmer, please adjust the Offset (Hz) parameter under Preferences/Spots-Web Terminal tab until both programs are synchronized. If frequencies are reversed, swap I/Q channels under CW Skimmer's Audio tab.
- relative positions of Spots may be shifted between TRX-manager and CWSkimmer with Softrock-IF setup.

Digital modes - Overview

TRX-Manager can be used in conjunction with various digital modes engine.

Note

With a digital mode program, it is recommended to set AUTO-MODE OFF in TRX-Manager since the segments defined in the band plan may be NOT compatible with the various digital modes.

MMVARI

The MMVARI engine, written by Makoto Mori JE3HHT, supports digital modes such as RTTY (Baudot), PSK (BPSK MFSK QPSK), GMSK... A very efficient MMVARI interface has been written for TRX-Manager for the best possible interactivity and the MMVARI engine is included in the distribution package for TRX-Manager and installs automatically. MMVARI is recommended for RTTY and PSK.

FLDIGI

See Fldigi

TRX-Manager synchronizes with Fldigi using the XML RPC protocol (via Ethernet). Fldigi written by David Freese, W1HKJ, allows computer operation of almost all amateur radio digital modes. TRX-manager communicates with Fldigi to set the current frequency and mode of a digital spot and to retrieve the current logging information. TRX-Manager also offers some specific functions such as automatic re-alignement SSB/FSK, automatic adjustement of RF Power, macro-commands for RX/TX...

MULTIPSK

See MULTIPSK

TRX-Manager synchronizes with MULTIPSK using the TCP/IP Protocol (via Ethernet). MULTIPSK is a very comprehensive software written by Patrick F6CTE which supports an impressive number of digital modes including SSTV and many professional modes not available with any other software. TRX-Manager also offers some specific functions such as automatic re-alignement SSB/FSK, automatic adjustement of RF Power, macro-commands for RX/TX...

HAMSCOPE

HAMSCOPE synchronizes with TRX-Manager using the TRX-Manager's OLE engine. No setting is required from TRX-Manager. However, HAMSCOPE itself is no more supported by its author.

JT65-HB9HQX

JT65- HB9HQX synchronizes with TRX-Manager using the TRX-Manager's OLE engine (shares

the logbook and the control of the radio). No setting is required from TRX-Manager. Please see the HB9HQX's software intructions for the configuration with TRX-Manager.

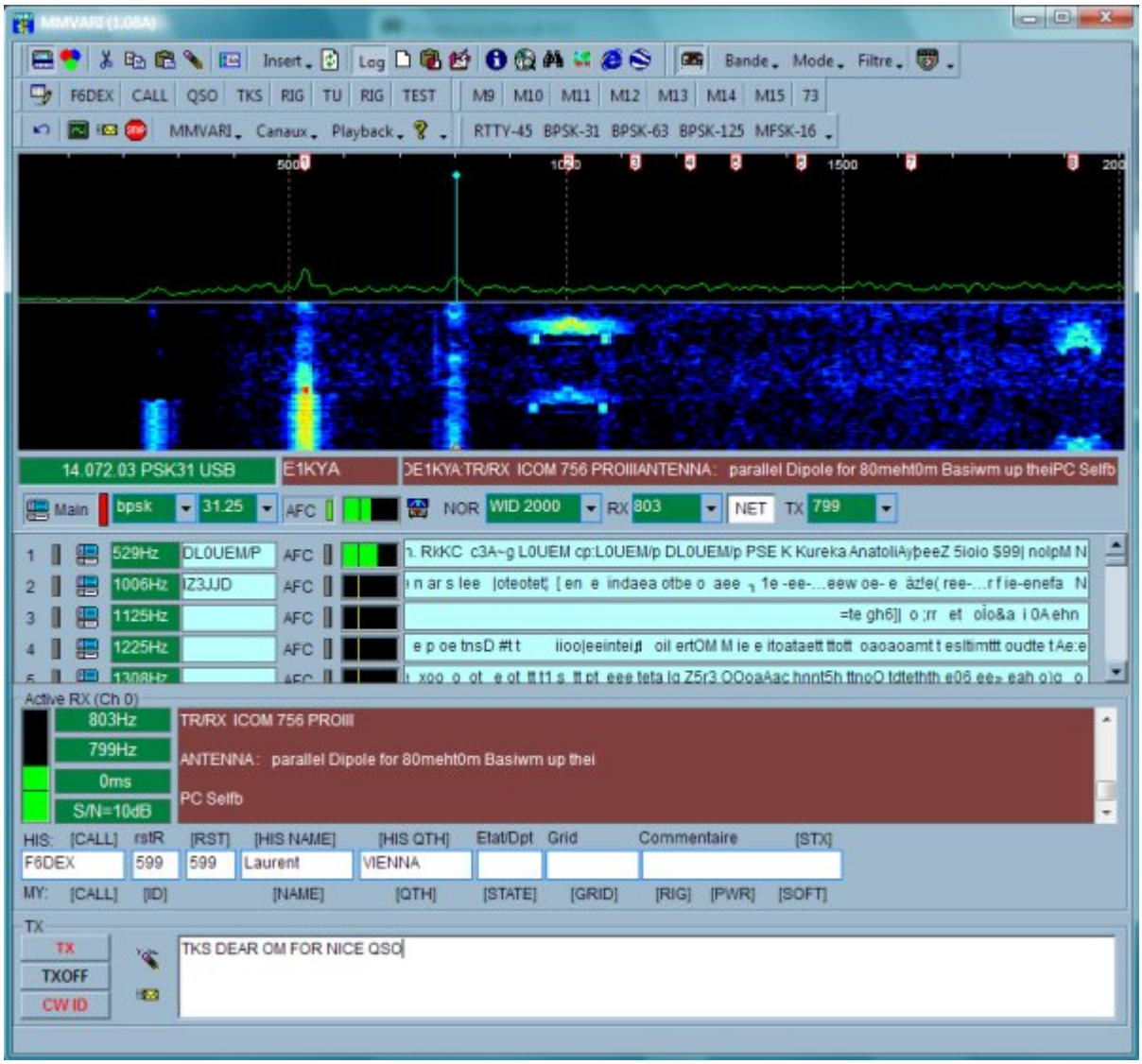
WSJT-X (and JTAlert)

WSJT-X written by Joe Taylor, K1JT can be synchronized with TRX-Manager using the TRXNET TCP/IP interface.

MMVARI (Operating)

The MMVARI Module is based on the MMVARI Engine by Makoto Mori, JE3HHT. It supports digital modes such as RTTY (Baudot), PSK (BPSK MFSK QPSK), GMSK... and can deal with the Varicode optimized for MBCS (however MBCS is not supported by TRX-Manager). The MMVARI engine is included in the distribution package for TRX-Manager and you don't need to install MMVARI on your computer.

You launch the MMVARI module from the External/MMVARI submenu. While the most of parameters and settings are about the same than for the MMVARI stand alone application, the user-interface is specific to TRX-Manager.



See also

MMVARI Settings

Getting started (RX)

Important notes

The Monitoring must be running during the operation of MMVARI. Otherwise MMVARI is not set with the right sideband and mode. Keep TRX-Manager maximized: if TRX-Manager is minimized, the refresh rate is reduced.

The MMVARI engine is fully usable in demo mode (transceiver=demo, unregistered version) whatever the session and its duration. Don't forget to adjust the mode of the demo transceiver accordingly in order to have the right sideband selected.

The MMVARI modules is only supported with the main transceiver set as Operating transceiver. It is not supported in Remote mode.

The MMVARI windows being large it opens outside of the main window and minimizes in the task bar. To keep MMVARI on top, please engage the OnTop function of the toolbars.

You first have to set up the sound cards from the MMVARI/Sound cards submenu (or from the Preferences/Transceiver DIG tab). Eventually, you have to adjust the levels for the Record/Play channels from the Windows Sound Control Panel (MMVARI/Control (Sound) submenu).

Provided your sound card is correctly connected to the audio output of your transceiver, MMVARI is now usable in RX. Later you may adjust the various settings according to your Preferences and your operating practices.

When you start MMVARI, the RX Tone is always set to the default Tone for AFSK or Other (according to the Preferences and the selected mode). By L -Clicking the display (FFT or Waterfall), you set the Tone of the main channel to a new value. You click the NOR button to normalize the Tone and move the frequency of your transceiver accordingly.

AFC (automatic frequency control) is ON by default for the main channel (recommended).

If the Mode and Speed (and sideband) for the main channel are correctly set, the decoded text appears in the Window.

You can adjust the WIDTH of the FFT window to pre-set values. The FFT window adjusts itself so that the main channel is always visible (and if possible, centered).

It is generally easier to align the signal is SSB than with the narrow filtering of a Digital mode. If you use the Mode menu of the MMVARI module and toggle LSB/USB <-> FSK, TRX-manager shifts the frequency to preserve the current alignement. Shift is calculated according to the Carrier Offset values of the Preferences/DIG tab (in FSK: Carrier Offset=Mark+85). This function does not work with other mode or data mode or if you change the mode from the transceiver or the Monitoring.

Available modes in MMVARI

The current version of MMVARI (1.08a) supports the following modes:

GMSK MBCS experiment (HF)
FSK MBCS experiment (V/UHF) - NOT Baudot !
FSK-W MBCS experiment (V/UHF, satellite) - Not Baudot
BPSK MBCS experiment (HF) (USB)
bpsk Standard bpsk (USB)
rtty-L BAUDOT (LSB)

rtty-U BAUDOT (USB)
mfsk-L MFSK (LSB)
mfsk-U MFSK (USB)
qpsk-L Standard qpsk (LSB)
qpsk-U Standard qpsk (USB)
Generally, to run PSK, you select bpsk and USB. To run RTTY, you select rtty-L and LSB (AFSK).

For more information about the modes in MMVARI please see the MMVARI Website (HAMSoft).

Maximizing TRX-Manager from the MMVARI window

It may be sometime difficult to maximize the MMVARI window and/or the TRX-Manager window minimized in the task bar. This is caused by the communication loop which slightly reduces interactivity. If this happens, you can use (respectively) the TRX toggle (Maximize) of the MMVARI window or the External/MMVARI submenu of TRX-Manager.

Transmitting

First it is required to set the transmit audio level to avoid any degradation of your transmission and poor performance. You can adjust the digital level from TRX-Manager (Preferences/Transceiver DIG Tab, TX settings) and if this is not enough you have to adjust the output level from the Windows sound control panel (MMVARI/Control Panel submenu) and/or the MIC/Data gain of your transceiver. Overloading the sound card may cause malfunctions and sometime no audio out...

A good practice is to normalize the Tone and your transceiver before transmitting using the NOR button (mandatory in true FSK or true PSK modes). If NET is checked, the TX tone follows the RX tone according to the selected mode. However, AFC may cause the RX Tone fluctuating: consequently, it is possible to adjust the TX Tone to a preset value in that case by unchecking NET (this supposes that the RX Tone is normalized).

You compose your message from the TX Text Box (at the bottom of the window) and then click TX to send and TX OFF to toggle back to RX. If TX is engaged, you can type the text and it is sent immediately. MMVARI stays in iddle mode until you click TX OFF.

An alternative is to use the Send button (Ctrl-K). This button allows an immediate transmission of the text and toggles back to RX automatically at the end of the transmission.

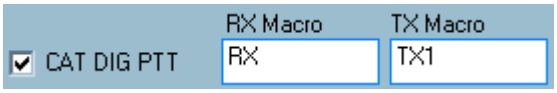
At the end of the transmission, you can send a CW ID using the CW ID button.

If necessary the STOP button stops any transmission immediately.

The Tune buton (RX/TX Toggle) sends a single tone for tuning.

Particular cases : Kenwood

If you use a Kenwood transceiver, when transmiting audio through the ACC port or the USB port, it is mandatory to set up MMVARI to use specific PTT CAT commands (CAT DIG PTT checked, RX Macro=RX, TX Macro=TX1).



The TX1 command mutes the microphone and opens the audio input of the ACC port while the normal PTT CAT command mutes the ACC port and opens the microphone input!

True FSK/PSK keying with a K3 or KX3

TRX-Manager takes advantage of the K3/KX3 true FSK/PSK keying capability (via CAT commands) if the K3/KX3 FSK/PSK option is selected (Preferences/DIG). You only need a cable between the Line output of the transceiver to the MIC/Line input of the computer (absolutely no other wiring is required)... Provided FSK or PSK is selected from the K3/KX3 and rtty-L or bpsk 31/63 is selected from MMVARI (respectively), keying is generated by the transceiver. Operation is similar (to MMVARI) but PTT keying is done by the transceiver in break-in mode.

In that case, please make sure to normalize your tonality before transmitting (and to CONFIG: FSK POL=1) by using correct Offset values matching the Pitch of the Transceiver : e.g. if 1445Hz is selected as Mark frequency in FSK (K3/KX3), 1525Hz must be defined as Carrier Offset. In PSK, the recommended Pitch/Offset is 1010Hz.

In true PSK or true FSK modes, the transmission is supposed to be related to the main channel only.

It is generally easier to align the signal in LSB (rtty-L) or USB (bpsk) than with the narrow filters of the FSK or PSK modes. Once the signal is aligned and decoded, use the Mode menu of the MMVARI window (and only this one) to toggle to FSK or PSK: the signal's alignement will be preserved and normalized.

Unfortunatley, with the current firmware of the K3/KX3, it is not possible to select the speed in PSK (31/63). You must use the DATA MD button and the VFO A to select 31 or 63.

Protection of the Final of your transceiver

If DIG power option is selected in the Preferences, TRX-Manager limits the RF power in DIGI mode to a fraction (%) of the Preferences Power by band (if Auto-settings is selected in Preferences/Transceiver/Misc tab) or to a fraction of the maximum power of your transceiver.

The sub Channels

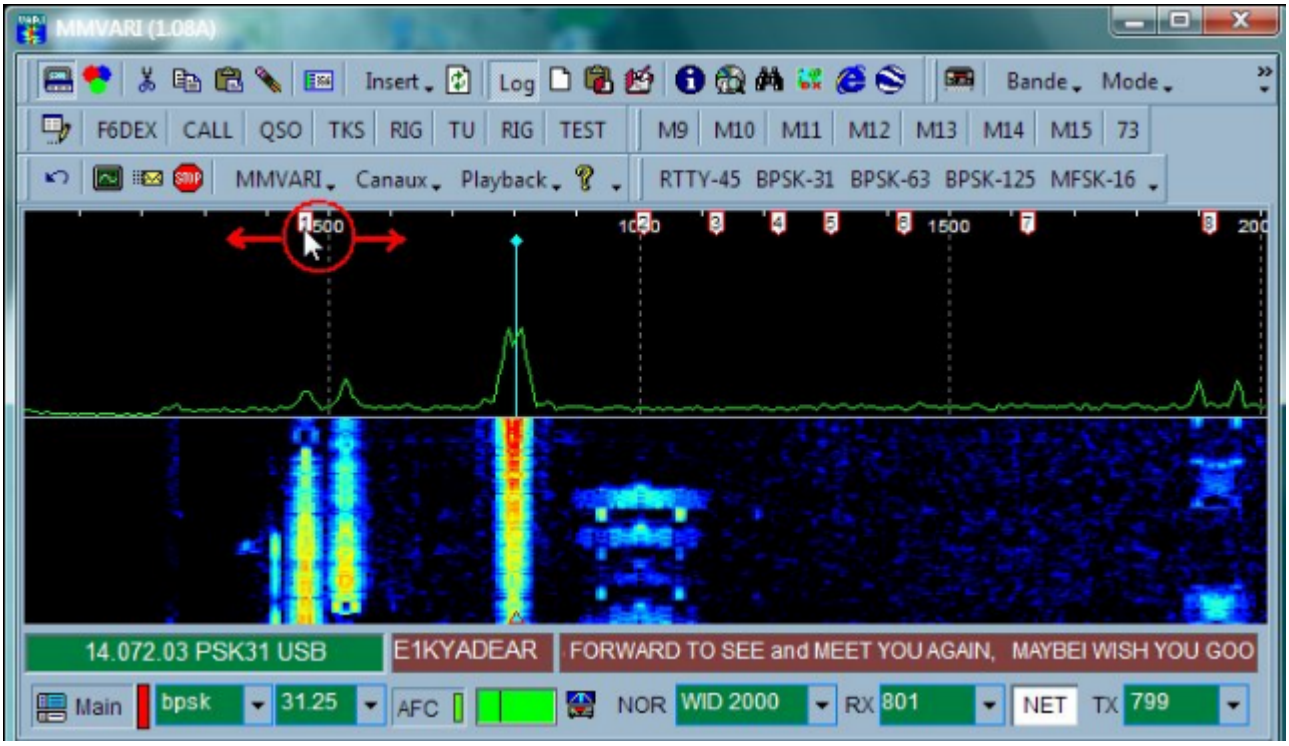
MMVARI can decode up to 24 sub channels simultaneously. You can select the desired number of sub channels from the Channels menu. However 8 sub channels is a good compromized while 24 can be confusing and consumes more CPU time and memory.

By default if ALL = MAIN is checked (Channels menu), the sub channels follow the mode of the main channel. If this option is NOT checked, you can select different modes and speeds for any sub channel.

At the beginning, it is recommended you keep AFC NOT checked for the sub channels: if AFC is selected some adjacent channels may quickly converge to the same frequency... However, once a channel is synchronized, you can engage AFC for this channel only. You can set AFC ON/OFF for all the channels simultaneously using the Channels/AFC ON /OFF submenu.

You can browse the different channels using the vertical scroll bar of the browser and make a sub channel Active by clicking its button (1-24). Once a channel is active, the decoded text appears in the Active RX frame and you can engage a QSO (the TX Tone always follows the RX Tone of a subchannel).

You can also swap the main channel and a sub channel by clicking the Swap button : the main channel becomes the Active channel in that case.



To set the tone of a sub channel, drag the label
or set this channel active and R-Click the waterfall.

You can move a channel by dragging its label. If a sub channel is active, you can R-Click the Waterfall to set the position (Tone) of this (active) subchannel (remember that a L-Click sets the Tone of the main channel only).

If necessary you can re-order the channels (by Tone) using the Channels/Order submenu and/or Reset all the channels to the default Tones at startup.

Advanced operation

Display, BPF (MMVARI menu)

By default MMVARI displays a FFT of the band pass at the top of the window and a Waterfall just below. From the MMVARI/FFT submenu you can change the type of graphic to display instead of the FFT: Sync, Signal. You can not change the Waterfall.

The FFT Scale and the Frequency scale can be adjusted. The Square amplitude option (FFT Scale) is recommended in most of the cases unless your noise level is very low. If RIG (RF) is selected in the Frequency Scale submenu, MMVARI displays the true frequency vs the Tone if Tone (AF) is selected.

The BPF submenu allows selecting a Wide (1000Hz)/Medium(500Hz)/Narrow(250) or Ultra-Narrow(100Hz) audio filter around the signal. However this selection does not have a

sensible effect because the filter is in the sound card and totally outside of the AGC loop of the transceiver.

Using macros

Different macro commands are available from the Macros menu (macros are similar to those used in the CW Keyer module) or from the Log frame. Just select the desired macro to insert the corresponding information in your text.

If Quick macros is enabled in the Macros menu, Quick Macros (@ µ * % ! ...) can be used and speed up the transmission. You have to disable this option if you want to send these characters!

Related Topics

See also CW Macros for more information about the Macros

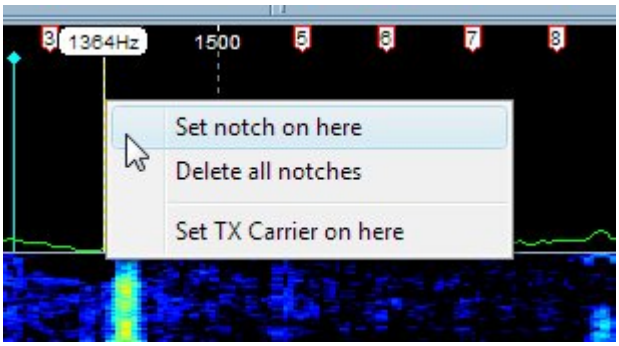
Preset messages

You can define up to 16 messages. First you click the Edit button to engage the Message editing mode and click the desired message button. This action opens the Edit frame at the bottom of the window. From this edit frame, you define the message's caption and you can compose the message by using (if required) the Macros menu to insert macros and/or the Cut/Paste/Copy functions. You save the message by clicking the Save button . The captions of the messages are limited to 6 characters. The messages are limited to 512 characters.

To send a preset message, click the corresponding button M1-16 (or F1 to F8 keys). The transmission stops at the end of the message (if TX is not engaged, otherwise, it is added to the text being transmitted).

Notches

MMVARI allows creating notches in the band pass : R -Click the FFT to create a notch. The same context menu allows deleting all the notches.



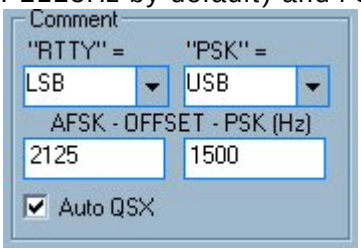
An R-Click on the FFT opens a context menu

DX Spotting

TRX-Manager can detect a spot with RTTY PSK31 PSK63... in the comment field and set the digital mode and offset accordingly. To enable this function you must select under Preferences/Software/DX Spots :

- a mode for RTTY : LSB USB FSK FSK-R FM and PSK : LSB USB DATA FM (recommended modes)

- an offset for AFSK (= Mark frequency: 2125Hz by default) and PSK (1500Hz by default)



recommended settings with most transceivers

Notes

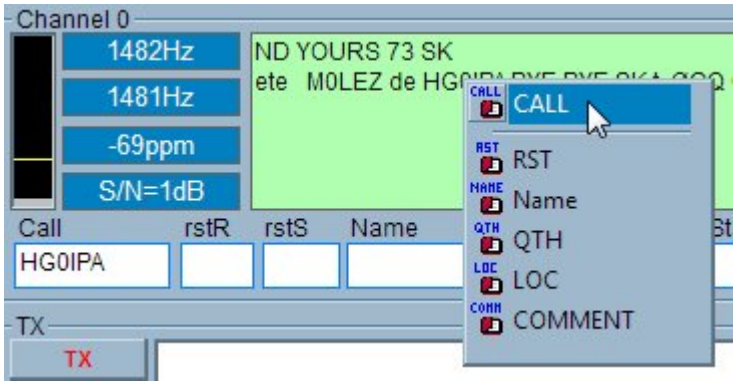
Offset in FSK, Data or FM mode is supposed to be zero. Offset is only used in SSB or AFSK to calculate the Carrier Frequency=+/-Offset(+/-85 in FSK),
If you select Plan, TRX-Manager does nothing else than setting the mode according to the band plan.

Logging a QSO

The interface displays the logbook's most often used fields (The Log frame is switchable using the Log 's toolbar button).

TRX-Manager automatically populates and memorizes the most used fields (Callsign, Name, QTH, RST, Loc...) for all the channels :

- If the fields are empty (if necessary use the Clear button to clear the fields), they are filled in (in real-time) with the last information decoded for the active channel,
- You may also use the Refresh button to refresh the fields with the last decoded values.
  However, this algorithm is not infaillible and you can select the strings manually with an R -Click (if necessary disable the continuous scrolling using the Scrolling button).



A Right click opens the LOG (context) menu

Press the Log button (CTRL-S or F12) to log and save the QSO or the Paste To Log button (Ctrl-P) to log without saving the QSO in order to let you to complete all fields from the Logbook.

An alternative is to use the SPOT function of the Logbook. MMVARI must be selected as Digital Interface (Preferences) :

- toggle the DIG button of the Logbook ON. This engages logging using the MMVARI's fields,
- click the Spot button of the logbook. TRX-Manager reads the MMVARI's log fields and fills in the corresponding fields of the logbook. You can complete the log with the necessary information using a CD-Rom or Internet.

- from the Logbook, press the Log button  or Ctrl-S or F12 to save the QSO .

 Related Topic

Logging a new QSO

 Not enough digital modes ?

The MMVARI engine provides the most current HAM Digital modes. If you need more digital modes, you can run the Fldigi interface simultaneously with the MMVARI engine. However, you must select Fldigi as DIG interface to activate the link between TRX-Manager and Fldigi. You can log either from MMVARI using the MMVARI's Logging functions or retrieve the Fldigi's logging information using the SPOT button of the logbook (see Fldigi).

Interface with Fldigi

Fldigi is a Digital modem program for Linux, Free-BSD, OS X, Windows XP, NT, W2K, Vista and Win7/8... TRX-Manager interfaces with Fldigi using the XML RPC protocol (via Internet/Ethernet).

Note

In principle, the XML RPC protocol does not require that both programs are running on the same computer. However, if synchronizing Fldigi with TRX-Manager is still possible in a local network (with a noticeable latency), this way of use is not recommended over the Internet.

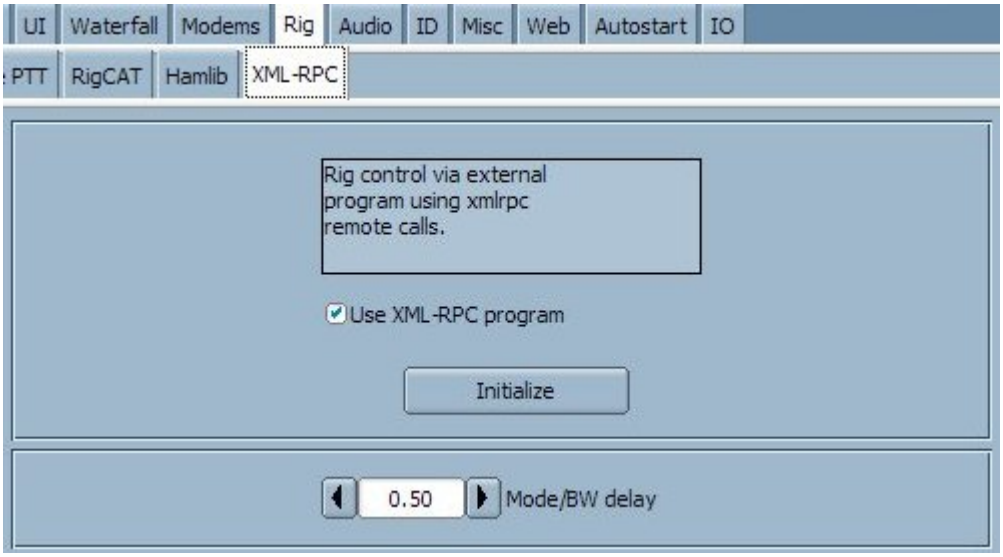
Installing Fldigi

This documentation does not describe how to install and operate Fldigi. Browsing the following sites is recommended:

- Download: http://www.w1hkj.com/Fldigi.html
- Documentation (beginners): http://www.w1hkj.com/beginners.html
- Documentation (Users Manual): http://www.w1hkj.com/FldigiHelp-3.22/index.html
TRX-Manager has been written for the 3.22.08 version of Fldigi.

Setting up Fldigi

To set up Fldigi for operating with TRX-manager, you just have to check the XML-RPC option under the Rig / XML-RPC tab of the Fldigi's configuration dialog. You have to click The Initialize button the first time you set up Fldigi.

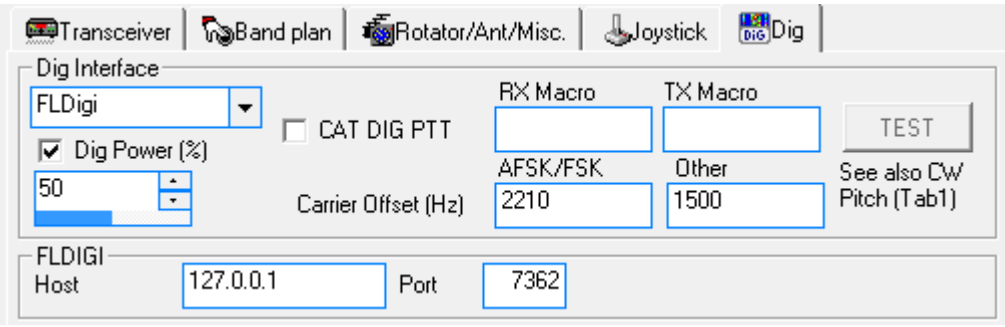


Fldigi's configuration dialog

Do no configure any other Rig or PTT control mode.

Setting up TRX-manager

You set up TRX-Manager for Fldigi from the Transceiver/Preferences dialog under the DIG tab.



TRX-Manager's settings

Settings are:

- Type: Fldigi
- Host: 127.0.0.1 is the default if you use Fldigi on the same computer than TRX-Manager. Otherwise, you indicate the IP Address of the computer on which Fldigi is installed
- Port: 7362 is the default. An Fldigi's command line allows using an other IP port.
- Dig Power: Digital power. If this option is checked, TRX-Manager limits RF Power to a fraction of the reference power (default power by band or Max power of the transceiver).
- CAT DIG PTT: (optional) you can indicate specific CAT commands for RX and TX (macro-commands) as required by some transceivers in data mode when the ACC port or the USB port is in use (Kenwood: RX TX1)
- Carrier offset: you indicate the default carrier offset for FSK or AFSK (default 2210Hz) and the other modes (default 1500Hz). Generally, the carrier offset is the center frequency of the bandwidth of your transceiver for the data mode. If you use the LSB mode (AFSK), the carrier Offset is not very important provided the carrier frequency is within your passband.

Note

The RTTY/PSK offsets indicated in the first Transceiver tab are NOT used by the TRX-Manager/Fldigi interface. They are only used to calculate the correct frequency of a DX-Spot in data-mode.

The CW pitch indicated in the Transceiver tab is used by the TRX-Manager/Fldigi interface to calculate the carrier frequency.

Interfacing TRX-Manager and Fldigi

Once both programs are set up, you can run TRX-manager and Fldigi simultaneously.

If you run TRX-Manager and Fldigi on the same computer (Host=127.0.0.1), you can start/stop TRX-Manager and Fldigi in any order.

Warnings

You may have to set up your firewall to not block TRX-Manager and Fldigi for the specified port (even if you use both programs on the same computer).

If Fldigi and TRX-manager are not installed on the same computer (Host address different from 127.0.0.1):

you may have to set up your router or your network accordingly
you must start Fldigi BEFORE TRX-Manager, otherwise, and error will occur and TRX-Manager will disables the Fldigi interface (you just have to launch it again from the

Preferences/Transceiver/DIG by selecting Fldigi as DIG interface).

Important notes

The Monitoring must be running during the operation of Fldigi. Otherwise Fldigi is not set with the right sideband and mode. Keep TRX-Manager maximized: if TRX-Manager is minimized, the refresh rate is reduced.

The Fldigi interface is only supported with the main transceiver set as Operating transceiver. It is not supported in Remote mode.

TRX-manager communicates with Fldigi and set the current frequency, spot and select the correct sideband. As soon as you change the frequency from your rig or TRX-manager, the carrier offset is reinitialized.

By default the LSB mode is recommended in RTTY and USB in PSK. You can use the Fldigi user-interface to change the mode, however, if you use one of the data mode of your transceiver, you must select it from TRX-manager. From Fldigi, the REV mode allows selecting CW-R or FSK-R.

When you start Fldigi, the RX Tone is always set to the default Tone for AFSK or Other (according to the Preferences and the selected mode). You can click the Normalize button of the Transceiver menu to normalize the Tone and move the frequency of your transceiver accordingly (NOR is equivalent to the Fldigi's QSY function).

It is highly recommended you only use the Fldigi's user-interface to control the RX/TX state. Fldigi communicates with TRX-manager which controls your transceiver using the PTT mode you have defined from Setup TRX1..4 or the DIG CAT Commands of the DIG Preferences. A slight delay is possible depending on your transceiver ; this is why a PTT delay is adjustable from Fldigi.

Maximizing TRX-Manager from Fldigi

It may be sometime difficult to maximize TRX-Manager from the taskbar while Fldigi is running. This is caused by the communication loop running even if the application is minimized. You can retry several time or just type MAX or + in the call field from Fldigi to maximize TRX-Manager!

DX Spotting

TRX-Manager can detect a spot with RTTY PSK31 PSK63... in the comment field and set the digital mode and offset accordingly. To enable this function you must select under Preferences/Software/DX Spots :

- a mode for RTTY : LSB USB FSK FSK-R FM and PSK : LSB USB DATA FM
- an offset for AFSK (Mark frequency= 2125Hz by default) and PSK (1500Hz by default)

recommended settings

Notes

Offset in FSK, Data or FM mode is supposed to be zero. Offset is only used in SSB to calculate the carrier frequency=+/-Offset(+85 in FSK),
If you select Plan, TRX-Manager does nothing else than setting the mode according to the band plan.

Logging a QSO

You can use the Fldigi user interface to fill in the various fields required for logging and log this QSO into the TRX-Manager's database as follow

- toggle the DIG button of the Logbook ON. This engages logging using the Fldigi's fields,
- click the Spot button of the logbook. TRX-Manager reads the Fldigi's log fields and fills in the corresponding fields of the logbook. You can complete the log with the necessary information using a CD-Rom or Internet. Press the Log button or Ctrl-S or F12 to save the QSO.
  See also: Logging a new QSO

Notes

II you log a QSO from Fldigi (by clicking the Save button), it is not transferred into the TRX-Manager's logbook.

As soon as you introduce a callsign into Fldigi, it becomes the TRX-Manager's current spot.

The following fields are transferred from Fldigi to TRX-Manager :

Callsign
Mark frequency (RTTY), carrier frequency (other modes)
Modem mode
RSI In/Out
QTH State Province
Locator
Notes
Exchange (contest mode)
Serial number (contest mode)

Normalizing the Tone

From the Transceiver's menu, the Normalize function helps to center the current station

MULTIPSK

MULTIPSK is a comprehensive Digital modem program written by Patrick F6CTE. TRX-Manager interfaces with MULTIPSK using the TCP/IP protocol (via Internet/Ethernet).

Note

In principle, the TCP/IP interface does not require that both programs are running on the same computer. However, if synchronizing MULTIPSK with TRX-Manager is still possible in a local network (with a noticeable latency), this way of use is not recommended over the Internet.

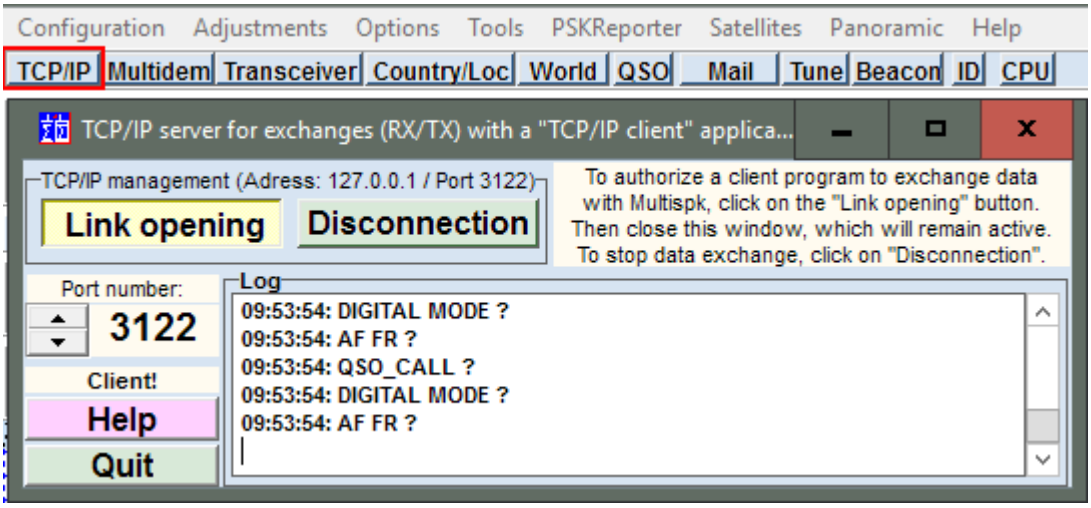
Installing MULTIPSK

This documentation does not describe how to install and operate MULTIPSK. Please download MULTIPSK from the F6CTE's web site: http://f6cte.free.fr/

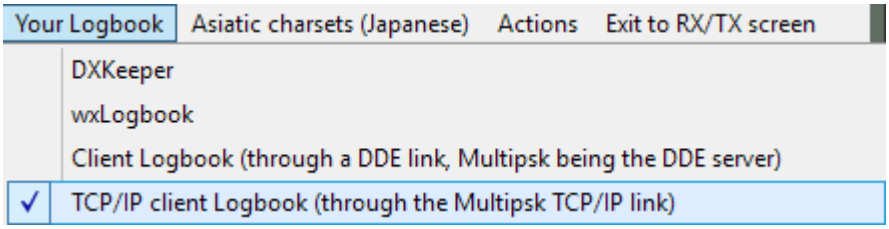
TRX-Manager has been written for the 4.31.22 version of MULTIPSK.

Setting up MULTIPSK

From the RX/TX screen of MULTIPSK, click the TCP/IP button to open the TCP/IP Server dialog. You can define here the IP Port (3122 by default) and you click LINK OPENING to open the TCP/IP link.

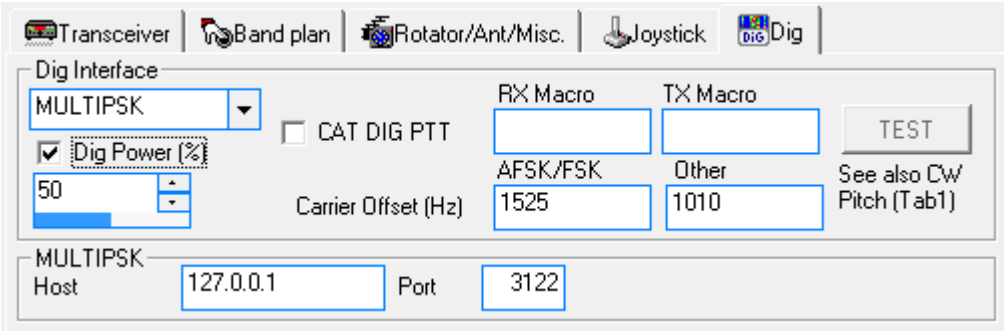


From the Configuration screen, select Your Logbook = TCP/IP client Logbook.



Setting up TRX-manager

You set up TRX-Manager for MULTIPSK from the Transceiver/Preferences dialog under the DIG tab.



TRX-Manager's settings

Settings are:

- Type: MULTIPSK
- Host: 127.0.0.1 is the default if you use MULTIPSK on the same computer than TRX-Manager. Otherwise, you indicate the IP Address of the computer on which MULTIPSK is installed
- Port: 3122 is the default. You can defne an other port from the MULTIPSK's Server dialog.
- Dig Power: Digital power. If this option is checked, TRX-Manager limits RF Power to a fraction of the reference power (default power by band or Max power of the transceiver).
- CAT DIG PTT: (optional) you can indicate specific CAT commands for RX and TX (macro-commands) as required by some transceivers in data mode when the ACC port or the USB port is in use (Kenwood: RX TX1)
- Carrier offset: you indicate the default carrier offset for FSK or AFSK (default 2210Hz) and the other modes (default 1500Hz). Generally, the carrier offset is the center frequency of the bandwidth of your transceiver for the data mode. If you use the LSB mode (AFSK), the carrier Offset is not very important provided the carrier frequency is within your passband.

Note

The RTTY/PSK offsets indicated in the first Transceiver tab are NOT used by the TRX-Manager/MULTIPSK interface. They are only used to calculate the correct frequency of a DX-Spot in data-mode.

Interfacing TRX-Manager and MULTIPSK

Once both programs are set up, you can run TRX-manager and MULTIPSK simultaneously.

You can start/stop TRX-Manager and MULTIPSK in any order. However, if you start TRX-Manager FIRST, you must enable the TCP/IP link using the main toolbar's MULTIPSK button (ON/OFF) or from the External menu.

Warnings

You may have to set up your firewall to not block TRX-Manager and MULTIPSK for the specified port (even if you use both programs on the same computer).

If MULTIPSK and TRX-manager are not installed on the same computer (Host address different from 127.0.0.1), you may have to set up your router or your network accordingly.

Important notes

The Monitoring must be running during the operation of MULTIPSK. Otherwise MULTIPSK is not set with the right sideband and mode. Keep TRX-Manager maximized: if TRX-Manager is minimized, the refresh rate is reduced.

The MULTIPSK interface is only supported with the main transceiver set as Operating transceiver. It is not supported in Remote mode.

TRX-manager communicates with MULTIPSK the current frequency and mode and shares the logging data with MULTIPSK.

When you start MULTIPSK, the AF Frequency is set according to the MULTIPSK's settings. From TRX-Manager, you can click the Normalize button of the Transceiver menu to normalize the Tone (to the value defined under Preferences/DIG tab) and move the frequency of your transceiver accordingly. While the NOR function is almost equivalent to the MULTIPSK's ALIGN function, it is optimized for TRX-Manager (especially if you use a DATA mode) and it is recommended to align from TRX-manager.

It is highly recommended you only use the MULTIPSK's user-interface to control the RX/TX state. MULTIPSK communicates with TRX-manager which controls your transceiver using the PTT mode you have defined from Setup TRX1..4 or the DIG CAT Commands of the DIG Preferences. A slight delay is possible depending on your transceiver.

Sideband

Unlike MMVARI or Fldigi, MULTIPSK decodes all the modem-modes (RTTY included) using the upper sideband. Consequently, pay attention to select R-FSK or R-AFSK or R-DATA in RTTY (and all other modes) from your transceiver. If necessary and if you use only MULTIPSK, you can define Reverse RTTY as default from the Preferences/Transceiver tab.

DX Spotting

TRX-Manager can detect a spot with RTTY PSK31 PSK63... in the comment field and set the digital mode and offset accordingly. To enable this function you must select under Preferences/Software/DX Spots :

- a mode for RTTY : LSB USB FSK FSK-R FM and PSK : LSB USB DATA FM
- an offset for AFSK (Mark frequency= 2125Hz by default) and PSK (1500Hz by default)

recommended settings

Notes

Offset in FSK, Data or FM mode is supposed to be zero. Offset is only used in SSB to calculate the carrier frequency=+/-Offset(+85 in FSK),
If you select Plan, TRX-Manager does nothing else than setting the mode according to the band plan.

Logging a QSO

You can use the MULTIPSK user interface to fill in the various fields required for logging and log this QSO into the TRX-Manager's database as follow

- toggle the DIG button of the Logbook ON. This engages logging using the MULTIPSK's fields,
- click the LOG TCP/IP CLIENT button from MULTIPSK in order to transfer all the logging data to the TRX-Manager's logbook. You can complete the log with the necessary information using a CD-Rom or Internet. Press the Log button or Ctrl-S or F12 to save the QSO.
- if the DIG button of the logbook is not checked when you click LOG TCP/IP CLIENT from MULTIPSK, the data are still transferred to TRX-Manager but you must click the Spot button to fill in the fields of the logbook. See also: Logging a new QSO

Notes

Il you log a QSO from MULTIPSK (by clicking the QSO>LOG button), it is not transferred into the TRX-Manager's logbook.

The following fields are transferred from MULTIPSK to TRX-Manager :

Callsign
Name
Modem mode
Frequency (Carrier or Mark)
RST In/Out
QTH
Locator
Comment
QSL R/S

WSJT-X

WSJT-X, written by Joe Taylor, K1JT and suported by a team of active developpers implements communication protocols or "modes" called FT8, JT4, JT9, JT65, QRA64, ISCAT, MSK144, and WSPR, designed for making reliable, confirmed QSOs under extreme weak-signal conditions.
WSJT-X (version 1.9.0 or later) supports TRX-Manager through the HAMLIB library (with thanks to Mike W9MDB) and the TRXNET protocol. This supports allows CAT control of your Transceiver from WSJT-X through TRX-Manager. In addition, TRX-Manager decodes the UDP Broadcasts sent by WSJT-X so you can synchronize the logbook and share some other information.

Setting up WSJT-X

Settings/Radio tab

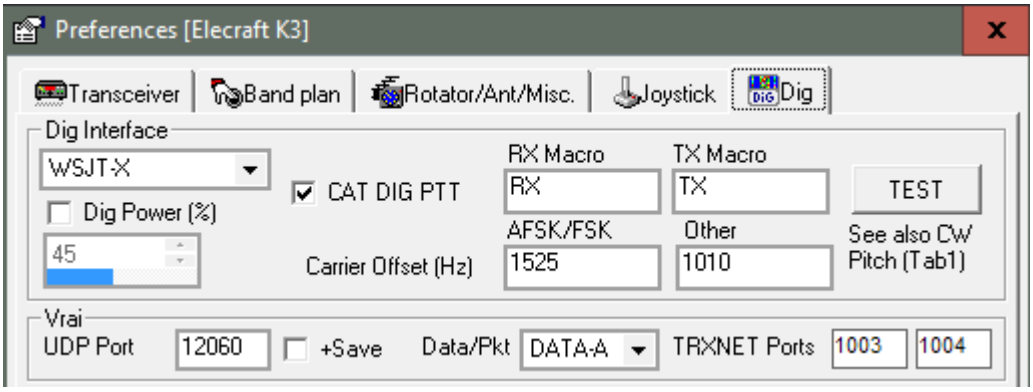
- RIG=TRX-Manager
- Network server=127.0.0.1:1003
- PTT=CAT
- Split=RIG
- Mode=DATA/PKT

Settings/Reporting tab

- Uncheck all options of the UDP Server frame
- Check Enable Logged contact ADIF broadcast (N1MM frame)
- Fill in server name=127.0.0.1 and port number=12060 (N1MM frame)

Setting up TRX-Manager

You set up TRX-Manager for WSJT-X from the Preferences/Transceiver dialog under the DIG tab.



TRX-Manager's settings

Settings are:

- Type: WSJT-X
- Host: The host address and port are related here to the UDB Broadcasts WSJT-X (not TRXNET). 127.0.0.1 is the default UDP Port if you use WSJT-X on the same computer than TRX-Manager. Otherwise, you indicate the IP Address of the computer on which WSJT-X is installed
- Port: 12060 is the default. You can define an other port from the WSJT-X's Reporting tab.

- +Save : if checked the last QSO logged from WSJT-X is automatically saved.
- Data/Pkt : Data mode to select if Data/Pkt is checked (WSJT-X/radio tab)
- Dig Power: Digital power. If this option is checked, TRX-Manager limits RF Power to a fraction of the reference power: default power by band or Max power of the transceiver (see Band Plan)
- CAT DIG PTT: (optional) you can indicate specific CAT commands for RX and TX (macro-commands) as required by some transceivers in data mode when the ACC port or the USB port is in use (Kenwood: RX TX1)
- Carrier offset: NOT USED
- TRXNET: TRXNET must be selected from Synchro #8 (Setup/SynchroB dialog) in order to activate CAT control from WSJT-X through TRX-Manager. However, you can click the CONFIGURE TRXNET Button to configure Sync#8 automatically (any previous selection will be erased). If you do so, you will have to restart TRX-Manager to enable the TRXNET CAT port. Please note that port 1003 is reserved for WSJT-X. A second port (1004) is available for an other application, if needed.

Using TRX-Manager with WSJT-X

Once the UDP Broadcasts AND TRXNET TCP ports are configured and enabled, the following functions are available :

- CAT control from WSJT-X through TRX-Manager (TRXNET CAT Port)
- Automatic transfer of the last QSO logged from WSJT-X to the TRX-Manager's logbook (UDP Broadcasts port). If +Save is checked, the QSO is automatically saved, but with just the data transmitted by WSJT-X without any additional information obtained from a HAM Base (CD/Internet...). If +Save is NOT checked, the additional information are collected and you can fill the other fields, if needed, before saving the QSO.
- Automatic update of the TRX-Manager's Current Spot by the WSJT-X's DXcall.
- WSJT-X activity window (External/WSJT-X Activity).


Warning

Make sure to maximize TRX-Manager during the operation from WSJT-X.


Tip

WSJT-X's philosophy is to always set up frequencies, mode and split, before transmitting : this implies that, at the beginning of a transmission, a small delay is required to adjust all the parameters. However, if you do not change the configuration of your transceiver, this delay will be minimum the next time. A Tune (from WSJT-X) may be used in order to set all the parameters.


Using JTAlert with TRX-Manager

If you use JTAlert, you can use its last Sent QSO API to send the QSO data to TRX-Manager. From JTAlert (Logging settings), please fill in the UDP Port with 2333 and fill the UDP Port of TRX-Manager with 2333 instead of 12060. You may also have to enable the standard active file logging (JTAlert's logging section). JTAlert can only send the QSO data: the band activity or current spot features are not supported. In addition, you may Export your log database using an ADIF file that you load from JTAlert in order to use all the various Alerts available.

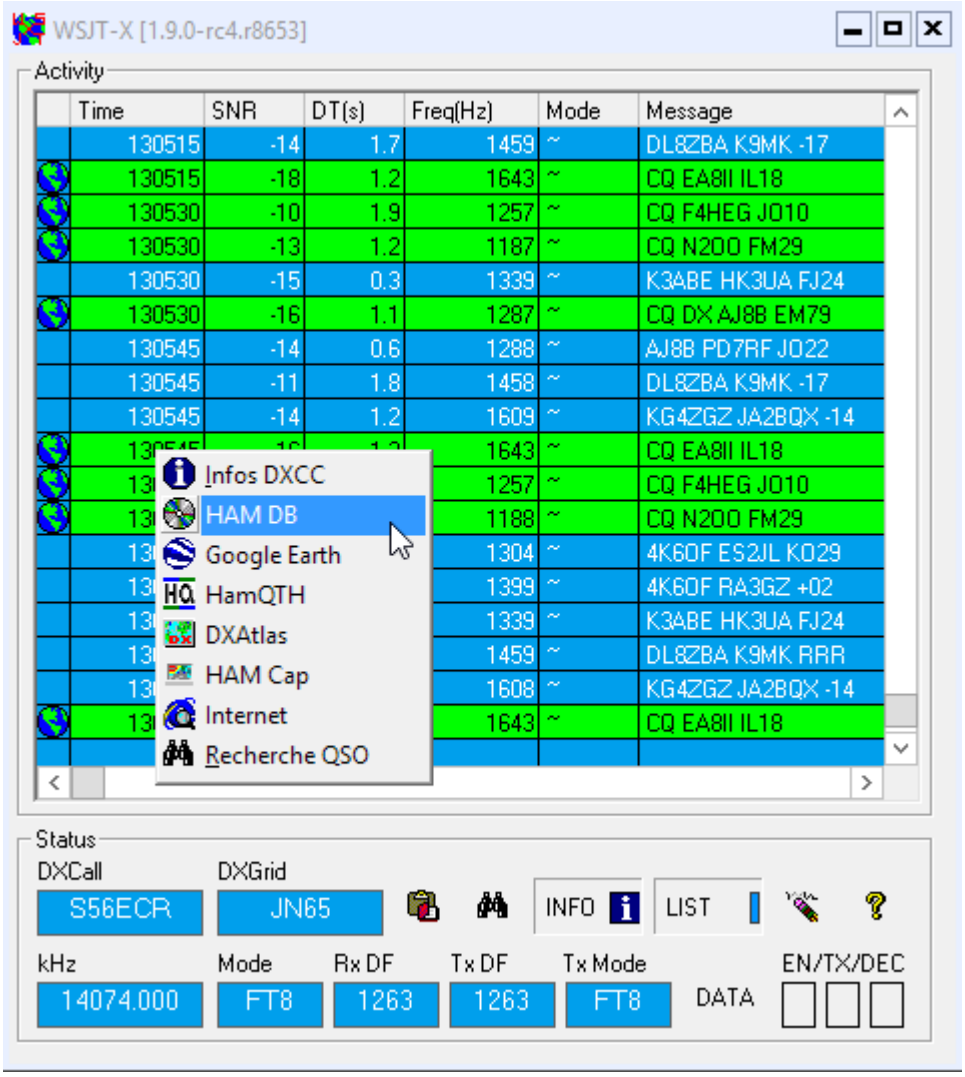
WSJT-X Activity window

The WJST-X Activity window opens from the corresponding External sub menu.

This window displays the Spots broadcasted by WSJT-X, exactly those as displayed in the WSJT-X's Activity frame. The current DXCall and other relevant information are displayed at the bottom of the Window and the DXCC/Grid information is automatically updated as soon as a new DXCall is received from WSJT-X.

Functions are :

: transfers the current DXCall into the TRX-Manager's logbook for editing but does not save it. The log fields are filled in according to your preference for logging (with various information from Internet, CD, existing QSOs... like with the SPOT button of the logbook).
: searches for a previous QSO (QSO before)
LIST (On/Off) : populates the list from the spots broadcasted by WSJT-X
INFO (On/Off) : automatically synchronizes the DXCC Information as soon as a new DXCall is received from WSJT-X
DATA : set your transceiver with the default DATA mode defined from the Preferences (Data/Pkt, DIG tab)
: clear the spots list
: displays this help
Context menu : right click the List (includes gridsquare if available)

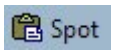


WSJT-X Activity Window

Digital mode Settings

You access the MMVARI, Fldigi, MULTIPSK, WSJT-X settings from the Preferences/Transceiver dialog DIG tab. The Preferences, layout, sound cards and other current settings are specific to each Transceiver (1-4).

General settings (DIG Interface)

- DIG Interface : You select the digital software (MMVARI Fldigi MULTIPSK WSJT-X). With MMVARI, this option is not mandatory because MMVARI is embedded in TRX-Manager. However, it is mandatory to activate the link with Fldigi. It also affects the SPOT  function of the Logbook : when DIG is checked (Logbook) the Log fields are associated with the selected digital software : MMVARI Fldigi MULTIPSK (NOT WSJT-X since WSJT-X can transfer the current spot directly to TRX-Manager).
- Dig Power: Digital power. If this option is checked, TRX-Manager limits RF Power to a fraction of the reference power (default power by band or Max power of the transceiver).
- CAT DIG PTT: You can specify CAT commands for RX and TX (macro-commands) as required by some transceivers in data mode when the ACC port or the USB port is in use (Kenwood: RX, TX1). If selected, this function replaces the PTT keying function of TRX-Manager.
- Carrier offset: Default carrier offsets for FSK or AFSK (default 2210Hz) and the other modes (default 1500Hz). Generally, the carrier offset is the center frequency of the bandwidth of your transceiver for the datamode. If you use the LSB mode (AFSK), the carrier Offset is not very important provided the carrier frequency is within your passband. If you use the true FSK or PSK mode of your transceiver, make sure the carrier offset is matching the Pitch frequency of the transceiver (in FSK, Carrier Offset = Pitch+RTTYShift/2).

Note

The RTTY/PSK offset indicated in the Preferences/Software/DX Spots tab is NOT used in digital mode by Fldigi or MMVARI. It is only used to calculate the correct frequency of a digital DX-Spot in SSB. It is NOT used with WSJT-X.

Fldigi Settings

- Host: 127.0.0.1 is the default if you use Fldigi on the same computer than TRX-Manager. Otherwise, you indicate the IP Address of the computer on which Fldigi is installed. Using Fldigi via Internet is NOT recommended due to timing issues.
- Port: 7362 is the default. An Fldigi's command line allows using an other IP port.

