

KENWOOD

144 / 430 MHz DUAL BANDER TH-D74E

Welcome to a new world

APRS
&
DIGITAL



The new,
brilliantly evolved
dual-bander

144 / 430 MHz DUAL BANDER

TH-D74E



*Photo is image of backlight illumination.

APRS & DIGITAL

A long-awaited new operating style that follows you

APRS

Compatible with the APRS communication protocol, which allows real-time two-way data transmission by using packet communications, This stand-alone device provides enjoyment of communications that make use of a variety of features, including sharing of local and GPS positional information, and message exchange.

Other station positional information, weather station information

The new feature "relative display compass" enables real-time GPS information for your station 'at a glance', information for your own station set in advance, or the distance/direction/heading/speed of other stations. It is now easier to confirm the relationship with your own station's position and heading. Weather station information can be displayed in color, such as rainfall, temperature, wind speed/direction, barometric pressure and humidity data.



Own station/other station relative display compass

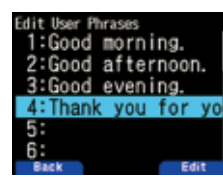


Weather station information

stations, base stations, weather stations and objects. It is also possible to limit or sort the kinds of stations received. Local information can also be transmitted as an "object."

Messaging functionality

Real-time messaging is possible between stations running APRS. Messages can be sent by inputting text via the keys on the panel or selecting a message template.



Customizable message templates

QSY Functionality

FM or D-STAR voice channels can be set according to frequencies or D-STAR repeaters information embedded in beacons from APRS stations enabling fast QSY. D-STAR gateway communication is also set automatically.

KISS mode TNC

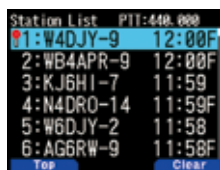
The built-in KISS mode TNC for APRS enables APRS operation via PC after connection via USB or Bluetooth.

APRS menu settings

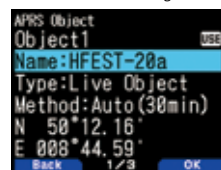
The unit is also compatible with a variety of features that expand its scope of operation, including SmartBeaconing, Decay Algorithm, Proportional Pathing and APRS voice.

Station list and object compatibility

A maximum of 100 stations can be stored, including mobile



Station list



Object settings

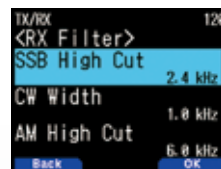
Improved voice quality and various enhanced features for increased Amateur Radio enjoyment.

Wideband and multimode reception

Wideband reception is possible on Band B. In addition to DV/DV Fast Data/FM/NFM/WFM/AM on the 0.1~524MHz bands, SSB/CW reception is also possible. The unit comes with 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. It also has VxV, UxU, and VxU simultaneous receive functionality.



HF band SSB reception (PTT icon displays operating band)



IF receiving filter settings

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

Built-in IF receiving filter is for comfortable reception

The IF reduces neighboring interference signals during SSB or CW reception, and enables low-interference reception with its excellent skirting capacity. (Selectable range: SSB: 2.2~3.0 kHz, CW: 0.3~2.0 kHz, AM: 3.0~7.5 kHz)

IF output mode

Capable of output to a USB port of an IF signal with a central frequency of 12kHz and a bandwidth of 15kHz, enabling smart reception of all kinds of data via a PC.

High-performance DSP voice processing

The unit comes equipped with an 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 it possible to adjust sound quality to your preference.



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DIGITAL

Compatible with D-STAR, the amateur radio communications network that has both voice and data modes. Both local and international communications are possible through diverse operations including simplex communications, single repeater relay communications, and inter-repeater gateway communications.

Compatible with D-STAR, as developed by JARL

The unit is compatible with the D-STAR amateur radio digital communication system developed by the Japan Amateur Radio League (JARL). Enjoy a variety of communication methods with the clear voice only digital can deliver.



DV mode (single band)

APRS+DR mode (dual band)

DV fast data mode

The unit features a DV fast data mode that accelerates communication throughput by sending data on unused voice frames to achieve more comfortable data transmission.

Simple operation in DR (D-STAR Repeater) mode

The calling of other stations is made simpler by setting access repeaters and other stations after selecting them from a list. The unit 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. A maximum of 120 communication history items can be

stored, with other stations able to be easily reset from the communication history.

