KENWOOD

TM-D750A
TM-D750E

USER GUIDE

This User Guide covers only the basic operations of your transceiver. For the detailed instruction manual (User Manual), refer to the following URL.

https://manuals.jvckenwood.com/en/

GUIDE DE L'UTILISATEUR

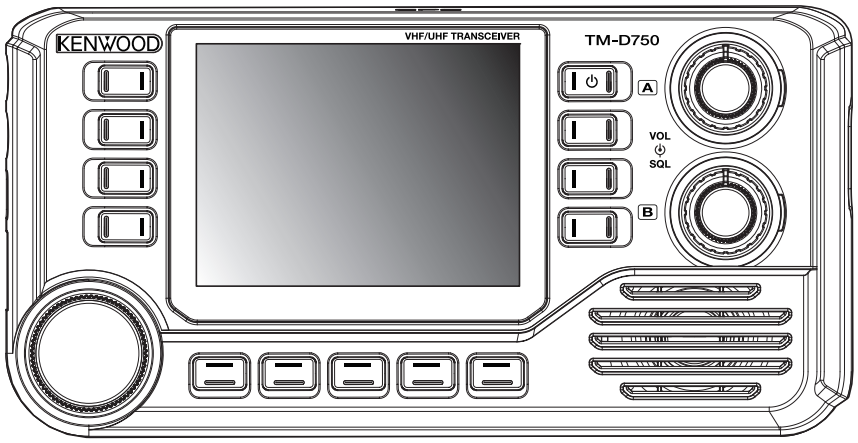
Ce Manuel de l'utilisateur concerne uniquement les opérations de base de votre émetteur-récepteur. Pour avoir accès un manuel de l'utilisateur détaillé (Mode d'emploi), reportez-vous à l'URL suivante.

https://manuals.jvckenwood.com/en/

GUÍA DEL USUARIO

Este Manual del usuario sólo cubre las operaciones básicas de su transceptor. Para más detalles sobre el uso del manual de usuario (Manual de instrucciones), consulte el siguiente URL.

https://manuals.jvckenwood.com/en/



JVCKENWOOD Corporation

B5A-4706-00 (K, E)

144/220/430MHz DIGITAL TRIBANDER

TM-D750A

144/430MHz DIGITAL DUAL BANDER

TM-D750E

USER GUIDE

NOTIFICATION
This equipment complies with the essential requirements of Directive 2014/53/EU and Radio Equipment Regulations 2017.

Restrictions
This equipment requires a licence and is intended for use in the countries as below.

AT	BE	DK	FI	FR	DE	GR	IS	IE	IT	LI	LU	NL
NO	PT	ES	SE	CH	CY	CZ	EE	HU	LV	LT	MT	PL
SK	SI	BG	RO	HR	TR	TR	UK(NI)					

1 CONTENTS

2 BEFORE STARTING

Thank You

We are grateful you decided to purchase this **KENWOOD** Digital transceiver.
The models listed below are covered by this manual.
TM-D750A: 144/220/430MHz DIGITAL TRIBANDER (The Americas)
TM-D750E: 144/430MHz DIGITAL DUAL BANDER (E type: Europe/ T type: UK)

Features

This transceiver has the following main features:

- **Compatible with APRS® data communication system**
- **Supports APRS® Digipeater function**
- **Supports D-STAR® Digital**
- **Supports simultaneous reception of two D-STAR® signals**
- **D-STAR® Direct Mode**
- **D-STAR®Repeater Monitor**
- **D-STAR® Reflector Terminal Mode**
- **D-STAR® Repeater Terminal Mode**
- **Built-in GPS unit (Supports the Quasi-Zenith Satellite System)**
- **Equipped with a color LCD**
- **Simultaneous reception of two signals (VxU, UxV, UxU (TM-D750A/ TM-D750E), Vx220M, 220MxV, Ux220M (TM-D750A), AIR BAND)**
- **Built-in speaker on the operation panel**
- **Visual Scan and Water Fall Display**
- **Voice processing by DSP**
- **Built-in Bluetooth (SPP, HSP)**
- **Built-in wireless LAN**
- **microSD memory card (2 GB to 32 GB)**
- **Supports battery charging and data transfer via USB Type-C™**
- **1000 memory channels, 1500 repeater lists, and 30 hotspot lists**
- **Three-step selectable transmit power (50/ 10/ 5 W)**

Notices to the User

SUPPLIER'S DECLARATION OF CONFORMITY
47 CFR § 2.1077 Compliance Information
Trade name: KENWOOD
Model(s): TM-D750A
Responsible party: JVCKENWOOD USA Corporation 1440 Corporate Drive, Irving, TX 75038 USA
Telephone number: 972-819-0700

One or more of the following statements may be applicable for this equipment.

FCC WARNING
This equipment generates or uses radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved by the party responsible/ JVCKENWOOD. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

INFORMATION TO THE DIGITAL DEVICE USER REQUIRED BY THE FCC
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can generate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer for technical assistance.

RF EXPOSURE INFORMATION FOR BLUETOOTH AND WLAN
This equipment complies with FCC/IC radiation exposure limits and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules.
While transmitting, always keep the antenna and the radio at least 20 cm (7.9 inches) from your body or face, as well as from any bystanders.
This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions : (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
This product is designed for connection to an IT power distribution system.

This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material – special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate

This product includes "Ubiquitous QuickBoot™" technology developed by Ubiquitous AI Corporation. Ubiquitous QuickBoot™ is a trademark of Ubiquitous AI Corporation.

Information on Disposal of Old Electrical and Electronic Equipment and Batteries (applicable for countries that have adopted separate waste collection systems)

Products and batteries with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.
Old electrical and electronic equipment and batteries should be recycled at a facility capable of handling these items and their waste byproducts.
Contact your local authority for details in locating a recycle facility nearest to you.
Proper recycling and waste disposal will help conserve resources whilst preventing detrimental effects on our health and the environment.

3 PRECAUTION

- Do not use options not specified by **KENWOOD**.
- If the die-cast chassis or other transceiver part is damaged, do not touch the damaged parts.
- If a headset is connected to the transceiver, reduce the transceiver volume. Pay attention to the volume level when turning the squelch off.
- Do not place the microphone cable around your neck while near machinery that may catch the cable.
- Do not place the transceiver on unstable surfaces.
- When the transceiver is used for long transmissions, the chassis will become hot. Do not touch these hot locations.
- Do not immerse the transceiver in water.
- Do not hold the knob when carrying the transceiver. Doing so may cause the knob to come off and the transceiver to fall.
- If water enters the microphone opening or the speaker grill, the audio level may become unstable or distorted. Lightly shake the transceiver to remove the water from the speaker and/or microphone before operating the transceiver.
- Do not place the accessories of the transceiver or the items removed from the transceiver within reach of infants and children. There is a risk that these may be swallowed. If these are swallowed accidentally, consult a doctor immediately.
- If condensation forms, let it dry naturally or leave the transceiver in the same environment for a long time to eliminate the condensation before using the transceiver.
- Always switch the transceiver power OFF before installing or removing optional accessories. Make these changes out of the Hazardous Location.
- To dispose of batteries, be sure to comply with the laws and regulations in your country or region.

Turn the transceiver power off in the following locations:

- In explosive atmospheres (inflammable gas, dust particles, metallic powders, grain powders, etc.).
- While taking on fuel or while parked at gasoline service stations.
- Near explosives or blasting sites.
- Where restrictions or warnings are posted regarding the use of radio devices, including but not limited to medical facilities.
- Near persons using pacemakers.

- ◆ Do not disassemble or modify the transceiver for any reason.
- ◆ Do not place the transceiver on or near airbag equipment while the vehicle is running. When the airbag inflates, the transceiver may be projected and strike the driver or passengers.
- ◆ Do not transmit while touching the antenna terminal or if any metallic parts are exposed from the antenna covering. Transmitting at such a time may result in an (Radio Frequency energy) burn.
- ◆ If an abnormal odor or smoke is detected coming from the transceiver, switch the transceiver power off immediately, and contact your **KENWOOD** dealer.
- ◆ Use of the transceiver while you are driving may be against traffic laws. Please check and observe the vehicle regulations in your area.
- ◆ Do not expose the transceiver to extremely hot or cold conditions.

4 PREPARATION

Supplied Accessories

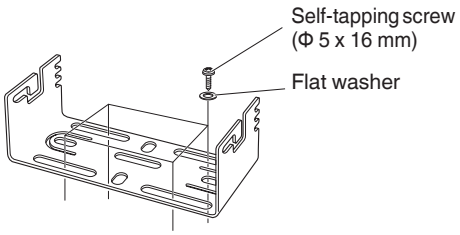
After carefully unpacking the transceiver, identify the items listed in the table below.

Item	Quantity	Item	Quantity
Microphone (Product equivalent to MC-62)	1	Panel holder	1
DC power cable (2 m) / with two 20 A fuses	1	Panel bracket	1
Spare fuse (15 A)	1	Base stand	1
Panel cable (4 m)	1	Screw set	1
Microphone hanger (with screws)	1	USER GUIDE	1
Mounting bracket	1	Warranty card	1

Mounting on the Vehicle

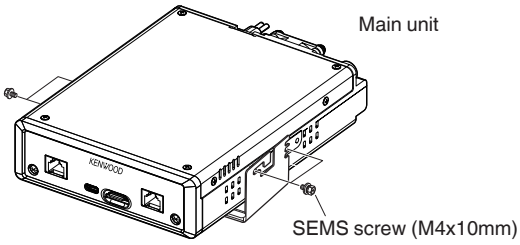
Installing the Main Unit

1 Install the mounting bracket in the vehicle using the supplied self-tapping screws and flat washers (four of each are supplied).

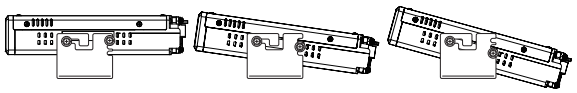


2 Position the main unit, then insert and tighten the supplied hexagon SEMS screws and flat washers (four of each are supplied, two for each side of the bracket).

- Tighten the hexagon SEMS screw firmly using a Phillips screwdriver or a 7 mm wrench.



- The mounting angle between the bracket and the main unit can be set in three ways, as shown in the diagram below.



- ◆ Select a mounting position with safety and operability in mind.
- ◆ Avoid installing in locations exposed to direct sunlight or with poor ventilation. For proper heat dissipation, install the device in a position where the bottom heat-dissipation fins, rear fan, and side vents are not obstructed.
- ◆ Mount securely to prevent it from coming loose due to vibration.
- ◆ Loose screws may cause the main unit to fall, resulting in injury. Make sure it is firmly fastened.
- ◆ Impact on the GPS receiver:
  For Band A (around 438.8 MHz) and Band B (around 443.8 MHz), harmonics of the first local oscillator signal used for reception may affect GPS positioning. In such cases, either relocate the transceiver or change the operating frequency.

Installing the Operation Panel

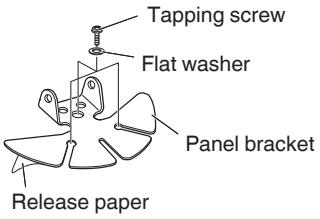
- ◆ Install the operation panel in a location where it can easily receive signals from GPS satellites.
- ◆ Install the operation panel vertically. If it is tilted, it may not receive GPS satellite signals correctly.

Do not install around the airbag equipment. In an accident, the airbag may not operate normally, or the attached objects may scatter when the airbag inflates, resulting in possible serious injury.

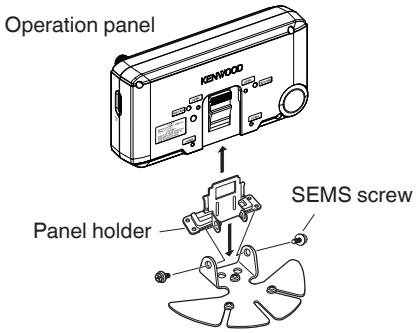
1 After securing it to the vehicle, avoid touching the stand or applying vibrations for a while.