MULTIPSK Settings

- Host: 127.0.0.1 is the default if you use MULTIPSK on the same computer than TRX-Manager. Otherwise, you indicate the IP Address of the computer on which MULTIPSK is installed. Using MULTIPSK via Internet is NOT recommended due to timing issues.
- Port: 3122 is the default. You can change the IP port from MULTIPSK.

WSJT-X Settings

- Host: 127.0.0.1 is the default if you use WSJT-X on the same computer than TRX-Manager. Otherwise, you indicate the IP Address of the computer on which WSJT-X is installed.

- Port: 12060 is the default UDP port for WSJT-X (2333 for JTAlert). You can change the IP port from WSJTX-X.
- + Save : automatically saves the QSO data but WITHOUT additional information from HAM Bases (CD/Internet)
- Data/Pkt : Data mode to select if Data/Pkt is selected (WSJT-X/radio tab)
- TRXNET : Click to the button (if visible) to automatically configure the TRXNET (CAT) port for 1003 (Syncro #8). Select this port from the network server rig of WSJT-X. Otherwise if Synchro# is already configured, 1003 and 1004 are displayed.

MMVARI Settings

Sound card

- Sound card: select your sound cards (Input=RX, Output=TX). The Sound card indexes may change depending on the number of sound cards connected to your computer. Consequently, you may have to set again the sound cards during a session.In thatcase it may be faster to select the sound cards from the MMVARI window (MMVARI/Soundcard submenu ).
- Sampling: RX sampling frequency (Hz). 11025 is the recommended default. If your sound card has been calibrated, you can type the actual value (i.e 10098).
- TX : TX sampling frequency offset with respect to the RX sampling frequency. If your sound card has been calibrated, you can type the actual value (i.e. 74.25)
- RX TX Buttons: these buttons give access to the RX and TX settings respectively

RX Settings

- HPC: If Checked, the high-pass filter is engaged for RX. Although this is unnecessary for most soundcards, it sometimes is effective for eliminating hum in the input audio.
- AFC (Width): Specifies the frequency sweeping width (Hz) for the AFC. This value is applied to all the RX channels.
- AFC (Level): Specifies the S/N level (dB) for the wide AFC. In case AFC Width is less than or equal to 50Hz (default), the wide AFC does not function and AFC Level is ignored. This value is applied to all the RX channels.
- ATC/PPM: If selected, Automatic Timing Control (ATC) is turned on. In the rtty mode, ATC is always off irrespective of this option. In the mfsk mode, ATC is always on irrespective of this option.
- ATC(Offset): This value specifies the adjustment offset in ppm for the RX sampling frequency. If ATC/PPM is checked, MMVARI automatically manages the ATC Offset.
- Handling center frequency: If checked, the center frequency is used for the carrier frequency. If NOT checked, the base tone frequency is used for the carrier frequency (only affects the display in MMVARI).
- Use metric level squelch: If checked, mfsk metric level is used for the squelch. If NOT checked, the S/N level is used for the squelch. This property is effective only for mfsk.
- Enable sound playback: If checked, the sound playback function is enabled. To start the playback function, use the Plaback menu in MMVARI. The sound playback function stores the PCM sound data for the latest 60 seconds in the MMVARI control. In case of the 11025Hz sampling frequency, it uses about 1.3MB memory space for the sound playback.
- RTTY Demodulator : select IIR= Infinite Impulse response (recommended default) or FFT =Fast Fourrier Transform.
- Width(D): default bandwidth at startup
- Squelch(dB): Squelch level for decoding. 3dB is the default in MMVARI, however, 6dB is sometime preferable. This value is applied to all the RX channels.
- FIFO: Depth of the RX FIFO (default=12)
- Custom RTTY Shift: User defined RTTY Shift (Hz) to select from the MMVARI/RTTY submenu (< 450Hz)

TX Settings

- Port (PTT/FSK): Specifies the COM PORT used by the MMVARI module (not under the control TRX-Manager) for PTT switching and FSK Keying. EXTFSK is required if you use an USB serial adapter due to timing issues. Whatever your choice, TRX-manager always uses

its own PTT keying functions (this option does NOT disable the keying function in TRX-Manager). EXTFSK requires an external plugin to download from the MMVARI/MMTTY (HAMSOFT by VE5KC) web site.

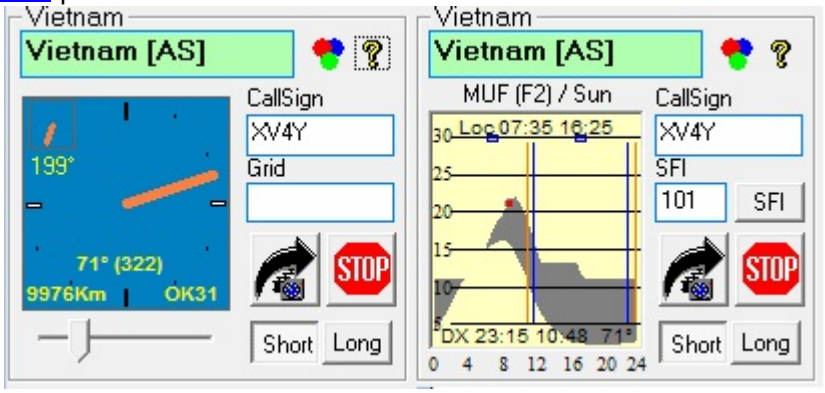
- RTTY=FSK: If checked, MMVARI does the FSK keying at the selected COM port (only in RTTY). MMVARI generates the FSK timing and keys TxD. When Port=EXTFSK, MMVARI sends the character data to the EXTFSK plugin (EXTFSK generates the FSK timing). MMVARI and EXTFSK use Windows' multimedia timer so that about 1msec jitter is expected. The baud rate is fixed to 45 irrespective of the selected RTTY speed.
- PTT Exclusive lock: If checked, MMVARI exclusively uses the PTT port specified. If NOT checked, MMVARI opens the PTT port only during TX.
- INV FSK: If checked, MMVARI reverses the polarity of the FSK signal at the specified com port. However, if Port=EXTFSK, this option is ignored.
- External Loopback: (full duplex). If checked, the sound loopback mode is set to External. This is used for adjusting the TX timing or for satellite communication (requires an external wiring).
- K3/KX3 FSK/PSK (Elecraft only): If checked keying is generated by the K3/KX3 (by CAT commands)
- Single Tone: If checked, MMVARI generates a single tone at the end of transmission.
- Diddle (RTTY) : Specifies the diddle code in the RTTY idle state. LTR or BRK
- FIFO: Depth of the TX FIFO (default=6).
- CW ID: text for the CW ID message sent en CW. The following characters can be used for special CW codes: @AS :SK(VA) ;AR =BT]KN
- CW Speed (wpm): Specifies the CW ID speed
- Digital Output Level: Specifies the digital output level (AFSK Audio Level) in the range of 0 to 32767. The default is 16384. This parameter must be used in conjunction with the output level of the sound card (Sound Control Panel) and the MIC gain (or DATA gain) of your transceiver.

DXCC Window

TRX-Manager searches for geographical and DXCC information from the prefix of a station. This function is activated from the Display / DXCC info... (F7) sub menu or the button of the main toolbar.

The DXCC window :

- displays distances to (from) the station and azimuth for a given prefix
- provides remote control of a rotator
- displays the status of your DXCC award for the current entity
- displays HF Propagation predictions



Click the dial to toggle Azimuth/Propagation modes

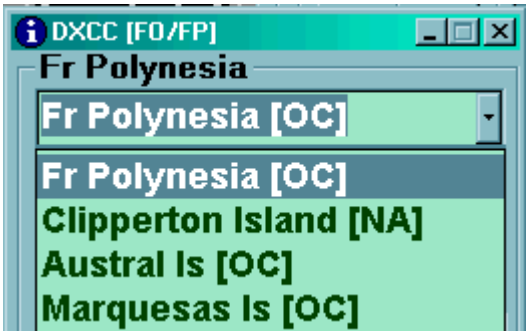
See also

Current Spot

You can type the callsign in the corresponding text box of the DXCC window, however, in most cases TRX-Manager automatically populates this field with the current spot, the current logging information... As soon as a valid callsign is introduced, all information are updated.

Multiple entities for a given prefix

If there is more than one DXCC country for ONE prefix, a combo box appears and allows you to choose between the different DXCC entities. You only have to click one of the items to obtain the right information.



CQ and ITU zones as well as Provinces are resolved and displayed in the status bar of the program :

The Colors button allows you to customize the layout of the window (background colors, DXCC square colors...).

A word about the DXCC algorithm

TRX-Manager implements a Prefix database of all official ITU prefixes and, by default, does not support certain special callsign granted for DXPeditions or other events which would require frequent updates.

> More about DXPeditions
>
> In case of DXPeditions with specific callsigns you may use the Special Callsigns database.

TRX-Manager determines the country starting from the left character : it may be necessary to "force" a country by adding a valid identifier.

> See also
>
> How to force the DXCC Code from the Logbook (see Updating DXCC codes).

Edition of the prefixes

DXCC Information is located in the PREFIX.MDB database. This database may be edited under MS Access 7 or - preferably - from the integrated editor.

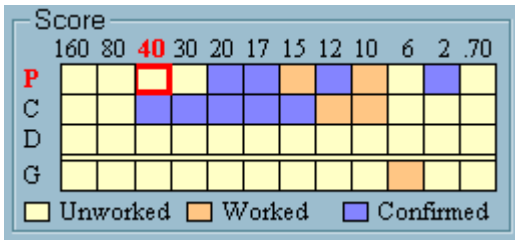
The database contains two tables:

- a PREFIX table with all the possible prefixes (*),
- a DXCC table with all the DXCC Countries

> About Prefix.mdb
>
> The prefix database (prefix.mdb) results from own work of the author and is derived for a large part from the DXAtlas's prefix database courtesy of Alex VE3NEA. The file "prefix.mdb" is released in the public domain and you may use it for any commercial or non-commercial purpose in the modified or non-modified form, provided that:
>
> The source of the original dataset is clearly indicated (DXAtlas and TRX-Manager),
> All derivative products are also released as public domain data.

DXCC Award status

The ARRL DX Century Club award status for a given country may be displayed from the DXCC Window. This ability is only provided for QSOs with a valid DXCC country code (see updating the DXCC codes).



P=Phone C=CW D=Data
G= Status for GridSquare

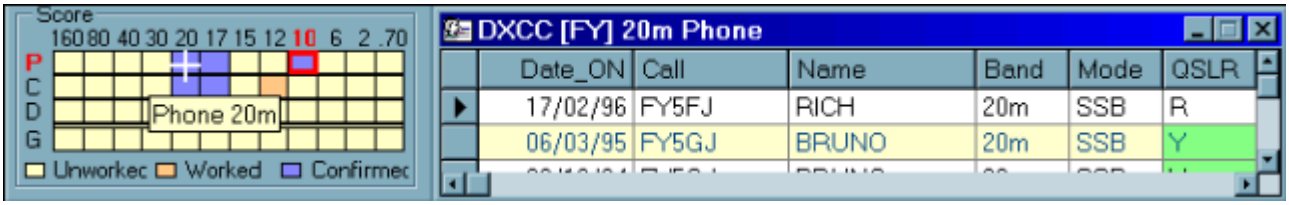
The program displays the DXCC for the selected country in the form of squares color. The square corresponding to the current mode and bands is in evidence. In addition, the G row indicates if the 4 digits GridSquare has been worked/confirmed before.

Digitally confirmed QSOs (QSL_RCVD=D) are displayed as confirmed QSO (equivalent to QSL_RCVD=Y). Electronically confirmed QSOs (QSL_RCVD=E) can be displayed using a distinct color but do not count for the DXCC summary.

The Colors button allows you to customize the layout of the window (background colors, DXCC square colors...). Other options from this window are:

- customized band slot for the non DXCC bands: either all NON DXCC Bands (=GEN) or 60m 1.25m 33cm or 23cm
- INFO function (from the main menu or any context menu) set up the DXCC window for the current spot AND shows all the QSOs for the same DXCC country and band.

A click in a colored square shows up the worked or confirmed QSOs for the specifc band and mode. Then and if necessary a click in a row edits the corresponding QSO in the Log.



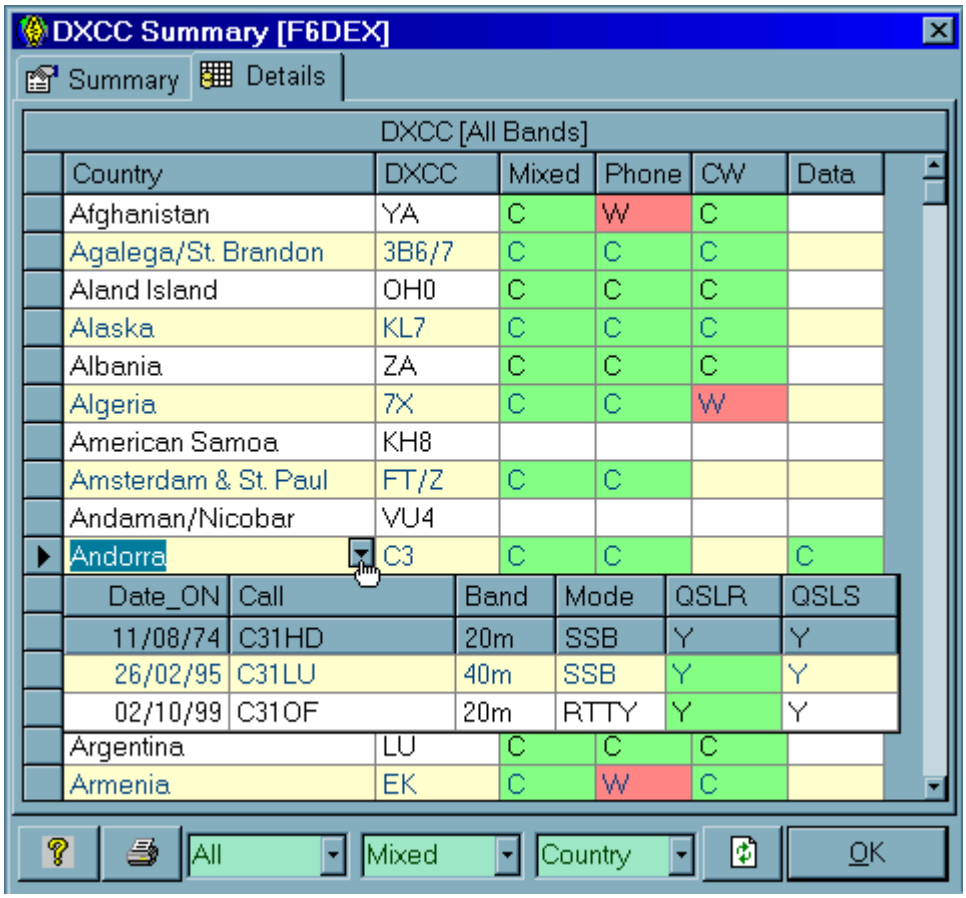
Note : QSO with QSL_Sent = I are ignored.

DXCC Summary

A summary of your DXCC award may be calculated and displayed for all bands or a specific band from the Display/Awards Summary/DXCC submenu .

The report is calculated for the current entities and for the deleted entities: you real report is the sum of the both reports. However, the calculation of the bandpoints (Bands column) sums both curent and deleted entities.

The Detail tab displays the detail of the summary for each DXCC country. A click of a drop down button for a specific country shows up all the worked or confirmed QSOs for that country. The Refresh button allows you displaying and printing a customized report according to your selection for Status, Mode and Sort order (Country or Prefix).



Please see how to update the DXCC codes to understand the program's limitations.

More reports

This DXCC information has been conceived as a real-time help to DXing. A summary is provided, however for getting most comprehensive reports, you need to use the Logbook's Explorer.

Compatibility with the other logging programs

Each logging program implements its own algorithm to find the countries and to compute the DXCC score. In fact when you import or export your logbook there always remains some errors which are difficult to fix. To avoid these errors it is advisable to add an identifier in the doubtful cases. The use of the ADIF format during the transfers, provided that it is fully supported, completely avoids such errors.

Updating the DXCC codes

To calculate the DXCC Award status, TRX-Manager uses the ARRL DXCC country code (so called ADIF Code) and not the country field.

That means this function is only working if your QSOs have been logged from TRX-Manager or imported from a log program (using the ADIF format) which fully support the DXCC country code (such as LOGic).

Note

DXCC codes lower than 0 are provisional (until the release of the official ARRL DXCC code) and are not exported.

Updating a logbook (DXCC Update)

For imported QSOs, you have to update your database using the Tools/DXCC Update function.

The DXCC Update:

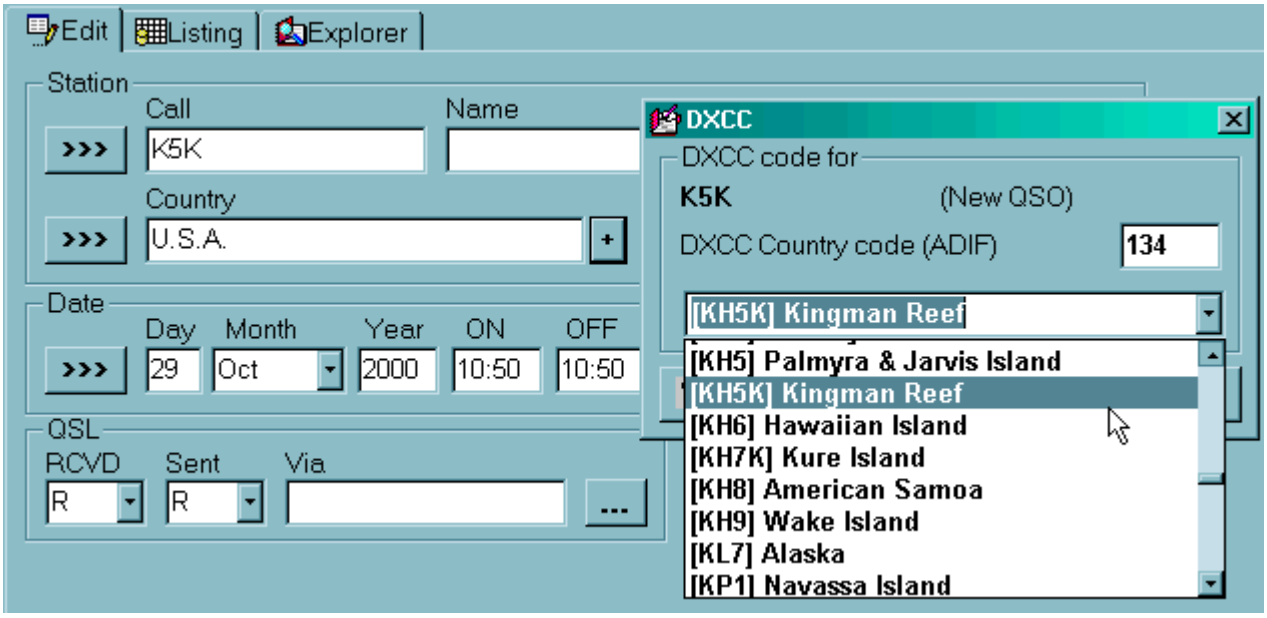
1. updates and reformates CQZ and ITUZ fields (with two digits : Zone 01 for Zone 1).
2. calculates Bands from Frequencies
3. update the country code from the callsign (if the country code is not imported)
4. updates the country names from the country code (if available)
5. update a blank or null QSL_Sent field with the field by default (Preferences QSLS)
After this update is done, you may still have unrecognized countries because TRX-Manager can not resolve prefixes with multiple possibilities: in that case you have to manually enter the country code from the logbook window as explained below.

You also may have errors: in that case, you also have to manually update the log book by forcing the country with a slash : ex 1S/9M0C for Spratly Is or, preferably, by forcing the ARRL DXCC Country code (see below).

How to "force" a DXCC country

Logbook's sorting functions (under Listing) may be used to display unfilled Countries or null ADIF DXCC country codes.

Then, from the Edit tab, click the [+] button (just beside the Country field) - OR - from the Grid/Listing, right click any QSO and choose DXCC Code in the menu. The DXCC Code dialog box prompts. From this dialog, you may choose a valid country or enter a code for a deleted country:



Club Log DXCC Query

From the DXCC code dialog, you may check USE CLUBLOG PREFIX BASE. TRX-Manager queries Club Log for the corresponding Callsign and date and retrieves the DXCC information from the very large Clublog database (+ CQZ and Continent). Click OK to update your logbook.

Note : don't be surprised if the country name differs from the one defined by TRX-Manager. The country name defined by either TRX-manager or Clublog is of no importance for your DXCC Status. Only the ADIF code is relevant.

Deleted countries

TRX-Manager is not able to distinguish QSOs worked with deleted countries from those worked with active countries. All QSOs will be associated with an active country.

However, you may fix that limitation by manually forcing the DXCC code (or ADIF code) and introduce the code of a deleted country using the DXCC Code dialog (see above how to force a DXCC country code).

See below ADIF codes for the deleted countries:

Code/Deleted countries
2 ABU AIL IS
8 ALDABRA
19 BAJO NUEVO
23 BLENHEIM REEF
25 BRITISH N. BORENO
26 BRITISH SOMALI
28 CANAL ZONE
30 CELEBE/MOLUCCA IS
39 COMOROS
42 DAMAO, DUI
44 DESROCHES
55 FARQUHAR
57 FRENCH EQ. AFRICAY
58 FRENCH INDO-CHINA
59 FRENCH WEST AFRICA
67 FRENCH INDIA
68 SAUDI/KUWAIT N.Z.

81 GERMANY(<1973)
85 BONAIRE CURACAO (<10/2010)
93 GEYSER REEF
101 GOA
102 GOLD COAST/TOGOLND
113 IFNI
115 ITALIAN SOMALI
119 JAVA
127 KAMARAN IS
128 KARELO-FINN REP
134 KINGMAN REEF
139 KURIA MURIA IS
151 MALYJ VYSOTSKIJ I.
154 YEMEN ARAB REP
155 MALAYA
164 MANCHURIA
178 MINERVA REEF
183 DUTCH BORNEO
184 NETHER N. GUNIEA
186 NEWFOUNDLAND/LAB
193 OKINAWA
194 OKINO TORI-SHIMA
196 PALESTINE
198 PAPUA TERR
200 PORTUGUESE TIMOR
208 RUANDA-URUNDI
210 SAAR
218 CZECHOSLOVAKIA
220 SARAWAK
226 SAUDI/IRAQ N.Z.
228 SERRANA BANK
229 GERMAN DEM. REP.
231 SIKKIM
255 ST MAARTEN (<10/2010)
258 SUMATRA
261 SWAN ISLAND
264 TANGIER
267 TERR NEW GUINEA
268 TIBET
271 TRIESTE
307 ZANZIBAR
488 WALVIS BAY
493 PENGUIN ISLANDS

VUCC Award

TRX-Manager provides various function to track the progression of your VUCC (VHF/UHF Century Club Award).

From the DXCC Window

TRX-Manager displays the status of the VUCC Award for a given gridsquare from the DXCC window as well as the corresponding QSOs for this gridsquare by clicking a colored square.

The VUCC Summary

A summary of this award is available for the 6m, 2m, 70cm and SAT bands (HF bands excluded) from the Display/Awards Summary/VUCCsubmenu  .

If DXAtlas (V2.24or later) is installed, the DXAtlas button  creates the trx-manager.wkd and trx-manager.cfm gridsquares files in the ..\DX Atlas\Squares folder and displays the worked and confirmed gridsquares on the map.

Please note each time you launch the VUCC Summary, TRX-Manager writes a database called GridSquare_Summary.mdb with the valid QSOs for this award. You may open this database from Access in order to edit or print detailed reports.

Other reports

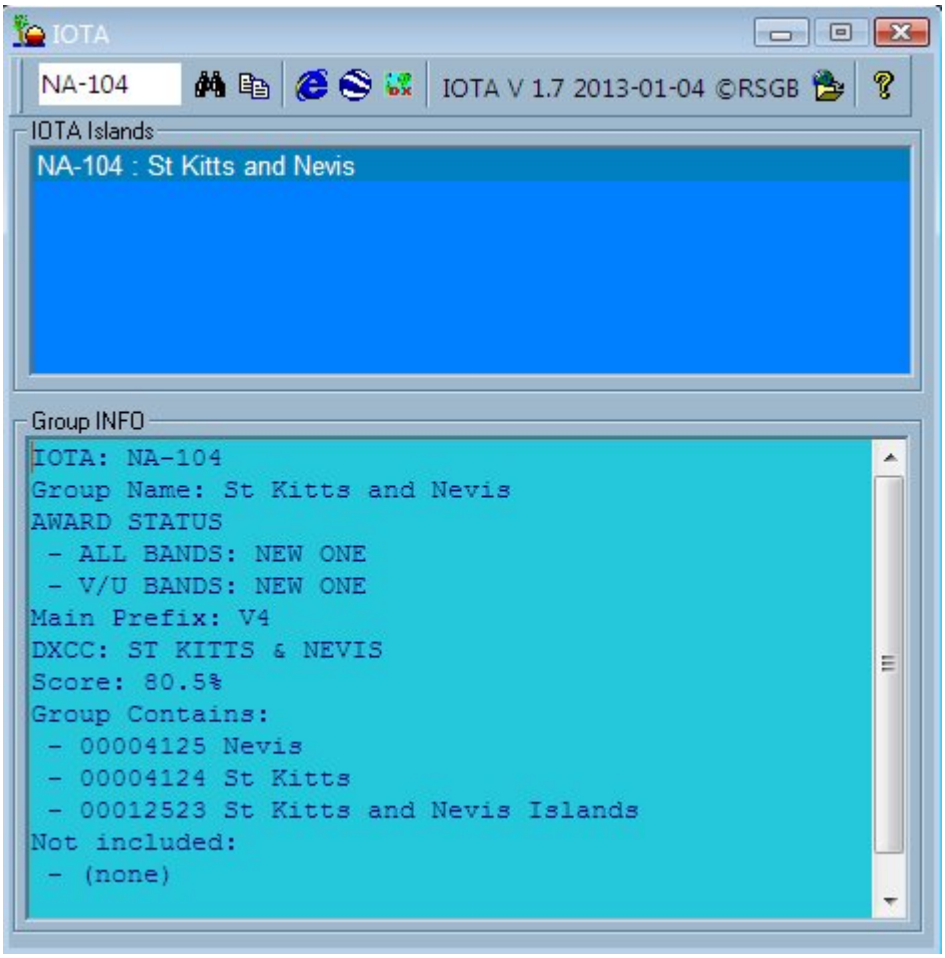
Comprehensive reports may also be displayed by using the Logbook's Explorer .

IOTA Award

TRX-Manager support IOTA Award tracking (Island on the Air, RSGB) .

IOTA Information

The IOTA Icon opens the IOTA information window. The IOTA icon is available from the Display/IOTA submenu but also from several context menus: Logbook, DXSpot's right click if a valid IOTA is found in the comment and + IOTA checked under Preferences/DX Spots



IOTA Window

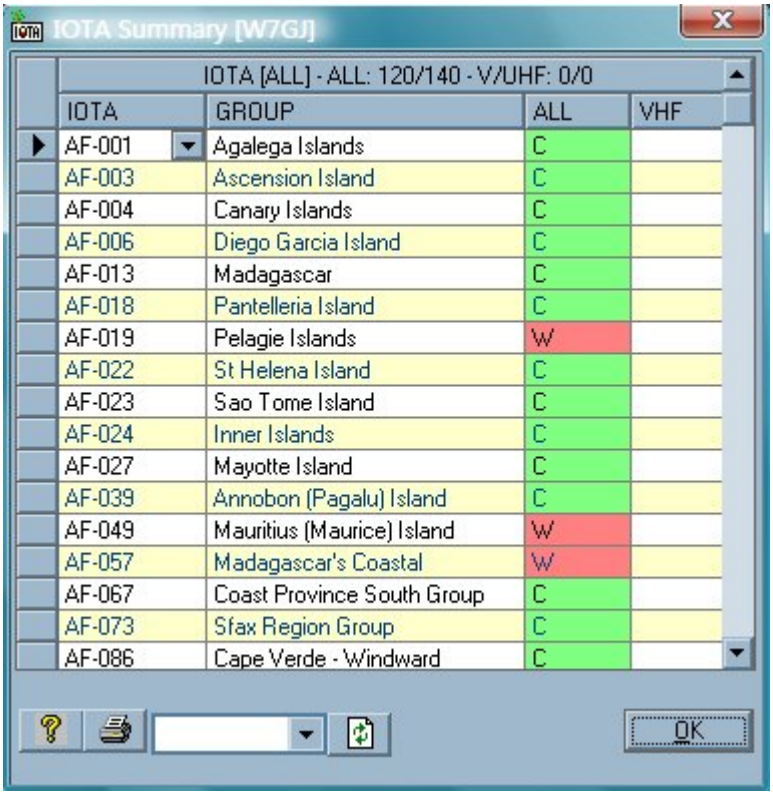
Functions of the IOTA toolbar

- searching for IOTA: please type the IOTA reference and click Enter or
- copying information to the clipboard
- browsing the RSGB website
- displaying Google Earth or DX-Atlas
- updating the IOTA full list (fulllist.xml) from the RSGB website

Award tracking

The Display/Award Summary/IOTA submenu displays the IOTA Summary.

Selection by Continent or Region is possible (WI=West Indies, BI=British islands, AI=Antartic Islands).



IOTA Summary

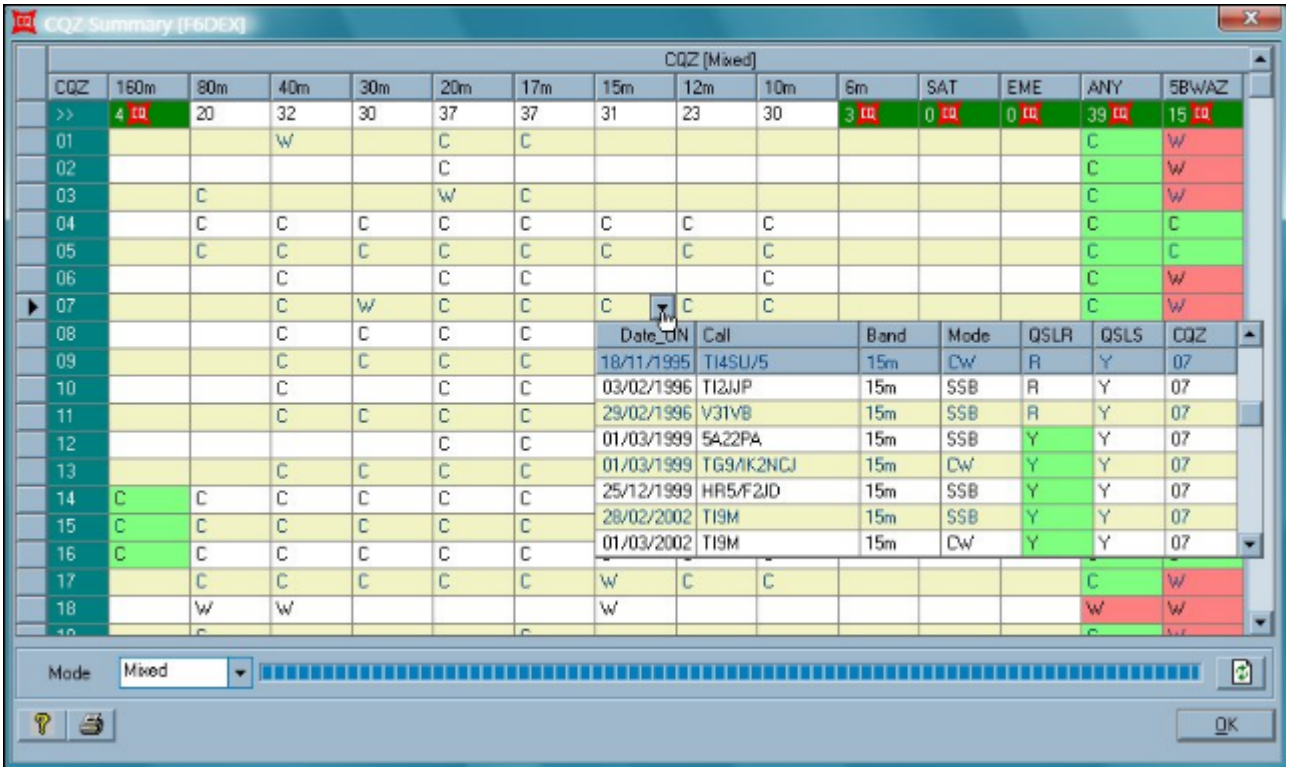
WAZ, WAS Summary

The Display/Awards WAZ WAS submenus open the summary for WAZ (Worked All Zones) or WAS (Worked All States).

WAZ and WAS have a very similar appearance.

All combinations of modes and bands may be displayed. Initially, the combinations are displayed for all modes (mixed). You select the mode from the Mode combo box and the valid combinations for the corresponding specialty awards are displayed in color. The total of QSOs is displayed in the first row.

By clicking on the different boxes in the grid, you can view the corresponding QSOs.



CQZ Award Summary

Tip

Before you display a summary, please launch the Tools/DXCC Update function. This function corrects the database for errors and formats the fields correctly.

Possible problem

TRX-Manager does not count your QSOs for CQ Zone 1 to 9: Please run the Tools/DXCC Update command to format your CQ Zones with two digits.

DDFM and DPF awards

TRX-Manager can calculate the progression towards the DDFM award (award of the departments of the Metropolitan France) and the DPF award (award of the French provinces) in their various combinations.

Precondition

As a preliminary, it is necessary to update the DXCC codes so that the French stations are recognized.

Progression

The progression towards the awards is obtained by the Display / Awards Summary / DDFM / DPF submenu. A combo makes it possible to choose between the various forms of the awards. The program displays the score for each band as follow:

- the total number of departments or provinces worked and confirmed,
- the list of the departments or provinces contacted and confirmed.

Consult the rules of the DDFM and DPF awards for further information.

List of provinces

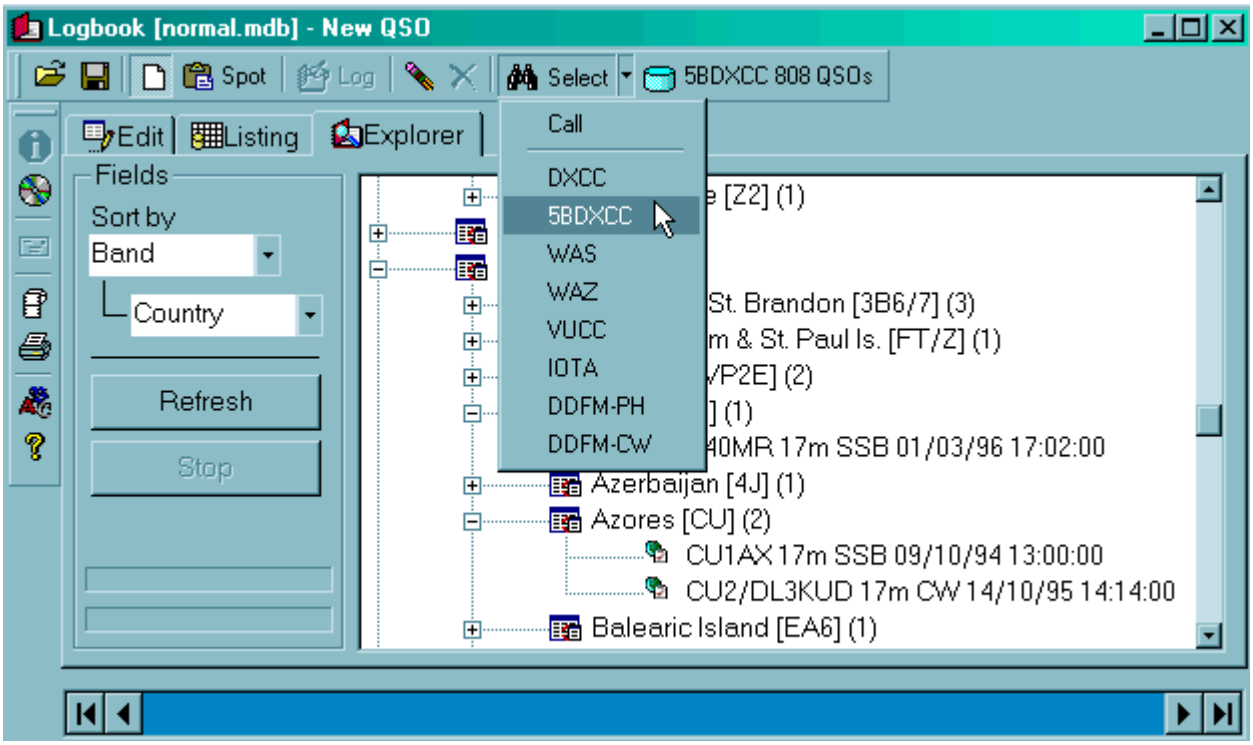
Each province is located according to its sequence number as follows:

1 Alsace
2 Aquitaine
3 Auvergne
4 Basse-Normandie
5 Bourgogne
6 Bretagne
7 Centre
8 Champagne
9 Corse
10 Franche-Comté
11 Haute-Normandie
12 Languedoc-Roussillon
13 Limousin
14 Lorraine
15 Midi-Pyrénées
16 Nord
17 Pays-de-Loire
18 Picardie
19 Poitou-Charente
20 Provence-Côte-d'Azur
21 Île de France
22 Rhône-Alpes

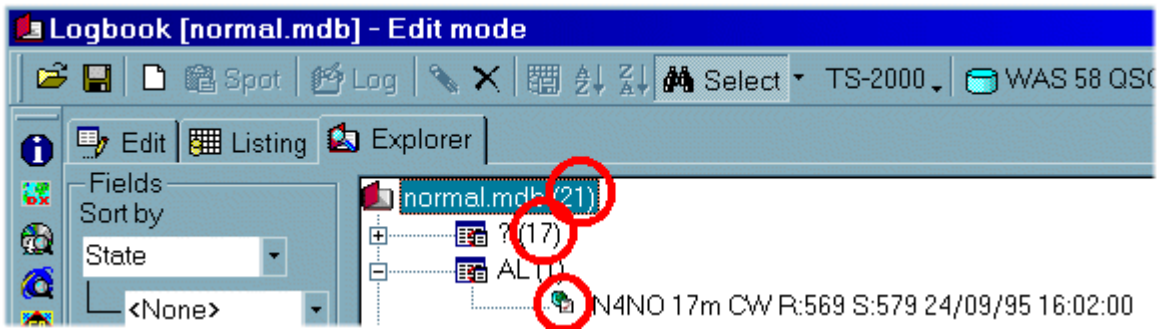
Other Awards

Other awards or reports can be computed, displayed and saved from the Logbook's Explorer. The first action is to select the valid QSOs by using the search functionor a SQL query (some queries are preprogrammed for the most current awards). Then, the Explorer tab of the Logbook makes it possible to set the fields to sort and to display the database with a hierarchical structure.

The selection of QSOs using SQL queries and the configurable hierarchical display of the Logbook provides a very large variety of reports but requires some training. Also, the computation of the most current awards : DXCC, 5BDXCC, WAZ, WAS, VUCC, DDFM PH, DDFM-CW (Mixed except DDFM) is made easy by the preprogrammed SQL search from the pulldown menu.



Displaying the 5BDXCC Award



Displaying WAS Award for normal.mdb (21 items)
item ?(17) = Unknow states (17 QSOs)
=> 20 confirmed states (may be more since unknow states are confirmed!)
AL(1) = (1 Qso)
etc...

Prefix and Special Callsigns data base editing

Any modification of the Prefix database or of the Special Callsigns database may be performed by opening the Prefix database editor (Edit/Prefix base sub menu ...).

Note

Please close the SWL and Logbook windows before opening the prefix database from TRX-Manager.

See also

Database grids

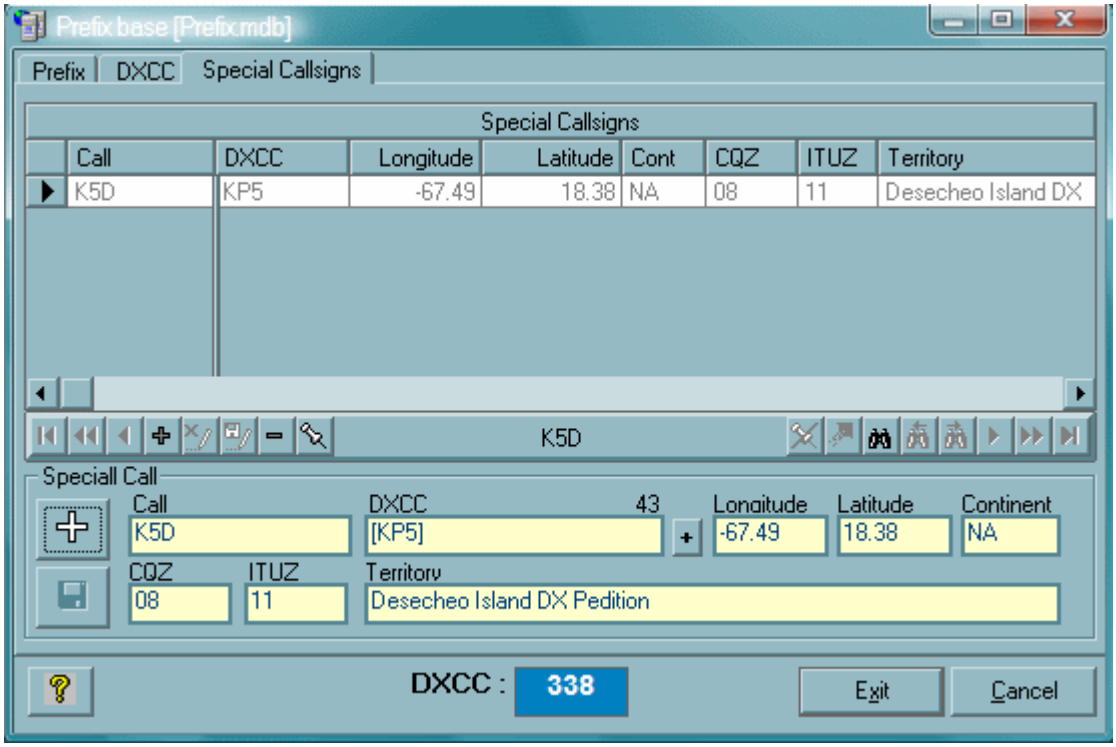
Editing the prefix database is a rather delicate and a risky operation (see below). The recommended alternative is to edit the Special Callsign database.

Editing the Special CallSigns database

In the particular case of you can not wait for the next update and/or you only need to define a special callsign as a reference for the DXCC Award (during a special event, a new DX-Pedition or even your friends), it is recommended you edit the Special CallSigns database (specialcallsigns.mdb) and NOT the prefix database. This method is highly recommended for short callsigns with 3 letters.

The specialcallsigns.mdb database is created (empty) the first time you open TRX-Manager. This database is personal and preserved each time you update TRX-Manager. In practice, TRX-Manager searches first for a strict match with any callsign defined in this database before doing a full search in the Prefix database (the special callsigns database has the priority over the Prefix database).

Editing the database is done from the Special CallSigns tab (of the Prefix database editor). Click to create a new record and to save the current report or the changes. The [+] button (next to the DXCC field) allows you to select the DXCC country in the list. You may personalize the Longitude, Latitude, CQZ, ITUZ, Territory fields for a perfect match with the location of the station so that Azimuth and Distance, CQZ, ITUZ are properly populated.



Editing the Special CallSigns database

Editing the Prefix database

Warnings

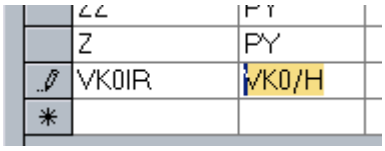
The format of the Prefix and DXCC table must strictly match the format required by TRX-Manager. A wrong format can cause malfunction and erratic behavior of TRX-Manager. As a precaution you should backup the original prefix.mdb database before doing any change. At any moment, you may cancel your changes by using the Cancel button.

Please note the Prefix database (Prefix.mdb) is updated each time you update TRX-Manager while the Special CallSigns database (specialcallsigns.mdb) is personal and preserved during program update.

Editing

The Prefix.mdb database contains two tables: the Prefix table and the DXCC table. Prefix and DXCC tabs are related to the corresponding tables of the database.

You must edit the database from the grid itself. You have to move to the last record in order to add an entry :



To validate a new entry, click on any existing entry. To delete an entry, click the Delete button. The Cancel button allows you to exit without saving the changes. Make sure you check all new entries. It is very important to check the right association between a prefix and a DXCC entry.

The Prefix table

This table keeps all prefix combinations and associations (~3000 entries)... The Prefix table includes the following fields Prefix - DXCC - Longitude - Latitude - Continent - CQ Zone - ITU Zone - Territory - Order. This table allows you to associate a given prefix with a DXCC country and any of these geographical data.

Example: you may associate VK0IR to VK0/H (DXCC = Heard Island) or distinguish latitude and longitude between W2 and W6... Order is optional and define the priorities (from 0 to n) for a group of entities sharing the same prefix (ex: JD1).

Advanced: You may also define special callsigns from the Prefix table by adding the sign - to the Prefix (i.e. K5D-). TRX-Manager searches for a strict match with this particular callsign before browsing the prefix database. However, a recommended alternative is to create an entry in the special callsigns database (see above).

Warning: for each prefix, you must assign a reference to an existing DXCC prefix of the DXCC table.

The DXCC table

You do not have to edit this table except when a change is made by the ARRL in the DXCC country list. In this case, it is recommended to wait for a program update! However, you may wish to edit this table to make the change yourself in the DXCC country list. This table includes a DXCC field (or index), the DXCC country name and the ARRL code (or ADIF code).

Loading a customized prefix database

According to your needs, you may prefer using your own customized database while keeping the original Prefix.mdb. This is possible by opening an other Prefix database (it must exist) from the Preferences/Logbook tab.

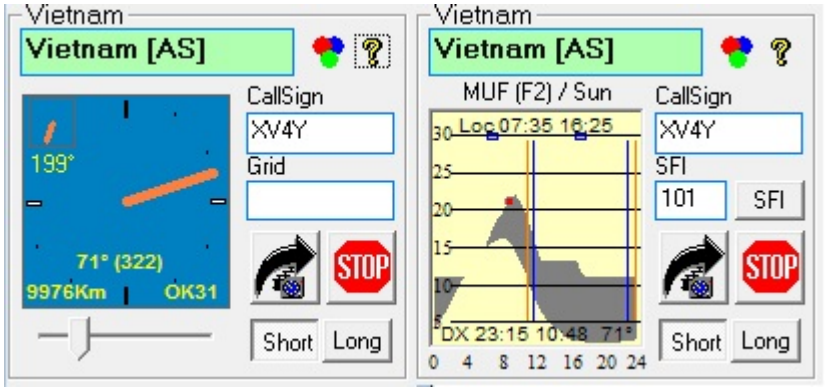
Special cases

Russian callsigns are not fully editable. Given the complexity of the Russian information system, the program performs specific operations when a Russian callsign is introduced.

Azimuth information

Each time you type a new callsign in the DXCC window, TRX-Manager shows the corresponding azimuth and DXCC award information and reports the corresponding information into the DX Map. HF Propagation predictions may be displayed.

TRX-Manager also calculates distances and directions based on grid squares(at least 4 digits) and provides an interface with DX Atlas and Google Earth .



Click the azimuth indicator to toggle to HF Propagation mode (and vice versa)

If the DXCC window stays open, each time a new dx spot is selected, azimuth is updated and allows you to immediately remote control a rotator. When used in conjunction with the automatic identification of stations, that feature gives spectacular results...

Azimuth FROM the station is displayed inside brackets.

Rotator control

TRX-Manager can control a rotator via a com port or a DDE interface.

See also

Band Plan
Troubleshooting

Settings

It is possible to define up to two rotators from the Setup dialog box under Rotator (but only ONE via DDE is supported).

The program is compatible with:

- The SARtek-1 universal rotator interface (Azimuth)
- Yaesu/Kenpro rotators (Azimuth and Elevation), including the GS232A controller.
- Yaesu/GS232B (Azimuth and Elevation)
- Orion PA PX and PX V2.4 (most recent firmware, ORION 2800), Azimuth only
- HyGain rotators (Azimuth)
- MicroHAM (Hygain protocol, MicroHAM interface)
- KCT interface(Azimuth)
- EA4TX's ARSWininterface, Azimuth Elevation(DDE Link) http://www.ea4tx.com
- WinRotor (Azimuth) by FUNKBOX http://www.winrotor.com,
- RT-21 Green Heron Engineering
- Prosistel CD (Azimuth Elevation) www.prosistel.net
- N8LP's rotor interface (DDE Link)
- YO3DMU's PSTRotator and PstRotatorAz Interface (DDE Link)
- AlfaSPID by Alfa Radio http://www.alfaradio.ca
  If available, you must specify the serial port used and possibly speed. Other parameters are:

- Reverse mounted option : this option applies if your antenna is North centered with the stops at South : in that case, the program adds 180 degrees to the azimuth,
- Offset (0-360°) : support for beams mounted at an offset to minimize coupling with other beams on the same mast
- Settings for the Satellite interface (see below)
  Then you still have to assign a rotator to each HAM band from the Preferences dialog box under Rotator. See also the Band Plan section for the other preferences: Antenna, TX Power, Tuner, Linear.

Your rotator is not in the list

A software upgrade is possible for any other rotator if you are a registered user of TRX-Manager.

Particular settings

KCT interface

TRX-Manager launches the MOVENOW.COM program for which you must indicate the path in the Setup's panel.

DDE Interfaces (ARSWin, PSTRotator, N8LP)

You must indicate the path of the EXE file (interface) in the Setup's panel. If the interface doesn't work properly, please exit the interface and let TRX-Manager automatically launching it at startup. Please note TRX-Manager supports only ONE DDE Rotor Interface at the same time. Under Vista W7, running TRX-Manager with administrator privileges (or with UAC = OFF) is mandatory to establish the DDE link.

ALFASpid Rotators

The AlfaSPID rotators may be controlled via two ways :

The SpidLog selection requires the opening of the AlfaRadio's SpidLog program. However, the value of the azimuth is only "transferred" to SpidLog and TRX-Manager can not aim the rotor directly,
The SpidRotor (1 or 2) selection provides direct control via the RS-232 port (controller required). The 2 selection is required if your controller provides elevation control (speed 600 bauds). Otherwise, the 1 selection must be used (speed 1200 bauds). Checking the Reverse Monted option is required for rotating the antenna from -180° to 180° rather than from 0° to 360°.

ORION Rotators

The Orion rotators differ by the syntax of the command to move the rotor as follow:

ORION PA: A (CR) NNN (CR)
ORION PX: A (CR) NNN.n (CR)
ORION PX2.4: ANNN(CR)
Where NNN, NNN.n is the azimuth without or with tenth and (CR) is a carriage return.

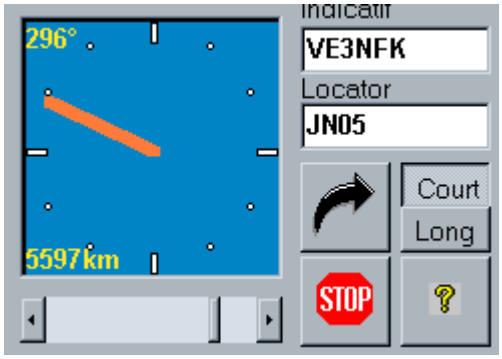
Tip

In case of one rotor contrls two antennas mounted on the same mast but with different offsets, you may define the same

rotor twice with the same com port but with a different Offset under Rotator 1 and Rotator 2 (a warning may pop up...).

Rotator control

The rotator is controlled from the DXCC windows.



The rotating button rotates the antenna ; the stopbutton stops it. The direction may be set for short path or long path according to the button selection. It is also possible to select any direction by moving the slider and then to rotate the antenna by pressing the rotating button.

With some rotors, the Stop button also polls the rotator for its current azimuth.

Notes the DX-Map windows is interfaced with the DXCC windows : any click on the map affects the azimuth indication. the stop button doesn't work for all interfaces and rotators.
Warning Because of the ease of remote controlling, you may forget the mechanical limitations of your rotator: please make sure that you read and respect the factory limitations.

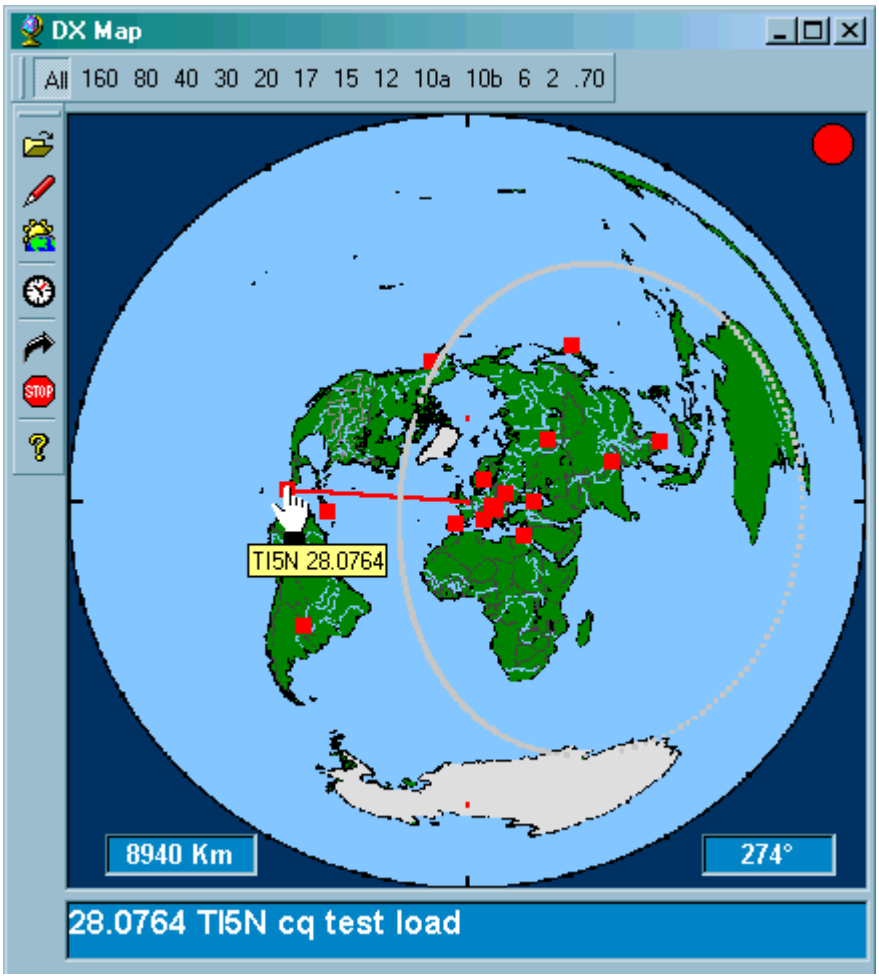
Satellite interface

The Satellite Interface supports a direct control of the rotator in Azimuth (and Elevation with some rotators : see above).

