

## TRX-Manager's TRXNET Protocol

### Overview and setup

The TRXNET protocol is a TCP/IP protocol for synchronizing TRX-Manager with various applications and devices. Two applications are supported at the same time. The protocol includes 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. You can use any of these ports or both if have to synchronize with two other applications.

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 basic 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-990 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) **VV**(A=B) should be used rather than FR/FT to set Split and to select the VFO (SP, FN, VV are now included in the recent Kenwood protocols).

**CL** set/get the current callsign displayed in TRX-Manager in the various modules (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>.

**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)

**AZ** allows control of the rotator.

**MO** can be used to send a macro command to TRX-Manager. MO0 send a predefined macro and MO1 a CAT command. Of course, the effect of a macro-command depends (especially MO1 CAT commands) on your setup. The format of the macro command (between MO and ;) is defined in the documentation. A macro command can be send from TRX-Manager to the TCP Interface using } as preamble (see the documentation about the macro-buttons under Transceiver control/advanced...).

**MG** can send a message to TRX-Manager. The message is displayed in the status bar.

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 selected, the set of command is limited and indicated below under Sub.

Other commands can be added easily on request.

### **Table of functions**

The functions in red are specific to the TRXNET protocol (eventually part of the recent Kenwood protocols). Other functions (in black) are compatible with the set of commands for the TS-570 (mode uses the TS-990 set of modes).

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	Attenuator	*	*		*	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)