2 Peel off the release paper from the double-sided tape on the bottom of the panel bracket, and secure it to the vehicle using the three supplied tapping screws.

- After securing it to the vehicle, avoid touching the stand or applying vibrations for a while.
- Once the panel bracket is removed, the adhesive strength of the double-sided tape will weaken, making it unusable.



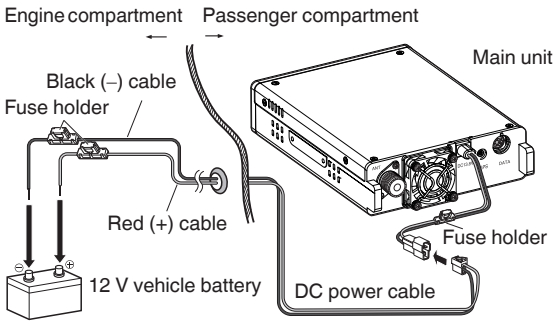
3 Attach the panel holder to the panel bracket using the two supplied SEMS screws.



4 Attach the operation panel to the panel holder so that it locks in place.

Connecting the Power Cable

- Be sure to use a 12 V vehicle battery that has sufficient current capacity. If the current to the transceiver is insufficient, the display may darken during transmission or the transmit output power may drop excessively. Never connect the transceiver to a 24 V battery.
- To prevent the risk of short circuits, disconnect other wiring from the negative (–) battery terminal before connecting the transceiver.
- If you use the transceiver for a long period when the vehicle battery is not fully charged or when the engine is OFF, the battery may become discharged and will not have sufficient reserves to start the vehicle. Avoid using the transceiver under these conditions.
- When using a noise filter, it should be installed with an insulator to prevent it from touching metal on the vehicle.
- We do not recommend using a cigarette lighter socket as some cigarette lighter sockets introduce an unacceptable voltage drop.
- If the power cable must be routed through a hole in the vehicle chassis or body, for example in the firewall at the front of the passenger compartment, use a rubber grommet to protect the cable from abrasion. Dismantle the fuse holder to pass the cable through the firewall.
- The entire length of the cable must be dressed so it is isolated from heat, moisture, and the engine secondary (high voltage) ignition system/ cables.
- After the cable is in place, wind heat-resistant tape around the fuse holder to protect it from moisture. Tie down the full run of cable.
- Depending on the vehicle, connecting the DC power cord of the transceiver directly to the battery terminals may cause the vehicle's sensors to not operate properly. In such cases, please connect the negative terminal to the vehicle body ground instead of directly to the battery.



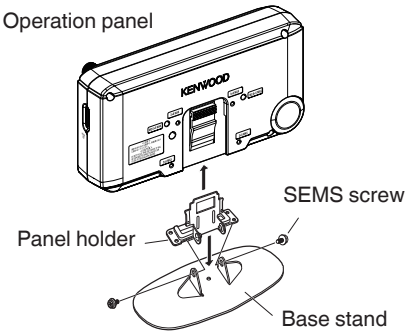
Use a rubber grommet to protect the cable from abrasion.

Operating as Base Station

Installing the Operation Panel

1 Attach the panel holder to the base stand using the two supplied SEMS screws.

2 Attach the operation panel to the panel holder so that it locks in place.

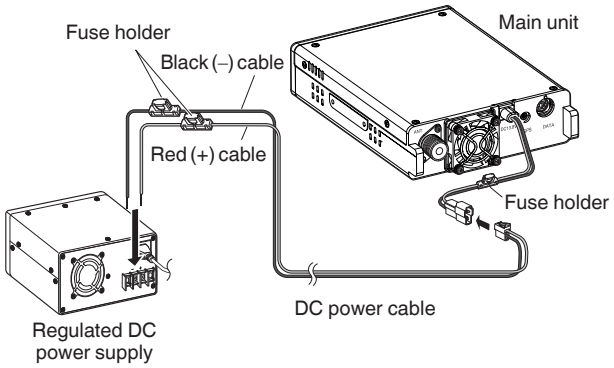


Connecting the Power Cable

When operating this transceiver as a base station, connect it to a 13.8 V regulated DC power supply.
The recommended current capacity of the power supply is more than 13 A.

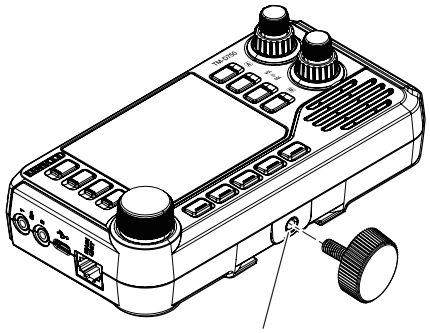
1 Connect the DC power cable to the regulated DC power supply and ensure that the polarities are correct.
Red: Positive (+) terminal, Black: Negative (–) terminal

2 Connect the DC power cable to the main unit.
Make sure the connector is fully and securely inserted.



Mounting on a Commercially Available Tripod

The operation panel can be used with a commercially available tripod or similar stand without using the panel holder.

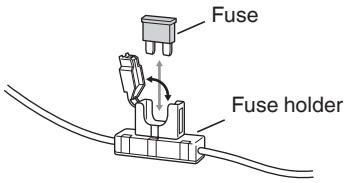


Mounting hole (diameter: 1/4 inch, maximum screw length: 5 mm)

- Use of the supplied panel holder and panel bracket is recommended when installing to a vehicle.
- If you use a commercially available vehicle-mount kit, ensure that it can safely support the weight of the transceiver and that there is no wobbling or instability while driving. Using a mount kit that is not suitable for this transceiver may result in the transceiver falling, causing injury, fire, electric shock, or equipment damage, so do not use inappropriate kits.

Replacing the Fuse

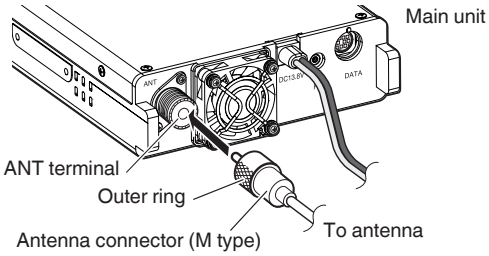
When a fuse blows, first correct the cause, then replace it with a fuse of the specified rating. If the fuse blows again immediately, disconnect the DC power cable and contact your authorized KENWOOD dealer or an authorized KENWOOD service center.



Always use only the specified fuse.
- ◆ The fuse of the DC power cable is 20 A.
- ◆ The fuse of the DC power cable of the transceiver is 15 A.

Installing the Antenna

1 Connect the antenna cable to the ANT terminal (M type) at the back.



2 Firmly tighten the outer ring of the antenna connector onto the ANT terminal of the main unit.

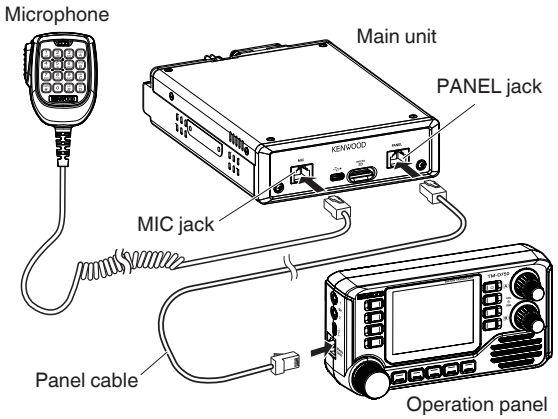
About the Antenna

- Use an antenna that is appropriate for the respective frequency band. Using an antenna for a different frequency band can significantly degrade transmission and reception performance.
- The antenna impedance of this transceiver is 50 Ω. Use a 50 Ω coaxial cable with as low loss as possible, and connect to a 50 Ω antenna with a low SWR (1.5 or less) using the shortest possible cable length.
- If the antenna system has a mismatched impedance or is not properly tuned, the transceiver may not perform optimally. In addition, the protection circuit may activate, reducing transmit power and potentially affecting the operation of other electronic devices.

◆ When operating as a base station, install a lightning arrester on the antenna to protect against fire, electric shock, injury, or equipment damage due to lightning.

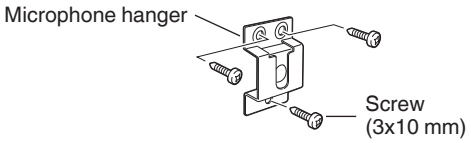
Connecting the Operation Panel and Microphone

Insert the microphone plug into the MIC jack, then connect the control panel to the main unit using the supplied cable.



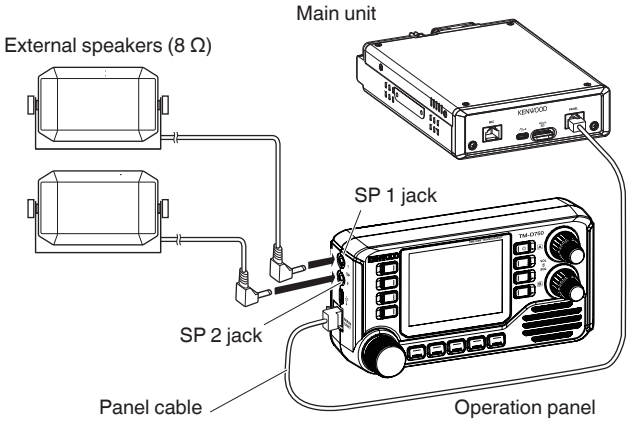
■ Attaching the Microphone Hanger

Securely attach the microphone holder using the three supplied screws, ensuring that the microphone can hang without obstructing driving.



Connecting an External Speaker

Connect commercially available external speakers (impedance of 8 Ω) to SP 1 and SP 2 jacks (impedance of 8 Ω) on the side of the operation panel.
When an external speaker is connected to the SP1 jack, the internal speaker will be muted.

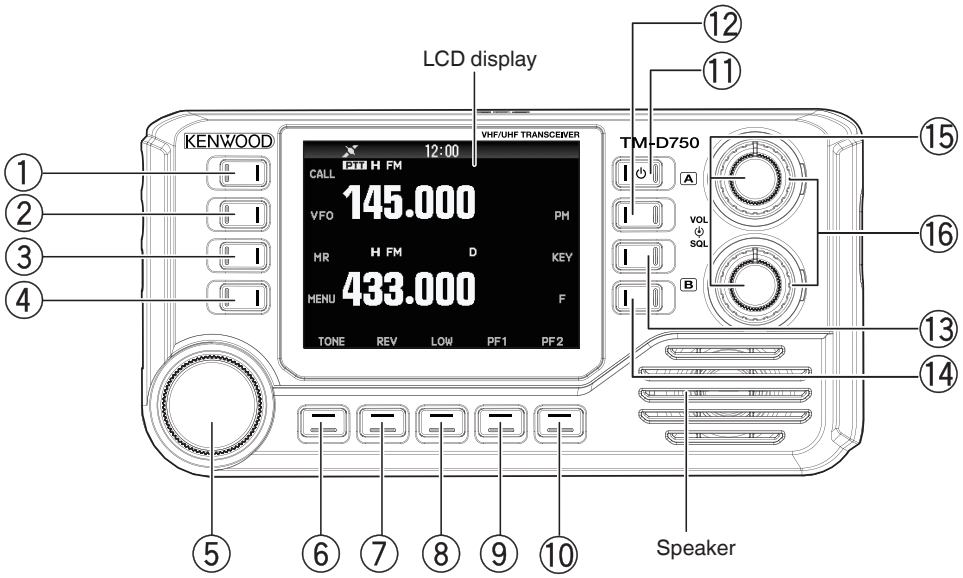


◆

5 PART NAMES AND FUCTIONS

Operation Panel

Normal Mode



① [CALL]

Press [CALL] to select the CALL channel.
Press and hold [CALL] to start CALL scan.