If you wish your rotator being controlled in Elevation, please check the Setup's Elevation option and indicate the maximum elevation (90 ° by default). The Step combo (in degrees) makes it possible to specify the increment for the automatic control.

DX map

TRX-Manager provides an azimuthal projection of the 25 last DX-Spots and/or the NCDXF's HF Beacons. This feature may be activated from the Web Cluster's or the DX Cluster tools bar  (TRX-Manager can not create the map centered on your location: see below how to create a map). The same window shows location for any spot you are listening and controls the rotator.



MAP centered on France - Bitmap generated by LOGic

Refreshing the map

The Map may be manually or automatically refreshed after each download from the Web Cluster if the corresponding option is checked (Preference submenu).

Available information and QSY

For each spot the “tools tip text” gives the Call Sign and the frequency. A left click transfers this frequency to the transceiver. A right click on spot opens a pop up menu and displays DXCC and CD-Rom (QRZ Callbook) windows.

Rotating the antenna

Any left click on map draws a vector to aim the direction. You only have to press the rotator button  to rotate the antenna.

Loading a map

This projection will show up on any background of your choice. Of course it would be interesting to choose an azimuthal map as a background but TRX-Manager is not able to create the map . You must use a separate program to create a map and you need to save the corresponding image as a BMP or JPG file ; then you load the map into the window using the open file button  .

The software stretches the BMP or JPG file so its size fits the windows but, for good quality, please create the map by approximately copying the same size as the largest window you will be using. The size of the map must be 40000 km x 40000 km (world map = 20000km radius) and the globe must be the same diameter as the length of the sides of the square.

 How to find a MAP ?

If you are looking for a program able to draw this map (radius 20000km), you should visit:

The World according to GARP on http://www.schaik.com/garp/garp.html

AZ_PROJ on http://www.wm7d.net/azproj.shtml

GMT on http://gmt.soest.hawaii.edu/

NS6T's Azimuthal map on http://ns6t.net/azimuth/

Azimuthal Equidistant Map by OK2pbq on http://ok2pbq.atesystem.cz/prog/qso_map.php

AziWorld by F6DQM http://f6dqm.free.fr/software.htm

ClubLog www.clublog.org

NCDXF's HF Beacons

The Beacons menu displays the positions of the HF beacons of the Northern California DX Foundation, Inc . Opening the menu sets up the transceiver on the beacon's frequency : your computer clock must be set to the correct time. The Cycle button  allows an automatic tracking of a beacon over the five bands.

To go back to the display of the DX-Spot, please click All Spots or any band button.

 See also

HF Propagation prediction

There are a number of free programs that will help you keep your clock accurate ; you can see more information on this subject on the NIST's website.

HF Propagation Predictions

TRX-Manager includes HF Propagation predictions via the F2 Layer from the DXCC window.

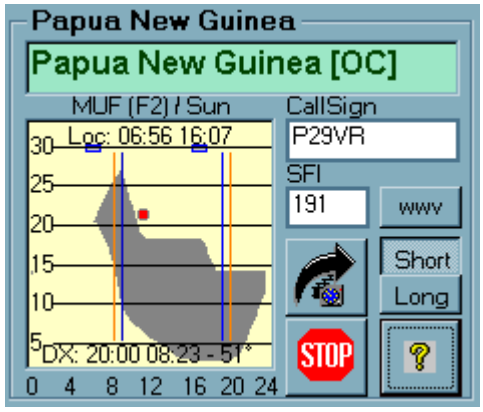
See also

DX Map (beacons)

Alex VE3NEA web site

Displaying the predictions

Once DXCC Info window is open, you only need to click the main azimuth indicator in order to toggle to the HF Propagation prediction mode. Predictions are then displayed for the current country according to a diagram with indication of maximum and lower usable frequencies (MUF/LUF) for each hour of the day.



Click the Propagation diagram to toggle to Azimuth indicator (and vice versa)

Maximum usable frequency is the highest frequency which supports reflection (in fact refraction) through F2 Layer (MUF) between two points. Minimum usable frequency (LUF) is the maximum E Layer's Cut Off Frequency (ECOF). A red dot indicates your current position in the Time/Frequency space.

By moving the mouse on the diagram, the touch help gives you, for the current time : MUF, LUF and a prediction of Hops to the current country. You will note that if LUF is higher than MUF, a path is not possible through F2.

Sun Set and Sun Rise time for the DX Station are indicated in the lower part of the graph (DX) and represented by two orange lines while two blue lines indicate the end and the beginning of the twilight. When the red dot is between a blue line and an orange line, the absorption of the D layer is minimal while MUF is high and the propagation may momentarily improve... Your own Sun Set and Sun Rise time are also indicated (Loc) and your twilight is represented by two little blue squares making easy to see if a circuit along the terminator (gray line) is possible.

The SFI text box (Solar Flux Index) lets you set up the program according to the solar activity. You may obtain the SFI from a DX-Cluster (SH/WWV command) or on the Internet (http://dx.qsl.net). If you are connected to the Internet, the sfi button updates this field automatically from the NOAA server and displays the latest announcement in the status bar of the program.

Notes

Short/Long (Path) buttons are activated,

by clicking the DX Map you may obtain prediction for the corresponding zone,

predictions are calculated for the current day of the current month.

Principle

TRX-Manager is inspired from R. Fricker's algorithm written in 1985. The program cuts the path into Hops of about 4000 Km. For each control point, the program calculates the maximum usable frequency (MUF) for a reflection through F2 Layer. Also, the program calculates the maximum frequency for a reflection through E Layer : this frequency is called minimum usable frequency (LUF) because the signal must go across E Layer before reaching F2 Layer.

Please note the result is only a prediction : MUF is currently exceeded (50 % of the time). In addition, the prediction is limited since only propagation through F2 is considered.

More powerful algorithms now exist but require a large number of parameters. The algorithm used by TRX-Manager seems to give representative results but is pessimistic. It is, however, useful to calculate the best hour for a specific contact.

For sunrise and sunset times and twilight, TRX-Manager uses an algorithm from Montenbruck and Pfleger (Astronomy on the Personal Computer).

Integration with HAM Cap

TRX-Manager provides an interface with HAM Cap. HAM Cap is an HF propagation prediction tool for Amateur Radio by Alex VE3NEA. For more information please go to the Alex VE3NEA web site.

If HAM Cap is properly installed and running on your computer, the External menu shows the HAM Cap icon  which opens the HAM Cap Window. You may also display propagation predictions for a given callsign from the Web Cluster's or DX Cluster's context menus.

Installing HAM Cap

Installing HAM Cap is not a totally straightforward process:

Install HAM Cap

Install VOACAP using the latest itshfbc_yymmdd exe file to download from http://www.greg-hand.com/hfwin32.html. Use the default directory c:\itshfbc only!

Run HAM Cap. Use the same UAC settings for HAM Cap and TRX-Manager (usually UAC ON is fine for both).

HAM Cap is a freeware. However, the best way to use HAM Cap is in integration with IonoProbe distributed as a shareware for a very moderate fee.

Interface with DX Atlas

TRX-Manager provides an interface with DX Atlas written by Alex VE3NEA.

DX Atlas Download

Afreet Software, Inc.www.dxatlas.com

Installing DX Atlas

DX Atlas must be properly installed ; in that case TRX-Manager automatically detects its installation and there is no special settings to do : the DX Atlas's icon appears in the External menu and in the External tool bar. If this icon does not appear, please reinstall DX Atlas.

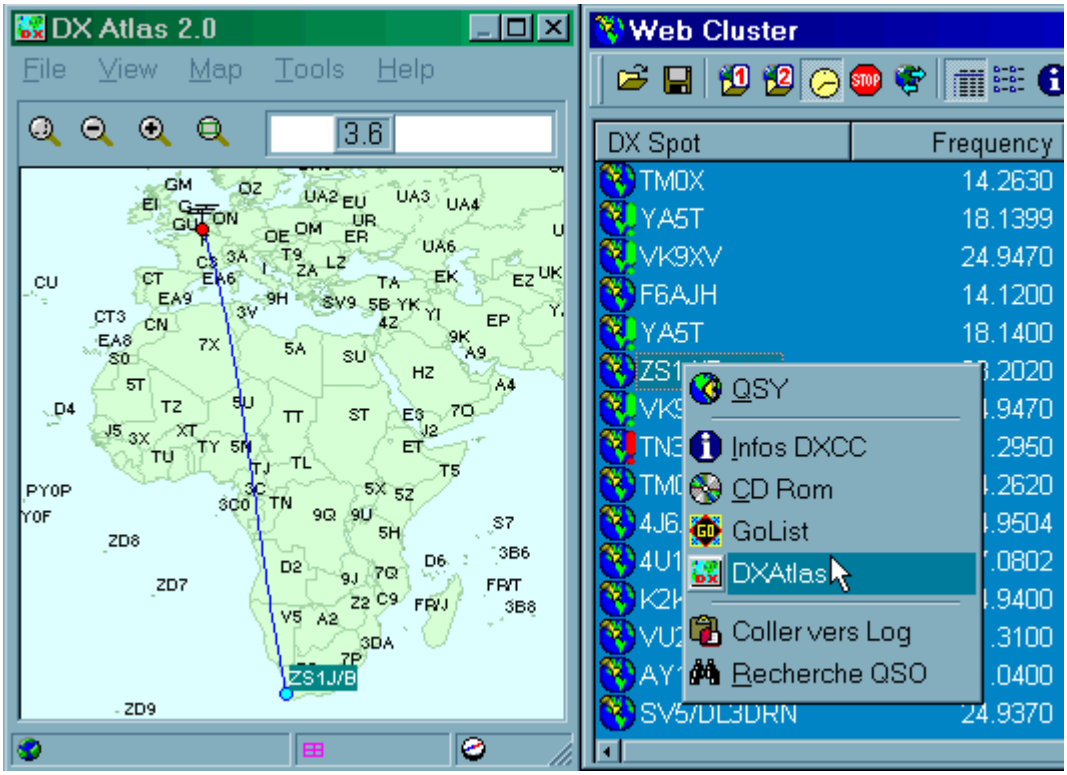
Using DX Atlas

Please press the DX Atlas button from TRX-Manager in order to display the interface foreground. Since the OLE interface does not provide a minimize button, click any part of the TRX-Manager interface in order to put DX Atlas background.

In addition, the drop down button also allows you bringing the interface to front or unloading DXAtlas in order to save resources...

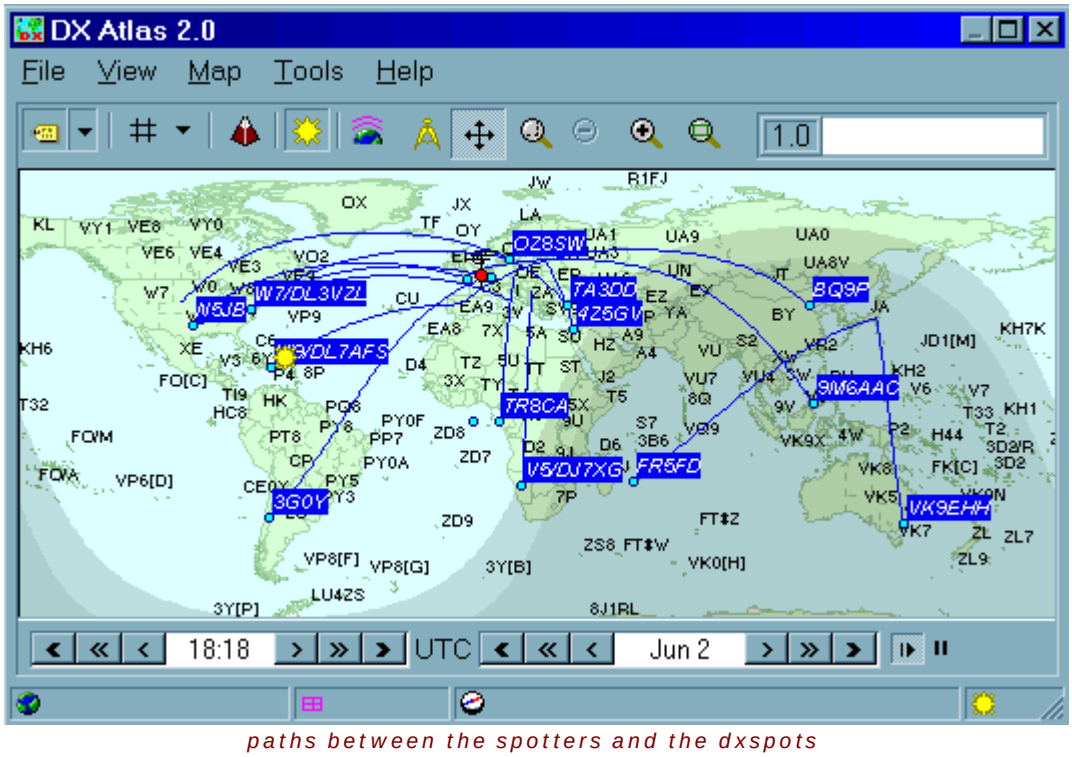
The DXAtlas button of the main toolbar runs in relation with the DXCC Window ; pressing this button shows the path to the current direction.

A right click on a spot from the Web Clusteror DX Cluster window also displays the position of the station in DX Atlas without using the DXCC interface.



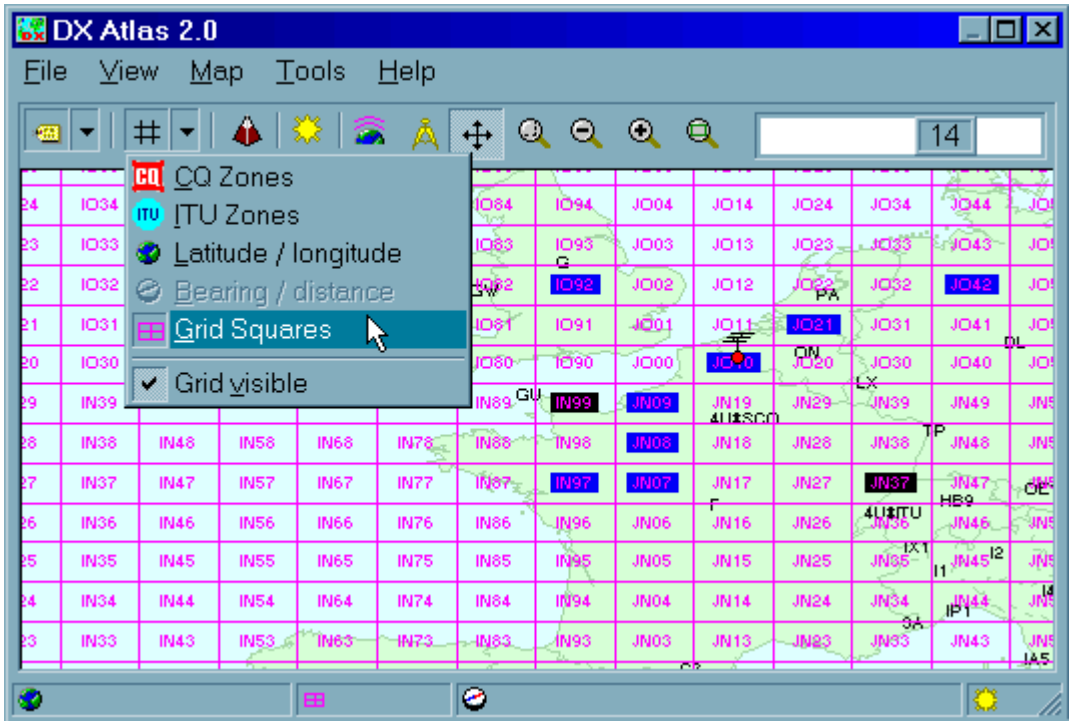
Path from your station to the DX

From the DXMap, you can click on the DXAtlas button on its toolbar, which then shows the path between the spotters and the DX spots. This can then be used to show the propagation between your QTH and the DX. You can also right click'on a DX spot and chose DXAtlas to show the propagation between your QTH and the DX.



paths between the spotters and the dxspots

From the VUCC Award summary window, the DXAtlas button creates the necessary files (trx-manager.cfm & trx-manager.wkd) for the display of the VUCC Award progression on the map... DXAtlas V2.24 or later is required to use this function.



VUCC progression displayed by DXAtlas

• Possible problems

- If you launch DX Atlas from TRX-Manager, you will have the preferences for DX Atlas defined by TRX-Manager (recommended). It you prefer your own preferences for DX Atlas you must launch DX Atlas before you start TRX-Manager.
- Sometime the computer crashes while launching DXAtlas from TRX-Manager. This problem is probably related to the video-driver but remains unresolved. A possible work-around is to launch DX Atlas before you start TRX-Manager.

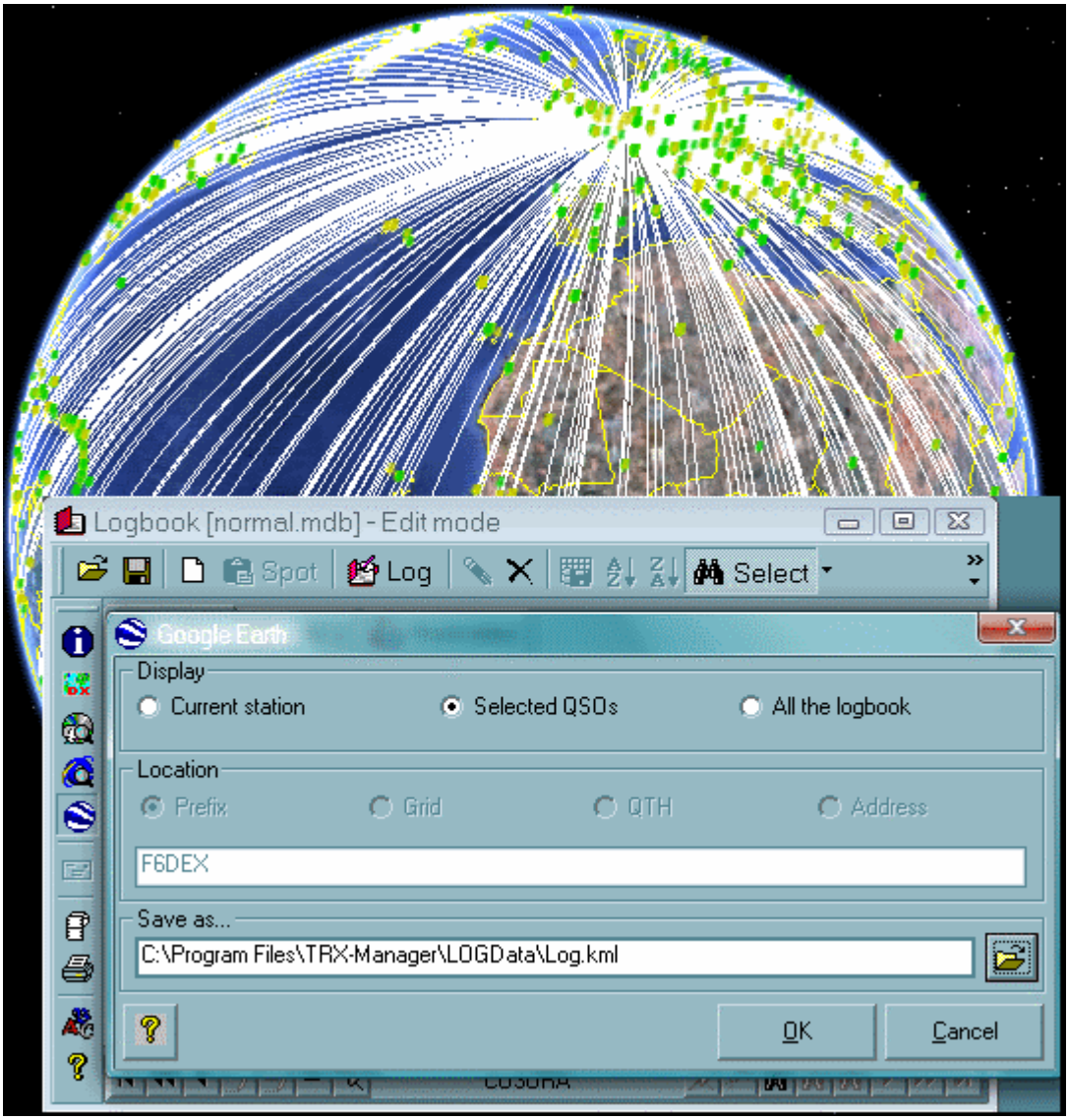
Interface with Google Earth

TRX-Manager provides an interface with Google Earth. The Google Earth application (V5 or later) must be installed on your computer.

A google Earth icon  appears in various modules : Logbook, CD-Rom (RAC, Buckmaster, QRZ.COM), DX Cluster, Web Cluster, Quick Memories, SWL Database... Each time you press a Google Earth icon, TRX-Manager creates a TRX.KML file and opens Google Earth. The display depends on the context and may include a single station or paths to different stations. Zoom level is adjusted according to the accuracy of available data. Location is calculated from Long/Lat, Grid or DXCC Prefix): CD-Roms are the most accurate since they generally provide Longitude and Latitude (at least for stations in NA) ; if longitude and latitude are not available, the Google Earth icon stays grayed out.

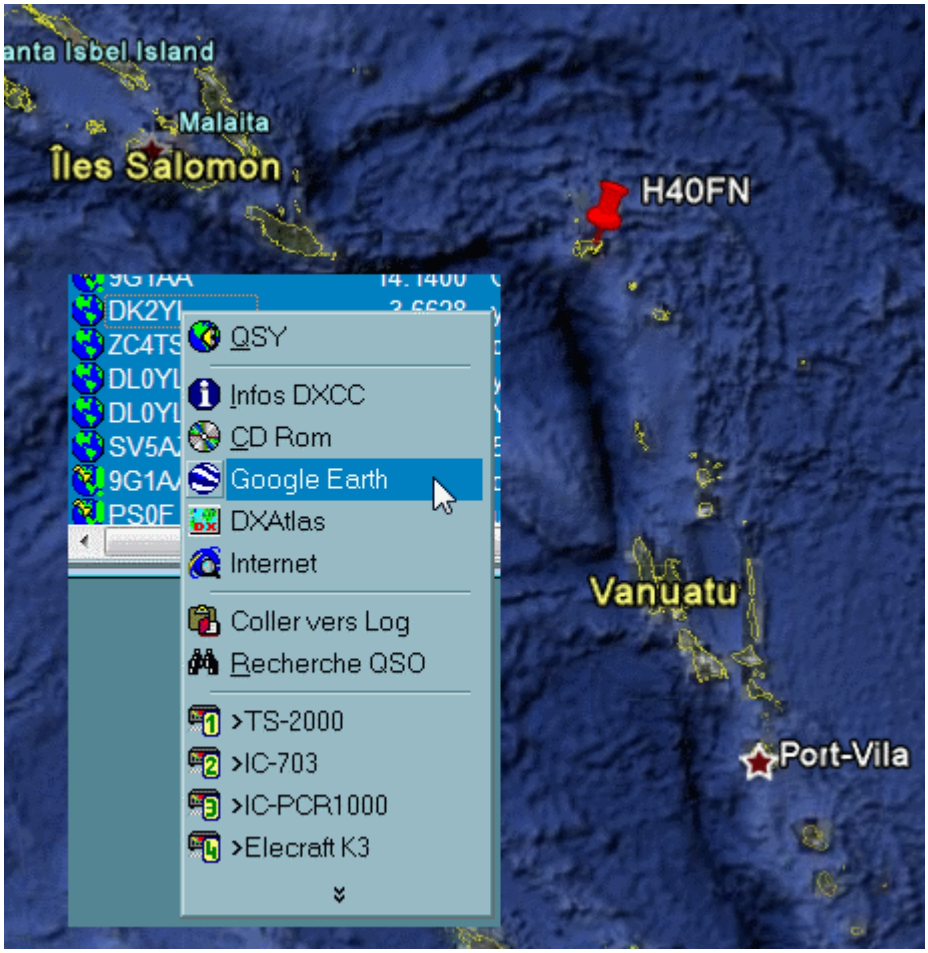
From the Logbook, TRX-Manager allows you to choose various options:

- To display either the current station, the current QSOs selection (defined by the SELECT function) or all the logbook,
- For the current station, position can be extracted from DXCC Prefix, Grid, QTH or Address (in case of you choose Address or QTH, you must edit the corresponding field according the to the format required by Google Earth: standard street, city, state, country),
- The file name of the kml file.

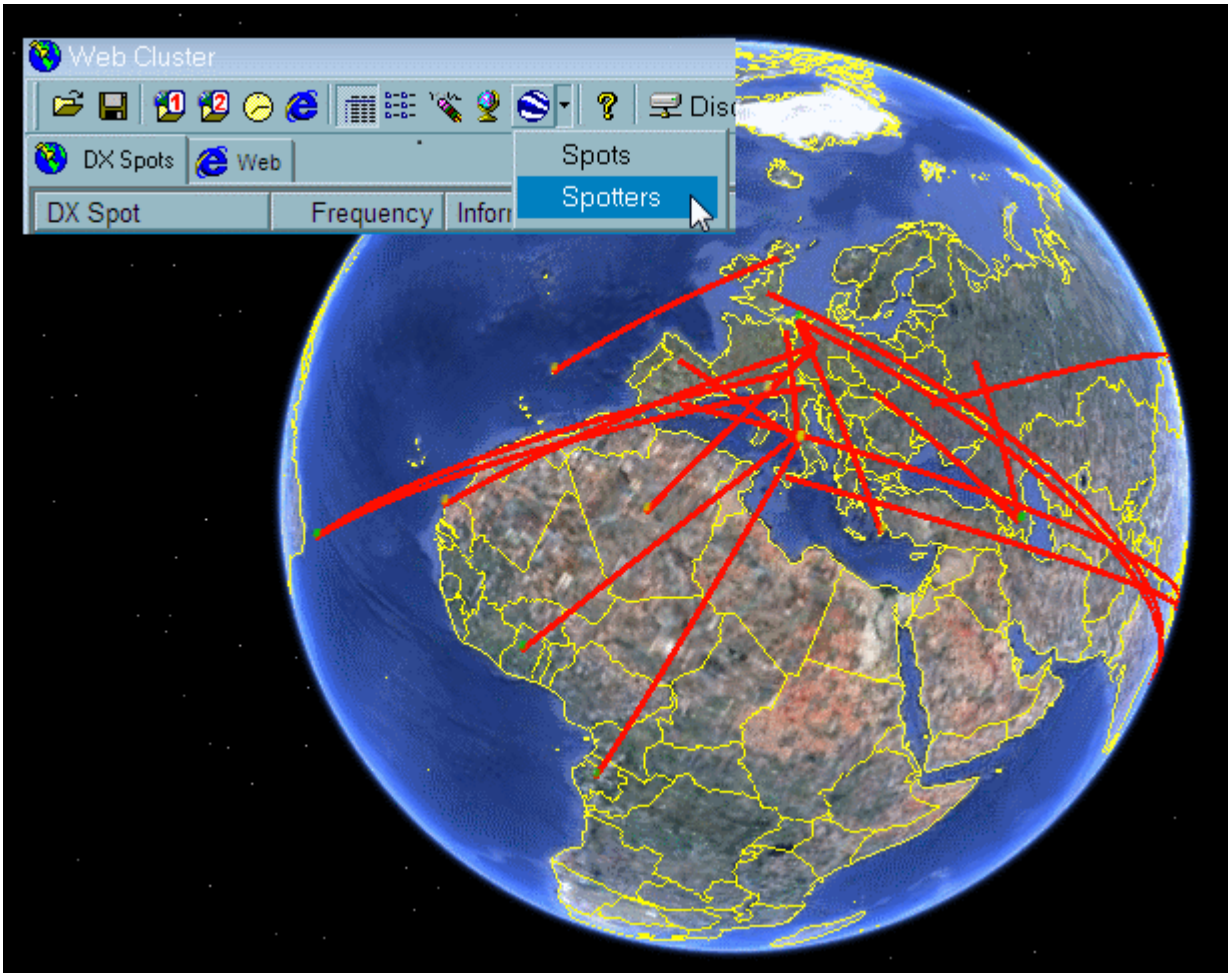


Logbook: Selection of QSOs

From The DX Cluster, Web Cluster... the context menu allows you to display the position of the selected station while from the toolbars you can display all spots (posted within the last hour) with paths either from your station or paths from spotters to DX Spots. Pin's color follows the DX/Web Cluster convention (red: new one, green:needed, yellow:optional).



Context menu : location of the selected station



Paths from Spotters to DX Spots

Log book overview

TRX-Manager is not a conventional logging program but provides a very intuitive real-time logging...

TRX-Manager uses the (old but) very reliable Microsoft Jet 3 data base engine (Access 97 base format). Any data base created by TRX-Manager (MDB extension) may be opened from Access; however, please do not save the database with the current Access format (2000 or later) which is not compatible and make a backup copy of your database before opening it from Access!

Would you prefer to use a Logging program with specialized functions such as: multiple awards, contesting...? Please note that TRX-Manager can be used in conjunction with any (Log) database program through a Synchro link or via OLE with LOGic. Whatever your needs the exporting function of TRX-Manager is sophisticated enough to provide easy updating of your favorite log book via the ADIF format (Amateur Data Interchange Format).

Main Log book features

Introduction, editing a QSO,
Automatic report of essential parameters, of DX-Spots,
Selection, searching a callsign and sorting,
Advanced searches and reports using SQL,
Selective importation/exportationto ADIF
Support for the Logbook Of The World
Import from LogWindows , TRLog files, export to Excel (CSV)
Basic printing of the log or of a selection of QSO's
QSL labels printing
reading CD-Rom (QRZ Callbook Buckmaster), HamQTH database
Callsign look-up via the Internet (automatic link with the fields not supported)
Searching if the station has even been worked before
Sending EMails
Auto backup of the log file
Contest mode
Interface with MMVARI Fldigi (digital modem software), HB9HQX (JT65)
Cloud Logging (support for eQSL, HRDLOG.net, QRZ, CLUB LOG...)
ADIF Capture (instant capture of QSOs logged in real-time using a third party software)
Support for N1MM+ UDP Broadcasts and WSJT-X UDP Broadcasts

See also

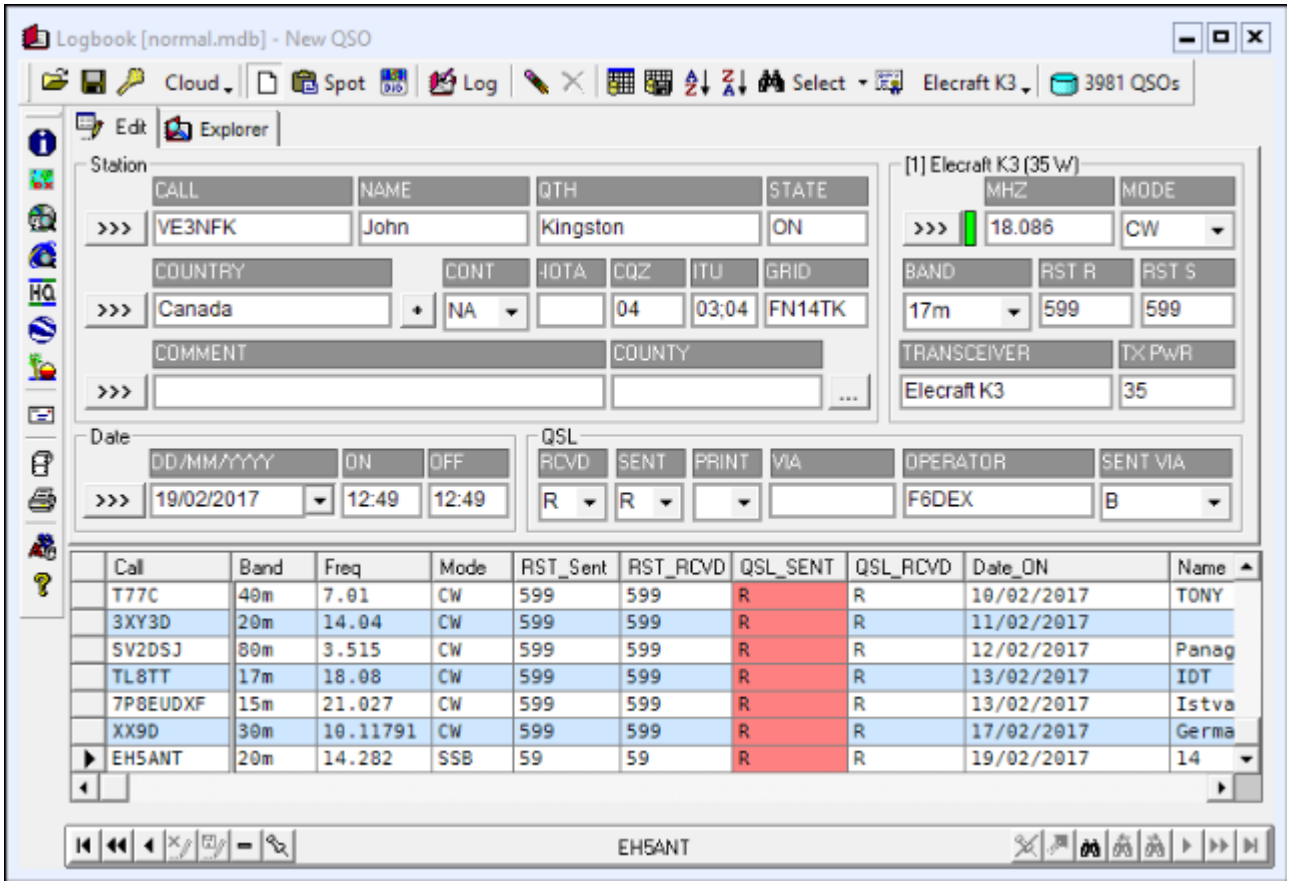
Database Grids
Current Spot

Opening the Log Book

The File/Log book submenu (F11) or the corresponding tool bar button opens the Logbook window.

The log windows shows :

- Two tool bars to select the different functions :



- An editing tab to input a new QSO, edit an existing QSO or to browse the Logbook from a configurable grid which allows selecting a QSO or sorting the database by any field.
- An Explorer tab which displays a Hierarchical view of the database,
- A data control (navigation bar) to navigate inside the data base.

Setting up your Preferences

Before you use the Logbook, it is recommended you set up some Parameters under the Preferences/Software dialog (Logbook tab).

Fields by default

- RST S (sent) or R (received) : fixed, Contest format (CQWW: 5914...), customized...
- QSL S (sent) or R (received),
- QSL S = Y => QSLSDate field filled in with date of the day (when you update this field),
- QSL Sent via (to indicate if a QSL has been sent via bureau, direct...),
- Message to be printed on Labels,
- Power and Transceiver : Auto or User defaults to be automatically added in the corresponding fields of the Logbook (Auto power requires a connected wattmeter),
- Callsign (Operator field filled in with the registered Callsign) + Suffix if needed such as /P / M /2...
- Suffix: a suffix such as /P /M /2... can be added to the Operator field. Check Suffix and fill in the text box with the desired Suffix.
- User-defined logbook's field (title Track by default).

Behavior and layout

- The Copy check box provides recall of the most recently entered information (*)
- The QSO Before check box pops up QSO Before window when you click a spot or when you log a new QSO.
- Real Time mode: in most situations this option must be checked ; when you enter a

new QSO (not continuously) Frequency, Mode and Date fields are updated (filled in) according to the current situation. If Real Time mode is NOT checked, the program ignores the current situation and each time you create a new QSO, TRX-Manager recalls the last entered Date, Time ON/OFF, Frequency and Mode. This option is useful ONLY if you enter QSOs from an old paper logbook or if you are using the program with the demo transceiver selected...

- Ultra Fast Logging: If checked, pressing F12 or Enter (depending on your choice) populates the fields and saves the QSO in one click (however, only if the if the cursor is in the CALL field). The F12 key is recommended in most case, while the Enter key is only required for small keyboards or during a Contest. See also Logging a new QSO.
- Expert mode: the Expert option removes real-time message boxes (confirmation for Save, Clear...); in addition Frequency and Mode fields are continously updated. In Contest mode Expert mode is used by default.
- Appearance: the Active Resizer option of the LogBook allows - or does not allow - the Logbook's Edit tab being resized up to fit all the window (not recommended). The Compact option reproduces the old design but active resizing is disabled (not recommended, takes effect the next time you load the logbook).
- The Edit Color option changes the color of the QSL fields according to their values (Y N R).
- The LOGic server option allows a real-time link with the LOGic's database (provided LOGic is installed and running).
- The CW Bar option makes the CW Toolbar visible or not visible
- F1-F8> CW Msg enables or NOT the CW Keyer's F1-F8 shortcuts (recommended during a contest).
- Colors of the grid and the labels can be configured from the Preferences/Software tab
- ADIF Capt. See ADIF Capture
  (*) Moreover, if the Auto Log box is checked (under CD-Rom), the program performs a search from the defined CD and fills in Name QTH Gridsquare and State fields.

How to customize the logbook's screen

The Logbook's screen comprises two parts: the Edit part (upper part) from which you edit the QSOs, the Grid or Listing part (lower part) from which you can browse the database. If necessary, for a more comfortable view of the database, the Full Screen toggle resizes the listing so that it fills in the whole window.

If Active Resizer is selected only from the Preferences/Software tab, the Edit part can be resized but the maximum size of the Edit part is fixed (the size can only be reduced) while the Grid/Listing part adjusts to fit the form. This is the recommended setting. If you need to enlarge the size of the Edit part, you have to check the Active Resizer option of the Preferences/Logbook tab: for most users, this option is NOT recommended. The Compact option restores the original design of the logbook but if you select it, active resizing is disabled (not recommended).

To change the font of the Edit part, click the ABC (Font) button and select the desired font. To change the Font of the Grid/Listing, please toggle first to the Full Listing screen and click the font button to select the desired font. Bitstream Vera Sans Mono (installed with TRX-Manager) is the recommended font for the Logbook.

Note : before you change the Font of the Edit part, it is recommended to reset the size of the form to its original state (design state) using the Windows/Reset submenu of the main TRX-manager tools bar.

You can change the colors and apparance of the labels of the fields from the Preferences/Software tab.

See also Graphical interface and preferences

Files (Preferences/Logbook tab)

Here, you may define the default prefix database and the logbook database (.mdb format).

If Auto Backup is checked, you must specify a backup folder for your database. Then :

1. Each day: the first time you launch TRX-Manager, the log book is saved in this folder,
2. Each day: each time you exit TRX-Manager, the logbook is saved in a different folder for each day of the week.
   You can find and open the Backup folder easily without opening and running TRX-Manager (which may erases a previous backup) using the TRX-Tools software.

Date and time format

Dates and Times are displayed according to the format defined for Windows : please set these preferences from the Windows's Regional Settings Panel (Date and Time property pages).

 Possible problems

After updating the program, some fields do not appear: please delete the layout file (.GRD) associated with the current database in order to reset the layout of the Listing to the defaults.

Logging a new QSO

Press the new QSO button (or Ctrl-N) to create a new QSO. The button looks as if depressed and the title bar shows : New QSO. Now introduce the Callsign and press the Enter button of the keyboard to populate the other fields automatically. Use the TAB key to move from one field to another in the log panel. From the Station frame, you can use the more button ... to access optional fields (such as notes, address, URL, email...).

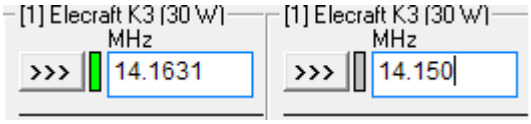
The clear button (Ctrl-D) may be used to clear all the fields and to start logging again. If necessary, use Ctrl-C to give focus to the CALL field.

Different buttons >>> have an automatic recall function of some of the current data : DX-Spot, DXCC country - continent - date - hour - frequency - RST - comment - QSL manager.

The Log button (or CTRL-S or F12) saves the QSO in the database and the logbook is ready for a new QSO...

Real Time logging

To log your QSOs in real time (automatic update of Date, Time and Frequency fields), please make sure the Real Time option is checked (Preferences/Logbook). If the Real Time function is enabled, a green indicator is visible next to the frequency/mode fields ; if you edit the frequency field manually, the real time function is disabled (for Freq/Mode) until you press the button again or you log a new QSO. If you edit the mode, the real time function is disabled for mode only until you move to a new sub band (band plan) or you press the button again (to allow logging successive QSOs using the same mode).



Real time enabled/disabled

How the TRX-Manager's logbook work?

In order to fully understand how the TRX-Manager's logbook works, it is important to know the significant differences between TRX and traditional database programs. A database creates a record as soon as you fill in any field of the database; there is no 'saving' function; navigating to the next field saves the record.

With TRX-Manager, you have to SAVE the QSO to create a record (generally at the end of a QSO). This method has been chosen because of the real-time functionality of TRX-Manager and possibility of changing parameters during a QSO (time, freq, RST, name, pwr, etc). In addition, it is always possible to edit any previous records while keeping in memory the fields of a yet unsaved QSO in progress (but can be saved at any time).

Logging modes

TRX-Manager features several other ways of logging:

1) Classic mode

This mode is comparable with that proposed by other logging software's : you introduce the callsign and you press the button (Ctrl-Ins) OR the Enter key (while the cursor is in the callsign field). This action has the following effects (in sequencing order) :

- if the Copy check box is checked (Preferences/Logbook), the logbook's fields are filled in using the most recently entered information,
- if the Auto logging check box is checked (Preferences/CD-Rom), the empty logbook's fields are filled in with the data collected from the the CD or the HAM base,
- the callsign becomes the current callsign and all windows are consequently updated,
- Distance and Azimuth are calculated and displayed from the DXCC window according to the Prefix or the Gridsquare field if it comprises at least 4 digits.

Please note that the program responds to the Keyboard's Enter key ONLY from the Callsign or Gridsquare fields (if the cursor is in one of these fields).

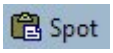
Press the Log button to save the QSO.

2) Ultra-fast mode

Ultra Fast Logging must be checked under Preferences/Software, Logbook tab.

Pressing F12 or Enter (depending on your choice) populates the fields (like Enter above) and saves the QSO in one click. This logging mode is convenient if you don't have any other data to enter and save. Please note this function automatically fills in the various fields ONLY if the cursor is in the CALL field. Consequently, you log as follow: type in the CALL and immediately press F12 (or Enter)! That's all. If you choose F12 (recommended in most cases), you may still use Enter to populate the fields, edit them and press F12 to save the QSO.

3) DX Spot mode

A one key recall of the current DX-Spot is provided by using the Spot button 

(*). Some of the fields are populated from the Spot's comment and others from (eventual) existing QSOs of the database.

In addition, if the Auto Logging and +Spot (DX) options are checked (Preferences/HAM bases), the fields are populated with data from a CD-Rom or Internet. Please note that the +Spot (DX) option (which may collect data from the Internet) slows down the logging process.

If Auto Logging is checked but +Spot option NOT checked, if you want to complete the fields with data from a CD-Rom or Internet, you must press the button (Ctrl-Ins) OR the Enter key (while the cursor is in the callsign field).

Press the Log button to save the QSO.

(*) If the DIG button is checked, the Spot button reads the fields of the modem digital software (if defined and running).

4) Round-Table mode

By right clicking the Grid (Listing) and selecting the Duplicate submenu, the QuickLog window opens and allows you to quickly duplicate data (Frequency/Mode/Date/Comment) from an existing QSO in order to create a new QSO. This function may be particularly useful for round-table QSOs.

For SWL

If you are SWL you have to save two QSOs each time (callsign#1 and callsign#2). To speed up the process, please do as follow :

From the Preferences under Logbook tab, rename the Track field as 2XQSO (mandatory),
Fill in the callsign field with callsign#1, press Enter, edit other fields if necessary and type callsign#2 in the Track field (2XQSO)
Save this QSO with callsign#1
TRX-Manager saves the QSO and creates a new QSO with callsign#2 (while 2XQSO is filled in with callsign#1). All fields related to this QSO are preserved.
Edit this QSO if necessary and save it.

Particular fields

- Country field: the Country is extracted from the TRX-manager's Prefix database. In case of a multiple choice for a given prefix, select the right country from the country combo box. You may also press [+] which opens the DXCC Dialog and select any other country and/or query Club Log for an accurate information.
- Export field: the logical Export field is initialized to YES (checked) for each new QSO to provide manual or automatic update to another database. It is recommended to let this field to YES for a new QSO: this allows TRX-Manager exporting this QSO. After the exportation is completed, the field can be automatically (or not) updated to NO to prevent the QSO from being exported again,
- The Export field may also be used to mark the QSOs for which an electronic QSL has been sent (Cloud Logging...),
- The Band field is calculated from the frequency. For a QSO via Satellite you have to manually introduce SAT as Band.
- QSL fields (QSL_RCVD and QSL_Sent): TRX-Manager uses the following conventions :

  R = Requested
  Y = Yes
  S = Submitted (RCVD only)
  D = (Only) Digitally confirmed (does count for Award)
  E = (Only) Electronically confirmed (does not count for Awards)
  N = None
  I = Ignore (Note: a QSO with QSL_RCVD = I is considered invalid for the awards)

- QSL_Print field, TRX-Manager uses the following conventions :

  Blank (default) : the field is ignored
  L=Print label (useful to select specific QSOs)
  A=Print Label + Address
  N=No label

- the QSLSDATE field does not appear under the Edit tab. This field is automatically updated when you print labels or manually from the Listing.
- while QSL_VIA is for the QSL Manager (if required), the QSL_SENT_VIA field is related to the way you send the QSL :

  B=Bureau
  D=Direct
  E=Electronic
  O=OQRS

QSL: D or E ?

For TRX-Manager a digitally confirmed QSO (D) is confirmed (like a QSL confirmed QSO = Y) and counts for any Award while an electronically confirmed QSO (E) does not count for the awards. Consequently and by convention, the priority is set as follow : Y > D > E
D is strongly recommended for LOTW confirmed QSOs while E should be used for eQSL confirmed QSO only, but this is your choice...

Saving the QSO

When all the desired fields are filled in (at least Callsign and Date ON), the contact may be added into the data base by pressing the Log button  or Ctrl-S or F12 ; please note the Date_OFF field is automatically updated.

The log book is now ready for logging a new QSO and, eventually, may be minimized (*).

(*) minimizing the Logbook window also minimizes the CD-Rom, HamQTH, FCC, QSOBefore windows

Drag and drop

Note finally, that a drag and dropsets up a cluster's spot without passing by the monitoring. The spot (or any other icon of frequency) must be dropped into the data control (lower part of the logbook's window).

Editing a QSO

To select a QSO for edition, you click the corresponding row of the Listing to make that QSO current ; then the logbook automatically toggles to the Edit mode: The new QSO button looks as depressed, the title bar shows Edit Mode and the fields take the colors of the grid (this last functionality can be disabled by unchecking the Edit Color check box under Preferences/LogBook).

After changing a field from the Edit tab, if you click in another record, your changes will be discarded and not saved. You have to save the change into the database using the Log button. It is also possible to delete a contact by pressing the delete button or by right clicking the corresponding line.

However, after changing a field directly from the Grid (Listing), if you click in another record, your changes are saved.

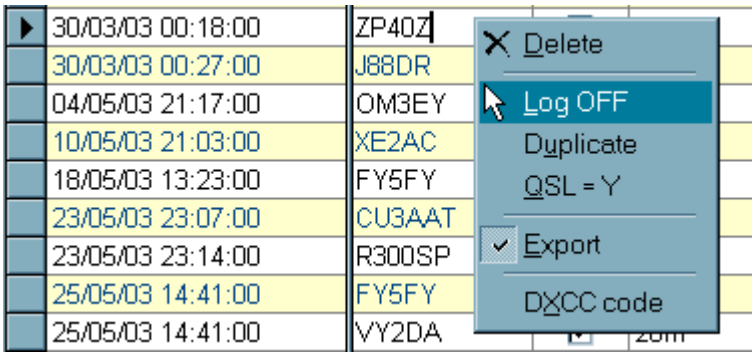
Notes

It is possible to toggle from new QSO mode to Edit mode by pressing the new QSO button: this button acts as a toggle. The fields of the new QSO are saved in memory (but not in the log) when you toggle to Edit mode.
Click the column header button of the Listing to sort the logbook by that column

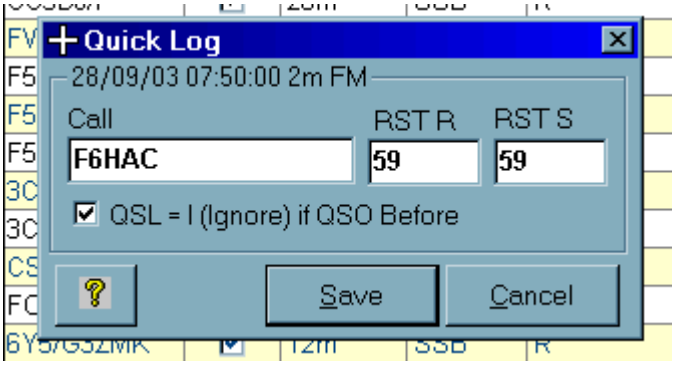
Context menu

From the Listing, a context menu (right click in a record) allows you :

- deleting and logging off a QSO,
- to duplicate a QSO for the same Freq/Mode/Date/Comment but a different CallSign (Quick Logging mode),
- updating the Export Field for a QSO,
- updating the QSL field when the QSL is received,
- to force a DXCC code.

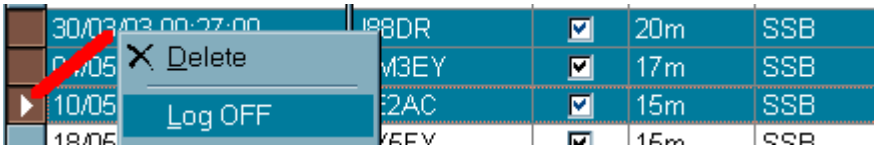


A right click opens the context menu



The QuickLog window (Duplicate context submenu)

A multiple selection function is provided for deleting, logging OFF, QSL=Y and exporting status by selecting one or more QSO using CTRL + [Click]



Press ctrl+click to select more than one QSO

Quick Edit from the QSO Before window

The QSO Before window may prompt to show your previous QSOs with a given Callsign (from the DX Cluster, DXCC Window...). By just clicking a row, the corresponding QSO becomes the QSO current in the Logbook and is ready for editing.

QSO Search, Sorting

Various searches or selections of QSOs can be performed using the Select function/menu of the Logbook:

- Quick search for the current callsign
- Access to the Search window
- Selection of valid QSOs for some pre-programmed Awards (see also Explorer).
  The Select button is toggle: click it for a search and click it again to cancel the the search criteria.

The number of selected records is displayed on the tool bar 

.

Tips

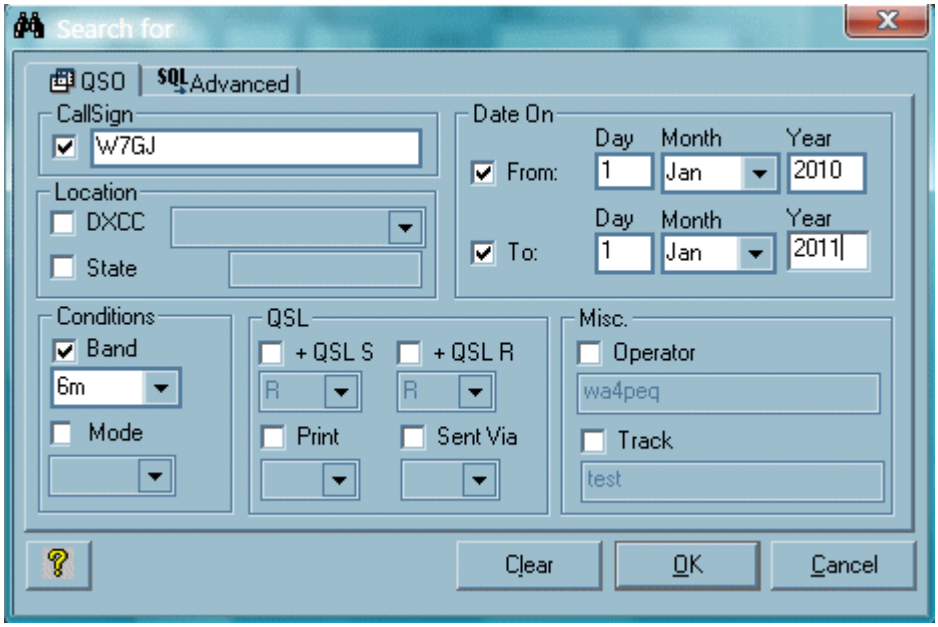
If necessary, for a more comfortable view, the Listing Full Screen toggle resizes the listing so that it fills in the whole Window.
Select a column header (or a field in a column) and click or to order the database by descending or ascending values.

Quick search

The small arrow on the right of the Select button makes it possible to quickly select QSOs with the current callsign. To initialize the menu, you only need to type the callsign or to click a QSO in the grid (listing) :

The Search Window

The QSO tab provides searching for predefined fields :



Searching by call sign

You only have to type the desired callsign (or a part of a callsign) to search and press OK : the only matching QSO's will be displayed.

Searching by date or QSL

You have to check the corresponding check-boxes and to fill in the field criteria in order to search. You may also combine date with QSL or call sign by checking or unchecking appropriate check-boxes.

Search by location

Search can be performed by DXCC country or by State (= French Department for example).

Search by Operator or Track

Warning: if these fields are checked but empty, search will done on empty fields of the database.

Advanced searches

The SQL tab permits advanced searches and reports using SQL language.

Printing the selection

The current selection may be printed by pressing the print button of the LogBook.

Logbook's Explorer

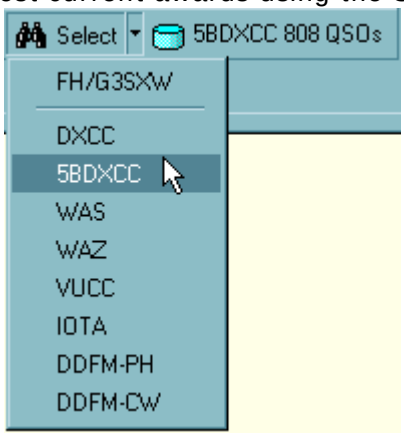
The Explorer tab of the Logbook displays a hierarchical view of the database. This very powerful and easy to use function (coupled with the search function), makes it possible to display and to save various reports for almost any award or to seek the database for specific records.

Please note the Explorer is a graphic control : displaying can take several minutes depending on your criteria!

