

# KENWOOD

## TH-D7A DATA COMMUNICATOR FM Dual Bander

Outward bound? Don't set off without the Data Communicator. Kenwood's new TH-D7A FM dual-band (144MHz/440MHz) handheld transceiver offers superb performance plus APRS.

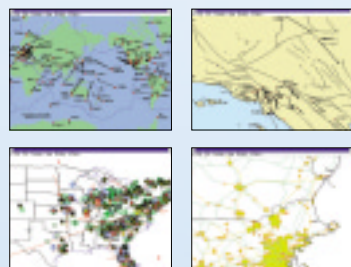


# Explore the new opportunities of APRS™ with a handheld transceiver built for the future.

Kenwood's new TH-D7A is equipped with a TNC and provides the Ham radio enthusiast with a wide range of data communications options. As well as simple packet operation using the AX.25 protocol, there's APRS (Automatic Packet/Position Reporting System), which is rapidly gaining popularity world-wide for the transmission of positional data and messages. You can also send and receive SSTV images using Kenwood's VC-H1 Visual Communicator, which offers more advanced functions in conjunction with the TH-D7A.

## APRS (Automatic Packet/Position Reporting System)

Using APRS, the TH-D7A lets you transmit your coordinates to a friend, who can then pinpoint your position using a map on a computer. APRS software



has been developed for a variety of platforms; however, what makes the Data Communicator so special is that it enables APRS operation without requiring a computer. And

when you receive your friend's positional data, you can display latitude/longitude, direction and distance on your own Data Communicator.

### Positional/directional data

Just hook up to a GPS receiver\*1 and you can transmit your position for automatic calculation of distance,

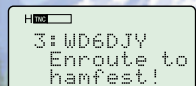


current speed and heading with icons, short comments or

fixed messages. Manual input of latitude/longitude is also permitted. \*1 NMEA-0183 compatible

### Versatile messaging

Transmit alphanumeric messages (up to 45 characters) and bulletins. Alternatively, short comments (up to 20 characters) and fixed messages (8 patterns) can be sent together with your positional data.



### Station list

Store received APRS data in up to 40 memory channels.

