

# KENWOOD

Listen to the Future

## TM-D710A

Multi Communicator 144/440MHz FM DUAL BANDER

With Kenwood's advanced TM-D710A you can harness today's most exciting developments in radio communications, including EchoLink®, AX.25, and the latest features of APRS®.



# Peerless Pathfinder



## BUILT-IN 1200/9600BPS TERMINAL NODE CONTROLLER (TNC) COMPLIANT WITH AX.25 PROTOCOL

The built-in TNC is compatible with the AX.25 protocol, enabling easy access to APRS functions. For 1200/9600bps packet communications, simply hook up the TM-D710A to your PC.

## APRS® READY (AUTOMATIC PACKET/POSITION REPORTING SYSTEM)

Cooperating with Bob Bruninga (WB4APR), who first developed APRS, Kenwood has developed system firmware for the TM-D710A that enables easy APRS operation without requiring a PC. When connected to a GPS receiver this radio will display positional information, including direction and distance, and when hooked up to a weather observation device it can display temperature and rainfall information. All of this data can be exchanged with other stations. The information can also be output to a PC for map display using commercially available APRS application software.



"APRSDos" was written by WB4APR (Bob Bruninga)

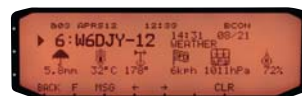


"APRS+SA" was written by KH2Z (Brent Hildebrand)

■ **Positional/directional data:** With a NMEA-0183 compatible GPS receiver, in addition to current latitude, longitude and altitude, information is available on the distance, speed and heading of a mobile station.



■ **Meteorological information:** The TM-D710A can be connected to Peet Bros or Davis weather stations for access to wind speed/direction, temperature, rainfall, humidity and barometric pressure data.



■ **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 the different types. You can also sort them by call sign, reception time and distance from your own station.

■ **Versatile messaging:**

- 100 messages (up to 67 characters each)
- Status: 4 x 42 characters (max.), 1 x 31 characters (max.)
- User phrases (preset for rapid message input): 4 types (up to 32 characters each)
- Special call function: Immediate notification when a message is received from a designated station. The APRS system is capable of transmitting e-mail.



■ **Wide-range of functions available from more than 60 APRS menus:**

- QSY function (Exchange operating frequency via APRS)
- Auto Message Reply
- Digipeater capability
- Packet filter
- Decay Algorithm
- New-N Paradigm
- 29 Graphic icons display
- 3 Grid square locators: Maidenhead SAR (Conv) & SAR (Cell) and more...



## SEPARATE PANEL WITH EXTRA-LARGE 2-COLOR SWITCHABLE BACKLIGHT LCD & MULTIFUNCTION KEY DISPLAY

The TM-D710A has a separate control panel with an extra-large display that clearly identifies the multifunction keys for easy operation. To maximize visibility, the backlight color can be switched between warm amber and cool green. And two different stands are supplied: one for on-dash installation, and the other for fixed stations.



Amber



Green

## HIGH RF POWER OUTPUT (50W)

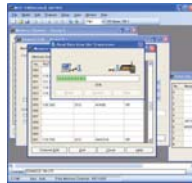
The TM-D710A provides an impressive 50 watts of RF power (VHF & UHF), plus a choice of High/Mid/Low output.

## DUAL RECEIVE ON SAME BAND (VxV, UxU)

In addition to simultaneous receive on both VHF and UHF bands, this radio can receive two frequencies on the very same band. This means, for example, that you can have both the call channel and local channel, or the repeater channel and local channel, on the same band.

## 1,000 MULTIFUNCTION MEMORY CHANNELS

There are 1,000 split memory channels for storing essential data – such as transmit and receive frequencies, frequency step, and tone frequency – plus an additional 10 for programmable scan. You can identify each channel with up to 8 alphanumeric characters (Memory Name function). Additionally, memory data can be edited and stored on a PC using the optional PG-5G programming interface cable and MCP-2A Memory Control software (a free download from the Kenwood website\*).

