KENWOOD

OUR LATEST DUAL BANDER
More Ways to Connect With the World.

APRS®
&
DIGITAL

KENWOOD's new dual-band transceiver: Innovative APRS and DIGITAL voice functions expands radio utility and user excitement.

144 / 430 MHz DUAL BANDER
TH-D75E

APRS   DIGITAL

Featuring APRS & DIGITAL

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APRS

Compatible with the APRS communication protocol, which allows real-time two-way data transmission by employing packets of data to exchange messages and track locations. Various types of communication are possible, such as GPS positional information sharing, text messaging, and communicating via the ISS and other satellites. In addition, what sets this new radio apart is the fully-fledged APRS operation is made possible through a unique standalone digipeater function that sets APRS-veteran KENWOOD apart.

Other station positional information, weather station information

The TH-D75E gives real-time GPS information or pre-set information for your own station, and the distance/direction/heading/speed of other stations on its clear display. It is now easier to recognise any position and heading relationships with your own station at a glance. Weather station information can be displayed in colour and can include data on rainfall, temperature, wind direction/speed, barometric pressure, and humidity data.

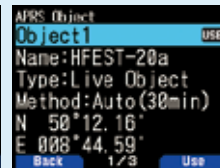Own station/other station relative display compass

Weather station information

Station list, object functions

Up to 100 stations can be stored, including objects, mobile, base and weather stations. You can also limit and sort the types of stations you receive while local information can also be transmitted as an "object."


Station list

Object settings

QSY function

FM or D-STAR voice channels can be set according to frequencies or D-STAR repeater information embedded in beacons from APRS stations, enabling fast QSY.

Text messaging

Real-time messaging between stations running APRS is possible. Messages to be sent can be input using the keys or selected from a number of customisable templates.
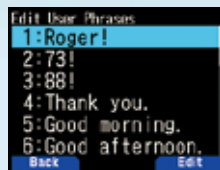
Customisable templates

Standalone digipeater function

The TH-D75E is capable of operating as a standalone digipeater station. It can be configured as a temporary relay station in a variety of scenarios, such as outdoors, enabling for support for data communications from locations such as basins surrounded by mountains.

Standalone digipeater
IGate station
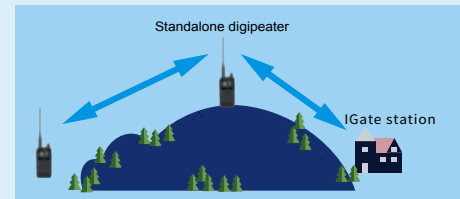
KISS mode TNC

The built-in KISS mode TNC for APRS enables APRS operation via PC after connection with USB or Bluetooth.

APRS Menu Settings

The TH-D75E is also compatible with a variety of features that expand its scope of operation, including SmartBeaconing, decay algorithm, proportional pathing and APRS voice.

Improved voice quality alongside various enhanced features to increase amateur radio

Wideband and multimode reception
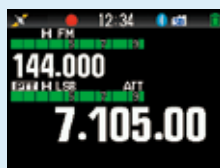
HF band SSB reception
(PTT icon indicates operating band)
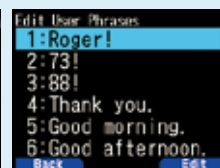
IF receive filter settings

*1: Only for SSB, CW and AM modes *2: Selectable with SMA antenna connector

Wideband reception is possible on Band B. In addition to DV/DV fast data/FM/NFM/WFM/AM on the 0.1~524MHz band, SSB/CW reception is also possible. The TH-D75E has a fine mode that achieves zeroing-in with a minimum step frequency of 20Hz*1, and is equipped with a bar antenna*2 for 0.1~10MHz reception. A built-in IF receiving filter reduces neighbouring interference signals during SSB or CW reception, realising low-interference and unprecedented comfortable reception. It is also equipped with two-wave simultaneous receive functionality for VxV, UxU and VxU.

144 / 430 MHz DUAL BANDER
TH-D75E

Bluetooth® microSD

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with newly supported Reflector Terminal mode.