② [VFO]

Press [VFO] to enter VFO mode.
Rotate the [ENC] control to select an operating frequency.
Press and hold [VFO] to start band scan.

③ [MR]

Press [MR] to enter Memory channel mode.
Rotate the [ENC] control to select a Memory channel.
Press and hold [MR] to start Memory scan.

④ [MENU]

Press [MENU] to enter Menu mode.

⑤ [ENC] Control

Rotate the [ENC] control to select an operating frequency, Memory channel, Menu item, setting value and change the scan direction, etc.
Press the [ENC] control to enter MHz mode while in VFO and Call mode. It displays the memory channel list while in memory channel mode.
Press and hold [ENC] control to start MHz scan or Group scan.

⑥ [TONE]

Press [TONE] to turn the Tone function ON.
Each time you press [TONE], the function cycles through the following:
Tone ON→CTCSS ON→DCS ON→Cross Tone ON→OFF

⑦ [REV]

Press [REV] to turn the Reverse function ON or OFF.

⑧ [LOW]

Each time you press [LOW], the transmit output cycles through the following:
Middle Power→Low Power→High Power

⑨ [PF1]

Press [PF1] to activate its programmed function.
※ The default setting is [BAND] (frequency band select).

⑩ [PF2]

Press [PF2] to activate its programmed function.
The default setting is [CTRL] (operating band select).

⑪ [VOICE]/[⏻] Power switch

Press [VOICE]/[⏻] to make Voice guidance.
Each time you press and hold [VOICE]/[⏻], the transceiver power is turned ON or OFF.
※ Appears when Voice Guidance is set to “Manual/ Auto1/ Auto2”.

⑫ [PM]

Press [PM] to enter the PM (Programmable Memory) channel selection mode.

⑬ [KEY]

Each time you press [KEY], the software key cycles through the following:
APRS software key→Digital software key→GPS software key→VOX software key

⑭ [F]

Press [F] to enter Function mode.
Press and hold [F] to turn the transceiver key lock function ON or OFF.

⑮ [BAND SEL] Control (VOL)

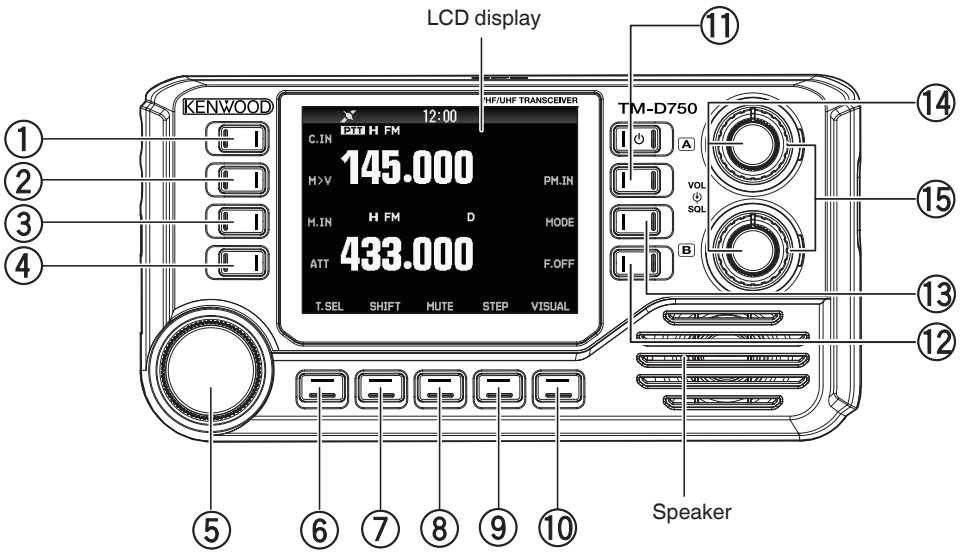
Rotate the [BAND SEL] control of the volume that you wish to adjust.
Press [BAND SEL] for the side you wish to select to simultaneously choose the operating band and transmiting band.
Press the upper control to select Band A and press the lower control to select Band B.
Press and hold [BAND SEL] to switch between Single band mode and Dual band mode.
※ The [BAND SEL] button is divided into [BAND SEL A] (upper) and [BAND SEL B] (lower). On the display, the upper side corresponds to Band A, and the lower side corresponds to Band B.

⑯ [SQL] Control

Rotate the [SQL] control to adjust the squelch level. Clockwise tightens the squelch and counterclockwise opens the squelch.

Function Mode

Press [F] in normal mode to enter function mode.



① [C.IN]

Press [C.IN] to store the current operating frequency to the Call channel.

② [M>V]

Press [M>V] to copy the current Memory channel or Call channel to the VFO (memory shift).

③ [M.IN]

Press [M.IN] to store the displayed frequency into the memory channel selected using the [ENC] control.

④ [ATT]

Each time you press [ATT], the attenuator for the operation band is toggled ON or OFF.

⑤ [ENC] Control

Rotate the [ENC] control to select an operating frequency, Memory channel, Menu item, setting value and change the scan direction, etc.
Press the [ENC] control to return to Normal mode. It displays the memory channel list while in memory channel mode.
Press and hold [ENC] control to start MHz scan or Group scan.

⑥ [T.SEL]

While Tone, CTCSS, DCS, or Cross Tone is ON, press [T.SEL] to enter Tone, TCSS, DCS, or Cross Tone setup mode.
Press and hold [T.SEL] to start the Tone Scan, CTCSS Scan, or DCS Scan.
Rotate the [ENC] control to select the Tone/CTCSS frequency, DCS code, or Cross tone combination.

⑦ [SHIFT]

Press [SHIFT] to enter Offset direction selection mode.
Each time you press [SHIFT], the offset direction toggles as follows: plus (+) direction → minus (–) direction → –7.6 MHz (TM-D750E only) → OFF

⑧ [MUTE]

Press [MUTE] to turn the Mute function ON or OFF.

⑨ [STEP]

Press [STEP] to return to the setup mode for the step frequency (list display).

⑩ [VISUAL]

Press [VISUAL] to turn ON the Visual scan function.

⑪ [PM.IN]

Press [PM.IN] to enter PM channel registration mode.

⑫ [MODE]

Each time you press [MODE], the mode is switched as follows:
A Band: (FM/NFM) → (DV/DR) → AM
B Band: (FM/NFM) → (DV/DR) → AM

⑬ [F.OFF]

Press [F.OFF] to return Normal mode.

⑭ [BAND SEL] Control (VOL)

Each time you press [BAND SEL] on the operation band, the frequency band changes.

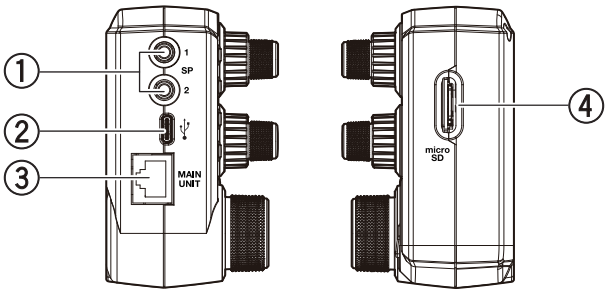
⑮ [SQL] Control

Rotate the [SQL] control to adjust the squelch level. Clockwise tightens the squelch and counterclockwise opens the squelch.

◆ The tone frequency changes according to the status of the transceiver, as described in the settings below.

Tone OFF	:Disabled
Tone ON	:Tone frequency
CTCSS ON	:CTCSS frequency
DCS ON	:DCS frequency
Cross Tone ON	:Cross tone combination
Voice Alert ON	:Voice Alert frequency

Left & Right



Left side　　Right side

① SP Jacks (SP 1/SP 2)

Connect an external speaker. There are two speaker jacks: SP1 and SP2. The audio output when an external speaker is connected varies depending on the speaker output mode and the connection status of the speakers.

② USB Connector (USB Type-C™)

The transceiver can be connected to a PC using a commercially available USB cable (USB Type-C™).

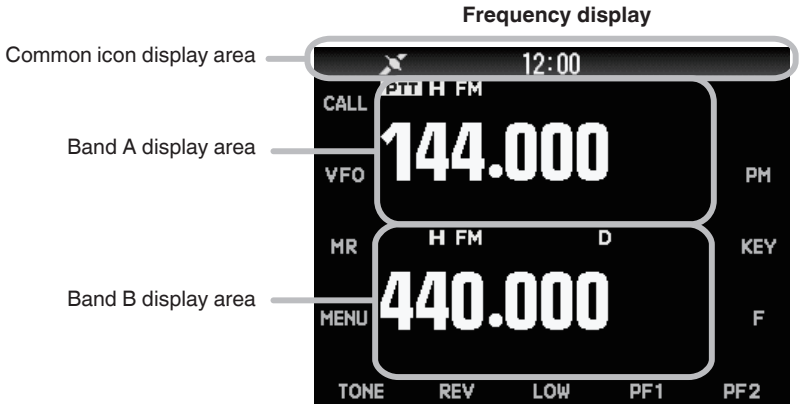
③ MAIN UNIT Jack

This is the connector for connecting the main unit. Connect it using the supplied panel cable.

④ microSD Memory Card Slot

Insert a microSD memory card to store configuration data, recorded data, QSO logs, and other information.

Display



Indicator	Description
S 5 7 9	S Meter: Displays the signal strength during reception.
	RF Meter: Displays the power level during transmission.
PTT	Indicates the transmiting band.
CTRL	Indicates the operating band (A/B).
L	Appears when the transmit power is set to Low.
M	Appears when the transmit power is set to Medium.
H	Appears when the transmit power is set to High.
FM	Appears while in FM mode.
NFM	Appears while in Narrow FM mode.
AM	Appears while in AM mode.
DR	Appears when in DR (Digital Repeater) mode.
DV	Appears when in DV (Digital Voice) mode.
VA	Appears when Voice Alert is set to “On”.

Indicator	Description
VAR	Appears when Voice Alert is set to “RX Only”.
T	Appears when the Tone function is ON.
CT	Appears when the CTCSS function is ON.
DCS	Appears when the DCS function is ON.
T/C	Appears when the Cross tone function is “TONE/CTCSS”.
D/C	Appears when the Cross tone function is “DCS/CTCSS”.
T/D	Appears when the Cross tone function is “TONE/DCS”.
D/O	Appears when the Cross tone function is “DCS/OFF”.
+	Appears when the Shift function is set to plus.
−	Appears when the Shift function is set to minus.
▭	Appears when the Shift direction is set to -7.6 MHz.
±	Appears when a split channel is selected.
R	Appears when the Reverse function is ON.
R	Appears when the Automatic Simplex Checker function is ON.
ATT	Appears when the Attenuator function is ON.
APRS 12	Appears when the packet speed is set to 1200 bps in APRS mode.
APRS 96	Appears when the packet speed is set to 9600 bps in APRS mode.
KISS 12	Appears when the packet speed is set to 1200 bps in KISS mode.
KISS 96	Appears when the packet speed is set to 9600 bps in APRS mode.
STA	Appears when in standby in Packet mode.
BCON	Appears when the beacon transmission function is set to ON.
OBJ	Appears when the object transmission function is set to ON.
	Appears when the built-in GPS function is ON and positioning.
	Appears when the built-in GPS function is ON and not positioning.