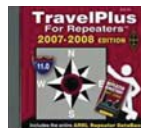


\*[www.kenwood.com/it/products/info/amateur/software\\_download.html](http://www.kenwood.com/it/products/info/amateur/software_download.html)

## COMPATIBLE WITH ARRL TravelPlus\*

The MCP-2A programming software is compatible with ARRL TravelPlus for Repeaters; this allows data export to the radio, making trip planning easy.

\*TravelPlus is available from the ARRL at : [www.arrl.org](http://www.arrl.org)



## MULTIPLE SCAN & VISUAL SCAN

As well as VFO scan, program scan, MHz scan, memory scan and call scan, the TM-D710A offers memory bank scan: the 1,000 channels are grouped into 10 banks for selective scanning. Also featured are scan resume (time-operated, carrier-operated, and seek), memory channel lockout, tone scan, CTCSS scan, and DCS scan. Additionally, using the S meter on the large LCD you can visually display the signal strength (S0~S7) of stations within the scanned range.

## WEATHER ALERT/RX (US only)

The TM-D710A is capable of receiving the NOAA Weather Band and responding to emergency transmissions such as storm warnings by emitting an audible alert tone.

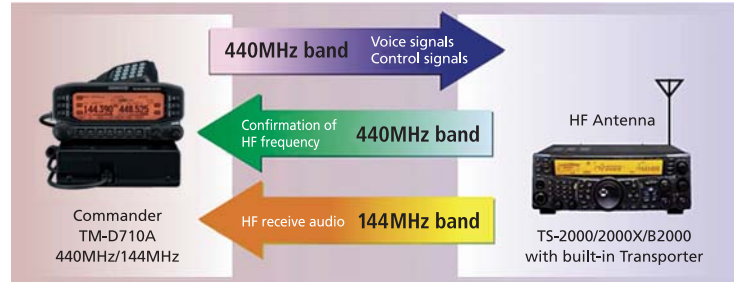
## VOICE GUIDANCE & STORAGE OPTION (VGS-1)

Installing this option makes audible announcement possible for most key operations and menu choices. The VGS-1 also provides up to 30 seconds of continuous recording.



## KENWOOD SKY COMMAND SYSTEM II+

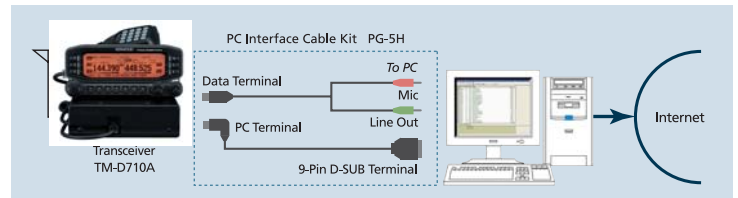
Kenwood's Skycommand System II+ allows you to use the TM-D710A for remote access to Kenwood's TS-2000/2000X/B2000 (with built-in Transponder functions). Operating as the Commander, your TM-D710A transmits control signals to the Transporter, which also relays your voice to the HF radio. In return, HF 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 could thus enjoy HF access using the TM-D710A while making a quick trip to the local store.



## EchoLink® Sysop MODE FOR NODE TERMINAL OPERATION

When the TM-D710A is connected to a PC (with the necessary Windows-compatible software installed) using the PG-5H option, it can operate as a node terminal for EchoLink. EchoLink connects radio amateurs through the Internet using VoIP technology: any transceiver with access to a node can connect to any other in the world as long as it too has node access. It is also possible to access the EchoLink network directly from a PC.

To register for EchoLink (using your call sign), access the official website at : [www.echolink.org](http://www.echolink.org)



## EchoLink® MEMORY (AUTOMATIC DIALER)

Up to 10 DTMF memory channels dedicated to EchoLink can store call signs (or conference names) and Node Numbers. Memory Control is also possible using a PC with the MCP-2A software.

