KENWOOD

Listen to the Future

TM-D700A

DATA COMMUNICATOR

144/440MHz Dual Bander

One of the greatest pleasures of exploration is being able to communicate each new discovery. And Kenwood's TM-D700A Data Communicator allows you to do just that. This FM dual-band mobile transceiver harnesses APRS® and GPS technologies to provide world-class communications for the Great Outdoors.

Just as the Internet has ushered in a new era of computing, APRS® has added a new dimension to radio communications. And you can experience it all with Kenwood's new TM-D700A.

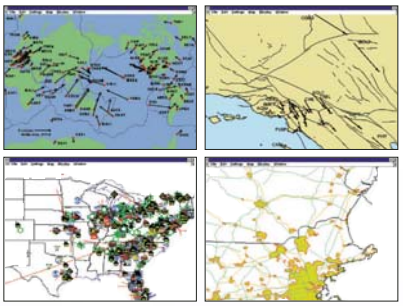
As smart as Kenwood's new TM-D700A is — with its extra-large amber & black display (reversible) — it is even smarter inside. This new-generation mobile transceiver features a built-in TNC to offer a wide range of data communications options, including simple packet operation using the AX.25 protocol. But above all the TM-D700A is fully equipped to make the most of APRS® — the Automatic Packet/Position Reporting System.

If you are new to APRS®, prepare to be surprised. Using Ham radio packet communications network software developed in 1992 by Bob Bruninga (WB4APR), you can use your desktop or laptop computer to provide a colorful map display of other APRS® operators in your area. You can not only see where they are and where they are going, but also exchange text messages with them. Not surprisingly, there are now thousands of users in the US alone, and through the Internet you can even check operations in areas far beyond the range of your own equipment. APRS® is a worldwide phenomenon that is rapidly gaining popularity. But what makes the Data Communicator so special is that it enables APRS® operation without requiring a computer.

APRS®

(Automatic Packet/Position Reporting System)

The TM-D700A has everything you need to explore the exciting possibilities of APRS® — and you don't even have to own a computer. If you know your current position, you can manually input latitude and longitude data for transmission to other members of your group or to anyone using APRS®. Of course, a GPS unit will do this for you automatically, and ensure accuracy. When you receive a friend's coordinates, you can display his latitude, longitude, direction and distance on your own Data Communicator. Like all of the best ideas, in both conception and execution APRS® is beautiful in its simplicity.



Positional/directional data

With an NMEA-0183 compatible GPS receiver you can transmit your exact position for automatic calculation of distance, current speed and heading. Any of the last 4 digits can be masked for variable "position ambiguity" if you wish to limit accuracy. You can also limit your own APRS® reception from a maximum range of 2,500 miles to just 10 miles.

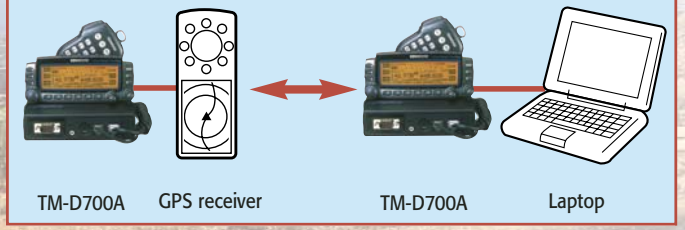
Unprotocol

When you need to focus, this function allows you to control what data you receive. Choose all calls, special (events), or alternate net (group code).

Versatile messaging

Transmission of position data can be accompanied by position comments (15 selectable settings), 5 programmable status texts (up to 28 characters), icons, and bulletins. For added messaging flexibility, individual alpha messages (up to 64 characters) can also be sent. Internal memory can store up to 16 transmitted/received messages.

Example A: with GPS receiver & laptop



Station list

Received APRS® data can be stored in up to 40 memory channels for listing on the LCD display. You can pick any one to see full details of a station's status (fixed, moving, weather, etc.), as well as its position and heading.

- **Grid square locator**
- **TX interval (0.2/0.5/1/2/3/5/10/20/30 min.)**
- **Packet path selection with Digipeat**
- **Weather station & Power Height Gain (PHG) data reception**
- **Digipeat function capability**
- **Auto Message Reply**
- **Audible APRS® message receive (call sign) notification (requires VS-3)**
- **Waypoint position data output**

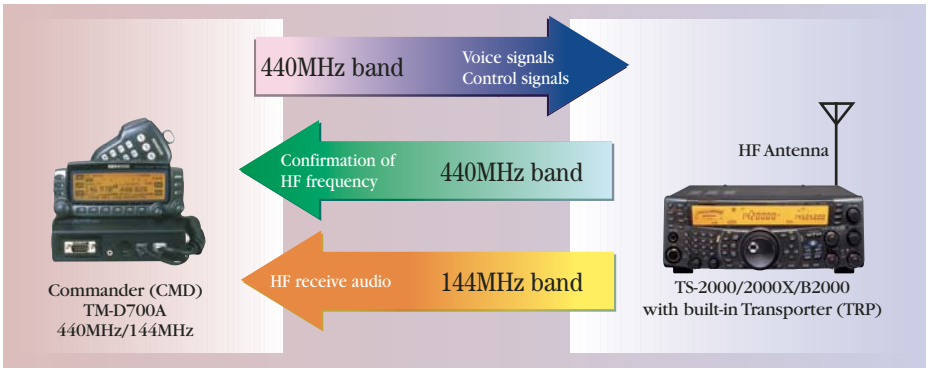
Kenwood Skycommand System II+

Kenwood Skycommand System II+

The TS-2000/2000X/B2000 is fully equipped for Kenwood's Skycommand System II+. With just a handheld transceiver you can relax in your garden while DX'ing from your shack. Alternatively, you could enjoy HF access via the multibander in your parked car while taking in a baseball game.