Selecting the QSOs

You may explore the whole Log without selecting specific QSOs but to display an Award (or for any other need), you have first to select the valid QSOs. You may use different methods:

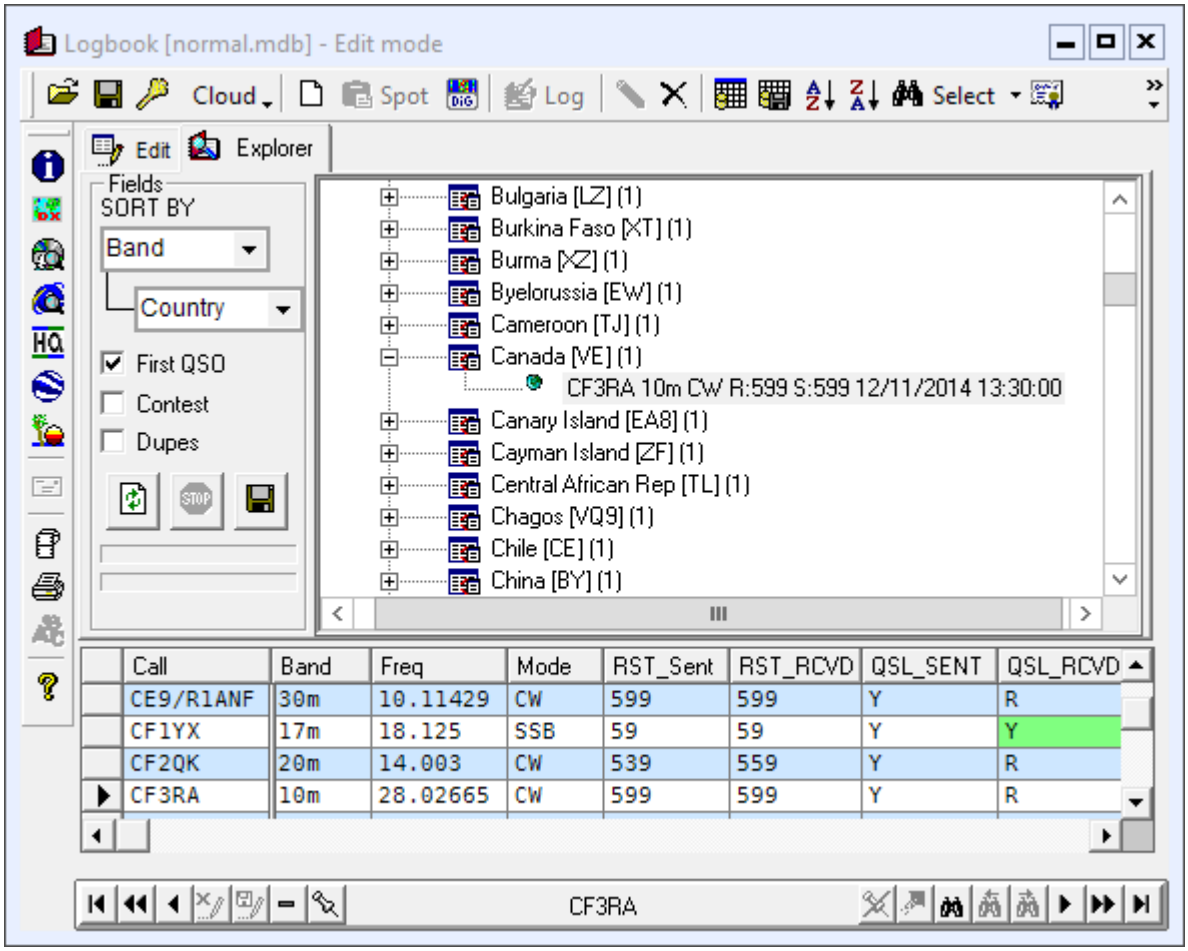
- A search criteria defined from the Search window
- A SQL Query defined from the same Search window
- An automatic selection of the most current awards using the Select pulldown menu:



Displaying the report

You have to select one or two fields which will be used to sort the database (if you choose an award from the menu, these fields will be automatically selected) then you press the Refresh button : after some minutes, the database is sorted and is displayed as a hierarchical structure.

You can limit the display to the First QSO for each search criteria (with a big database, the process takes less time).



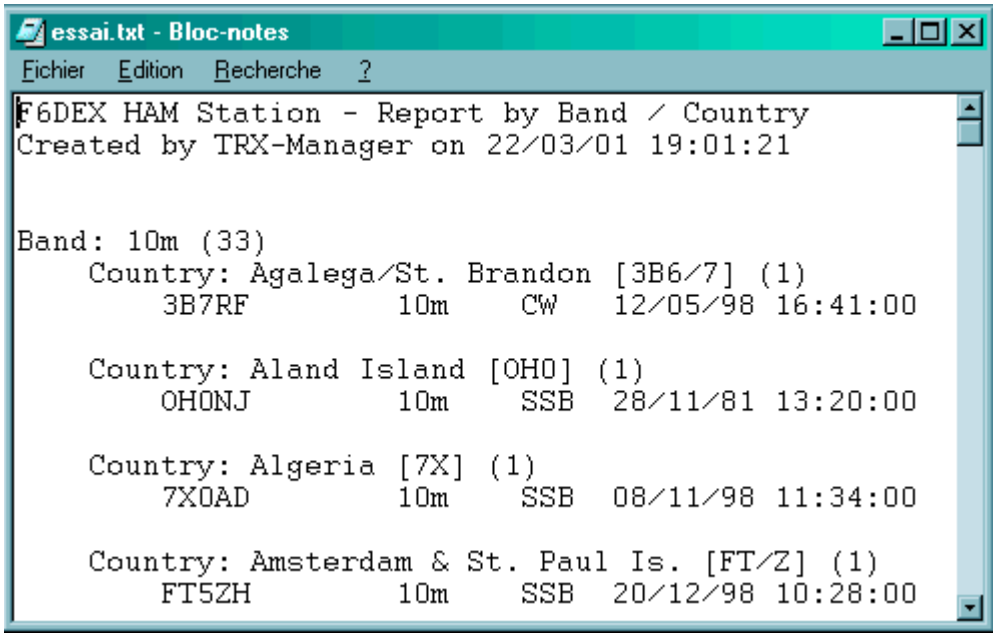
When you click a QSO (Worked, Confirmed) it is displayed under the Edit tab and you may modify its content.

The Contest and Dupes options allow displaying the QSOs of the current Contest and/or the duplicate QSOs (or Dupes : same Call, Band, Mode).

When Dupe is checked, clicking a QSO from the Explorer selects the duplicate QSOs from the database (in Select mode) and they are displayed in the Edit Tab for editing. Please don't forget to (de)press the Select toolbar's button to reset the current selection and to display the whole database again.

Save to File function

The Save button box saves the report to a text file. The First QSO check box limits the listing to the first QSO of each search criteria.



Printable report (Explorer.txt)

Tips

When you work with the Logbook's Explorer, it is advised to close the Monitoring in order to improve the speed of the program,
Sorting by Award takes less time,
Sorting is processed by alphanumeric order which is not convenient for some numeric fields such as CQ or ITUzones. It is recommended to fill in these fields with two digits (i.e. Zone 01 and NOT Zone 1). Note that DXCC Update is reformatting ITUZ and CQZ fields with two digits.

Advanced searches and reports

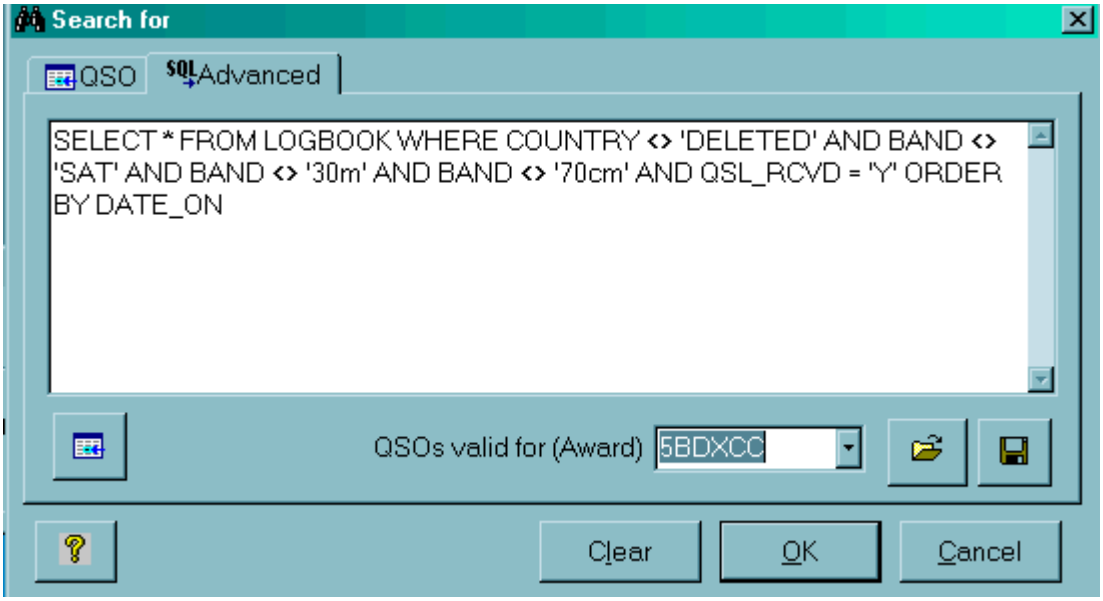
The Advanced tab of the Log book's Search dialog box allows you to select records using SQL queries. Some SQL queries are preprogrammed for the most current awards.

Below are also some useful examples of SQL queries which can be copied and pasted into the SQL editor.

Easy way to search

Clicking the Select button of the Logbook's opens the Search dialog box. Select the SQL Adavanced tab.

Choose a preprogrammed query or start a query under the QSO tab and click the SQL tab to recall the corresponding query using the QSO button for editing. In addition, the Savebutton allows you to save the query on hard disk as text file (SQL extension) and later on to recall it using the Openbutton .



Notes

The wording of the fields must strictly respect the names displayed in headings of the grid (Listing),

The DISTNCT clause enumerates and counts the different values for the specified field. The records associated with each value are not visible.

Status of the WAS

The WAS rewards QSOs made with the US states.

Enumerating

SELECT DISTINCT STATE FROM LOGBOOK WHERE QSL_RCVD='Y' AND (DXCC = 291 OR DXCC = 110 OR DXCC = 6) AND STATE <> ' ' ORDER BY STATE

Valid QSOs for the WAS

SELECT * FROM LOGBOOK WHERE QSL_RCVD='Y' AND (DXCC = 291 OR DXCC = 110 OR DXCC = 6) AND STATE <> ' ' ORDER BY STATE< /FONT>

Enumerating a DXCC with QRP condition (10 w)

SELECT DISTINCT DXCC FROM LOGBOOK WHERE QSL_RCVD = 'Y' AND TX_PWR < '10'

Enumerating the DXCC Millennium award

The DXCC 2000 Millennium Award rewards QSOs made with more than entities of the ARRL DXCC List within the Year 2000. Contacts may consist of any combination of bands or modes

SELECT DISTINCT DXCC FROM LOGBOOK WHERE QSL_RCVD = 'Y' AND DATE_ON >= #01/01/2000# AND DATE_ON <= #12/31/2000# ORDER BY DXCC

Printing the Log book

Printing of the essential data is provided via the corresponding tool bar button  .

If a search is in progress (Select button  pressed) the corresponding selection will be printed ; if there is no search in progress, a dialog box prompts for the selection of QSO to print (by date and/or by export field).

The printed log book is sorted by Date ON.

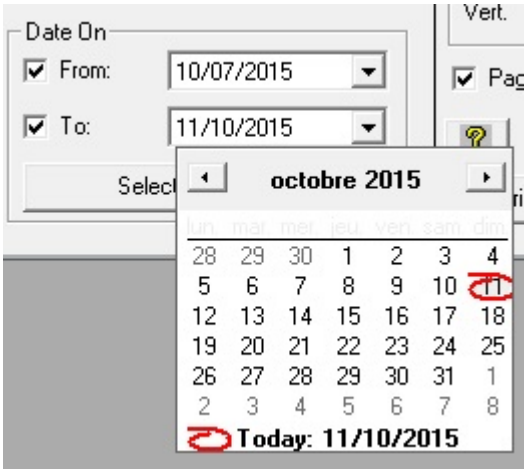
QSL Labels printing

Printing QSL labels is possible from the Logbook by pressing the button of the toolbar which opens the Labels wizard.

Selecting the QSOs

By default, the program prints the labels of all the QSOs of the database whose QSLS field is R or Blank and QSL_Print field is not N. The title bar of the wizard displays the number of correspondind QSOs for which a label will be printed.

However, from the wizard, in order to limit the number of QSOs to print, you can specify a date range: select the date (From / To) and press Select to populate the corresponding QSOs.



Data range : July, 10 to October, 11 2015

Using the Select function of the Logbook

You may also limit the number of Labels to print by using the Select function of the Logbook. In that case TRX-Manager prints all the QSO matching this selection whose QSLS field is R or Blank and QSL_Print field is not N.

However, please note that depending on your selection (or the syntax of your SQL query), in some cases, you may have unpredictable results (anyway, avoid a selection by QSLS).

Settings

In view of the variety of available format, there is no defined label format. A graphic wizard allows you to adjust the label size to match your paper/printer. Adjustment can be made to margins, spaces between labels, size etc...

The font size will be adjusted so that the printed information matches the label size.

The QSL option allows you adding the QSL status (PSE QSL or TNX QSL). The Message check box allows you to add - or not - the message field from the Logbook. The QTH check box allows you to add your QTH or any other text to your UserID. Please note that you can

set the QTH from the Preferences dialog box under Location. The Color check box allows you to print the recipient callsign in red.

One or two trials may be necessary to set all the parameters and the selections.

Note

Adjustments are made from the printing zone of the printer. You have to adjust to the proper margins of the printer.

The Label

Printed information includes : the callsign, the QSL Manager (if available), your UserID followed by your QTH (optional), QSL status (optional), date and time, frequency, mode, report sent and the message (optional).

If QSL_Print=A, a label with the address will be printed.

How to personalize the message

The message (to be defined from the Preferences or the Log Book) may include the following joker * which will be replaced by the Name. Example: Laurent F6DEX has made a QSO with Pierre F6HAC.

The message is defined as : '73 Dear * de Laurent F6DEX'

The printed message will be : '73 Dear Pierre de Laurent F6DEX'

Printing - updating the Logbook

If appropriate, you may indicate the position (by its number in the sheet) of the first label to print (Start) in order to use a previously started sheet (this option only applies to the first sheet).

The Page by Page check box prints one page by one page. The From Page option allows printing from the specified page number. This option is useful in order to resume a printing session without a waste of label sheets in case of your printer crashes.

Printing is launched by the Print button. Labels are sorted by Callsign.

Because errors during printing are possible, updating the QSL Sent field is only manual (preferably after a successful printing!) by using the QSL=Y button. This action will replace R or Blank by Y. If QSLSDATE is checked, the corresponding field will be filled in with the current date.

QSL Printing ?

TRX-Manager does not feature a QSL printing utility. If you are interested by QSL printing, please see ADIF2QSL on the Marek SP7DQR' web site.

Opening and creating a new Log book

Creating a new Log book is easy by using the Openbutton  .

You have to choose the MDB extension and to type -if necessary- the name of the new data base. If this data base doesn't exist TRX-Manager will create a new one; the new data base becomes the current data base.

It is also possible to declare the name of the (new) data base via the preferences dialog box logbook tab.

 Tip

Don"t forget to compact your database from time to time in order to optimize its performances.

Contest Mode

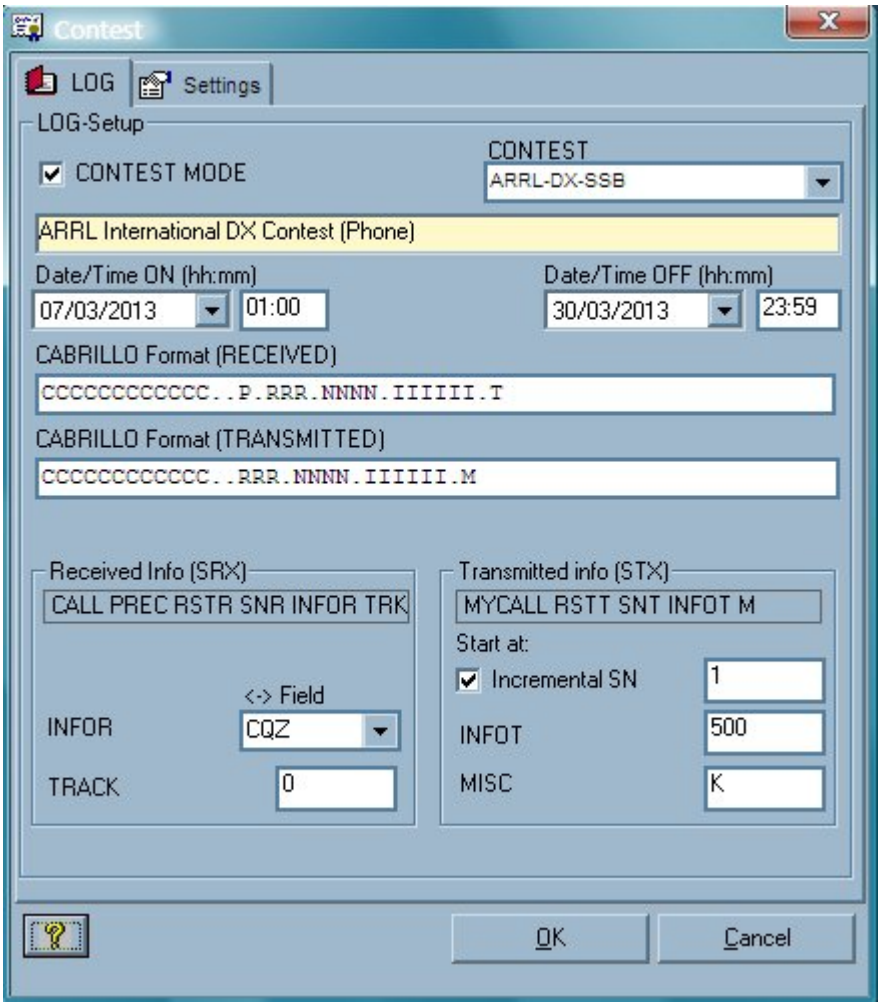
The TRX-Manager's Contest mode allows contesting without necessarily using specialized software. In Contest mode, the Logbook is configured in a very convenient way and some actions like sending CW messages, serial number are automated directly from the Logbook. Export using the Cabrillo format is supported.

See also

N1MM+ UDP Broadcasts

Setting up TRX-Manager for a contest

Contest set up is done from the Parameters/Contest dialog.
You enable/disable the Contest mode by checking/unchecking the CONTEST MODE option.
You may also activate the Contest mode from the Logbook's toolbar using the Contest toogle . All other settings are done from the Contest dialog only.



Contest dialog

Configuration requires the knowledge of the Cabrillo data format as provided by the Sponsor. Some contests are pre-configured but most require a manual configuration.

Choose the Contest from the CONTEST combo box. If this Contest is pre-defined, the Cabrillo format format will be updated. Otherwise you have to configure the Contest format manually.

RX or TX Cabrillo format have to be configured as follow (example):

```
ccccccccccccc.rrr.iiiiiiii
```

Each character represents a field and the number of characters = the length of the field, as follow:

Character	Cabrillo field	Abbreviation	MDB Field	RX	TX	Remarks
C	Callsign	CALL	CALL	X	X	
R	Report	RSTR/RSTT	RST_RCVD/RST_Sent	X	X	59 or 599 by default
N	Sériel number	SNR/SNT	SRX/STX	X	X	Numeric
I	Exchange 1	INFOR/INFOT	SRX_STRING/STX_STRING	X	X	String
P	Precedence	PREC				One char only
T	Exchange 2	TRK	TRACK	X		Additional exchange (string)
M	Exchange 2	M	(none)		X	Not in database
.	(space)		(none)	X	X	(dot) Space

Once these data are completed, you still have to define, if applicable:

RX

- Optionnal : field of the database to be automatically populated from the SRX_STRING (INFOR = Info received) field. I.E you may decide to transfer the content of the INFOR to one of the standard field of the database like CQZ, ITUZ... Up to you!
- (if required) TRACK default value (overrides the current default of the Track field). Track may be used if the contest fields are not enough.

TX

- Serial number (numeric): starting serial number if incremental, otherwise default value
- Default value for the STX_STRING (INFOT or Transmitted Info). This may be your age, your CQZ, your Power or anything else!
- Default value for MISC reminder (MISC is like TRACK while MISC is fixed and NOT saved in the database).
  Once you save the Contest settings by closing the dialog using the OK button, the corresponding settings become the current contest's settings.

Example

Cabrillo QSO template for Sweepstakes

```
                              --------info sent------- -------info rcvd--------
QSO: freq  mo date       time call       nr   p ck sec call       nr   p ck sec
QSO: ***** ** yyyy-mm-dd nnnn ********** nnnn a nn aaa ********** nnnn a nn aaa
QSO: 21042 CW 1997-11-01 2102 N5KO          3 B 74 STX K9ZO          2 A 69 IL
```

- nnnn: serial number
- prec: precedence (A, B, M, Q, S or U)
- ck: two digit check
- sec: ARRL Section abbreviation

Info rcvd (RX)

```
cccccccccc.nnnn.p.tt.iii
```

Info sent (TX)

```
cccccccccc.nnnn.iiiiiiii
```

In that case, data sent (p ck sec) are concatenated in the STX_STRING field of the database:

```
iiiiiiii
```

Data received ck is stored in the Track field (tt) of the database.

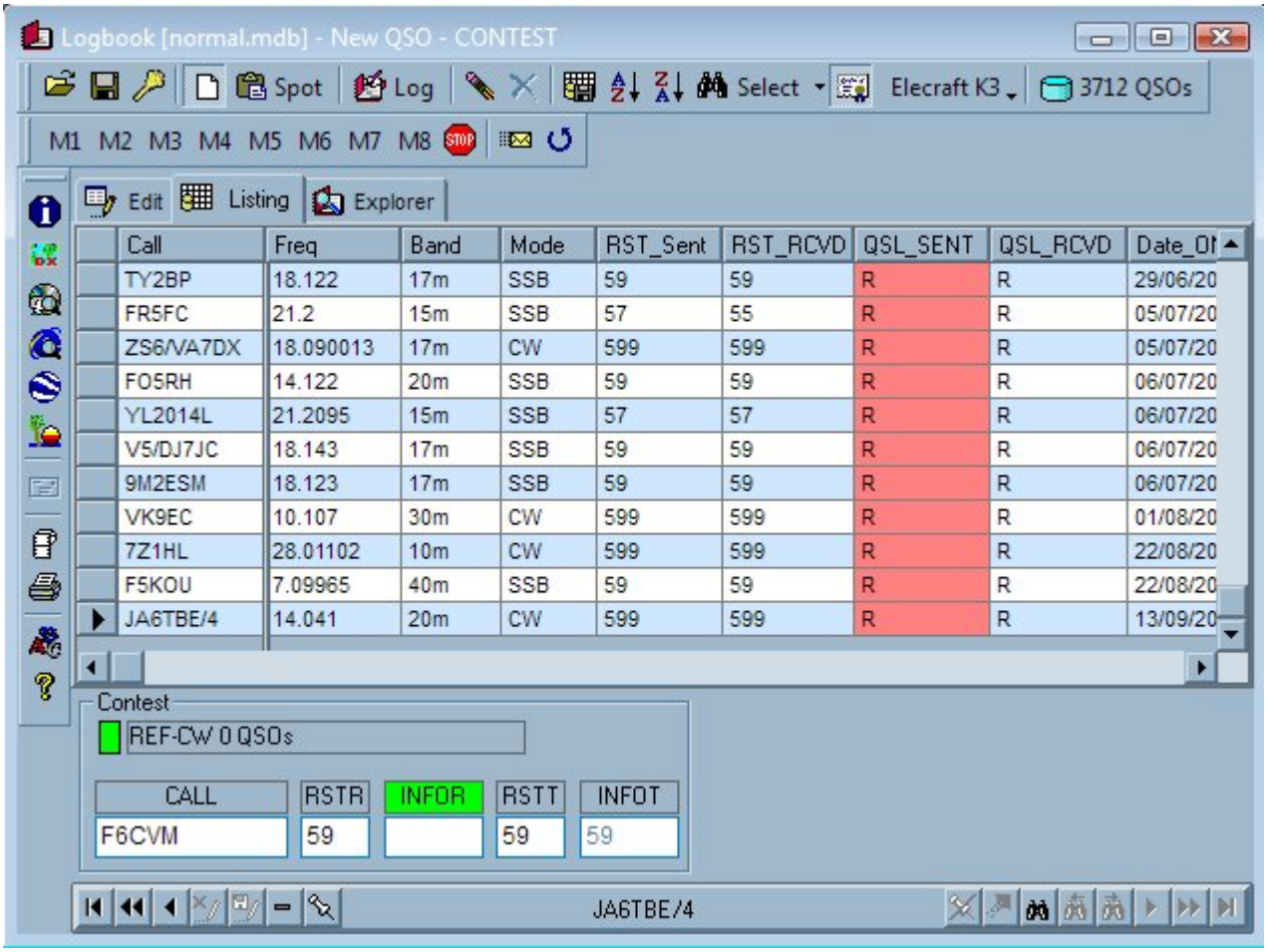
Logging during a contest

Once the Contest mode is configured, you may enable/disable the Contest mode using the Logbook's Contest toggle  .

Appearance and behavior of the Logbook are slightly different than from the standard mode. In particular, the fields useful for the contest are displayed side by side and ordered in the Contest frame at the bottom of the window.

Please note Contest mode is designed so that creating a specific log file for a given contest is (absolutely) not necessary, but you can still create a specific log if you prefer.

The way of logging is essentially the same than in normal mode except that all entries can be done much more quickly using the Contest frame only. Please note: In Contest mode, TRX-Manager uses the Expert's Logging mode (warning messages NOT displayed).



Logbook in Contest mode
CW Toolbars activated
Dupes are indicated by a red square

Some useful shortcuts (*):

- Click « Enter » while the cursor is in the CALL field to populate other fields. The cursor moves to the next useful position,
- CTR-S or F12 to Save a QSO, - CTRL-I or F11 gives CALL field focus,
- CTRL-N to toggle New QSO/Edit mode,
- TAB to navigate from left to right,
- F1-F8 to send a CW message CW M1-M8 (if [F11-F8>CW MSG] checked under Preferences/Logbook)
- Ctrl-K sends the current message
- Ctrl-F12 stops the current message (if possible)
- F11 gives Logbook focus from the main window.
- Eventually, if Ultra Fast Logging is checked (Preferences/Software/Logbook), F12 or Enter populates the fields and save the QSO in one click.
- Ctrl-QCycle Button (CQ Sequencer)
  (*) It may be usefull to display the CW Toolbar in Contest mode (See Preferences/Logbook).

How to ? A CW Contest

Prepare the following CW Macros:
M1 (F1) = TEST DE [MY CALL]
M2 (F2) = [HIS CALL] DE [MY CALL] 5nn[STX] TU
Now, a typical sequencing is:
- Type the call into the logbook (CALL field in green)
- Press Enter to populate the other fields (date, time...)
- Press F2 (M2) to confirm the call and send INFOT (report)
- Type your report into INFOR
- Press F12 to save this QSO
- Press F1 for a new call...

Statistics

In this current version of TRX-Manager, no detailed statistics are provided. However, you can get some useful information as follow:

- The CONTEST frame of the logbook always displays the number of QSOs for the current Contest
- The DXCC Info window displays the DXCC and VUCC statistics for the QSOs of the current contest ONLY
- From the Logbook's Explorer by checking the Contest option, you can have a hierachical view of the database (and various information) for the current contest.

Dupes

TRX-Manager DOES NOT automatically removes the duplicate QSOs from the database before exporting to Cabrillo. But you can avoid dupes or detect (and remove) the dupes as follow:

- While you log (clicking Enter), a RED square indicates a dupe and the DUPES window prompts for any other potential "Dupe",
- At the end of the Contest, you can detect the dupes using the Logbook's Explorer: Check Dupes option and Refresh the display by clicking  . Dupes are listed by band. Clicking a Dupe selects all the corresponding QSOs from the database and they are displayed in the Listing tab for editing. You may remove a duplicate QSO or only blank the CONTEST_ID field in case of you prefer keeping it in your log

Cabrillo exporting

From the Logbook, click the save button  and select Cabrillo (.cbr) format. No settings are required since TRX-Manager uses the current contest's parameters. If necessary you may edit the Cabrillo file (.cbr) to update some the personal data before you send the file to the sponsor.

Limitations

Contest mode may be improved in the future. In this version, limitations are as follow:

- Few pre-defined Contests (ARRL and REF) however most popular Contest can be supported with a manual configuration,
- No QTC mode,
- No detailed statistics,
  Dupes are displayed during logging but not removed from the database.

Importing and exporting the Log book - overview

TRX-Manager can export data using the ADIF (Amateur Data Interchange Format), the CSV (Excel) and the CABRILLO formats. ADIF can be used to exchange with most other programs while CSV (Excel delimited text format) allows you to create various reports. CABRILLO is required to submit your contest log to the Sponsor.

TRX-Manager can import data using the ADIF, LogWindows and TRLog ASCII formats. However, now, most recent programs have the ability to export data using the ADIF format – which can then be easily imported into TRX-Manager.

Note

A small program provided with TRX-Manager: DBFToADIF makes it possible to convert DXLog, EasyLog, TopLog, LogPlus and TurboLog files to the the ADIF format.

See also

Logbook of The World (LOTW)

Cloud Logging (eQSL...)

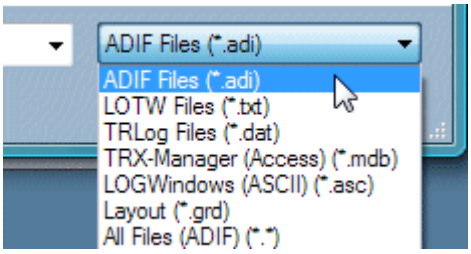
ADIF format

ADIF Capture (instant capture of QSOs logged in real-time using a third party software)

Contest Mode

Importing

The Open button of the Logbook allows selecting the format and the file to import (*.adi, *.txt, *.dat, *.asc):



During import, the program may report errors (incorrect or empty fields...) ; these errors are frequent but often without consequence.

After the file has been imported, it is recommended you perform a DXCC Update from the Tools menu in order to update the DXCC codes as well as CQ and ITU zones.

Note

The Export field for any imported QSO will be filled in with NO (unchecked). See below how to use the Export field.

Imported QSO's will be added to the current data base (LOTW, eQSL report files excepted)

Exporting

The Exporting utility opens by clicking the Save button of the Logbook. Once you have selected the format and defined the file name, the Export dialog prompts and allows you to choose the QSO's to be exported, the required conversions for the QSL fields (= D) and which action to take after exporting, such as: no action/uncheck QSO's, update of QSL fields...

The Export button launches the process.

Notes

When exporting to a ADIF text file (.ADI extension), if the file already exists, it will be deleted and replaced with the new data

When exporting to CABRILLO, you must have CONTEST mode enabled. TRX-Manager uses the current contest settings to select the QSOs.

Conversion options

The way to manage the QSL fields being very variable from one program to an other, you have to choose the conversion options for the QSL_RCVD and QSL_Sent fields for the digitally confirmed QSOs (QSL_xxxx=D): you can choose Y or R (all QSOs only electronically confirmed (E) do no count for the awards and the QSL_RCVD=E field is always converted to R).

Choosing Y preserves the status of your Awards whatever the target software but with a loss of information. If you choose R, TRX-Manager generates several additional ADIF fields: LOTW_QSL_RCVD, LOTW_QSL_SENT, EQSL_QSL_RCVD, EQSL_QSL_SENT so that all information about the digitally or electronically confirmed QSOs are preserved. If the target software supports the ADIF 3.0 specifications, it should be able to reconstruct the status of your awards.

Note

Whatever you choice (R or Y) for the conversion of the QSL fields, TRX-manager generates specific fields to save the data "as is" in case of you have to load the ADIF file from TRX-Manager. Consequently, you can use an ADIF file to save your logbook and reopen it from TRX-Manager whithout any loss of information.

Actions after export

You can define here the status of the Export field (see below) and the values of the QSL_Sent related fields (QSL_Sent, QSL_Sent_Via, QSLSDATE) after exportation.

Warning about Actions

The Export field is very convenient to select the QSOs to be exported however, it can be used only once!

Any Action selected on the QSL fields update your database to the values defined on the right. Make sure of your choice!

How to select the QSO to be exported ?

Several ways are available to select the QSO to be exported: by Export field, QSL_Sent field status, Date and Operator, SQL query...

The Export field

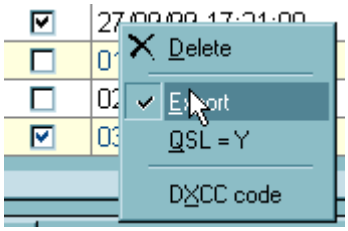
TRX-Manager provides selective exporting by using the status of the logical export field (Checked/Unchecked). It is up to you to choose how you use the Export field: i.e to upload LOTW reports, to export your database periodically to a third party logging program, etc...

The Export field should be checked for any QSO's to export and unchecked for the QSO's not to export.

Note

The Export logical field facilitates the selection of QSO's to be exported, however, it can be used only once!

For an existing QSO, the Export value may be modified from the context menu (by right click) :



In addition, the Tools menu (Tools/Export Field...) allows updating the Export field for all QSOs of the logbook (All > Yes/No).

When exporting (or printing), and whatever how you select the QSOs, the utility (or the printing dialog) allows choosing what action to do after exporting (Export checked/NOT checked).

Date to date

If you do not use the Export field, a selection from Date To Date is recommended. This is probably the best way for a new user if you are not sure of the status of the Export field of your database.

By using the Select function

You may also use and edit the last SQL Query (SELECT) to choose QSOs to be exported (see QSO Search Sorting, Advanced searches and reports).

Logbook Of The World

TRX-Manager can create files for submission of your logbook to the ARRL's Logbook of the world (LOTW) as well as update your database from an LOTW's ADIF Status report.

See also : Logbook Of The World (ARRL)

Creating a file for submission

The TQSL program (V 1.13 or later) provided by ARRL must be installed and running on your computer. You must have access to the LOTW website and a valid certificate. No support can be provided for the use or configuration of the LOTW nor TQSL.

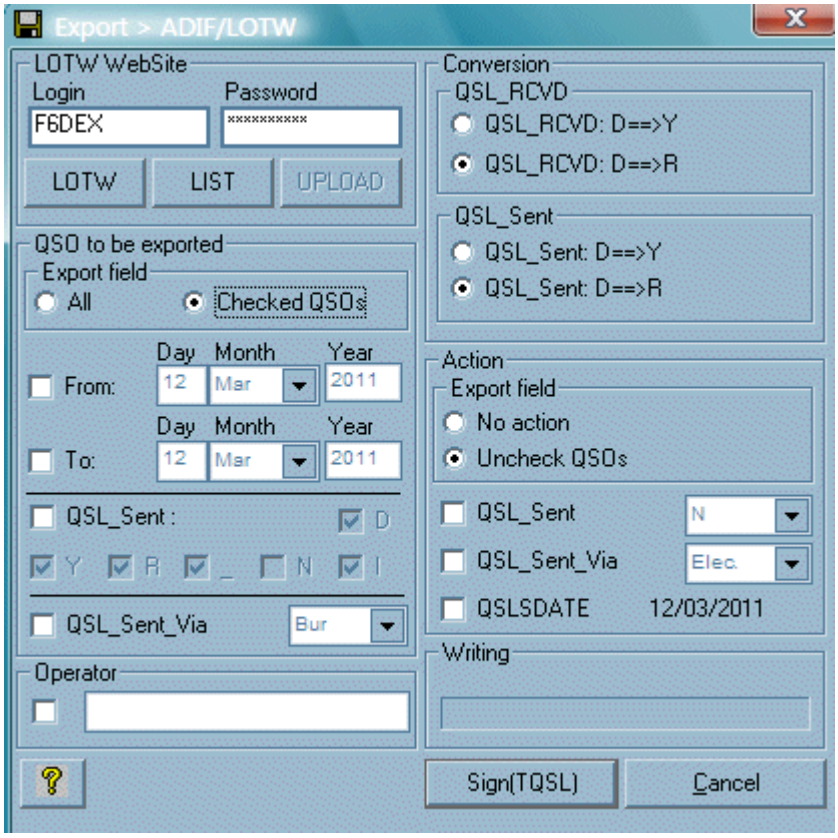
Manual submission

From TRX-Manager, you create an adif file and convert it, using TQSL, into a certified file (.TQ8) to be uploaded to the LOTW website. To create the ADIF file, please click the Save  , choose the ADIF format and type the name of the file to create. The Export dialog opens and you may have to choose some options as explained in the Importing/Exporting section. Please see TQSL instructions to continue...

Automated submission

TRX-manager automates the process making submissions to the LOTW easier (see notes (1)-(4) below):

1. Exit TQSL if it is running,
2. Click the TQSL icon  which appears in the Logbook's toolbar to open the LOTW Export dialog (1),
3. Choose your options as explained in the Import/Export section (or below) and also which Action to take after Export (2),
4. Type in the username (Login) and password required to log in to the LOTW WebSite (3),
5. Click SIGN(TQSL) : TRX-Manager deletes the previous submission files, creates a new adif file (LOTWEXPORT.ADI) using your options and launches the TQSL software allowing you to digitally sign your QSOs (file and data dialogs are skipped in that case),
6. Wait until TQSL ends and click UPLOAD to upload the certified file (LOTWEXPORT.TQ8) created by TQSL to the ARRLs' LOTW (4).



Exports only QSOs with Export field checked
QSO are unchecked after you click SIGNS(TQSL)

The LOTW button opens the LOTW WebSite using your login and password.

Note

(0) If TQSL is configured for running "as administrator", you must run TRX-Manager in administrator mode or set OFF UAC to launch TQSL from TRX-Manager (otherwise you get a TQSL Error and/or the UPLOAD is not possible)! You may also disable the administrator mode for both programs.
(1) the TQSL icon does not appear if TQSL is not properly installed,
(2) if you periodically submit your QSOs to the ARRL's LOTW, you may choose exporting from date to date or you can keep the Export Field for that use so that only the necessary data is exported - you may also set up the program to update the QSL_S fields after Exporting
(3) you should use the LOTW button to test the validity of your login and password before the first upload. The DEMO version does not save this information,
(4) the Upload complete message at the end of the process does not mean your file has been accepted.

How to select the QSOs for LOTW

To select the QSO to be uploaded you may use :

The Export field of the database. Only the QSOs for which the Export field is checked will be uploaded. Once the QSOs are exported, the Export field will be unchecked for the corresponding QSOs and your database is ready for the next upload (by default a new QSO has its Export field checked). This is the best way for a regular update. However, if you are a new user, your Export field may be checked or Unchecked depending on the way your QSOs have been imported and the second option is recommended.
A selection from Date To Date. This is probably the best way for a new user if you are not sure of the status of the Export field of your database. An option is available to uncheck the Export field after exportation.
Once your LOTW and TRX-Manager database are synchronized, it is recommended (at least the first time), to uncheck the Export fields for all the QSOs using the Tools/Export field sub menu.

Updating your database from LOTW

Updating your database from LOTW is not fully automatised. You have to download a Report from the LOTW Web site (Your QSOs/Download Report).

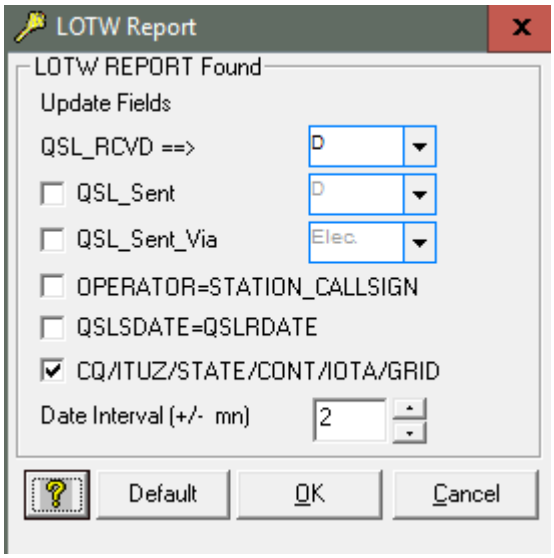
The ADIF format is used to exchange data with the LOTW. When you receive the status report, click the Open button of the Logbook , choose the ADIF (.adi) or LOTW (.txt) format and select the corresponding file. If a LOTW report is recognized, a dialog box prompts and allows you to choose how to update your database.

Warning

If you open a report with .adi as extension, please make sure TRX-Manager recognizes it as a LOTW report and displays: LOTW Report found... (and NOT "This action will add." .. which may add the qso to the database!).

For all QSOs of the report, the QSL_RCVD field will be updated (recommended value is D for Digital) and other selected fields may be updated too according to your options. However, if a QSO is already confirmed (QSL_RCVD = Y), it will NOT be updated.

The Date Interval option specifies the time interval (in minutes) for the search of the QSOs. +/- 2 minutes is recommended for LOTW.



QSL_RCVD is updated to D for all values of QSL_RCVD (Y excepted)
If the new digitally confirmed QSO has valid fields for
CQ Zone , ITU Zone, State, GridSquare, Continent or IOTA,
your database will be automatically updated with these values.

For a full report of the update, you may browse the (\Misc\)LOTW_Error.txt text file.

About the QSL_RCVD field

In TRX-Manager, the paper QSL (QSL_RCVD= Y) has the priority over a digitally (D) or electronically (E) confirmed QSO and a digitally confirmed QSO (QSL_RCVD= D) has the priority over an electronically (E) confirmed QSO, consequently:

The QSL_RCVD field will be updated to D or E only if the paper QSL is not already received (i.e for all existing values of QSL_RCVD, Y excepted)
The QSL_RCVD field will be updated to E for any existing value of QSL_RCVD, Y and D excepted
When you receive the paper QSL, it is recommended you update the QSL_RCVD field to Y as

usual
When you update your database from LOTW, it is recommended you choose QSL_RCVD ==> D for digitally confirmed QSOs (*)
(*) Choosing QSL_RCVD=Y here is possible but prevents from further update of other fields and is generally not required since you always have to possibility to change D to Y while you export your QSOs to ADIF.

Anyway, for TRX-Manager a digitally confirmed QSO (D) is ... confirmed and counts for any Award while an electronically confirmed QSO (E) does not count for Awards. D should be used for LOTW confirmed QSOs while E should be used for eQSL confirmed QSO but this is your choice...

Possible problems

A valid Band field is required. If your Band field is empty, please run the Tools/DXCC Update function. This function will format the Band field according to the Frequency field.

The UPLOAD button stays grayed out or the password is lost: make sure TQSL and TRX-Manager are using the same compatibility mode as indicated above. If *Run as administrator* is selected for one program (*) it must be selected for the other (or not selected for both). Make sure you use the last versions of TQSL and TRX-manager.

(*) Right click on the program .exe file, then click on Properties, and on the Compatibility tab to configure the admin mode.

Installing the LoTW users list

TRX-Manager supports LOTW users lists.

You must use a text formatting list with only one call per line and no comment. You may compose a list yourself or download a list from the HB9BZA web site (select text, 1call/line, no comment) and may be other sites. You have to load the list from the LoTW dialog (Logbook): click LIST and select the list using the text format (.txt). TRX-Manager creates a database (lotwusers.mdb) with (known) LoTW users and is now configured to support the LOTW list.

A * will be added in front the DXCC Status for each DX spot if the corresponding station supports LoTW.

ST2AR is user of LoTW

Notes

Available lists on the net are limited and not supported by ARRL,
If you want to disable this feature, you only have to delete the lotwusers.mdb file located either in the main folder or \Misc.

ADIF format

The ADIF format has been created to permit easy and direct transfer of data between various amateur programs. For more information about ADIF please go to the Independant ADIF Site. TRX-Manager supports the ADIF V3 specifications.

The ADIF format can be used to import/export your QSOs to/from TRX-Manager.

The DXCC Country code

Please note that TRX-Manager transfers/reads all the fields including the DXCC field using the ARRL country code in accordance with the ADIF specifications. In order to use this ability, your log software must be able to support and translate this country code to the code as a DXCC country. This functionality is not supported by all software...

If your log software doesn't use the DXCC code, the corresponding field will be empty or filled in from the prefix : in this case you may have problems as a lot of radio prefix's amateurs are not in accordance with the ITU allocation.

Inversely, if your log software doesn't support the DXCC code when importing, TRX-Manager will not be able to recognize the DXCC country. In this case you will have to perform a DXCC Update and manually edit some QSOs to select the right DXCC country.

Valid ADIF codes are necessary to determine your DXCC award.

Binary data

TRX-Manager can NOT read ADIF files including binary data. If this is the case, please turn off export of any binary field (such as GUID... in LOGic).

ADIF Capture

TRX-Manager can capture and extract the last QSO from a specific ADIF file ; this feature can be used if you log the QSOs - in real time - with a third party program in order to transfer, save and finalize the records (one by one) into the TRX-Manager's database.

See also

Synchronization RS232
OMNIRIG interface

Setting up TRX-Manager

Open the Preferences Software dialog and from the Logbook tab, check on ADIF Capt (ADIF Capture). Select the ADIF file using the Open button .

Example

For WSJT-X (*), the file is located under C:\Users\(your account)\AppData\Local\WSJT-X. The default file name is wsjtx_log.adi. You have to select this file

(*) Just as example since TRX-Manager supports the UDP broadcasts sent by WSJTX and this feature is useless with this program.

Now, you open the LogBook and the Logbook's toolbar includes a new button (ADIF Capture) :

How to capture and save the QSOs

1. Log and save your QSO using your third party program
2. From TRX-Manager, click the ADIF capture button
3. TRX-Manager reads the adi file, extracts the last QSO, fills in some information (using your Preferences for logging)
4. You can now edit the QSO to finalize all the needed information and Save it using the Save button

Notes

You import the QSOs one by one. If you have several QSO to import, you have to use the Log importing function
There is a protection against duplicates within the same TRX-Manager's session (but no protection between sessions).
The extraction time is proportional to the size of the ADIF file. It is therefore recommended to delete the ADIF file from time to time so that it does not become too big.
If the frequency is undefined, TRX-Manager fixes it using the current frequency of the transceiver.

N1MM+ UDP Broadcasts

TRX-Manager supports the UDP Broadcasts information passed from N1MM+ logger.

Related Topics

N1MM+ External UDP Broadcasts (N1MM Help)

Overview

You must use N1MM+ (latest version).

The External/N1MM+ opens the N1MM+ Broadcasts module. This modules receives, displays and processes the UDP Broadcasts information from N1MM+ logger.

Collected data are :

- Application Info
- Radio information (RX/TX/Mode/Split)
- Contact information (time, callsign, mode, frequency, exchange...) when a new contact (QSO) is added to the N1MM+'s log
- Spots : information about spots as they are processed from N1MM+
  You have first to configure N1MM+ accordingly from the N1MM+'s Config/Configure ports... menu (Broadcasts data tab) and to choose the IP address and UDP Port (IP=127.0.0.1 and Port=12060 by default).

The collected data can be transfered one by one or automatically to the TRX-Manager's logbook, DXCC window...

It is also possible to synchronize TRX-manager with the transceiver under the control of N1MM+. This way, all external interfaces (amplifiers, antennas, band switches ...) can be synchronized with the transceiver under the control of N1MM+.

Warning

If the Monitoring is not running, TRX-Manager can NOT synchronize the external interfaces (amplifiers, antennas, band switches...) with N1MM+ ! Similarly, if TRX-Manager is minimized, the communication with the external interfaces will be stopped. So, please keep TRX-Manager in background.

How to use N1MM and TRX-Manager simultaneously

There are two suitable strategies for using TRX-Manager and N1MM + together.

1. TRX-Manager controls the transceiver and shares the control with N1MM + using a Synchro port.
2. N1MM + controls the transceiver and TRX-Manager is used in Demo mode.

Configuration 1. is not specific to N1MM + and can work with any logging software that supports the Kenwood TS-690. See Synchronization RS232 for this configuration.

Configuration 2. is recommended for intensive and priority use of N1MM + during a contest. In this case TRX-Manager is only used for logging and DXCC tracking but can still synchronize all external interfaces (amps, antennas, band switches ...) with the transceiver under the control of N1MM+. This configuration is recommended for the use with N1MM + and is described more specifically in this section of the help.

Configuring N1MM+ and TRX-Manager in Demo mode

You have to configure N1MM+ as required in order to control your transceiver and you launch N1MM+ to check that all is running perfectly.

If TRX-Manager is already configured for your transceiver - without changing the configuration of TRX-Manager - you launch TRX-Manager JUST AFTER N1MM : TRX-Manager displays a warning message and then automatically switches into Demo mode. The advantage here is that you do not have to change the configuration of TRX-Manager ; at any moment, if needed, you can control your transceiver again from TRX-Manager by closing N1MM + and restarting the communication from the Transceiver / (your transceiver) ... menu of TRX-Manager.

Other possibilities are :

- Configuring TRX-Manager in Demo mode manually
- Using the \Demo switch of the command line (see Overview and Settings) to start TRX-Manager in Demo mode
- Closing the communications from the Transceiver/menu before launching N1MM+ and the N1MM+ module

Running the N1MM+ module (TRX-manager)

1. Please open the N1MM+ module from the External/N1MM+ menu
2. IMPORTANT always open the Monitoring EVEN if TRX-Manager is used in Demo mode
3. Fill in the IP port : 12060 by default
4. Fill in the N1MM+ radio NR (1 by default)
5. Listen to the UDP packets by engaging the LISTEN toggle
6. If TRX-Manager is in Demo mode, press SYNC in order to synchronize the Monitoring with the transceiver under the control of N1MM+
   Now, the N1MM+ module displays the information received from N1MM + and the Monitoring is set to the frequency (RX/TXMode/Split) of N1MM+ even if TRX-Manager is in Demo mode.

If TRX-Manager is in Demo mode, it is not possible to control the transceiver from TRX-Manager, but all external interfaces (amplifiers, antennas, band switches ...) are synchronized with the transceiver under the control of N1MM+.

Warning

If the Monitoring is not running, TRX-Manager can NOT synchronize the external interfaces (amplifiers, antennas, band switches...) with N1MM+ ! Similarly, if TRX-Manager is minimized, the communication with the external interfaces will be stopped. So, please keep TRX-Manager in background.

Using the N1MM+ module

The graphical interface shows different elements as follow:

LISTEN : opens the UDP port and listen to the N1MM+ broadcasts
PORT : UDP port (12060 by default)
NR : N1MM+ Radio NR (1 by default)
ON TOP : keeps this window on top
 : synchronizes TRX-Manager with the N1MM+ radio (can be used if TRX-Manager controls a second transceiver)
SYNC : automatically synchronizes TRX-Manager with N1MM+ (especially if TRX-Manager is in Demo mode)
 : transfers the current N1MM+ contact into the TRX-Manager's logbook for editing but does not save it. The log fields are filled in according to your preference for logging (with various information from Internet, CD, existing QSOs... like with the SPOT button of the logbook)
 : saves the current N1MM+ contact into the log database. Warning, in that case, the contact is transferred WITHOUT any additionnal information (CD, Internet, existing QSOs...)
AUTO : automatically saves the N1MM+ contacts into the log database as soon as they are received. Warning, in that case, the contact is transferred WITHOUT any additionnal information (CD, Internet, existing QSOs...)
 : transfers the N1MM+ spot to the transceiver under the control of TRX-manager (not very useful if TRX-Manager is in demo mode)
 : searches for a previous QSO (QSO before)
LIST : transfers all N1MM+ Spots to the Terminal/DX-Cluster list
INFO : automatically displays the DXCC Information as soon as a new Spot is received from N1MM
 : displays this help
Fields (log) : the various data received from N1MM+ are displayed here and can be filled in before beeing transferred to the logbook (except TIMESTAMP). Please specify the Zone information (CQZ, ITUZ or Other depending on the contest)
Broadcasts : displays the UDP packets

Cloud Logging

TRX-Manager can upload/download the logging data for various servers. The supported servers are:

- eQSL
- HRDLOG.net
- QRZ LogBook
- Club Log

The supported functions depend on the server.

Settings

You have to set up TRX-Manager from the Preferences/Software/Cloud tab. Depending on the server you use, you define the required parameters such as UserID, Password, email...

For each server, the options are:

- Logging method: None (disabled), Real Time (each time you log a QSO), Manual (using the Manual mode or the File Upload utility)
- Conversion options: as explained in the Import/Export section (or below) and also which Action to apply after Export

Logging method and Conversion options apply to all HAM logging servers (while LOTW uses distinct settings).

Cloud logging

If the Real Time option (Preferences/Cloud logging) has been selected, your server is automatically updated each time you log/edit/delete a QSO (depending on servers). Please note that the Real Time option may slow down the logging process and is not recommended for more than one server at the same time. In addition, the Real Time option is not recommended if your server does not allow updating or deleting previously uploaded QSOs.

If the Manual option has been selected, the QSOs are queued until you use the Cloud Upload button (Cloud menu) to uploads all the QSO of your logging session. As this feature uses a real-time API, the sites recommend not to exceed ~10 QSOs sent in this way so as not to saturate the server. Please note that the queue is deleted once you close the logbook. An other way, probably preferable, is to upload the QSO from time to time by using the File Upload tool and to select the QSOs by date ranges.

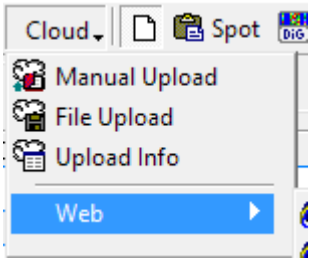
The real time upload or the manual upload only works for individual QSOs and the current session: if you update your Logbook using an LOTW report (or after printing QSLs or any other action), you must use the File Upload tool and select the corresponding QSOs to update your server ; this function is subject to caution depending on the way the server behaves with the existing entries.

Related Topics

Import/Export

At each upload TRX-Manager creates a report that can be displayed using the Upload Info button (Cloud menu).

If a real-time upload fails (busy server...), TRX-Manager retries when you save the next QSO or when you close the Logbook. You may also try a manual upload.



The Cloud menu

eQSL

eQSL supports ADD in real-time and FILE UPLOAD.
eQSL does not support EDIT and DELETE in real time. Duplicate QSos are rejected and not updated.
File Upload is limited to 500 QSOs. If you have more than 500 QSOs, you must create and ADIF file and upload that file from the eQSL web site.

HRDLOG.net

HRDLOG.net supports ADD, EDIT and DELETE in real time.
HRDLOG.net does not support an automated FILE UPLOAD but you can upload an ADIF file manually from the HRD LOG web site
You can send your ON AIR status using the (HRDLOG) button of the Cloud menu.

QRZ LogBook

A valid XML (paid) subscription is required to upload QSOs. You also need the API-KEY of your Logbook (see QRZ logbook settings)

QRZ Logbook supports ADD, EDIT in real time.
QRZ Logbook does not support DELETE in real time.
QRZ LOGBOOK does not support an automated FILE UPLOAD but you can upload an adif file manually from the QRZ web site

Club Log

Club Log supports ADD, EDIT and DELETE in real-time and FILE UPLOAD with an unlimited number of QSOs.
FILE UPLOAD: If the Flush option is checked, the log will be flushed before the new upload is processed. In all other cases, the log will be merged.
Club Log supports DXCC Query from the DXCC codes dialog. This function is very useful when you receive the Feedback from ClubLog and you have to update your logbook.