Menu mode display

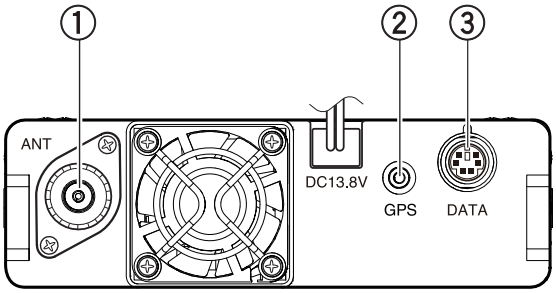
D-STAR (DV/DR mode) display

Indicator	Description
	Appears when the GPS Track Log function is ON and the built-in GPS function is positioning.
	Appears when the GPS Track Log function is ON but not acquiring a position, or during battery save (GPS save) mode.
	Appears when a message is received.
	Appears while recording a QSO.
	Appears when QSO recording is paused.
	Appears when the Priority Scan function is ON.
	Appears when Weather Alert is ON. Blinks when Weather Alert is detected. (TM-D750A only.)
	Appears when Bluetooth is ON but not connected to a compatible device.
	Appears when Bluetooth is ON and connected to a compatible device.
	Appears when the wireless LAN compatible device is not connected while the wireless LAN is ON.
	Appears while the wireless LAN compatible device is connected while the wireless LAN is ON.
	Appears when a network connection error occurs while the wireless LAN is ON and the wireless LAN compatible device is connected.
(Green)	Appears when the microSD memory card of the operation panel is available. Blinks while the card is being mounted.
(Blue)	Appears when the microSD memory card of the main unit is available. Blinks while the card is being mounted.
	Appears when the key lock is ON.
	Indicates the memory group number.

Indicator	Description
	Appears when the Memory Channel Lockout function is ON.
	Appears when the Repeater Lockout function is ON.
CCS	Appears when Callsign squelch is ON.
DCS	Appears when Code squelch is ON.
	TX: Appears in interrupt communication. RX: Blinks while receiving interrupt communication.
	Appears when the auto reply function is ON.
	Appears in GPS transmission.
DATA	Appears while in data communication mode. Blinks while receiving fast data.
	Appears when a packet loss happens.
	Indicates a cross-band type repeater for local area call.
	Indicates an assist-type repeater for call within zone.
	Indicates a repeater for gateway call.
DIRECT	Appears while in the direct mode.
TERM (Green)	Appears while in the reflector terminal mode.
TERM (Red)	Appears while in the repeater terminal mode.

Main Unit

Rear



① ANT terminal

Connect an SO-239/M-type (TM-D750A) or N-type (TM-D750E) external antenna to this terminal. For test transmissions, connect a dummy load instead of the antenna. The antenna system or dummy load must have an impedance of 50 Ω.

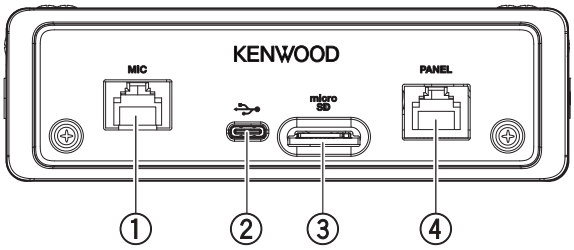
② GPS Connector

Connect the external GPS receiver or the Weather Station.

③ DATA Connector

This is the data input/output terminal. Used to operate the EchoLink node station by connecting to a PC, or to connect to the external TNC. For details on the “DATA connector”, refer to the USER MANUAL.

Front



① MIC Jack

Connect the microphone to this jack.

② USB Connector (USB Type-C™)

The transceiver can be connected to a PC using a commercially available USB cable (USB Type-C™).

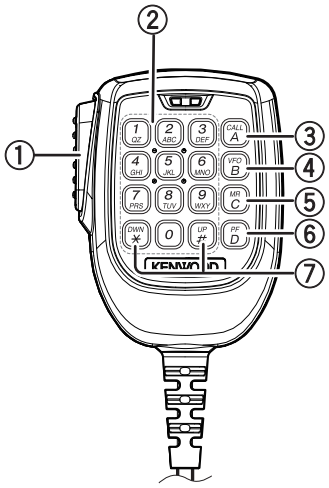
③ microSD Memory Card Slot

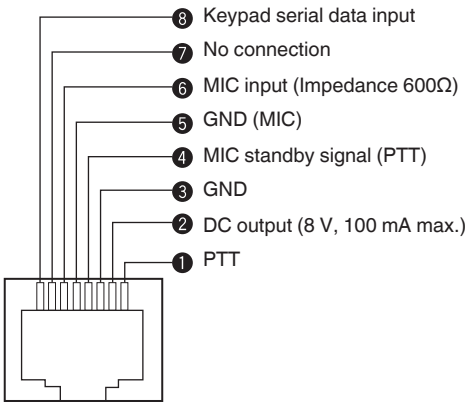
Insert a microSD memory card to store configuration data, recorded data, QSO logs, and other information.

④ PANEL Jack

Connect the Operation panel to this jack. Use the supplied Modular plug cable.

Microphone (MC-62)





① **[PTT]**
Press and hold [PTT], then speak into the microphone to transmit.

② **DTMF keypad**
Press the keys to send DTMF signals or to enter characters and frequencies.

③ **[CALL/A]**
Performs the same function as the [CALL] key on the operation panel. You can assign a function to it as the PF4 key.

④ **[VFO/B]**
Performs the same function as the [VFO] key on the operation panel. You can assign a function to it as the PF3 key.

⑤ **[MR/C]**
Performs the same function as the [MR] key on the operation panel. You can assign a function to it as the PF2 key.

⑥ **[PF/D]**
You can assign a function to it as the PF1 key. By default, it switches between Band A and Band B.

⑦ **[UP/#]/[DWN/✳]**
Performs the same function as the [ENC] control on the operation panel.

6 BASIC OPERATIONS

Switching the Power ON/ OFF

■ Switching the Power ON

1 Press and hold [⏻].
When the power is switched ON, the power-on message is displayed for approximately 1 second, after which the frequency display appears.

■ Switching the Power OFF

1 Press and hold [⏻].

Adjusting the Internal Clock

The built-in clock of this unit is automatically set by the GPS function at the factory default setting. When the power is turned ON, the built-in GPS receiver will begin positioning after a short while, and “GPS Locked” will appear at the top of the display.
After that, the GPS icon <> changes to <>, and the time and date information are set automatically.
If GPS signals are weak or the GPS function cannot be used, set the time and date manually as described below.

1 Access Menu No. 950.
Press [MENU], and press [9][5][0] in order on the keypad.

2 Use [UP/#]/[DWN/✳] or the [ENC] control to select the item, and move the cursor with [◀]/[▶].
Set the “date” and “time”.

3 Press the [ENC] control.
The date, time, and time zone are set.

4 Press [ESC] to return to the frequency screen.

- ◆ “GPS Locked” appears on the display only when you turn on the power or turn on the GPS function and start positioning for the first time.
- ◆ The GPS icon on this transceiver does not blink.
- ◆ If there is no voltage supplied from the vehicle battery or a regulated DC power supply connector, date and time information is retained by the built-in lithium battery for approximately one week, and then cleared. If you turn on the power after the date and time information has been cleared and do not perform acquisition using the built-in GPS receiver or manual settings, the built-in clock will return to the default date and time as shown below. (Initial values may change due to firmware updates.)
  Date: 01/01/2025
  Time: 00:00

NTP Server

The transceiver automatically communicates with an NTP (Network Time Protocol) server to correct the internal clock (date and time).

1 Access Menu No. 953 to turn ON automatic time correction.
The transceiver will automatically communicate with the NTP server and correct the internal clock at the following times.
- When the transceiver power is ON
- Every 24 hours after the transceiver power is ON

Adjusting the Volume

Adjusts the receiving audio volume. The volume can be set separately for the bands A/B.

1 Rotate the [BAND SEL] control for the band you want to adjust.
Rotate clockwise to increase the volume, and counterclockwise to decrease the volume.
When no audio is heard (squelch closed), press the PF key assigned to [MONITER] to turn on the monitor function, then rotate [BAND SEL A] or [BAND SEL B] to adjust the noise level (Monitor).

- To adjust the beep sound volume for key operations, refer to USER MANUAL.

■ Setting examples

When using APRS concurrently
When making a voice call on the Band A, reduce or mute the volume of the Band B.

When simultaneously scanning two waves:
Press the PF key assigned to [CTRL] to switch the band you want to operate. If both the operating band and the non-operating band become busy at the same time, only the operating band will output audio.

Selecting Dual Band/ Single Band Mode

You can switch the transceiver between dual band operation and single band operation.
In dual band mode, both bands can be received simultaneously. In single-band mode, the display for the inactive band is turned off, and no audio is output from that band.

1 Press and hold [BAND SEL A] or [BAND SEL B] for the operating band.
Each time you press and hold [BAND SEL A] or [BAND SEL B], the transceiver switches between dual-band and single-band mode.

Dual band

Single band

Selecting an Operating Band

You can select or divide the Operating band and transmitting band simultaneously.

Operating Band

Select whether Band A (upper) or Band B (lower) will be used for frequency changes and various settings.

Transmitting Band

Select the band that will transmit when the [PTT] button on the microphone is pressed.

Switch the Operating Band and Transmitting Band Simultaneously

Switch the operating band and transmitting band simultaneously.

1 Press [BAND SEL A] or [BAND SEL B].
Each time [BAND SEL A] or [BAND SEL B] is pressed, the operating band and transmit band switch. The operating band is indicated by < PTT > on the display.

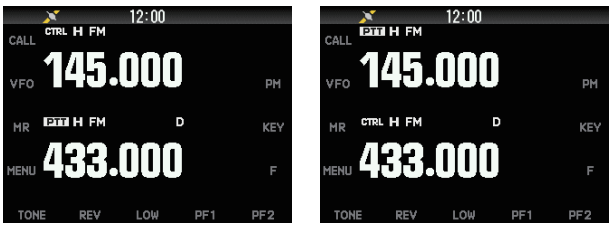
Selecting the Operating Band Only

Only the operating band is switched.

Select whether Band A (upper) or Band B (lower) will be used for frequency changes and various settings.

1 Press the PF key assigned to [CTRL].
Each time the PF key is pressed, the operating band switches. The operating band is indicated by < CTRL > on the display.

Dual band A **Dual band B**



Selecting a Frequency Band

You can change the frequency bands for bands A and B.

1 Press [F], and press [BAND SEL A] or [BAND SEL B].
Each time you repeat the operation, the frequency band of the operating band switches.
Band A :
118 → 144 → 220 → 430 → 118 (MHz)
Band B :
118 → 144 → VHF → 200&300 → 430 → UHF → 118 (MHz)

◆ The default setting of the [PF1] key also allows you to switch the frequency band.

Frequency ranges:

- 118 MHz: Band B 108 ~ 136 MHz
- 144 MHz: 136 ~ 174 MHz
- VHF: 174 to 216 MHz (TM-D750A), 174 to 230 MHz (TM-D750E)
- 220 MHz: 216 to 260 MHz (TM-D750A only)
- 200/300 MHz: Band B 216 to 410 MHz (TM-D750A), 230 to 410 MHz (TM-D750E)
- 430 MHz: 410 ~ 470 MHz
- UHF: 470 ~ 524 MHz

Selecting the Demodulation Mode

You can select the demodulation mode.

1 Press [BAND SEL A] or [BAND SEL B] to select an operating band.

2 Press [F], and press [MODE].
Each press changes the demodulation mode.
Band A :
FM/NFM → DV (DR) → AM → FM/NFM
Band B :
FM/NFM → DV (DR) → AM → FM/NFM

◆ The FM/NFM mode and DV/DR mode cannot be switched using the [MODE] button.
◆ In DV/DR mode, only the frequency bands that can be transmitted can be selected.

Selecting a Frequency

The selectable operating modes are VFO mode, Memory Channel mode, and CALL Channel mode.

VFO Mode

This mode allows you to manually change the frequency.

1 Press [VFO] to select VFO mode.

2 Press [UP/#]/[DWN/✳] or rotate the [ENC] control to select the frequency.
The frequency will change according to the configured step size.

Model	144 MHz	220 MHz	430 MHz
TM-D750A	5 kHz	20 kHz	25 kHz
TM-D750E	12.5 kHz	-	25 kHz

Selecting by the MHz step "MHz"

Select VFO mode or CALL mode first.

