

YAESU
The radio

HF/50MHz TRANSCEIVER

FTdx101D

Operation Manual

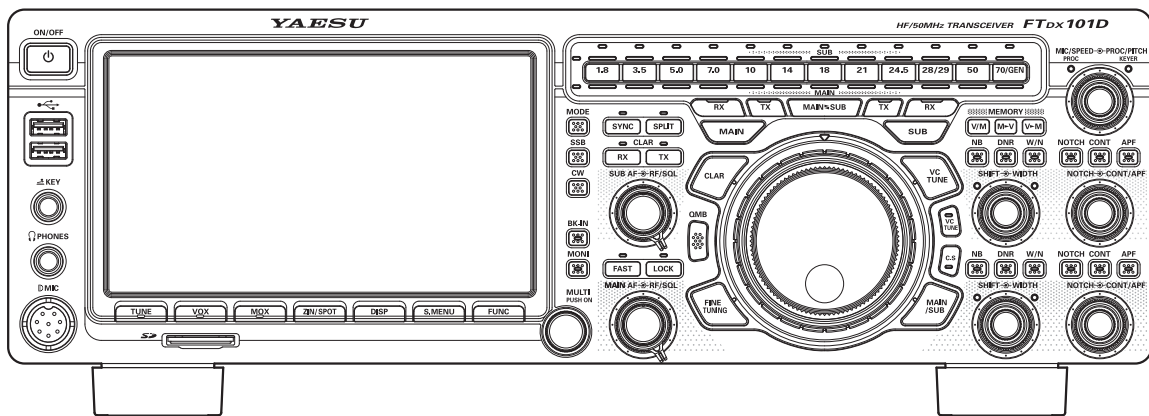


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Accessories & options

Supplied Accessories

- SSM-75G
- DC Power Cord
- Spare Fuse (25A)
- Operation Manual

Available options

- | | |
|---|---|
| • Hand Microphone | SSM-75G (equivalent to the supplied microphone) |
| • Reference Microphone | M-1 |
| • Dual Element Microphone | M-100 |
| • Ultra-High-Fidelity Desktop Microphone | MD-200A8X |
| • Desktop Microphone | MD-100A8X |
| • Lightweight Stereo Headphone | YH-77STA |
| • External Automatic Antenna Tuner | FC-40 |
| • Remote Control Keypad | FH-2 |
| • Linear Amplifier/AC Power Supply | VL-1000/VP-1000 |
| • VL-1000 Linear Amplifier Connection Cable | CT-178 |

Installation and interconnections

Antenna Considerations

The FTDX101D is designed for 50 Ohm resistive impedance at the amateur operating frequencies.

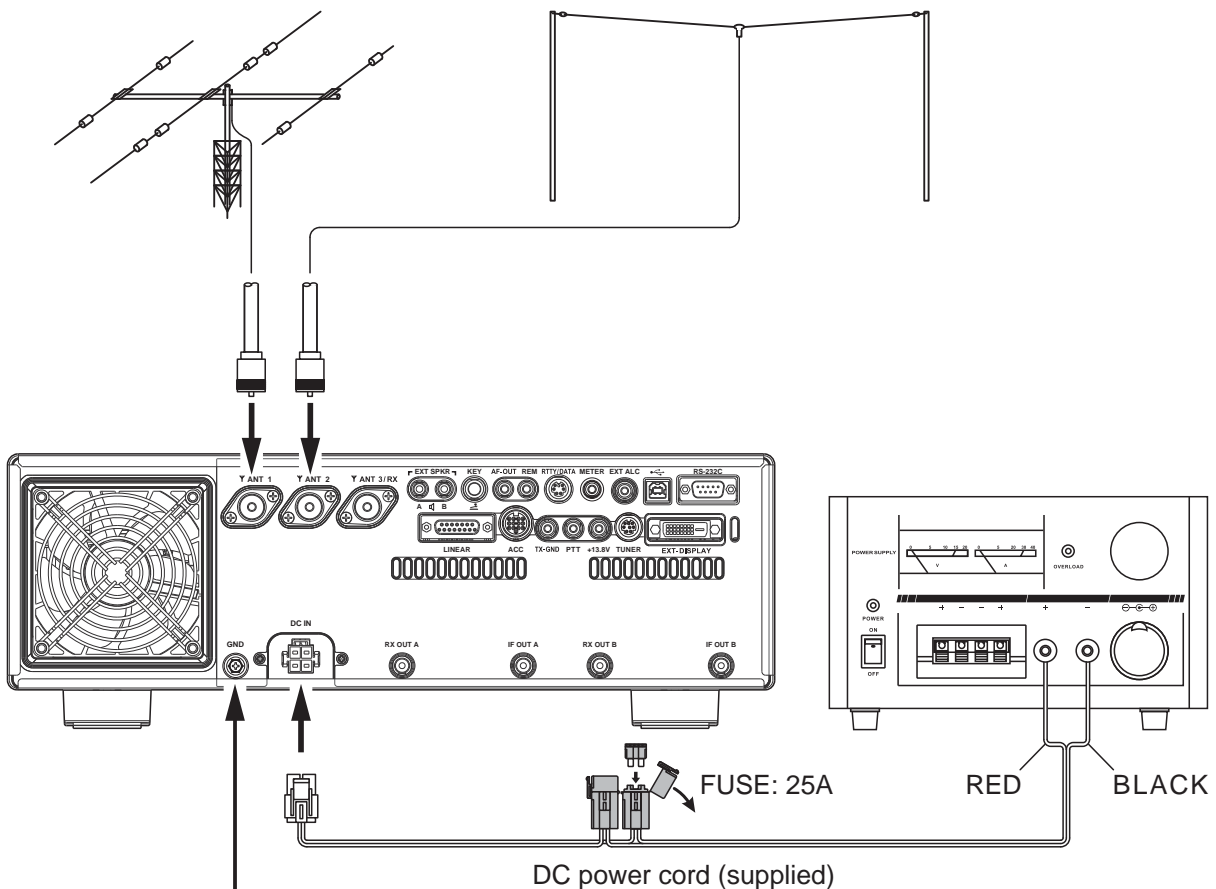
Select the proper antenna (dipole antenna, YAGI antenna, cubical quad antenna, etc.) suitable for the chosen operation and bands.

Construct the antenna and coaxial cable, or use a suitable antenna tuner, to maintain the impedance presented to the FTDX101D antenna connector for an SWR of 1.5 or less. Careful preparation of the antenna and/or tuner will permit maximum performance and protect the transceiver from damage.

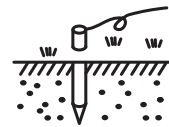
High voltages may be present on the antenna; install it so it will not be easily touched when in operation.

Connection of Antenna and Power Cables

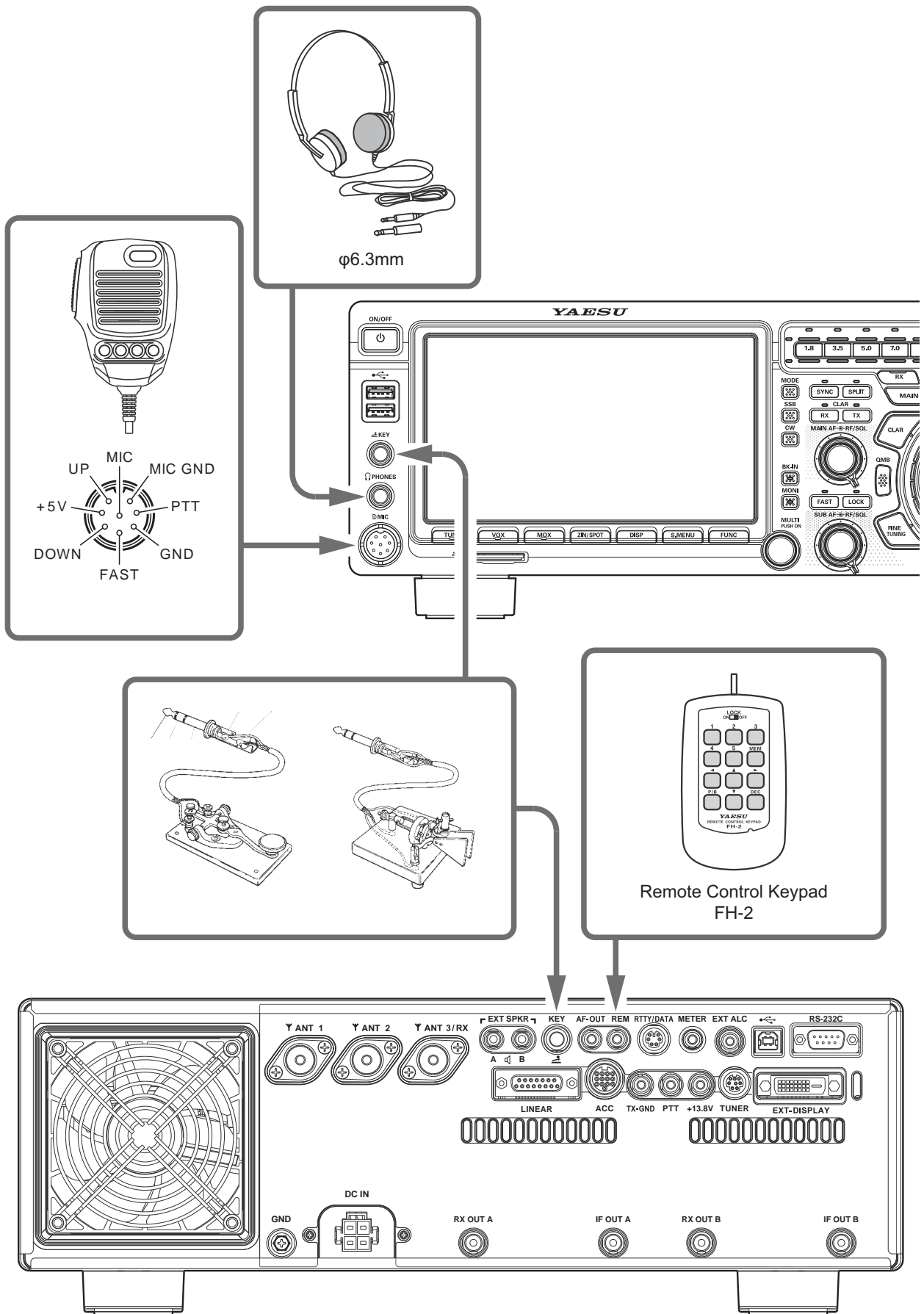
Please follow the outline in the illustration regarding the proper connection of antenna coaxial cables, as well as the DC power cable.