Updating your database from eQSL

You have to download a Report from the eQSL Web site (Download Inbox).

The ADIF format is used to exchange data with your eQSL. When you receive the status report, click the Open button of the Logbook  , choose the ADIF (.adi) (*) or (.txt) format and select the corresponding file. If a report is recognized, a dialog box prompts and allows you to choose how to update your database.

Warning

If you open a report with .adi as extension, please make sure TRX-Manager recognizes it as a CLOUD report and displays the name of the server: ie: eQSL Report found... (and NOT "This action will add." .. which may add the QSOs to the database!).

The Date Interval option specifies the time interval (in minutes) for the search of the QSOs. +/- 5 minutes is recommended for eQSL.

For all QSOs of the report, the QSL_RCVD field will be updated (recommended value is E for Electronic = does not cound for Awards) and other selected fields may be updated too, according to your options. However, if a QSO of the report is electronically confirmed (E) but already confirmed (QSL_RCVD = Y) or digitally confirmed (QSL_RCVD = D), it will NOT be updated.

About the QSL_RCVD field

In TRX-Manager, the paper QSL (QSL_RCVD= Y) has the priority over a digitally (D) or electronically (E) confirmed QSO and a digitally confirmed QSO (QSL_RCVD= D) has the priority over an electronically (E) confirmed QSO, consequently:

The QSL_RCVD field will be updated to D or E only if the paper QSL is not already received (i.e for all existing values of QSL_RCVD, Y excepted)

The QSL_RCVD field will be updated to E for any existing value of QSL_RCVD, Y and D excepted

When you receive the paper QSL, it is recommended you update the QSL_RCVD field to Y as usual

When you update your database from eQSL, it is recommended you choose QSL_RCVD ==> E for electronically only confirmed QSOs (*).

(*) Choosing QSL_RCVD=Y here is possible but prevents from further update of other fields and is generally not required since you always have to possibility to change E to Y while you export your QSOs to ADIF.

Anyway, for TRX-Manager a digitally confirmed QSO (D) is ... confirmed and counts for any Award while an electronically confirmed QSO (E) does not count for Awards. D should be used for LOTW confirmed QSOs while E should be used for eQSL confirmed QSO but this is your choice... Consequently and by convention, the priority is set as follow : Y > D > E.

Terminal overview

The terminal module provides text-data exchange and processing of DX-Spots through a multi-mode controller (TNC) and/or via Telnet.

The Terminal features are

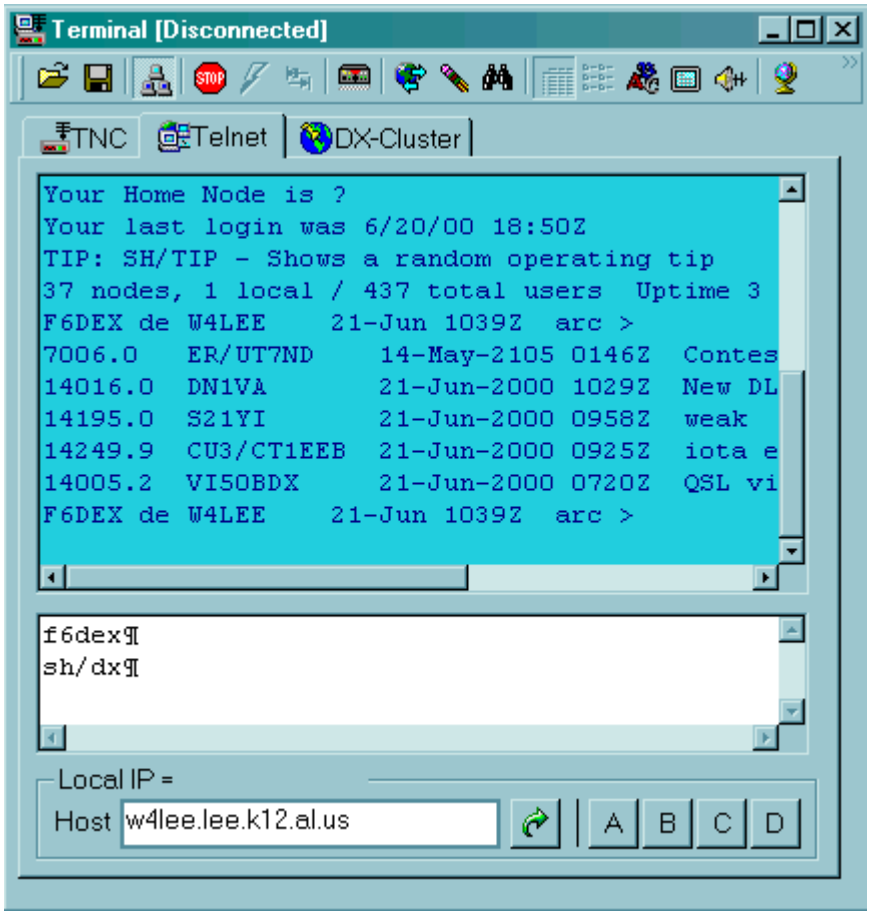
Packet and Telnet DX Cluster interfacing
DX Tracking
customizable sound announcements
Active double click from the Terminal itself (TNC/Telnet tabs)
Function buttons
Remote control of a rig via packet
DX Spots broadcasting
DX-Spots forwarding via EMail (DX-Mail)

Please see also

Setting up TNC parameters
Telnet connections
DX Spotting
Link with Telnet clients

Overview

The terminal module opens from the main toolbar or using the File / Terminal, submenu .



The sizeable terminal window shows 4 tabs:

- The TNC tab is used to communicate with the controller,
- Telnet1 and Telnet2 tabs are used to establish Telnet sessions
- The DX Cluster tab displays the DX spots if you are receiving data from a DX Cluster.
  You type the text to send in the lower area (TNC Telnet1 Telnet2 tabs). As a default, each carriage return sends the data inside the two last end of paragraph characters (¶) to be sent.

  This module also provides text-data exchange with the Windows clipboard: A right click opens a contextual menu : copy may be selected in the upper area (received data) and cut/copy/paste in the lower area (data to send).

Packet

To send a break signal (Ctrl+C or Escape) , you have to press the following tool bar button . If < Escape> is the command, the terminal displays * to show that you have to enter a command.

If the DCD line of your controller or TNC is wired, TRX-Manager displays the connection status in the title bar (and in some cases, the connected station call). If the DCD is not wired, disconnected will be displayed without any other consequence. Any disconnection generates the Hand sound system.

Telnet

You have to enter the IP address or the name of the computer into the Host text box under Telnet1 or Telnet2; then click the go to button in order to establish the connection. (See

also Telnet connections)

Special functions and features

Different special features may be accessed from the tool bar, the lower frame or by double clicking on the receive window.

Open text file : this button causes the corresponding text-data to be inserted in the lower area. Then the text may be edited and sent with one or more carriage return.

Save buffer : this button saves all text-data already received in a text file.

Connect (Toggle): this button connects or disconnects the specified Host (Telnet). The status of the button indicates the status of the connection.

Stop scrolling for 5 minutes (toggle): When depressed, the software stops scrolling. It resumes after 5 minutes.

Break signal : this button sends the signal command : CTRL C or Escape (see SETUP) to switch the TNC to the command mode (TNC) .

Type ahead (toggle): If depressed, each character is sent when typed. This mode may be useful when operating CW or RTTY (TNC).

Automatic QSY (toggle): after each new spot, the software automatically QSY'syour rig to the corresponding frequency and stops the screen saver (Preferences). Keying down from the TX or the program automatically disables this function (only if the monitoring screen is active). The drop-down button allows you choosing the corresponding spots between *All*, *Needed* or totally *New One.* IF AF gain control is supported and according to the status of the Main toolbar's Tools / DX Squelch button , AF is set to its previous gain for the delay specified under the Preferences / Transceiver / Band Plan tab.

DX Spot to send: this button opens a dialog box from which you compose a DX-Spot to send to the DX Cluster

Broadcasting toggle: provides broadcasting of DX Spots received from a Telnet server via Packet

Clear buffer : You should use this button to clear the receive buffer if you suspect a lock up..

Search for text : this button provides a search for a text string. Please note that this function stops scrolling.

Sound announce (toggle): Toggle to switch on/off the sound announces for particular messages or Spots such as defined under WAV tab (Preferences dialog box).

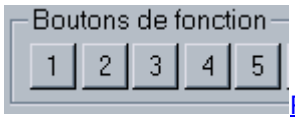
Change font : this button allows you to choose a convenient font. You should choose a non-proportional font such as Courier New - System - Terminal - Fixedsys to have good text alignment.

Full window (toggle): This buttons stretches the receive area so it fits the window.

Azimuthal projection : this button creates an azimuthal projection from the 25 last DX-Spots.

: Detailed or Icon report (+ resets columns to the default width).

PKT (TS-2000 Only): This button toggles the TS-2000 into PKT mode (CAT is disabled).

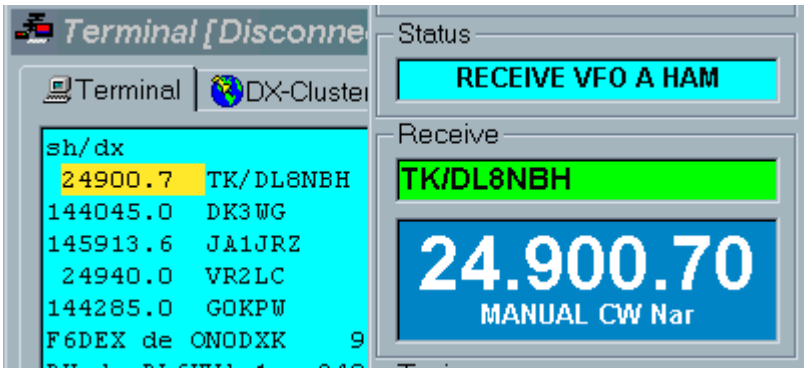


Function buttons (1-9 A-D) : for each button, a right click allows you to program a function. Then a simple left click on the button sends the corresponding command.

WD : Watch dog (CR sent to the server every 2 minutes).
REC : Auto-reconnect. Allows an automatic reconnection almost as soon as the current connection is lost (requires WD ON and auto-logon at startup defined)

Double click : a double click of a string (text) in the receive window performs specific functions :

- message number : sends this message to the server > reads the message (r xxxx)
- frequency (KHz) : QSYs the transceiver (below, sets 24.9 MHz and current info = TK/DL8NBH)



- any call sign : opens the DXCC window
- your call sign : sends this message to the server > lists messages for you
- DX : opens the spot dialog box
- any other string : sends the corresponding command (string) to the server

Setting up the TNC parameters

Setting the serial port is made via the Parameters/Setup dialog box under Terminal. First check the TNC Enabled option then read the manual of your controller (...) to determine parameters such as : speed - parity - data bits - stop bits. It is best to choose a high speed baud rate such as 9600 or more to avoid slowing down the communication loop with the transceiver.

An important parameter is the command signal used by your TNC to switch to the command mode : check < CTRL C> for TNC 2, PK232, KAM ; check < Escape> for DK9SJ's modems (TNC2S/H/3S... with TF Eprom).

In some cases you may have to check Add LF to automatically add a Line feed (LF) after a carriage return (CR) ; please check this option only if frames are not properly displayed.

Priority to CAT is usually NOT checked. In some rare cases (probably with some older transceivers operating at slow speed), checking Priority to CAT may increase the fluidity of CAT control and the stability of the software : communications with the TNC are then processed only after all data coming from the transceiver are received. Please note, in case of this option is checked, opening the terminal window is not possible without opening the monitoring window !

From the Preference/Spots-Web submenu, under Terminal, you will have to choose between various options related to the DX-Spots (see DXCluster).

Troubleshooting

Most problems are coming from a wrong speed (Setup) or from a wrong mode (TRX-Manager doesn't support any Host mode). Read carefully the manual of your TNC ... Try to increase the speed to the maximum available value and disable the Autobaud mode on the TNC.

 See also

Troubleshooting guide: serial port and communications

On line tech support:http://www.trx-manager.com/support

Telnet connections

The Terminal of TRX-Manager makes it possible to establish two Telnet sessions (TCP protocol) simultaneously with distant computers/servers over Internet or a local area network.

See also

Setting up TNC parameters (PKT)

Internet Configuration

You must check that your Internet connection is correctly configured and functions: you can configure the Internet connection from the Window's configuration panel (Internet options) or from Internet Explorer (Tools/Options). It is generally necessary to disable the proxy for Telnet connections; moreover, if you use a Firewall, it will have to be to set not to block the Telnet connections established with TRX-Manager.

Establishing a connection

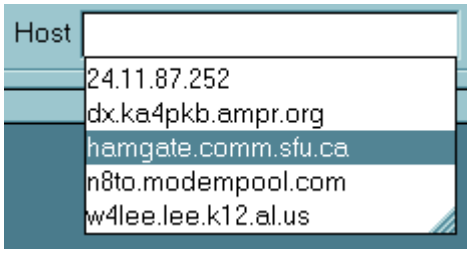
To connect you to a distant computer, you must know either its IP address or its full name and the Port number.

IP address is a succession of groups of digits separated by dots (xxx.xxx.xxx.xxx). In general, the full name of a computer (or a server) is much easier to remember.

Port number is 23 by default for Telnet but may be embedded in the IP Address: xxx.xxx.xxx.xxx:yyy where yyy=port; i.e 193.191.136.222:8000 allows connecting 193.191.136.222 through Port 8000. If the Port number is embedded in the IP address, TRX-Manager uses this port. Otherwise TRX-Manager uses the default port number which can be modified from the Preferences/Spots-Web, Terminal tab.

You enter the full name of the computer or its address in the Host field of the Terminal (Telnet1 or Telnet2 tab) and you press the go button to establish the connection.

The Host text box maintains a history list of everything typed ; you are able to choose previously entered items by selecting them from the list. To delete an item, select it and press the DELETE key on your keyboard. To display all items, clear and double-click the text box.



When the connection is established, the button appears as pressed ; to close the connection you can press again this button or type Q in the transmission window of the Terminal.

At the bottom of the window, a WD button activates a Watch Dog (CR sent to the server every 2 minutes). If auto-connection at startup is selected (see below), the REC button allows an automatic reconnection almost as soon as the current connection is lost.

The main status bar of the program displays the system messages (especially errors related to telnet connections).

Addresses of DX-Cluster servers

Various DX-Cluster servers are accessible by Telnet. You can check the Internet for up-to-date addresses.

Auto connection and logon at startup

Automatic connection and logon to the DX Cluster is configured under Parameters/Preferences/Spots-Web (Terminal tab, Auto Connect). Your choice of Telnet 1 or Telnet 2 is selected by the check box next to #1 or #2 under Auto Connect. If you only specify the Host IP, TRX-Manager connects Host, logs in after the string Login: is received and uses your registered UserID as CallSign.

For more flexibility in the event you need to use a ssid after your call or a different callsign, or if the cluster uses a different string (other than login:) to ask for the userid, the command window connect string basically follows this format:

```
DX CLUSTER IP/TEXT GREETING FROM DX CLUSTER/YOUR CALLSIGN
```

In order to configure TRX-Manager, please examine carefully how you cluster ask for an userid.

Below are examples.

1) This cluster send this string: "*Please enter your call:*". The syntax is:

```
dxcluster.no-ip.org/Please enter your call:/MyCall
```

2) This cluster send "*Login:*" (this is the default for trx-manager). If you don't need a specific ssid, the syntax is only:

```
dxcluster.no-ip.org
```

3) This cluster send "*Login:*" (this is the default for trx-manager). But you need a specific ssid (a special callsign), the syntax is:

dxcluster.no-ip.org/Login:/MySpecialCall

4) If the cluster requires a password, just add /xxxxxx after the callsign (xxxxxx is the password) :

dxcluster.no-ip.org/Login:/MyCall/xxxxxx

Operation as a Client/Server

By default, the Terminal only functions as a Client and does not process connection requests.

 Remarks concerning security

Telnet connections are not secured

Communicating your IP address on the network exposes you to malevolent intrusions,

Attempting to connect to a server for which you do not have access rights may be regarded as an intrusion and exposes you to possible prosecution.

Function buttons

Programmable commands are available to control the TNC by using the Terminal's function button (1-10, A1-H1, A2-H2). For each button, a right click allows you to program a function. This feature may be useful to send iterative commands such as sh/u, sh/dx, c my_dxcluster... Then a simple left click on the button sends the corresponding command.

Check CR to add a carriage return and to send the command

Check CMD to prefix the command with a break signal

Type the text and, if necessary, insert a control code inside brackets { } (Decimal ANSI value) ; this feature allows you to send special commands to the TNC.

Example

{3} to send a break signal

{13} to send a carriage return (*)

{7} to send a bell

Click OK to validate the command.

(*) the {13} sequence doesn't allow you to send the command. This code may be useful to add a carriage return inside a text or a succession of commands.

Watch dog

The WD button activates a Watch Dog function (CR sent every 5 minutes).

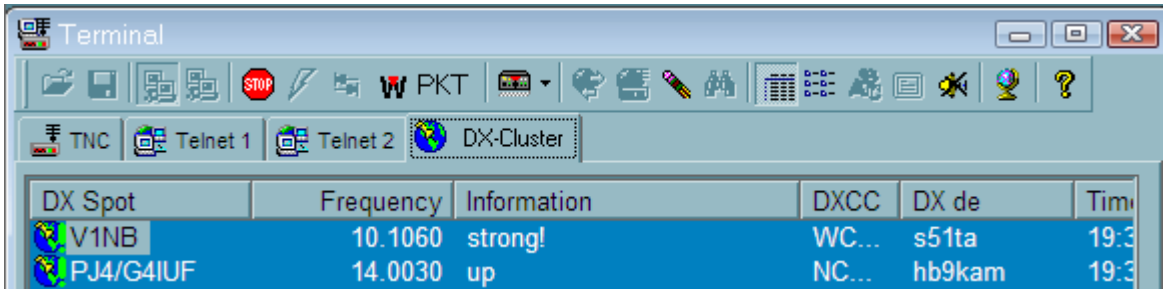
DX Cluster ™

If you connect a DX-Cluster through the Terminal module (via the Internet and/or Packet radio), TRX-Manager analyzes and displays the DX-Spots under the Terminal's DX-Cluster tab; Telnet and Packet Spots are aggregated: Telnet spotters are displayed in lower case and Packet spotters in upper case.

Packet: You don't need to be connected to the cluster to use this module. TRX-Manager understands informations exchanged between nodes (PC11 spot format).

Telnet: You can connect up to two DX Telnet clusters simultaneously. However, generally, this is not useful because all Telnet clusters display the same dx-spots with a slight delay.

Each new spot is also displayed in the lower frame of the Terminal screen and in the status bar.



Terminal's DX-Cluster tab
Double clicking Spots sets the transceiver and a right click opens a comprehensive context menu.

See also

Setting up TNC parameters
Telnet connections

Preferences for DX Spotting

Preferences are set from the Preferences/Spots-Web dialog: Terminal & DX Spots tabs

Terminal tab

- Load Spots forces TRX-Manager to load DX Spots of the previous session at opening of the Terminal (not recommended),
- Spot status (recommended) DXCC Status of Spots are computed/displayed according to your current logbook database,
- DE<... spots send by Spotters outside of a 5000/2500Km radius (default for HF/V-UHF) are ignored,
- Max Distance of spotters in Km (defaults : HF=5000, V/UHF=2500)
- Server data : distance to Spotters calculated using server data if available (prefix database by default)
- BlackList enable/disable the DXSpot and Spotter's blacklists
- Telnet port defines the default Internet port (see also Telnet connections)
- AF Auto-QSY If Stops Saver is checked, TRX-Manager disables your screen saver accordingly.
- Auto-connect: see Telnet connections

- CW Skimmer: see CW Skimmer interface

DX Spots tab

- Band/Mode filters: TRX-Manager provides filtering by Band and Mode as follow:
  If Auto is checked, TRX-Manager rejects spots outside of the frequency range of your transceiver.
  If Manual is checked, you can select specific bands
  If HAM is checked, TRX-Manager rejects spots outside of HAM segments (as defined in Band Plan)
  Filtering by Mode is provided: please note TYPE of transmission (Phone, CW Data, Beacon...) is used for this filter (see also Band Plan)

- Comment/RTTY/PSK (Digital modes):allows you to define the mode by default for RTTY and PSK (FSK, SSB, Data) if RTTY or PSK is available in the comment field. An Offset can be defined to calculate the correct carrier frequency in SSB. If you use a digital software, the modem mode is set accordingly. If you select Plan, TRX-Manager does nothing else that setting the mode according to the band plan. (In principle Offset=Mark frequency in FSK).
- Comment/Auto QSX Auto-QSX provides detection of Split (Up 1, QSX...) if such information is available in the comment field,
- Log filter if checked any call that is logged already (Worked and/or Confirmed) in your database for the same band AND mode which equal the spot received will be ignored. Select None to disable this filter.
- Comments filter : if Remove is checked, all spots whose comment includes the defined words are filtered. The words to filter are specified by semicolons: test; ft8; ...
- DXCC Filter/Needed for (DXCC) your preference for DXCC by Mode or Band defines Icons for new mode/band and confirmed . Band is recommended. If Show All (no filter) is checked, all spots are displayed whatever their DXCC Status.
- +IOTA all Spots with a IOTA number in comment will be displayed whatever their DXCC Status (this options is grayed ou if display all is checked since in that case, all spots are displayed)
- +Trackink List all Spots of the DX Tracking List will be displayed whatever their DXCC Status. An alert (sound) can be set up from the Preferences/Spots-Web (Wav) tab for these particular spots. By clicking the [TRACKING LIST] button, you can define up to 10 callsigns.
- DX-Mail (advanced) if checked, the internal mailer forwards DX-Spots via EMail. You can select only newone and/or needed or Spots of the tracking list . The DX Spots can be send as soon as received (immediately) or each 5/10 minutes. Since a large amount of emails can be interpreted as spamming by your SMTP provider, the Each 5 minutes option is recommended.

Notes

Options under the DX-Spots tab are also applicable to WebCluster spots.

How is working the DXCC filter ? If Show all is NOT checked (default) and Country is confirmed in this Mode AND this Band, the Spot is NOT displayed.

Significance of the icons

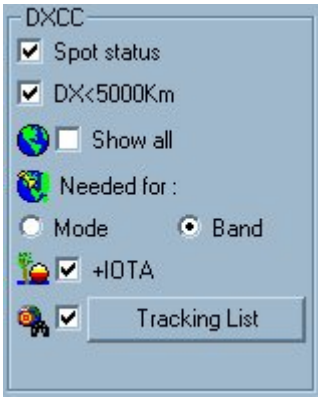
If Spot status is checked in the Preferences, an icon is assigned with each spot. This icon can be seized with the mouse to initiate a drag and drop operation. Moreover its appearance informs summarily about the status of the corresponding country (QSL) related to the DXCC Award.

new one : the country is not confirmed in any mode (or any band)
needed (new mode or new band): the country is already confirmed but not in this band or

this mode (1)
confirmed : on this band (but not in this mode) or this mode (but not on this band) (2)
confirmed + IOTA detected (3)
spot of the DX Trackink list (unfiltered) (4)

(1) according to your option (Needed for) defined under Preferences/Spots-Web (DX-Spots)
(2) opposite condition of your option Needed for...
(3) if +IOTA checked under Preferences/Spots-Web (DX-Spots tab)
(4) if +TRACKING LIST is checked under Preferences/Spots-Web (DX-Spots) and the callsign is listed is in the DX Tracking List.

Example



Spot Status is checked (default). TRX-Manager computes the DXCC Status for all Spots
DE<5000km is checked (recommended). All spots coming from a spotter outside of a 5000km range will be excluded
Show All is Not checked (recommended). The DXCC Spot filter is enabled. Any unneeded DX Spots for the Band and the Mode are rejected.
Nedded for Band is checked (recommended) : green icon (Needed) is computed according to the Band
+IOTA and +TRACKING LIST are checked. All Spots with a IOTA reference and any spot of the DX TRacking List will be displayed whatever their DXCC status.

Alarms

Different alarms are possible (see sound announces):

- for each spot ,
- for a new one or needed spot ,
- for a tracked spot .

For each alarm you have to define the Wav file to be played from the Prefrences/Wab tab and to place this file into the TRX-Manager\Wave folder.

Make sure the Toolbar's Sound Toggle of the Terminal is ON in order to enable the sound announces or alarms.

DXCC Award status

If Spot Status is checked in the Preferences/Spots-Web Terminal, in addition to the assignment of an icon to the new or confirmed countries, the program displays a more comprehensive (coded) information:

DX Spot	Frequency	Information	DXCC	DX de
MJ/DH8WLA	14.0201		NCNC [Jersey]	OE3KAB
EA1AHO	3.7800	CQ DX	NCNC [Spain]	EA1AHO
ZL3NB	3.5050	Tnx Bill	NVVNC [New Zealand]	G3PYI
ZL3SV	3.7990	Garry	NCNC [New Zealand]	GI0VJE
ZL3NB	3.5049	txn new band Bill, gl	NVVNC [New Zealand]	DF3VM

DXCC Column

The DXCC Award status for each spot is coded on 4 characters as follow : ABCD

A : Confirmed (C), Worked (W), New (N) for BAND
B : Confirmed (C), Worked (W), New (N) for MODE
C : Confirmed (C), Worked (W), New (N) for BAND+MODE
D : Confirmed (C), Worked (W), New (N) for all BANDS and MODES

DXCC Country is displayed in clear. If more than one DXCC Country is possible for a given prefix, a ? appears.

If the LoTW users list is installed, * is added in front of the DXCC status for each user of LoTW.

Saving the spots

The program keeps the last 90 spots in memory and on hard disk (DXCluster.txt file).

So the spots of the last session may be recalled for each opening of the terminal screen: this is an option (Load Spots.) you have to choose from the Preferences/Spots-Web Terminal tab .

Sending an announce

To announce a new spot, you have to press the spot button of the Terminal's toolbar. The dialog box helps you to compose your spot by recalling all the necessary information. A frequency button allows you to recall the current frequency.

If Split is ON, the comment field is filled in with QSX and the TX frequency. DX GRID>YOUR GRID can be added to the comment (V/UHF) if the DX has just been logged.

Notes

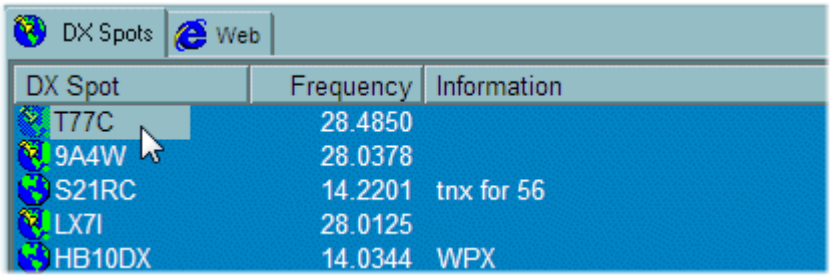
Always give the frequencies in KHz,
Understand that if you announce a spot that is just logged and the Worked option is checked under Log Filter (Preferences/Spots-Web Terminal) your spot will NOT be displayed...

Azimuthal projection

When pressing the DX Spot azimuthal projection button , TRX-Managers shows a window where the last 25 DX-Spots are projected according to their distance and azimuth position (see DXMap). When a new spot is received, the projection is automatically refreshed.

Setting the transceiver

You only have to double-click the callsign of the spot in order to set the transceiver to the spot frequency. You may also right click the spot and select QSY in the context menu.



If a Split condition is specified in the comment field, a powerful algorithm (but not infallible !) calculates the TX frequency and sets the transmit frequency with the correct offset. If you don't like this feature you have to uncheck the Auto QSX option (Preferences under DX-Spots).

If RTTY is specified in the comment field, the transceiver can be set to a specific mode such as LSB or FSK... to select from the RTTY frame (Preference/DX-Spots tab). In addition, depending on the way RTTY is generated, a Shift with the spot frequency can be set.

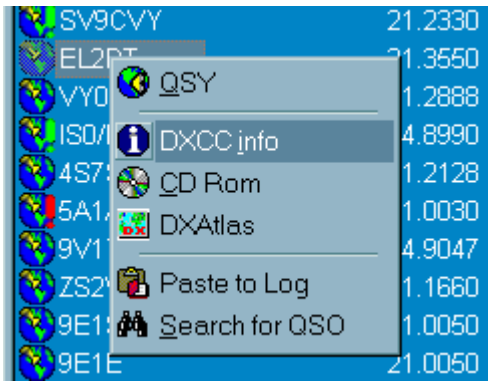
According to the status of the Main toolbar's Tools/DX Squelch button (if RX is muted), AF Gain (if supported) is set to its previous value. RX mutes after the delay specified under the Preferences/Transceiver/Band Plan tab.

Sorting the spots and particular functions

Sorting the spots by any field is available. You have to click the corresponding column header. This feature may help you to find a callsign or to check for a specified band activity.

A right click on Spot opens a context menu and allows you to activate various functions :

- instant QSY
- transfer to a sub-transceiver (if supported)
- displaying DXCC
- displaying CD-Rom (QRZCallbookBuck)
- launching DX-Atlas, Go-List HAM Cap ...
- searching or direct logging :



- BlackList: this function opens the black list of spots and spotters. The selected DXCall and/or the Spotter may be added to the blacklist by clicking . The blacklists can be edited. The button deletes the current entry while the button clears the whole

list.

Tips

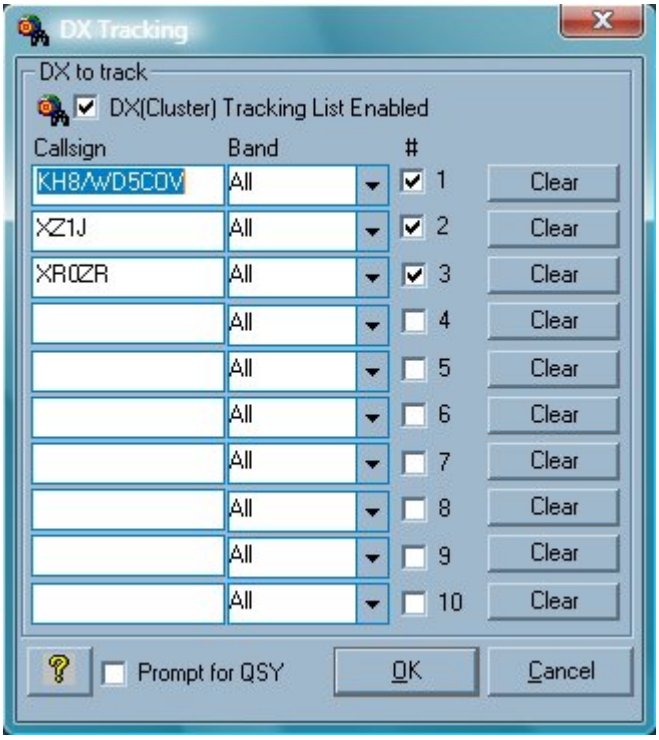
Wen you click a spot, the DX-Spot Callsign is copied into the Windows clipboard and is available for being pasted into any other program.

See also Drag and drop: drag and drop of spots are supported into a list of frequency, the Logbook logbook, the DX Map ...

DX Tracking List

TRX-Manager allows you to automatically track of particular callsigns through the DX Cluster spots, or the Web Cluster spots ; it may be DXpedition-stations, special callsigns, friends...

Initializing of the DX Tracking list is done from the DX Tracking dialog box (Tools/DX Tracking submenu or from the Preferences/Spots tab). You have to define the full callsign to track and select the band(or All bands). If a DX-Spot matches one of the Callsigns of the list, it will be displayed in the DX-Cluster or Web-Cluster whatever its DXCC Status with this icon .



DX Tracking List

Options

- DX(Cluster) Tracking List enabled: List enabled for DX-Cluster Spots (Default)
- Prompt for QSY: When the Callsign is found , a dialog box appears and allows you instant QSY.

Sound announcement and alarms

You may associate tracked callsigns ( ) with a sound announcement by defining the corresponding WAV file from the Preferences/Spots-Web (Wave tab).

The internal mailer can forward an alert via EMail as soon a tracked spot is received : please configure the DX-Mail frame under Preference/Spots-Web (Terminal).

Sound announces

Ability to play WAV file for sound announcement when receiving DX-Spots or particular messages from a BBS or Cluster is given. TRX-Manager is not provided with any WAV file : you have to create these files and to fill in the corresponding parameters of the Preferences/Spots-Web dialog box under WAV tab. Wave files must be located in the TRX-Manager\Wave folder (see note about the UseMyDocuments option).

Please avoid using WAV files more than 25 K.

Note

All sound effects may be disabled/enabled by unchecking/checking the Sound checkbox (Preferences/Software under Software).

If these WAV files are not found, by default, TRX-Manager plays the system sounds Exclamation or Asterisk. The settings for these sounds are done from the Windows configuration panel.

Sound announce when receiving a DX-Spot

You have to put the WAV file to play (DX.WAV by default or Exclamation) into the TRX-Manager's folder, then, if necessary, to fill in the corresponding field. The WAV file will be played as soon as a new spot is received. By checking Needed and/or New One, a file (to be defined) may also be played when a *required* and/or *totally new one* country is announced on a Cluster.

Sound announce associated with DX tracking

You have to put the WAV file to play (GONG.WAV by default or Asterisk) into the TRX-Manager's directory, then, if necessary, to fill in the corresponding field. The WAV file will be played as soon as a DX to track is found.

Sound announce associated with a QSO Before

You have to put the WAV file to play (QSOBefore by default or Exclamation) into the TRX-Manager's directory, then, if necessary, to fill in the corresponding field. The WAV file will be played when a callsign is found in the LogBook.

Sound announces for a particular message

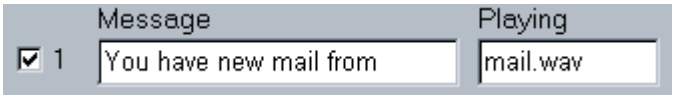
It may be interesting to define a sound announce for a particular message (received in the Terminal) or event such as : particular callsign, disconnection... You may define up to five messages and their corresponding WAV files. Each message must be more than three characters long (caps on or off).

Example

You wish playing the MAIL.WAV sound announce when receiving (in the Terminal) the following

message : You have new mail from

You have to enter the following parameters :



Now as soon as "You have new mail from" is received in the Terminal, the program plays mail.wav. If the WAV file doesn't exist, TRX-Manager plays Asterisk.

If you are not connected to a station you should disabled this feature by unpressing the Sound button of the Terminal tool bar.

If the DCD line of your controller or TNC is wired, TRX-Manager is able to disable/enable this function according to the connection status.

DX Spots Broadcasting

TRX-Manager allows you broadcasting DX Spots received from a Telnet server via Packet.

To engage this function, please select the Telnet tab and click the Broadcasting toggle  . A dialog box allows you choosing how to filter the spots, if a repetition is required and the delay (milli-seconds) between each transmission (500ms is generally recommended to separate spots in distinct packets).

To disengage this function, please press again the Broadcasting toggle.

Notes about Repetition and Delay

In connected mode, you don't have to set up the program for a repetition ; the delay may be very short.

In unconnected mode (UI frames), setting up the delay carefully is required for the best efficiency of the transmission.

Link with Telnet clients

Running a Telnet client and getting the DX Spots into TRX-Manager is possible provided your Telnet client supports TCP/IP links. Some programs can support TCP/IP link with TRX-Manager:

Some programs can support TCP/IP link with TRX-Manager

AR Cluster : http://www.bcdxc.org/ve7cc/

DXTelnet : http://www.qsl.net/ad5xa/dxt.html

CW Skimmer

Generally, if you run the program on same computer, all you need is your Local IP address (such as 127.0.0.1) and the Internet Port number. If you connect FROM your Telnet client, you must set up the port number from the Preferences/Spots-Web Terminal tab of TRX-Manager.

Sequence for DX Telnet

The following sequences provided by Fabrizio IK4VYX author of DXTelnet have been successfully tested. Please:

1. In the Site list select ACCEPT and click the Edit button at right :

   1. under Site Name, rename ACCEPT as ACCEPT_2.
   2. under Service port (set to 80), check Telnet.
   3. Service Type must be set to Other.
   4. click the Edit Script button. In the last line of the script, remove the comment character in front of /F RELAY so that from '/F RELAY becomes /F RELAY.
2. Close all dialogs (click OK) and quit DXTelnet.

3. Restart DXTelnet and select ACCEPT_2 in the Site list ; press Enter. You will see a message saying *waiting for incoming connections* and an IP number which is your IP number. Write down this IP number.

4. Start TRX-Manager and its Telnet terminal. From the HOST text box, connect to the IP number that you wrote down. Login into the DXTelnet shell by typing your callsign.

6. Now, start a second DXTelnet session and connect to the CQDX-IRC node. CQDX-IRC Spots should start flowing into TRXManager.

Notes

writing down the IP number each time might not be very convenient : if you telnet from TRXManager to 127.0.0.1 while ACCEPT_2 is active, it should work in most cases.

you may automate DXTelnet with one click. The launcher utility, embedded in DXTelnet, can be configured to start both ACCEPT_2 and CQDX-IRC automatically with one click. So, once configured, the link between the two applications would be fast and easy

Web Cluster overview

The software processes DX-Spots available on some Internet WEB Clusters (http protocol).

Tip

In most cases, it is more efficient to connect a DX-Cluster via Packet or Telnet using the Terminal. The Web Cluster (by default) does not require any configuration... but interactivity is limited + the recent WebClusters are now using proprietary "push" modes that are not compatible with third party applications or requires a complex configuration.

Unlike WebClusters, the telnet DX Clusters offer much more features and above all an instant information what is of great importance for DXIng...

Internet Explorer (IE 4 or later) is required on your computer.

Related Topics

Web Cluster's Spots
Watch List (advanced users)

Supported WebCluster servers

TRX-Manager is compatible with the following servers:

- New DX Summit http://new.dxsummit.fi (see note 1)
- DXScape: http://www.dxscape.com
- Simon's DX Cluster: http://cluster.sdr-radio.com (see note 2)
- DX Summit (discontinued): http://oh2aq.kolumbus.com/ http://www.dxsummit.fi/
- Asia Web Cluster (discontinued) : http://dx.bgtelecom.ru
  Of course Web Cluster spotting requires a connection to the Internet. TRX-Manager uses the Windows's default parameters for this connection. If you use a Firewall, it will have to be to set not to block the Internet connections established with TRX-Manager.

Notes

(1) New DX Summit requires you use the API commands with a CSV content (content_type=csv).
The TRX-Manager's default URL is for ALL Spots as follow:
http://new.dxsummit.fi/api/v1/spots?content_type=csv

You can add filters using the APIs &Include= &Exclude= as follow:

- To include HF only (&include=HF):
http://new.dxsummit.fi/api/v1/spots?content_type=csv&include=HF

- To exclude UHF, SHF(&exclude=VHF,UHF,SHF):
http://new.dxsummit.fi/api/v1/spots?content_type=csv&exclude=UHF,SHF

- To include 5MHz only (&include=5MHz):
http://new.dxsummit.fi/api/v1/spots?content_type=csv&include=5MHz

- To obtain the last 100 spots (&limit= 100) onHF
http://new.dxsummit.fi/api/v1/spots?content_type=csv&limit=100&include=HF

Practically when you use the Web version of DXSummit, you can see your current filter as a query string in the URL field of your browser. The full description of the API commands (query strings) can be found in the DX Summit Tutorial http://new.dxsummit.fi/#/tutorials

(2) Simon's DX Cluster requires you use the CSV file format, i.e
http://www.ham-radio.ch/dxc/top_50_all.csv (default). See also the API's tutorial Home/Technology)

Setting up the Web Cluster

Web-Cluster requires some parameters to be entered from the Preferences/Spots-Web (Web Cluster tab) as follow :

- HTTP addresses (URL) for spots. You may customize, for the supported WebClusters, the URL which matches your personal choices but it is preferable to avoid an URL with more than 250 spots. Default parameters are for :
  (1) DXSummit (Spots ALL 50)
  (2) DXScape (Spots WW ALL 25)

- Delay between automatic downloads (applies if Auto option and/or the WebCluster's auto button is checked)
- option for automatic downloading : spots from (1) or (2) URLs
- Stacked: if checked, Spots from successive downloads accumulate (but TRX-Manager checks for duplicates)
- Spot status (recommended): DXCC Status of DX Spots are computed according to your current logbook
- MAP auto: DX Spots are displayed on the TRX-Manager's DX Map
- Load Spots: forces TRX-Manager to keep spots in memory between sessions (not recommended)
- DE<... : DX Spots send by Spotters outside of a 5000Km radius (default) are ignored
- Max distance for Spotters in Km (default=5000)
- Server data : distance to Spotters calculated using server data if available (prefix database by default)
- BlackList : enable/disable the DXSpot and Spotter's blacklists
- Use Int.Explorer: If checked (default) the WebCluster uses Internet Explorer to download the spots and to display the web page. If not checked, the Web Cluster module uses an internal resource. Please uncheck this option if you have frequent error messages or if your system does not work very well with Int. Explorer. If unchecked the IE Icon of the Web Cluster is not usable.

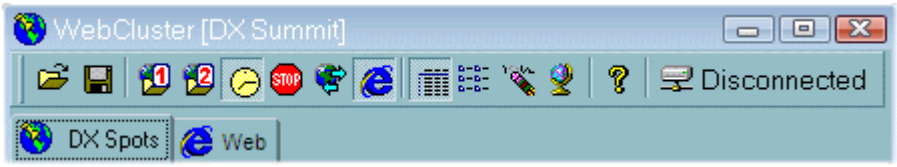
Note

Web-Cluster and Telnet/Packet DX-Clusters share many other options to be defined from the Preferences/Spots-Web (DX Spots tab) : such as Log filter, DXCC-Filter, DX-Filter, DX Tracking list...

Operation

The Web Cluster Interface opens from File/Web Cluster sub-menu or from the Tools Bar's button . You may have to resize the window or to resize each column (clicking or resets to default settings) to display all desired information.

Downloading the spots



Manual loading is done using the or buttons. When the Timer button looks as if is depressed, extractions are automatic according to your Preferences.

If the IE Icon is checked, the corresponding web page opens under the Web tab.

You can save the spots as HTML file or to recall a previous HTML file via the following buttons : Open or Save.

Troubleshooting

If the software is not responding when clicking on or buttons or if the Spots do not appear:

- Web Cluster's URLs addresses and data format frequently change. Please update TRX-Manager to the most recent version and then update your URLs by clicking Reset to Defaults from the Web Cluster Tab of the Preferences/Software dialog.
- Perhaps you have just canceled a connection from your browser (Internet Explorer) : you need first to exit TRX-Manager, enable the connexion again from your browser (TRX-Manager behaves like Internet Explorer).

Web Cluster's spots

Once a page of spots has been loaded, the program offers various functions for each spot.

Significance of the icons and filtering

An icon is assigned with each spot. This icon can be seized with the mouse to initiate a drag and drop operation. Moreover its appearance informs summarily about the status of the corresponding country (QSL) related to the DXCC Award.

new one : the country is not confirmed in any mode (or any band)
needed (new mode or new band): the country is already confirmed but not in this band or this mode (1)
confirmed : on this band (but not in this mode) or this mode (but not on this band) (2)
confirmed +IOTA detected (3)
spot of the DX Trackink list (unfiltered) (4)

If Show all is NOT checked (default) and Country is confirmed in this mode AND this band, the Spot is NOT displayed. If DE< if checked, Spots sent from more than 5000/2500Km (defaults for HF/V-UHF) are not displayed.

(1) according to your option (Needed for) defined under Preferences/Spots-Web Terminal
(2) opposite condition of your option Needed for...
(3) If +IOTA is checked under Preferences/Spots-Web Terminal
(4) if +TRACKING LIST is checked under Preferences/Spots-Web Terminal and the callsign is listed in the DX Tracking List.

Filtering options

Apart for a few specific Webcluster options defined from the WebCluster Preference tab, most of the DX-Spots filtering options are set from the Preferences Terminal/Spots tab. See also DXCluster options.

DXCC Award status

If Spot Status is checked in the Preferences, in addition to the assignment of an icon to the new or confirmed countries, the program displays a more comprehensive (coded) information:

DX Spot	Frequency	Information	DXCC	DX de
MJ/DH8WLA	14.0201		NCNC [Jersey]	OE3KAB
EA1AHO	3.7800	CQ DX	NCNC [Spain]	EA1AHO
ZL3NB	3.5050	Tnx Bill	NWNC [New Zealand]	G3PYI
ZL3SV	3.7990	Garry	NCNC [New Zealand]	GI0VJE
ZL3NB	3.5049	txn new band Bill, gl	NWNC [New Zealand]	DF3VM

DXCC Column

The DXCC Award status for each spot is coded on 4 characters as follow : ABCD

A : Confirmed (C), Worked (W), New (N) for BAND

B : Confirmed (C), Worked (W), New (N) for MODE
C : Confirmed (C), Worked (W), New (N) for BAND+MODE
D : Confirmed (C), Worked (W), New (N) for all BANDS and MODES

DXCC Country is displayed in clear. If more than one DXCC Country is possible for a given prefix, a ? appears.

If the LoTW users list is installed, * appears in front of the DXCC Status for each user of LoTW.

Tracking a callsign

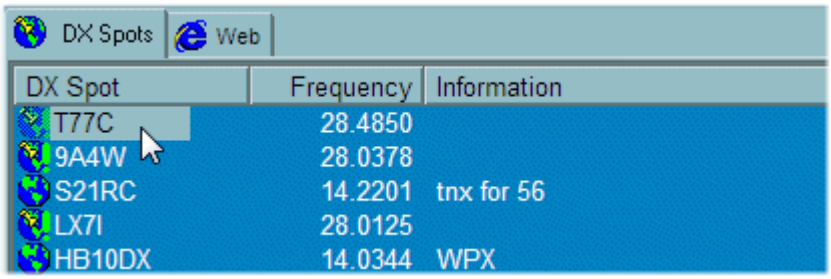
Tracking a particular callsign is possible ; you have to define the callsign to track from the DX Tracking dialog box. If a DX Spot is found with this callsign it will displayed whatever its DXCC Status with this icon.

Distance azimuth - azimuthal projection

The program calculates distance and azimuth for each spot. The mapbutton allows you to create an azimuthal projection of the 25 last DX-Spot

Setting the transceiver

To set the transceiver on the spot's frequency you double-click the desired spot displayed under the DX Spot tab:



Select the DX-Spot tab, double-click the desired spot

If a Split condition is specified in the comment field (QSX... UP...), a powerful algorithm (but not infallible !) calculates the TX frequency and sets the transmit frequency with the correct offset. If you don't like this feature you have to uncheck the Auto QSX option (Preference/Spots-Web DX-Spots tab).

DX-Spot Callsign is copied into the Windows clipboard and is available for any application.

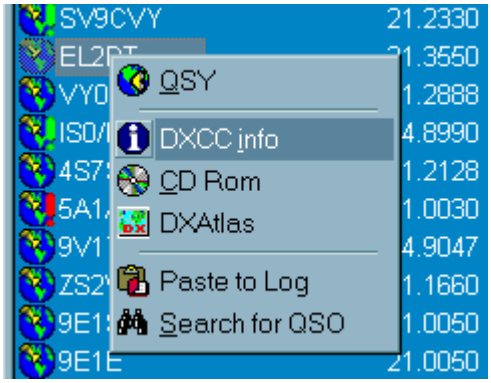
According to the status of the Main toolbar's Tools/DX Squelch button (if RX is muted), AF Gain (if supported) is set to its previous value. RX mutes after the delay specified under the Preferences/Transceiver/Band Plan tab.

Sorting DX-Spots, context menu

A right click on Spot opens a context menu and allows you to activate various functions :

- instant QSY
- transfer to the second transceiver (if supported)
- displaying DXCC

- displaying CD-Rom (QRZCallbookBuck)
- launching DX-Atlas, Go-List HAM Cap...
- searching or direct logging:



- BlackList: this function opens the black list of spots and spotters. The selected DXCall and/or the Spotter may be added to the blacklist by clicking . The blacklists can be edited. The button deletes the current entry while the button clears the whole list.

Tips

When you click a spot, the DX-Spot Callsign is copied into the Windows clipboard and is available for being pasted into any other program.

See also Drag and drop : drag and drop of spots are supported into a list of frequency, the logbook, the DX Map ...

Watch List (advanced)

Written by Fred KE2QR

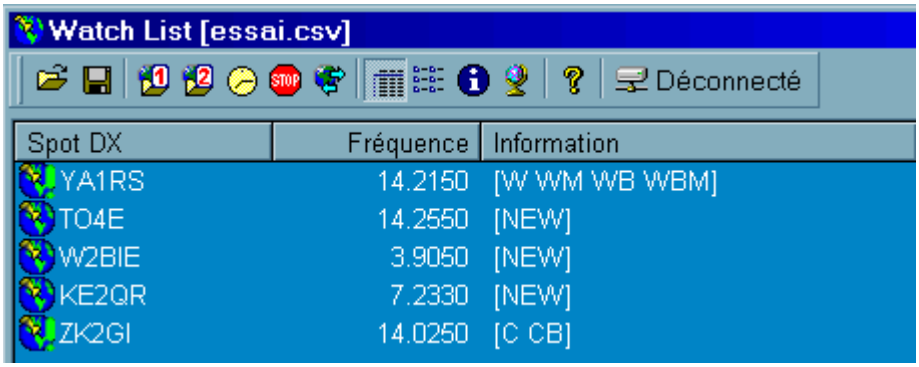
You can display your own Watch List in the WebCluster window. This is a convenient way to track a bunch of stations and check for dupes. Use it during a contest, when you check into a list-directed DX Net or when you are waiting for your chance to bust through a pile-up! Simply create a CSV (comma separated file) with the Callsign and Frequency (in MHz) and open the file in the WebCluster window.

Creating the watch list

For example, create the file WatchList.csv using Notepad or Excel with these entries:

```
YA1RS;14.215

TO4E;14.255

W2BIE;3.905

KE2QR;7.233



ZK2GI;14.025
```

Save the file (If you are using Excel use save as and select file type CSV). In the WebCluster window click on the File Open button. In the Open dialog box choose Watch List *.CSV and select the file you have created.



Displaying the Watch List

Once the entries appear in the WebCluster window you can take advantage of all the built-in features; e.g., check for dupes, QSY by clicking on the Callsign, see previous entries in your log, paste the call into your log, etc.

Results

TRX-Manager displays the result using the following convention :

C / W: Confirmed/Worked
C / WM : Confirmed/Worked for Mode (according to the band plan)
C / WB : Confirmed/Worked for Band
C / WBM: Confirmed/Worked for Band and Mode

CD_QRZ, QRZ_XML, QRZ.COM

The program allows you to perform a callsign lookup from the QRZ CD-ROM or using the QRZ Online subscription service or the QRZ.COM Internet website.

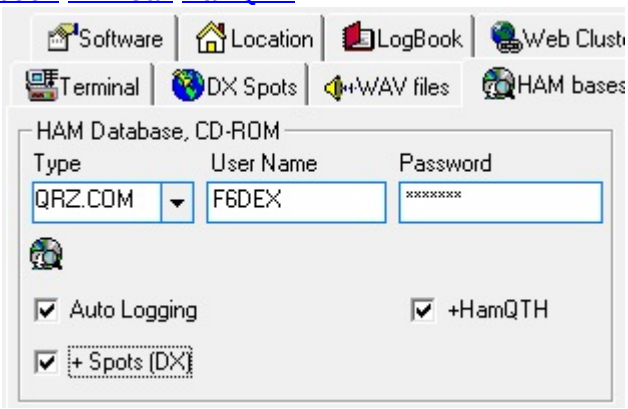
See also

Radio Amateur Callbook
HAMCall
FCC Database lookup
HamQTH
Internet lookup

Settings (Preferences/HAM Bases tab)

You have to select the Type of HAM Database (HAM Database frame):

- CD_QRZ: Select Drive and Path (for callbkc.idx).
- QRZ XML Online (requires an account and a subscription): Enter your Username and your Password.
- QRZ.COM (requires an account): Enter your Username and your Password.
- or other Radio Amateur Callbook HAMCall HamQTH



QRZ.COM is selected as HAM Database

The Auto Logging check box allows you to automatically perform a search while logging in a new QSO into the Log Book. In that case, the program populates the available data in order to fill in the corresponding fields of the logbook.

The + Spots (DX) function is similar to Auto Logging but works also when you send (or "paste") a DX Spot to the log.

The QRZ.COM database can be used in conjunction with HamQTH if the +HamQTH woption is checked.

Installation (CD-Rom)

The QRZ CD-Rom is no more supported or sold by QRZ.

The program was written to read the version 11 of QRZ. Because QRZ may have changed the

data format without warning - being able to run an older or newer version is not guaranteed. If you have enough disk space you may copy the CALLBK directory on the root of your hard disk and declare this disk as a drive (QRZ).

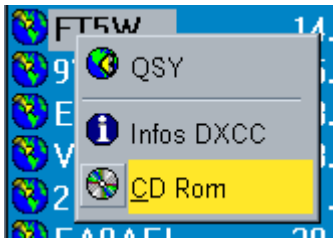
Possible problems

- The program fails to access the CD drive: this may happen if the drive is connected to a parallel or USB port and the drive is not recognized.
- Your CD Rom is outdated, please try to use the most recent version

Searching for a callsign

The Display / HAM DB submenu opens the module from which you can perform a manual search for a given callsign.

A lookup may be also initiated from the Log Book window by pressing the HAM DB button or also by right clicking on a spot displayed in Web Cluster or DX-Cluster or Azimuthal projection windows and choosing the HAM DB button.



First name, City, State an other fields... may be transferred into the Logbook's corresponding fields by clicking from the QRZ window (transferring the Country field is NOT recommended; it is sometime wrong).

TRX-Manager uses the Gridsquare field to compute beam heading..., if an image is found, the image button is activated and allows you to display it in your browser. The copy button transfers the Name and address into the Windows clipboard... or the full listing (QRZ.COM)

A new search may be performed by filling in the callsign field and pressing the search button .

From the Logbook

If the Auto logging option is checked, the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press Enter (keyboard) or the Info button of the Logbook; the transfered data depend on your options for the Fields to transfer. In summary:

Enter or fetches the data into to the fields of the Logbook (auto-logging function)
performs a search but does NOT transfer the data. You must use to transfer the data
If + Spot option is checked, the transfer of the data is automated when you send a DX Spot to the logbook.

Note about QRZ.COM

The QRZ.COM module connects to QRZ.COM the first time you open it ; QRZ.COM should display a "Login success". Please disregard any comment about a "Cookie failure" (irrelevant for TRX-Manager).

