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Transmitter			TS-2000 TS-B2000	TS-2000X
Output power	SSB/ CW/ FSK/ FM	Max.	100 W (160 m ~ 2 m band)/ 50 W (70 cm band)/ 10 W (23 cm band)	
		Min.	5 W (160 m ~ 2 m band)/ 5 W (70 cm band)/ 1 W (23 cm band)	
	AM	Max.	25 W (160 m ~ 2 m band)/ 12.5 W (70 cm band)/ 2.5 W (23 cm band)	
		Min.	5 W (160 m ~ 2 m band)/ 5 W (70 cm band)/ 1 W (23 cm band)	
Modulation	SSB		Balanced	
	FM		Reactance	
	AM		Low level	
Spurious emissions	160 m ~ 10 m band		–50 dB or less	
	6 m ~ 70 cm band		–60 dB or less	
	23 cm band		–50 dB or less	
Carrier suppression (SSB)			50 dB or more	
Unwanted sideband suppression (modulation frequency 1.0 kHz)			50 dB or more	
Maximum frequency deviation (FM)	Wide		±5 kHz or less	
	Narrow		±2.5 kHz or less	
XIT shift frequency range			±20.0 kHz	
Microphone impedance			600Ω	

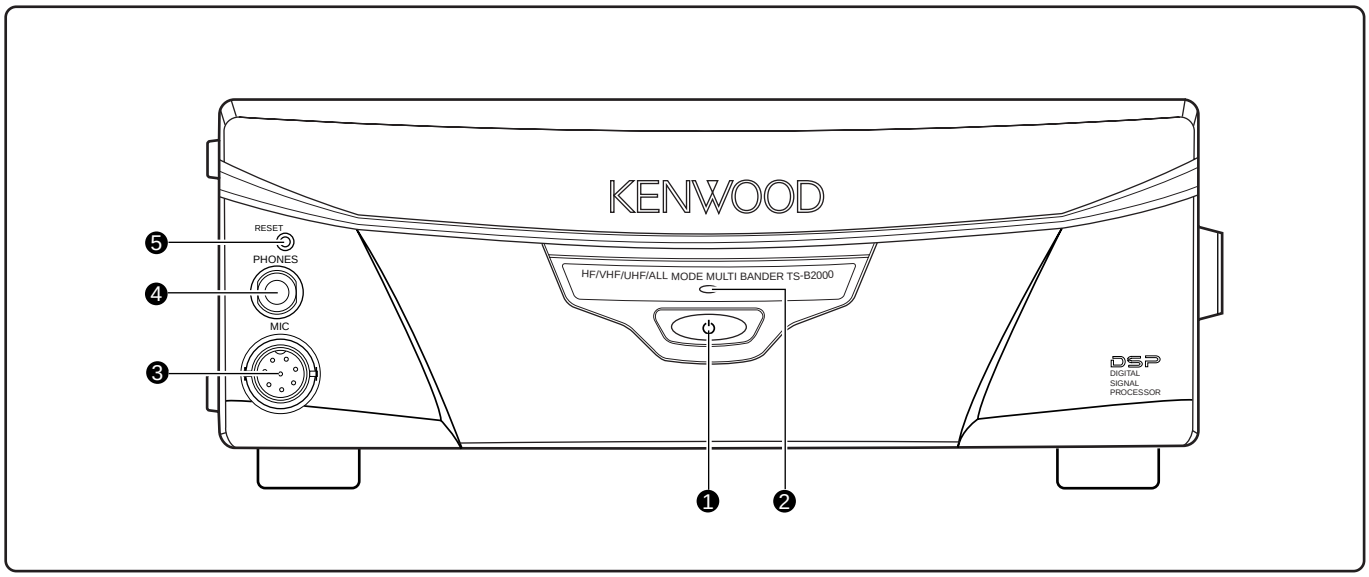
Receiver		TS-2000 TS-B2000	TS-2000X
Circuit type	Main tranceiver	SSB/ CW/ AM/ FSK: Quadruple conv. superheterodyne FM: Triple conversion superheterodyne	
	Sub-receiver	FM/ AM: Double conversion superheterodyne	
Frequency range	Main transceiver	0.03 ~ 60.0 MHz (All types) 142 ~ 152 MHz (K-type) 144 ~ 146 MHz (All E-types) 420 ~ 450 MHz (K-type) 430 ~ 440 MHz (All E-types) 1240 ~ 1300 MHz (w/ UT-20)	0.03 ~ 60.0 MHz 142 ~ 152 MHz 420 ~ 450 MHz 1240 ~ 1300 MHz
	Sub-receiver	118 ~ 174 MHz (K-type) 144 ~ 146 MHz (All E-types) 220 ~ 512 MHz (K-type) 430 ~ 440 MHz (All E-types)	118 ~ 174 MHz 220 ~ 512 MHz
Intermediate Frequency (IF)	Main transceiver	1st IF 0.03 ~ 60 MHz: 69.085 MHz or 75.925 MHz 118 ~ 512 MHz: 41.895 MHz 1240 ~ 1300 MHz: 135.495 MHz 2nd IF: 10.695 MHz 3rd IF: 455 kHz 4th IF: 12.0 kHz	
	Sub-receiver	1st IF: 58.525 MHz 2nd IF: 455 kHz	