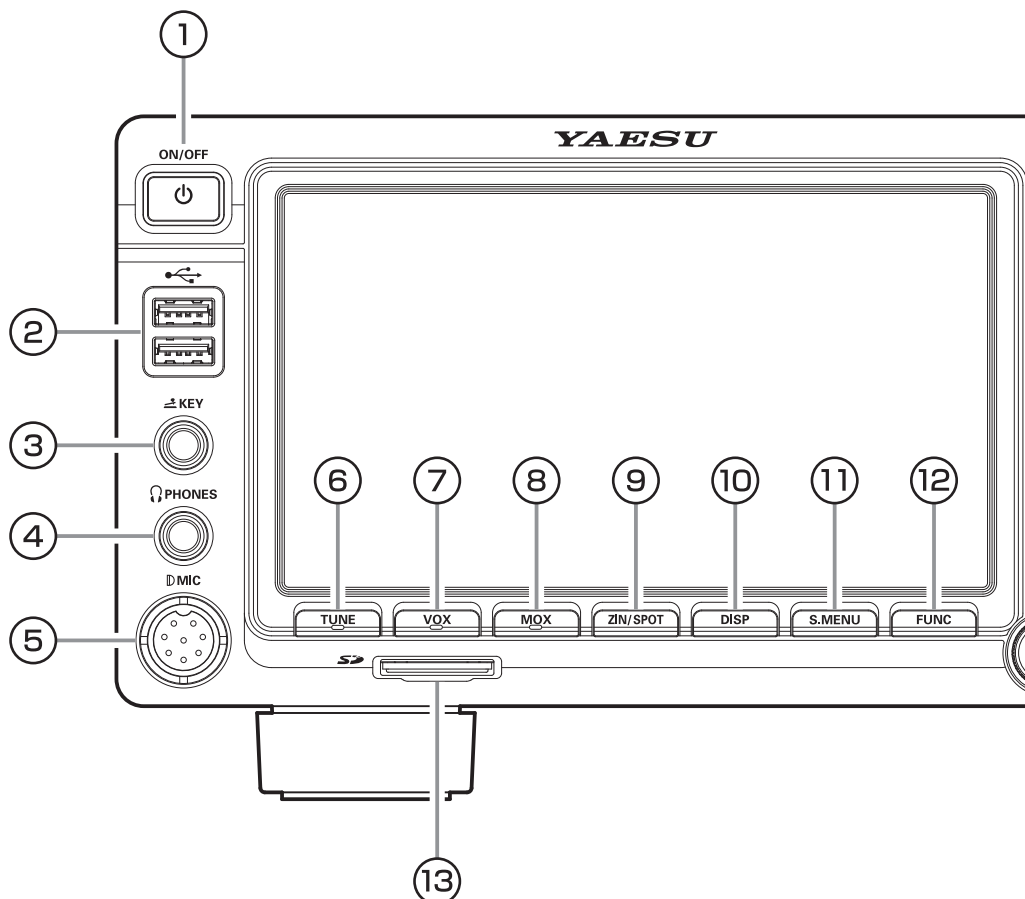
To prevent damage from lightning, atmospheric electricity, electrical shock etc., please provide a good earth ground.
Use a short, thick, braided cable to connect your station equipment to the buried ground rod (or alternative earth ground system).



Connection of Microphone, Headphone, Key, Keyer and FH-2



Front panel controls & Switches



① ON/OFF Switch

Press and hold in this switch for one second to turn the transceiver on. Similarly, press and hold in this switch for one second to turn the transceiver off.

② USB Jack

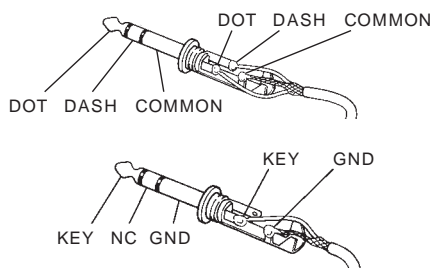
Connect a USB A type keyboard or mouse.

③ KEY

Connect a telegraph key or electronic keyer paddle to use for CW mode operation.



When connecting a key or other device to the KEY jack, use only a 3-contact ("stereo") 3.5 mm phone plug; a 2-contact plug will place a short between the ring and the (grounded) shaft of the plug, resulting in a constant "key-down" condition.

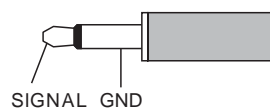


④ PHONES Jack

Connect headphones to this $\phi 6.3$ standard stereo jack.

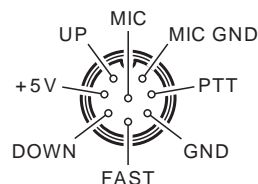


When wearing headphones, we recommend that you turn the AF Gain levels down to their lowest settings before turning power on, to minimize the impact on your hearing caused by audio "pops" during switch-on.



⑤ MIC

This 8-pin jack accepts input from a microphone utilizing a traditional YAESU HF transceiver pinout.



⑥ TUNE

This is the on/off switch for the FTDX101D Automatic Antenna Tuner.

Press the [TUNE] key briefly to activate the antenna tuner. Press the [TUNE] key briefly again to disable the antenna tuner.

Press the [TUNE] key for about 1 second to start "automatic tuning".



Since the transceiver transmits automatically during automatic tuning, make sure to connect an antenna or dummy load before tuning up.



When the antenna or dummy load does not match the impedance, "HI-SWR" will appear on the touch panel.

⑦ VOX

This key enables automatic voice-actuated transmitter switching. While VOX is activated, the LED inside this key glows orange.

⑧ MOX

Pressing this key engages the PTT (Push to Talk) circuit to activate the transmitter.

⑨ ZIN/SPOT

ZIN

Touch [ZIN/SPOT] to cause the receiving frequency to zero-in automatically while receiving the CW signal.

SPOT

Pressing and holding [ZIN/SPOT], the tone is output from the speaker.

⑩ DISP

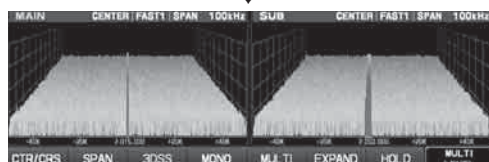
Each time the key is pressed, the display of the scope screen changes as shown below.



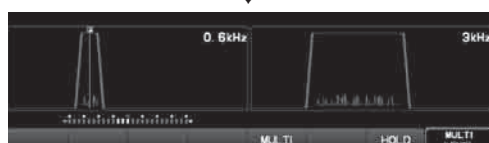
Only "MAIN" or "SUB" will be displayed



Upper side: MAIN, Lower side: SUB



Left side: MAIN, Right side: SUB



Left side: MAIN, Right side: SUB

⑪ S.MENU

Settings related to scope display.

SPEED: Setting scope sweep speed.

PEAK: Adjust the peak signal color density.

MARKER: Marker display ON or OFF.

COLOR: Changing scope display color.

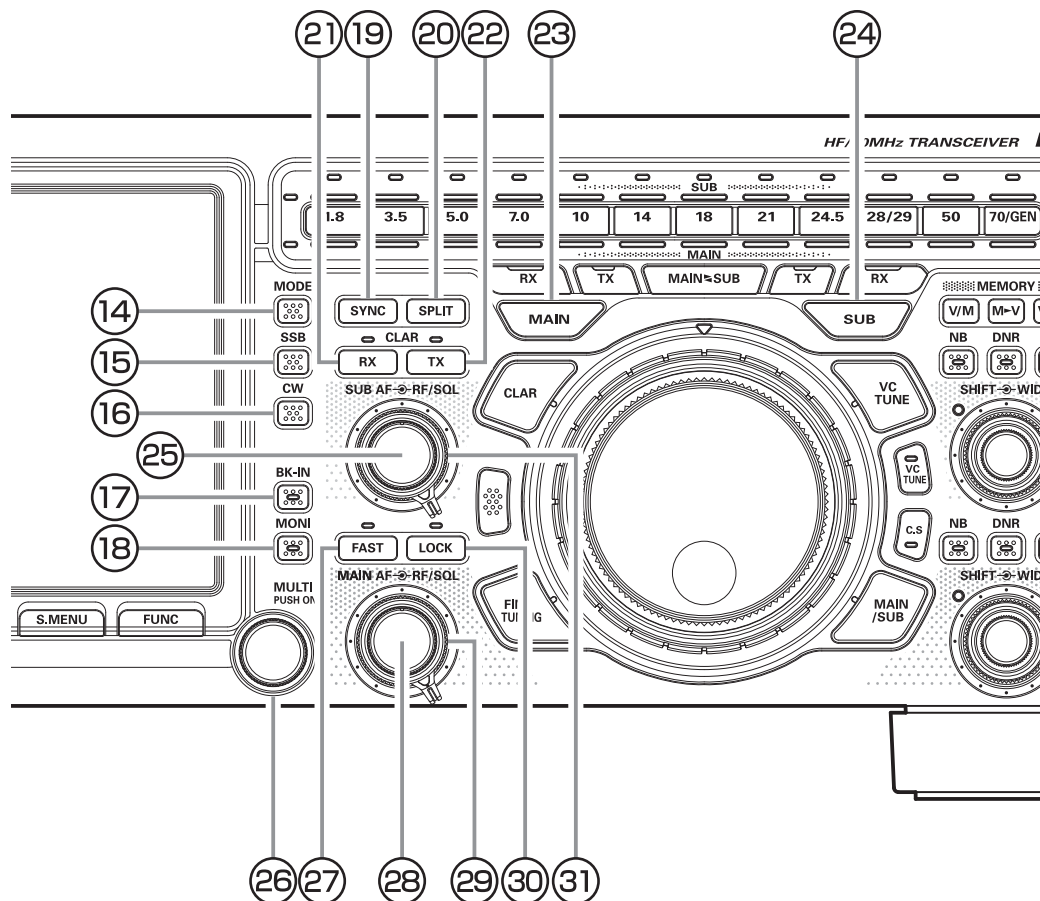
LEVEL: Adjust the reference level.

⑫ FUNC

Press the key briefly to display the function menu screen where the operation settings for a variety of functions may be configured. Press this key again to close the function menu screen.

⑬ SD memory card slot

You can use the commercially available SD memory card to save various settings, save the memory contents, and update the firmware.



14 MODE

Switch the radio modulation form (operating mode). Press and hold this key to display the radio modulation form selection screen, then touch and select your desired modulation form.

15 SSB

The operation mode becomes "SSB". Press the [SSB] key will toggle to the alternate mode. For example, In the LSB or USB modes, press the [MODE] key toggles between "LSB" and "USB" mode.

16 CW

The operation mode becomes "CW". Press the [CW] key will toggle to the alternate mode. For example, In the CW-L or CW-U modes, press the [MODE] key toggles between "CW-L" and "CW-U" mode.

17 BK-IN

This key turns the CW break-in capability on and off. While CW break-in is activated, the LED inside this key glows orange.

18 MONI

This key enables the transmit monitor in SSB, CW and AM modes. While activated, the LED inside this key glows orange.

19 SYNC

Change the frequency of the MAIN band with the MAIN dial, the frequency of the SUB band also changes in the same step.

20 SPLIT

Press this key to operate split frequency between MAIN band (used for reception) and SUB band (used for transmission). Press and hold in the [SPLIT] key for one second, the "Quick Split" feature will be engaged. SUB band transmit will automatically be set to a frequency 5 kHz higher than the MAIN band receive frequency, with the same operating mode. The transceiver will operate in the Split mode.

21 RX (CLAR)

Pressing this key activates the RX Clarifier. This will allow you to temporarily adjust the receive frequency up to ± 9.990 kHz with the MPVD knob. Press this key once more to return the receiver to the original frequency; the Clarifier offset will be remembered, in case you want to use it again.



To cancel the Clarifier offset, press and hold the [RX], [TX] or [CLAR] key.