1 Press [ENC].
The transceiver enters MHz mode, and the MHz digit will blink.

2 Press [UP/#]/[DWN/✳] or rotate the [ENC] control.
The frequency will change in MHz steps.

3 Press [ENC]
MHz mode ends.

◆ 220 MHz band in Band A is used by the TM-D750A only.

Memory Channel Mode

Memory channel mode lets you quickly select a frequently used frequency and its associated data that you have stored in a memory channel.

1 Press [MR] to enter Memory Channel mode.
The Memory channel number appears on the display.

◆ If no memories are registered, Memory Channel mode cannot be activated. Please refer to the USER MANUAL.

2 Press [UP/#]/[DWN/✳] or rotate the [ENC] control to select the memory channel.
Press [UP/#] or rotate the [ENC] control clockwise to call up the memory channel with the higher number, and press [DWN/✳] or rotate the [ENC] control counterclockwise to call up the memory channel with the lower number.

Display the memory channel number you want to recall. Press [VFO] to return to frequency display (VFO mode).

Call Channel Mode

Call Channel mode allows you to quickly select a preset channel for immediate calls on that frequency. The Call Channel can also be used conveniently as an emergency channel within your group.

1 Press [CALL] to enter Call Channel mode.
"C" appears on the display.
- Press [CALL] again to return to the previous frequency.
- The default settings are as follows.

TM-D750A

Band (Mode)	Call Channel	Memory Name
VHF (except DV/DR mode)	146.520 MHz (FM)	Call VHF (FM)
VHF (DV/DR mode)	144.000 MHz (DV)	Call VHF (DV)
220 MHz (except DV/DR mode)	223.500 MHz (FM)	Call 220M (FM)
220 MHz (DV/DR mode)	223.000 MHz (DV)	Call 220M (DV)
UHF (except DV/DR mode)	446.000 MHz (FM)	Call UHF (FM)
UHF (DV/DR mode)	440.000 MHz (DV)	Call UHF (DV)

TM-D750E

Band (Mode)	Call Channel	Memory Name
VHF (except DV/DR mode)	145.500 MHz (FM)	Call VHF (FM)
VHF (DV/DR mode)	144.8125MHz (DV)	Call VHF (DV)
UHF (except DV/DR mode)	433.500 MHz (FM)	Call UHF (FM)
UHF (DV/DR mode)	433.6125MHz (DV)	Call UHF (DV)

◆ If the [ENC] control is rotated while the CALL channel is being called, the contents of the CALL channel are copied to VFO, switching to VFO mode, and the frequency changes in the direction the [ENC] control is rotated.

Adjusting the Squelch

Squelch mutes the speaker when no signals are present. With the squelch level set correctly, sound is heard only while receiving a signal. The higher the squelch level, the stronger the signal must be to be heard. Squelch levels can be set separately for Bands A and B.

1 After selecting the operating band and frequency band, rotate the [SQL] control.
Rotating it fully counterclockwise opens the squelch. If you hear audio from an ongoing communication through the speaker, rotate the [ENC] control to select a channel with no communication.
Rotate clockwise to the point where background noise disappears. Turning it further clockwise increases the squelch depth.

◆ The point at which background noise disappears using the [SQL] control can vary depending on environmental factors such as the strength of noise signals and temperature.
◆ The squelch also supports S-meter squelch. (Menu No. 103)
◆ Turning [SQL] clockwise will prevent reception of weaker signals.
◆ When the squelch is closed, pressing the PF key assigned to [MONITOR] will open the squelch regardless of signal input level, allowing you to monitor the received signal. Pressing it again returns to the normal squelch state.

Transmitting

Monitor the frequency you intend to transmit on and make sure it will not cause interference or disruption to other stations. Also, when transmitting to a nearby station, reduce the output power. Transmission is possible only in FM mode or DV mode.

1 Select your desired band and frequency/channel.

2 Press and hold the microphone [PTT], and speak into the microphone to transmit.
While holding it, the RF meter will appear on the transmitting band side, indicating the transmitting state.

3 Release the microphone [PTT].
Returns to receiving mode.

◆ Keep the microphone about 5 cm from your mouth. If held too far away, the person receiving may have difficulty hearing you.
◆ If transmission exceeds the preset time, the Time-out Timer function will automatically return the transceiver to receiving mode. To continue transmitting, release [PTT] once and press it again.
◆ In cases such as when the receiving frequency is three times the transmitting frequency, your own transmitted signal may be received.

Selecting an Output Power

1 Select the band and frequency/channel for which you want to change the output power.

2 Press [LOW] to select High (H), Medium (M), or Low (L) output.

Output Power	TM-D750A
H	Approx. 20 W
M	Approx. 10 W
L	Approx. 5 W

◆ Transmission output cannot be set individually for each frequency band.
◆ Separate settings can be made for band A and band B.

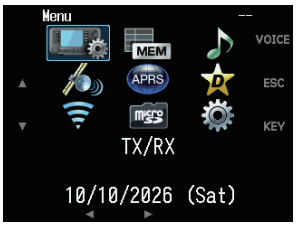
7 MENU MODE

Many functions on this transceiver are selected or configured via the Menu rather than physical controls.

Operating in Menu Mode

Example: Setting ON or OFF for Menu No. 962 (Mic Keys Lock).

1 Press [MENU].
The transceiver enters menu mode. The icon where the cursor is currently positioned will be highlighted, and the name of the main category will be shown at the bottom of the screen.
(Example: TX/RX)



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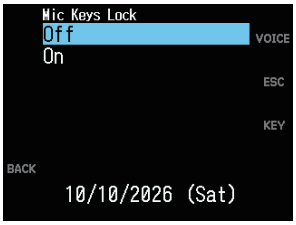
Press [9], [6], [2] in order on the keypad of the microphone.

5 Select [On] or [Off] with [UP/#]/[DWN/✳] or the [ENC] control, and press the [ENC] control.
The setting value is set.



- ◆ Pressing [PTT] during each operation ends menu mode without confirming the setting.
- ◆ Pressing [BACK] during an operation returns to the previous screen. When pressed during step 3, the selected setting value is discarded and the transceiver returns to the previous operation.
- ◆ Pressing [MENU] while scanning cancels the scan.

Character Entry

On screens that require text input, such as memory names or power-on messages, there are two input methods. Using the microphone keypad to enter characters, similar to a mobile phone. And using the [ENC] control to scroll through characters sequentially and select them for input.

Entering Text Using the Microphone Keypad

1 Use [0]–[9], [DWN/✳], and [UP/#] to input characters.
Each key press cycles through the characters assigned to that key. If you want to enter consecutive characters assigned to the same key, move the cursor forward using [VFO/C] (or backward with [MR/B]) before entering the next character.
Press [CALL/A] to delete the character at the cursor. When the cursor is at the last character, subsequent presses act as a backspace.
The backspace operation is performed when there is a blank space.
Press [MR/B] or [VFO/C] to move the cursor. When the cursor is at the end of the input string, a space (half-width) is automatically inserted.

Example: Entering the power-on message (Menu No.902)

- Pressing [SPACE] enters a space.
- Pressing [CLEAR] clears the text.

2 Press [VFO/C]
The cursor moves to the right.

3 Press [PF/D]
The entered content is confirmed.

Cursor Shift

This function provides assistance for entering text using the number keys. It is convenient to use this function when consecutively entering characters with the same key because it automatically moves the cursor to the right after a set time has passed.
You can set the cursor move delay to your preference.

1

2

3

4

Input with the [ENC] Control

1 Rotate the [ENC] control to display the character you want to enter.

2 Press [▶].
The character or symbol is entered and the cursor moves to the right. Press [CLEAR] to delete the character at the cursor. If the cursor is on a blank space, pressing [CLEAR] moves the cursor left, similar to the keypad.

Menu Configuration

No.	Display	Description	Setting Values
TX/RX - RX			
100	**Programmable VFO**	Sets the VFO frequency tuning range (Band A only)	Varies depending on frequency band
101	**Beat Shift**	Beat shift	**Type 1** - Type 8
102	**FM Narrow**	Switches the FM mode bandwidth to narrow	**Off**/ On
103	**S-Meter Squelch**	S-meter squelch	**Off**/ On
104	**SM SQL Hangup Time**	S-meter squelch hangup time	**Off**/ 125/ 250/ 500 [ms]
105	**Mute Hangup Time**	Mute hangup time	**Off**/ 125/ 250/ 500/ 750/ 1000 [ms]
106	**MONITOR Type**	Monitor type	**SQL Off**/ CTCSS/DCS Off
107	**WX Alert**	Weather alert	**Off**/ On *TM-D750A only
TX/RX - TX			
110	**TX Inhibit**	TX inhibit	**Off**/ On
111	**Time-out Timer**	Time-out timer	0.5/ 1.0/ 1.5/ 2.0/ 2.5/ 3.0/ 3.5/ 4.0/ 4.5/ 5.0/ **10.0** [min]
112	**Mic. Sensitivity**	Microphone sensitivity	High/ **Medium**/ Low
113	**TX Notification**	TX notification	**Off**/ On
TX/RX - RX Filter			
120	**AM High Cut**	AM high cut	3.0/ 4.5/ **6.0**/ 7.5 [kHz]
TX/RX - Scan			
130	**Resume**	Resume method	**Time**/ Carrier/ Seek
131	**Resume (Digital)**	Resume method (Digital)	Time/ Carrier/ **Seek**
132	**Time Restart**	Time operate restart time	1 - **5** - 10 [sec]
133	**Carrier Restart**	Carrier operate restart time	1 - **2** - 10 [sec]
134	**Priority Scan**	Priority scan	**Off**/ On
135	**Scan Auto Backlight**	Scan auto backlight	**Off**/ On
136	**Visual Scan**	Visual scan	Mode1: 23 ch/ Mode2: 33 ch/ **Mode3: 57 ch**/ Mode4: 115 ch
137	**Auto Weather Scan**	Auto weather channel scan	**Off**/ On *TM-D750A only
TX/RX - Repeater			
140	**Offset Frequency**	Sets the offset width	Varies depending on frequency band
141	**Auto Offset**	Auto repeater offset	Off/ **On**
142	**1750Hz TX Hold**	1750Hz TX hold	**Off**/ On
143	**Repeater Mode**	Repeater mode	**Cross Band**/ Locked TX:A Band/ Locked TX:B Band *TM-D750A only
144	**Repeater TX Hold**	Repeater TX hold	**Off**/ On *TM-D750A only
145	**Repeater ID**	Repeater ID	- *TM-D750A only
146	**Repeater ID TX**	Repeater ID TX	**Off**/ On (Morse)/ On (Voice) *TM-D750A only
TX/RX - VOX			
150	**VOX**	VOX	**Off**/ On (AF)/ On (Data)
151	**Gain**	VOX gain level	0 - **4** - 9
152	**Delay**	VOX delay time	250/ **500**/ 750/ 1000/ 1500/ 2000/ 3000 [ms]
153	**TX on Busy**	VOX transmission when busy	**Off**/ On
TX/RX - DTMF			
160	**Encode Speed**	Sets the DTMF memory transmission speed	50/ **100**/ 150 [ms]
161	**Pause Time**	Sets the DTMF pause time	100/ 250/ **500**/ 750/ 1000/ 1500/ 2000 [ms]
162	**TX Hold**	Holds DTMF transmission output for 2 seconds	**Off**/ On
163	**DTMF Memory**	DTMF memory	Up to 10 channels for DTMF memory channel Up to 16 characters for DTMF memory name Up to 16 digits for DTMF memory code
164	**EchoLink Memory**	EchoLink memory	Up to 10 channels for EchoLink memory channel Up to 8 characters for EchoLink memory name Up to 8 digits for one channel code
TX/RX - Others			
170	**QSO Log**	Saves QSO log (communication history)	**Off**/ On
Memory - Memory Channel			
200	**View List**	Memory channel list	-
201	**Group Name**	Group name	Up to 16 characters
202	**Recall Method**	Method to recall a memory channel	**All Bands**/ Current Band

