

# KENWOOD

## THE LATEST DUAL BANDER

More Ways to Connect  
More With the World.

APRS<sup>®</sup>  
&  
DIGITAL

KENWOOD's  
dual-band transceiver:  
Innovative APRS and  
DIGITAL voice functions  
expand the excitement.

144 / 430 MHz DUAL BANDER  
**TH-D75E**

APRS DIGITAL



# APRS & DIGITAL

## Featuring APRS & DIGITAL



144 / 430 MHz DUAL BANDER  
**TH-D75E**

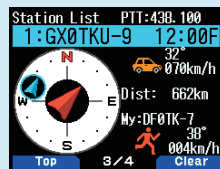


### APRS

Compatible with the APRS communication protocol, which allows real-time two-way data transmission by using packet communications. Various types of communication are possible, such as GPS positional information sharing, text messaging, and communicating via the ISS and other satellites. In addition, full-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 is capable with a relative direction display that enables you to see at a glance real-time GPS information or pre-set information for your own station, and the distance/direction/heading/speed of other stations. It is now easier to recognize any position and heading relationships with your own station. Weather station information can be displayed in color for rainfall, temperature, wind direction/speed, barometric pressure, and humidity data.



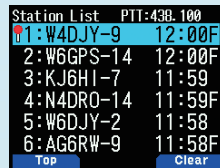
Own station/other station relative display compass



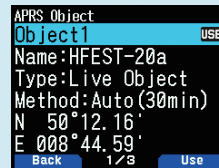
Weather station information

#### Station list, object functions

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



Station list



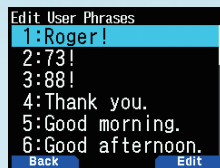
Object settings

#### 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

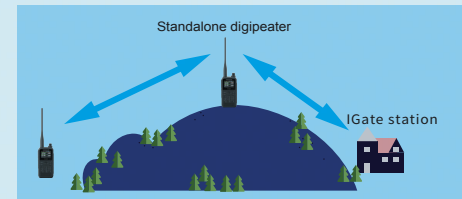
Real-time messaging between stations running APRS is possible. Messages to be sent can be input using the keys or selected from a number of templates.



Customizable 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 data communications from locations such as basins surrounded by mountains.



#### KISS mode TNC

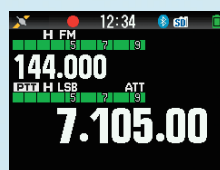
The built-in KISS mode TNC for APRS enables APRS operation via PC after connection via USB or Bluetooth.

#### 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 neighboring interference signals during SSB or CW reception, realizing low-interference and unprecedented comfortable reception. It also is equipped with two-wave simultaneous receive functionality for VxV, UxU and VxU.

# with newly supported Reflector Terminal mode.

## DIGITAL

Supports D-STAR, the amateur radio digital communications protocol, which provides both voice and data modes. From local to overseas QSOs can be enjoyed in a variety of modes, including simplex, single repeater, and gateway communications over a network of repeaters. 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

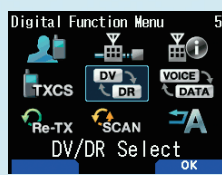
The TH-D75E features a DV fast data mode that accelerates communication throughput by sending data on unused voice frames for more comfortable data communication.