22 TX (CLAR)

Pressing this key activates the TX Clarifier. This will allow you to temporarily adjust the transmit frequency up to ± 9.990 kHz with the MPVD knob.



To cancel the Clarifier offset, press and hold the [RX], [TX] or [CLAR] key.

23 MAIN

Change the operation band to the MAIN band.

24 SUB

Change the operation band to the SUB band.

②5 SUB AF

The inner [MAIN AF] knob sets the audio level of the SUB band receiver.

②6 MULTI

This knob incorporates multiple tasks and makes it very convenient to operate the various functions of the FTDX101D.

You can assign the desired action from the bellow.

SPEED:	Setting scope sweep speed.
PEAK:	Adjust the peak signal color density.
MARKER:	Marker display ON or OFF.
COLOR:	Changing scope display color.
LEVEL:	Adjust the reference level.
RF POWER:	Output power setting.
MONI LEVEL:	Monitor level adjustment.
DNR LEVEL:	DNR level adjustment.
NB LEVEL:	NB level adjustment.
VOX GAIN:	VOX gain adjustment.
VOX DELAY:	VOX delay adjustment.
ANTI VOX:	ANTI VOX adjustment.
CH DIAL:	Frequency change at a predetermined frequency step.
MEM CH:	Selects the Desired memory channel.
GROUP:	Selects the memory group.
IF FILTER:	Pass band width selection of IF filter.

②7 FAST

Pressing this key will change the tuning of the MAIN Dial knob to a higher step rate.

②8 MAIN AF

The inner [MAIN AF] knob sets the audio level of the MAIN band receiver.

②9 RF/SQL (MAIN band)

RF

The outer [RF/SQL] knob is the receiver RF gain control of the MAIN band receiver, which adjusts the gain of the receiver RF and IF amplifier stages. This control is normally left in the fully clockwise position.

SQL

This knob sets the signal level threshold of the MAIN band receiver, below which the receiver audio is muted, in FM mode. It is very useful during local ragchews, to eliminate noise between incoming transmissions. This control is normally kept fully counter-clockwise (off), except when scanning and during FM operation.

③0 LOCK

This key toggles locking on/off for the MAIN Dial knob. With "Lock" on, the MAIN Dial knob can still be turned, but the frequency will not change, and the "LOCK" appears in the frequency display.

③1 RF/SQL (SUB band)

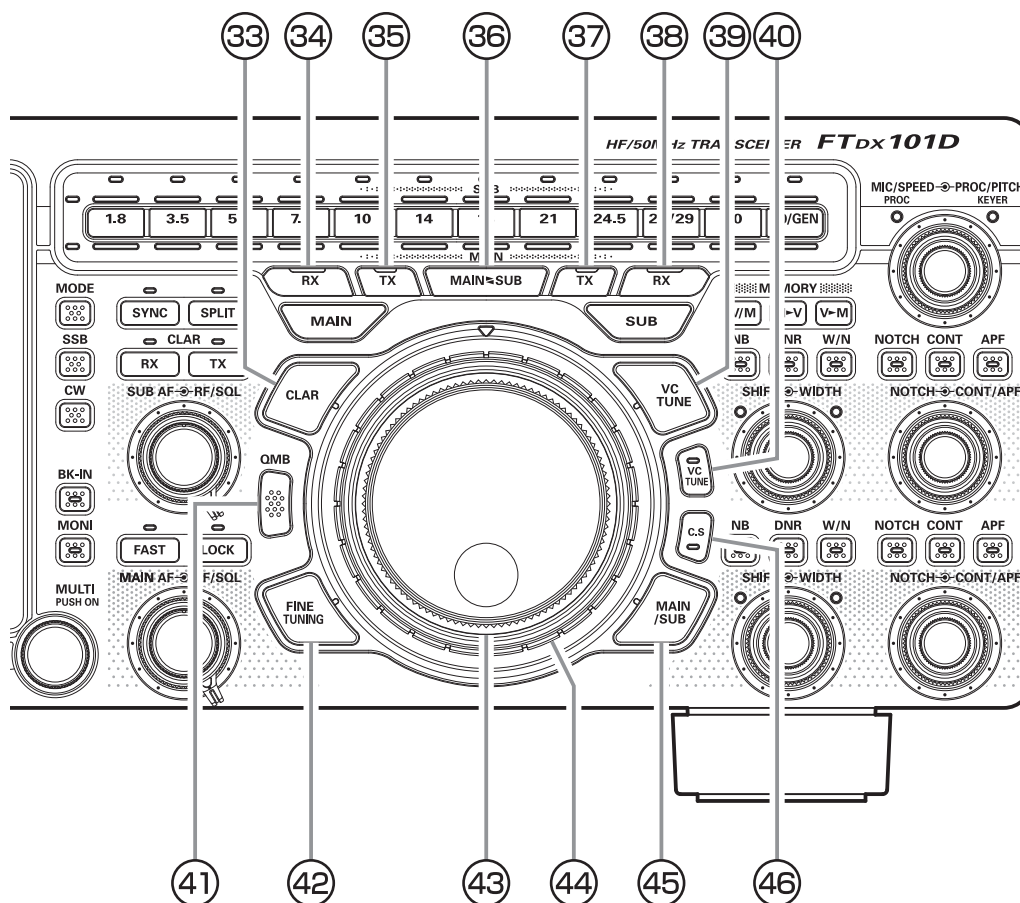
RF

The outer [RF/SQL] knob is the receiver RF gain control of the SUB band receiver, which adjusts the gain of the receiver RF and IF amplifier stages. This control is normally left in the fully clockwise position.

SQL

This knob sets the signal level threshold of the SUB band receiver, below which the receiver audio is muted, in FM mode. It is very useful during local ragchews, to eliminate noise between incoming

transmissions. This control is normally kept fully counter-clockwise (off), except when scanning and during FM operation.



33 CLAR

When pressed, 44 MPVD dial will operate as CLAR dial.

34 RX (MAIN band)

Press this key to activate receive on the MAIN band frequency. The LED inside the key will glow green when the transceiver is receiving on the MAIN band frequency.

35 TX (MAIN band)

When this key is pushed, the LED inside the key will glow red; and, when the PTT switch is pressed, the transceiver will transmit on the MAIN band frequency.

36 MAIN \rightleftharpoons SUB

Pressing this key momentarily, exchanges the frequency data, of MAIN band and SUB band.

37 TX (SUB band)

When this key is pushed, the LED inside the key will glow red; and, when the PTT switch is pressed, the transceiver will transmit on the SUB band frequency.

38 RX (SUB band)

Press this key to activate receive on the SUB band frequency. The LED inside the key will glow green when the transceiver is receiving on the SUB band frequency.

39 VC TUNE

When pressed, 44 MPVD dial will operate as VC TUNE dial.

40 VC TUNE

When pressed, the "VC TUNE" filter will activate.

41 QMB

Pressing the [QMB] key copies the contents (frequency, mode, bandwidth, FM repeater offset, and CTCSS settings), into consecutive QMB Memories.

42 FINE TUNING

When pressed, MAIN dial will operate as FINE TUNING dial which changes the frequency at 1 Hz step (10 Hz steps in AM, FM, DATA - FM mode).

43 MAIN dial

This large knob adjusts the operating frequency. Clockwise rotation of this knob increases the frequency. Default tuning increments are 10 Hz (CW, SSB, RTTY, DATA-L and DATA-U), 100 Hz (AM, FM, DATA-FM). When the [FAST] key is pressed, the tuning steps increases. The available steps are:

Operating Mode	1 Step	1 Dial Rotation
LSB, USB, CW DATA-L, DATA-U RTTY	10Hz [100Hz]	10kHz [100kHz]
AM, FM, DATA FM	100Hz [1kHz]	100kHz [1MHz]

[]:When [FAST] key is On.

44 MPVD dial

(MULTI PURPOSE VFO OUTER DIAL)

MAIN/SUB dial, VC TUNE, CLAR (Clarifier Fire), and C.S (Customer Selection) can be selected with one touch operation.

45 MAIN/SUB

When pressed, the 44 MPVD dial operates as the dial to set the frequency of the SUB band when the operation band is MAIN band, and the frequency of the MAIN band when the operation band is SUB band.

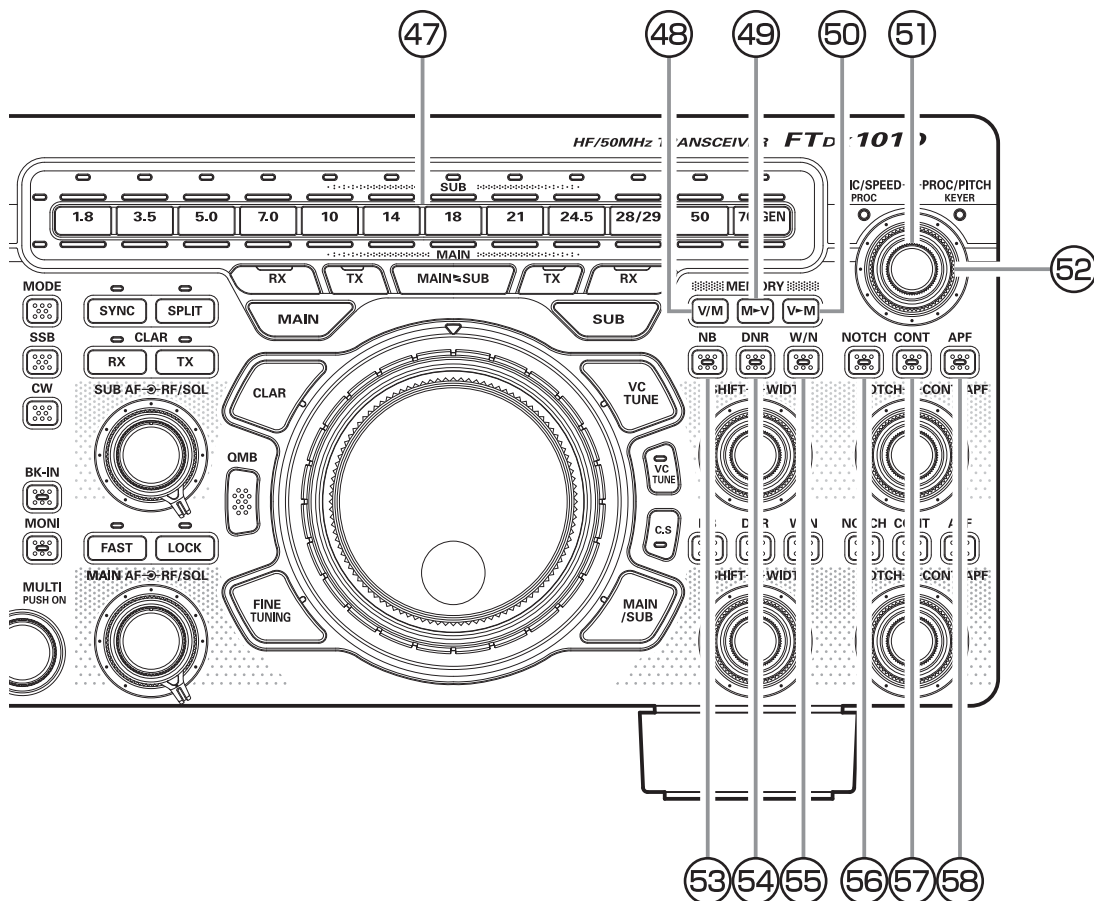
④⑥ C.S

When pressed, the operation of the ④④ MPVD dial operates with the function assigned in advance (see below).