No.	Display	Description	Setting Values
203	**Group Link**	Memory group linking	Up to 30 group links
204	**CALL Ch List**	Call channel list	-
Memory - Repeater List			
210	**View List**	Repeater list	-
Memory - Callsign List			
220	**View List**	Callsign list	-
Memory - Hotspot List			
230	**View List**	Hotspot list	-
Memory - PM			
240	**Auto PM Store**	Auto PM store	Off/ **On**
Audio File - Recording File			
300	**View List**	Recording file list	-
301	**Recording**	Recording	**Stop**/ Start
302	**Recording Band**	Switches the recording target band	A Band/ B Band/ **A/B Band**
303	**Recording File Storage**	Recording file storage	**Continuous**/ Split
Audio File - Voice Message			
310	**View List**	Voice message list	-
311	**TX Monitor**	TX monitor	Off/ **On**
312	**Digital Auto Reply**	Digital auto reply	-
313	**Repeater ID Voice**	Repeater ID voice	**1** - 4
GPS - Basic Settings			
400	**Built-in GPS**	Built-in GPS	Off/ **On**
401	**My Position**	My position	**GPS**/ My Position 1 - My Position 5
402	**Position Ambiguity**	Position ambiguity mode	**Off**/ 1-Digit - 4-Digit
403	**PC Output**	GPS data output to PC	**Off**/ On
404	**SAT Info. Output**	Satellite information output	GPS/ **GPS/QZSS/Galileo**
405	**Sentence**	NMEA Sentence	**GGA**/ GLL/ GSA/ GSV/ **RMC**/ VTG
406	**SBAS**	SBAS	Off/ **On**
GPS - Track Log			
410	**Track Log**	Track log	**Off**/ On
411	**Clear Track Log**	Clear track log	-
412	**Record Method**	Method to record a track log	**Time**/ Distance/ Beacon
413	**Interval**	Track log interval	2 - **10** - 1800 [sec]
414	**Distance**	Track log distance	**0.01** - 9.99 [km]
GPS - GPS Port			
420	**Baud Rate**	GPS terminal baud rate	2400/ **4800**/ 9600 [bps]
421	**Input**	GPS input	**Off**/ GPS/ Weather (Davis)/ Weather (PeetBros.)
422	**Output**	GPS output	**Off**/ Waypoint/ DGPS
APRS - Basic Settings			
500	**My Callsign**	Registers own-station callsign	Up to 9 characters
501	**Icon**	Own-station icon	**Car**/ Person/ Bicycle/ Motorcycle/ Bus etc. (total 68 icons)
502	**Position Comment**	Position comment	Off Duty/ Enroute/ **In Service**/ Returning/ Committed/ Special/ PRIORITY/ CUSTOM0 - CUSTOM6/ EMERGENCY!
503	**Status Text**	Status text	Status Text: **1** - 5 TX Rate: Off, 1/1 - **1/4** - 1/8 text: Up to 42 characters
504	**Packet Path**	Packet relay route	type: **New-N**/ Relay/ Region/ Others1 - Others3 WIDE1-1: Off/ **On**, RELAY: Off/ On, ABBR: Up to 5 characters Total Hops: 0 - **2** - 7, PATH: Up to 79 characters
505	**Data Speed**	Data communications speed	**1200 bps**/ 9600 bps
506	**Data Band**	Internal data band type	**A Band**/ B Band
507	**Auto Ch Setting**	Automatic frequency setting	Off/ **On**
508	**DCD Sense**	DCD sense type	**Busy**/ Detect Data/ Off (Ignore)
509	**TX Delay**	APRS data transmission delay time	100/ 150/ **200**/ 300/ 400/ 500/ 750/ 1000 [ms]
50A	**APRS Lock**	APRS lock	Frequency/ PTT/ APRS Key
APRS - Beacon TX Control			
510	**Method**	Transmission method	Manual/ PTT/ **Auto**/ SmartBeaconing

No.	Display	Description	Setting Values
511	**Initial Interval**	Automatic transmission interval	0.2/ 0.5/ **1**/ 2/ 3/ 5/ 10/ 20/ 30/ 60 [min]
512	**Decay Algorithm**	Automatic transmission interval extension	Off/ **On**
513	**Prop. Pathing**	Automatic relay path switching	Off/ **On**
514	**Speed**	Speed output	Off/ **On**
515	**Altitude**	Altitude output	**Off**/ On
516	**Object**	Sets the object transmission	**Object1** - Object3 Name: up to 9 characters, type: **Live Object**/ Killed Object/ Live Item/ Killed Item, Method: Off/ **Temp.**/ Auto (15min)/ Auto (30min)/ Auto (60min), N (S): Latitude, E (W): Longitude, Icon: **Eyeball**/ Portable (Tent)/ HAMStore etc. (Total 68 kinds), Comments: up to 42 characters
517	**WX TX**	Weather data output	**Off**/ On
518	**WX TX Interval**	Weather data transmission interval	**5**/ 10/ 30/ 60 [min]
APRS - QSY Information			
520	**QSY Info. in Status**	QSY information in status	**Off**/ On
521	**Tone/Narrow**	Tone/Narrow	**Off**/ On
522	**Shift/Offset**	Shift/Offset	**Off**/ On
523	**QSY Limit Distance**	QSY information restriction distance	**Off**/ 10/ 20/ …2490/2500 [km]
APRS - SmartBeaconing			
530	**Low/High Speed**	Low speed/ High speed	Slow Rate: 2 - **5** - 30 [km/h] Fast Rate: 2 - **70** - 90 [km/h]
531	**Slow Rate**	Low speed transmission interval time	1 - **30** - 100 [min]
532	**Fast Rate**	High speed transmission interval time	10 - **120** - 180 [sec]
533	**Turn Angle**	Turn angle	5 - **28** - 90 [deg]
534	**Turn Slope**	Turn slope	1 - **26** - 255 [10deg/speed]
535	**Turn Time**	Turn time	5 - **60** - 180 [sec]
APRS - Waypoint			
540	**Format**	Way point format	**NMEA**/ MAGELLAN/ KENWOOD
541	**Length**	Way point name length	**6-Char**/ 7-Char/ 8-Char/ 9-Char
542	**Output**	Way point output type	**All**/ Local/ Filtered
APRS - Packet Filter			
550	**Position Limit**	Data reception range limit	**Off**/ 10/ 20/ …2490/ 2500 [km]
551	**Filter Type**	Filter type	**Weather/ Digipeater/ Mobile/ Object/Item/ NAVITRA/ 1-Way/ Others**
APRS - Message			
560	**User Phrases**	Edits predefined messages	Up to 32 characters x 20 phrases
561	**Auto Reply**	Sets the automatic reply message	**Off**/ On
562	**Reply To**	Automatic reply message recipient	Up to 9 characters
563	**Reply Delay Time**	Automatic reply message wait time	0/ **10**/ 20/ 30/ 60 [sec]
564	**Reply Message Text**	Registers the automatic reply message	Up to 50 characters
APRS - Notification			
570	**RX Beep**	Sets the RX beep sound	Off/ Message Only/ Mine/ All New/ **All**
571	**TX Beep**	Sets the TX beep sound	Off/ **On**
572	**Special Call**	Special call	Up to 9 characters
573	**Display Area**	Received notification display area	**Entire Always**/ Entire Display/ One Line
574	**Interrupt Time**	RX notification display time	3/ 5/ **10**/ 20/ 30/ 60 [sec]/ Infinite
575	**APRS Voice**	Announces the callsign of the received station	**Off**/ On
APRS - Digipeat			
580	**Digipeat (My Call)**	Sets the Digipeater	**Off**/ On
581	**UIcheck**	Sets the RX UI frame relay	0 - **28** - 250 [sec]
582	**UIdigipeat**	Sets the UI Digipeater	**Off**/ On
583	**UIdigi Aliases**	Sets the Aliases string	Up to 9 characters x 4
584	**UIflood**	Sets the Uiflood Digipeater	**Off**/ On
585	**UIflood Alias**	Sets the Alias string for UIflood	Up to 5 characters
586	**UIfloodSubstitution**	Sets the substitution for UIflood	**First**/ ID/ NOID
587	**Ultrace**	Sets the ULtrace Digipeater	**Off**/ On
588	**Ultrace Alias**	Sets the Alias string for Ultrace	Up to 5 characters

No.	Display	Description	Setting Values
APRS - Others			
590	**PC Output**	PC output	**Off**/ Raw Packets/ Waypoint
591	**Network**	Network type	**APRS (APK103)**/ Altnet
592	**Voice Alert**	Voice alert	**Off**/ On/ RX Only
593	**VA Frequency**	Voice alert frequency	67.0 - **100.0** - 254.1 [Hz]
594	**Message Group Code**	Message group code	Up to 9 characters x 6 codes (**ALL, QST, CQ, KWD**)
595	**Bulletin Group Code**	Bulletin group code	Up to 5 characters x 6 codes
Digital - RX History			
600	**View History**	Displays the RX history	-
Digital - TX/RX			
610	**My Callsign**	Registers own-station callsign (for DV/DR mode)	8 digits (callsign) + 4 digits (identification code) x 6 patterns
611	**TX Message**	Edits and selects the TX messages	**Off**/ 1/ 2/ 3/ 4/ 5
612	**Direct Reply**	Sets the direct reply	Off/ **On**
613	**Auto Reply Timing**	Auto reply timing	**Immediate**/ 5/ 10/ 20/ 30/ 60 [sec]
614	**Data TX End Timing**	Data TX end timing	**Off**/ 0.5/ 1/ 1.5/ 2 [sec]
615	**EMR Volume Level**	EMR volume level	Level 1 - **Level 25** - Level 50
616	**RX AFC**	RX AFC	Off/ **On**
617	**FM Auto Det. on DV**	FM auto detect on DV	**Off**/ On
618	**Data Frame Output**	Data frame output	**All**/ Related to DSQ/ DATA Mode
619	**Break Call**	Break call	**Off**/ On
61A	**Auto Reply**	Auto reply	**Off**/ On/On (Voice)
Digital - Digital Squelch			
620	**Select Type**	Select type	**Off**/ Code Squelch/ Callsign Squelch
621	**Digital Code**	Digital code	**00** - 99
Digital - GPS Data TX			
630	**GPS Info. in Frame**	GPS information in frame	**Off**/ On
631	**Sentence**	NMEA Sentence	**GGA**/ GLL/ GSA/ GSV/ **RMC**/ VTG/ APRS Sentence
632	**Auto TX**	Automatic transmission interval time	**Off**/ 0.2/ 0.5/ 1/ 2/ 3/ 5/ 10/ 20/ 30/ 60 [min]
Digital - RX Notification			
640	**Display Method**	Method to display RX interrupt	Off/ **All**/ Related to DSQ/ Mine
641	**Single Display Size**	RX interrupt display size (single)	Half Display/ **Entire Display**
642	**Dual Display Size**	RX interrupt display size (dual)	Half Display/ **Entire Display**
643	**Display Hold Time**	RX interrupt display hold time	0/ 3/ 5/ **10**/ 20/ 30/ 60 [sec]/ Infinite
644	**Callsign Announce**	Announces the callsign and kerchunk status	**Off**/ Kerchunk/ Except Kerchunk/ Mine/ All
645	**Standby Beep**	Standby beep	**Off**/ On
Digital - DV Gateway			
650	**DV Gateway Mode**	DV Gateway mode setting	**Off**/ Direct Mode/ Terminal Mode
651	**My Callsign**	Registers own-station callsign (for DV Gateway mode)	Up to 8 character callsign + 6 patterns of up to 4 character identification code
Digital - Direct Mode			
660	**Gateway Callsign**	Registers gateway callsign	Up to 8 characters
661	**Gateway RPT Server**	Gateway RPT server URL	-
662	**Gateway Type**	Gateway type	**Global**/ Japan
663	**UDP Hole Punch**	UDP hole punch	**Off**/ On
664	**ReflectorHosts (REF)**	Reflector hosts (REF)	**Auto Update**/ SD Card
665	**ReflectorHosts (DCS)**	Reflector hosts (DCS)	**Auto Update**/ SD Card
666	**ReflectorHosts (XRF)**	Reflector hosts (XRF)	**Auto Update**/ SD Card
667	**ReflectorHosts (XLX)**	Reflector hosts (XLX)	**Auto Update**/ SD Card
Digital - TERM Mode			
670	**TERM Mode Select**	Terminal mode select	**Reflector TERM Mode**/ Repeater Terminal Mode
671	**RPT1**	Sets the RPT1 (for DV Gateway mode)	Up to 8 characters
672	**RPT2**	Sets the RPT2 (for DV Gateway mode)	Up to 8 characters
673	**Device Information**	Sets the name	-