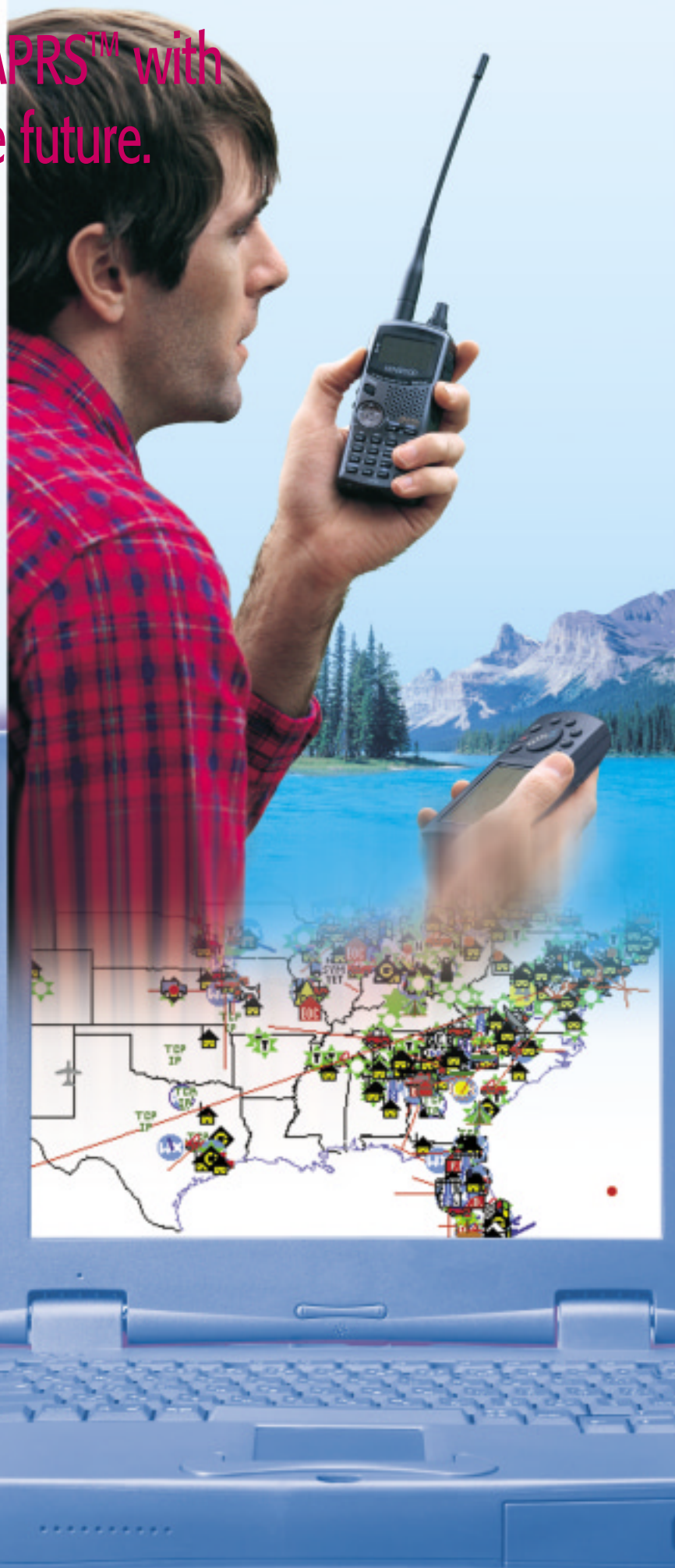
### Grid square locator display

### Packet path selection for digipeaters (relay and/or wide)

### Weather station, PHG\*2 data (fixed stations) & Object data reception

\*2 PHG: P=Power/H=Height/G=Gain

### TX interval (0.5/1/2/3/5/10/20/30 min.)



## TH-D7A + VC-H1 (Visual Communicator)

The TH-D7A also works hand-in-hand with Kenwood's VC-H1 Visual Communicator, which combines an image-scan converter and 1/4-inch CCD camera in a compact battery-operated unit. Simply connect it to the TH-D7A to start sending and receiving color images over the air. As well as viewing incoming pictures, you can review your own prior to transmission on the 1.8-inch TFT display. And you can store up to 10 pictures in memory. Other features include:



### Text superimpose function

Add your call sign, RSV reports, messages (8 text colors available).

### VC shutter

With a VC-H1 connected to your Data Communicator, you can initiate transmission remotely.

### Fast FM mode compatibility

This high-speed transmission mode lets you send an image in 14 secs (approx.).

### SSTV transmission mode selection (9 modes)

You can use any of the 8 standard SSTV modes, in addition to Fast FM.

### Dual receive for voice & image transmissions (VHF only)

As well as allowing you to enjoy both APRS and SSTV (with Kenwood's VC-H1), the TH-D7A is fully equipped to provide the performance and features you would expect of the latest generation of dual-band transceivers.

### Built-in 1200/9600bps TNC (1 packet, 1 frame, 256 bytes) compliant with AX.25 protocol

### Kenwood Sky Command (KSS) II for remote control of fixed HF transceiver – TS-570S/D(G) or TS-870S (requires optional PG-4R)

### High-speed (9600bps) PC-based packet communications for chat, BBS, etc.

### Monitoring DX cluster (using built-in TNC)

### DTMF remote control (TM-742A/TM-V7A)

### Dual receive on same band V+V (VHF only) for both voice and data (two frequencies simultaneously)

### Large dot-matrix LCD (12 digits x 3 lines), multi-scroll key, menu mode & other user-friendly features



### 200 memory channels with 8-character memory name input

### Backlit keys

### Built-in CTCSS (38 EIA-standard subtone frequencies)

### AIP (Advanced Intercept Point) (VHF only)

### DTMF memory (10 channels, 16 digits)

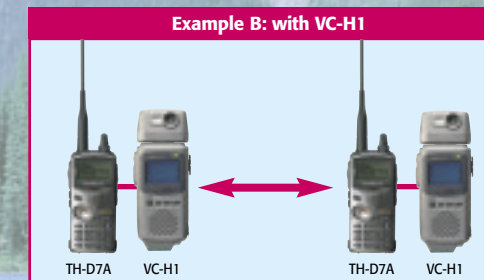
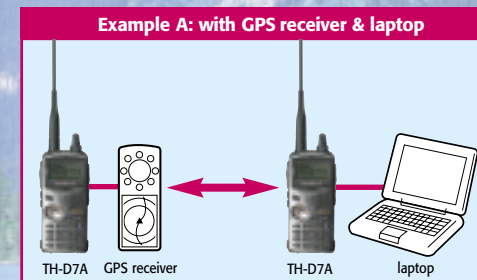
### Auto repeater offset (144MHz)

### MIL-STD 810C/D/E water resistance

### DC 13.8V input (charger circuit)

### High-gain dual band antenna

### Low-loss SMA connector



## APRS – A Global Phenomenon

APRS is the name given to Ham radio packet communications network software developed in 1992 by Bob Bruninga (WB4APR). There are now about twenty thousand APRS users in the US, and groups are springing up in several other countries, including the UK, Italy, Netherlands, Argentina, and Venezuela.

