

# KENWOOD

Listen to the Future

Explore new horizons  
with this feature rich  
GPS-equipped portable



144/430 MHz FM DUAL BANDER

# TH-D72E



TH-D72

Featuring the SiRFstar III™ high-performance GPS receiver, Kenwood's TH-D72E dual-band transceiver is compatible with APRS® data communications. Offering position and weather information, The TH-D72E opens up broad new vistas of outdoor enjoyment, especially for activities like trekking.

### Built-in high-performance GPS receiver

The SiRFstar III™ GPS receiver, widely recognised for its high accuracy, is built into the top of the transceiver.



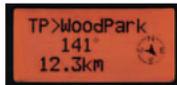
GPS receiver



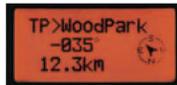
GPS satellite and signal strength display

### Target point functions

You can store up to 5 target points and display, in real time, the direction and distance to each of these. You can also switch instantly between north-up and heading-up displays, whichever you find more convenient.



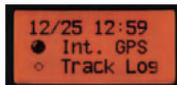
Target point display (north up)



Target point display (heading up)

### GPS Logger functions

- Store up to 5,000 points of track data in internal memory.
- Choose from 3 different timing options for storing data — interval, travel distance, or beacon TX point (example: if set to a 10-second interval, logging is possible for up to about 14 hours).
- Convert GPS log data to the KML file format used by Google Earth™ using the MCP-4A memory control programme.
- Extend operating hours (up to 35 hours per charge) by switching off transceiver functions and using just GPS.



Dedicated GPS mode



Log memory

### APRS® firmware equipped as standard

Kenwood engineers working closely with Bob Bruninga (WB4APR), who first developed APRS (Automatic Packet Reporting System), Kenwood has developed system firmware for the TH-D72E that enables easy APRS operation without requiring a computer. The built-in GPS receiver provides positional information, while weather information can be acquired by connecting a meteorological device. All of this information can be exchanged with other stations, and it can also be output to a PC for map display using commercially available APRS application software.

### USB (Mini-B) port

You can connect the TH-D72E directly to your PC with the supplied USB cable.



### Built-in 1200/9600 bps TNC compliant with AX.25 protocol

The built-in TNC (Terminal Node Controller) is compatible with the AX.25 protocol, providing full access to APRS functions, as well as the popular KISS mode. A wide range of APRS applications can be used if the TH-D72E is connected to a PC with the supplied USB cable to enable control of the TNC. It is further possible to operate the radio as an IGate station (wireless-Internet gateway) or as a digipeater station (relay station for wireless packet communications).

### Stand-alone digipeater

On its own, the TH-D72E can serve as a digipeater. It can thus be used in various outdoor situations as a digital repeater for packet communications — for example supporting data communications from a location surrounded by mountains.

### Simple node access with EchoLink® memory

You can store call signs, node numbers, commands, etc. in up to 10 DTMF memory channels dedicated to EchoLink. And thanks to automatic call-sign/DTMF conversion, it is easy to make use of EchoLink's *Connect by call* and *Query by call*. Moreover, the MCP-4A software allows you to manage EchoLink memory.

### Support for MCP-4A software

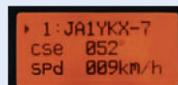
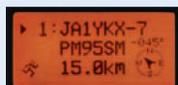
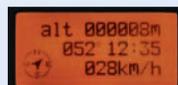
With the MCP-4A Memory Control software (a free download from the Kenwood website), you can use a computer to input, edit and manage data — for the TH-D72E's memory channels and APRS functions, for example. You can also back up GPS log data to your PC.



### APRS® features that expand your enjoyment

#### Positional/directional data

With the internal NMEA 0183 compatible GPS receiver, information is available on distance, speed and heading in addition to latitude, longitude and altitude.



#### Meteorological information

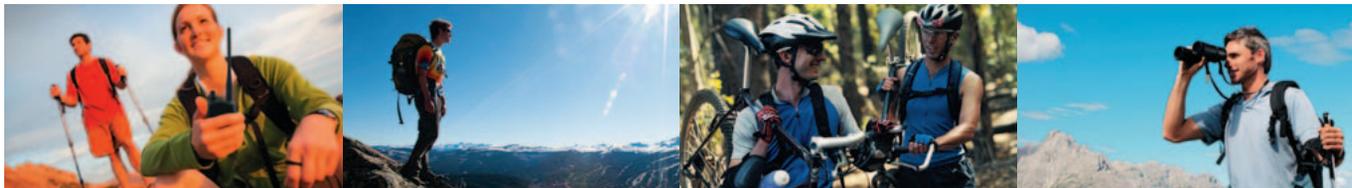
This transceiver can be connected to most Peet Bros. and Davis weather stations for access to wind speed/direction, rainfall, temperature, humidity and barometric pressure information.



#### Station list

This stores a maximum of 100 stations — including fixed base, mobile, object and weather stations — and offers filtering so you can select from different types of station. You can also sort them by call sign, reception time and distance from your own station.





