

News Release

Introducing the Next Phase in the Evolution of the Handheld Transceiver, Featuring Simultaneous Reception of 2 D-STAR® Signals, Reflector Terminal Mode, and APRS® Standalone Digipeater

TH-D75E: 144 / 430 MHz DUAL BANDER

Yokohama, Japan January, 2024 — JVCKENWOOD Corporation unveiled a brand-new handheld amateur radio, the TH-D75E, at Ohio's Hamvention 2023 in May of this year. This top-of-the-line 144 / 430 MHz dual-bander went on to make appearances at other major ham fairs around the world: Ham Radio Friedrichshafen in Germany (June) and Tokyo Big Sight in Japan (August). The TH-D75E is currently scheduled for general release in January 2024.

Following on from the TH-D74, the TH-D75E adds many useful features such as simultaneous reception of 2 D-STAR signals, Reflector Terminal mode for accessing D-STAR reflectors, enhanced voice guidance, and an APRS standalone digipeater function. Usability has also been improved with the adoption of USB Type-C, Bluetooth headset PTT support, and a fully ergonomic design. These much-anticipated additions mean that this premium model is sure to satisfy the needs of a wide range of amateur radio operators.

Main Features

1. Compatible with the APRS® communication protocol, which allows real-time two-way data transmission using packet communications

1) GPS-linked Relative Display Compass plus weather information

In addition to providing real-time information on your station using the built-in GPS function, the TH-D75E features Relative Display Compass for at-a-glance information—distance, direction, heading, and speed—relating to your own station and another station (set in advance). This makes it easy to monitor relative position and heading. Weather station information—including rainfall, temperature, wind speed/direction, barometric pressure and humidity—can be displayed in color.

2) Store up to 100 stations

The station list can store a maximum of 100 stations, including mobile stations, base stations, weather stations and objects. It is also possible to limit/sort the types of station received. Local information can be transmitted as objects.

3) Real-time messaging

Real-time messaging between stations running APRS is possible. Text messages can be input using the keys or selected from a number of presets.

4) QSY function

Fast QSY is possible: FM and D-STAR voice channels can be set using frequencies embedded in beacons from APRS stations or D-STAR repeater information. D-STAR gateway communication is set automatically.

5) NEW: Standalone digipeater function

This function enables the TH-D75E to operate as a temporary digipeater station in the field, allowing APRS coverage to be expanded even in mountainous locations.



2. Compatible with D-STAR® amateur radio digital communications network, developed by the Japan Amateur Radio League (JARL)

- 1) **NEW: Simultaneous reception of 2 D-STAR signals** (one on Band A, one on Band B)
- 2) **Flexible operation enabled with voice and data modes**
The TH-D75E offers a wide variety of operations—including simplex, single repeater relay, and inter-repeater gateway—making communications possible with both local and worldwide stations. Enjoy the superb voice clarity that only digital can deliver.
- 3) **DV (Digital Voice) fast data mode**
DV fast data mode sends data on unused voice frames to achieve faster throughput and smoother data transmission.
- 4) **DR (D-STAR Repeater) mode for simple operation**
Accessing D-STAR repeater is simple: just pick and set one from a list. To respond directly to gateway calls, simply press the PTT switch. In addition to this direct reply function, the TH-D75E uses icons and voice guided phrases to notify accessibility status during kerchunk or gateway communications. And up to 120 entries can be stored in the log, enabling the user to easily recall stations.

3. NEW: Reflector Terminal mode for more convenient communications via D-STAR reflectors

D-STAR reflectors are D-STAR voice relay servers on the Internet that can be used to monitor and communicate with stations around the world that are connected to the same servers. The TH-D75E is compatible with MMDVM commands and can be connected to a D-STAR reflector via a Windows PC or Android device with a third-party application such as BlueDV. The local connection uses either Bluetooth or USB cable, so there is no need for a mini RF device such as a Hotspot. Furthermore, the simultaneous two-wave reception function of D-STAR makes it possible for the TH-D75E to connect to a reflector in terminal mode on band A, while receiving a nearby repeater on band B, providing opportunities for various operations.

4. Wideband and multimode reception

Wideband reception is enabled on Band B. In addition to wideband reception on 0.1 to 524 MHz bands, reception in LSB/USB/CW/AM modes is also possible. Fine mode achieves zeroing-in with a minimum step frequency of 20 Hz*¹ and there is a bar antenna*² for 0.1 to 10 MHz reception. In DVxDV mode, VxV, UxU, or VxU simultaneous reception is supported.