RF POWER:	Adjusts transmission output.
MONI LEVEL:	Adjusts the Monitor level.
DNR LEVEL:	DNR level adjustment.
NB LEVEL:	NB level adjustment.
VOX GAIN:	VOX gain adjustment.
VOX DELAY:	VOX delay adjustment.
ANTI VOX:	ANTI VOX adjustment.
CH DIAL:	Frequency change at a predetermined frequency step.
MEM CH:	Selects the Desired memory channel.
GROUP:	Selects the memory group.
IF FILTER:	Pass band width selection of IF filter.



The setting method is set with [FUNC] → [OPERATION SETTING] → [GENERAL] → [CS DIAL].



47 BAND

These keys allow one-touch selection of the desired Amateur band (1.8 ~ 50 MHz). The keys may also be used for direct entry of a desired operating frequency during VFO operation.

Select the operation band. The band selected in the MAIN band is white, and the band selected by the SUB band is illuminated with the blue LED. When sending, the sending side LED lights in red. Also, when you press and hold it, the orange LED lights, so you can use it instead of memo to display the band to which the antenna is connected.

48 V/M

This key toggles frequency control between VFO and the memory system.

49 M▶V

Press and hold the [M▶V] key in for one second copies the data from the selected memory to VFO, and two beeps sound. Previous data in VFO will be over-written.

50 V▶M

Save data such as frequency set with VFO to the memory channel. Press and hold the [V▶M] key → rotate the [MULTI] key to select channel → press the [V▶M] key → press the [V/M] key, the data will be written to the memory channel.

51 MIC/SPEED

MIC (SSB and AM mode)

This knob adjusts the microphone input level for (non-processed) SSB and AM transmission.



The display will show the relative microphone gain level for 1/2 second whenever this knob is turned.

SPEED (CW mode)

This knob adjusts the keying speed of the internal CW keyer (4 ~ 60 WPM). Clockwise rotation in-crases the sending speed.



The display will show the keying speed for 1/2 second whenever this knob is turned.

52 PROC/PITCH

PROC (SSB and AM mode)

This knob adjusts the compression (input) level of the transmitter RF speech processor in SSB and AM mode.



The compression level setting will be shown for 1/2 second in the display when ever the outer [PROC/PITCH] knob is turned.

PITCH (CW mode)

The outer [PROC/PITCH] knob selects your preferred CW tone pitch (from 300 ~ 1050 Hz, in 10 Hz increments).



The Spot tone frequency will be shown for 1/2 second in the display when ever the outer [PROC/PITCH] knob is turned.

53 NB (MAIN band)

This switch engages the MAIN band IF Noise Blanker. When the Noise Blanker is activated, the LED inside the key will glow orange.



The noise blanker level can be adjusted by turning the [MULTI] knob after pressing and holding the [NB] key.

54 DNR (MAIN band)

This key turns the MAIN band Digital Noise Reduction circuit on and off. When the Digital Noise Reduction is activated, the LED inside the key will glow orange.



The noise reduction level can be adjusted by turning the [MULTI] knob after pressing and holding the [DNR] key.

55 W/N (SUB band)

Touch the [W/N] key to enable one-touch, mode-specific, selection of a narrow IF DSP filter setting that does not require resetting the bandwidth control to the WIDTH/SHIFT system.

56 NOTCH (SUB band)

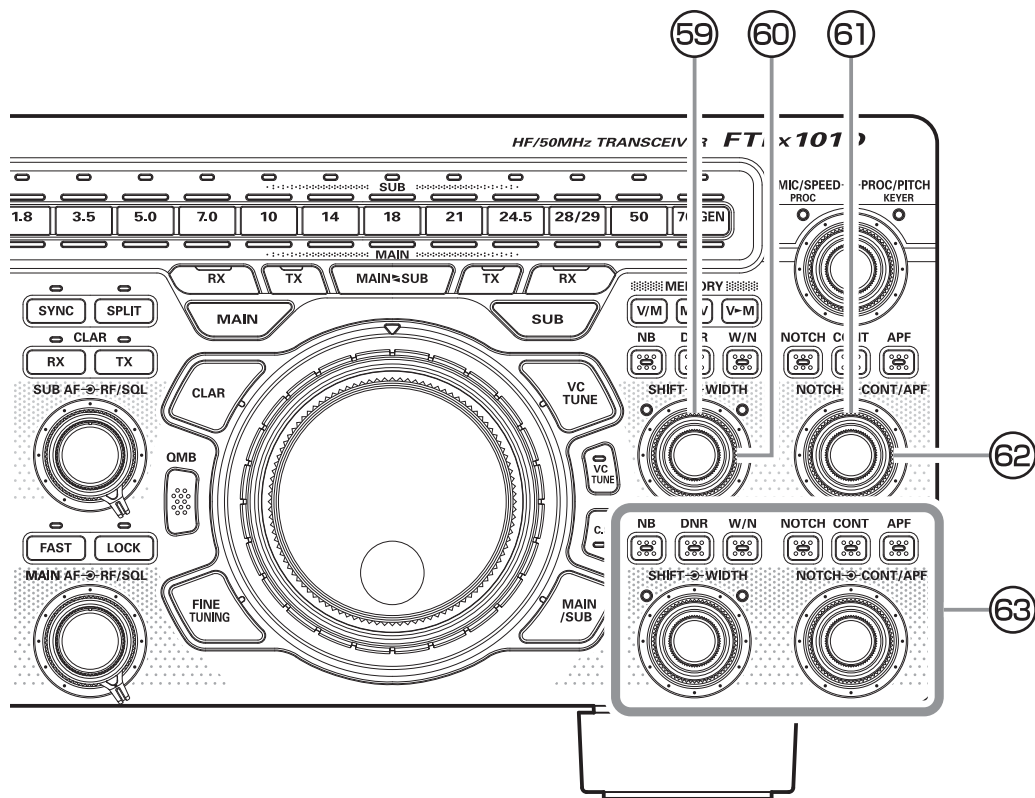
Pressing this key allows you to adjust the center frequency of the IF Notch filter using the [NOTCH] knob. While activated, the LED inside this key glows orange.

57 CONT (SUB band)

Pressing this key allows you to select the DSP Contour filter response using the [CONT/APF] knob. While activated, the LED inside this key glows orange.

58 APF (SUB band)

In the CW mode, pressing this key will activate the APF (Audio Peak Filter) which provides a very narrow audio bandwidth. While activated, the LED inside this key glows orange.



59 SHIFT (SUB band)

Rotate the inner [SHIFT] knob to move the passband of the IF DSP filter by 20 Hz steps. The total adjustment range is ± 1.2 kHz. The position of the passband can be observed on the display. Furthermore, the display will show the shift value of the IF SHIFT for 1/2 second whenever the [SHIFT] knob is turned.

60 WIDTH (SUB band)

Rotate the outer [WIDTH] knob to set the overall bandwidth of the IF DSP filter. Counter-clockwise rotation reduces the bandwidth, while clockwise rotation increases the bandwidth. The current band-width can be observed on the display. Furthermore, the frequency display will show the bandwidth of the IF passband for 1/2 second whenever the [WIDTH] knob is turned.

61 NOTCH (SUB band)

Press the [NOTCH] switch to turn the IF NOTCH filter on or off. Rotate the inner [NOTCH] knob to adjust the center frequency of the IF NOTCH filter. The null position of the IF NOTCH filter can be observed on the display. Furthermore, the display will show the center frequency of the IF NOTCH filter for 1/2 second whenever the [NOTCH] knob is turned.

62 CONT/APF (SUB band)

CONT

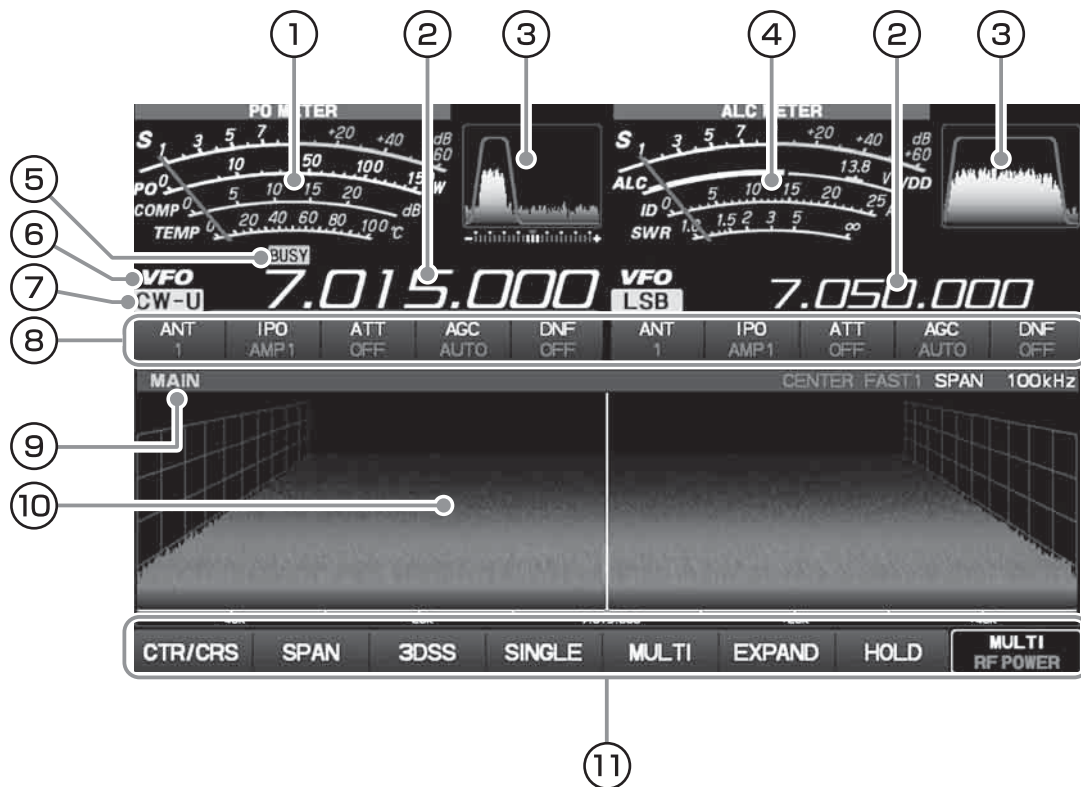
Press the [CONT] switch then turn the outer [CONT/APF] knob to select the desired CONTOUR filter response. The CONTOUR filter is engaged via the [CONT] switch.

APF

In the CW mode, press the [APF] switch and then turn the outer [CONT/APF] knob to select the desired APF (Audio Peak Filter) response. The APF is engaged via the [APF] switch.

63 For the MAIN band, the same functions as 53 to 62 operate.

Display indications



① Meter (MAIN band)

There are four functions on the main multi-meter. The bottom three selections in the list below are transmit functions.