No.	Display	Description	Setting Values
Digital - Repeater Monitor			
680	**Repeater Moni Timer**	Repeater monitor timer	**10**/ 20/ 30 [min]
681	**Repeater Hosts**	Repeater hosts	**Auto Update**/ SD Card
IP Network - Basic Settings			
700	**DHCP**	DHCP	Off/ **On**
701	**IP Address**	IP address	-
702	**Subnet Mask**	Subnet mask	-
703	**Default Gateway**	Default gateway	-
704	**Primary DNS Server**	Primary DNS server	-
705	**Secondary DNS SVR**	Secondary DNS server	-
IP Network - WLAN			
710	**WLAN**	WLAN	**Off**/ On
711	**Access Point List**	Access point list	-
SD Card - Export			
800	**Config Data**	Exports the configuration data	-
801	**Config Data + V.Msg**	Exports the configuration data and voice messages	-
802	**Repeater List Only**	Exports the repeater list	-
803	**Callsign List Only**	Exports the callsign list	-
804	**Hotspot List Only**	Exports the hotspot list	-
SD Card - Import			
810	**Config Data**	Imports the configuration data	-
811	**Config Data + V.Msg**	Imports the configuration data and voice messages	-
812	**Repeater List Only**	Imports the repeater list	-
813	**Callsign List Only**	Imports the callsign list	-
814	**Hotspot List Only**	Imports the hotspot list	
SD Card - Unmount			
820	**Main Unit**	Unmount execute (main unit)	-
821	**Operation Panel**	Unmount execute (operation panel)	-
SD Card - Format			
830	**Main Unit**	Format execute (main unit)	-
831	**Operation Panel**	Format execute (operation panel)	-
SD Card - Memory Size			
840	**Main Unit**	Checks the available space on MicroSD memory card (main unit)	-
841	**Operation Panel**	Checks the available space on MicroSD memory card (operation panel)	-
SD Card - Configuration			
850	**SD Card Slot**	SD card slot	**Main Unit**/ Operation Panel
Configuration - Display			
900	**LCD Brightness**	LCD brightness	Level 1 - **Level 8**
901	**Auto Brightness**	Auto brightness	**Off**/ On
902	**Power-on Message**	Power-on message input	Up to 16 characters
903	**Single Band Display**	Single band display type	Off/ GPS/ **Date**/ Demodulation Mode
904	**Meter Type**	Meter type	**Type 1** - Type 3
905	**Background Color**	Background color select	**Black**/ White
906	**Info. Backlight**	Information Backlight	Off/ **On**
Configuration - Audio			
910	**TX/RX EQ**	Sets the TX/RX equalizer	RX EQ/ TX EQ (FM, NFM)/ TX EQ (DV)
911	**TX EQ Level**	Sets the TX equalizer level	**0.4 kHz (-9 - +3 [dB])**/ 0.8 kHz (-9 - +3 [dB])/ 1.6 kHz (-9 - +3 [dB])/ 3.2 kHz (-9 - +3 [dB])
912	**RX EQ Level**	Sets the RX equalizer level	**0.4 kHz (-9 - +9 [dB])**/ 0.8 kHz (-9 - +9 [dB])/ 1.6 kHz (-9 - +9 [dB])/ 3.2 kHz (-9 - +9 [dB])/ 6.4 kHz (-9 - +9 [dB])
913	**USB Audio Out. Lvl.**	USB Audio Output level	Level 1 - **Level 7**

No.	Display	Description	Setting Values
914	**External Speaker**	External speaker	**Mode1**/ Mode2
Configuration - Accessibility			
920	**Beep**	Sets the beep sound	Off/ **On**
921	**Beep Volume**	Adjusts the beep volume	Level 1 - **Level 5** - Level 7
922	**Voice Guidance**	Sets the voice guidance	**Off**/ Manual/ Auto1/ Auto2
923	**Voice Guidance Vol.**	Voice guidance volume	Level 1 - **Level 5** - Level 7
924	**VoiceGuidanceSpeed**	Voice guidance speed	**Speed 1** - Speed 4
925	**Callsign Readout**	Callsign readout method	**Standard**/ Phonetics (Full)/ Phonetics (Suffix)
Configuration - Bluetooth			
930	**Bluetooth**	Sets the Bluetooth function	**Off**/ On
931	**Connect**	Connects the device	-
932	**Device Search**	Searches for device	-
933	**Disconnect**	Disconnects the device	-
934	**Pairing Mode**	Pairing Mode	-
935	**Device Information**	Information on built-in radio device	Up to 19 characters
936	**Auto Connect**	Connects the device automatically	Off/ **On**
Configuration - Auxiliary			
940	**PF 1 Key**	Registers PF1 key	Recording→Voice Message 1-4→Voice Guidance→VOICE→Group Name→GPS→Track LOG→SHIFT→STEP→LOW→Key Lock→Lockout→M>V→T.SEL→NEW→Voice Alert→LCD Brightness→LCD Off→DTMF CH0→EchoLink CH0→1750Hz Tone→M.IN→Weather Channel→**BAND (PF1)**→**CTRL (PF2)**→MONITOR→GRP.UP→MENU→MUTE→DUAL
941	**PF 2 Key**	Registers PF2 key	
942	**Power Key**	Power key	Power Key/ **Power Key + Voice**
943	**PF1 (Mic)**	Registers microphone PF1 key	Recording→Voice Message 1-4→Voice Guidance→VOICE→Group Name→GPS→Track LOG→SHIFT→STEP→LOW→Key Lock→Lockout→M>V→T.SEL→NEW→Voice Alert→LCD Brightness→LCD Off→DTMF CH0→EchoLink CH0→1750Hz Tone→M.IN→Weather Channel→BAND→CTRL→MONITOR→GRP.UP→MENU→MUTE→DUAL→Screen Capture→MODE→**A/B (PF1 Mic)**→**VFO (PF2 Mic)**→**MR (PF3 Mic)**→**CALL (PF4 Mic)**→MSG→LIST→BCON→REV→TONE→MHz→MARK→APRS→OBJ→ATT→POS→LOCK→ENTER→REPLY→P.MONI→WXi
944	**PF2 (Mic)**	Registers microphone PF2 key	
945	**PF3 (Mic)**	Registers microphone PF3 key	
946	**PF4 (Mic)**	Registers microphone PF4 key	
947	**Cursor Shift**	Cursor shift	**Off**/1.0/ 1.5/ 2.0 [sec]
948	**Secret Access Code**	Secret access code	3-Digit
949	**Remote Answer Back**	Remote answer back	Off/ **On**
Configuration - Date & Time			
950	**Setting**	Sets the date, time and time zone	-
951	**Auto Correction**	Auto correction of date & time	**Off**/ On
952	**NTP Server Address**	NTP server address	-
953	**NTP Time Correction**	NTP Time Correction	-
Configuration - Lock			
960	**Keys Lock Type**	Keys lock type	**Key Lock**/ **Frequency Lock**
961	**DTMF Keys Lock**	DTMF keys lock	**Off**/ On
962	**Mic Keys Lock**	Microphone key lock	**Off**/ On
Configuration - Units			
970	**Speed, Distance**	Speed and distance units	**mi/h, mile**/ km/h, km/ knots, nm
971	**Altitude, Rain**	Altitude and rainfall units	**feet, inch**/ m, mm
972	**Temperature**	Temperature unit	**˚F**/ ˚C
973	**Latitude, Longitude**	Latitude and longitude units	**dd ˚ mm.mm'**/ dd ˚ mm' ss.s"
974	**Grid Square Format**	Grid square format	**Maidenhead Grid**/ SAR Grid (CONV)/ SAR Grid (CELL)
Configuration - Interface			
980	**USB Function**	Selects the USB terminal function	**COM+AF Output**/ Mass Storage
981	**USB Audio In/Out**	Selects the USB audio input/output	**Off**/ AF/ Ext. Data
982	**PC Output: GPS**	PC output (NMEA sentences from built-in GPS)	**USB (Main Unit)** / USB (Panel) / Bluetooth
983	**PC Output: APRS**	PC output (packet data in APRS mode)	**USB (Main Unit)** / USB (Panel) / Bluetooth

No.	Display	Description	Setting Values
984	**KISS**	PC input/output (packet data in KISS mode)	**USB (Main Unit)** / USB (Panel) / Bluetooth
985	**DV/DR**	PC input/output (TX and RX data in DV/DR mode)	**USB (Main Unit)** / USB (Panel) / Bluetooth
986	**DV Gateway**	PC input/output (TX and RX data in DV Gateway mode)	**USB (Main Unit)** / USB (Panel) / Bluetooth
987	**Ext. Data Band**	External data band	A Band/ **B Band**
988	**Ext. Data Speed**	External data speed	**1200bps**/ 9600bps
989	**QC Output Source**	QC Output source	Off/ Busy/ SQL/ TX/ **Busy or TX**/ SQL or TX
Configuration - System			
990	**Language**	Language setting	**English**/ Japanese
991	**APO: Auto Power Off**	Auto Power Off	**Off**/ 30/ 60/ 90/ 120/ 180 [min]
992	**Version**	Firmware version	-
993	**EULA**	End-User License Agreement	-
994	**Important Notice**	Important notice	-
995	**Licenses**	Licenses information	-
999	**Reset**	Reset	**VFO Reset**/ Partial Reset/ PM Reset/ Full Reset

- Menu descriptions and setting values are subject to change without prior notice.
- Bold character in setting values indicates a default setting.
- Use the 300 series (Audio File) and 800 series (SD Card) menus when a microSD memory card is inserted in the transceiver.

8 Others

Reset

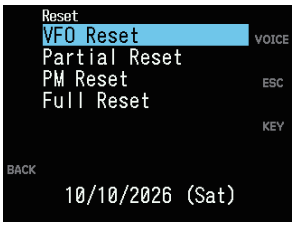
If the transceiver does not work properly, or if there is no response even when you press a key, refer to the contents of “TROUBLESHOOTING” in USER MANUAL.
If the transceiver still does not work properly, perform a reset. When a reset is performed, the frequency and function settings are restored to the default setting states. There are four types of resets as follows, each of which can be performed using two methods.

VFO Reset :Use to initialize the VFO and accompanying settings.
Partial Reset :Use to initialize all settings other than the Memory channels, and the DTMF memory channels.
PM Reset :Initializes only the contents of PM (programmable memory).
Full Reset :Use to initialize all transceiver settings that you have customized. (Date and time are not reset.)

Reset Using Key Operation

With the power turned OFF

1 Press [F] + Power ON until reset screen appears.



2 Select “VFO Reset”, “Partial Reset”, “PM Reset”, or “Full Reset”.

3 Press [ENC] control
A confirmation message appears on the display.

4 Press [OK]
Reset is performed, and the transceiver restarts.

Reset via Menu Mode

1 Access Menu No. 999.
Select “VFO Reset”, “Partial Reset”, “PM Reset”, or “Full Reset”.

◆ To set the Voice Guidance to [Auto1] without entering Menu Mode after performing Full Reset, press and hold the [CALL] key to power ON from the power OFF state. Release the key when the KENWOOD logo and image appear and a “Beep” sounds.