This function extracts the data from the HTML code. QRZ.com may change the code at any moment which may prevent any further extraction and this function from running. There is no warranty that this function will be updated in the future. If this happens, it is recommended you select None as HAM Database and use the manual Internet look up instead (or an other HAM Database).

Please understand the following limitations : QRZ.com may limit you usage (HAM 150 lookups per day, non HAM 25 lookups per day). See also: QRZ Callsign Database Policy

This function should be only used occasionnaly and does not replace an XML subscription which contrinutes to QRZ.com.

CallBook CD-ROM

The program allows you to perform a callsign search via the Radio Amateur Callbook.

Settings

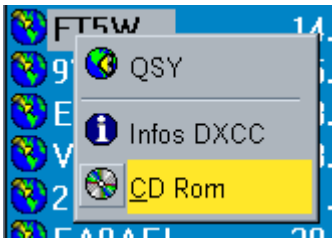
To declare the CD-ROM type and drive, you have to open the Preferences dialog box HAM Bases tab ; the directory (folder) where the files are installed may be RAC\DATA or DATA depending on the version of the Callbook or the installation (HD or CD). The Auto Log check box allows you to automatically perform a search when transferring a new spot into the Log Book.

The program was written to read the version 8 of the DLL. Because RAC may change the data format without warning, being able to run an older or newer version is not guaranteed.

When you open the RAC window for the first time or if you are working with a different version of the CD-ROM, the program needs to update the RAC DLL (RACCD32A.DLL) and to create or to re-build the QSL Manager index database. This database is not a copy of QSLMGR.DAT but an index that provides quick searches of the QSL Manager information. This action takes a few minutes.

Callsign search

Calling for a search may be performed from the Log Book window by pressing the HAM DB button: but also with a right click on a spot displayed in Web Cluster or DX-Cluster or Azimuthal projection windows.



Features

When you call for a search from another module, if the required callsign is in the database, it will be immediately displayed. If a QSL Manager is found, the corresponding text box displays the latest information. You may select another QSL Information by clicking the desired line in the list (under QSL). If a valid EMail address is found, it is possible to send an email by pressing this button . The copy button transfers Name and address into the Windows clipboard.

Firstname, City, State, GridSquare and QSL Manager and other fields (if available) are transferred into the Logbook's corresponding fields by pressing from the RAC window.

A new search may be performed by filling in the callsign field and pressing the search button

 .

Note : TRX-Manager uses the Gridsquare from the CD to compute beam heading.

From the Logbook

If the Auto logging option is checked, the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press Enter (keyboard) or the Info button of the Logbook; the transfered data depend on your options for the Fields to transfer. In summary:

Enter or fetches the data into to the fields of the Logbook (auto-logging function)
performs a search but does NOT transfer the data (You must use to transfer the data).
If + Spot option is checked, the transfer of the data is automated when you send a DX Spot to the logbook.

Possible problems

- The program doesn't properly transfer the firstname, QTH and/or other fields of the Callbook into the logbook's fields : that feature is only available for the US and some Canadian callsigns. For other callsigns (international database), all informations belong to the same Address field : errors are possible (i.e. inversion between lastname and firstname) and there is no solution to this problem.
- The program doesn't display the QSL manager information: the program may have a problem to read the CD (especially if the drive is connected to a parallel or USB port):

  Check that your CD is provided with a \Data\QSLMGR.DAT file,
  Open the TRX-Manager's directory and delete QSLMGR.MDB,
  Copy the \data\QSLMGR.dat file into the TRX-Manager's directory,
  Run the program…

- Your CD may be outdated, please order the latest version of the Callbook CD-Rom.

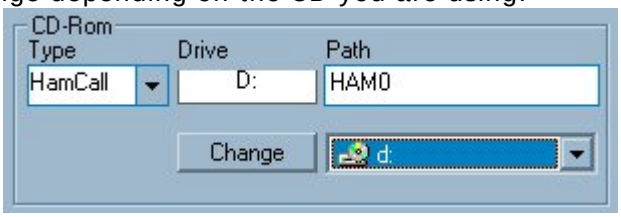
HAMCall

The program allows you to perform a callsign search via the Buckmaster's HAMCALL CD-ROM.

Settings

To declare the CD-Rom type and drive, you have to open the Preferences dialog box, HAM Bases tab. You must indicate:

- the drive of the CD
- which folder contains the HAMCALL.DAT and HAMCALL.IDX database files. The default folder is HAM0 but may change depending on the CD you are using.



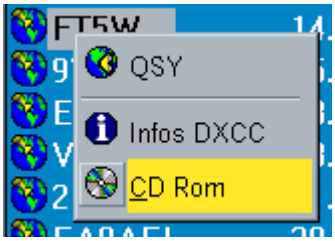
CD on drive D
Database in D:\HAM0

The Auto Log check box allows you to automatically perform a search when transferring a new spot into the Log Book.

> Note
>
> If you have enough disk space you may copy the Database folder (HAM0 by default) on the root of your hard disk and declare this disk as the CD drive.

Callsign search

Calling for a search may be performed from the Log Book window by pressing the HAM DB button: and also by right clicking on a spot displayed in Web Cluster or DX-Cluster or Azimuthal projection windows.



Features

When you call for a search from another module, if the required callsign is in the database, it will be immediately displayed. If an image file is found, the image button is activated and allows you to display it. If a valid EMail address is found, it is possible to send an email by pressing this button . The copy button transfers the Name and address into the

Windows clipboard.

First name, City and State and other fields (if available) may be transferred into the Logbook's corresponding fields by pressing  of the HAMCall window.

A new search may be performed by filling in the callsign field and pressing the search button .

Note : The Grid Square field is updated with the value of the corresponding field of the Hamcall's database. TRX-Manager uses the Latitude or Longitude from the CD to compute beam heading...

 From the Logbook

If the Auto logging option is checked, the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press Enter (keyboard) or the Info  button of the Logbook; the transfered data depend on your options for the Fields to transfer. In summary:

Enter or  fetches the data into to the fields of the Logbook (auto-logging function)
 performs a search but does NOT transfer the data. You must use  to transfer the data
If + Spot option is checked, the transfer of the data is automated when you send a DX Spot to the logbook.

Possible problems

The program was tested with the 2013 version. Because Buckmaster may change the data format without warning - being able to run an older or newer version is not guaranteed.

The program doesn't transfer the firstname into the logbook. Please note that feature is only available for the US callsigns. For other callsigns, the database doesn't distinguish between firstname, middlename and name.

FCC Database look-up

TRX-Manager provides automatic callsign look-up from the license records of FCC (Federal Communications Commission of the USA). The FCC's listing (available for public download) is updated every week and thanks to this utility, you can have very up-to-date information. Using this feature requires the installation of the FCC database.

How to install the FCC database ?

FCC offers free download of the full listing of the license records. However, this listing needs to be compiled into a database for use from TRX-Manager.

You have to follow this procedure :

1. Please go to the FCC Web Site http://wireless.fcc.gov/uls/index.htm?job=transaction and download L_AMAT.ZIP (Amateur Radio Service / Licenses). The file is about 90 MB
2. Extract EN.DAT and AM.DAT (optional) from this file
3. RUN FCC_Call.EXE (distributed with TRX-Manager) and click the Setup button
4. Fill in the required option : Path for EN.DAT, AM.DAT and FCC.MDB (AM.DAT License Class info is optional)
5. Click the CREATE button in order to create the FCC.MDB database
6. Please be patient (the process takes about 30 minutes for 790000 records per file) !...
7. You are now able to look-up callsign from FCC_Call or from TRX-Manager

Setting TRX-Manager

You have to set up TRX-Manager for FCC callsign look-up. Please :

1. Open the Preferences/Software submenu
2. Under HAM Bases, fill in the path for FCC.MDB by clicking the open button 
3. Check the mark for automatic callsign lookup (auto-logging)

You are now able to look-up US Callsigns from the  Display/FCC Database submenu.

 From the Logbook

If the Auto logging option is checked, the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press Enter (keyboard) or the Info  button of the Logbook; the transfered data depend on your options for the Fields to transfer. In summary:

Enter or  fetches the data into to the fields of the Logbook (auto-logging function)
 performs a search but does NOT transfer the data. You must use  to transfer the data
If + Spot option is checked, the transfer of the data is automated when you send a DX Spot to the logbook.

 Important notes

you can simultaneously use look-up Callsigns from any CD-Rom AND from the FCC Database.
the FCC module is only activated for callsigns of the USA

the FCC module has a priority over all previously entered information's or any information extracted from a CD-Rom,
if more than one record is found, the arrows of the tools bar jumps from one record to an other.

HamQTH

TRX-Manager provides support for the free on-line HamQTH database (http://www.hamqth.com) by Petr, OK2CQR - owner of HamQTH.com.

Settings

You must have an account at HamQTH...

To activate HamQTH, check HamQTH from the Preferences/Software HAM Bases tab and fill in UserName and Pasword with your HamQTH account settings.

HamQTH can be used in addition or as a substitution to the others database:

- If QRZ.COM is selected as Ham database and the +HamQTH option is checked, data from QRZ.COM are automatically completed by the data extracted from HamQTH
- If no Ham database is selected under Ham Database/CD-Rom (None is selected), HamQTH becomes the main Ham Database. In that case (only), the CD-Rom icon has the same effect that the HamQTH icon .

HAM Database lookup

The Display/HamQTH menu opens the HamQTH module from which a manual lookup can be done but a search is also possible from the LogBook, a CD-Rom window or the Cluster's context menu by clicking the corresponding icon.

Warning: HamQTH may be sometime very slow to respond and in that case the search may fail.

From the Logbook

If the Auto logging option is checked and there is NO other HAM base selected (QRZ, HamCall, RAC...), the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press Enter (keyboard) or the Info button of the Logbook; the transfered data depend on your options for the Fields to transfer:

Enter or fetches the data into to the fields of the Logbook (auto logging)
and perform a search but do NOT transfer the data. You must use the transfer button of the HamQTH window to transfer the data
If QRZ.COM is selected from the Preferences and +HamQTH checked, auto logging is done using a compilation of the data extracted from QRZ.Com and HamQTH.com.

If + Spot option is checked, the transfer of the data is automated when you send a DX Spot to the logbook.

Transferring the Country field is NOT recommended; it is sometime wrong.

DXCC, Activity

The HamQTH windows shows various information extracted from HamQTH server such as DXCC and recent activities extracted from the DX Clusters (DXC) or the Reverse beacons (RVB)... Please see the HamQTH web site to understand these information.

If a valid frequency is available (but the frequency field provided by HamQTH is often missing), a click in the list set your transceiver.

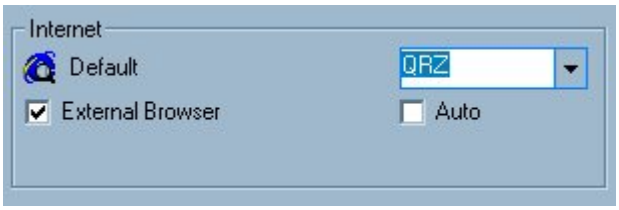
Where applicable, to speed up the display of essential data, you may disable the download of the DXCC and Activity informations using the buttons and .

Internet

The Internet Browser provides Callsign lookup from various HAM websites. This functionality is also accessible from the Logbook (Internet lookup button) and various other windows. The following website are supported : QRZ Online, HAM Callbook, FCC, RAC (Canada), REF (France), eQSL, IK3QAR (QSL Manager) and ... Google.

Options, settings

Under the Preferences (HAM Bases tab - Internet frame), you configure the default website.



QRZ.COM is selected as the default web site

If External Browser is checked the Internet button launches your default browser outside of the main window. Otherwise the TRX-Manager's internal browser is displayed inside the main window (Microsoft Internet Explorer in required in that case).

If Auto is checked, TRX-Manager will choose the most appropriate website for the country when you perform a search from the Logbook.

Internal browser, Search engine

Limitations

Automatic reporting of the data to the log's datafields is NOT supported

FCC License search engine: FCC uses a protected access, automatic search is not possible. However the browser opens FCC web site with callsign in clipboard. You still have to paste the clipboard into the Callsign field and press Search !...

Short Wave listening overview

A comprehensive module is dedicated to Short Wave Listening. This module is opened via the File/SW Listeningsubmenu (F8), and allows choosing stations from a database. Using a database (Access 7.0 -.mdb format) is more convenient than classic memory channels: you may define thousands of frequencies, add information, locator, perform queries...and you may transfer a frequency from the VFO as easily as into a channel.

Please note a compilation of the HFCC public data (Broadcast stations database) is available from the TRX-Manager's web site . In addition various importing features are available.

Features

18 Fields suited to Short Wave Listening and HAM Radio

quick introduction of a station

scanning capabilities

configurable grid,

various search functions, selections and queries

print out reports of grid data

automatic identification of the stations

automatic creation of Access 7 databases

Import from Excel or DBF database distributed on the Internet (ILG, SWBC)

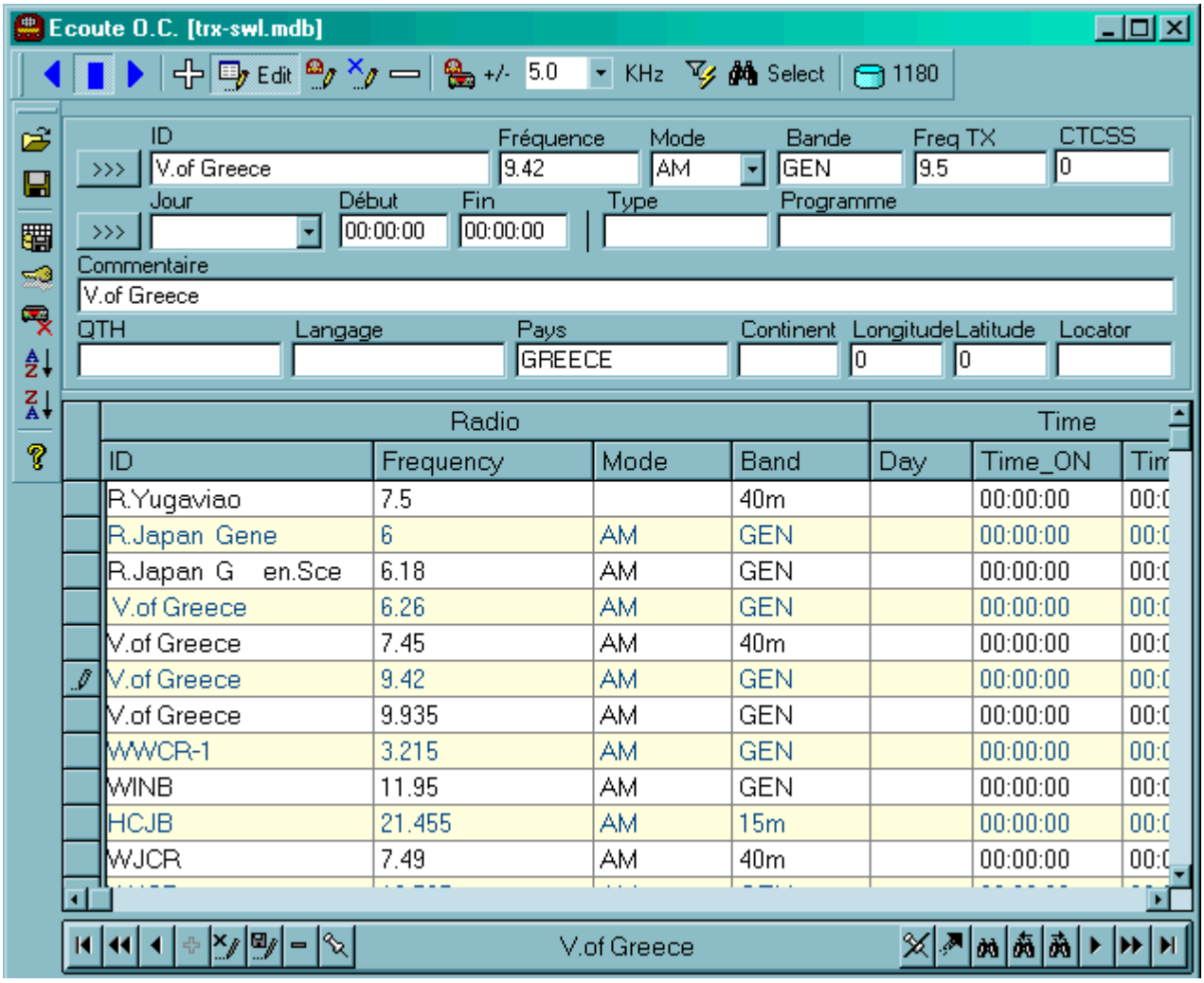
sound recorder

See also

Database Grids

Overview

SW module features a main Grid, an Editing frame which opens by pressing the Edit button, two Tools bar and a Navigation bar.



Sensitive image: move the mouse over the picture for more information

Preferences

The only preference to set is the scanning delay which is defined from the Transceiver tab of the Preferences.

Please check the regional settings on your computer (Number tab). Dot is recommended as the decimal separator. If Comma is selected as the decimal separator, you may have difficulties selecting or entering frequencies.

Getting started

Please, press the Open button, select CSV as file format and import SAMPLE.CSV into your new database...

Editing the SW Database

Adding a station manually

Please press the button : a station (or a record) will be added to the database with current frequency and mode of the transceiver ; now, please edit this record to modify and complete the fields as indicated below.

Adding a record by drag and drop

A drag and dropfrom the monitoringor a list of frequencies (spots, sound recorder' log...) to the SW data grid allows you adding the record corresponding to the dragged icon.

Editing the database

Editing is preferably performed from the Edit frame 

, however direct editing of the grid is possible : to enable this feature it is necessary to disable the grid locking with the following button  . It is better to lock this while using the database (ie listening!).

The Delete button deletes one or more selected entries of the database.

Tip

When you edit the database, it may be preferable to lock the setting of the transceiver by using this button  . Of course, please make sure to unlock the transfer for listening !

Scanning the SW Database

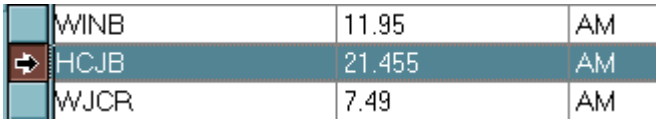
This section describes manual and automatic scanning capabilities of the database.

Tip

During scanning, please make sure to unlock the transfer of frequencies to the transceiver (button not pressed)

Scanning manually

A single click of a record (any click in the corresponding line) transfers the station's settings to the transceiver ; if geographical data (longitude, latitude) are available, direction and propagation predictions are displayed from the DXCC window.



Depending on your own preferences, you may choose to ignore the mode of the database by checking the No-Mode button . I.E : you may prefer listening all broadcast stations in SSB... or keeping the current mode and filter.

From the keyboard

If the grid is locked, pressing the space bar scans the database ascending.

Scanning automatically

Auto scan is provided by using tools bar buttons  . The duration of the Pause during scanning (10s by default) and the Scanning Speed (30 by default) are defined under the Transceiver tab of the Preferences. The S0-9 combo defines the S-Meter threshold which pauses scanning.

Scanning may also work with the sound recorder.

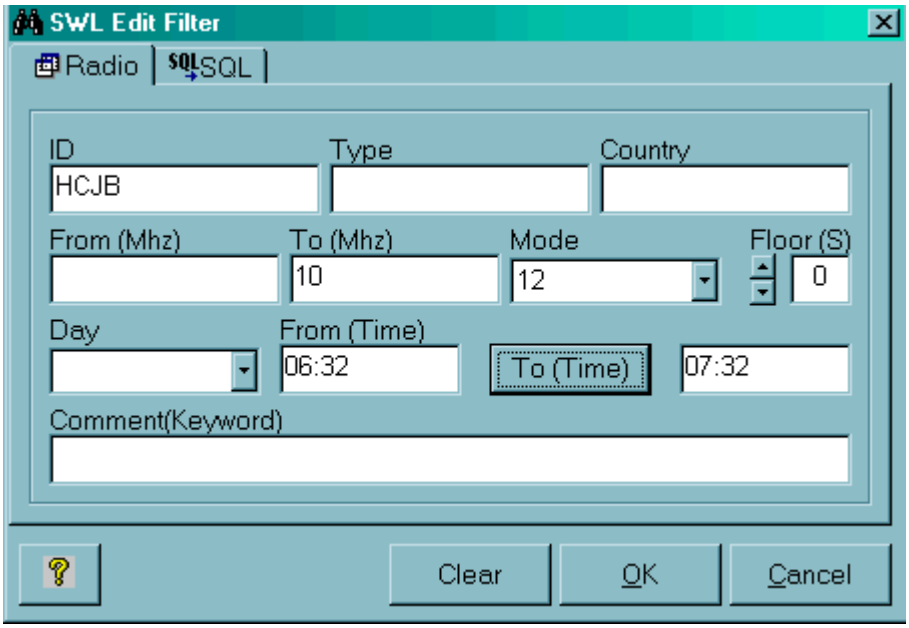
Searching a SW station, sorting

Searches (or Selections) are launched from the Select 

button. When a selection is active, Selectbutton appears as pressed and the number of selected stations is displayed in the tools bar. Selection and Scanning are work together and give a very interesting tool for listening

Search window

The Search window shows two tabs :



- The Radio tab provides quick selection by ID, frequency, mode , country, keyword... When you press OK, only records matching the filled in criteria are displayed
- The SQLtab provides advanced searches using SQL queries (SWL table). This button makes it easier to create SQL queries by translating the quick selection (defined under Radio) to a SQL query.
  To go back to the display of the whole database, please press Select again.

Sorting

Sorting by any field is possible:

- click the column to sort (or any field in this column)
- press or to sort by ascending or descending values

Quick selection by field

For quick selection of stations matching a specific criteria displayed in the grid, click the corresponding field and this button : all records matching this field will be immediately

displayed.

Automatic identification of SW stations

A powerful and easy to use function is the automatic filtering functioning with the Monitoring: this function provides automatic identification of the stations around the current frequency : when this button is pressed, the program only displays stations whose frequency = current frequency X (X is adjustable from the combo) : +/- 5.0 KHz. It is also possible to combine this automatic filter with a manual selection.

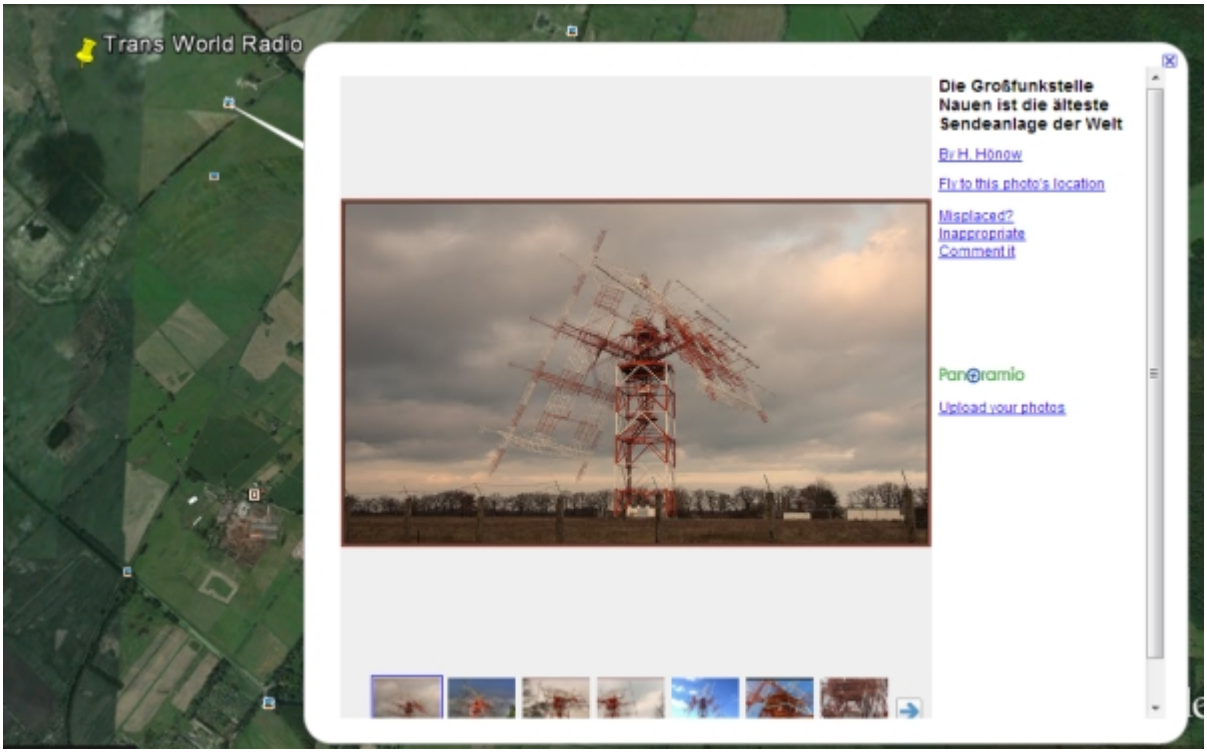
Note

This function is available only if the monitoring window is open

Please make sure of the regional settings on your computer (Number tab). Dot "." is recommended as the decimal separator. If Comma is selected as the decimal separator, you may have difficulties selecting or entering frequencies.

Tip

Now, if the station is identified... just press the Google Earthbutton (if installed) and you can have a view of the big antennas!



HFCC Database required

Creating a new database

Creating a new Short Wave database is easy by using the Import/Createbutton  . You have to choose the MDB extension and to type the name of the new data base. If this data base doesn't exist TRX-Manager will create it; the new data base becomes the current data base. From the Open button you may open an existing database (.mdb as extension).

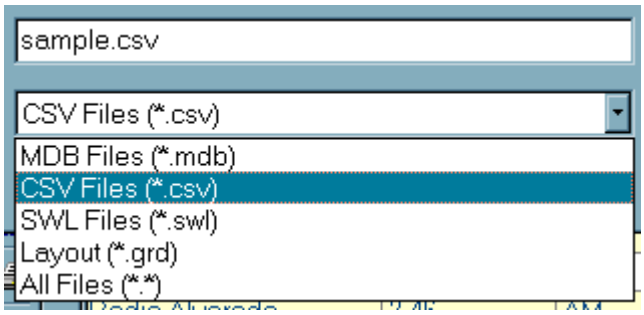
 Notes

You have to compact your database from time to time in order to optimize its performances,

It is recommended that you place all files related to this module into the \SWLData directory

Importing a SW Database

Various functions are available to make easier the creation of SW databases. Files are imported by pressing the Open button and selecting the desired format (.csv .swl). All imported stations will be added to the database !



Using the Open button you may create a new database or open an existing SW database (.mdb as extension).

The Save button provides export using the CSV format (Excel).

Creating, Loading a database using Excel

Using a spreadsheet as Excel may be very convenient for creating a large database from various sources. Once your database has been created under Excel, you may import it into TRX-Manager by using a CSV file.

Warning

Before loading the CSV file and if necessary, create a new database,

All imported stations will be added to the current database.

It is recommended that you first export a database into the CSV format by using the Save button : please examine the structure of the file which has been created by TRX-Manager for a better understanding of the CSV format.

Loading old SWL files (created by FT-Manager or TRX-Manager V2.X)

TRX-Manager V5 can import old SWL files. Warning: unlike FT-Manager or TRX-Manager V2.X, imported stations will be added to the current database.

Loading other Short Wave database

Please note a compilation of the HFCC public data is available from the TRX-Manager's web site . A version is included with the CD (\Demos\HFCC folder).

In addition, TRX-Manager supports some other shortwave databases distributed on the Internet provided they use the generic DBF format. A conversion utility installed with TRX-Manager: DBFToMDB.exe makes it possible to convert DBase files (*.DBF) to the MDB format.

Fields of the SW Database

Definitions and conventions of the different fields of the SW database are as follows :

```
ID          : Station ID (required)
Frequency   : Frequency in MHz (required).
Mode        : (see notes)
Band        : (any indication)
Day         : Day of week (in English)
Time_ON     : Time ON of the program (hh:mm:ss)
Time_OFF    : Time OFF of the program (hh:mm:ss)
Type        : Type of station (Aero, BCL...)
Program     : Program
Comment     : Comment
QTH         : Location
Language    : Language
Country     : Country
Continent   : Continent
Longitude   : Decimal degrees (East + West -)
Latitude    : Decimal degrees (North + South -)
Freq_TX     : TX Frequency in MHz (0 for simplex)
CTCSS       : CTCSS tonality in Hz (for a DCS code, put a negative
value). Set 0 for none.
```

Notes

Grid text box of the Edit frame is not a field of the database but is provided in order to make easier to enter Longitude and Latitude.

Valid modes are :

. CW LSB USB
. AM AMW (AM Wide) AMM (AM Medium) AMN (AM Narrow)
. FM FMW (FM Wide) FMM (FM Medium) FMN (FM Narrow)
. WFM (Wide FM) - Only for ICOM receivers
. FSK RTTY DATA

CSV Files structure

TRX-Manager can export/import CSV files to/from the SW database. The CSV format is a text file format which is compatible with Excel. Data are separated by semicolons (;).

Format

The first line of the file repeats - in any order - the name of the fields separated by semicolons. At a minimum, ID and Frequency fields are required. Each line forms a record which follows a strict format and each value is separated by semicolons (;). The values follow the same order than the first line.

It is recommended that you create a CSV file using TRX-Manager in order to examine its structure.

Note

By default, frequency are given in MHz but if Frequency is given in kHz, replace FREQUENCY (in heading) by KHZ

Time_ON/OFF can also be given using this format HHMM

comma (,) as separator can be accepted if there is no semicolons in your file.

Saving a database to the CSV format

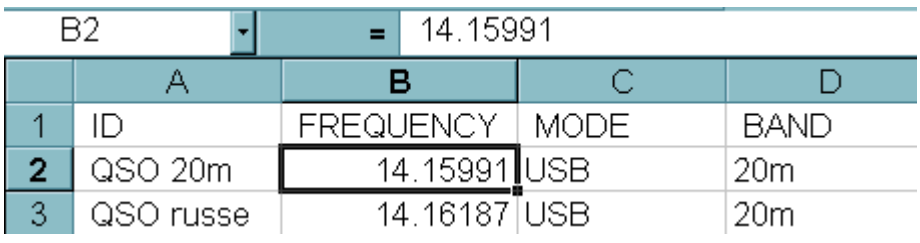
Press the Save button of the tools bar and select CSV as the format of the file to create.

Opening a CSV file under Excel

CSV files may be opened from Excel by selecting .csv as type of file. Warning: a double click of a CSV files launches Excel but with an incorrect configuration : you must use the Excel's File/Open submenu for opening of a csv file.

Creating CSV files

You may create a database from Excel and then import it into TRX-Manager using the CSV format: please take care of the following conditions : The first line of the file comprises - in any order - the name of the fields but with the same naming as for the TRX-Manager's SW database. At least ID and Frequency fields are required.



Please take care to remove all semicolons and commas from the strings : theses characters may be considered as separators,

Importing a CSV file into TRX-Manager

Importing CSV files is done from the Open  button and selecting CSV as type of file.
All imported records will be added to the current database.

SWL files structure

The old SWL format is no longer used by TRX-Manager. Instructions that follow show how to import old databases which were created by FT-Manager or TRX-Manager V2.X.

Format

A SWL file is a text file with .swl as extension ; the content for each line of this file is as follow :

Frequency, Mode, Day, Time, Country, Type, Description

The number of lines is not limited. Each field is separated by commas or semicolons (, or ;) :

- Frequency in MHz
- Mode (literal) as follow LSB USB CW AM AMW AMN FMW FMN RTTY PKT
- Day (in English : Monday...)
- Time as follow HH:MM
- Country
- Type (Nav Aero BCL...)
- Description or information

Importing SWL files into TRX-Manager

Importing SWL files is done from the Open  button and selecting SWL as type of file. All records will be added to the current database.

Loading DBF files

A conversion utility: DBFToMDB.exe (registered version only) converts DBase (or FoxPro) (*.DBF) files to Access 7 (.mdb) databases. DBF files was distributed by:

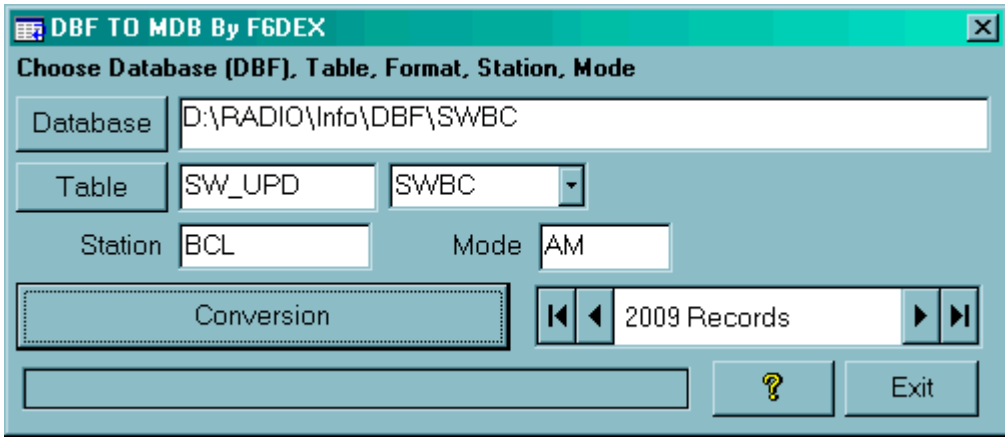
- ILG Radio http://www.ilgradio.de
- SWBC Schedules Subscription Service http://www.fineware-swl.com

Notes

These files are no longer distributed. This topic is given for reference only
Please see the distribution policy for these files before you download and use the database.

The conversion utility

The conversion program (DBFToMDB.exe) is installed in the TRX-Manager's main folder.



Running the conversion utility

You have to specify:

- The format
- The path of the database by selecting one of the DBF files.
- The table to convert :
  ILG : the name of the table is indifferent
  SWBC : the name of the table is always SW_UPD.DBF

- the default station field (optional)
- the default mode (AM)

Converting

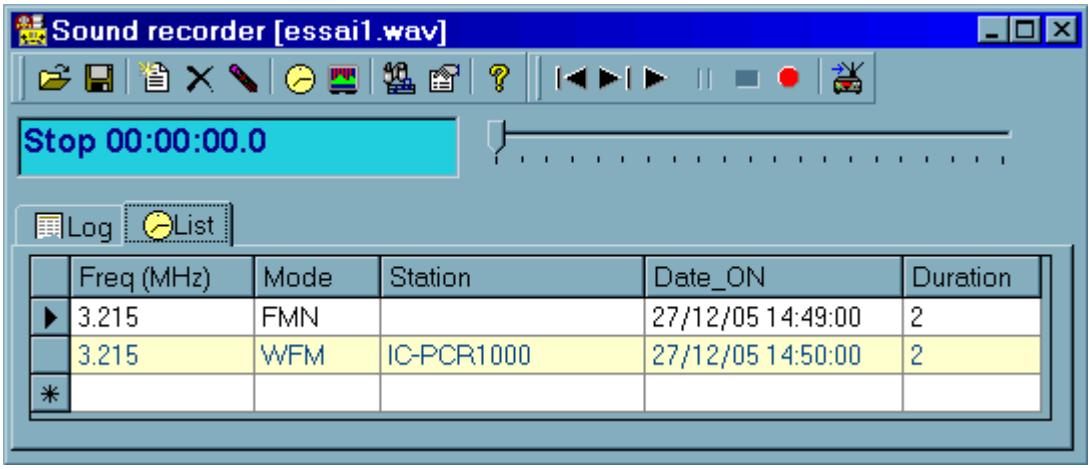
Please click Conversion to convert and indicate the name of the MDB file. You still have to load the corresponding MDB database into TRX-Manager by using the open button of the SW module.

Recorder

TRX-Manager has a very useful recorder for recording stations. The recorder provides recording of a preset sequence of stations (programmable mode) but can also be used in scanningmode with the SW database, the memoriesor the bandscope. Finally it has a manual mode.

Interface overview

The recorder is opened under the Tools/Recorder submenu. The interface is standard with two toolbars, one for the functions, the other for the recorder itself.



Sensitive image (hot spots)
Move the mouse over the picture for more information

A click in the Dat_ON column causes the display of a small button which makes it possible to set Date_ON finely:

Programmable mode

The stations to be recorded are introduced into the list by using the NEW button or by drag and dropfrom the monitoring, the memories windows.

By default, the beginning of the recording is defined in the current hour (UTC) and the length of the recording to two minutes. A click in the fields Time and Duration makes it possible to open a dialog box for the adjustment of these parameters.

The recording is started by pressing the timer button.

Scanning Mode

The scanning mode records during the pauses on stations while scanning. Avoid however

launching several scans at the same time. The duration of the recording is adjustable. The LOG recapitulates the various heard stations.

Manual mode

The manual mode is standard but the various changes of frequencies are added in the log allowing access to the corresponding station quickly.

Caution: the duration of the recording is not limited in manual mode !

The Log

The Log recapitulates the various heard stations. A clic sets up the cursor to the corresponding position in the WAV file. A drag and drop from the LOG makes it possible to add the station to a list of frequencies (Memories, SW database).

Files

The recordings are in the WAV format. TRX-Manager associates each .WAV file a .LOG file. When beginning a new recording, take care to define a new file name - if not the recording in progress will be erased (except in manual mode where the recording begins from the position of the cursor).

Satellite interface - overview

TRX-manager makes satellite communications easier by automating Doppler compensation and cross-band communications. The program has been optimised for some SAT Transceivers but also works with two standard transceivers (one for receive, the other for transmit). It is even possible to control both VFOs of the same transceiver (however with some drawbacks...).

All types of satellites and some unique features are supported and even provides interactivity with the manual control of the transceiver!

Overview

Intuitive interface
Support of satellites with fixed frequencies
Support of linear transponder satellites
RX and/or TX Doppler compensation
Rotator control(azimuth and elevation for some rotators)
Reverse mode, Trace mode, Trace + Split (RX and TX in the same band)
Automatic tracking of the transponder satellites even during a manual QSY
Optimisation of the use with some SAT transceivers or two standard transceivers
Possible use with an unique transceiver in Split mode
Support for transverter (up/down converter)
Memory channels

See also

Configuration
Operation
About transceivers for satellites
Rotator control
SO4R (Single Operator Four radios)

Determination of the Doppler effect

TRX-manager does not implement the calculations of satellite data ; it uses a DDE Link with compatible satellite software. Currently the following programs are supported:

- NOVA http://www.nlsa.com/
- WINTRAK PRO http://home.hiwaay.net/~wintrak
- SATSCAPE http://www.satscape.co.uk
- SATEL939 http://perso.wanadoo.fr/po.f9nb/PAGEF9NB.htm
- WXTRACK http://www.satsignal.net
- SAT_EXPLORER http://f6dqm.free.fr/
- ORBITRON http://http://www.stoff.pl/

Consequently, you have to install one of these programs and know their use to establish satellite communications with the assistance of TRX-Manager.

Configuration

The Satellite interface is launched from the Tools/Satellite sub menu. A good knowledge of the various way to establish satellite communications is required to understand all the elements of the interface.

See also

Operation

About transceivers for satellites

The sensitive image (below) illustrates the use of each element.

Sensitive image
Move the mouse over the picture
for more information

Referential/Conventions

The logic of the interface requires that the frequencies which are displayed by the interface are the working frequencies of the Satellite (except during the adjustments) and not those of the ground station which will be Doppler corrected; indeed, it is much easier to work on the frequencies of the Satellite which are fixed. For each one of these frequencies, the interface also displays the Doppler compensation to be applied. These corrections are applied according to the Step (Hz) defined in the interface.

Rotator control

The TRX-Manager's Setup must be filled in with the maximum practicable Elevation (if supported) and the incremental Step (°).

Warning

If your rotator is controlled through a DDE Interface (ARSWIN…), the DDE Link with the satellite software may freeze for some seconds during rotator control…

DDE Link with the Satellite program

The Satellite program must be launched and properly configured:

NOVA

Please choose DDE Interface only as rotator interface, or any other interface if you are controlling your rotator from NOVA. The DDE Link is then activated.

WINTRAK PRO

Please check Output DDE Data Always under Options/Program ; then select any Single-mode output. The DDE Link is then activated.

SATSCAPE

Open the Control/Radio… dialog and check Enable DDE Link (Satscape V1.87 is required; if you use a previous version please set the uplink frequency equal to 1000 MHz whatever the frequency you are using). The DDE Link is then activated.

SATEL939

Open the DDE Link by activating the Remote control aerials option and confirm the use of TRX-Manager.

WXtrack

A regstered version of WxTrack is required to get the benefit of the DDE radio link. Open the DDE Link by checking CX6DD WISPDDE Client under the Tracker/Options menu, Tracker model list. When a satellite crosses from below horizon to above the horizon (AOS) the azimuth, elevation and range-rate will be updated automatically, at the rate set by the Options/Update rate menu. If for some reason, AOS is not available, tracking may be engaged from the Tracker/Test dialog.

SAT_Explorer

No setting is required. Please note SAT_Explorer only displays AL and EZ for visible satellites.

One the satellite software is properly configured, and only at this moment, you select it from the Program list box. The name of the satellite being tracked will be displayed and a satellite icon  then moves over the window as the data are received.

Orbitron

You have to edit the ...\Setup\CONFIG.CFG file of Orbitron by adding a reference to

TRX-Manager in the [Drivers] section (please create it if doesn't exist) as follow, depending on the installation folder of TRX-Manager :

[Drivers]
TRX-Manager=C:\Program Files\TRX-Manager.exe

You launch TRX-Manager and select Orbiton from the list of Satellite software.

Then, you launch Orbitron, you select TRX-Manager from the Rotor/Radio/Driver list and you click the DDE button to launch the DDE conversation (please note that Doppler effect is transmitted with only 3 decimals).

Important notes

If the satellite icon remains motionless, the DDE link is probably broken. Please click R (Resume) to reactivate

Under Wintrak, this last action is required when you change the “output” or the satellite.

The simultaneous use of TRX-Manager and a satellite program requires a powerful system. Please avoid using other programs in background. If possible, increase the update interval to 1 second or more if you encounter instabilities.

The CW interface of TRX-Manager (Kenwood's Internal interface excepted) does not work properly during satellite control (or the satellite control does not work properly…)

Using your transceiver(s) in SAT mode

Your transceiver must implement a SAT mode which allows receive during transmit. However, the use of a second transceiver for transmit gives about the same behaviour and comfort of use (please see considerations about Transceivers).

If you use the SAT mode of your transceiver (and the Main and Sub VFOs) please press SAT. If you are using two transceivers, press TRX2 (or TRX1). Also press RX and TX to control both downlink and uplink frequencies.

Warning

TRX-Manager does not check if you are transmitting in the RX band !

Notes for Satellite transceivers

To control the Main and Sub VFOs for RX and TX respectively, SAT mode must be engaged from the program and from the rig. Otherwise, TRX-Manager will control VFO A and VFO B : this is not a limitation but a feature allowing the control of both RX and TX in the same band as required for packet operation with ISS.

See also the consideration about transceivers for satellites

Using a transverter

The TRX tab allows you setting up the program for the use with a transverter (up/down converter). These parameters (RX and/or TS offset) only affect the frequencies defined from the SAT interface. Of course, they do allow the correct calculations of the Doppler

compensation.

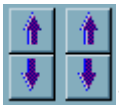
This option is not related to the Transverter option of the Preferences/Transceiver dialog. Using both options at the same time is not recommended and my give unpredictable results.

Operation

Once your transceiver (or your two transceivers) is configured in SAT mode (SAT engaged from TRX-Manager) and the DDE link is selected, you may apply the following procedures.

Procedure for Satellites with fixed frequencies

If you know the single pair of working frequencies of the satellite, please fill in the interface with these frequencies (and modes). As soon as you press the DOP button, the software applies the appropriate Doppler compensation to the RX and TX frequencies of your station.

With this type of Satellite you should not use the VFO of your transceiver (or the other modules of TRX-Manager) to modify the frequencies while the Doppler compensation is activated. But you may use the Up/Downbuttons  to apply small and differential corrections (by step of 50 Hz) to the RX or TX frequencies.

Procedures for a linear transponder satellite

Such a satellite is characterized by a receive band and a corresponding transmit band where either:

TX – RX = CONSTANT
or
TX + RX = CONSTANT (Reverse mode)

To support linear satellites, Satellite transceivers and TRX-Manager implement a Trace mode (or Track) which makes possible to simultaneously shift the receive and transmit frequencies.

Two procedures may be used ; procedure #2 is preferable if your transceiver does not send back its frequencies and modes to the computer (such as FT-736 or with two different transceivers).

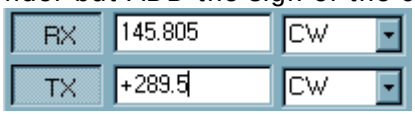
Procedure #1

1. First select Trace OFF, Trsp. OFF, and Reverse if required
2. Fill in the interface with approximate values of the RX and TX frequencies
3. Copy the values into the VFOs (>VFO)
4. Now, please try to listen to your signal by adjusting the VFO of your transceiver (or from TRX-Manager)
5. As soon as you can copy your signal (*) press Trsp. to capture the working frequencies of the transponder. These frequencies are calculated by TRX-Manager, locked on and displayed by the interface.
   (*) if your transceiver does not send back its data or if you are using two transceivers, fill in the RX and TX frequencies manually and press VFO> again before pressing TRSP.

Procedure #2

1. First select Trace OFF, Trsp. OFF , and Reverse if required

2. Choose a clear RX frequency and copy this frequency into the RX box of the interface, click >VFO to set your transceiver and the interface (*)
3. Fill in the TX box with the CONSTANT of the transponder but ADD the sign of the constant either + or – to the value in MHz (I.E -285 or +285):



4. Press the TRSP. (Transponder) button: TRX-Manager calculates the working frequencies of the satellite. The Satellite's working frequencies are then calculated by TRX-Manager, locked on and displayed by the interface. Your TX is set by TRX-Manager to the ground station's TX frequency (by applying the Doppler effect) and you can listen to your signal…
(*) You may also tune your rig and click VFO>

Operating in transponder mode

Once the proper shift and Doppler compensation have been applied using one the above procedures, you may note the TX and RX frequencies displayed by the interface are constantly corrected. This is normal while the Doppler compensation is not engaged…

Before any QSY, you have first to engage the Trace mode. Now, each change of the RX frequency involves the same change of the TX frequency. And as soon as you engage the Doppler compensation (DOP), working frequencies of the satellite become stable and TRX-Manager tracks the satellite by the defined Step (Hz).

While working the satellite, you can still do a manual QSY using the tuning dial of your transceiver. TRX-Manager recalculates the working frequencies of the transponder in real-time and tracking resumes from the current frequencies.

Listening "on the fly"

Tracking a satellite " on the fly", i.e. without knowing its working frequencies amounts to using linear transponder satellite by:

1. Adjusting the receive frequency on your transceiver or receiver
2. Pressing the TRSP. button to capture the satellite's working frequencies
3. Engaging the Doppler compensation by pressing DOP.

Additional information

Functions that are not fully described above are the following one:

SAT (Satellite mode): for compatible transceivers,
TRX: activates a second transceiver for transmit
ANT: activates rotator control
VFO>: to copy (or retrieve) the current frequencies of the transceiver into the interface
>VFO: to copy (or set) the transceiver's frequencies and modes from the interface ; also sets the rotator to the current direction of the satellite
M.IN: to copy the current settings into a channel ; the channel's number and label are defined from the bottom of the window
TX and RX buttons: to compensate TX or RX, TX and RX
RX TX in the same band while TRACE ON: this is possible provided you set your transceiver in Split mode (the FT-847 does not support this use).

Using the memory channels

Twenty memory channels provides setting for satellite ; please set the configuration and

1. define a Name and a number (1-20)
2. press the M.IN button
   Recalling a memory channel is done by a single click in the list from the memory tab.

EME

SAT EXPLORER Only: the TRX tabs has an RS (Self Doppler) check box. If RR=0 (DX Doppler), TRX-Manager uses the RS (Self Doppler) value to computer Doppler shifts and uses the RS value if RS is checked (whatever the value of RR).

Possible problem

Q: With a Satellite transceiver, TRX-Manager does not control Main and Sub VFOs for RX and TX respectively but VFOA and B . Why ?

A : This occurs if you do not switch the program and the transceiver into SAT mode. While in normal mode (SAT not engaged), TRX-Manager does not control Main and Sub but VFO A and B allowing the control of both RX and TX in the same band (i.e. for packet operation with ISS..). In order to control Main and Sub VFOs for RX and TX, you must toggle the program and the rig into SAT mode. See also Configurationand About Transceivers for satellites.

About transceivers for satellites

Only few transceivers are compatible with satellite communications. In addition, operating the program may be slightly different according to the type of transceiver you are using. If your transceiver does not sent back its data, you can not use the VFO> button and you must always use the >VFO button to set the transceiver. Otherwise, and in most cases both the program and the transceiver display the same frequencies, and using the >VFO button is not required to set up the interface.

FT-736

You must always use TRX-Manager for frequency changes (TX and RX), and for SAT mode switching (ON/OFF). You must use the Trace mode of the program ; the Track mode of the transceiver is not compatible with the SAT interface. Controlling the VFO during transmit is only possible in SAT mode. Procedure #2 must be applied for the linear transponders satellites.

FT-847

You must always switch the SAT mode (ON/OFF) from the program and you may either use the Track mode of the transceiver (preferable) or the Trace mode of TRX-Manager, but using both functions simultaneously is not desirable... Controlling the TX VFO during transmit is not possible in Split mode.

TS-2000

The SAT interface uses almost all of the TS-2000's SAT features:

- The M.IN function also affects memory channels 1-9 of the transceiver
- RX always uses the main receiver
- Recalling a memory channel from the program sets the transceiver on channel #0 (the contents of the memory are therefore recopied on channel #0, which is used as the working channel)
- Transferring the current settings (frequencies and modes by using VFO>) from the transceiver to the software may give wrong TX modes, since the program can not recognize different modes for transmit and receive (USB/LSB). This is not a bug but a limitation of the protocol.

IC-821 IC-970 IC-910 IC-9100

The program must be toggled in SAT mode (*) in order for TRX-Manager to correctly address the Main and Sub VFO's. It is also important that both the transceiver and TRX-Manager are is SAT mode. In normal mode (SAT not engaged from TRX-Manager), and by design, the program adresses VFO A and B making possible the control of both RX and TX in the same band.

In SAT mode, the sub VFO's frequency display is delayed after a QSY stops. The TRACE mode of TRX-Manager does not have any effect in SAT mode.

(*) the SAT command does not have any effect on the IC-821 or IC-970 : you also need to toggle the rig in SATELLITE mode manually.

Using a pair of transceivers

Two transceivers can be used. They must then be defined under the TRX1 and TRX2 Setup's tabs only (in that case running two different ICOM Transceivers on one com port is supported). However, the interface with the transceiver used for transmit is simplified:

- Commands must always be done from TRX-Manager by using the >VFO button
- The VFO> function is not usable to read the TX frequency (except for ICOM Transceiver)
- Manual frequency change of the transmitter is taken into account by TRX-Manager only if the sub Transceiver is an ICOM !
  Moreover (and this is the main limitation), the correction of the TX frequency during transmit is generally not supported.

Except these limitations, the transceivers are locked between them by the program and the operation is practically the same one as with a satellite transceiver.

> Warning
>
> TRX-Manager does not check that you are not transmitting in the RX band !

Standard transceiver in Split mode

Such a configuration is supported, including the Trace mode as well as TX and RX in the same band but you are advised of the following limitations:

- Of course simultaneous receive and transmit is not possible!
- While TRX-Manager shifts the TX frequency, the RX VFO is used as a temporary buffer (except with Kenwood transceivers) and receive may disturbed. To minimize the inconvenience, it is advised to choose a large Step (100 Hz or more) and to use with a Satellite whose uplink frequency is lower than downlink frequency.

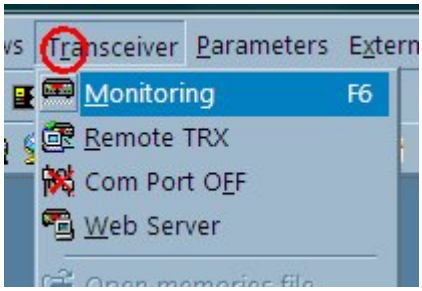
Keyboard shortcuts

Specific keyboard shortcuts are available for various modules. Two types of shortcut are available : MS Windows's shortcuts and TRX-Manager's shortcuts.

MS Windows's shortcuts

These shortcuts, as for any Windows compatible software, use a control key : Alt+ key or Ctrl+key ; they are self documented.

Below, Windows shortcut for Transceiver menu is Alt + R



Specific TRX-Manager's shortcuts

These shortcuts are only available if the corresponding window is highlighted : to highlight a window, please click its title bar. They do not require a control key and you have to press the key with caps off. If you have no effect, please make sure to give the focus (or to highlight) to the corresponding window.

To improve the behavior of the keyboard you may increase the rate of key repetition from the Control Panel (Keyboard Icon).

Monitoring (F6) or DX Bar window

Main keyboard

Key Effect
A: VFO A
B: VFO B
C: Memory channel operation
E: clarifier clearing
F: FM mode
H: This help
I: Incremental tuning mode On/Off
K: PTT key
L: LSB mode
M: AM mode
N: Filter toggle wide/narrow
O: Clarifier On/Off
P: QMB displaying

Q: QSX
R: Start Tuner
S: Split mode
T: Tuner On/Off
U: USB mode
V: VFO>M
W: CW mode
X: Quick Split (Recall)
Y: RTTY (FSK) mode
Ct+Ent: Sto (QMB)
BkSp: Rcl (QMB)
Esc: XFC / TFS / TXW
PgUp: Range Up
PgDn: Range Down
Home: AF Level Up
End: AF Level Down

Numeric keypad

Key Effect (QSY)

1 -250 Hz (FT-980 FT-767GX : -100 Hz)
3 +250 Hz (FT-980 FT-767GX : +100 Hz)
4 Fine QSY Down (Incremental) (*)
6 Fine QSY Up (Incremental) (*)
7 -2.5 KHz (FT-980 FT-767GX : -5 KHz)
9 +2.5 KHz (FT-980 FT-767GX : +5 KHzHz)
2 -100 Khz (GEN : -1000 KHz)
8 +100 Khz (GEN : +1000 KHz)
- QSY down (= mouse wheel) (as well as "_" and "Right" arrow)
+ QSY up (= mouse wheel) (as well as "=" and "Left" arrow)

(*) These keys can not be used as accelerator for an USB Knob ; please use (+) (-) instead in conjunction with the INC function (I key) and PgUp/PgDn (Range).

SW. Grid (F8) window

Key Effect

Space Manual: scanning or stops the auto-scanning

Log Book (F11) window

Key Effect

Ctrl-S: Saves the current entry
Ctrl-D: Clears the fields
Enter: Updates the fields
Ctrl-C: Give CALL field focus
Ctrl-N: New QSO Toggle
CTRL-S: or F12 Saves the current entry (*)
F1-F8: CW Messages M1-M8 (if F1-F8>CW MSG checked under Preferences/Logbook)

(*) If F12=Enter+Save is checked under Preferences/Software, Logbook tab, pressing F12 populates the fields (like Enter) and saves the QSO in one click. Please note, F12 automatically fills in the field ONLY if the cursor is in the CALL field. See also: Logging a new QSO.