- S:** Indicates the received signal strength on the MAIN band, from S-0 to S9+60 dB.
- PO:** Indicates the RF Power Output, from 0 to 150 Watts on transmit.
- COMP:** Indicates the compression level of the speech processor, from 0 to 20 dB.
- TEMP:** Indicates the final transistor temperature, from 0 °C to 100 °C.

② Frequency Display

Left side: MAIN band frequency display.
Right side: SUB band frequency display.

③ Filter Display

This indicator is used for viewing the status of the DSP (CONTOUR, NOTCH, WIDTH and SHIFT).

④ Meter (SUB band)

There are five functions on the sub multi-meter. The bottom four selections in the list below are transmit functions.

- S:** Indicates the received signal strength on the SUB band, from S-0 to S9+60 dB.
- ALC:** Indicates the relative ALC voltage.
- VDD:** Indicates the final amplifier drain voltage.
- ID:** Indicates the final amplifier drain current.
- SWR:** Indicates the antenna system observed-standing wave ratio (SWR), from 1.0 to 5.0.

⑤ Operation status display

- BUSY:** Receiving signal
- TX:** Transmitting
- +**: Plus shift
- : Minus shift
- ENC:** The tone encoder is in use
- TSQ:** During tone squelch operation
- SPLIT:** Running split operation
- SYNC:** During synchro operation
- CLAR TRX:** TRX clarifier
- CLAR TX:** TX clarifier
- CLAR RX:** RX clarifier
- +xxxHz/-xxxHz:** Clarifier offset value (frequency)

⑥ VFO mode/MEMORY mode

- VFO:** Displayed in VFO mode.
- M-xx:** Displays the selected channel number when in memory mode.

⑦ Mode (radio modulation form)

⑧ Receive operation status indication

Displays the operation status of each reception function.

You can change the setting by touching.

- ANT:** Indicates which antenna is selected by [ANT] on the display.
- IPO:** Indicates which front end RF amplifier is selected [IPO] on the display.
- ATT:** Indicates the attenuation level, selected [ATT] on the display.
- AGC:** Indicates the AGC decay time setting, which is selected [AGC] on the display.
- DNF:** Indicates the Digital Notch Filter is ON/OFF.

⑨ Scope Screen information display

- MAIN:** MAIN band SCOPE Screen.
SUB: SUB band SCOPE Screen.
HOLD: The operation of the scope screen and filter function display is temporarily stopped.
CENTER: Frequency is constantly in the center of the screen (for monitoring conditions on both sides of your operating frequency).
CURSOR: The position of the marker moves in conjunction with the dial knob, and when the marker exceeds the upper or lower limit frequency, the screen scrolls.
FAST1-3: Sweep speed (FAST1 to FAST3)
SLOW1-2: Sweep speed (Slow1 to SLOW2)
SPAN xxxkHz
Scope Screen frequency span (display range)

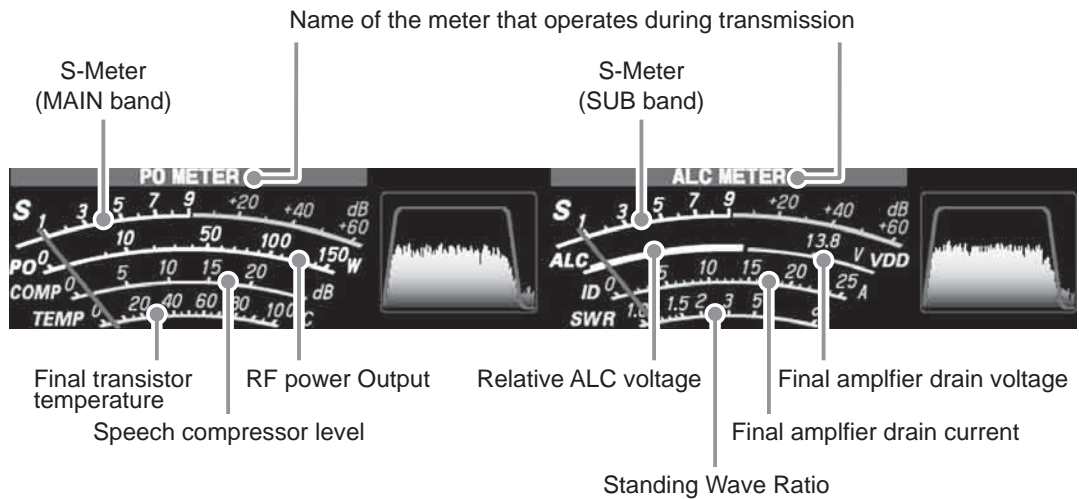
⑩ Scope Screen

Display spectrum and waterfall useful for monitoring situations in the band. In addition to instantaneously switching the display between the MAIN and SUB bands, dual display is possible to display the status of both the MAIN and SUB bands.

⑪ Scope display setting

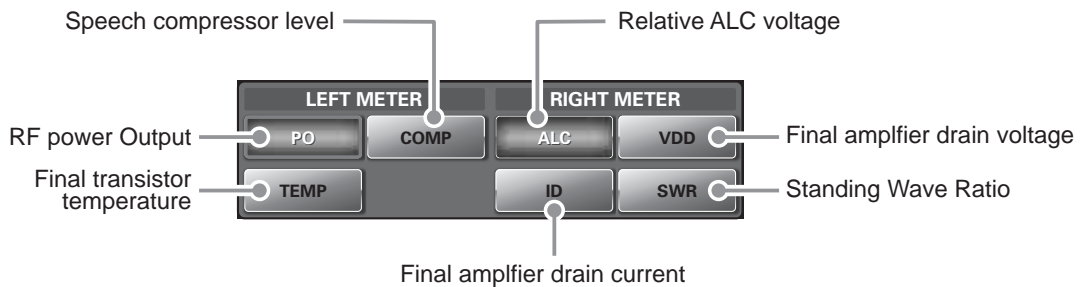
- CTS/CRS:** Switch between the center mode and the cursor mode of the scope display method.
SPAN: Sets the width of the scope display.
3DSS: Switch waterfall display from conventional type and 3DSS type.
SINGLE: Information on the SUB band is not displayed and only information on the MAIN band is displayed.
MULTI: In addition to the scope display, the oscilloscope and the AF-FFT are also displayed.
EXPAND: Expand the display area of the scope screen in the vertical direction.
HOLD: Temporarily stop the scope display and filter function display operation.

Meter display



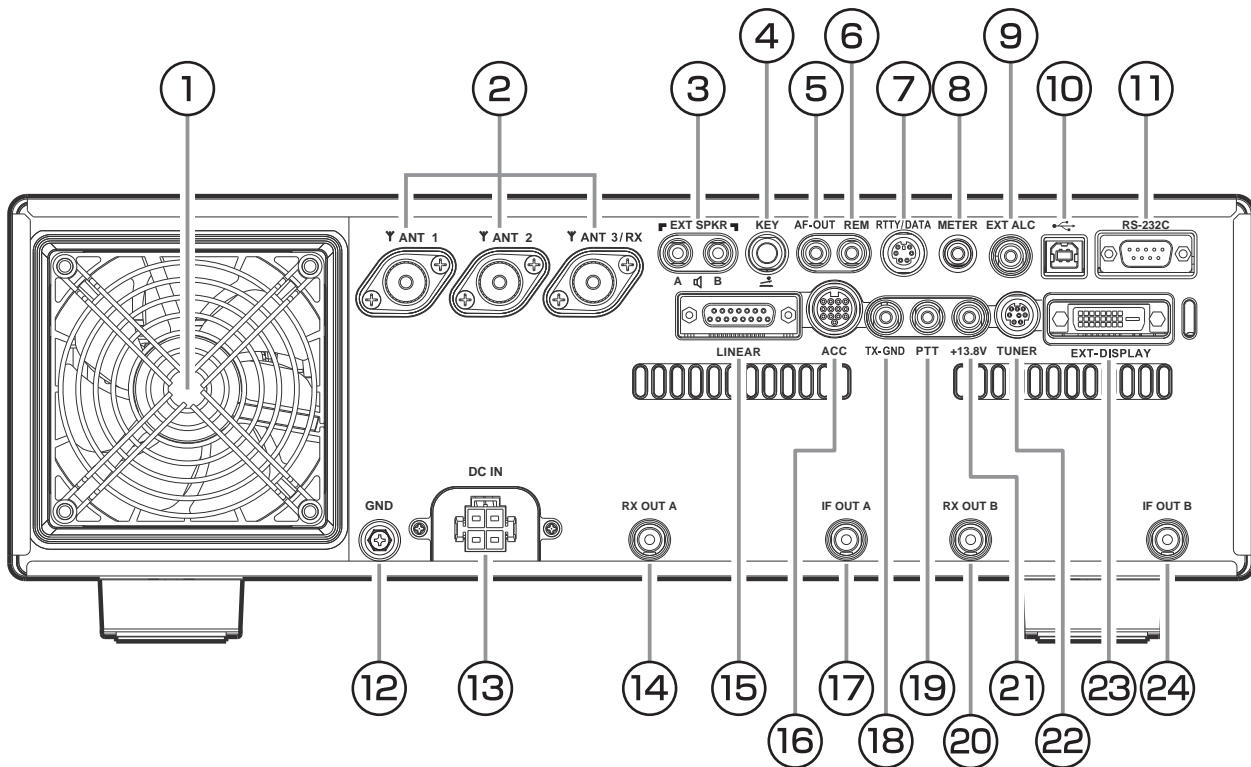
Select meter at transmission

The lower part of the S meter is a meter that operates at the time of transmission. When you touch the meter section, the meter selection screen will be displayed, so select the meter you want (default setting is "PO" on the left side, "ALC" on the right side).



! Instructions of each meter are not actual values, but they are indicated by "relative value" which shows a guide.

Rear Panel



① Cooling FAN

② ANT 1, 2, 3/RX

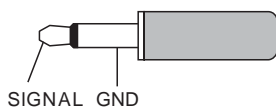
Connect your main antenna(s) here, using type-M (PL-259) connectors and coaxial feed lines. The internal antenna tuner affects only the antenna(s) connected here, and only during transmission.

③ EXT SPKR

This 3.5-mm, 2-contact, jack provides variable audio output for an external loudspeaker. The audio output impedance at this jack is 4 - 8 Ohms, and the level varies according to the setting of the front panel [AF] knob.

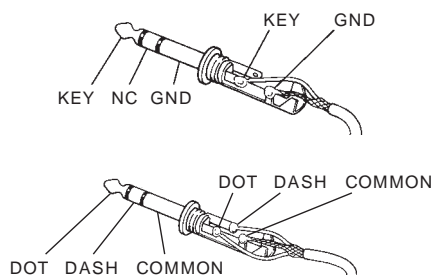


Inserting a plug into this jack disables the internal loudspeaker.



④ KEY

This 1/4-inch 3-contact jack accepts a CW key or keyer paddle. A two-contact plug cannot be used in this jack. Key-up voltage is +3.3 V DC, and key-down current is 0.3 mA.

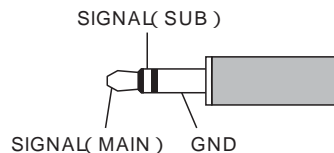


⑤ AF-OUT

This 3.5-mm, 3-contact jack provides dual-channel low-level receiver output, for recording or external amplification.