Specifications

TM-D750A

GENERAL				
Frequency Range				
Band A	TX: 144 - 148, 222 - 225, 430 - 450 MHz RX: 108 - 174, 216 - 260, 410 - 470 MHz			
Band B	RX: 108 - 524 MHz			
Mode				
TX	F1D, F2D, F3E, F7W			
RX	F1D, F2D, F3E, F7W, A3E			
Operating Temp. Range	-4°F to +140°F (-20 °C to +60 °C)			
Frequency Stability	±2.0 ppm			
Antenna Impedance	50 Ω			
Operating Voltage				
DC-IN	DC 11.7 - 15.9 V (STD: DC 13.8 V)			
TX Current Consumption		H	M	L
(TYP.)	144M	13 A	6.5 A	5.0 A
	220M	8 A	6.5 A	5.0 A
	430M	13 A	6.5 A	5.0 A
RX Current Consumption				
(TYP.)	1.2 A (Rated Power)			
Dimensions (W x H x D)	Projections not included			
Main Unit	140.0(W) x 180(D) x 43(H) mm			
Operation Panel	183.3(W) x 36.8(D) x 93(H) mm			
Weight (net) Main Unit	300 g			
Operation Panel	344 g			

TRANSMITTER			
RF Power Output	H	M	L
144M/430M	50 W	10 W	5 W
220M	20 W	10 W	5 W
Modulation			
FM	Reactance Modulation		
DV	GMSK Reactance Modulation		
Max. Modulation Deviation			
FM	±5.0 kHz		
NFM	±2.5 kHz		
Spurious Emissions	-60 dBc or less		
Modulation Distortion			
(300Hz - 3kHz)	3% or less		
Microphone Impedance	600 Ω		

RECEIVER			Band A	Band B
Circuitry				
F1D, F2D, F3E, F7W	Double Super Heterodyne			
A3E	Triple Super Heterodyne			
IF Frequency				
1st IF			57.15 MHz	58.05 MHz
2nd IF			450 kHz	450 kHz
3rd IF	A3E		10.8 kHz	10.8 kHz
Sensitivity (TYP.)				
Amateur Band				
FM	12dB SINAD			
	FM/ NFM	144 MHz	0.16/ 0.20 uV	0.16/ 0.20 uV
	FM/ NFM	220/ 430 MHz	0.16/ 0.20 uV	0.16/ 0.20 uV
DV	PN9/ GMSK 4.8 kbps, BER 1%			
		144/ 430 MHz	0.22 uV	0.22 uV
		220 MHz	0.22 uV	0.24 uV
AM	10 dB S/N		0.50 uV	0.50 uV
Except above Amateur Band				
AM	10 dB S/N			
		118 - 174 MHz	0.40 uV	0.40 uV
		216 - 250 MHz	0.50 uV	0.50 uV
		410 - 470 MHz	0.40 uV	0.40 uV
FM	12dB SINAD			
		118 - 144 MHz	0.32 uV	0.32 uV
		146 - 175 MHz	0.32 uV	0.32 uV
		200 - 222 MHz		0.40 uV
		225 - 250 MHz	0.40 uV	0.40 uV
		380 - 400 MHz		0.56 uV
		400 - 430 MHz	0.28 uV	0.28 uV
		440 - 490 MHz	0.28 uV	0.28 uV
		490 - 524 MHz		0.56 uV
Squelch (TYP.) Sensitivity			0.10 uV	0.10 uV
Spurious Rejection	144 MHz		60 dB or more	60 dB or more
	430 MHz		60 dB or more	60 dB or more
IF Rejection			60 dB or more	60 dB or more
Channel Selectivity	-6 dB	12 kHz or more		
	-50 dB	30 kHz or less		
Audio Output	3W or more / 8 Ω			

GPS	
Supported Satellite	GPS/QZSS/Galileo

Wireless Connection	
Bluetooth Version, Class	Version 5.0, Class 1 HSP, SPP
WLAN Frequency Range	2.4 GHz, 5 GHz 802.11 a/b/g/n/ac

TM-D750E

GENERAL				
Frequency Range				
Band A	TX: 144 - 146, 430 - 440 MHz RX: 108 - 174, 410 - 470 MHz			
Band B	RX: 108 - 524 MHz			
Mode				
TX	F1D, F2D, F3E, F7W			
RX	F1D, F2D, F3E, F7W, A3E			
Operating Temp. Range	-20 °C to +60 °C			
Frequency Stability	±2.0 ppm			
Antenna Impedance	50 Ω			
Operating Voltage				
DC-IN	DC 11.7 - 15.9 V (STD: DC 13.8 V)			
TX Current Consumption		H	M	L
(TYP.)	144M	13 A	6.5 A	5.0 A
	430M	13 A	6.5 A	5.0 A
RX Current Consumption				
(TYP.)	1.2 A (Rated Power)			
Dimensions (W x H x D)	Projections not included			
Main Unit	140.0(W) x 180(D) x 43(H) mm			
Operation Panel	183.3(W) x 36.8(D) x 93(H) mm			
Weight (net) Main Unit	300 g			
Operation Panel	344 g			

TRANSMITTER			
RF Power Output	H	M	L
	50 W	10 W	5 W
Modulation			
FM	Reactance Modulation		
DV	GMSK Reactance Modulation		
Max. Modulation Deviation			
FM	±5.0 kHz		
NFM	±2.5 kHz		
Spurious Emissions	-60 dBc or less		
Modulation Distortion			
(300Hz - 3kHz)	3% or less		
Microphone Impedance	600 Ω		

RECEIVER			Band A	Band B
Circuitry				
F1D, F2D, F3E, F7W	Double Super Heterodyne			
A3E	Triple Super Heterodyne			
IF Frequency				
1st IF			57.15 MHz	58.05 MHz
2nd IF			450 kHz	450 kHz
3rd IF	A3E		10.8 kHz	10.8 kHz
Sensitivity (TYP.)				
Amateur Band				
FM	12dB SINAD			
	FM/ NFM	144 MHz	0.16/ 0.20 uV	0.16/ 0.20 uV
	FM/ NFM	430 MHz	0.16/ 0.20 uV	0.16/ 0.20 uV
DV	PN9/ GMSK 4.8 kbps, BER 1%			
		144 MHz	0.22 uV	0.22 uV
		430 MHz	0.22 uV	0.24 uV
AM	10 dB S/N		0.50 uV	0.50 uV
Except above Amateur Band				
AM	10 dB S/N			
		118 - 174 MHz	0.40 uV	0.40 uV
		216 - 250 MHz		0.50 uV
		410 - 470 MHz	0.40 uV	0.40 uV
FM	12dB SINAD			
		118 - 144 MHz	0.32 uV	0.32 uV
		146 - 175 MHz	0.32 uV	0.32 uV
		200 - 222 MHz		0.40 uV
		225 - 250 MHz		0.40 uV
		380 - 400 MHz		0.56 uV
		400 - 430 MHz	0.28 uV	0.28 uV
		440 - 490 MHz	0.28 uV	0.28 uV
		490 - 524 MHz		0.56 uV
Squelch Sensitivity (TYP.)			0.10 uV	0.10 uV
Spurious Rejection	144 MHz		60 dB or more	60 dB or more
	430 MHz		60 dB or more	60 dB or more
IF Rejection			60 dB or more	60 dB or more
Channel Selectivity	-6 dB	12 kHz or more		
	-50 dB	30 kHz or less		
Audio Output	3W or more / 8 Ω			

GPS	
Supported Satellite	GPS/QZSS/Galileo

Wireless Connection	
Bluetooth Version, Class	Version 5.0, Class 1 HSP, SPP
WLAN Frequency Range	2.4 GHz, 5 GHz 802.11 a/b/g/n/ac

- Except for sensitivity, these specifications are guaranteed for Amateur Bands only.
- JVCKENWOOD follows a policy of continuous advancement in development. For this reason, specifications may be changed without notice.
- Alterations may be made without notice to improve the ratings or the design of the transceiver.
- The photographic and printing processes may cause the coloration of the transceiver to appear different from that of the actual transceiver.

■ Frequencies That Cannot Be Received

Concerning the received frequency display, an unmodulated signal may be received. This is according to the set intrinsic frequency form. Formulas and examples are shown below:

	<A Band> <B Band>
V x U reception	**(V_{RX} + 57.15 MHz) x n - (U_{RX} - 58.05 MHz) x m = ±57.15 MHz, ±58.05 MHz**
	Example) Band A: 146.000 MHz, Band B: 147.6625 MHz, Band B receives an unmodulated signal.
U x V reception	**(U_{RX} - 57.15 MHz) x n - (V_{RX} + 58.05 MHz) x m = ±57.15 MHz, ±58.05 MHz**
	Example) Band A: 440.000 MHz, Band B: 147.6625 MHz, Band A receives an unmodulated signal.
U x U reception	**(U_{RX} - 57.15 MHz) x n - (U_{RX} - 58.05 MHz) x m = ±57.15 MHz, ±58.05 MHz**
	Example) Band A: 431.84375 MHz, Band B: 440.000 MHz, Band B receives an unmodulated signal.
V x 220M reception	**(V_{RX} + 57.15 MHz) x n - (220M_{RX} + 58.05 MHz) x m = ± 57.15 MHz, ± 58.05 MHz**
	Example) Band A: 145.740 MHz, Band B: 223.500 MHz, Band B receives an unmodulated signal.
220M x V reception	**(220M_{RX} - 57.15 MHz) x n - (V_{RX} + 58.05 MHz) x m = ± 57.15 MHz, ± 58.05 MHz**
	Example) Band A: 223.500 MHz, Band B: 147.535 MHz, Band B receives an unmodulated signal.
U x 220M reception	**(U_{RX} + 57.15 MHz) x n - (220M_{RX} + 58.05 MHz) x m = ± 57.15 MHz, ± 58.05 MHz**
	Example) Band A: 439.780 MHz, Band B: 223.550 MHz, Band B receives an unmodulated signal.

V_{RX}: VHF reception frequency, U_{RX}: UHF reception frequency, 220M_{RX}: 220 MHz band reception frequency
n and m are arbitrary integers.

19.2 MHz x n (n = mutiple)
55.95 MHz x n (n = mutiple)
Around 11.0592 MHz x n (n = mutiple) reception
144.385 MHz
147.465 MHz
Around 224.25 MHz reception
442.385 MHz

- Hereby, JVCKENWOOD Europe B.V. declares that the radio equipments described in this instruction manual are in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address. (Note: The detail type designations are described in the EU declaration of conformity.)
- Par les présentes, JVCKENWOOD Europe B.V. déclare que les équipements de radio décrits dans ce manuel d'instructions sont conformes à la directive 2014/53/EU. Le texte intégral de la déclaration UE de conformité est disponible à l'adresse internet suivante. (Remarque : Les désignations de types détaillés sont décrites dans la déclaration UE de conformité.)
- Por la presente, JVCKENWOOD Europe B.V. declara que los equipos de radio descritos en este manual de instrucciones se encuentran en conformidad con la Directiva 2014/53/EU. El texto completo de la declaración de conformidad de la UE se encuentra disponible en la siguiente dirección de Internet. (Nota: las designaciones del tipo de detalle se describen en la declaración de conformidad de la UE).
- Con la presente, JVCKENWOOD Europe B.V. dichiara che gli apparecchi radio descritti in questo manuale di istruzioni sono conformi alla Direttiva 2014/53/EU. Il testo integrale della Dichiarazione di conformità UE è disponibile al seguente indirizzo Internet. (Nota: le designazioni dettagliate del tipo sono descritte nella Dichiarazione di conformità UE.)
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