DIGITAL

Supports D-STAR, the amateur radio digital communications protocol, which provides both voice and data modes. Both local and overseas QSOs can be accessed in a variety of modes, including simplex, single repeater, and gateway communications over a network of repeaters. The newly supported Reflector Terminal mode and simultaneous reception of two digital voice signals provide additional flexibility to D-STAR operations.

Compatible with D-STAR

The TH-D75E is compatible with the D-STAR amateur radio digital communication protocol promoted by the Japan Amateur Radio League (JARL). Users can enjoy easy voice and data communication locally or with the world.

DV mode (single band)   APRS + DR mode (dual band)

DV fast data mode

The TH-D75E features a DV fast data mode that accelerates communication throughput by sending data on unused voice frames for more efficient data communication.

Simple operation in DR (D-STAR Repeater) mode

Selecting and setting access repeaters from the pre-programmed repeater list simplifies communication. The TH-D75E includes a direct reply function that enables a reply after pressing PTT for calling in gateway communications, as well as a function that enables icon-display confirmation of accessibility during kerchunk or gateway communications.

Setting via the digital function menu

The unit employs a separate menu for D-STAR and its many modes, such as switching between simplex (DV) and repeater (DR), or voice and data, enabling the switching of operation with a single touch.

Digital function menu

Reflector Terminal mode

Built-in MMDVM serial commands offer easy access to D-STAR reflectors via a Windows PC or Android device with a third-party application via USB or Bluetooth, with no need for a mini-RF device such as a Hotspot.

(MMDVM stands for Multi-Mode Digital Voice Modem.)

Simultaneous reception of two digital voice channels

Simultaneous reception of any two channels in D-STAR (DV/DR) and Reflector Terminal mode is possible to enable operating in DR while watching a call channel in DV. Furthermore, the range for digital mode use is greatly expanded and includes options such as watching a D-STAR repeater while operating in Reflector Terminal mode.

Easily updated repeater list

The latest repeater list can be downloaded from the KENWOOD website. Updates to the latest information can be made from a PC via USB cable, Bluetooth, or microSD card.

Built-in GPS module and patch antenna

The high-performance GPS module with patch antenna provides positional information for APRS/D-STAR operation, along with GPS tracklog and automatic time correction.

Standard compatibility on a rich interface

The unit features a USB Type-C™ port for data communication with PCs and also for charging its lithium-ion battery. Bluetooth (HSP, SPP) and microSD/SDHC memory cards are also supported.

USB Type-C port

Powerful voice guidance

The 770+ audio prompts inform you of operating status, such as menus, parameters, frequency or memory channel contents displayed on the screen, including support for reading callsigns with phonetic codes. Voice guidance speed can be set to one of 4 levels.

More convenience with free PC software

Available free software options include the MCP-D75*3 Memory Control Programme, which can manage memory-channel and other settings on a PC, and the ARFC-D75*3 Frequency Control Programme, which enables the changing of the device's frequency using a PC.

*3: The MCP-D75 and ARFC-D75 programs are available for download from the KENWOOD website.

TH-D75E Other functions
●Tough weatherproofing meeting IP54/ 55 standards ●Clear and intuitive screen ●1000-channel memory ●1500 repeater lists ●30 hotspot lists ●4-steps RF output power (5/2/0.5/0.05W) ●Voice recording function (microSD/SDHC) ●Voice messaging (4ch) ●Communication log (microSD/ SDHC) ●Scan (Band, MHz, Programme, Memory, Memory Group, Call, Priority, D-STAR Repeater) ●Memory channel lockout ●50 CTCSS frequencies/ 104 DCS codes ●Cross-tone ●Meter-type ●Frequency direct input ●DTMF memory (10ch) ●Dedicated EchoLink DTMF memory (10ch) ●FM radio mode ●Open line canceller (train channel) ●Customisable power-on message and bitmap image ●Waypoint output ●Date/time display ●Frequency step switching ●Shift ●VOX ●Auto repeater shift ●Monitor ●Auto power-off ●Battery save ●Key lock ●APRS lock ●Memory shift ●Key beep on/off ●Programmable function key ●Display language change ●Mic sensitivity switching ●3-stage LCD Brightness ●Reset (VFO, Partial, Full)

TH-D75E Supplied Accessories
Antenna, Li-ion battery (7.4V/1820mAh), AC adapter/ charger, Belt clip, Instruction manual

enjoyment.