The front panel [AF] knobs do not affect the signals at this jack.

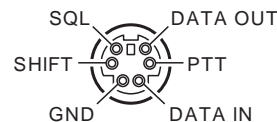


⑥ REM

By plugging the FH-2 Remote Control Keypad into this jack, direct access to the FTDX101D CPU is provided for control functions such as contest memory keying, plus frequency and function control.

⑦ RTTY/DATA

This 6-pin input/output jack accepts AFSK input from a Terminal Node Controller (TNC); it also provides fixed level receiver audio output, and FSK keying line.



⑧ METER

This 3.5-mm jack to connect an external meter.

⑨ EXT ALC

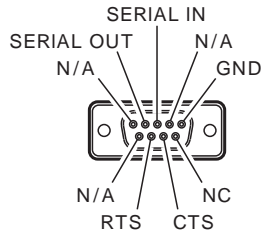
This RCA input jack accepts negative-going external ALC (Automatic Level Control) voltage from a linear amplifier to prevent over-excitation by the transceiver.

⑩ USB

Connecting to a computer from this jack using a commercially available USB cable allows remote control by CAT commands from the computer.

⑪ RS-232C

This 9-pin serial DB-9 jack allows external computer control of the FTDX101D. Connect a serial cable here and to the RS-232C COM port on your personal computer (no external interface is required).

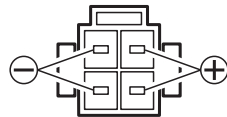


⑫ GND

Use this terminal to connect the transceiver to a good earth ground, for safety and optimum performance. Use a large diameter, short braided cable for making ground connections.

⑬ DC IN

This is the DC power supply connection for the transceiver. Use the supplied DC cable to connect directly to a DC power supply, which must be capable of supplying at least 23 A @13.8 VDC.



⑭ RX OUT A

This RCA jack provides output of the receiver signal lines from the Antenna jacks which are connected to "RX" side of the transceiver's main T/R switching circuitry.

⑮ LINEAR

This 15-pin output jack provides band selection data, which may be used for control of optional accessories such as the VL-1000 Solid-state Linear Amplifier.

⑯ ACC

This 13-pin jack for connecting optional accessories.

⑰ IF OUT A

This RCA jack output the IF signal of the MAIN band received signal. This signal does not pass through the roofing filter.

⑱ TX-GND

This RCA jack's center pin is closed to ground while the transceiver's transmitter is engaged. The transistor open collector circuit used for this jack is capable of switching a DC voltage of 60 V at 200 mA, or DC 30 V at up to 1Amp.

⑲ PTT

This RCA input jack may be used to provide manual transmitter activation using a foot switch or other switching device. Its function is identical to the [MOX] key on the front panel. Open-circuit voltage is +5 VDC, and closed-circuit current is 2 mA.

⑳ RX OUT B

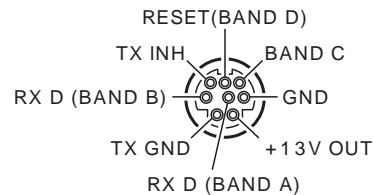
This RCA jack provides output of the receiver signal lines from the Antenna jacks which are connected to "RX" side of the transceiver's main T/R switching circuitry.

㉑ +13.8V

This RCA output jack provides regulated, separately fused 13.8 VDC at up to 200 mA, to power an external device such as a packet TNC. Make sure your device does not require more current (if it does, use a separate power source).

㉒ TUNER

This 8-pin output jack is used for connection to the FC-40 External Automatic Antenna Tuner.



㉓ EXT-DISPLAY

Connect an External Display to this jack.



When connecting, use the cable with the ferrite core.

㉔ IF OUT B

This RCA jack output the IF signal of the SUB band received signal. This signal does not pass through the roofing filter.

Basic Operation

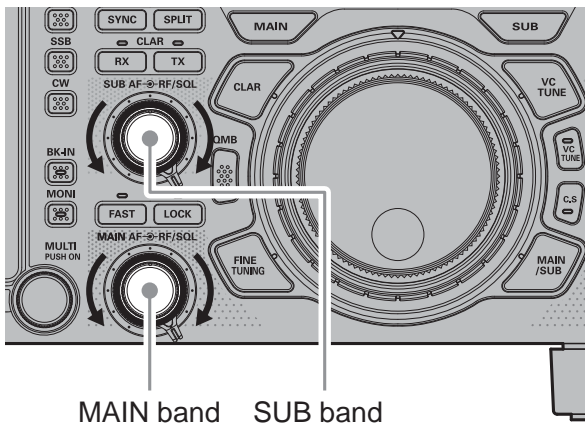
Turning the Transceiver ON and OFF

Press and hold the Power switch to turn the transceiver ON or OFF.




Adjusting the Audio Volume Level

Rotate the [MAIN AF] or [SUB AF] knob to adjust the volume to a comfortable level.

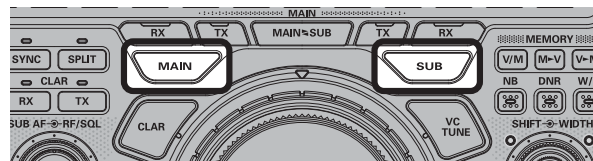


Switch between MAIN and SUB

The MAIN band receiver (left side of the screen) and the SUB band receiver (right side of the screen) are a completely independent dual receiver circuit configuration, different frequencies and operation

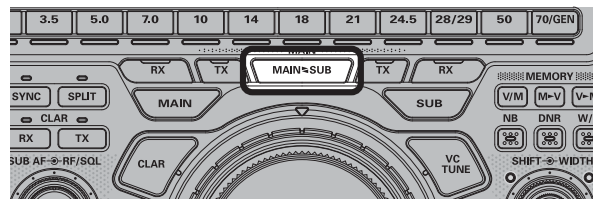
 The large frequency display with the underline is the current operating frequency.

Press the [MAIN] or [SUB] key to switch the receivers.



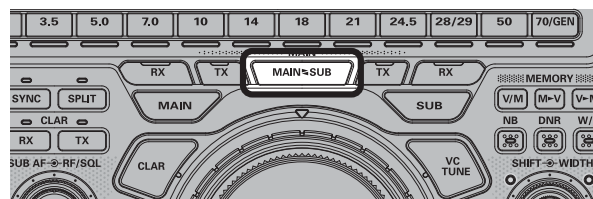
Exchange the MAIN band and SUB bands

Press the [MAIN<=>SUB] key momentarily to exchange the contents of the MAIN band and the SUB band.



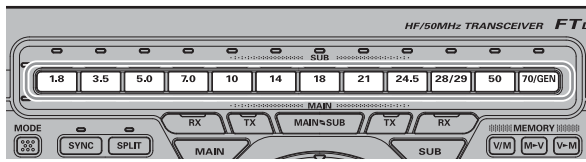
Copy data from the MAIN band to the SUB band

Press and hold the [MAIN<=>SUB] key, to transfer the frequency or the memory channel data, from MAIN band to SUB band.



Operating Band Selection

Press the BAND key corresponding to the Amateur band on which you wish to begin operation.



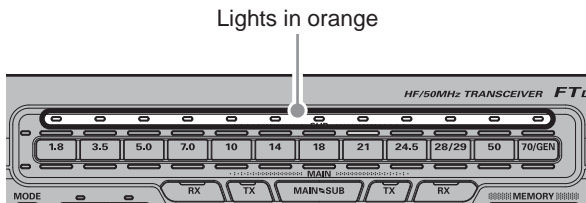
The Indicator of the MAIN band lights “White”, and the SUB band lights “Blue”.

During transmit the indicator will light in “Red” to designate which band is transmitting.

Mark the operation band

Press and hold the desired band key, the orange Band Indicator will light.

Press and hold the key again to turn the Indicator OFF.

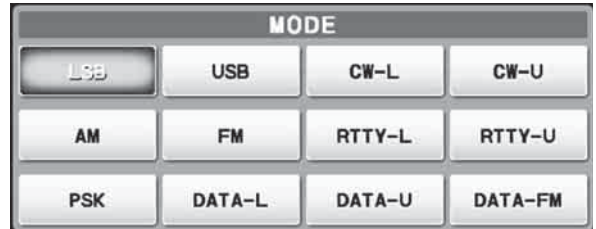
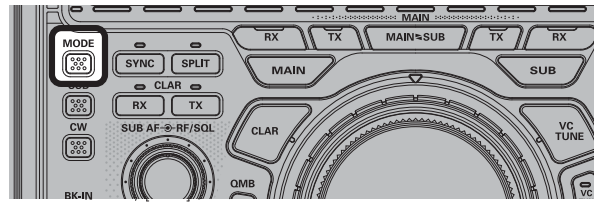


- The Band Indicator may be used to designate a connected antenna, a DXpedition, or contest operation band. Use it instead of memo.
- More than one band may be marked at the same time.



Operating Mode Select

Press and hold the [MODE] key, then touch the desired operating mode.



Pressing the [SSB] / [CW] key repeatedly will toggle to the alternate mode.

In the LSB or USB modes, pressing the [SSB] key toggles between “LSB” and “USB” mode.

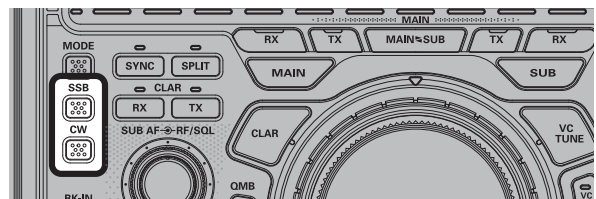
In the CW-L or CW-U modes, pressing the [CW] key toggles between “CW-L” and “CW-U” mode.

[SSB] key

USB → LSB → USB →

[CW] key

CW-U → CW-L → CW-U →



Setting the Operating Frequency

Setting Frequency with the MAIN Dial

Rotate the MAIN dial knob to tune within the band, and begin normal operation.

- Pressing the [FAST] key engages the “Fast” tuning selection.

Tuning of 1 MHz or 1 kHz

1. Touch the “MHz” or “kHz” area of the frequency display.



2. Rotate the MAIN dial knob.
3. Touch “MHz” or “kHz” area of the frequency display to confirm.
 - If there is no operation within 3 seconds, the frequency will be fixed.

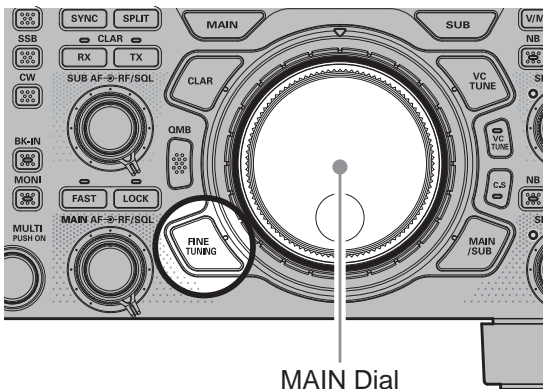
Touch screen tuning

When the Scope Screen is touched, the frequency will be changed corresponding to the place on the display that is touched.

