KENWOOD

TH-D7A(G)

### DATA COMMUNICATOR
FM Dual Bander

Explore the exciting possibilities of APRS® with the Data Communicator — Kenwood's high-performance TH-D7A (G) FM dual-band (144MHz/440MHz) handheld transceiver.

Don't delay. The world of APRS awaits, and the new Data Communicator is your passport.

▌APRS (Automatic Packet/Position Reporting System)

To many people APRS suggests the use of a computer to build a colorful map display of other APRS operators in your area. You can thus pinpoint their position and heading, and exchange text messages. Through the Internet you can even check operations in areas far beyond the range of your own equipment. But the TH-D7A (G) enables APRS operation *without* requiring a computer. You can display a friend's positional data — including altitude, direction and distance — using nothing more than the Data Communicator. And you can use a GPS receiver to transmit your own coordinates to other members of your group or to anyone using APRS.
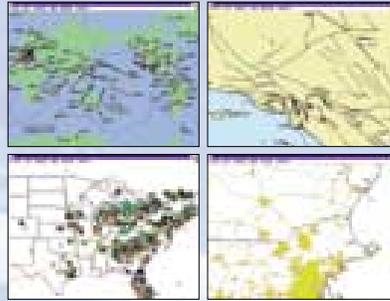
■ My Position

If you connect a NMEA-0183 compatible GPS receiver — either NMEA (4800bps) or **NMEA96 (9600bps)** — the TH-D7A (G) can automatically display your own position data. Included are current **time**, **speed**, **heading** and **altitude**. And if you do not have a GPS receiver, no problem: you can input your position manually (up to 3 locations can be stored for selective transmission).

■ Receiving position data

On receipt of data, your TH-D7A (G) pops up the relevant call sign and status text on the display — in either full-screen mode or together with the frequency (you can now choose between 2 different interrupt displays). The detailed display includes the **station's type** (fixed, moving, weather, etc.), position comment, icon, grid square locator, direction and distance. And in the case of a moving station, you can check on its **altitude**, speed and heading. Incoming emergency data is indicated by an audible signal and a special screen. (Note: the data from 40 stations can be stored in memory.)

■ Sending position data

You have control over transmission of your own data to other stations, determining call sign, icon, **position comment (choice of 15)**, TX interval, and position ambiguity (the last 1~4 digits of your latitude and longitude can be masked). The options for status text transmission now include a choice of **three types** (up to 20 characters each) and a variable rate (once every 1~8 times a beacon is transmitted, or disabled). Also, the auto TX beacon interval can now be set as low as 0.2min.

■ Exchanging messages

On receipt of a message, it pops up on screen. A detailed display identifies message type, call sign, contents, and **time passed since transmission/reception**. When you send a message, it is displayed with such information as line number, status, and time passed since transmission. A total of 16 messages — sent and received — can be stored for easy reference. Other messaging features include **auto-replay** (with separate storage for a message of up to 45 characters), **query packets**, and **group message reception** (up to 6 different group names, max. 9 characters each).

■ Way point position data output (selectable: 6~9 characters) ■ Data band select (cross-band compatible) ■ Packet path selection with Digipeat ■ Independent selection of units (i.e. Fahrenheit + meters, Celsius + feet, etc.)

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Example A: with GPS receiver & laptop
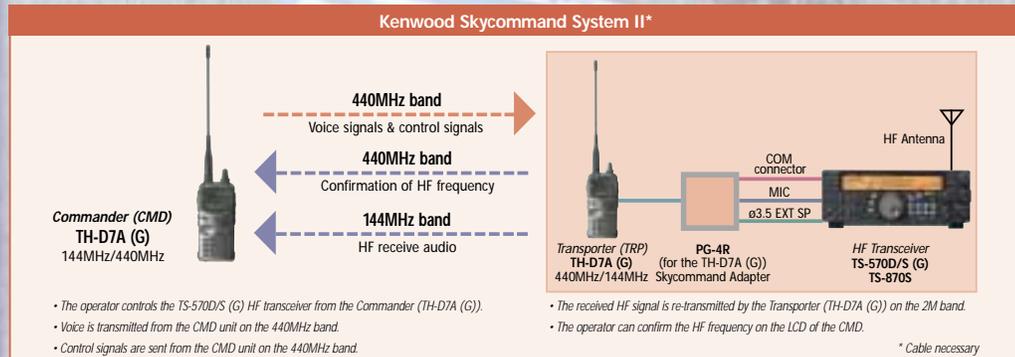
TH-D7A (G)   GPS receiver   TH-D7A (G)   laptop