*¹ Only for SSB, CW and AM modes

*² Selectable with SMA antenna connector

5. IF filters for reduced reception interference

Equipped as standard are IF filters to attenuate adjacent signals during SSB or CW operation. Excellent skirting capacity enables low-interference reception. (Selectable ranges: 2.2 – 3.0 kHz for SSB, 0.3 – 2.0 kHz for CW, and 3.0 – 7.5 kHz for AM).

6. IF output mode

An IF signal with a central frequency of 12kHz and a bandwidth of 15kHz can be output via the USB port. And by using a third-party PC application, one can also use the PC's band scope to check the status of nearby frequencies while listening to the sound received by the TH-D75E.

7. Enhanced voice guidance

Voice guidance functions have been significantly upgraded compared to the previous model (TH-D74). Included are variable speed (4 levels), variable volume (1 to 7), VOL-linkage, and more than 770 phrases. The TH-D75E has also been greatly enhanced from its predecessor, including support for call sign reading with phonetic codes.

8. KENWOOD sound quality

The TH-D75E delivers renowned KENWOOD sound quality. The built-in audio equalizer enables the setting of a 5-band RX EQ (0.4 to 6.4 kHz) and a 4-band TX EQ (0.4 to 3.2 kHz) to suit user preferences. In addition to making use of the accumulated acoustic technologies, KENWOOD's technical know-how for high sound quality has been incorporated, including the selection of quality audio components, optimization of the housing structure, and tuning of the voice codecs.

9. NEW: USB Type-C™ port

As well as serial communications and audio in/out, the USB Type-C port can be used for battery charging.

Other Features

1. 1.74-inch TFT transreflective color LCD

To ensure excellent visibility both indoors and outdoors, the TH-D75E features a 1.74-inch TFT semi-transmissive color LCD with backlighting that performs well under sunlight as well as in low-light situations. Also, for at-a-glance identification, the background color of the pop-up screens is blue for APRS and green for D-STAR.

2. Flat low-profile keytops

Below the multi-scroll key is the keypad featuring flat low-profile keytops for superb operability and a stylish look.

3. Dust and water protection (IP54/55)

With IP54/55 protection from water and dust, the heavy-duty TH-D75E can be used confidently outdoors, even in bad weather.

4. GPS patch antenna

Located at the top of the unit is a high-performance GPS patch antenna, enabling closest APRS/D-STAR repeater search and automatic time correction. The radio can also store GPS tracklogs.

5. Multiple interfaces including Bluetooth®

The TH-D75E is compatible with Bluetooth HSP/SPP. In addition, it supports a microSD/SDHC memory card and is equipped with a versatile USB Type-C port, enabling flexible connectivity with a PC.

6. Free PC software

Available for download from the KENWOOD website are the MCP-D75 application for management of memory and other settings, and the ARFC-D75 application for changing frequency on the TH-D75E.