Tuning of 1 Hz (FINE TUNING)

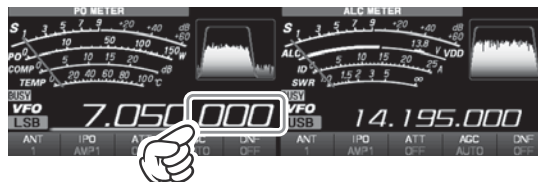
In the SSB, CW, RTTY, DATA-L or DATA-U mode, the frequency can be adjusted with 1 Hz steps.

- AM, FM, DATA-FM modes may be adjusted in 10 Hz steps.
1. Press the [FINE TUNING] key.
 2. Rotate the MAIN dial knob.

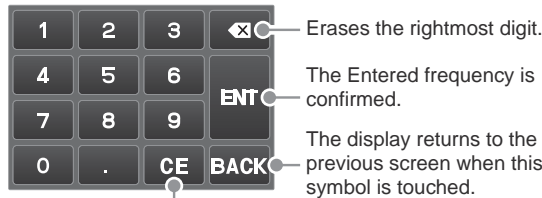


Keyboard Frequency Entry

1. Touch the “Hz” area of the frequency display.



2. Enter the frequency using the numeric keys.



- If there is no operation within 10 seconds, the input will be canceled.

3. Touch [ENT] to confirm

Setting with the [MULTI] knob

The [MULTI] knob may be set to adjust in preset steps.

1. Press the [FUNC] key.
2. Touch [CH DIAL].
3. Rotate the [MULTI] knob.
 - Pressing the [FAST] key engages the “Fast” tuning selection.

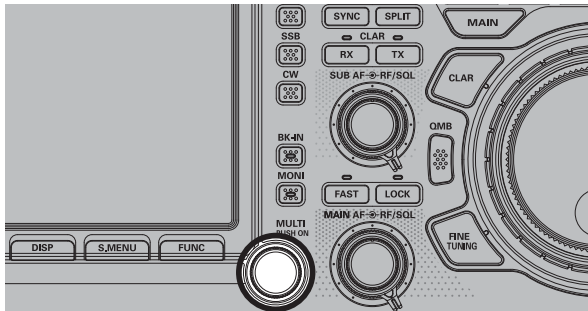
RF Power output control

Turn the [MULTI] knob to adjust the RF power output.

- The [MULTI] knob functions as the level adjustment knob of the waterfall display in the factory default.
- If the operation of the [MULTI] knob is set to a function other than “RF POWER”, It may be returned to “RF POWER”:

1. Press the [FUNC] key.
2. Touch [RF POWER].

The [MULTI] knob now operates as the adjustment knob of the RF power output.



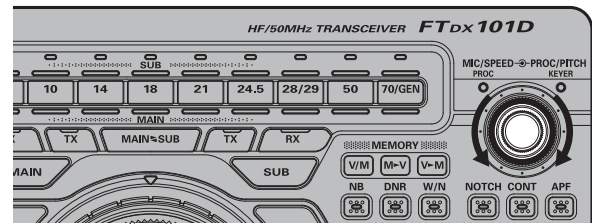
Antenna selection

To select the “ANT 1”, “ANT 2” or the “ANT 3 / RX”) connector:

1. Touch [ANT].
2. Touch the number of the desired antenna (antenna connector).

MIC Gain Adjustment

Adjust microphone gain with the [MIC/SPEED] knob.



In the SSB mode

When transmitting in the SSB mode, adjust the MIC gain so that the ALC meter stays within the ALC zone of the meter on voice peaks.



In the AM mode

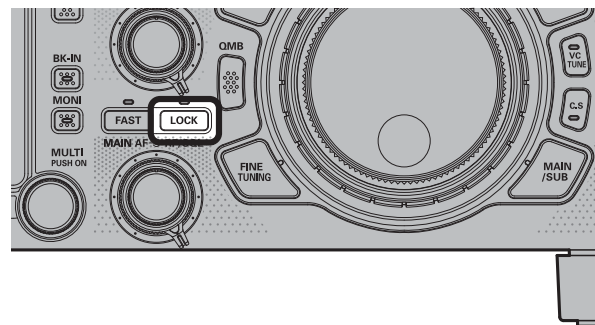
When transmitting in the AM mode, adjust the MIC gain so that the ALC meter does not deflect on voice peaks.

DIAL knob Lock

The DIAL knob may be locked to prevent accidental frequency change.

To lock the DIAL knob, press the [LOCK] key.

To unlock the DIAL setting, and restore normal tuning, press the [LOCK] key again.

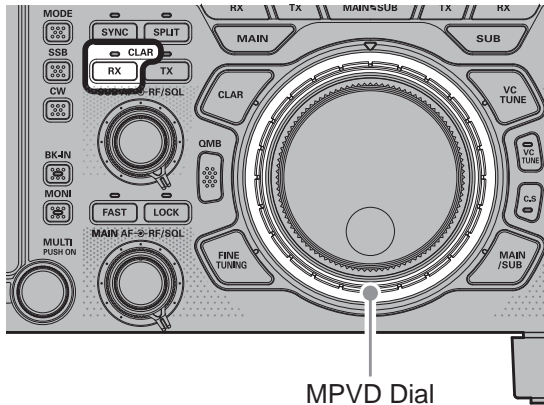


Receiver Accessories

CLAR (Clarifier) Operation

The [CLAR RX] key and MPVD Dial are used to offset the receive frequency from their settings on the VFO frequency.

1. press the [CLAR RX] key.
2. Rotation of the MPVD Dial will allow you to modify your initial offset on the fly. Offsets of up to ± 9990 Hz may be set using the Clarifier.



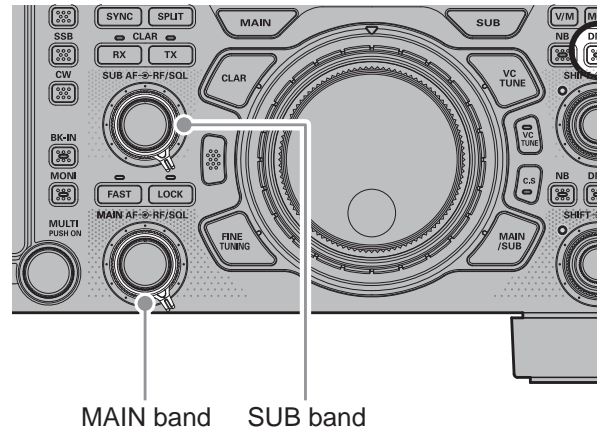
3. To cancel Clarifier operation, press the [CLAR RX] key.

To clear the Clarifier offset, and reset it to “zero”, press and hold the [CLAR RX] or [CLAR TX] key.

RF Gain

The RF Gain control provides manual adjustment of the gain levels for the receiver RF and IF stages, to account for noise and signal strength conditions at the moment.

As the RF GAIN knob is rotated counterclockwise to reduce the gain, the S-meter reading will rise. This indicates that the AGC voltage being applied to the receiver is increasing (this causes a reduction in receiver gain).



AGC (Automatic Gain Control)

The AGC system is designed to help compensate for fading and other propagation effects. The AGC characteristics can be individually set for each operating mode. The basic objective of AGC is to maintain a constant audio output level once a certain minimum threshold of signal strength is achieved.

1. Touch [AGC] .
2. Touch the desired receiver-recovery time constant.
 - o The “AUTO” selection mode selects the optimum receiver-recovery time for the reception mode.

Operation Mode	AUTO AGC Selection
SSB / AM	SLOW
CW / FM / DATA-FM	FAST
RTTY DATA-L / DATA-U	MID

- o For most operations, we recommend the “AUTO” mode.

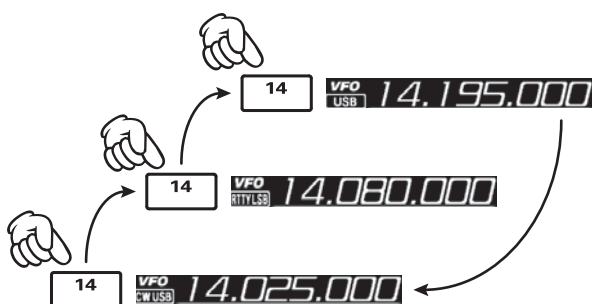
Band Stack Operation

The FTDX101D utilizes a triple band-stack VFO selection technique that permits storing of up to three favorite frequencies and modes onto each band VFO register.

A typical setup, for the 14 MHz band, might be arranged like this:

1. Program 14.0250 MHz, CW Mode, then press the [14] key.
2. Program 14.0800 MHz, RTTY Mode, then press the [14] key.
3. Program 14.1950 MHz, USB Mode, then press the [14] key.

With this configuration, successive momentary presses of the [14] MHz band key will allow you to step sequentially through these three VFOs.



CW Decode

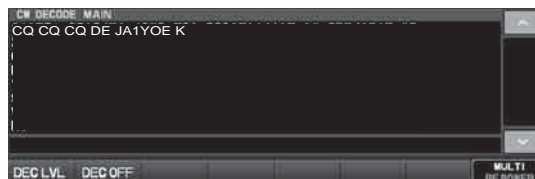
Alphanumeric Morse code can be decoded and displayed as text on the display.



Interfering signals, noise, phasing, code accuracy, and the like may prevent accurate message copy.

1. Press the [CW] key to set the operating mode to CW.
2. Press the [FUNC] key.
3. Touch [DECODE].

The CW DECODE screen is displayed, and the decoded message is displayed on the screen.

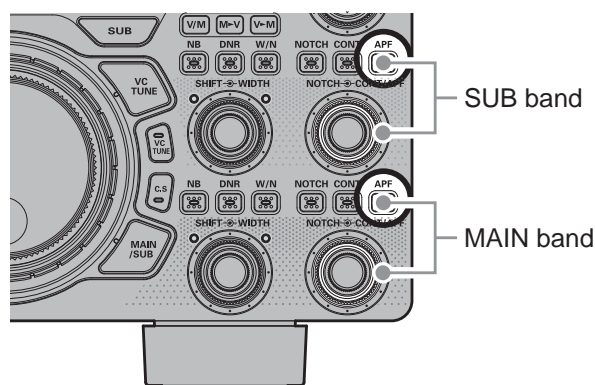


- If scrambled text is displayed due to noise and clutter, when a CW signal is not being received, touch [DEC LVL] and then rotate the [MULTI] knob to adjust the threshold level.
4. To cancel the CW decode function, touch [DEC OFF].

Audio Peak Filter

1. Press the [APF] key.
2. Rotate the [CONT/APF] knob to the left or right to reduce any interference.
 - Press and hold the NOTCH knob to restore the APF peak center frequency setting to "0 Hz".
 - The display will show the peak position of the APF, while tuning the SHIFT knob.

To exit from APF operation, press the [APF] key again.



CW Spotting (Zero-Beating)

“Spotting” (zeroing in on another CW station) is a handy technique to ensure you and the other station are precisely on the same frequency.