CW Keyer (and Logbook)

Key Effect

F1 to F8: recalling message M1 to M8
Ctrl-K: sending message
CTRL+F12: stops the transmission
CTRL+Q: CQ Cycle
CTRL-S: or F12 saves the QSO
Ctrl-P: paste the QSO (without saving it)
End: VA
Home: VE
Pause: AS
BkSp: Error (.....)

Internet browser

TRX-Manager includes an integrated Web browser based on Microsoft's Internet Explorer (IE4 or later). Obviously IE4 or later must be installed to be able to run the integrated browser! A system error will occur if IE is not installed.

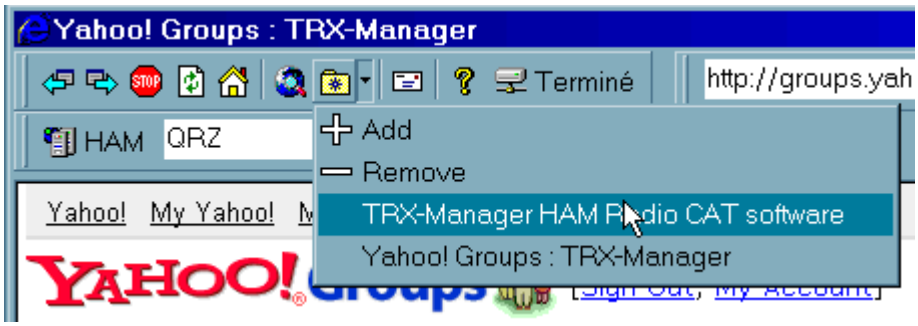
Running the browser

The browser is launched by the File/Browser submenu.

Features

The browser's toolbars show the standard navigation buttons. The Home, Search are defined from the Preferences/Spots-Web, under the Web tab.

While the Favourite button opens the favourite URL defined in the Preferences, the associated drop down button opens a menu from which you may ADD or REMOV E the current page to a customized list of Favourites (*).



Favourite sub-menu

(*) Saved as favorites.dat file using this format : TITLE|URL

A toolbar provides Callsign look-up from various servers via the Internet ; it is also accessible from the logbook but automatic link with the fields of the log not supported.

Scripting errors

The internal browser does not support scripting and a scripting error is displayed each time a web page uses this technology. This is generally of no consequence however, if you find these messages annoying, please enable the external browser (for automatic look-up)from the Preferences/Software (Ham base tab). This option is only related to the web searches; it does not disable the internal browser of the File/Browser menu.

Quick EMailer

TRX-manager can send electronic mails from various windows, either with your default software, or using an internal mailer : this module makes it possible to send easily and quickly a short message and notifications such as DX Spot alerts.

Settings

You set up the EMailer from the Preferences/Location dialog box.

Please check Internal Mailer if you use the TRX-Manager's Internal EMailer (recommended). If you let the Internal mailer option NOT checked, TRX-Manager uses your default software to send electronic mails; however, your default software can NOT be used to send Notifications.

To set up the Internal emailer for your personnal EMail account, you have to enter your email address (xxx@yyy), the name of your SMTP server and the SMTP port. If required you must check on the Authentification option and fill in UserID (Login), Password and Security mode (None, STARTTLS, SSL/TLS). Please check with your Internet Service Provider how to set up your STMP Account.

Sending an email (Internal mailer)

You open the mailer module from the Tools/Quick Mail submenu. Fill in the email of the recipient and his name (optional). Indicate the subject and type the body of the message; a signature may be added to the message. Press Send : the message is immediately sent.

The name sent by EMail is the UserID of your registered version: it appears in the title of the window.

Applications

It is possible to send EMails from the Callbook, HAMCall, or LogBook windows.

The internal mailer can be used for the automatic notification of the IP Address of the SERVER station (TRX Remote control) - restricted to registered users only.

The internal mailer can forward a DX-Spot (or a list of DXSpots) via EMail as soon a needed , newone or tracked spot is received: please configure the DX-Mail frame under Preference/Terminal - restricted to registered users only. Since a large amount of emails can be interpreted as spamming by your SMTP provider, the Each 5 minutes option is recommended. If necessary, the STOP button temporarily stops the transmission of the DXMails ; however, they are still memorized.

Limitations

Please consider the following limitations of the internal mailer of TRX-Manager:

You must be a subscriber of a SMTP server (outgoing mail) and be connected to the Internet,

The program carries out a direct connection with your SMTP server without using your mailbox,

It may be that this module does not function with certain SMTP servers,

It is not possible to attach files.

Data base compacting

When making changes to your database, the file can become fragmented and its size increases. TRX-Manager allows you to compact any mdb database via the Tools DB Compacting submenu. A compacted database takes up less disk space and runs faster.

Please note

You can only compact Access 97 databases with mdb as the extension

Make a backup copy of your file before compacting or opening it from Access

It is not possible to compact a database which is already opened (you have to close the SWL and LogBook windows)

TRX-Manager uses the Access 97 database format : any database created by TRX-Manager (MDB extension) may be opened from Access ; however do not save the bases with the Access 2000 format which is not compatible.

SQL Language

The Structured Query Language (SQL) is used to retrieve, sort, and filter specific data from a database ; it is not possible within this on-line help to give a full tutorial of this programming language ; however the following basics will make it possible to create current queries necessary for the compilation of varied reports.

More information can be found on the Microsoft's MSDN under SQL Expressions and on many other web sites.

Basics

SQL queries selects particular records from a database. Typically, an SQL query contains a select statement and a clause with one or more logical conditions.

SELECT statement

The SELECT statement queries the database in order to extract the records matching specified criteria. SELECT can be followed by * or DISTINCT.

*SELECT * : selects all of the records that meet the conditions in the SQL statement*
SELECT DISTINCT field : omits records that contain duplicate data in the selected field (makes possible to select the different values for the specified field)

Clauses

FROM specifies the tables or queries that contain the fields listed in the select statement
WHERE specifies which records from the table are affected by the select statement
ORDER BY sorts a query's resulting records on a specified field or fields

Operators

Logical operators

The logical operators are used to compose an expression that records must satisfy to be included in the query results. Available operators are AND OR NOT.

Relational operators

Relational operators allow the comparison of the relative values of two expressions. Available operators are the following :

< Less than
<= Less than or equal to
> Greater than

>= Greater than or equal to
= Equal to
<> Not equal to
BETWEEN Determines whether the value of an expression falls within a specified range of values
LIKE Compares a string expression to a pattern ; you can specify the complete value (for example, Like "F6DEX"), or use wildcard characters to find a range of values (for example, Like "F6")*

Syntax

The conventions are the followings :

- SQL statements are not case sensitive
- string expressions are enclosed in quotes : 'alpha'
- decimal separator is the dot : 14.195
- date use US convention enclosed in # : #mm/dd/yyyy#
- logical values are True or False

Examples

SELECT * FROM LOGBOOK WHERE QSL_RCVD = 'Y' ORDER BY DATE_ON : this query selects all records from the logbook table for which QSL received is YES; records are sorted by ascending date.

SELECT DISTINCT IOTA FROM LOGBOOK WHERE QSL_RCVD = 'Y' : this query selects the distinct values for the IOTA field for which QSL received is Yes.

SELECT * FROM Logbook WHERE CALL LIKE '*FR*' AND DATE_ON > = #04/25/2000# : this query selects all the QSOs made after the April, 25 2000 for which the call field contains FR.

SELECT * FROM LOGBOOK WHERE BAND = '2m' and (MODE='FM' OR MODE="AM" OR MODE="SSB" OR MODE= 'USB' OR MODE='LSB') AND COMMENT NOT LIKE '*RPT*' AND COMMENT NOT LIKE '*REPEATER*' AND QSL_RCVD='Y' ORDER BY DXCC : this query selects all the confirmed QSOs made on 2 meters in phone (AM or FM or SSB or USB or LSB) ; QSO with "RPT" or "REPEATER" in the comment field are excluded. The records are sorted by DXCC.

Some other useful queries are listed in the Advanced search topic (Logbook).

TRXNET Protocol

Related Topics

Synchronizations

Overview and setup

The TRXNET protocol is a TCP/IP protocol for synchronizing TRX-Manager with various applications and devices. The protocol includes some extended functions for logging, rotator control and supports macro-commands.

The format is similar to (and compatible with) the Kenwood CAT protocol. Command are sent in text mode with an explicit preamble and a terminator.

It can be used freely by other programmers if needed.

To configure the TRX-Manager's TRXNET interface, select TRXNET under Setup/SynchroB tab (# 8 only) and restart TRX-Manager. The TCP Ports are 1003 and 1004 and are not selectable (two applications on port 1003 and 1004) are supported).

Make sure the Synchro option is enabled for your transceiver under Preferences/Transceiver/Rotator, Misc... Open the Monitoring and maximize TRX-Manager : if TRX-Manager is in the task bar, CAT control is in iddle mode and synchronization is limited (by design).

Specific functions

TRXNET uses the CAT functions of a Kenwood TS-570 with some variations :

AI : Auto-Information. Polling should be avoided by tweaking the AI mode according to your application. AI1 is the default auto info mode (at startup) and automatically outputs IF, XT, CL. AI1 is enough in most cases. AI0 disables the auto mode. AI2 or AI3 can be used for more sophisticated applications. The tables below indicates which output is included for each AI mode.

XR and XT should be used rather than FA and FB to set/get respectively RX and TX frequencies regardless of the VFO is use. When setting a transmit frequency using XT, TRX-Manager equalizes the transmission mode with the receive mode and sets SPLIT on. XT does not support cross-band operation.

MD supports all modes and data modes (TS-990S format). However, since the data modes are very variable from one transceiver to the other, MDD selects USB-D1 (or the generic USB-D data mode) for all transceivers. If you don't know what data mode to select, you can use MDY and MDZ to select the default modes for RTTY and DATA (any data mode such as PSK, FT8...) respectively ; default modes are set as preferences in TRX-Manager by the user.

SP (Split) and FN (VFO) should be used rather than FR/FT to set Split and to select the VFO (SP and FN are now incuded in the recent Kenwood protocols).

FL Selects the filter (Wide/Medium/Narrow) for the current mode. If Medium does not exist, Wide is selected. This command outputs the bandwidth information (BW command).

CL set/get the current callsign displayed by TRX-Manager in the various modules such as DXCC Info (generally the current DX Spot).

LG logs in the QSO defined by an ADIF String (<EOF>....<EOR>). LG fills in the logbook but does not save the QSO. Make sure to remove any semi column (;) between <EOF> and <EOR>.

AZ controls the rotator.

MO can be used to send a macro command to TRX-Manager. MO0 sends a predefined macro and MO1 a CAT command. Of course, the effect of a macro-command depends on your setup (especially the MO1 CAT commands since MO0 are generic). The format of the macro command (between MO and ;) is defined in the documentation. You can also send a Macro command from TRX-Manager to the TCP Client using } as preamble.

MG allows sending a message from the client to TRX-Manager. The corresponding message is displayed in the status bar of TRX-Manager.

TRX-Manager outputs a CR LF after each command. You may have to remove non printable characters before processing the data.

If a Sub-Transceiver is the operating transceiver, AI mode only ouputs IF and the set of command is limited. Accepted commands are indicated below under Sub.

Other commands can be added easily on request

Detailed functions

The function in red are specific to the TRXNET protocol.

CODE	FUNCTION	GET	SET	AUTO AI>=	Sub	COMMENT
AC	Tuner	*	*	2	*	AC(P1)(P2)(P3) Kenwood format, P1:ignored, P1:On/Off P2 :Start
AF	Audio		*			Audio Volume (main RX only) 0-255
AI	Auto mode		*		*	0 : no info 1 : CL, IF, RX, SP, TX, XT 2 : AC, AN, AZ, BW, FA, FB, FR, FT, MD, PA, RA, VX, XR 3 : SM
AN	Antenna	*	*	2	*	AN(P1)(P2)(P3) Kenwood format P1:Ant1..4, P2:RX Ant, P3:Ignored, P1,P2=9 : No change
AZ	Azimuth	*	*	2	*	Current Azimuth 0-360, =-1 stops the rotator
BW	Bandwidth	*		2		Current Bandwidth in Hz
CL	Info Call	*	*	1	*	Current Callsign Information displayed
FA	VFO A	*	*	2	*	VFO A Frequency (Kenwood format)
FB	VFO B	*	*	2	*	VFO B Frequency (Kenwood format)
FI	FI Offset	*				Intermediate frequency Offset (relevant for K3 Only)
FN	Current VFO	*	*	*		FN=0 (VFO A), FN=1 (VFO B) (Faster then FT/FR)
FL	Filter		*			1:Wide 2:Medium 3:Narrow (Outputs BW after a delay when set)
FR	VFO RX	*	*	2	*	Kenwood convention
FT	VFO TX	*	*	2	*	Kenwood convention
ID	Identifier	*			*	TRXNET = 000
IF	INFO	*		1	*	IF AUTO Info String (Kenwood Format)
LG	Logging		*		*	Logging information (ADIF String). Remove any ; before <EOR>
MD	MODE	*	*	2	*	MODE (TS-990S Format) + Y, Z 0: Unused, 1: lsb, 2: USB, 3: CW, 4: Fm, 5: AM, 6: FSK 7: CW -R, 8: Unused, 9: FSK -R, A: PSK, B: PSK -R, C: lsb -D1 D: USB -D1, E: Fm -D1, F: AM -D1, G: lsb -d2, H: USB -d2, I: Fm -d2 J: AM -d2, K: lsb -d3,L: USB -d3, M: Fm -d3, N: AM -d3 Y : DEFAULT RTTY Mode (TRX-Manager) Z : DEFAULT DATA Mode (TRX-Manager)
MG	Mic Gain		*			Mic Gain 0-255
MO0	MACRO 0		*			Predefined macro (UP1... see documentation)
MO1	MACRO 1		*			User defined macro (CAT command see documentation)
NB	Noise Blanker	*	*		*	NB 0/1 (On/Off)
NR	Noise Red.	*	*		*	NR 0/1 (On/Off)
PA	Preamp	*	*		*	Preamplifier On/Off (PA0/PA1)
PC	Power	*	*	2	*	Sets or reads ouput power (Watts)
PR	Processor		*		*	Speech Processor (set only) (PR0/PR1)
RA	Attenutator	*	*		*	Attenuator On/Off (RA0/RA1)
RG	RF Gain		*			RF Gain 0-255
RX	RX (Receive)		*	1	*	Auto Outputs if AI >=1
SM	S-Meter	*		3	*	On 30 digits (Kenwood format 0000-0030)
SP	SPLIT	*	*	1	*	Split Mode (faster than FR, FT)
TX	TX (Transmit)		*	1	*	Auto Outputs if AI >=1
VV	A=B		*		*	Equalizes VFO A and VFO B settings
VX	VOX	*	*	2	*	VOX On/Off
XG	Rig	*			*	Rig set (i.e XGTS-590S;)
XM	Message		*		*	Message to TRX-Manager (displayed in the status bar)
XR	RX Frequency	*	*	2		RX Frequency whatever VFO
XT	TX Frequency	*	*	1		TX Frequency whatever VFO (+ Set RX Mode and SPLIT)

OLE Overview

TRX-Manager is able to communicate with other programs via the Windows OLE feature. This idea was introduced by Dennis WN4AZY, author of the powerful LOGic logging program, links TRX-Manager and LOGic.

Supported programs

TRX-Manager is able to be controlled from the following programs:

- LOGic by Dennis WN4AZY, a comprehensive logging program
- HAMSCOPE by Glen KD5HIO a program for digital communications
- JT-65 HB9HQX: an amateur Radio software for transmission/reception of JT65 protocol
- MULTIKEYER by Glen KD5HIO a CW Keying program
- Voice Keyer Express by Stu N7QJP, a digital memory recorder
- Swisslog by Walter HB9BJS an other powerful logging program
- a Screen saver and a test program (FT-Control : see below)
- TRX-Meter (High precision S-Meter)
- TRX-Synchro TRX-Acom (Synchronizes two transceivers, SteppIR, Alpha amp, ACOM amp.)
- TRX-Command (Sends user-defined commands or macros to your transceiver or your LPT port)
- TRX-Pan an SDR Decoder
- LP-Monitor and LP-SteppIR by Larry N8LP to control remote relays, rotors, over serial ports and/or IP, SteppIR beam...

License for the OLE-Link

Running the link requires a properly installed version of TRX-Manager and requires the same license information.

Setup

OLE Link is automatically enabled by TRX-Manager ; there is no specific Setup. However, if TRX-manager is launched using the LINUX (WINE)/ MAC compatibility mode, you may disable the OLE link (see TRX-Tools).

Note

When TRX-Manager is minimized, the CAT communication stops. You may wish to disable this ability to keep the benefit of the Automode feature : the solution is to avoid minimization of the TRX-Manager's main window.

Testing the link

With TRX-Manager two programs are distributed to demonstrate the OLE Link:

FT-Control : this program allows you to test the OLE ability. You may run as many instances of FT-Control as you want. The current operating conditions are reported into FT-Control every 3 seconds, and you may select your operating conditions from the FT-Control window.
TRX-Synchro.exe : this program controls and synchronizes a second Transceiver (only ICOM

and some Yaesu) with the Transceiver under the control of TRX-Manager.

Running LOGic

TRX-Manager is able to communicate with LOGic 5 & later via the OLE link.

LOGic is a powerful logging program that allows you a comprehensive management of your log database. For more information about LOGic please go to the PDA's web site at http://www.hosenose.com/.

Requirements

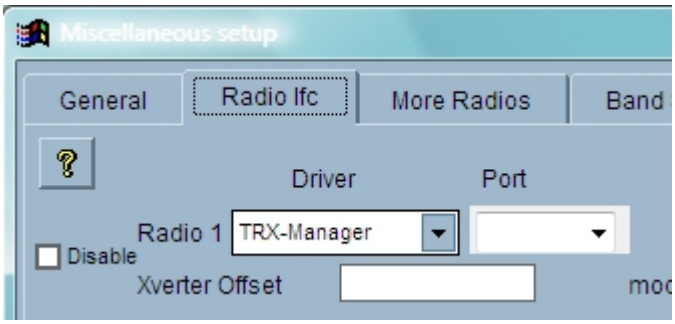
To use this feature, you need to install LOGic 5.1 or later.

Important note about the administrator mode

Generally LOGic is configured to run in administrator mode. Consequently you must launch TRX-Manager in administrator mode to able to launch LOGic from TRX-Manager and to establish the OLE link (you can not launch an admin-program from a non-admin program). Also, if you launch TRX-Manager from LOGic while TRX-Manager is in non-admin mode, you may have an error at startup and the OLE link will not run.

Setup from LOGic

From LOGic , declare TRX-Manager as the transceiver without selecting a COM port. TRX-Manager becomes a universal interface for all transceivers... See LOGic's documentation and the PDA's web site for more information about the implementation of the link between LOGic and TRX-Manager.



Select TRX-Manager as driver
(no com port selected)

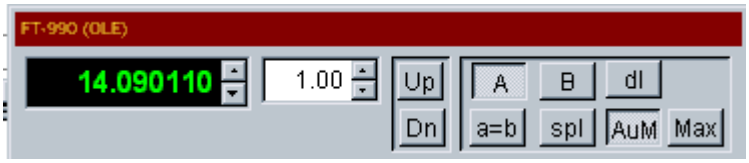
Please start TRX-Manager first

Although LOGic can automatically start TRX-Manager at the beginning of its session, it is recommended you launch TRX-Manager before LOGic.

If you let LOGic launching TRX-Manager automatically, you will notice that TRX-Manager does not open the Monitoring window. This is normal and done to prevent any loss of the link during the time the communication loop engages. In that case, just press F6 to engage the Monitoring.

How to toggle from LOGic to TRX-Manager

You may maximise TRX-Manager from LOGic using the max button of the LOGic's interface.



From TRX-Manager, a tool bar button (or the External submenu) allows you to call or to maximise the LOGic window. This action also copies the current call sign into the clipboard : use the LOGic's Copy / Paste function to retrieve the call sign into any field.

Note

When TRX-Manager is minimised, the CAT communication stops. You may wish to disable this ability to keep the benefit of the Automode feature : the solution is to avoid minimisation of the TRX-Manager's main window ; you may run LOGic with TRX-Manager maximised in background; a slight reduction of the PC speed is perceptible.

See the LOGic help files for more information about the use of LOGic.

Logging from TRX-Manager to LOGic

You may link the TRX-Manager's Logbook edit tab with the LOGic log form by enabling the LOGIC SERVER option from the Preferences dialog under the Logbook tab. You also have to enable the LOGic server from LOGic (Setup/General tab).

This function uses the server mode of LOGic (LOGic OLE Server). Please note QSOs are transferred to LOGic as soon as they are saved from TRX-Manager. However, editing or deleting a QSO from TRX-Manager has strictly no effect on the LOGic's database.

Screen saver

A compatible screen saver Windows 95/98/NT/2000/XP is provided with TRX-Manager. This screen saver (or watch screen) is conceived to run simultaneously with TRX-Manager : it displays a signal analysis graph. If TRX-Manager is not running, the graph changes are randomized. A background bitmap for your desktop is also provided.

Installation

The use of the screen saver requires:

- TRX-Manager V 1.8 or later,
- FT-Saver.scr or TRX-Saver.scr (installed in the System folder by the installer)

Configuration

To configure the screen saver, you have to open the Windows Display Properties dialog box and under “screen saver” to choose FT-Saver. It is not possible to define a password or any parameter.

Desktop wall paper

TRX-Manager installs a background bitmap for your desktop in the Windows directory as TRX-Dektop.bmp. You may choose this bitmap under the display properties dialog box for Windows.

TRX-Pan

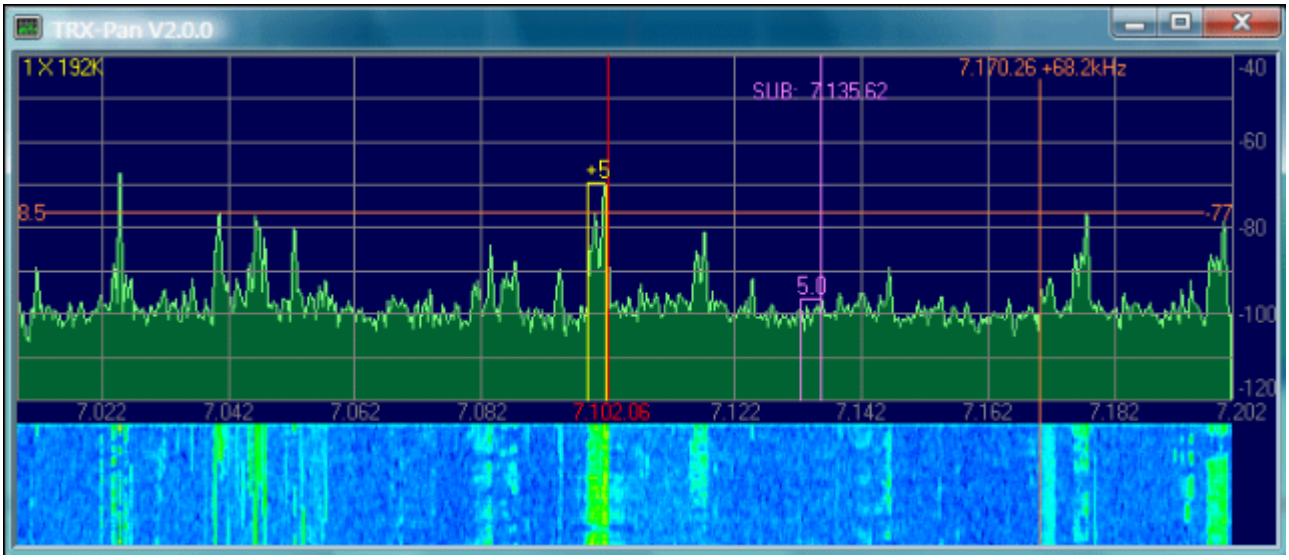
A Panoramic Spectrum Analyser for SDR TRX-Pan is delivered with TRX-Manager (*) ; it is an external program accessible from the TRX-Manager's Externalsubmenu. TRX-Pan can work with a software defined wideband receiver with I/Q output and a fixed center frequency (like Softrock) or a SDR centered on the IF local frequency of your transceiver controlled via CAT with TRX-Manager (like LP-Pan). In both cases, TRX-Pan provides real-time Spectrum Analysis and interactivity with TRX-Manager via OLE. TRX-Pan only supports Windows drivers.

It is fun to use even with an inexpensive Softrock SDR with a limited bandwidth centered in the 40m band connected to an RX antenna while TRX-Manager controls your transceiver on the same band (Warning: disconnect the SDR before keying down !).

TRX-Pan (with and IF Adapter and TRX-Manager) is optimized for Elecraft K3 Yaesu FT-950 and Yaesu FTDX5000 transceivers but can be used with any transceiver supported by TRX-Manager with more limited features (bandwidths are fixed to standard values in that case).

TRX-Pan is a also distributed with LP-Bridge by Larry N8LP (**) and is compatible with N4PY software .

See also : TRX-Pan for LP-Bridge



TRX-Pan with TRX-Manager + LP-Pan + K3 + EMU202
Sample rate is 192kHz, 16bits, Full screen mode
Displays shows Main and SUB VFO + Bandwidths

TRX-Pan has been written by Laurent F6DEX with collaboration/modifications by Larry N8LP. It is delivered "as is" for your enjoyment with this comprehensive documentation . It may be updated in the future.

(*) TRX-Pan V2.1.3 or later requires TRX-Manager V 4.5.8 or later.
(**) LP-Bridge is not required for users of TRX-Manager which provides a specific Synchro mode.

Setting up TRX-Pan

Click the Options button:

Critical parameters:

- Audio Input (it is possible TRX-Pan does not support all Sound Cards and/or all Audio input settings)
- Select Sample Rate (S. Rate) according to your sound card. Generally, for a standard sound card, 44100/s (44 kHz display width). Up to 192kHz with some sound cards.
- Reverse I/Q (Left/Right Channels). Reverses the displayed sidebands (same as reversing I & Q audio cables).
- CAT Control :

  TRX-Manager if TRX-Manager is running on your computer and set up for any transceiver (K3 excepted). You must Fill in Offset for each mode
  TRX-Manager+K3 if TRX-Manager is running on your computer and set up for a K3 . You must Fill in GlobalOffset if necessary (-6.0 or 0 or...)
  LPBridge If TRX-Manager is not installed on your computer. LP-Bridge allows interactivity between TRX-Pan and various transceivers. You must fill in GlobalOffset. Please note LP-Bridge is not required for users of TRX-Manager which features a specific Synchro mode for interactivity with other software or device.
  N4LPAllows interactivity with N4LP CAT control software

SDR

- LP-Pan (IF Adpter) if you use an IF Adapter (like LP-PAN) connected to the IF output of your transceiver
- SDR Fixed LO it is the case with an SDR like Softrock and a fixed LO

Other parameters:

- Sound card resolution : 24bits or 16bits. While 24bits may slightly lower the noise floor, 16bits consumes fewer ressource and, in practice, gives better results (24bits is disabled in this version).
- Apodization : Also called "Windowing" in other SDR apps. Select a filter or none. Apodization smooths the signal trace but increases apparent noise floor. Blackman Nuttall is the more efficient with 16bits. None is preferable with 24bits.
- FFT Bins (Accuracy) : Determines the Resolution Bandwidth (RBW) which is a measure of frequency resolution of the display. 4096 (default) is usually adequate when viewing a large bandwidth at normal screen sizes. More than 16384 bins slows down the display on older PCs. Generally, other software (like PowerSDR) operates with 4096 or 8192 bins. TRX-Pan can be used with up to 65536 bins for excellent frequency resolution when zoomed into narrow spans.
- Smooth 0Hz spike: With high quality sound card (like EMU202), there is no visible spike at 0Hz. This setting is only required with standard sound cards displaying a prominent spike at 0Hz.
- Colors and other display options (Design = preference for the display), Band/Mode SW Always (Band/Mode Switch is always visible)
- MAX/AVG Samples allows setting the number of samples for integration of MAXimal/AV eraGe values of the signal (0 = instantaneous). 3 is usually appropriate.
- QSY Detect.: If checked, this option resets integration to zero (MAX/AVG= 0) during QSY to speed up the display.
- Priority: Real time (not recommended): By default TRX-Pan uses the Windows's High priority during capture of the data. If Real time is checked, TRX-Pan takes the priority over all other applications during the capture. This may improve synchronization but other applications (and sometime the system itself) may hang up a little.
- High Res. Zoom : if checked, TRX-Pan automatically adjusts Sample rate to match the current zoom level and to give the best possible resolution (please note some values of sample rate may be NOT supported by your sound card ; this function may be not compatible with the use of other audio applications at the standard sample rate; if you get any error message, please uncheck this option...
- Flip I/Q on 6m : Flip I/Q on 6m (K3 and other rigs with a reversed conversion scheme on 6m)
- CW: Flip and USB: Flip : Flip I/Q for CW and USB (vs LSB). Required JUMA TRX2: DC Receiver with Phasing.

- Offset (in KHz) by mode. Compensates for the carrier shift used in the transceiver for SSB and CW modes begtween TX and RX. If you use a K3, these parameters are NOT used since TRX-Manager and LP-Bridge track the K3's IF.
- Global Offset is required for all radios. It corrects for the intentional IF frequency offsets designed into most SDR hardware such as SoftRock or LP-PAN.
- MouseWheel and Steps: Mousewheel allows fine frequency adjustements with various steps for each mode

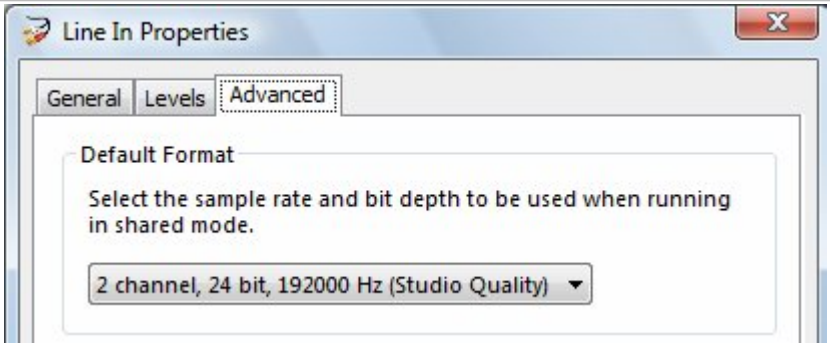
Using TRX-Pan

Connect your SDR to the Audio input of your computer (MIC or LINE input depending on sound card), adjust Computer's MIC or LINE gain. For an EMU 0202, recommended gain are:

- 16 bits 50% (computer) and +12db (9 O'Clock, sound card) for each channel.
- 24 bits 25% (computer) and +12db (9 O'Clock, sound card) for each channel.

Under Windows 7/8 or Vista

If your sound card supports sample rates higher than Windows default (44kHz) (i.e. EMU 0202 supports 96kHz and 192kHz) and since TRX-pan only supports Windows drivers,you have to configure the Windows recording format accordingly (i.e for the highest sample rate to be used with TRX-pan) otherwise you may be not able to run TRX-Pan using sample rates higher than 44kHz !). Please left click on the Volume icon of the task-bar: a pop-up menu will appear. Select the Recording submenu and a newSound form will pop up. Please click the Properties button for the device you are using. Click theAdvanced tab and under Default Format, select the highest sample rate and resolution that you will use with your sound card (typically 24bits/192000Hz for an EMU202); close the sound form. Now, please configure your sound card using the utility provided with your driver (i.e the EMU's control panel) and configure it for the same settings.



Configuring an EMU202 for 192kHz

Launch TRX-Manager

Note

Instructions below may be specific for the use with TRX-Manager (if necessary, please see LPBridge or N4PY helps systems for more information).

Click Start to start the analysing.

If you use a fixed reference, a vertical line shows the current frequency of your transceiver. The current frequency is always +/- centered.

Inside of the grids, Left click the display (spectrum) to set up your transceiver... (point-to-click Frequency changes). Right click the display to set up the TX frequency. When using LP-Bridge, left click changes the VFO A frequency, and right click changes the VFO B frequency, which usually controls the TX frequency when in Split.

K3 (and TRX-Manager)

The relative position of the Main bandwidth indicator shows the IF Shift value, but the relative position of Sub bandwidth indicator does not follow IF shift since this parameter is not available via CAT. The Sub markers does represent the correct sideband and bandwiths, however.

YAESU FT-950/5000 (and TRX-Manager)

Main VFO markers represent supported the correct BW and IFShift in SSB/CW/FSK (AM/FM use standard values). However, Sub BW=Main BW by default.

TRX-Pan (and TRX-Manager) with other transceivers

Bandwidth markers use standard values (SSB 2.4kHz, CW/Data=500Hz, AM=6000Hz, FM=12000Hz).

MAX/AVG

Allows integration of maximum/average values of the signal for the number of Samples defined in the preferences. PEK (PEAK) freezes the display on maximum values. If QSY Detect is checked (options), integration is disabled (to NOR) during rig tuning. BPH (Background Peak Hold) allows signal peaks beeing displayed in background.

Full screen mode 

Click  to toggle Full Screen mode. In full screen mode, please type Escape (keyboard) to go back to the normal screen and +/- or Z for zooming or use Left (Zoom) and Right (Screen mode) mouse clicks outside of the grid.

Spot

After tuning to a signal, clicking the spot button will center it in the passband. It is designed mainly for CW and AM, but works pretty well even in SSB. If there are multiple strong signals in the passband, it will center the strongest one.

Peak S-Meter

A peak/S-meter displays values is S points and db above S9.

MouseWheel tuning

Keyboard shortcuts A/B and F/S allows you tuning Main VFO (A) or SUB VFO (B) and choosing Fast Tuning (F=10XStep) or Slow Tuning (S=Normal). Please note mousewheel tuning from TRX-Manager is always faster than from TRX-Pan.

Waterfall

Off, 1/4, 1/2 allows you splitting the screen to your convenience.

Macro buttons

The [...] button (just right to the Stop button, during analysis only) opens the Macro button frame. A right click on a macro button opens the configuration dialog ; please note OFF option allows configuring a toggle with two commands. If Band/Mode SW Always is NOT checked (Options), Band/Mod Switch only appears as you press the [...] button ; otherwise it is always visible below the main frame.

Calibration

If necessary, click CAL (Calibration). TRX-Pan resets MAX/AVG/PAK integration to zero during Calibration. Click Close to quit Calibration. Note: To use CAL, TRX-Pan should be actively analysing and should not be in Full Screen mode.

From the Calibration screen, adjust:

- Phase and Balance (by using a strong carrier about 10KHz from central frequency) to minimize Image Frequency's level. A rejection of 50 to 60db can be achieved.
- Range and Ref until the spectrum fills in the screen, or to set the maximum and minimum levels you want to display (in dBm). TRX-Pan remembers these settings for each band.
- Levels to calibrate TRX-Pan for -73dbm=S9. A calibrated generator or simple generator such as the Elecraft XG-2 is required. In the absence of a generator, you can disconnect the antenna, tune the transceiver for 10m, and adjust the levels for a noise floor of about -130dBm to -140dBm with the K3 preamp ON, depending on whether the rig has the buffer mod and/or whether the LP-PAN has the optional preamp. TRX-Pan remembers this setting for each value of FFTBins.


Notes

TRXPan automatically ajusts levels according to the state of PREamp and ATTenuator (K3), Levels interacts with the sound card input levels. If you experience clipping of the spectrum with strong signals, reduce your sound card level and increase Levels to compensate.
Levels varie according to the number of FFT Bins and sound card resolution. You have to recalibrate TRX-Pan for each value of FFTBins. However TRX-Pan remembers CAL levels for the various settings and Range/Ref for each band.

TRX-Command

Sending powerfull macro commands (or direct commands) to a rig or a device under the control of TRX-Manager (or not) is possible using a separate program (TRX-Command.exe) running via OLE with TRX-Manager. The menu External allows you launching TRX-Command.

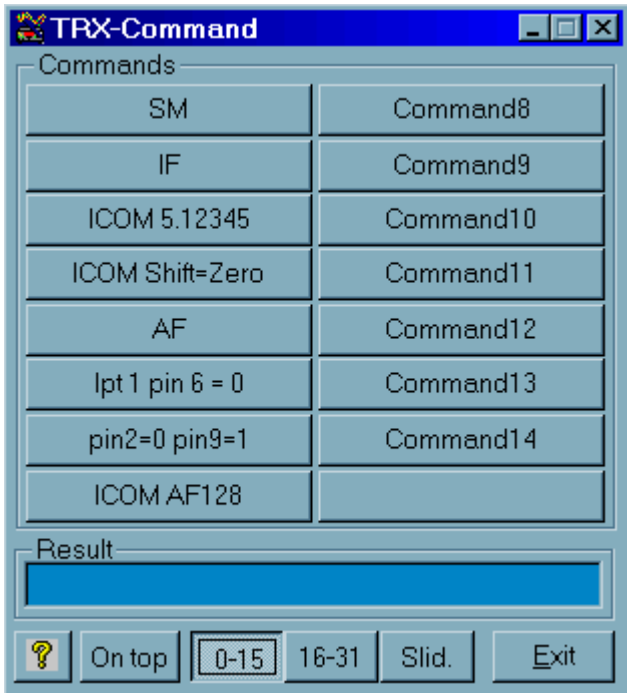
Related Topics

CAT Programming

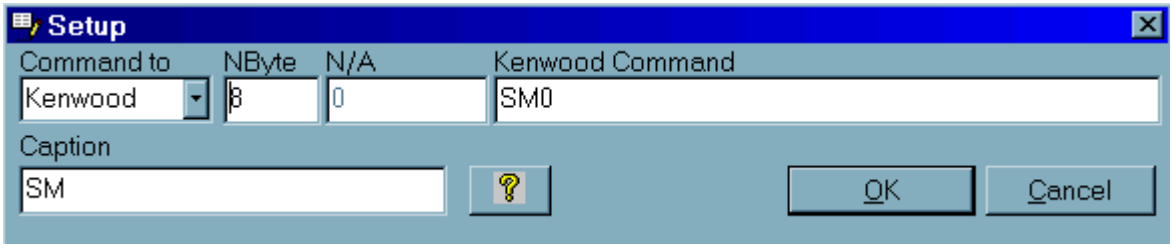
Macro buttons (Monitoring)

Interface

The TRX-Command's interface features 16 Buttons (X2 i.e 32 commands) + 6 Sliders which can be configured by the user with a right click. Each button or slider can be named by a Caption; if necessary the Result text box displays the answer. The On top check box keeps TRX-Command on top of all other windows.



TRX-Command's interface



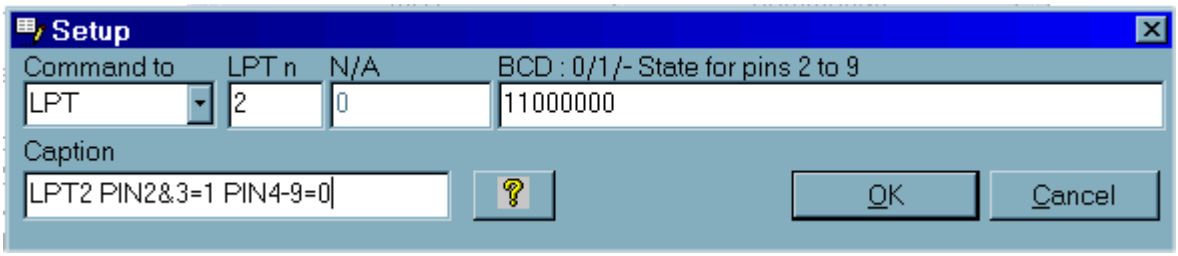
A right click opens this dialog from which you configure the button

Supported commands

Commands to a parallel port

These commands are sent via OLE to TRX-Manager; therefore TRX-Manager must be running when you activate the button and activate the parallel port (the Custom port is not supported).

Please select LPT for the Command to field, fill in the LPT n field with the port number and indicate the desired state for pins 2 to 9 using the following convention: 0=low 1=high -=no change.



Setup for LPT2, Pin 2 & 3 = 1, Pin 4 to 9 = 0

Direct commands to a local serial port not controlled by TRX-Manager

These commands are sent by opening the specified com port. Therefore this port must be free; if TRX-Manager is running, please make sure it does not use this com port.

Please select Com (Local) for the Command to field and fill in the Port n field with the port number and the Settings field with the necessary parameters using this format: Speed, Parity, n Bytes, Stop Byte (i.e : 4800,n,8,2).

The desired command is typed - exclusively in hexadecimal - in the RS232 Command field. If the command is a string, each character must be translated into hexadecimal.

Direct commands to a transceiver under the control of TRX-Manager

These commands are sent via OLE to TRX-Manager. Consequently, TRX-Manager must be running when you activate the button. Only commands to a Kenwood (+ some others using ASCII strings) and Icom transceivers are processed.

Depending on the type of transceiver (ICOM ou Kenwood), the syntax is different. You have to use the correct syntax by referring to the manual for your transceiver (see also CAT Programming).

In case of your transceiver is not an ICOM or a Kenwood, the STRING selection may work (not guaranteed) for a syntax written with Ascii strings : if Monitorings shows the macro buttons, TRX-Command will work in most cases.

For Kenwood

Please select STRING for the Command to field and fill in the Bytes field with number of bytes of the answer (if required); the command is typed in using the format required by the manual (the end delimiter ";" is not required).

For ICOM

Please select ICOM for the Command to field; the command is typed in using the format required by the manual but without Preamble + Addressees (FEFEXXYY) and without the End of message code (FD) : only the command, the sub command and the data area are required

Multiple commands

Multiple commands (in a chain) are possible; the multiple commands are separated by a slash (/).

Commands to the remote station (SERVER)

When controlling a remote station using TRX-Manager, you can send commands to the SERVER station using TRX-Command. Macro commands (same syntax as above) sent to the SERVER station are ignored by the CLIENT station.

To send a command to a Remote serial port other than the transceiver in use, please select RS232 (Rem) for the Command to field.

Customized sliders

Same syntax as above but includes digits for the slider. The command string includes as many * (joker) as the number of digits required by the protocol. Min and Max values are always decimal starting from 0 to 255 (generally).

Example

ICOM : Command for AF gain is 14010000 to 14010255. Syntax = 1401**** (4 digits required) with Min=0 and Max=255
KENWOOD : Command for AF gain is AG0000 to AG0255. Syntax is AG0*** (3 digits required) with Min=0 and Max=255

License agreement

Copyright

TRX-Manager is not a free software.

EVALUATION version (Demo)

The functions of the EVALUATION version are not limited except ... it will not communicate more than 30 minutes with the interface of the transceiver.

You may use the evaluation copy of TRX-Manager for a period of 30 days, after which, if you decide to continue using TRX-Manager, you are obligated to purchase the Licensed version. After the 30 days evaluation period is expired, the use of the evaluation version of TRX-Manager is still possible and permitted for testing pupose only.

See also

How to order ?

LICENSED version

The LICENSED version (or commercial version) is distributed as a downloadable and personal file compiled with your personal data encrypted. A single copy of the licensed version of TRX-Manager may be used by a single person who personally (or a member of your family) uses the software on one or several computers or a single entity (a club with an unique callsign). The license and all the associated files are strictly personal and not transferable.

Up to three registered callsigns are accepted per license : for your personal usage (special and personal callsigns, previous personal callsigns) or for the use by immediate family members living with you. We may ask you to prove they are personal. For a club, only the club's callsign can be registered.

Upon purchase of TRX-Manager V5.X, you are eligible for 36 months of free downloadable updates or upgrades.

In the event that you open your station to other users through the remote control mode, each user who controls your station using TRX-Manager must acquire a personal (separate) license.

Communicating a personal file to a third party invalidates the license and may result in civil and criminal charges. Using a pirated/copied version may prevent any further installation of a registered version.

Distribution

TRX-Manager is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. TRX-Manager is licensed, not sold. Reproducing the COMMERCIAL version of TRX-Manager is strictly prohibited.

Anyone distributing the EVALUATION version of TRX-Manager (Demo) on CD-Rom for any kind of remuneration must respect the conditions explained in the documentation.

Return policy

PDA does not accept returns on TRX Manager. Please try before buying. Because of the nature of software, this is the best way to protect our copyrights. Thank you for understanding. If you experience problems with our software, please contact us for a support.

 Disclaimer of warranty

In any case you should carefully read the following terms and conditions before using the software.

USERS OF THE SOFTWARE MUST ACCEPT THE FOLLOWING DISCLAIMER. BY USING THIS SOFTWARE YOU ARE CONSENTING TO BE BOUND BY AND ARE BECOMING A PARTY TO THIS AGREEMENT.

TRX-Manager IS SUPPLIED "AS IS". PDA DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR ANY PURPOSE. PDA ASSUME NO LIABILITY FOR DAMAGES, DIRECT OR CONSEQUENTIAL, WHICH MAY RESULT FROM THE USE OF TRX-Manager.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, TORT, CONTRACT, OR OTHERWISE, WILL PDA BE LIABLE TO YOU OR ANY OTHER PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER OR TRANSCEIVER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES.

How to order TRX-Manager

TRX-Manager is sold py PDA, Inc

Personal Database Applications, Inc.
1323 Center Drive
Auburn, GA 30011-3318
USA

Tel 770-307-1511
Fax 770-307-0760

Email pda@hosenose.com
Secure server from http://www.hosenose.com/trx-manager

The price paid includes the license and the delivery of the files required to install and register a licensed version based on your callsign, your name and some other personal data.

Please check that the software is compatible with your system and your station before ordering since, once the license is notified, it is not refundable.

Please do not email the author but contact PDA for any information on price, delivery delays, the status of your order, etc...

Backup your registered copy

TRX-Manager is a DOWNLOAD-ONLY product. After your order is processed, you will receive an email with a link to your personalized download. We STRONGLY RECOMMEND burning your download file onto a CD for backup purposes.

Necessary information to register

The following information is required for registering :

1. CallSign (optional)
2. Full name (mandatory)
3. Full postal address (mandatory)
4. E-mail address (mandatory)
   Please give us a reliable email address. You will receive the link to your download via email.

Callsigns

Callsigns are optional but strongly recommended. Your full name will be used by default. If necessary, you may request a new file registered to your new callsign or to a special (personal) callsign free of charge during the 3X years of free downloadable update. Up to three callsigns are permitted (see License). It is preferable to notify the different registered callsigns when ordering. We may ask you to prove that they are personal.

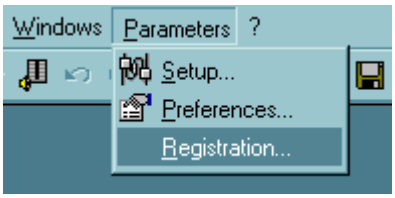
Registering TRX-Manager

Any version or copy of TRX-Manager (Licensed) V5.X shall be registered.

Please install the licensed copy using instructions provided and your personal file (SETUP_TRXXXX_IDYYY.exe where XXX is the version number and YYY your customer ID). To run the installation kit, you need a password which is included in the instructions for your download. The password is easy to remember and prevents any mixing between files (each file is personal).

After the program is installed, it starts the first time as unregistered. Registering the program requires you confirm the validity of your personal data.

After a first installation, the Registration dialog pops up. However, in case of a previous version was installed already, the Registration form is not displayed and you access it from the Parameters/Registration submenu.



You just have to confirm your data and acceptation of the license agreement.

It is then necessary to start the program again to validate the registration.

Good to know

TRX-Manager accepts registering up to three personal callsigns (see License agreement). You can choose the callsign to register from the Registration dialog but you may also change the current registered callsign at any moment from the Preferences/Software Location tab for the current use of the software (logging, spotting...).

If necessary, you may request a new file registered to your new callsign or to a special (personal) callsign free of charge during the 3X years of free downloadable update.

IMPORTANT NOTES

All the files are strictly personal...

Personal data are displayed in the About and Registration dialog boxes,

TRX-Manager prints the Callsign on QSL labels

TRX-manager sends your Callsign to a dx-cluster, as a name with an EMail

The Evaluation version (Demo) or a patch can not be registered: you need to purchase a license.

Support and upgrade policy

Please don't hesitate to visit the TRX-Manager web site at http://www.trx-manager.com for keeping you informed about improvements and new features of the program. Please see How to Order and contact PDA for any information on delivery delays, the status of your order, etc...

Contact and support

If you can not solve the difficulties related to the use or the configuration of TRX-Manager excluding hardware or Windows configuration problems (please see the Troubleshooting section and the TRX-Manager's support page), you can ask your questions by email. Answering is done as soon as possible (within 1 - 5 days) giving priority to registered users. Thank you to understand that a delay of one week or more is possible around Christmas and Easter or during the summer holidays season.

Please provide as much information as possible about the transceiver, interface, PC and version of the program (see the About dialog box) you are using. The more information we have about your system the easier it will be to help you.

How to explain your problem?

Please understand that "my program is not working" is an inefficient indication... which costs "you" an email for nothing. We need at least to know what happens (error message, what is not working, what are the conditions and the steps to reproduce the problem...)!

You may also send in your email the full listing of your configuration using the  *Parameters/My Configuration submenu.*

Also, if you'd like to make a suggestion or a comment about TRX-Manager, please don't hesitate to contact us. All remarks, good or bad, will be welcome... Please note that an update for a specific transceiver or device is possible.

If you send an email, please:

Only use the TEXT format and ZIP attached files otherwise your email may be deleted by the virus filter

Due to spamming, email adresses may change frequently : please see the web site for the current email adress.

Mailing list

A Forum in English is devoted to TRX-Manager. Registering the forum list is highly advised in order to receive information on the use of the program or its evolution. The instructions are available on the http://www.trx-manager.com/support.htm page.

Update and upgrade policy

Upon purchase of TRX-Manager V5.X, you are eligible for 36 months of free downloadable updates and upgrades. The purchase date is based on the day your order is processed. When that 36-month period is up, you may sign up for another 3x years of downloadable updates.

 How to install an update

To update your copy of TRX-Manager V5.X, you have to download a patch (trmupxxx.exe) from the Whatsnew page of the TRX-Manager's web site, install it by running the exe file while making sure the target folder is correct.

Please note that you cannot register updates or upgrades : you must have a current registered program.

See also: Installation, reinstallation

Upgrades from early versions of TRX-Manager (prior to V5.0) are not available for download: a full version of TRX-Manager V5 can be obtained at a lower price for registered users.

The update/upgrade policy may be modified especially in the case of significant changes in the Windows operating system (i.e new Windows system).

Versions history

• V 5.7.8 (2018/05/30)

- Synchronizations : TRXNET (TCP/IP) Interface improved and now supported by WSJT-X (V1.9.0), Hamlib
- Logbook: Support for UDP Broadcasts (JTAlert, WSJT-X...) and more support for WSJTX
- SAT Tracking : DDE support for Orbitron
- Needed for Mode/Band (DX Spots DX Spots) : fix for Digital Modes

• V 5.7.7 (2018/04/27)

- KAT500 TRACK function (ON/OFF)
- 1Hz resolution for the recent Yaesus and TS-990
- Synchronizations : TRXNET (TCP/IP) Interface open to third party applications

• V 5.7.6 (2018/03/20)

- Transceiver/Setup: support for the HAMLIB NET server (CAT Control, RIGCTRLD protocol)
- New Synchro mode using the HAMLIB NET server (can be used with WSJT-X).
- Update of the Prefix database
- Definitive fix for ClubLog (SSL mode)
- Prefix database updated
- Update for Sat Explorer

• V 5.7.5 (2018/02/24)

- Band Plan ICOMs: RTTY=, DATA= provide selections for USB-D1...4 and LSB-D1..4
- Sub Transceiver (Kenwood only): Sync synchronizes RX, TX Frequencies and Split
- Temporary fix for ClubLog (non-SSL)
- IC-7800 : LINK function improved
- ADIF Capture : now the QSO is just imported but not saved
- Support for N1MM+ UDP Broadcasts

• V 5.7.4 (2018/01/24)

- DX Spots: new filter by comments (comment1;comment2;...)
- /DEMO switch (command line) to start TRX-Manager in demo mode
- Prefix database updated for Kosovo (Z6)

• V 5.7.3 (2018/01/05)

- Synchronization RS232 : Kenwood protocol improved and changed for TS-690S, ICOM protocol improved
- ADIF Capture (instant capture of QSOs logged in real-time using a third party software)
- Support for ICOM IC-7610

• V 5.7.2 (2017/11/11)

- Acom 600S : Improvements
- Support for KAT500

- FT-450: DATA mode added

• V 5.7.1 (2017/09/18)

- Support for Elecraft KX2, fixes for KX3

• V 5.7.0 (2017/08/25)

- QRZ.COM Update (new Login protocol)
- Acom 600S : Fix for firmware V1.5, support for ACOM1200S

• V 5.6.9 (2017/07/31)

- Logbook MSK144, FT8 modes added, manual changes of mode disables the real-time function
- Acom 600 : Fix

• V 5.6.8 (2017/04/15)

- Logbook Compact option (~old design)
- Update for NCDXF Beacons

• V 5.6.7 (2017/03/19)

- Contest mode : fixes for date and time
- Logbook: minor fixes and update, search function (more options)
- Cosmetic changes
- Revision of this Help

• V 5.6.6 (2017/02/23)

- Support for Yaesu FT-891
- FT-991 now supports memory tags (firmware 2.19 or later required)
- Support for SMARTSDR-CAT
- New design of the Logbook
- Importing Exporting (Log): Invalid QSOs (QSL_RCVD = I) can be deselected

• V 5.6.5 (2017/01/29)

- HAM DB: better recognition of the callsigns (QSL Mngr)
- Changes for Acom600S
- DXCC Window : configurable band slot
- Logbook : now uses up to 16 characters for the callsign field (new database only, you may create a new database and reimport all your QSOs using the ADIF exchange format if required)
- Fix for IC-7200

• V 5.6.4 (2016/10/22)

- LOTW: fix for lost ID and PWD
- K3: FIX for the PTT command

• V 5.6.3 (2016/10/22)

- Cloud Logging : fix and optimization
- Support for MULTIPSK

• V 5.6.2 (2016/10/05)

- Rotator: selection for YAESU GS232B
- Fix for the LOGic OLE Server
- Prefix database updated
- Cloud Logging (support for QRZ Logbook, HRDLOG, CLUBLOG)
- CLUBLOG DXCC Query

• V 5.6.1 (2016/09/03)

- Support for IC-R9500
- Logbook: Real time indicator

• V 5.6.0 (2016/09/03)

- Prefix database updated
- Cloud Logging (support for eQSL)
- Various fixes

• V 5.5.9 (2016/04/23)

- IC-7300: IP+ function added
- ICOM (recent): TONE control added (Levels window + predefined Ton macro)
- Prefix database updated
- Fix for FT-991 (poll for VFO B)

• V 5.5.8 (2016/04/13)

- Prefix database: KH5K now deleted
- Preferences split between Preferences/Software and Preferences/Spots-Web (for further enhancements)
- Support for ICOM IC-7300

• V 5.5.7 (2016/03/28)

- JST-245: New LINK function, use with VFO B fixed
- SAVE PARAMETERS function fixed (required after a change of Windows 10 security functions)
- Web Cluster: new option Use Int. Explorer

• V 5.5.6

- KPA500, ACOM600S now selectable from Synchro-B tab
- new Operating/Synchronization indicator
- Spots: Distinct DE< Distance for V/UHF and HF
- New macros for Elecraft P3

• V 5.5.5

- Fix for KPA500 in Synchro mode

• V 5.5.4

- K3/KX3: new options RTTY=AFSK and PSK=DATA (preferences/Transceivers)
- Logbook: new function to update the Export field for all the QSOs of the logbook (Tools/Export Field...)
- Prefix database ready for K5P, FT4JA, VP8SGI, VP8STI, VK0EK
- Support for KPA500

• V 5.5.3

- FT-991 Update for firmware Main V1.07
- TRX-Tools: TEST mode for LPT ports added (Band Decoder)
- Impoved support for (com) Ports not found at startup
- CD-Rom/HAM bases: Option +Spot (DX) to automate the transfer of the data when you send a spot to the log (requires Copy to log enabled).

