

KENWOOD

THE LATEST TRIBANDER

More Ways to Connect
More With the World.

APRS®
&
DIGITAL

KENWOOD's multiband transceiver: Innovative APRS and DIGITAL voice functions expand the excitement.

144 / 220 / 430 MHz TRIBANDER

TH-D75A

APRS DIGITAL



APRS & DIGITAL

Featuring APRS & DIGITAL



144/220/430 MHz TRIBANDER
TH-D75A



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-D75A 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.



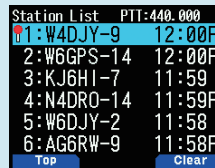
Own station/other station relative display compass



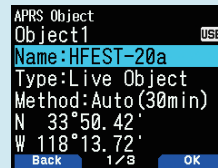
Weather station information

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



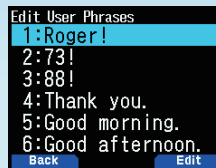
Object settings

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

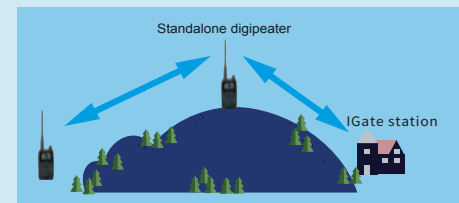
Real-time messaging between stations running APRS is possible. Messages to be sent can be input using the keys or selected from a number of templates.



Customizable templates

Standalone digipeater function

The TH-D75A 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

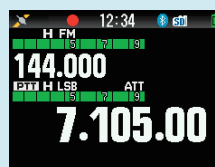
The built-in KISS mode TNC for APRS enables APRS operation via PC after connection via USB or Bluetooth.

APRS Menu Settings

The TH-D75A 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-D75A 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-D75A 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

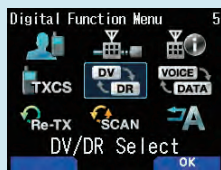
The TH-D75A features a DV fast data mode that accelerates communication throughput by sending data on unused voice frames for more comfortable data communication.

Simple operation in DR (D-STAR Repeater) mode

Selecting and setting access repeaters from the pre-programmed repeater list simplifies communication. The TH-D75A 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-D75A 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-D75A 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-D75A 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-D75A Specifications

GENERAL	
Frequency Range	Band-A TX 144 - 148, 222 - 225, 430 - 450 MHz RX 136 - 174, 216 - 260, 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	-4 to +140 °F (-20 to +60 °C) with KNB-75LA (Li-ion) +14 to +122 °F (-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	H M L EL
	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: Stby 6: 6: 48 sec., GPS/BT off
with KNB-75LA (Li-ion)	H M L EL
	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) 2.20 x 4.80 x 1.28 in (56.0 x 121.95 x 32.5 mm)
Weight (net)	Radio only 7.20 oz (204 g) with KNB-75LA (Li-ion) 12.20 oz (346 g) (w/ Ant, Belt Clip)

RECEIVER		Band-A	Band-B
Circuitry	F1D, F2D, F3E, F7W A1A, A3E, J3E	Double Super Heterodyne Triple Super Heterodyne	
IF Frequency	1st IF 2nd IF 3rd IF	57.15 MHz 450 kHz A1A, A3E, J3E	58.05 MHz 450 kHz 10.8 kHz
Sensitivity (Typ.) Amateur Band and Mode that can be TX	FM 12 dB SINAD FMI/NFM 144 MHz FMI/NFM 220/430 MHz DV PNR/GMSK 4.8 kbps, BER 1%	0.18/ 0.22 uV 0.18/ 0.22 uV 0.20 uV 0.22 uV	0.19/ 0.24 uV 0.20/ 0.25 uV 0.22 uV 0.22 uV
Except above Amateur Band and Mode	FM 12 dB SINAD 28 - 54 MHz 54 - 76 MHz 118 - 144 MHz 148 - 175 MHz 200 - 222 MHz 225 - 250 MHz 382 - 400 MHz 400 - 412 MHz 415 - 430 MHz 450 - 490 MHz 490 - 524 MHz		0.32 uV 0.56 uV 0.36 uV 0.36 uV 0.36 uV 0.50 uV 0.36 uV 0.36 uV 0.36 uV 0.36 uV 0.63 uV
	AM 10 dB S/N 0.3 - 0.52 MHz 0.52 - 1.8 MHz 1.8 - 54 MHz 54 - 76 MHz 118 - 174 MHz 200 - 250 MHz 382 - 412 MHz 415 - 524 MHz		4.00 uV 1.59 uV 0.63 uV 1.12 uV 0.50 uV 0.63 uV 1.12 uV 1.12 uV
	SSB 10 dB S/N 1.8 - 54 MHz 54 - 76 MHz 114 - 148 MHz 222 - 225 MHz 430 - 450 MHz		0.40 uV 0.79 uV 0.16 uV 0.20 uV 0.16 uV
BC Band	WFM 30 dB S/N 76 - 95 MHz 95 - 108 MHz		1.59 uV 2.00 uV

RECEIVER		Band-A	Band-B
Squelch (Typ.)		0.18 uV	0.25 uV
Spurious Rejection	144 / 220 MHz 430 MHz	50 dB or more 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 -50 dB	12 kHz or more 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	M	L	EL
	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		
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	
Version, class	Version 3.0, class 2
Output Power	-6 < Pav < 4 dBm
Modulation Characteristics	140 ≤ Δf avg ≤ 175 kHz
Initial Carrier Frequency	-75 ≤ f0 ≤ +75 kHz
Carrier Frequency Drift	±25 kHz (One Slot packet) ±40 kHz (Three Slot packet) ±40 kHz (Five Slot packet)

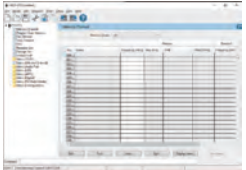

The measurements shall be in accordance with the method specified by JAJA (Japan Amateur Radio Industries Association). Specifications, and design may change due to advancements in technology. Except for sensitivity, these specifications are guaranteed for Amateur Bands only.

Optional Accessories

 Headset KHS-26	 Speaker Microphone KMC-45D	 DC cable PG-2W
 Filtered Cigarette Lighter Cord PG-3J	 Li-ion Battery Pack (7.4V/1820mAh) KNB-75LA *Compatible with previous KNB-75L*	 *Same as supplied

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*Alterations may be made without notice to improve the ratings or the design of the transceiver.
*The photographic and printing processes may cause the coloration of the transceiver to appear different from that of the actual transceiver.

 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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