Information can be found on many Internet sites (such as <http://web.usna.navy.mil/~bruninga/aprs.html>), some of which display real examples of APRS in action. You can even check operations in areas far beyond the range of your own equipment. This is one of the reasons why APRS is catching on so fast.

## Optional Accessories

**VC-H1**  
Interactive Visual  
Communicator



**HMC-3**  
Head Set  
(VOX & PTT)



**PB-38**  
Standard  
Battery Pack  
(6.0 V, 650 mAh)



**EMC-3**  
Clip Microphone  
with Earphone



**PB-39**  
High-Power  
Battery Pack  
(9.6 V, 600 mAh)



**PG-3J**  
Filtered  
Cigarette  
Lighter Cord



**BT-11**  
Battery Case  
(4 x AA)



**BC-19**  
Rapid Charger



**PG-2W**  
DC Cable



**BC-17**  
Wall Charger



**PG-4R**  
Sky Command  
Adapter



**SMC-32**  
Speaker  
Microphone



**SMC-33**  
Remote  
Control Speaker  
Microphone



**PG-4V**  
VC-H1 Connection  
Cable



**SMC-34**  
Speaker  
Microphone  
with 3 Function  
Keys & Volume Control



**PG-4W**  
PC Programming  
Cable (with PC  
software and  
Instruction manual)



Not all products are available in all markets.

## Specifications

### TH-D7A

#### GENERAL

Frequency Range		TX: 144 ~ 148 MHz
144 MHz (VHF)		RX: 118 ~ 174 MHz
440 MHz (UHF)		TX: 430 ~ 450 MHz
		RX: 400 ~ 480 MHz
		144 ~ 148 MHz
Mode		F1D, F2D, F3E (FM)
Operating Temperature Range		-4° F ~ +140° F (-20° C ~ +60° C)
Antenna Impedance		50 Ω
Power Requirement		
External		DC 5.5 ~ 16 V (13.8 V)
Battery		DC 4.5 ~ 15 V (6.0 V)
Current Drain (approx.)		
Transmit		
HI (13.8V DC)		1.7 A (VHF), 2.1 A (UHF)
(9.6V DC)		1.7A (VHF), 1.8 A (UHF)
(6.0V DC)		1.3 A (VHF), 1.5 A (UHF)
LO (6.0V DC)		0.5 A (VHF/UHF)
EL (6.0V DC)		0.3 A (VHF/UHF)
Standby (TNC off)		45 mA (VHF/UHF)
Dimensions (W x H x D) [projections not included]		2-1/4" x 4-3/4" x 1-1/2" (54 x 119.5 x 35.5 mm) with PB-38
Weight		Approx. 12 oz (340 g) with PB-38

#### TRANSMITTER

RF Output Power (approx.)		
HI (13.8V DC)		6 W (VHF), 5.5 W (UHF)
(9.6V DC)		5 W (VHF/UHF)
(6.0V DC)		2.5 W (VHF), 2.2 W (UHF)
LO		0.5 W (VHF/UHF)
EL		50 mW (VHF/UHF)
Modulation		Reactance modulation
Maximum Frequency Deviation		±5 kHz
Spurious Radiation		
HI		Less than -60 dB
LO		Less than -50 dB
EL		Less than -40 dB
Frequency Stability		±10 ppm (+14° F ~ +122° F)
		±15 ppm (-4° F ~ +140° F)
Modulation Distortion		Less than 3% (300 Hz ~ 3 kHz)
Microphone Impedance		2 kΩ

#### RECEIVER

Circuitry		Double Super Heterodyne
Intermediate Frequency		
1 <sup>st</sup> IF		38.85 MHz (VHF), 45.05 MHz (UHF)
2 <sup>nd</sup> IF		450 kHz (VHF), 455 kHz (UHF)
Sensitivity (12 dB SINAD)		
Main		Less than 0.18 μV
Sub		Less than 0.28 μV
Squelch Sensitivity		Less than 0.1 μV
Selectivity		
-6 dB		More than 12 kHz
-40 dB		Less than 28 kHz
Audio Output Power		
9.6V (at 8 Ω, 10% distortion)		More than 450 mW
6.0V (at 8 Ω, 10% distortion)		More than 300 mW

Kenwood follows a policy of continuous advancement in development. For this reason specifications may be changed without notice. These specifications are guaranteed for Amateur Bands only.

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**ISO 9001**  
**JQA-1205**

Communications Equipment Division  
 Kenwood Corporation  
 ISO9001 certification