Receiver			TS-2000 TS-B2000	TS-2000X
Sensitivity	SSB/ CW/ FSK (S/N 10 dB)	Main	0.5 ~ 1.705 MHz: 4 µV or less 1.705 ~ 24.5 MHz: 0.2 µV or less 24.5 ~ 30.0 MHz: 0.13 µV or less 50.0 ~ 54.0 MHz: 0.13 µV or less 144 ~ 146 MHz: 0.11 µV or less (All E-types) 144 ~ 148 MHz: 0.16 µV or less (K-type) 430 ~ 440 MHz: 0.11 µV or less (All E-types) 430 ~ 450 MHz: 0.11 µV or less (K-type) 1240 ~ 1300 MHz: 0.11 µV or less (All types)	
	AM (S/N 10 dB)		0.5 ~ 1.705 MHz: 31.6 µV or less 1.705 ~ 24.5 MHz: 2.0 µV or less 24.5 ~ 30.0 MHz: 1.3 µV or less 50.0 ~ 54.0 MHz: 1.3 µV or less 144 ~ 146 MHz: 1.0 µV or less (All E-types) 144 ~ 148 MHz: 1.4 µV or less (K-type) 430 ~ 440 MHz: 1.0 µV or less (All E-types) 430 ~ 450 MHz: 1.0 µV or less (K-type) 1240 ~ 1300 MHz: 1.0 µV or less (All types)	
	FM (12 dB SINAD)		28.0 ~ 30.0 MHz: 0.22 µV or less 50.0 ~ 54.0 MHz: 0.22 µV or less 144 ~ 146 MHz: 0.18 µV or less (All E-types) 144 ~ 148 MHz: 0.25 µV or less (K-type) 430 ~ 440 MHz: 0.18 µV or less (All E-types) 430 ~ 450 MHz: 0.18 µV or less (K-type) 1240 ~ 1300 MHz: 0.18 µV or less (All types)	
	AM (S/N 10 dB)	Sub	144 ~ 146 MHz: 1.55 µV or less (All E-types) 144 ~ 148 MHz: 2.25 µV or less (K-type) 430 ~ 440 MHz: 1.55 µV or less (All E-types) 438 ~ 450 MHz: 1.55 µV or less (K-type)	
	FM (12 dB SINAD)		144 ~ 146 MHz: 0.28 µV or less (All E-types) 144 ~ 148 MHz: 0.40 µV or less (K-type) 430 ~ 440 MHz: 0.28 µV or less (All E-types) 438 ~ 450 MHz: 0.28 µV or less (K-type)	
Selectivity	SSB (Low-cut: 300 Hz/ Hi-cut: 2600 Hz)	Main	–6 dB: 2.2 kHz, –60 dB: 4.4 kHz	
	AM (Low-cut: 100 Hz/ Hi-cut: 3000 Hz)		–6 dB: 6.0 kHz, –50 dB: 12.0 kHz	
	FM		–6 dB: 12.0 kHz, –50 dB: 25.0 kHz	
	AM	Sub	–6 dB: 12.0 kHz, –50 dB: 25.0 kHz	
	FM		–6 dB: 12.0 kHz, –50 dB: 25.0 kHz	
Image rejection	Main transceiver		70 dB or more	
	Sub-receiver		60 dB or more	
1st IF rejection	Main transceiver		70 dB or more	
	Sub-receiver		60 dB or more	
Notch filter attenuation (at 1 kHz)			30 dB or more	
Beat cancel attenuation (at 1 kHz)			40 dB or more	
RIT shift frequency range			±20.0 kHz	