Everybody's talking about APRS (Automatic Packet/Position Reporting System), the packet communications network software that allows Ham radio enthusiasts to transmit and track coordinates using GPS equipment, laptop computers and even the Internet. Now available for several platforms, APRS software was originally developed in 1992 by Bob Bruninga (WB4APR). Offering an easy and intuitive way to transmit positional data and messages, it has rapidly gained popularity in countries all over the world. And Kenwood's Data Communicator is designed to make the most of APRS.

Equipped with a TNC, the TH-D7A (G) provides you with a wide range of data communications options, plus the ability to send and receive SSTV images using Kenwood's VC-H1 Visual Communicator. But there's much more: this new model offers greatly improved performance and features. For example, in addition to your own position data it will now display current time, speed, heading and altitude. You can also choose from 3 position memory settings, 3 types of status text for transmission, and 4 data band settings. An automatic response function is provided, as is a display of time passed since message transmission/reception. These and many other new features add up to a quantum leap in convenience.

Kenwood Skycommand System II

Thanks to Kenwood Skycommand System (KSS) II, you can be mobile and yet enjoy full access to the HF transceiver back home in your shack. All you need to do is hook up one TH-D7A (G), as the Transporter, to your TS-570D/S (G) HF transceiver. You can then use a second TH-D7A (G) as the Commander, transmitting 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 from your transceiver. Kenwood Skycommand II enables full-duplex operation with access to such HF functions as XIT/RXT, mode switching (USB, FM, etc.), split-frequency operations on/off, memory shift, and frequency step selection. In addition, once every 10 minutes, the Transporter will send out its pre-programmed call sign via CW.

Kenwood Skycommand System II*

440MHz band
Voice signals & control signals

440MHz band
Confirmation of HF frequency

144MHz band
HF receive audio

Commander (CMD)
TH-D7A (G)
144MHz/440MHz

HF Antenna

COM connector
MIC
ø3.5 EXT SP

Transporter (TRP)
TH-D7A (G)
440MHz/144MHz

PG-4R
(for the TH-D7A (G))
Skycommand Adapter

HF Transceiver
TS-570D/S (G)
TS-870S

• The operator controls the TS-570D/S (G) HF transceiver from the Commander (TH-D7A (G)).
• Voice is transmitted from the CMD unit on the 440MHz band.
• Control signals are sent from the CMD unit on the 440MHz band.

• The received HF signal is re-transmitted by the Transporter (TH-D7A (G)) on the 2M band.
• The operator can confirm the HF frequency on the LCD of the CMD.

* Cable necessary

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

The TH-D7A (G) 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 (G) 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.

The TH-D7A (G) 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 Skycommand (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 (G)) ■ 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) & 1750Hz tone burst ■ AIP (144MHz) ■ 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 ■ Low-loss SMA connector

*Mode selection is possible without using a PC.

Optional Accessories

VC-H1
Interactive Visual Communicator

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

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

BT-11
Battery Case
(4 x AA)

BC-19
Rapid Charger

BC-17
Wall Charger

SMC-32
Speaker Microphone

SMC-33
Remote Control Speaker Microphone

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

HMC-3
Head Set
(VOX & PTT)

EMC-3
Clip Microphone with Earphone

PG-3J
Filtered Cigarette Lighter Cord

PG-2W
DC Cable

PG-4R
Skycommand Adapter

PG-4V
VC-H1 Connection Cable

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

Not all products are available in all markets.

Specifications

TH-D7A (G)	
GENERAL	
Frequency Range	
144 MHz (VHF)	TX: 144 ~ 148 MHz
	RX: 118 ~ 174 MHz
440 MHz (UHF)	TX/RX: 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)	2-1/4" x 4-3/4" x 1-1/2"
[projections not included]	(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	
1st IF	38.85 MHz (VHF), 45.05 MHz (UHF)
2nd 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.