### 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 operation switching with a single touch.

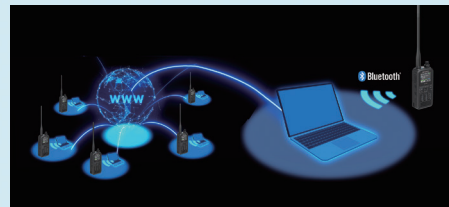


Digital function menu

### 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 through 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. This enables 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 genuine 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 the MCP-D75\*3 Memory Control Program, which can manage memory-channel and other settings on a PC, and the ARFC-D75\*3 Frequency Control Program, which enables free changing of the device's frequency via 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
- Visually intuitive pop-up screen
- 1000 memory channels
- 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, Program, 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)
- Customizable 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, which has a 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 equalizer that enables the setting of each of a 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		
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	
TX	DC-IN	H 1.4 A, M 0.9 A, L 0.9 A, EL 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: Sldby 6: 6: 48 sec., GPS/BT off	
	H 6 h, M 8 h, L 12 h, EL 15 h	
	with KNB-75LA (Li-ion)	
	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	Band-A	Band-B
Circuitry	Double Super Heterodyne	
F1D, F2D, F3E, F7W		
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 µV	0.19/ 0.24 µV
FM/NFM	430 MHz 0.18/ 0.22 µV	0.20/ 0.25 µV
DV	PN9/GMSK 4.8 kbps, BER 1%	
	144 MHz 0.20 µV	0.22 µV
	430 MHz 0.22 µV	0.22 µV
Except above Amateur Band and Mode		
FM	12 dB SINAD	
	28 – 54 MHz	0.32 µV
	54 – 76 MHz	0.56 µV
	118 – 144 MHz	0.36 µV
	146 – 175 MHz	0.36 µV
	200 – 250 MHz	0.36 µV
	382 – 400 MHz	0.50 µV
	400 – 412 MHz	0.36 µV
	415 – 430 MHz	0.36 µV
	440 – 490 MHz	0.36 µV
	490 – 524 MHz	0.63 µV
AM	10 dB S/N	
	0.3 – 0.52 MHz	4.00 µV
	0.52 – 1.8 MHz	1.59 µV
	1.8 – 54 MHz	0.63 µV
	54 – 76 MHz	1.12 µV
	118 – 174 MHz	0.50 µV
	200 – 250 MHz	0.63 µV
	382 – 412 MHz	1.12 µV
	415 – 524 MHz	1.12 µV
SSB	10 dB S/N	
	1.8 – 54 MHz	0.40 µV
	54 – 76 MHz	0.79 µV
	114 – 148 MHz	0.16 µV
	222 – 225 MHz	0.20 µV
	430 – 450 MHz	0.16 µV
BC Band WFM	30 dB S/N	
	76 – 95 MHz	1.59 µV
	95 – 108 MHz	2.00 µV

RECEIVER	Band-A	Band-B
Squelch (Typ.)	0.18 µV	0.25 µV
Spurious Rejection	144 MHz 50 dB or more 430 MHz 50 dB or more	45 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	
RF Power Output	EXT.PS 13.8 V / Battery: 7.4 V H 5 W, M 2 W, L 0.5 W, EL 0.05 W
Modulation	FM Reactance Modulation DV GMSK Reactance Modulation
Modulation Deviation	FM ±5.0 kHz NFM ±2.5 kHz
Spurious Emissions	H/MID -60 dBc or less L -50 dBc or less EL -40 dBc or less
Microphone Impedance	2 kΩ

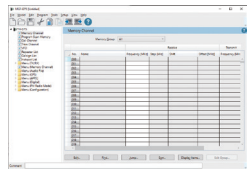
GPS	
Time after power-on at Ta=77 °F (25 °C), Open sky, (Typ)	
TTF	Cold Start Approx. 40 sec Hot Start Approx. 5 sec
Horizontal Accuracy	10 meters or less
Receive Sensitivity	-141 dBm

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

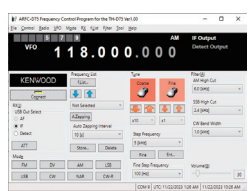
The measurements shall be in accordance with the method specified by JAIA (Japan Amateur Radio Industries Association). Specifications, and design may change due to advancements in technology. Except for sensitivity, these specifications are guaranteed for Amateur Bands only.

## Optional Accessories

 <b>Clip Microphone</b> <b>EMC-11</b>	 <b>Clip Microphone</b> <b>EMC-12</b>	 <b>Headset</b> <b>KHS-35F</b>
 <b>Speaker Microphone</b> <b>KMC-45D</b>	 <b>Soft leather case</b> <b>SC-57</b>	 <b>Filtered Cigarette Lighter Cord</b> <b>PG-3J</b>
 <b>Li-ion Battery Pack</b> <b>(7.4V/1820mAh)</b> <b>KNB-75LA</b> *Compatible with previous KNB-75L* *Same as supplied	 <b>Battery Case</b> <b>(6AAA Alkaline Batteries)</b> <b>KBP-9</b> *Recommended for Low/ Economic Low power mode.	 <b>Desktop charger</b> <b>KSC-25</b>



**Memory Control Program for TH-D75**  
**MCP-D75**



**Frequency Control Program for TH-D75**  
**ARFC-D75**

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

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