Conventionally two extra transceivers are required for KSS operation — a Commander and a Transporter — but the TS-2000 /2000X/B2000 has Transporter functions built in. This means you can operate it remotely with a single mobile or handheld unit, such as the TH-D7A or TM-D700A, 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 remotely.

Kenwood Skycommand System II+ is the most sophisticated version yet developed, enabling full-duplex operation with access to such HF functions as RIT/XIT, mode switching (USB, FM, etc.), split-frequency operations on/off, and memory shift. Control is effected via simple TNC, compatible with the AX.25 protocol. In addition, if a second TS-2000/2000X/B2000 unit is used as the Commander, you have control over noise reduction, noise blanker on/off and antenna switching among other functions.



- You control the TS-2000/2000X/B2000 from the portable Commander (CMD).
- Voice is transmitted from the CMD unit on the 440MHz band.
- Control signals are also sent from the CMD unit on the 440MHz band.
- The HF signal received by the TS-2000/2000X/B2000 is relayed to the CMD unit on the 144MHz band.
- You can confirm the HF frequency on the LCD of the CMD.

- **Wide-band receive: 118~524MHz, 800~1300MHz (excluding cellular blocked + frequencies)**
- **Built-in 1200/9600bps TNC compliant with AX.25 protocol**
- **Detachable panel with extra-large (188 x 54 dots) backlit LCD & multifunction key display**
- **Key operation announcement with optional VS-3 voice synthesizer**
  Individual characters of call signs are announced one at a time upon reception of an APRS transmission; in addition, messages beginning with a % mark are also announced.
- **Dual receive on same band for voice & data (two frequencies simultaneously)**
- **Advanced Intercept Point (VHF band)**
- **200 memory channels with 8-character memory name input**
- **2 call channel memory capacity**
- **Programmable memory (PM) available for selection/storage of 5 operation profiles**
- **Up to 10 programmable memory scan banks**
- **Built-in CTCSS (38 EIA-standard subtone frequencies) and 1750Hz tone burst**
- **DCS (Digital Code Squelch) with 104 selectable codes**
- **DX cluster monitoring (using built-in TNC)**
- **DTMF memory (10 channels, 16 digits)**
- **DTMF remote control**
- **Cross-band & fixed-band repeater operation**
- **10-channel program scan**
- **DCS code scan, TONE, CTCSS scan**
- **AM/FM switch**
- **Visual band scope (Visual Scan)**
- **Mute function**
- **MCP memory control**
  The transceiver can be connected to a PC with appropriate software for control of memory settings (MCP).

Optional Accessories

PG-4X
Extension Cable Kit

PG-3B
Noise Filter

MJ-88
Microphone Plug Adapter

PG-2N
DC Cable

MC-58DM
Microphone with DTMF

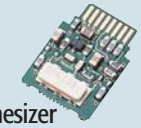
KPS-15
DC-Switching Power Supply

MC-60
Standing Microphone (requires MJ-88)

PG-5A
Data Cable

SP-50B
External Speaker

VS-3
Voice Synthesizer Unit



Not all products are available in all markets.

Specifications

TM-D700A

GENERAL

Frequency Range		
VHF Band	TX:	144 ~ 148 MHz
	RX:	118 ~ 470 MHz
	TX (SUB UHF):	430 ~ 450 MHz
UHF Band	TX:	430 ~ 450 MHz
	RX:	136 ~ 175 MHz
		300 ~ 524 MHz
		800 ~ 1300 MHz
	TX (SUB VHF):	144 ~ 148 MHz
	(excluding cellular +frequencies)	
Mode	F1D, F2D, F3E, A3E (VHF Band)	
Operating Temperature Range	-4° ~ +140° F	
	(-20° ~ +60° C)	
Frequency Stability	± 5ppm (+14° ~ +122° F)	
	(-10° ~ +50° C)	
Antenna Impedance	50 Ω	
Power Requirement	DC 13.8 V ±15% (minus)	
Current Drain (approx.)		
Transmit		
HI 50 W (VHF), 35 W (UHF)	Less than 11.5 A (VHF), 10.0 A (UHF)	
MID 10 W	Less than 5.5 A (VHF), 6.5 A (UHF)	
LOW 5 W	Less than 4.0 A (VHF), 5.0 A (UHF)	
Receive	Less than 1.0 A (VHF/UHF)	
Dimensions (W x H x D)		
[Body: projections not included]	5.51 x 1.58 x 7.68 inch	
	(140 x 40 x 195 mm)	
[Panel: projections not included]	5.51 x 2.36 x 1.31 inch	
	(140 x 60 x 33.3 mm)	
Weight		
[Body]	Approx. 2.6 lbs. (1.2 kg)	
[Panel]	Approx. 0.4 lbs. (180 g)	

TRANSMITTER

RF Output Power	
HI	50 W (VHF), 35 W (UHF)
MID	Approx. 10 W (VHF/UHF)
LOW	Approx. 5 W (VHF/UHF)
Modulation	Reactance modulation
Maximum Frequency Deviation	Less than ±5 kHz
Spurious Radiation	Less than –60 dB
Modulation Distortion	Less than 3% (300 Hz ~ 3 kHz)
Microphone Impedance	600 Ω

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)	Less than 0.16 µV (VHF/UHF)
Squelch Sensitivity	Less than 0.1 µV (VHF/UHF)
Selectivity	
-6 dB	More than 12 kHz
-40 dB	Less than 28 kHz

TERMINAL INTERFACES

TNC	AX.25: Level 2, Version 2.0 (1200/9600bps)
PC	RS-232C (9600/19200/38400/57600bps)
GPS	NMEA: RS-422 (4800bps)
	NMEA 96: RS-232C (9600bps)

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.

KENWOOD

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