### Other Features

- Wide reception: 118-524MHz, 800-1300MHz\* ■ MC-59 16-Key Hand Microphone with backlighting
- Programmable memory capable of storing 5 independent operating profiles
- DCS (Digital Code Squelch) with 104 selectable codes
- Separate VOL/SQL for A & B Bands
- Packet Monitor
- DX Cluster
- Waypoint Data Output
- Clock (date/time)
- 6-pin Mini-DIN Socket for External TNC
- 8-pin Mini-DIN Socket for PC Connection (optional programming cable PG-5G or PG-5H required for PC connection)
- Programmable Function Keys
- Band Mask
- Call Channel
- S-meter Squelch & Hysteresis Timer
- Monitor Function
- Mute
- 3-hour Auto Power Off
- MHz Mode
- Selectable Frequency Step
- Shift Function
- Repeater Offset (selectable)
- Reverse
- Auto Repeater Offset (ON/OFF, VHF only)
- Automatic Simplex Checker
- DTMF Memory (10 channels, 16 digits)
- DTMF Remote Control
- Time Out Timer
- Key Lock
- Power-on Password
- Memory Shift
- Programmable VFO
- Beep On/Off, Volume Control
- Mic Program Function
- Channel Display Mode
- Power-on Message
- LCD Brightness Control, Auto Brightness
- Switch to External Speaker
- Reset (VFO, PART, PM, FULL)

\*Excluding cellular blocked + frequencies

## Optional Accessories



■ **MC-59**  
16-Key Hand Microphone



■ **PG-2N**  
DC-Power Cable



■ **PG-3B**  
DC Line Noise Filter



■ **PG-5A**  
Data Cable



■ **PG-5F**  
Extension Cable Kit (4m)



■ **PG-5G**  
Programming Interface Cable



■ **PG-5H**  
PC Interface Cable\*  
\*For EchoLink node terminal operation.



■ **KPS-15**  
Switching DC-Power Supply



■ **SP-50B**  
External Speaker



■ **MJ-88**  
Microphone Plug Adapter



■ **VGS-1**  
Voice Guide & Storage Unit

## Supplied Accessories



■ Microphone ■ DC power cable ■ Cable with a 2.5 mm (1/10") 3-conductor plug (for GPS) ■ Modular plug cable (for PANEL) ■ Line filter ■ Microphone hanger ■ Mounting bracket ■ Panel holder ■ Panel bracket ■ Base stand ■ Screw set ■ Instruction manual (English / Spanish & French) ■ CD-ROM (For a detailed explanation on the operation) ■ Warranty Card

Refer to the Acrobat (PDF) file on the supplied CD-ROM for a detailed explanation of TM-D710A setup and operation. To read the PDF file you may need to install Adobe Reader® on your PC.

Adobe Reader® is a registered trademark of Adobe Systems Incorporated.

Not all accessories are available in all markets. For availability, contact your nearest dealer.

### ■ Typical Sensitivity (excluding VHF / UHF Amateur Band)

|                 | A Band         |              | B Band         |
|-----------------|----------------|--------------|----------------|
|                 | FM: 12dB SINAD | AM: 10dB S/N | FM: 12dB SINAD |
| 118~135.995MHz  | 0.32 $\mu$ V   | 0.40 $\mu$ V | -              |
| 136~173.995MHz  | 0.32 $\mu$ V   | 0.40 $\mu$ V | 0.32 $\mu$ V   |
| 174~229.995MHz  | 0.40 $\mu$ V   | 0.50 $\mu$ V | 0.40 $\mu$ V   |
| 230~299.995MHz  | 5.6 $\mu$ V    | 5.6 $\mu$ V  | 5.6 $\mu$ V    |
| 300~349.995MHz  | 1.0 $\mu$ V    | 1.0 $\mu$ V  | 1.0 $\mu$ V    |
| 350~399.995MHz  | 0.56 $\mu$ V   | 0.56 $\mu$ V | 0.56 $\mu$ V   |
| 400~499.995MHz  | 0.28 $\mu$ V   | 0.36 $\mu$ V | 0.28 $\mu$ V   |
| 500~523.995MHz  | 0.56 $\mu$ V   | 0.71 $\mu$ V | 0.56 $\mu$ V   |
| 800~1239.99MHz  | -              | -            | 7.08 $\mu$ V   |
| 1240~1299.99MHz | -              | -            | 2.24 $\mu$ V   |