IF output mode

An IF signal with a central frequency of 12kHz and a bandwidth of 15kHz can be output via the USB port. Smart operation via a PC is possible, such as by using the PC's band scope* to check the status of nearby frequencies while monitoring received SSB, CW, and AM sound.

*Third-party software is required.

KENWOOD custom-tuned sound quality

KENWOOD'S custom tuning, with its reputation for sound quality, makes for clear voice communications that are easy to hear. The TH-D75E also comes equipped with a DSP-based audio equaliser that enables the setting of both 5-band reception EQ (0.4~6.4kHz) and 4-band transmission EQ (0.4~3.2kHz), making sound quality adjustable to your preference.

TH-D75E Specifications

GENERAL

GENERAL					
Frequency Range	Band-A				
	TX	144 – 146, 430 – 440 MHz			
	RX	136 – 174, 410 – 470 MHz			
	Band-B				
	RX	0.1 – 76, 76 – 108 (WFM), 108 – 524 MHz			
Mode	TX	F1D, F2D, F3E, F7W			
	RX	F1D, F2D, F3E, F7W, A1A, A3E, J3E			
Operating Temp. Range		-20 to +60 °C			
	with KNB-75LA (Li-ion)	-10 to +50 °C			
Frequency Stability		± 2.0 ppm			
Antenna Impedance		50 Ω			
Operating Voltage					
	DC-IN	DC 11.0 – 15.9 V (STD: DC 13.8 V)			
	BATT	DC 6.0 – 9.6 V (STD: DC 7.4 V)			
Current Consumption (Typ.)		EXT.PS 13.8 V / Battery: 7.4 V			
			H	M	L	EL
TX					
	DC-IN	1.4 A	0.9 A	0.9 A	0.4 A
	BATT	2.0 A	1.3 A	0.8 A	0.5 A
RX	Single	260 mA (Rated AF Output)			
		155 mA (SQL Closed)			
		50 mA (Save Mode Average)			
	Dual	310 mA (Rated AF Output)			
		225 mA (SQL Closed)			
		50 mA (Save Mode Average)			
	GPS only	125 mA			
Battery Life Approx.		Single RX, Battery saver on, TX: RX: Stdby 6: 6: 48 sec., GPS/BT off			
			H	M	L	EL
	with KNB-75LA (Li-ion)	6 h	8 h	12 h	15 h
	with KBP-9 (6AAA Alkaline)			3.5 h	
Dimensions (W x H x D)		Projections not included			
	with KNB-75LA (Li-ion)	56.0 x 121.95 x 32.5 mm			
Weight (net)	Radio only	203 g			
	with KNB-75LA (Li-ion)	344 g (w/ Ant,Belt Clip)			

