

# KENWOOD

Listen to the Future



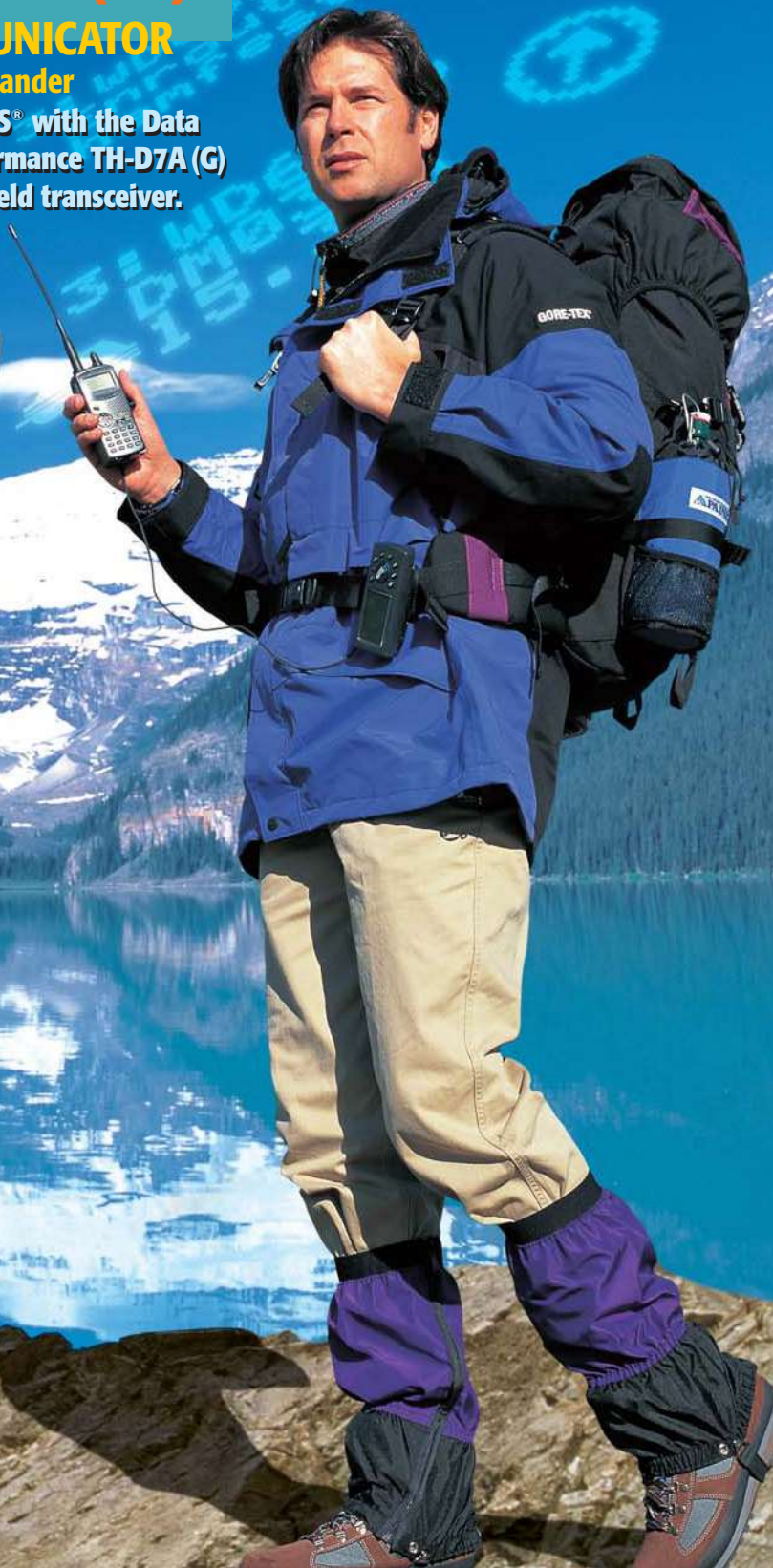
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## TH-D7A(G)

### DATA COMMUNICATOR

#### FM Dual Bander

Explore the exciting possibilities of APRS<sup>®</sup> 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.

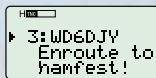
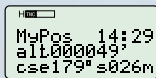
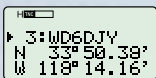
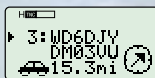
## APRS (Automatic Packet/Position Reporting System)

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

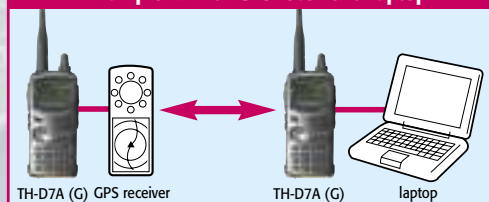
You have control over transmission of your own data to other stations, determining call sign, icon, **position comment (choice of 15)**, TX interval, and position ambiguity (the last 1-4 digits of your latitude and longitude can be masked). The options for status text transmission now include a choice 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.)

### Example A: with GPS receiver & laptop





**E**verybody'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. 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.

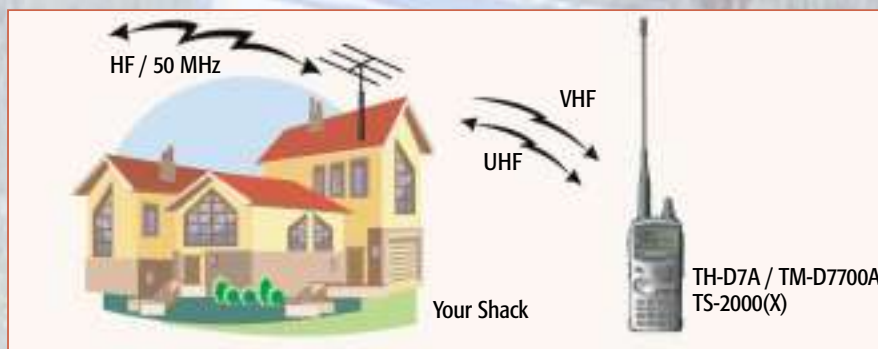
### Kenwood Skycommand System II+

The Sky Command II+ allows you to remotely control the TS-2000(X) transceiver from a separate location. Since the TS-2000(X) transceiver has an independent VHF and UHF sub-receiver in addition to the main transceiver, the sub-receiver can work as a "Transporter" without requiring another VHF/UHF transceiver.

If you already have Kenwood's TH-D7A handheld or TM-D700A mobile transceiver, you can immediately start enjoying Sky Command II+ features to remotely control the HF/ 50 MHz band of your TS-2000(X).

You will use one transceiver as a remote control unit, called a "Commander". The VHF/ UHF sub-receiver in the TS-2000(X) transceiver is called the "Transporter". It will function as an interface between the Commander and the HF/ 50 MHz band of the TS-2000(X) main transceiver.

This system allows you, for example, to watch for and hunt DX while washing your car, or to operate the HF transceiver while relaxing in your car, living room, or patio, instead of actually operating inside your shack.



**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

*\*Mode selection is possible without using a PC.*

## Optional Accessories

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



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



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



**EMC-3**  
Clip Microphone  
with Earphone



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



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



**BC-19**  
Rapid Charger



**BC-17**  
Wall Charger



**PG-2W**  
DC Cable



**SMC-32**  
Speaker  
Microphone



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



**SMC-33**  
Remote  
Control Speaker  
Microphone



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



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		
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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