## Enhanced operating ease and visibility

Thanks to the menu and arrow keys, selecting the many different functions is intuitively easy. All keys are backlit to facilitate use in the dark, and the full dot matrix LCD screen ensures the icons and text messages are clearly visible. Also, the rotary encoder knob on the top of the transceiver allows separate adjustment of volume and frequency.

## MIL-STD810 & IP54 weatherproofing

Heavy-duty specs mean you do not have to worry about getting caught in a shower. Fully prepared for tough outdoor conditions, the TH-D72E is very robust. And as well as offering IP54 levels of dust-proofing and splash-proofing, it meets or exceeds the US MIL-STD standards for rain, humidity, vibration and shock.

## Power-on message

On powering up, the transceiver will display your call sign and a message for 2 seconds. You can compose messages of up to 8 characters, and if you use the MCP-4A software you can have the transceiver display an icon of your own design.



## Long operating hours (high-capacity battery included)

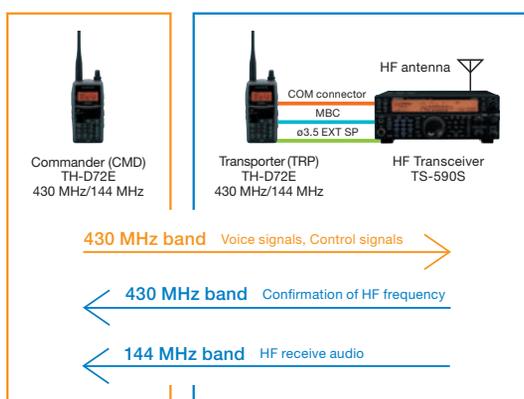
The TH-D72E comes with a rechargeable 1,800mAh lithium-ion battery. A single charge will power the transceiver for approximately 6 hours of continuous use with TX output set to the 5-watt maximum. Output can be set to HI (5W), LOW (0.5W), or EL (0.05W).

## Dual receive on same band (VxV, UxU)

In addition to simultaneous receive on both 144 MHz and 430 MHz bands, this radio can receive two frequencies on the same band. This means, say, that you can arrange to have both the call channel and local channel, or the repeater channel and local channel, on the same VHF or UHF band.

## Kenwood Sky Command System II

The Kenwood Sky Command System II allows you to use the TH-D72E for remote access to Kenwood's designated HF radios. Operating as the Commander, your TH-D72E transmits control signals to the Transporter, which also relays your voice to the HF radio. In return, HF signals are transmitted back to the Commander. This system allows you to transmit and receive HF signals, set frequencies (with LCD confirmation), switch memory channels, and much more — all remotely. You can thus enjoy HF access using the TH-D72E while making a quick trip to the local store.



## Other features

- 1,000 memory channels and 8-character names
- 9 scan modes (VFO, Programme, MHz, Memory, Memory Group, Call, Tone, CTCSS, DCS)
- 42 CTCSS frequencies
- 104 DCS (Digital Code Squelch) codes
- Cross-tone
- Waypoint export
- DX cluster tune
- Clock (date/time)
- Band mask
- Call channel
- Monitor
- Auto power-off
- MHz mode
- Selectable frequency step
- Shift
- VOX
- Auto repeater offset
- Automatic simplex checker
- DTMF memory (10 channels, 16 digits)
- Time-out timer
- Key lock
- APRS lock
- Power-on password
- Memory shift
- Programmable VFO
- Key beep on/off
- Programmable function key
- Channel display mode
- Adjustable LCD contrast
- Reset (VFO, PART, FULL)
- External GPS receiver input (2.5mm stereo jack)

## Automatic display of relay path

A pop-up display showing the call sign of a digipeater currently relaying your own beacon enables you to check on wireless traffic at a glance.



## Messaging

- Messages: up to 100 (max. 67 characters each)
- Status: 5 x max. 42 characters
- User phrases (editable messages): 8 types x max. 32 characters

A special call function provides immediate notification when a message is received from a designated station.



## Multiple functions accessible from over 60 APRS® menus

- QSY function (exchange of operating frequency data)
- Auto message reply
- Packet filter
- Decay algorithm (automatic extension of transmit interval)
- Proportional pathing (automatic selection of relay path)
- SmartBeaconing™
- 57 graphic symbols (icons)
- 3 types of grid square locator



## Optional Accessories

 <b>PB-45L</b> Li-Ion Battery Pack (7.4V/1,800mAh)	 <b>BT-15</b> Battery Case (AAAx6)	 <b>SMC-32</b> Speaker Microphone
 <b>SMC-33</b> Speaker Microphone with Remote Control	 <b>SMC-34</b> Speaker Microphone with Volume & Remote Control	 <b>EMC-3</b> Clip Microphone with Earphone
 <b>EMC-7</b> Clip Microphone with Earphone	 <b>HMC-3</b> Headset with VOX	 <b>KHS-21</b> Headset
 <b>KHS-22</b> Headset	 <b>KHS-29F</b> Headset	
 <b>PG-3J</b> Cigar Lighter Cable with Noise Filter	 <b>PG-2W</b> DC Cable	 <b>SC-55</b> Soft Case with Swivel Belt Clip
 <b>PS-60</b> DC Power Supply	 <b>MCP-4A</b> Memory Control Programme (available free for downloading from the Kenwood website)	