SPECIFICATIONS

GENERAL		RECEIVER		TRANSMITTER			
Frequency Range	TX Band A Band B Band B -FM-W	144-146, 430-440 MHz 136 – 174, 216 – 260, 410 – 470 MHz 0.1 – 76 / 108 – 524 MHz 76 – 108 MHz	Circuitry Band A / Band B (F3E, F2D, F7W) Band B (A1A, A3E, J3E)	Double Super Heterodyne Triple Super Heterodyne	RF Power Output Battery DC 7.4 V/ DC-IN 13.8 V	HI MID L EL 5 W / 5 W 2 W / 2 W 0.5 W / 0.5 W 0.05 W / 0.05 W	
Number of Channels		Total 1000-ch	Intermediate Frequency 1 st IF (Band A / Band B) 2 nd IF (Band A / Band B) 3 rd IF (Band B: A1A, A3E, J3E)	57.15 MHz / 58.05 MHz 450 kHz 10.8 kHz	Modulation Modulation Deviation	Reactance Modulation Digital GMSK Modulation: ±1.2 kHz FM ±5.0 kHz NFM ±2.5 kHz	
Mode	Band A Band B	F3E, F1D, F2D, F7W F3E, F2D, F1D, F7W, A1A, A3E J3E, F7W	Sensitivity A: W/N A: DV BER 1% PN9 4.8 kbps B: W/N B: DV BER 1% PN9 4.8 kbps B: SSB Approx. B: AM Approx.	12 dB SINAD 0.18 / 0.22 µV (Amateur band) 0.22 µV (Amateur band) 12 dB SINAD 0.20 / 0.25 µV (Amateur band) 0.25 µV (Amateur band) 10 dB S/N 0.20 µV (Amateur band) 10 dB S/N 4.00 µV (0.3-0.52), 1.59 µV (0.52-1.8) (MHz) 0.63 µV (1.8-54), 1.12µV (54-76) 0.50 µV (118-175), 0.63 µV (200-250) 1.12 µV (380-524)		Spurious Emissions Microphone Impedance	HI/MID LOW/EL <-60 dBc <-50 dBc / <-40 dBc 2 kΩ
Operating Temperature	DC IN w/ Li-ion Battery w/ Chargeable Li-ion Battery	-20°C – +60°C (-4°F – +140°F) -10°C – +50°C (14°F – +122°F) 0°C – +40°C (32°F – +104°F)	B: FM Approx. A/B: B: A/B: B: A/B: B: B: W-FM Approx. B: B: SSB Approx. B: B:	12 dB SINAD 0.32 µV (28-54), 0.56 µV (54-76) (MHz) 0.36 µV (118-144) 0.36 µV (148-175) 0.36 µV (200-222, 225-250) 0.50 µV (380-400) 0.36 µV (400-430, 450-490) 0.63 µV (490-524) 1.59 µV (76-95) (MHz) 2.00 µV (95-108) 10 dB S/N 0.40 µV (1.8-54), 0.79 µV (54-76) (MHz) 0.16 µV (144-148), 0.20 µV (222-225) 0.16 µV (430-450)		GPS TIFF (Cold Start) TIFF (Hot Start) Horizontal Accuracy Receive Sensitivity Ta=25°C, Open sky	40 sec (typ) 5 sec (typ) 10 meters or less -141 dBm (typ)
Frequency Stability		±2.0 ppm (-20°C – +60°C, -4°F – +140°F)	B: AM Approx. A/B: B: A/B: B: B: W-FM Approx. B: B: SSB Approx. B: B:	10 dB S/N 4.00 µV (0.3-0.52), 1.59 µV (0.52-1.8) (MHz) 0.63 µV (1.8-54), 1.12µV (54-76) 0.50 µV (118-175), 0.63 µV (200-250) 1.12 µV (380-524) 0.32 µV (28-54), 0.56 µV (54-76) (MHz) 0.36 µV (118-144) 0.36 µV (148-175) 0.36 µV (200-222, 225-250) 0.50 µV (380-400) 0.36 µV (400-430, 450-490) 0.63 µV (490-524) 1.59 µV (76-95) (MHz) 2.00 µV (95-108) 10 dB S/N 0.40 µV (1.8-54), 0.79 µV (54-76) (MHz) 0.16 µV (144-148), 0.20 µV (222-225) 0.16 µV (430-450)		Bluetooth Output Power Modulation Characteristics Initial Carrier Frequency Carrier Frequency Drift 1. One Slot packet 2. Three Slot packet 3. Five Slot packet	-6 <Pav <4 dBm 140 <= Δf1avg <= 175 kHz -75 <= fo <= +75 kHz ±25 kHz ±40 kHz ±40 kHz
Antenna Impedance	SMA	50 Ω	Squelch	A/B	0.18 / 0.25 µV	The measurements shall be in accordance with the method specified by JAJA. Also conform to PSIS-C08-001 product inspection measurement method. Specifications, and design may change due to advancements in technology.	
Operating Voltage	DC-IN Battery	DC 11.0 – 15.9 V (STD: DC 13.8 V) DC 6.0 – 9.6 V (STD: DC 7.4 V)	Channel Selectivity A/B: Spurious Rejection IF Rejection Audio Output At 7.4 V, 10% distortion, INT	-6/-50 dB A/B A/B A/B	12 kHz or more / 30 kHz or less 50 / 45 dB (UHF-B: 40 dB) 60 / 55 dB 400 mW / 8 Ω		
Current Consumption (TX)	Battery DC 7.4 V/ DC-IN 13.8 V	HI MID L EL 2.0 A / 1.4 A 1.3 A / 0.9 A 0.8 A / 0.6 A 0.5 A / 0.4 A					
Current Consumption (RX)	Single Dual GPS only	Rated AF Output SQL Closed Save Mode Average Rated AF Output SQL Closed Save Mode Average 125 mA					
Dimensions (W x H x D)		Projections not included with KNB-75LA (1820 mAh) 56.0 x 121.95 x 32.5mm					
Weight (net)	with KNB-75LA (1820 mAh)	340 g					

The APRS® trademark is used with permission of Tucson Amateur Packet Radio Corp., its assignee.

D-STAR (Digital Smart Technology for Amateur Radio) is a digital radio protocol developed by JARL (Japan Amateur Radio League).

USB Type-C™ and USB-C™ are registered trademarks of USB Implementers Forum.

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by JVCKENWOOD is under license.

All other company names, brand names and product names are registered trademarks or trade names of their respective holders.

The content of this document is based on information available at the time of its publication and may be different from the latest information.