20 SPECIFICATIONS

Receiver			TS-2000 TS-B2000	TS-2000X
Squelch sensitivity	SSB/ CW/ FSK/ AM	Main	0.5 ~ 1.705 MHz: 18.0 μV or less 1.8 ~ 28.7 MHz: 1.8 μV or less 50.0 ~ 54.0 MHz: 1.1 μV or less 144 ~ 146 MHz: 1.1 μV or less (All E-types) 144 ~ 148 MHz: 1.1 μV or less (K-type) 430 ~ 440 MHz: 1.1 μV or less (All E-types) 430 ~ 450 MHz: 1.1 μV or less (K-type) 1240 ~ 1300 MHz: 1.1 μV or less (All types)	
	FM		28.0 ~ 30.0 MHz: 0.2 μV or less 50.0 ~ 54.0 MHz: 0.2 μV or less 144 ~ 146 MHz: 0.1 μV or less (All E-types) 144 ~ 148 MHz: 0.16 μV or less (K-type) 430 ~ 440 MHz: 0.1 μV or less (All E-types) 430 ~ 450 MHz: 0.1 μV or less (K-type) 1240 ~ 1300 MHz: 0.1 μV or less (All types)	
	AM	Sub	144 ~ 146 MHz: 1.1 μV or less (All E-types) 144 ~ 148 MHz: 1.1 μV or less (K-type) 430 ~ 440 MHz: 1.1 μV or less (All E-types) 438 ~ 450 MHz: 1.1 μV or less (K-type)	
	FM		144 ~ 146 MHz: 0.18 μV or less (All E-types) 144 ~ 148 MHz: 0.23 μV or less (K-type) 430 ~ 440 MHz: 0.18 μV or less (All E-types) 438 ~ 450 MHz: 0.18 μV or less (K-type)	
Audio output (8Ω, 10% distortion)			1.5 W or more	
Audio output impedance (EXT.SP1 and EXT.SP2)			8Ω	

TS-B2000 FRONT PANEL



❶ **[⏻]** (POWER) switch

Press and hold briefly to switch the transceiver power ON. Press again to switch the power OFF.

❷ **Power** indicator

While the transceiver is turned ON, it lights red.

❸ **MIC** connector

Connect a compatible microphone to this connector, then securely screw down the connector locking ring {page 3}.

❹ **PHONES** jack

Connect a set of headphones to this jack. Inserting a plug into the jack automatically mutes the audio from the speaker {page 3}.

❺ **RESET** button

Push this switch to reset the microprocessor in the transceiver. This sets all the contents of the memory function to the factory default values.

BUILT-IN TNC COMMAND LIST

All descriptions in this section are for the users convenience only. **KENWOOD** will not support or warrantee this documentation in any way. The built-in TNC does not support the digipeater functions due to the RAM capacity.