## Supplied Accessories



- Li-ion battery pack (7.4V/1,800mAh)
- AC adaptor
- Antenna
- USB cable
- AC power cord
- Belt hook (with screw)
- Warranty card
- Instruction manual (English/Spanish/French/German/Italian/Dutch)
- CD-ROM (For detailed instruction manual and USB driver)

## TH-D72E Specifications

GENERAL			
Frequency Range	Band A & B	TX (VHF) TX (UHF)	144 – 146 MHz 430 – 440 MHz
Frequency Range	Band A	RX (VHF) RX (UHF)	136 – 174 MHz 410 – 470 MHz
	Band B	RX (VHF) RX (UHF)	118 – 174 MHz 320 – 524 MHz
Mode			F1D, F2D, F3E
Antenna Impedance			50 Ω
Power Requirements (nominal)	External Battery	DC 12.0-16.0 V (Standard Voltage: DC 13.8 V) DC 5.5-9.0 V (Standard Voltage: DC 7.4 V)	
Operating Temperature Range	With PB-45L Li-ion Battery		-20 °C ~ +60 °C -10 °C ~ +50 °C
Frequency Stability			Within ±5 ppm (-10 °C ~ +50 °C)
Battery Life	With PB-45L	HI LOW EL	Approx. 6 Hours Approx. 12 Hours Approx. 15 Hours
	With BT-15 (AAAx6)	HI LOW EL	Approx. 1.5 Hours Approx. 6 Hours Approx. 8 Hours
Dimensions (W x H x D)	Projections not included Including Projections		58 x 121.3 x 33.2 mm 58 x 140 x 39.8 mm
Weight	With PB-45L, antenna and belt hook		Approx. 370 g
TRANSMITTER			
RF Output Power	HI	With BT-15	5 W Approx. 2 W Approx. 0.5 W Approx. 0.05 W
	LOW EL		
Modulation	Reactance Modulation		
Maximum Frequency Deviation	FM: ±5 kHz, N-FM: ±2.5 kHz		
Spurious Radiation	Less than -60 dB		
Modulation Distortion (300 Hz ~ 3 kHz)	Less than 3 %		
Microphone Impedance	2 kΩ		
RECEIVER			
Circuitry	Double Super Heterodyne		
Intermediate Frequency	1st IF (Band A / Band B) 2nd IF (Band A / Band B)	49.95 MHz / 45.05 MHz 450 kHz / 455 kHz	
Sensitivity (12 dB SINAD)	Band A / Band B	Less than 0.18 µV / Less than 0.22 µV	
Squelch Sensitivity	Less than 0.13 µV		
Selectivity	-6 dB -50 dB	More than 11 kHz Less than 30 kHz	
Audio Output (at 8 Ω, 10 % distortion)	More than 300 mW (at 7.4 V)		

Kenwood reserves the right to change specifications and features without prior notice. These specifications are guaranteed for Amateur Bands only.

## Typical Sensitivity (excluding VHF / UHF Amateur Bands)

	Band A	Band B	
	FM: 12 dB SINAD	FM: 12 dB SINAD	AM: 10 dB S/N
118 ~ 135.995 MHz	–	Approx. -11 dBµ (0.28 µV)	Approx. -8 dBµ (0.4 µV)
136 ~ 143.995 MHz	Approx. -11 dBµ (0.28 µV)	Approx. -11 dBµ (0.28 µV)	–
146 ~ 173.995 MHz	Approx. -13 dBµ (0.22 µV)	Approx. -13 dBµ (0.22 µV)	–
320 ~ 339.995 MHz	–	Approx. 2 dBµ (1.26 µV)	Approx. 7 dBµ (2.24 µV)
340 ~ 379.995 MHz	–	Approx. -5 dBµ (0.56 µV)	Approx. 0 dBµ (1.0 µV)
380 ~ 399.995 MHz	–	Approx. -8 dBµ (0.4 µV)	Approx. -8 dBµ (0.4 µV)
400 ~ 409.995 MHz	–	Approx. -13 dBµ (0.22 µV)	–
410 ~ 429.995 MHz	Approx. -13 dBµ (0.22 µV)	Approx. -13 dBµ (0.22 µV)	–
440 ~ 469.995 MHz	Approx. -13 dBµ (0.22 µV)	Approx. -13 dBµ (0.22 µV)	–
470 ~ 499.995 MHz	–	Approx. -8 dBµ (0.4 µV)	–
500 ~ 523.995 MHz	–	Approx. 0 dBµ (1.0 µV)	–

\*SIRFstar III™ is a trademark of CSR plc.  
\*Google Earth™ is a trademark of Google Inc.  
\*APRS® is a registered trademark of Bob Bruninga.  
\*EchoLink® is a registered trademark of Synergenics, LLC.  
\*SmartBeaconing is supplied by Ham HUD Nichetronix, LLC.

## Listen to the Future

Kenwood has always connected with people through sound. Now we want to expand the world of sound in ways that only Kenwood can, listening to our customers and to the pulse of the coming age as we head toward a future of shared discovery, inspiration and enjoyment.

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