Setting via the digital function menu

The appeal of D-STAR is being able to enjoy a variety of operating styles. The unit employs a separate menu that enables one-touch operation switching.



Digital function menu

Easily updated repeater list

The latest repeater lists can be downloaded from the internet. Updates to the latest information can also be performed via a PC, using a USB cable, via Bluetooth or a micro SD card.



Repeater list

Inherit the reputable KENWOOD sound

Enjoy clear-voice and easily heard communications through KENWOOD custom tuned sound quality based on know-how accumulated over many years and the latest in audio engineering.

Built-in GPS

The unit is equipped with a high-performance GPS patch antenna. It also features closest D-STAR repeater search, along with a GPS receiver function that stores movement paths, and an automatic time correction function.



Standard compatibility on a rich interface

The unit features standard compatibility for Bluetooth. Micro SD / SDHC memory card and micro-USB ports are also included, enabling operation via an interface flexibly linked with a PC.



Greater convenience through free PC software

Available software includes the MCP-D74*3 program, which enables the management of settings including memory on a PC, and the ARFC-D74*3 program, which enables free changing of the unit's frequency via PC.



*3: The MCP-D74 and ARFC-D74 programs are available post-sale for download from the Kenwood website.

The perfect combination of visibility, durability, and user-friendliness.

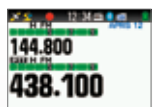
Visibility and user-friendliness taken into account

The unit uses TFT transfective color liquid crystals, and using reflected light and a backlight, achieves superior visibility in both dark places and bright places such as in sunlight. In addition to the cross-shaped key structure, the keypad incorporates highly-operable flat and slim key-tops for a combination of high-quality aesthetics and operability.



MENU (black background)

MENU (white background)



Example of dual band display

Tough weatherproofing meeting IP54/55 standards

We increased dust and water resistant in anticipation of tough conditions, using heavy-duty specs so you never have to worry about the dusty outdoors or sudden showers.



Easily understandable pop-up screens

For easy visual comprehension of pop-up screens, APRS uses blue as a background color, while D-STAR uses green.



APRS pop-up

D-STAR pop-up

Other TH-D74E features

- 1,000 memory channels ●1,500 repeater lists
- 4-stage transmission output switching (5/2/0.5/0.05W)
- Voice recording functionality (microSD/SDHC)
- Voice messaging (4ch)
- Voice guidance
- GPS receiver mode
- 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 switching
- Frequency direct input
- DTMF memory (10ch)
- Dedicated EchoLink DTMF memory (10ch)
- FM radio mode
- 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, PART, FULL)

TH-D74E supplied accessories

Antenna, Li-ion battery pack (7.4V/1,800mAh), AC adapter/charger, belt clip, instruction manual, warranty

TH-D74E Specifications

GENERAL	
Frequency Range	Band-A TX: 144 - 146, 430 - 440 MHz RX: 136 - 174, 410 - 470MHz Band-B RX: 0.1 - 76, 76 - 108 MHz (WFM) 108 - 524 MHz
Mode	TX F3E, F2D, F1D, F7W RX F3E, F2D, F1D, F7W, J3E, A3E, A1A
Operating Temp. Range with Incd. KNB-75L	-20 °C ~ +60 °C -10 °C ~ +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.)	TX EXT.PS 13.8 V / Battery:7.4 V H M L EL DC-IN 1.4 A 0.9 A 0.6 A 0.4 A BATT 2.0 A 1.3 A 0.8 A 0.5 A
Current Consumption (TYP.)	RX SINGLE 260 mA (Rated Power) 135 mA (SQ Close) 48 mA (Avg. Save on) DUAL 310 mA (Rated Power) 185 mA (SQ Close) 50 mA (Avg. Save on) GPS receiver mode 115 mA
Battery Life	Approx. Single, Save on, Rate 6:6:48 sec, GPS off H M L EL KNB-75L (1,800 mAh) 6 hours 8 hours 12 hours 15 hours KNB-74L (1,100 mAh) 4 hours 5 hours 7 hours 9 hours KBP-9 (Alkaline 6AAA) --- --- 3.5 hours --- Approx. 10 % shorter when GPS is ON
Dimensions (W x H x D)	Projections not included with KNB-75L 56.0 x 119.8 x 33.9 mm with KNB-74L 56.0 x 119.8 x 29.3 mm with KBP-9 56.0 x 119.8 x 36.0 mm
Weight (net)	Body only 202 g with KNB-75L 345 g (w/ Antenna, Belt Clip) with KNB-74L 315 g (w/ Antenna, Belt Clip) with KBP-9 360 g (w/ Antenna, Belt Clip, 6AAA Battery)