• V 5.5.2

- QSL Labels printing : Correction in case a selection is active
- ICOM - Update for the new firmware: IC-7800 (V3.1), IC-7600 (2.0), IC-7100 (E4)
- HamQTH now uses https

• V 5.5.1

- ICOM: Polling option
- QRZ_XML: Fix for State field

• V 5.5.0

- OmniRig: crash at startup fixed
- Logbook: support for LogEQF and F6ISZ (Carnet) removed
- Update for QRZ.COM

• V 5.4.9

- QRZ.COM Lookup: now similar to other database, auto-login and improvements
- Support for HamQTH (Search, DXCC, Activity), can be used with QRZ.COM
- support for GoList removed

• V 5.4.8

- SteppIR : new design, new (optional driver), Synchro 2 now supported (limited), fixes.
- TRX-Tools: fixes and some support for Windows emulators
- Support for ICOM IC-7850, IC-7851
- support for IC-7800 (V3.1) with thanks to Larry KJ6YVT

• V 5.4.7

- Fixes for Yaesu FTDX-9000, FT-2000
- Cluster (autoconnect): support for a password
- Band plan : improved support for RTTY and DATA modes (L-D, U-D), PSK, PKT. Please edit your preferences or Reset to the (updated) IARU band plan
- Support for K3S

• V 5.4.6

- Prefix database updated
- Fix for ICOM IC-7200
- Digital modes: Interface with Fldigi, MMVARI Engine implemented

• V 5.4.5

- Improved support for ACOM 600S
- Fix for QRZ.COM (HAM DB)

• V 5.4.4

- Remote control: direct control of VFO B for the compatible transceivers
- Support for ACOM 600S
- Support for FT-991

• V 5.4.3

- Black list now editable
- Labels: From page option (to resume a printing session)
- ICOM 7100/9100 : FM-Data mode added
- K3/KX3: Power ON supported using an RTS or DTR Line
- DXCC Summary: now uses the Logbook's fonts, window is configurable
- QRZ Databaseand Internet look up: automated copy of some data to the log

• V 5.4.2

- Prix database: update for TX5W
- Fix: sometime the program reopens when exiting

• V 5.4.1

- WebCluster (DXSummit): Spotters distance calculated using Server Data (configurable)
- Spotters Distance configurable (default=5000Km)
- BlackLists for DXSpot and Spotters

• V 5.4.0

- Update for NOAA SFI's URL
- Prefix database ready for K1N (Navassa)

• V 5.3.9

- new change for the DXSummit WebCluster

• V 5.3.8

- Support for TS-590SG (Warning: if you use a TS-590, select now TS-590S)
- FT-990S: support for the internal (CAT) CW Keyer
- FT-990/590: improvements for the sub-transceiver module
- DX Clusters: improved calculations for the spotter's location
- WebCluster: updated for the New DXSummit (click default URL to update)

• V 5.3.7

- XFC/TFS/TXW function updated (Split Operation)
- Logbook : CW Toolbar option (Preferences)
- Mailer updated: supports Authentification, Security options
- Prefix database updated for FT4T

• V 5.3.6

- Dual RX transceivers: SUB VFO tuning suppoted from the Monitoring
- Various small fixes

• V 5.3.5

- KX3 & K3: FIX for the DATA/TEXT terminal (faster end of transmission)

• V 5.3.4

- KX3: FIX for the display in TEXT mode

• V 5.3.3

- SMIRK Contest added

• V 5.3.2

- Minor fixes for ICOM, Elecraft rigs, temporary fix for Spotting from LOGic
- Band decoder: RS232 controllers supported, macro-commands to the band decoder supported.

• V 5.3.1

- Rotor control (fix): no display in some cases
- Sub Transceiver: new design with s-meter, more function buttons (depending on rigs).

• V 5.3.0

- " FAST" digit tuning option (see this section of the help for more information)
- Logbook: Distinct fonts for the Logbook's Listing (+ saves the font correctly)
- Major revision of the Remote control now please use only the Transceiver/Remote TRX window, new remote control window, UDP protocol added, simplified and improved operation (note: all previous settings are lost), fix for the display of Rotor2.
- DXCC Update: update the QSL_Sent field with the default QSLS field (preferences)
- Contest : Fix for the WPX contest
- New menu: Parameters/My Configuration

• V 5.2.9

- CQZ Summary. Tools/DXCC Update command formats CQ Zone with two digits.
- Synchro: fix for Kenwood command SM not correctly formatted.
- TS-590: improved auto A/B filter switching

• V 5.2.8

- Synchro mode : 6 additional ports (kenwood)
- Minor fixes for ICOM

• V 5.2.7

- Quick Edit of the log from the QSO Before window (just click a row)
- Winkey : some parameters (Weighting, Dit/Dah ratio, Key Comp, Port) saved BY Transceiver
- TS-590: command for Filter A & B, memorizes filter by VFO A/B
- Support for TS-990 (not fully tested)
- Update for DXSCape Web Cluster
- Virtual serial ports created by VSPE do not appear (fixed)
- Shortcuts revisited
- Logbook: comment field now permanent, new field WEB
- FTDX-1200 : fix for Contour limits, APF frequency added
- Various other fixes

• V 5.2.6

- Fix for 16 bits color video adapter
- Fix for K3 Synchro mode
- Preferences/Software: specific tab for DX-Spots
- WebCluster updated for Simons' DX Cluster (CSV Format)
- Memory channels : displays of DCS codes instead of CTCSS Tones in some cases (fixed)
- TS-2000/480/590: Weird display of CTCSS tone in memory mode in some cases (fixed)
- TS-590 Pitch fixed
- TS-990 (in progress)

• V 5.2.5

- ICOM IC-7800/7700: ON/OFF function added
- Comp ports now supported up to 32

• V 5.2.4

- ICOM IC-7800/7700: update for new new firmware V3.0. New functions: Power ON/OFF and CW Memories
- K3: MIC SEL menu fixed (selections added)
- FTDX-1200/3000: Auto Information mode was disabled at startup (fixed)
- DXCC Window: new option to display the band summary automatically

• V 5.2.3

- DX Tracking function updated
- K3: Refresh rate of QSX improved (SUB VFO Tuning) if SPLIT+SUB ON, Refresh Rate of S-Meter improved
- ICOMs: sometime wrong display of RPT mode (fixed)

• V 5.2.2

- Minor fixes (labels, translations and commands)

• V 5.2.1

- YAESU: RX Antenna command added
- FTDX-9000: slight changes (delay between command now 200ms)
- DX-Spots filter: it is now possible to exclude some spots from the DXCC filtering

• V 5.2.0

- Support for FTDX-1200
- ICOMs : new functions, major update
- Monitoring: new design and graphic display of the bandwidth

• V 5.1.4

- Support for IC-7100
- IC-9100: Support for DV mode and DVTX Callsign added (D-Star)
- Minor changes and improvements for other ICOM rigs

• V 5.1.3

- FT-2000/5000/9000/3000/950 : important fixes and improvements. WARNING: Please ensure that RTS (TRX-manager) and the transceiver (menuu) are matched
- EAGLE, ARGONAIT VI: please check settings and RTS values
- K3 KX3: fix for WID/CUT mode
- Minor other fixes

• V 5.1.2

- Various optimizations (Comm, design)
- Link with LOGic updated

• V 5.1.1

- Monitoring : new analogic dial
- DLLs added for Yaesu rigs (missing in V 5.1.0)
- Various fixes

• V 5.1.0

- Support for TenTec Argonaut VI, FTDX-3000
- Fixes for FTDX5000 FT-950
- Optimization for SteppIR
- Comm control: optimization for all devices
- New graphic slider with mousewheel control
- K3/KX3 FP : buttons now support mousewheel control

• V 5.0.9

- Monitoring: new design, new S-Meter

• V 5.0.8

- Interface with HAM Cap by Alex VE3NEA
- IOTA Award : Region selection added (AI BI WI)
- Summary for WAZ and WAS Awards

- Remote control: Terminal shows the basic status of the distant rig. Minor fixes. Address always 0 for Telnet (pse update both computers).

• V 5.0.7

- K3 and K3 FP: More tuning methods, On TOP switch
- K3 FP: Size reduced (Width<1024)
- 4m band added (Log, DX Spot filter)

• V 5.0.6

- Ultra Fast Logging: F12 or Enter option
- Help in English: totally revisited, new design (partially done in French)

• V 5.0

- New distribution, new license
- KX3 supported
- New graphic control screens for K3 and KX3
- IOTA Award tracking
- Contest mode

• V 4.7.2

- Webcluster crashes : fix for Windows 8 (new version of comctl32.ocx)
- new setup for patches
- additional link between CW Terminal and TT Terminal (K3)
- VFO link added for IC-7800 (F = Follow button of the monitoring)

• V 4.7.1

- K3 (Level)s : TT Mode improved
- Log (auto power) : improved
- minor fixes

• V 4.7.0

- Prefix database updated
- Logbook: AUTO POWER function (see Preferences/Logbook)
- Web Clusters and spots : fixes and optimizations
- Remote control : fix for the CW keyer (remote)

• V 4.6.9

- QRZ Look up : new format implemented
- DXCC Award : fixes (V/UHF excluded), band counter for current and deleted entities
- Linear reminder : display last power (MAX) even in RX, resume by dbl click or after band changes
- Web cluster : sort order memorized (for the current session only)
- Minor other improvements (K3)

• V 4.6.8

- TRX-Pan: FLIP I/Q settings added for CW and USB (vs LSB).

- Prefix database updated for NH8S
- Minor fixes

• V 4.6.7

- Remote control: Winkey now usable from Master for CW keying

• V 4.6.6

- minor fixes and update of the prefix database
- support for the Juma TRX2 transceiver

• V 4.6.5

- Fixes for TenTec Eagle and Orion
- K3: QSX (+/- kHz) added to the K3 Levels window
- Minor update of the prefix database
- Update of the documentation
- Support for IC-9100, fixes for IC-7410
- Prefix database: R1MV now deleted

• V 4.6.4

- TRX-Acom: remembers antenna change for the same segment (and session) + other fixes
- TS-2000 : fix at startup while TS2K is OFF
- Prefix database : fully updated for Russian callsigns (+Oblast), + other update

• V 4.6.3

- Prefix database updated
- TRX-Acom (hysteresis and TX/RX freq defaults)
- Update for QRZ.COM and REF-UNION database

• V 4.6.2

- TS-790 : fixes and improvements
- TRX-Pan : more accurate S-Meter, Band/Mode/Macro buttons
- 07/27/2011 : Prefix database updated for ST0 (South Sudan)

• V 4.6.1

- Eagle tested and fixed
- K3 Window: support for bargraph in TX mode (PWR only, see BG; command)

• V 4.6.0

- Support for ICOM IC-7410
- Support for TenTec Eagle (to be tested)
- DXTelnet : auto-reconnect function
- TRX-Pan updated V2.2.2 (Spot, BPH)

• V 4.5.9

- TRX-Pan updated (V2.1.9) : support for FT-950/FTDX5000 (with TRX-Manager V4.5.9),

MouseWheel supported
- Support for TS-590
- Logbook/Export : Current SELECT Query can be used to select QSOs to be exported

• V 4.5.8

- TRX-Pan updated (V2.1.3)
- Prefix database updated for P5
- Various fixes for ICOMs

• V 4.5.7

- TRX-Pan totally revisited: new design, new options and features, image rejection improved...
- Logbook/search function: new options
- Logbook/LOTW: new options for import and export
- Terminal/Telnet: Improved Watchdog

• V 4.5.6

- TRX-Pan updated (fix for negative values of Phase, QSY Detect, new options...)
- Support for LoTW users list

• V 4.5.5

- K3 : now reads and controls Sub WIDTH in real time, mini-terminal (K3 window TT) improved
- ICOMS & K3 : fixes for Remote mode
- Linear: amp inhibit + max drive power options
- LOTW : support for TQSL, automated submissions
- New folders structure (Use AppDataoption): Please see the important Note about folders used by TRX-Manager
- TRX-Pan updated: Offset by mode, tracks K3'sIF and Hysteresis setting

• V 4.5.4

- updated for K3 firmware 4.14
- minor fix for "special prefix database"

• V 4.5.3

- Prefix database updated (PJ2-7)

• V 4.5.2

- Stop Sleep Mode option (preferences/software)
- K3 : optimized band switching, 2m band added
- DX Spots: more accurate filtering by mode; now filtering by Type(see Band Plan). HAM filter added (allows to exclude Spots on specific segments).
- DX Bar : option for fixed Scale

• V 4.5.1

- PWBpredefined macro added
- K3 : Time Out for ON/OFF status increased from 10ms to 15ms

- FTDX-5000 tested
- FT-950, FTDX-5000 : predefined filters > IF SHift selected with Bandwidth, NAR function added
- FT2000 FT-450: Narrow function added : warning you must update your preference (see help)
- Terminal (Telnet) : watch dog

• V 4.5.0

- Support for Yaesu FTDX-5000
- Fix for ICOMs (polling of S-Meter)

• V 4.4.9

- Support for Elecraft W2 Wattmeter
- Support for Yaesu FTDX-5000

• V 4.4.8

- Support for YO3DMU's PSTRotator Interface added
- DXCC Window: configurable colors

• V 4.4.7

Fixes for ICOMs (channels, synchro) and K3

• V 4.4.6

- WebServer: Viewport tag, User defined tag, various fixes
- Logbook: auto backup for each day of the week
- Terminal: Auto Connect at startup (Telnet)
- K3 updated for MCU 3.94: Improved CW/Data Terminal (TT), new Graphic Equalizer (EQ), NB Levels settings (Levels). Warning MCU 3.94 or later required

• V 4.4.5

- Remote: Watch dog function for Slave and Master
- Remote control: Web Server
- LogBook: auto backup (each day, the first time you launch TRX-Manager, located in \Backup folder)
- Monitoring: up to 30 macro-buttons, more predefined macros

• V 4.4.4

- Remote: Help updated
- Winkey: now support Winkey2 and WK_USB
- K3: updated for MCU 3.76, improved keyer/data interface
- QRZ XML: QSL Manager added

• V 4.4.3

- Changes for K3 MCU 3.66, Interface improved
- Remote: Slave connects Master option (for Experts)
- CW Skimmer : help updated, interface improved to display spots with "relative" frequencies

• V 4.4.2

- K3 : possible wrong behavior with QSX function (fixed), Link/Uplink button
- Monitoring: 8 macros available

• V 4.4.1

- Support for Digital Wattmeter ALPHAPOWER (4500 series)
- K3 Synchro mode (Synchronization with PowerSDR-IF possible)
- Logbook: special function for SWL

• V 4.4.0

- Fix for DXSpots with Split for ICOM with dual receive or dual watch
- ICOMs : MIC and COMP level added to the Levels window

• V 4.3.9

- K3 : support for CW OFS (firmware 3.19)
- Linear reminder: new options for OPR/SBY using VOX or RF Power.

• V 4.3.8

- Fix for Google Earth (Google Earth updated)

• V 4.3.7

- Support for IC-7600
- LP-100/100A in Remote mode: configuration fixed
- K3 : Mode and Band switches added (K3 Interface)
- HAMCALL: fix
- Tested under Windows 7 RC
- Update for DX Summit (Web Cluster)
- ICOM with Dual RX: behavior of VFO modified
- TRX-Tools available

• V 4.3.6

- Web Cluster : STOP button added
- OLE Automation error at startup fixed
- K3: ESC shortcut for XFC (Monitoring), update for firmware V 3.11
- OmniVII : fix for "0D"
- FT-DX9000 : Power ON/OFF function added (CAT button)

• V 4.3.5

- Remote: Commands for SteppIR Interface

• V 4.3.4

- Special Event Callsigns
- Support for OMNI-RIG's Library by Alex VE3NEA
- Interface with Google Earth

• V 4.3.3

- K3 updated
- NRD-535 updated
- IC-7800 updated
- some changes for ICOMs
- Help updated

• V 4.3.2

- Support for LP-100A Digital WattMeter by N8LP (Warning: You have to reconfigure your LP-100 from Setup/TRX1 !)
- Support for IC-7200
- Interface with CW Skimmer by Alex VE3NEA
- Panorapic Spectrum Analyser for SDR: TRX-Pan
- Logbook: Export by Operator" now possible
- Support for RT-21 Rotor (Green Heron Engineering)
- Slave : IP adresses are shown
- Many fixes, optimization and new functions for Elecraft K3

• V 4.3.1

- Fix for older Kenwood

• V 4.3.0

- Synchronizing two controllers now possible (Synchro 1 or Synchro 2)
- Band decoder : now controllable by Segments of the band plan
- K3: LPBridge option

• V 4.2.9

- Elecraft K3: Filter selections updated, various fixes or improvements

• V 4.2.8

- Elecraft K3's tools/levels window

• V 4.2.7

- QSL labels printing : fix for Vista
- Rotator : Support for MicroHAM Interface

• V 4.2.6

- Support for ICOM IC-7700

• V 4.2.5

- Update for FCC_Call
- Command line switch for TRX1..4
- FTDX9000 FT-2000 FT-450 : new DSP filters settings

• V 4.2.4

- Sub-Transceivers now support Transverter option
- New fix for Elecraft K3's filters

• V 4.2.3

- New update for OH2 DX Summit web cluster
- New update for K3 (Filters)
- Winkey interface (Underscore = Space added)

• V 4.2.2

- Fixes for Elecraft K2 & K3
- Update for the new DX Summit Web Cluster, Browser included (IE required)

• V 4.2.1

- SteppIR : Native mode supported (control window...)

• V 4.2.0

- Minor changes for FT-2000, NRD-545
- Support for FT-950 (not tested)
- Prefix database updated
- Logbook: user default for Transceiver field
- Remote TRX : data flow reduced during frequency changes (Scanning), AutoInformation OFF is now really OFF !
- SteppIR : Frequency segments set up to 10KHz for best matches on 80m (hysteresis 1KHz), new algorithm and stop bits = 2 above 4800 bauds
- Auto Mode fixed
- Various fixes

• V 4.1.9

- Fix for Memory Channels (INFO not beeing transfered)

• V 4.1.8

- Fix for Winkey at high-speed (it was "hanging") + new option for serial-server
- CW : Remote option + Fixes
- FT-450 FT-2000 : Support improved (Levels follow the rig, more controls).
- Omni VII : support for Split

• V 4.1.7

- Elecraft K3 added with minimal support. More to be added in the future
- Support for LP-100 Digital Wattmeter
- Linear-Reminder improved : support for LP-100, user fields...
- TRX-Acom V 1.2.0 improved & support for ACOM Antenna switch, Watch Dog
- Support for RACAL 6790
- Logbook : Suffix option, auto QSLSDATE option
- Browser : Google added as search engine
- Change for FCC database via Internet
- FT-736 supported as sub-transceiver
- FJ added as DXCC entity (total 338)

- Various fixes

• V 4.1.6

- Support for Yaesu FT-450
- Support for ACOM2000 amplifier (TRX-Acom.exe)
- Prefix database updated
- Linear-Reminder (for manual amplifier or manual antenna tuner)
- DXSpots : DXCC Country now displayed with DXCC summary (DXCC Column)

• V 4.1.5

- LPT Driver updated for Windows Vista 64 bits

• V 4.1.4

- SWL Module : selection for Font added
- Browser : Search from IK3QAR QSL Manager database added
- DX Announce : GRID>GRID can be added to the comment

• V 4.1.3

- CW Keyer : 16 memory buttons, switchable LOG frame + now possible to click a memory button before the previous message is totally sent.
- TS-2000/480/K2: fix for internal CW keyer
- Support for Orion fixed with help of TenTec
- Synchro : ICOM selection added
- Support for Omni VII (Radio mode)

• V 4.1.2

- IC-756PRO3 : Multi-Meter fixed
- IC-756PRO/7800 : XFC updated
- WebCluster : fix for data with hyperlink
- Fix for Edit/Band submenu + 60m, 1.25m, 33cm bands added
- Setup's script fixed for Vista
- New settings for FT-2000

• V 4.1.1

- PTT via CW Interface, Setup fixed
- Improved support for FT-2000
- Winkey in remote mode : Speed fixed
- QMB : History function

• V 4.1.0

- NRD545: Fix for Notch
- html HELP system (chm files)
- IC-7000: support for NF1 & NF2
- IC-R8500 (SUB): support for NB & ATT
- CD-ROM : /X /XX suffix removed
- Transceiver (Preferences) : PTT Time Out option
- Recorder: Option to key rig automatically while playing

• V 4.0.9

- Fix for Error 91 on exit
- E5 prefix (ZK1) added

• V 4.0.8

- Winkey : Slider range matches Pot range
- QRZ.COM : Fix for Name and Grid added
- Master polls Slave every hour
- Wota : minor fixes

• V 4.0.7

- Support for FT-2000
- Update of the Prefix database

• V 4.0.6

- Fix for LPRotor
- New DXCC entities : Montenegro and Swain Isl.

• V 4.0.5

- Updated support for LP-100 (N8LP)
- Synchro (Kenwood mode) : RX and TX command added
- Satellite : support for Sat_Explorer

• V 4.0.4

- Support for IC-7000 improved (Memory channels: labels, bank A-E)

• V 4.0.3

- New specifications for WOTA (Who's on the air) + new options
- NRD545 : Range from 0.1 to 2000 MHz

• V 4.0.2

- Support for WOTA (Who's on the air)

• V 4.0.1

- FT-840/890/900: Fix for use as Sub-Transceiver
- Terminal: Two Telnet terminal available (remote + dxcluster...)
- Band Plan: Fix for Type in Preferences
- Remote : Fix to stop Scanning
- FT-817/857/897 : Fix for BandScope + CTCSS/DCS

• V 4.0.0

- Support for Windows 64 bits
- Setup for four Transceivers
- Support for up to 4 Transceivers at the same time (one Main Transceiver, three Sub-Transceivers)
- Support for SO4R (single operator four radios) operation
- Synchro mode : Support for SteppIR beam and Kenwood, ICOM radios
- New comprehensive Band Plan (3 Regions supported)
- Auto-Mode : adjustable Backlash parameter
- New QuickMemories
- Support for logging to LOGic in real-time

- Support for QRZ Online subscriptions
- Support for FTDX9000ICPCR1000IC-7000

• V 3.8.8

- IC-756 (&PRO) IC-7800 : Selection of VFO (Main/Sub) fixed

• V 3.8.7

- Prefix database updated for 3Y0X
- Logbook : critical fields (Freq, Date, S-Meter) automatically filled in if empty
- ADIF : Error message added if binary fields found
- Remote and Monitoring submenu moved to Transceiver menu

• V 3.8.6

- CW Settings : Internal CW Keyer for each Transceiver (please check your settings)
- Dual Setup : Support for SO2R (Single Op, 2 radios), Reading REG files at Startup,
- Band Decoder selectable for each transceiver (Preferences/Transceiver)
- Remote: Connect IP option at startup, VoIPoption (at Startup), fix for TRX-Audio
- TS-2000 (SAT mode) : problem to set mode of SUB-VFO fixed
- Prefix database updated

• V 3.8.5

- Fix for TenTec RX320
- TS-570 TS-870 Elecraft : RTS HandShaking selectable
- WebCluster : stops download at 00:00Z (fixed)
- FT-990 ROM1.3 - FT1000D ROM5 and some receivers : Split ON on refresh fixed
- Monitoring : Up Down buttons (QSX) fixed
- SW Database : S-Meter threshold (scanning) selectable from the Toolbars
- Remote control : Slave transceiver selectable from Transceiver/Slavesubmenu ;
Transceiver displayed in the tittle bars of the Monitoring and Remote windows. Before or after Real mode is engaged, standard control is possible from the Remote window (? button disables the real mode).
- Various fixes and optimizations
- If you are using Remote control, please update both Slave and Master!

• V 3.8.4

- Support for NGT CODAN transceiver (UNICEF)
- Monitoring: if configured as remote interface, macro commands available

• V 3.8.3

- TRX-Synchro : Update for Alpha amplifier : supports ON/OFF
- FCC_Call : update for FCC's Web site
- Orion Rotators : new option for Orion PX and Orion PX 2.4 (most recents require PX 2.4)
- Winkey : Speed displayed (internal Pot) was wrong
- TRX-Command : Sliders added
- Monitoring : distinct Layout for each transceiver

• V 3.8.2

- Monitoring : FT-1000/920 only and Kenwoods: B Follows Afunction (see Lock Dial button)
- Winkey : Setting for Pin 5 (PTT Sidetone...)
- Setup revised : DTR/RTS settings for Winkey, DTR/RTS/PTT... settings for each rig :
Warning if you use TRX2 !
- 10m and 80m sub-bands : same split for both rigs (to define under Setup's LPT tab)

• V 3.8.0

- DXCC window : SFI button shows K-Index (status bar)
- CW keyer : Inserts Date and Time
- Scanning : Comment for each Scanning Memory (Warning : previous data lost !)
- TRX-Synchro : File option (behaves like a Kachina transceiver)
- Setup for TS-480HX
- TS-2000/480 + Internal Keyer + Real mode : Fix (run time error)
- Terminal : Sound announce toggle now enabled for DX Spots
- TS2000/480 (Monitoring) : Initialization of AF Gain
- Prefix database updated for K7C (Kure Is.)

• V 3.7.9

- Scanning dialog updated
- TS-2000/480 (Internal Keyer) : TX displayed during transmit
- Rotator Prosistel D : Elevation added
- Keyer : new Shortcut \ for [My Callsign] (US Keyboards), BackSpace key now deletes the last character in "real time" mode.
- Orion : support removed for this rig (but you can still use it)
- various fixes

• V 3.7.8

- Fixes for the Channels module (inopportune change of the Label)
- Winkey : Initialization may fail + text sent now appears at the CW speed.
- DXSpots, Channels : Listview control keeps the columns width (workaround for an old bug !)

• V 3.7.7

- Support for PROSISTEL D rotator
- Fixes for Orion PX rotator
- Improved support for Alinco DX-77
- TRX-Synchro updated
- Logbook : Expert mode, user-defined (fixed) RST for casual contesting
- Older ICOMs : Monitoring polls the transceiver every 500ms
- Various fixes

• V 3.7.6

- DX-Map : flickering of the display (fixed)
- TS-480 : Meter fixed
- FT-1000MP/EDSP : TRX-Manager resets EDSP only if you key from the program
- Rotator : support for Orion PX firmware

• V 3.7.5

- Various fixes
- DXSpot (Web Terminal) : Single Click option removed (Double Click required)
- Support for the Winkey CW Interface.
- Keyer (change) : Key assignments for Mess 1 to 8 = F1 to F8 keys, Log button SAVES the QSO, button added for Paste only.

• V 3.7.4

- NRD-535 : Driver updated for non-h versions + VFO A/B
- NRD-545 : VFO A/B
- DXMap shows current rotator's azimuth

• V 3.7.3

- Two identical rotators on same com port but with different Offset are accepted

- New driver for NRD-545
- Reduced CPU Usage for Yaesu rigs
- Support for IC-756PRO3 (not tested)
- Optimization for USB-Serial ports
- Terminal& WebCluster : Column width adjustable to zero

• V 3.7.2

- Transverter option
- Function buttons : Option for On/Off button
- Logbook: DX-Atlas button
- TRX-Synchro : Updated for Alpha amplifiers and Steppp-IR beams
- Support for NRD-535

• V 3.7.1

- IC-756PRO2 IC-7400 Support for Data mode
- Monitoring : Layout options
- DX-Mail: DX-Spot forwarding via EMail
- Remote control : Password for TX+RX or RX only(with other restrictions)

• V 3.7.0

- Orion rotator : support for feedback
- WebCluster/Preferences : Stacked option (Spots)
- Monitoring : New design
- Support for external Multi-Meter (OLEand Remote)
- Preferences/Transceiver : Settings saved for each transceiver (TRX1 or TRX2)
- FT-100 : Meter data available (Monitoring)
- Support for IC-7800

• V 3.6.8

- OLE updated for N8LP Software
- DXBar : Scanning by digits improved
- Remote window : fully updated
- Remote (Keyer with ICOM in real mode) : fix for long strings

• V 3.6.7

- DX Spots : more comprehensive DXCC Award tracking for each spot, filters for 60m, 220MHz, 1.2GHz
- QSO Before : uses the Logbook's font
- Remote (Keyer) : fix for long strings
- Band scope : Step adjustable in Manual mode
- Remote control : azimuth feedback (rotator)

• V 3.6.6

- TS-2000 : button for RX Antenna (Misc tab)
- TS-480 : option for Wid/Nar1 filters
- Translation in German, Spanish and Polish updated
- WebCluster : Incoming spots are now added to the display

• V 3.6.5

- Support for Argonaut V transceiver
- Support for Jupiter transceiver
- Translation in German by Eike DM3ML
- DX Tracking by band
- IC-756PRO2 : NR's right click engages a timer

- TRX2 : DX Spots accepted (DXClusteror WebCluster context menu)
- DXSpots : Log filter (allows filtering by Callsign + Mode + Band)
- LogBook : new fields for QSLSDATE (Date for QSL_Sent) and QSL_SENT_VIA (Method).
Warning : please delete the layout file (.GRD) associated with the database to make these new fields visible from the Listing.

• V 3.6.4

- Translation in Polish by Marek SP7DQR
- Monitoring, INC function : sub menu for Step
- Remote : Synchro button (Remote Window)

• V 3.6.3

- Support for TS-480
- Rotator : fixes for Rotor EZ/HY Gain
- Monitoring (Tuning control) : new scanning functions, improved support for USB Knob
- Logbook : Real Time option (default)
- Remote control: TRX-Command supported
- ICOM: Real remote control mode (full control via TCP/IP)
- VUCC : Update for DXAtlas 2.24

• V 3.6.2

- Monitoring : new tuning control and improved support for the mousewheel
- Browser : customized list of Favourites
- Support for TenTec RX320 receiver
- Kenwood : fix of memory channels editing dialog
- TS-2000 : selection for AF/SQL or AF/RF Gain controls
- TS-2000 Elecraft K2: full control of the com port via TCP/IP
- Interface with MultiKeyer (by KD5HIO)
- Rotor(Spidrotor1/2) : Reverse Mounted option allows rotating from -180° to 180°, Feedback
- WebCluster: Watch List
- Recorder : Sound card is selectable
- Menu and DX Bar : buttons for 60m and 23cm bands
- Logbook : 1.25m, 33cm, 23 cm bands added
- QSO Before : new columns for Comment, RS/T
- Preferences : Active Border option

• V 3.6.1

WebCluster : now compatible with DXSCape (www.dxscape.com)

• V 3.6.0

- F7(Hotkey) opens the DXCC window (clears and gives the focus)
- QuickLog function : fixes and improvements
- ICOM (Levels) : Manual Notch control, RF Power (if available), Selected Filter Width (756PRO2)
- Support for TenTec ORION transceiver
- Remote control : support for CTCSS/DEC/SHIFT/OFFSET commands (Repeaters)
- Function to save the parameters of the Registry
- Internet Callsign Look-up : option for External Browser
- Current Spot : new keyboard shortcut (F4)
- Support for the LogBook of The World

• V 3.5.9

- ICOM : Fix for S-Meter (sensitivity)
- Fixes for FT-767GX (CTCSS)
- LPT Port : driver updated (TVICLPT 1.3)

- DXBar : Optimization
- Monitoring (keypad) : band switch (Bd button)
- Satellite : support for WXTrack
- CW Keyer : Speed from 1 wpm to 50 wpm

- Remote interface : Frequency up to 1300MHz
- Prosistel rotator : fix
- LogBook: Duplicate submenu (QuickLog mode)

• V 3.5.8

- ICOM : F2 function (VFO) causes an error (fixed)

• V 3.5.7

- Update for the AlfaSpid controllers (RS232)
- TRX-Synchro : new version and new Dual Receive mode
- IC-706MKIIG : + WFM
- IC-703/746PRO : Tuner disabled at startup (fixed)
- TS-2000 : Scanning speed improved, SUB ON/OFF button, PBT (DSP) display
- New menu Transceiver, Com Port Off option (ICOM, Kenwood only)
- New menu External (for external programs)
- Satellite : if TRX2=ICOM, TRX-Manager reads the TX Frequency
- Terminal (Telnet): DX Spots broadcasting via Packet

• V 3.5.6

- IC-706MKIIG/746PRO/756PRO/756PRO2/R75/R9000/R7100 : New controls (Levels window), preferences and display for 3 filters (if available)
- Support for IC-703
- Support for FT-212/412
- DXCluster, WebCluster : Filter for Spotters(>5000Km)
- TRX-Synchro : Stepp-IR control option
- Support for Spid rotor controllers
- TS-2000 : Button for Antenna 1/2 (Misc tab)

• V 3.5.5

- PTT Switching : option for CW Line
- Fix for some ICOMs

• V 3.5.3

- TS-2000 : ON/OFF function (or F9 key + Setup)
- FT-1000MP (fix) : RX EDSP / TX EDSP loading with "previous session"
- IC-756PRO2 : Button for RX Antenna
- LogBook: new field QSL_Print

• V 3.5.2

- Translation in Swedish by Magnus SM6VFJ
- TRX-Command : 32 commands possible
- Logbook (Increased field length) : Name (25), Comments (100) - only for a new logbook
- Logbook (New fields) : Notes and Address
- Prefix database updated
- Customization of the Prefix database (11m possible)
- Support for FT-857
- Remote control : Polling command for the rotor interface

• V 3.5.1

- Browser : support for eQSL callsign look-up
- Minor fixes

• V 3.5.0

- New DX Bar window
- Terminal (Auto QSY) : option to stop the screen saver (see Preferences/Terminal)
- DX Squelch function to mute the receiver until a spot is clicked (Tools/DX Squelch button) ; see also Preference/Terminal to set up the delay.
- DXCC Summary (Details) : Option for Sort Order
- DX Spots (fix) : invalid spots are rejected if spot status option checked
- DX Spots : option for RTTY in the comment (Preferences/Terminal)
- Callsign look-up via the Internet, also accessible from the logbook (link with the fields of the log still not supported)
- FT-1000MP : the internal scanning command gives unexpected behaviors with some transceiver and has been removed. If your FT-1000MP supports this function, please configure the program for FT-1000MP MKV.
- Propagation : the SFI (Solar Flux Index) is now extracted from the NOAA server
- Remote window : buttons for Antenna switch added
- Memory Channels (Reading a file) : fix for IC-746PRO and probably IC-756PRO/PRO2, IC-R75
- IC-746Pro : fix for Channels in FM/Split
- Quick Split : Split Memory
- Memory channels : function for clearing all memory channels in one click (Icom and Kenwood only)
- ICOM : option C00 (Setup) if the first channel is #00
- Remote control(Packet) : RC command to automate a reconnection
- Logbook : (true) fied for Station (Transceiver) added. If a layout has been created for your current database (file with .grd as extension), it is recommended you delete it in order to display the new field under the Listing tab.

• V 3.4.2

- Rotators : Support for AlfaSPID Rotor
- Remote control : Internal tuning (step by step) supported for more precise tuning
- Joystick control

• V 3.4.1

- Support for Yaesu VR-5000
- Support for TS-711 and TS-811
- Satellite : support for SATEL939
- Logbook : QSL_RCVD field : S mark for "submitted" supported.
- Monitoring two rotators simultaneously supported
- Terminal (Auto QSY) : Option for All, Needed, New One
- Sound announces : option to play a wav file for a needed (only) country, priorities between wav files revised

• V 3.4.0

- Band decoder : new driver to support customized LPT port under Windows 2000/NT/XP.
- FT-847 : CAT ON at startup fixed (again)
- Logbook : Mode on 3 digits (only if you create a new database)
- SW Listening : Support for ICOM with 3 filters
- Prop. prediction : indication for Sun Set and Sun Rise, WWV announcements
- Commands pannel : Scanning dialog updated (range)
- FSK mode selected when RTTY appears in the comment of a DX Spot

• V 3.3.6

- FT-817/847/897/757/747 : improvement of speed (especially FT-817/897)
- Remote control: Specific command for TX in Split

• V 3.3.5

- Commands Panel : Improved accuracy of the display between 100 and 160 MHz
- FT-847 : CAT ON at startup (fixed)
- Remote control : Setting up TX if split changes RX with FT-1000/920 (fixed)
- IC-7400/746PRO IC-756PRO2 : Transceive ON at startup

• V 3.3.4

- DXCC Summary : calculation of the bandpoints, more detailed reports
- Logbook : Logging OFF for a selection of QSO
- IC-R8500 : improved support
- Support for FT-897
- Database Grids : new system files (fixes)

• V 3.3.3

- new Prefixdatabase much more accurate (2800 entries) resolving CQ, ITU Zones and provinces; derived from DXAtlas courtesy of Alex VE3NEA (please run Tools/DXCCUpdate to fill in CQ and ITU fields of your logbook).
- Band Plan : ability to split either the 10m or the 80 m band

• V 3.3.2

- DXMap& DXAtlas : a button allows drawing paths from Spotters to DX-Spots
- VUCC & DXAtlas : drawing the confirmed or worked gridsquares
- TS-2000 : 1.2GHz band supported

• V 3.3.1

- Prefix.mdb : update of the ARRL DXCC codes for 4W, FK/CH & VP6D : you must run the Tools/DXCC Update to update the codes for your previous QSOs
- LogBook : minimizing the LogBook window also minimizes the CD-Rom, GoList, Fcc, QSOBefore windows

• V 3.3.0

- TRX-Command updated : multiple commands supported
- DX Atlas : interface improved
- DXCC Summary : detailed summary
- DXCC Window : detailed informations

• V 3.2.7

- IC-746PRO : memory channels interface fixed
- Remote window : SUB button added
- TRX-Command: an additional program that allows you to send direct commands to your Kenwood, Icom or LPT Port via OLE

• V 3.2.6

- FT-1000MP : smooth tuning implemented (may not work with older FT-1000MP)
- HAMSCOPEsupports TRX-Manager via OLE
- IC-821 : Main and Sub reversed in SAT mode
- TS-2000 & K2 : probably a problem of priority with WinXP
- support for N8LP's rotor interface

• V 3.2.5

- FT-1000MPMKV : smooth tuning implemented
- IC-821 IC-910: Fixes and updates in SAT mode

• V 3.2.4

- Printing the log : options for Margin and Font
- Prefix database updated for Ducie Island (VP6D)
- Satellite : support for a transverter (down/up converter)
- Kenwood: bargraph for COMP/ALC/SWR...
- Disabling the dual control (updated for Kenwood and ICOM)

• V 3.2.3

- Demo version fixed

• V 3.2.2

- Spanish translation updated
- Fix for the Kenwood's internal keyers (TS-2000/870/570 & K2)
- Extended support for the Elecraft K2 transceiver

• V 3.2.1

- SW Listening : Print button
- SAT Interface : running two ICOMs on one com port supported
- Rotator control : with Yaesu and HyGain, the program polls the rotator for its azimuth
- Support for the GoList QSL Manager database
- Various fixes

• V 3.2.0

- TS-2000 : Internal TNC and PCT mode (Packet cluster data) are supported, Sub receiver supported
- Support for Elecraft K2, IC-746PRO, IC-7400
- Satellite interface
- Prosistel rotator supported

• V 3.1.4

- Log Import : TRLog (Ascii) files supported
- Auto-mode : switching the mode from the rig now possible while auto-mode ON
- Remote : Dual function added
- Telnet : Host field accepts addresses in the format xxx.xxx.xxx.xxx:yyy where yyy is the port number

• V 3.1.2

- Remote control fully updated, auto-information mode, CW supported, LPT Port control
- FT-1000MP & BandScope : sub VFO supported
- Various fixes

• V 3.1.1

- QSL Labels printing : page by page printing
- Support for IC-756PRO2, IC-910
- TRX Remote : Settings moved to Preferences/Remote, Password, Power control
- Shift option for TRX-Synchro + FT-814/FT-847
- Preferences/Transceiver : Options for Power, Tuner, Linear for each band (if available)
- Propagation predictor does nor work in december (fixed)

• V 3.1.0

- QSL Labels : TNX QSL or PSE QSL option
- Link with DXTelnet

- Sound announce for a New ONE (Preferences/WAV)
- Programmable Band Decoder
- TS-570/870 : more controls (Levels window)
- TS-570/870/2000: CW Interface may key the rig via CAT
- CW Interface: Keying has been improved, Parallel port supported
- TRX-Synchro now supports Kenwood transceivers
- Various fixes

• V 3.0.2

- Monitoring: Auto Mode is an option (Preferences/Transceiver/Band Plan)
- Interface with DX Atlas
- Various updates of Prefix.mdb
- Preferences/Transceiver : selection of either 455 KHz AND/OR 8/9 MHz filters now possible (FT-1000 MP, TS-450/690/850/950)
- Web& DX Clusters windows : context button for direct logging
- Terminal (File upload) : fix for files > 1 K

• V 3.0.1

- Web Cluster : change of the POST method for DXSummit + bug fixed (Error 67)
- ICOM : fix related to VFO selection
- Minor fixes for TS-2000
- CD-Rom : fix of the Copy function
- TS-2000 : Clarifier (wrong value)
- Interface for WinRotor
- FCC Module : Crash with non US Call (fixed)
- Memory Channels : support for FTBasic's file format

• V 3.0.0

- New version (reinstallation required)
- Active resizing of main windows
- Abilty to save/recall sessions (i.e. position and size of main windows)
- HF Propagation predictor
- New grids to display the database
- New short wave database
- Extended support for TS-2000
- Support for FT-817

• V 2.6.5

- Labels : Landscape/Portrait option available
- IC-706MKIIG : Tools/Levels window available with some controls
- FCC database : shows all records found (FCC_Call.exe also updated)
- Spots : filtering by mode now possible (see Preferences/Terminal tab)
- Logbook : F12 key saves the QSO

• V 2.6.4

- LogBook : Fix of the ADIF Sequence for County (CNTY)

• V 2.6.3

- Explorer (Logbook) : Print to File option
- TS-570/870 : support for Ant Tuner

• V 2.6.2

- Logbook : \LOGData is now the default folder
- FCC Database callsign look-up

- TS-570/870/850/950(change) : Levels moved to the Tools/Levels panel

• V 2.6.0

- Logbook : additional fields for Operator and Power
- Importing : LogPlus supported
- JST : bi-directional communication
- Remote : Control of AF level
- IC-706MKIIG : Selection of filters fixed
- FT-847: DCS Code supported, CAT ON at startup
- Awards : QSL_Sent = I ignores the QSO

• V 2.5.2

- QSL Labels printing : a selection of the QSOs is possible
- Searching a QSO : a selection by Band or Mode is possible
- Monitoring : displays A=B B=A or A=M according to the VFO

• V 2.5.1

- Prefix database : TX added for FK/CH
- Preferences : divided into two parts (to solve a lack of memory on some PCs)
- Monitoring (fix) : KEY button staying grayed out when PTT set via RTS/DTR

• V 2.5.0

- Web Cluster compatible with Asia Web Cluster
- Prefix databaseupdated especially for the Russian callsigns (+ provisional DXCC codes for 4W and FK/CH)
- LogBook's Explorer(Tree view) and support for other awards
- LogBook(changes) : design, context menu to check in received QSL Card
- QSL Labels : Callsign may be printed in red (option)
- DXCC Windows : shows azimuth FROM the station
- Logbook : new field EMail
- Quick EM ailer
- TRX Remote control : automatic notification of the IP Address via EMail
- S-Meter : fix of value in µV above 30 MHz
- TRX-Meter(High precision S-Meter)
- FT-1000MP : fix for Reverse modes (incorrectly supported)
- HyGain DCU-1 rotors supported
- DX-Spots : configurable icon (Needed for Mode or Band) under Preferences/Terminal
- CW Interface (Setup) : Dash and Space adjustment factors
- SW database: Delete button, SWLToDBF (fix) : automatically deletes invalid entries
- FT-920 (addition) : some commands of the internal electronic keyer (Tools/Int. Keyer)

• V 2.4.4

- FT-1000MP: EDSP's preferences moved to Tools/EDSP/Defaults
- DX-Spots : manual filtering by band is possible (Preferences under Terminal)
- QSL (fix) : Band is printed if the frequency is not specified

• V 2.4.3

- NCDXF Beacons : wrong frequency on 10m

• V 2.4.2

- Commands panel : scanning range fixed
- ICOM IC-R75 : improved support
- DX Map : Shows NCDXF/IARU beacons

• V 2.4.0

- Telnet terminal, remote control via Telnet
- Quick memories window : history list
- Preferences : up to five custom buttons
- Exporting the log : the CSV format (Excel delimited text format) is supported
- QSO Before : QSOs sorted by descending dates
- Prefix database : KA (Inversion between USA and Japan), KC6 (Inversion between USA and Caroline)
- RA Callbook : Grid Square is calculated using the Latitude and Longitude of the station, improved support for the international database
- CD-Rom : Preferences for the fields to transfer
- ADIF Import : fix for the US states
- New Windows menu
- Support for IC-718

• V 2.3.6

- New icons
- Fixes for TS-440/680/790
- Support for the SWBC Schedules Subscription Service SW database
- Scanning (Stop) : the scanning resumes when the signal drops down
- VUCC (Grid square) award summary
- Logbook : SATband has been added, advanced searchesand reports using SQL

• V2.3.5

- Preference for CW reverse
- Gridsquare award tracking : fix

• V 2.3.4

- Logbook : inversion between CD-Rom and Previous QSO searches - the program searches for the most recently entered information - 59(9) by default for rstS has been added to the Preferences (under Logbook)
- DXCCwindow : responding to 4 digits gridsquare, reporting if the gridsquare has been worked/confirmed before
- ILG radio database conversion utility
- DXLog and EasyLogconversion utility
- Support for Alinco
- Support for FT-747
- CW Sequencer, extended macros, automatic switching into TX
- TX Interrupt function (and improved interface with VKE)
- Help with Index
- Scanning : Stop option for immediate stop of the scanning

• V 2.3.0

- FT-767GX : support for CTCSS
- Update for the ILG Radio data files (pure Text)
- PTT switch via RTS or DTR line
- New logging mode (classic)
- Spanish interface (by Arturo EA5AKT)
- Commands panel : new XFC function (a must if you don't have a dual receiver)
- SWL : support for AMW AMN FMW FMN
- Support for the EA4TX's ARSWin rotator interface
- Control of two transceivers : fixes (faulty operation of some modules after the transceiver has been switched)
- ICOM : updated for IC-756PRO
- TenTec : updated for Omni VI and Omni VI+
- Internet browser

- CW Interface
- CD-Rom : configurable path
- Support for FRG-9600
- updated Screensaver and desktop's bitmap

• V 2.2.6

- Kenwood: bug fix (Auto mode)
- DXCC Window : bug fix (for 6/2/0.7 m)
- new Display/Windows submenu

• V 2.2.5

- LogBook : "Transceiver" type saved in "Operator" field (see Preferences)
- Ability to disable the RTS line (Setup)
- Commands panel : Grabbing of the VFO knob with the mouse
- Web Cluster : new design
- optimization of the CPU usage

• V2.2.4

- Ability to control two transceivers
- Support for JST transceivers and receivers

• V2.2.3

- new DXCC Window

• V2.2.2

- Preference for Distances Km / Mi

• V2.2.1

- Personalized Menus (Office 2000 type)

• V2.2

- More support for the FT-100
- Support for the IC-R75
- ADIF Import : fixes
- New registration code required
- New distribution policy (CD only)
- FT-1000MP and FT-920 : fixes
- Terminal : understands the nodes (PC11 spot format)

• V2.1

- Support for the FT-100
- Support for the QRZ Pro CD-Rom

• V2.0

- FT-Manager becomes TRX-Manager
- Support for the ICOM transceivers
- Support for the Kenwood transceivers
- new S-Meter
- Floating and flat toolbars
- Sound Recorder with 3 modes (Scanning, Programmable, manual)
- DX-Spot with icon showing the QSL's status for the DXCC (Web-Clusterand DX-Cluster)
- Drag and drop ability of frequencies between windows

- Gray line(DX-Map)
- Support fort both Log-EQF V8 & V9 format
- Remote control of a rig via packet
- Favorite Web link
- Support for French DDFM and DPF awards
- Support for the HAMCALL CD-Rom
- Ability to Load/Save the configuration of the FT-847
- You have now to double-click a spot to set the rig
- If you are using LOGic, run TRX-Manager FIRST

Distribution of TRX-Manager

Anyone distributing TRX-Manager for any kind of remuneration must first contact Laurent Labourie for authorization. This authorization will be granted to distributors with the following conditions :

1. Only the EVALUATION version of TRX-Manager (Demo) may be distributed. Distributing the commercial version or any file of a registered version is strictly prohibited.

2. TRX-Manager (Demo) MUST be included in a compilation of shareware, demoware or freeware programs.

3. Neither the software nor its documentation may be amended or altered in any way.

4. By granting you the right to distribute the evaluation copy of TRX-Manager, you do not become the owner in any form.

5. Laurent Labourie accepts no responsibility in case the program malfunctions or does not function at all.

6. The distribution fee should only cover the cost of copying or distribution. Under no circumstance should payment of such fees be understood to constitute legal ownership (or a license fee).

Contributions

TRX-Manager was created based upon the success of Soft990 for MS-DOS and FT-Manager for Yaesu. Some users helped me in improving the software and gave me new ideas that resulted in TRX-Manager. Communication with users has been a real pleasure for all.

I must pay homage to my wife Evelyne, for her patience and thank my children Claire, Camille and Estelle; TRX-Manager took a lot of family time!

I also offer special thanks to all of the testers:

Adriaan PE1KEL Digi Modes
Adrian 5B4AIY (Juma TRX2)
Art AB4RL (Argonaut V)
Arturo EA5AKT (Spanish translation)
Barry AE4RG (FT-920)
Barry W4WB (FT-817)
Ben N6FM (Satellite, IC-7000,FT-450)
Bertrand F5NTS (VR-5000)
Bill WD8ARZ (FT-1000MP)
Bill WB6JAR (Web Server)
Bob KI2L (FT-2000)
Bruce K6ZB (IC-7600)
Burkhard DL1Ik (TS-590)
Charlie W2TV (Terminal & DX Cluster)
Chuck WS1L (Orion)
Dale WB9ADB (IC-R75)
Dave N7BHC (FT-100)
David GW3WCV(TS-590)
David Sayles (NRD-535)
Denis F6GKQ (FT-990 ROM 1.2)
Dennis WN4AZY (IC-735)
Didier F8BKD (DXCC, Award)
Don WB8MKH (TS-790)
Doug VA3CR (FT-1000MP DX-Atlas)
Doug WA2DX (FT-2000)
Dwayne VE7AJI (FT-980)
Dwight K2YT (Omni VII)
Eike DM3ML (German translation)
Erik SM0EEH (Remote)
Farley N4AAN (TS-680)
Frank W6NEK (FTDX-5000)
Fred KE2QR
Fred K9SO (FlexRadio 6000)
Gary KM5HG (KX2)
George G7MKT (FRG-100)
George K3GV (Telnet)
Gérard F6CVM (K3)
Glenn KG7IL (FT-757GXII)
Greg AB7R (Elecraft K2)
Hal K4HW (IC-R9000)
Henry WP4SK (FTDX9000)
Howard VE2AED (TS-870)
Isaac 4Z1AO (TS-850)
Jan LA1XJA (IC-9100)
Jean Luc F8PKC (FT-767GXCW Interface)

Jeffrey KC2GUC (JST-245)
Jim N4ULE (Jupiter)
Jimmy WB8NBI (TS-570)
Joe K1JN (FT-1000MP)
Joel Allamy (VR-5000)
John VE3NFK (Translation, OS, Log Book FT-817 TS-2000 K3) and a lot of other tests during many years!
John N3WT (Winkey)
John KI4JPL (Orion)
Kees (NRD-535)
Lance W7GJ (CQ Sequencer andTX Interrupt)
Lou KF6LOL (FT-857)
Lutz W4/DH7LK (Orion)
Lynn KB0LRB (FT-847)
Magnus SM6VFJ (Swedish)
Marc André VE2JFK (FT-890)
Marek SP7DQR (Translation in Polish)
Marko OH7KD (ACOM600S)
Michael G4OTY (FT-736)
Mike KM4ID (FT-767GX)
Mike KS4JU (FT-847)
Mike W9MDB (TRXNET Interface)
Mitch Dj0QN (FT-2000)
Morris G3TRV (JST-245)
Nikos SV3KH, George SV8RX (Remote)
Olivier F14988 (NRD-545)
Pavel OM3TJT (DX-77)
Peter P. Geremia (FRG-100)
Peter K. / Austria (TS-990)
Philippe F1ETA (RACAL)
Pista HA5AO (APLHA 4500 IC-756P2)
Pierre F6HAC (FT-890 TS-950) and a lot of other tests during many years!
Ricardo PY6SB (FT-890 & S.W. Listening)
Rich K0FUN (Ten-TecFT-817 TS-2000)
Richard N1VXW (IC-756PRO)
Rocco WU2M (EDSP)
Roger KR4WS (Eagle)
Rolf SM7OHE (IC-7300)
Ruben EA5BZ (Acom 600S)
Rune LA7THA (ACOM2000)
Spiros SV8CS (IC-756 IC-821 Remote)
Stan LZ1IU (ACOM2000)
Stéphane HB9VJF (FT-757GXII)
Stuart G4XSH (FT-747)
Stu N7QJP (FT-847)
Thierry F5SIB (FT-1000MP)
Tim N9IW (K3)
Tom K2ESE (Joystick , FTDX5000)
Tom VA3TY (RX320)
Tony K2YPT (CW Interface)
Uwe DL4ZBB (IC-7700)
Van W4GIW (K3)
Vic N5YY (FT-450)
Vincent N0UA (IC-756PRO2)
Werner DL2RD (HP S-Meter)

Without their contribution by exchanging e-mails and software via the internet, TRX-Manager would not have the great success that it does...