## Specifications

### TM-D710A

#### GENERAL

|                             |                                              |                                                                                                            |
|-----------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Frequency Range             | TX                                           | 144 - 148 MHz<br>430 - 450 MHz                                                                             |
| Frequency Range             | RX                                           | 118 - 524 MHz<br>136 - 524 MHz<br>800 - 1300 MHz *                                                         |
| Mode                        |                                              | F1D, F2D, F3E                                                                                              |
| Antenna Impedance           |                                              | 50 $\Omega$                                                                                                |
| Power Requirement           |                                              | DC13.8V $\pm$ 15%                                                                                          |
| Operating Temperature Range |                                              | -20°C ~ +60°C                                                                                              |
| Frequency Stability         |                                              | Within $\pm$ 5ppm (-10°C ~ +50°C)                                                                          |
| Current Drain               |                                              |                                                                                                            |
| Transmit                    | VHF HI<br>MID<br>LOW<br>UHF HI<br>MID<br>LOW | Less than 13.0A<br>Less than 5.5A<br>Less than 4.0A<br>Less than 13.0A<br>Less than 6.5A<br>Less than 5.0A |
| Receive                     |                                              | Less than 1.2A (at 2W audio output)                                                                        |
| Dimensions (W x H x D)      |                                              |                                                                                                            |
| Without protrusions         | Panel<br>Body                                | 6.20 x 2.80 x 1.52 inch (155 x 70 x 38 mm)<br>5.60 x 1.72 x 5.68 inch (140 x 43 x 142 mm)                  |
| With protrusions            | Panel<br>Body                                | 6.24 x 2.81 x 2.24 inch (156 x 71 x 56 mm)<br>5.60 x 1.76 x 6.32 inch (140 x 44 x 158 mm)                  |
| Weight (approx.)            | Panel<br>Body                                | 0.66 lbs. (0.3 kg)<br>2.64 lbs. (1.2 kg)                                                                   |

#### TRANSMITTER

|                                      |         |                           |
|--------------------------------------|---------|---------------------------|
| RF Output Power                      |         | 50W / 50W                 |
| HI                                   | VHF/UHF | Approx. 10W / Approx. 10W |
| MID                                  | VHF/UHF | Approx. 5W / Approx. 5W   |
| LOW                                  | VHF/UHF |                           |
| Modulation                           |         | Reactance Modulation      |
| Maximum Frequency Deviation          |         | Within $\pm$ 5kHz         |
| Spurious Radiation                   |         | Less than -60dB           |
| Modulation Distortion (300Hz ~ 3kHz) |         | Less than 3%              |
| Microphone Impedance                 |         | 600 $\Omega$              |

#### RECEIVER

|                            |               |                                                |
|----------------------------|---------------|------------------------------------------------|
| Circuitry                  |               | Double Super Heterodyne                        |
| Intermediate Frequency     |               |                                                |
| 1st IF (A Band/B Band)     |               | 45.05MHz / 49.95MHz                            |
| 2nd IF (A Band/B Band)     |               | 455kHz / 450kHz                                |
| Sensitivity                | VHF/UHF       | Less than 0.16 $\mu$ V                         |
| Squelch Sensitivity        | VHF<br>UHF    | Less than 0.1 $\mu$ V<br>Less than 0.1 $\mu$ V |
| Selectivity                | -6dB<br>-50dB | More than 11kHz<br>Less than 30kHz             |
| Audio Output (8 $\Omega$ ) |               | More than 2W (at 5% distortion)                |

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

APRS® is a registered trademark of APRS® Engineering LLC  
EchoLink® is a registered trademark of Synergenics, 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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