RECEIVER	Band-A	Band-B
Circuitry	Double Super Heterodyne Triple Super Heterodyne	
F3E, F2D, F1D, F7W J3E, A3E, A1A		
IF Frequency	57.15 MHz	58.05 MHz
1st IF	450 kHz	450 kHz
2nd IF		10.8 kHz
3rd IF	J3E, A3E, A1A	
Sensitivity (TYP.) Amateur Band		
FM	12 dB SINAD FM/ NFM 144 MHz 0.18/ 0.22 uV FM/ NFM 430 MHz 0.18/ 0.22 uV	0.19/ 0.24 uV 0.20/ 0.25 uV
DV	PN9/GMSK 4.8kbps, BER 1% 144 MHz 0.20 uV 430 MHz 0.22 uV	0.16 uV 0.50 uV
SSB	10dB S/N	
AM	10dB S/N	
AM	10 dB S/N	
Except above Amateur Band		
FM	12 dB SINAD 0.3 - 0.52 MHz 4 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	0.32 uV 0.56 uV 0.36 uV 0.36 uV 0.36 uV 0.36 uV 0.36 uV 0.36 uV 0.63 uV
SSB	10 dB S/N 1.8 - 54 MHz 0.40 uV 54 - 76 MHz 0.79 uV 144 - 148 MHz 0.16 uV 222 - 225 MHz 0.20 uV 430 - 450 MHz 0.16 uV	

RECEIVER	Band-A	Band-B
FM BC Band	WFM 30dB S/N 76 - 95 MHz 95 - 108 MHz	1.59 uV 2.00 uV
Squelch(TYP.)		0.18 uV 0.25 uV
Spurious Rejection	144 MHz 430 MHz	50 dB or more 45 dB or more 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	
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	
TTFF (Cold start)	Approx. 40 sec
TTFF (Hot start)	Approx. 5 sec.
Horizontal Accuracy	10 m or less
Receive sensitivity	Approx. -141 dBm (Acquisition) Ta = 25°C, Open sky

EN 300 440-2 Receiver Category 3

Bluetooth	
Version, Class	Version 3.0, Class 2
Output Power	-6 < Pavg < 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)

Optional Accessories

*VOX function cannot be used with SMC-32/ 34 or EMC-3/ 11.

 Speaker Microphone* SMC-32	 Remote Control Speaker Microphone* SMC-34	 VOX & PTT Headset HMC-3	 Clip Microphone with Earphone* EMC-3	 Clip Microphone with Earphone* EMC-11	 Clip Microphone with Earphone EMC-12
 Headset KHS-21	 Headset (Ear-Hook Type) KHS-35F	 Rapid Charger KSC-25LS	 DC Cable PG-2W	 Filtered Cigarette Lighter Cord PG-3J	 DC Power Supply PS-60
 Li-ion Battery Pack (7.4V/ 1,800mAh) KNB-75L Same as supplied	 Li-ion Battery Pack (7.4V/ 1,100mAh) KNB-74L	 Battery Case (6AAA Alkaline Batteries) *Recommended for Low/ Economic Low power mode. KBP-9	 Free Software Memory Control Program MCP-D74		 Free Software Frequency Control Program ARFC-D74

*APRS® (The Automatic Packet Reporting System) is a registered American trademark of WB4APR (Mr. Bob Bruning). *EchoLink® is a registered American trademark of Synergenics, LLC.

*D-STAR is a digital radio protocol developed by JARL (Japan Amateur Radio League). *SmartBeaconing™ is supplied by HamHUD Nichetronix, LLC.

*The Bluetooth® word-mark and logo are registered trademarks owned by Bluetooth SIG, Inc. and used under license by JVCKENWOOD Corporation.

*SD and microSD are trademarks of SD-3C, LLC in the United States, and/or other countries.

*Bluetooth uses the 2.4GHz frequency band. Sound interruptions and reduced transmission distances may be experienced due to the surrounding environment, or radios or devices such as microwave ovens using the 2.4GHz band.

Except for sensitivity, these specifications are guaranteed for Amateur Bands only.

JVCKENWOOD follows a policy of continuous advancement in development. For this reason, specifications may be changed without notice.

*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.

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