RECEIVER

RECEIVER			Band-A	Band-B
Circuitry				
	F1D,F2D,F3E,F7W		Double Super Heterodyne	
	A1A, A3E, J3E			Triple Super Heterodyne
IF Frequency				
	1st IF		57.15 MHz	58.05 MHz
	2nd IF		450 kHz	450 kHz
	3rd IF	A1A, A3E, J3E		10.8 kHz
Sensitivity (Typ.) Amateur Band and Mode that can be TX				
FM	12 dB SINAD			
	FM/ NFM	144 MHz	0.18/ 0.22 uV	0.19/ 0.24 uV
	FM/ NFM	430 MHz	0.18/ 0.22 uV	0.20/ 0.25 uV
DV	PN9/GMSK 4.8 kbps,BER 1%			
		144 MHz	0.20 uV	0.22 uV
		430 MHz	0.22 uV	0.22 uV
Except above Amateur Band and Mode				
FM	12 dB SINAD			
	28 – 54 MHz			0.32 uV
	54 – 76 MHz			0.56 uV
	118 – 144 MHz		0.36 uV	0.36 uV
	146 – 175 MHz			0.36 uV
	200 – 250 MHz			0.36 uV
	382 – 400 MHz			0.50 uV
	400 – 412 MHz		0.36 uV	0.36 uV
	415 – 430 MHz		0.36 uV	0.36 uV
	440 – 490 MHz		0.36 uV	0.36 uV
	490 – 524 MHz			0.63 uV
AM	10 dB S/N			
	0.3 – 0.52 MHz			4.00 uV
	0.52 – 1.8 MHz			1.59 uV
	1.8 – 54 MHz			0.63 uV
	54 – 76 MHz			1.12 uV
	118 – 174 MHz			0.50 uV
	200 – 250 MHz			0.63 uV
	382 – 412 MHz			1.12 uV
	415 – 524 MHz			1.12 uV
SSB	10 dB S/N			
	1.8 – 54 MHz			0.40 uV
	54 – 76 MHz			0.79 uV
	114 – 148 MHz			0.16 uV
	222 – 225 MHz			0.20 uV
	430 – 450 MHz			0.16 uV
BC Band	WFM	30 dB S/N		
		76 – 95MHz		1.59 uV
		95 – 108MHz		2.00 uV

RECEIVER		Band-A	Band-B
Squelch (Typ.)		0.18 uV	0.25 uV
Spurious Rejection	144 MHz	50 dB or more	45 dB or more
	430 MHz	50 dB or more	40 dB or more
IF Rejection		60 dB or more	55 dB or more
Channel Selectivity	-6 dB	12 kHz or more	
	-50 dB	30 kHz or less	
Audio Output	7.4 V, 10% Dist	400 mW or more / 8 Ω	

TRANSMITTER

TRANSMITTER					
RF Power Output		EXT.PS 13.8 V / Battery: 7.4 V			
		H	M	L	E L
		5 W	2 W	0.5 W	0.05 W
Modulation	FM	Reactance Modulation			
	DV	GMSK Reactance Modulation			
Modulation Deviation	FM	±5.0 kHz			
	NFM	±2.5 kHz			
Spurious Emissions					
	HI/MID	-60 dBc or less			
	L	-50 dBc or less			
	EL	-40 dBc or less			
Microphone Impedance		2 kΩ			

GPS

GPS			
Time after power-on at Ta=77 °F (25 °C), Open sky, (Typ)			
TTFF	Cold Start	Approx. 40 sec	
	Hot Start	Approx. 5 sec	
Horizontal Accuracy		10 meters or less	
Receive Sensitivity		-141 dBm	

Bluetooth

Bluetooth	
Version, class	Version 3.0, class 2
Output Power	-6 < Pav < 4 dBm
Modulation Characteristics	$140 \leqq \Delta f\,1avg \leqq 175$ kHz
Initial Carrier Frequency	$-75 \leqq fo \leqq +75$ kHz
Carrier Frequency Drift	±25 kHz (One Slot packet)
	±40 kHz (Three Slot packet)
	±40 kHz (Five Slot packet)

The measurements shall be in accordance with the method specified by JAIA(Japan Amateur Radio Industries Association).
Specifications, and design may change due to advancements in technology. Except for sensitivity, these specifications are guaranteed for Amateur Bands only.

Optional Accessories

Clip Microphone
EMC-11

Clip Microphone
EMC-12

Headset
KHS-35F

Memory Control Program for TH-D75
MCP-D75

Speaker Microphone
KMC-45D

DC cable
PG-2W

Filtered Cigarette Lighter Cord
PG-3J

Frequency Control Program for TH-D75
ARFC-D75

*Free software is available for download from the KENWOOD website.

Li-ion Battery Pack (7.4V/1820mAh)
KNB-75LA
Compatible with previous KNB-75L
*Same as supplied

Battery Case (6AAA Alkaline Batteries)
KBP-9
*Recommended for Low/ Economic Low power mode.

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