Command Name	Short	Default	Parameter	Description
AUTOLF	AU	ON	ON/ OFF	When ON, sends a line feed (LF) to the computer after each carriage return (CR).
AWLEN	AW	8	7/ 8	Sets the length of bits between TNC and its host.
BEACON	B	EVERY 0	EVERY/ AFTER n (n = 0 ~ 250)	If set to EVERY, sends a beacon packet at intervals of the specified period (n). If set to AFTER, sends a beacon packet only once after the specified period (n). The unit of n is 10 seconds.
BTEXT	BT	—	0 ~ 159 characters	Specifies the content of the data portion of a beacon packet.
CALIBRA	CAL	—	—	Sends a space/mark square wave (50/50 ratio). Enter Q to exit Calibrate mode and restore the Command mode.
CHECK	CH	30	0 ~ 250	Specifies the interval from signal drop-out until execution of disconnection. The unit of the parameter is 10 seconds.
CONNECT	C	—	Call1 (VIA call2, call3, ... call9)	Sends a connect request. Call1 is the call sign of the station to be connected to. Call2 to call9 are call signs of stations to be digipeated through.
CONVERSE	CONV or K	—	—	Causes the TNC to enter Converse mode. Press **[Ctrl]+[C]** to restore the Command mode.
CPACTIME	CP	OFF	ON/ OFF	When ON and in Converse mode, sends a packet at intervals of the period determined by PACTIME.
CR	CR	ON	ON/ OFF	When ON, appends a carriage return (CR) to all packets to be sent.
DISCONNE	D	—	—	Sends a disconnect request.
DISPLAY	DISP	—	—	Causes the TNC to display the current status of all the commands. You can also specify a class identifier A, C, H, I, L, M, or T to display the status of only the desired command class. Enter a space between the command name and a class identifier; ex. DISPLAY H. A (ASYNC): RS-232C port parameters C (CHAR): Special TNC characters H (HEALTH): Counter parameters I (ID): ID parameters L (LINK): TNC-to-TNC link status M (MONITOR): Monitor parameters T (TIMING): Timing parameters
DWAIT	DW	30	0 ~ 250	Specifies the interval from no carrier detection until execution of transmission. The unit of the parameter is 10 milliseconds.
ECHO	E	ON	ON/ OFF	When ON, causes the TNC to echo received characters to the computer.
FIRMRNR	FIR	OFF	ON/ OFF	The other station sends a notice (packet) to you if it is not ready to receive data. When ON, receiving such a notice causes the TNC to suspend transmission until it receives a “ready” notice.

Command Name	Short	Default	Parameter	Description
FLOW	F	ON	ON/ OFF	When ON, starting key entry causes the computer to stop displaying received packets.
FRACK	FR	3	0 ~ 250	Specifies the interval from one transmission until retry of transmission. The unit of the parameter is 1 second.
HBAUD	HB	1200	1200/ 9600	Selects 1200 or 9600 bps as the transfer rate between packet stations.
KISS	KISS	OFF	ON/ OFF	Set the parameter ON, then switch the transceiver OFF. Turn the transceiver ON again to enter KISS mode. When the transceiver enters KISS mode, the “STA” and “CON” LEDs blink alternatively a few times. To exit KISS mode, send the binary data C0 FF C0 to the TNC or turn the transceiver OFF. The next time you turn the transceiver ON, the TNC sets the parameter OFF automatically.
MCOM	MCOM	OFF	ON/ OFF	When ON, causes the TNC to also monitor control packets. When OFF, causes it to monitor only information packets.
MCON	MC	OFF	ON/ OFF	When ON, causes the TNC to monitor other stations while in connection with the target station.
MONITOR	M	ON	ON/ OFF	When ON, causes the TNC to monitor packets.
MRPT	MR	ON	ON/ OFF	When ON, causes the TNC to display the entire digipeat list for monitored packets.
MYCALL	MY	NOCALL	6 characters + SSID	Specifies your call sign.
PACLEN	P	128	0 ~ 255	Specifies the maximum length of the data portion of a packet.
PACTIME	PACT	AFTER 10	EVERY/ AFTER n (n = 0 ~ 250)	If set to EVERY, sends a packet at intervals of the specified period (n). If set to AFTER, sends a packet only once after the specified period (n). The unit of n is 100 milliseconds.
PERSIST	PE	128	0 ~ 255	Specifies a parameter to calculate probability for the PERSIST/SLOTTIME method.
PPERSIST	PP	ON	ON/ OFF	Causes the TNC to use the PERSIST/SLOTTIME method when ON, or the DWAIT method when OFF.
RESET	RESET	—	—	Restores the default status for all the commands.
RESPTIME	RES	5	0 ~ 250	Specifies the acknowledgment packet transmission delay. The unit of the parameter is 100 milliseconds.
RESTART	RESTART	—	—	Causes the TNC to function as if it is switched OFF then ON.
RETRY	RE	10	0 ~ 15	Specifies the number of transmission retries. If packets are not correctly accepted while in connection, a connect request is sent again after the specified number of retries.
SENDPAC	SE	$0D	0 ~ $7F	Specifies a character which forces a packet to be sent.