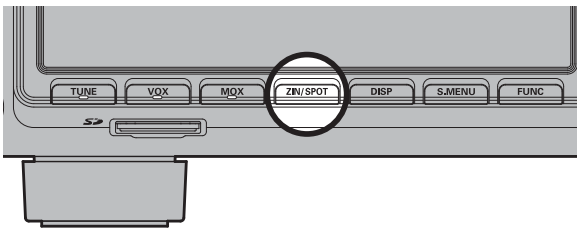
The Tuning Offset Indicator in the display may also be moved so you can adjust your receiver frequency to center the incoming station on the pitch corresponding to that of your transmitted signal.



Zero-In

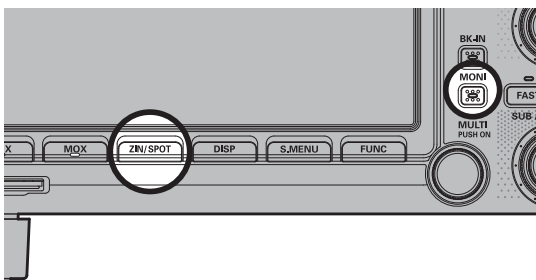
Using the Auto Zeroing System

Press the [ZIN/SPOT] key momentarily to adjust the receiving frequency to the zero-in automatically while receiving the CW signal.



Using the SPOT System

1. Press the [CW] key to engage CW operation.
2. Press the [MONI] key.
3. While you are pressing and holding [ZIN/SPOT] key, the tone is output from the speaker.



CW Pitch Adjustment

The center frequency of the receiver passband may be adjusted to the CW tone you prefer.

1. Press the [CW] key to engage CW operation.
2. Rotate the [PROC/PITCH] knob to select the desired tone.
 - o The tone may be varied between 300 Hz and 1050 Hz, in 10 Hz steps.

Interference Rejection

IPO (Intercept Point Optimization)

The IPO feature allows the operator to optimize the characteristics of the receiver front end, depending on the current noise level and the strength of incoming signals.



The IPO feature is always on "IPO" (No RF preamplifier) between 30 kHz and 1.7 MHz.

1. Touch [IPO].
2. Select the desired characteristic of the receiver front end, according to the chart below.

IPO: Bypasses the RF preamplifier, yielding direct feed to the first mixer.

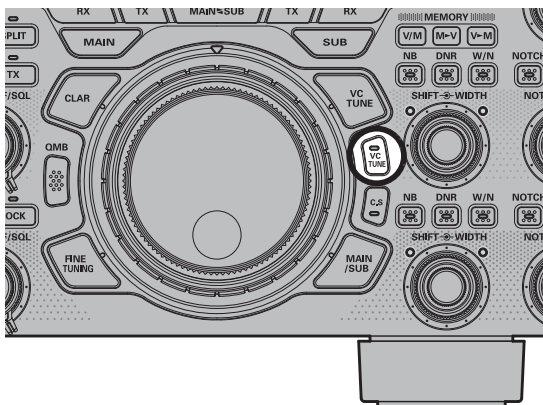
AMP1: Amplifies the incoming signals, using a low distortion RF preamplifier (gain: approx. 10dB).

AMP2: Amplifies the incoming signals, using a 2-stage low-distortion RF preamplifier (total gain: approx. 20 dB).

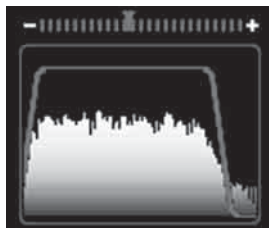
VC Tune Filter

Effectively attenuates powerful interference signals that are problematic in low band. If there are multiple disturbing signals, you can fine-tune with the MPVD dial.

1. Press the [VC TUNE] key.
VC Tune Filter is activated.



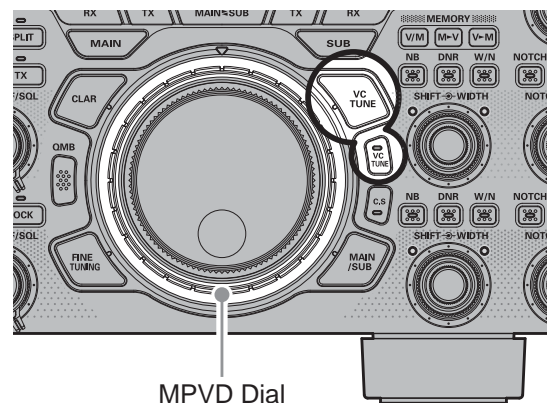
- The relative peak point of the VC tune filter may be observed in the Tuning Offset Indicator on the display, while tuning the MPVD dial.



- The VC tune circuit will automatically align itself to the operating frequency.
2. To exit from VC tune operation, press the [VC TUNE] key.

Fine tune the tuning point

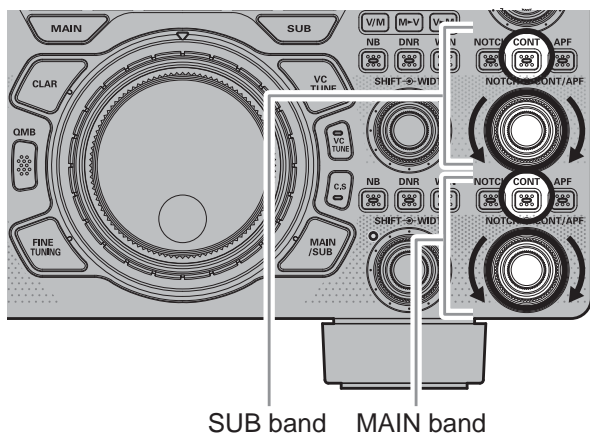
1. Press the [VC TUNE] key (located at the upper right of the MAIN dial).
2. Rotate the MPVD dial to peak the response (background noise) or reduce interference.
 - Press and hold the [VC TUNE] key to re-center the filter response on the current operating frequency.



Contour Control Operation

The Contour filter system provides a gentle perturbation of the IF filter passband. The Contour is set to either suppress, or boost specific frequency components, and thus enhances the sound and readability of a received signal.

1. Press the [CONT] key.
2. Rotate the [CONT/APF] knob to achieve the most natural-sounding audio reproduction on the incoming signal.
 - The display will show the Contour frequency for 1/2 seconds whenever the [CONT/APF] knob is turned.
 - Press and hold the NOTCH knob to restore the CONTOUR setting to factory defaults.
3. To exit from Contour tuning, press the [CONT/APF] key momentarily.

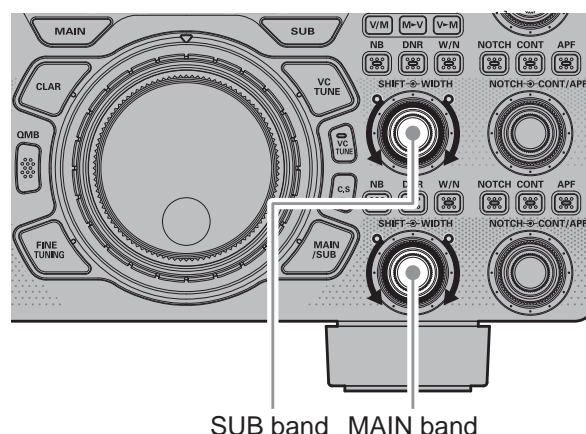


IF SHIFT Operation

IF SHIFT permits moving the DSP filter passband higher or lower, without changing the pitch of the incoming signal, and thus reduces or eliminates interference. Because the tuned carrier frequency is not varied, there is no need to re-tune the operating frequency to eliminate the interference. The total passband tuning range for the IF SHIFT system is ± 1.2 kHz.

Rotate the [SHIFT] knob to the left or right to reduce the interference.

- The display will show the shift value of the IF SHIFT for 1/2 seconds whenever the [SHIFT] knob is turned.
- Press and hold the SHIFT knob to reset the IF SHIFT setting to "0 Hz".



Adjusts the GAIN of the CONTOUR circuit

1. Press the [FUNC] key.
2. Select [OPERATION SETTING]→[RX DSP]→[CONTOUR LEVEL].
3. Rotate the [MULTI] knob to set level of the gain of the CONTOUR circuit.
4. Press the [FUNC] key to save the new setting and exit the Setting Menu.
5. Press the [FUNC] key exit to normal operation.

Sets the bandwidth ("Q") of the CONTOUR circuit.

1. Press the [FUNC] key.
2. Select [OPERATION SETTING]→[RX DSP]→[CONTOUR WIDTH].
3. Rotate the [MULTI] knob to set bandwidth ("Q") of the CONTOUR circuit.
4. Press the [FUNC] key to save the new setting and exit the Setting Menu.
5. Press the [FUNC] key exit to normal operation.

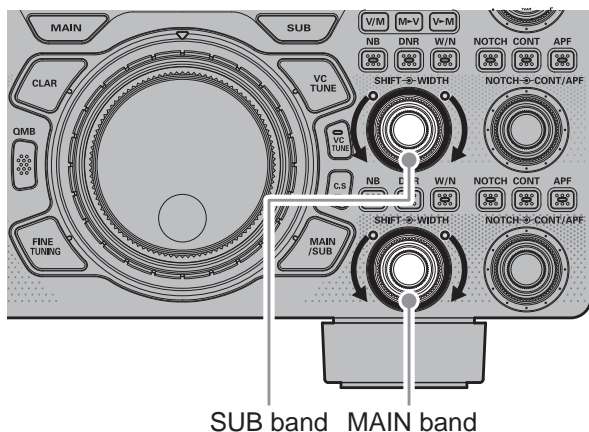
WIDTH Tuning

The IF WIDTH tuning system allows you to vary the width of the DSP IF passband, to reduce or eliminate interference.

Moreover, the bandwidth may actually be expanded from its default setting, should you wish to enhance incoming signal fidelity when interference on the band is low.

Rotate the [WIDTH] knob counter-clockwise to narrow the bandwidth and reduce interference.

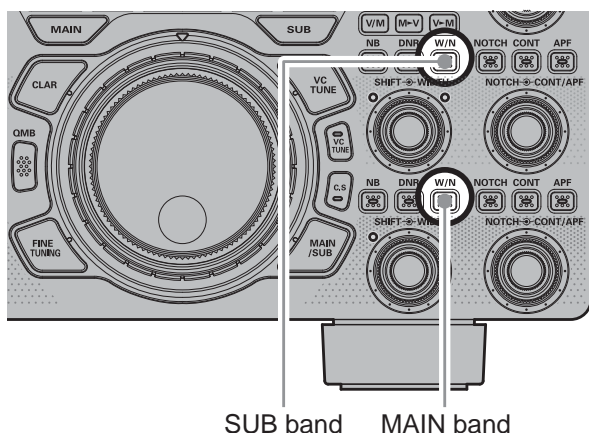
- To increase the bandwidth, rotate the knob clockwise.
- The display will show the bandwidth of the IF SHIFT, while tuning the [WIDTH] knob.
- Press and hold the [SHIFT] knob to restore the WIDTH setting to factory default.



W/N (Wide/Narrow)

Pressing the [W/N] key provides one-touch, mode-specific, selection of a narrow IF DSP filter setting that does not require resetting the [WIDTH] knob.

1. Press the [W/N].
2. To exit from Narrow IF DSP setting, press the [W/N] key.



ATT (Attenuator)

When extremely strong local signals or high noise degrades reception, you can use the [ATT] button to insert 6, 12, or 18-dB of RF attenuation in front of the RF amplifier.

1. Touch [ATT].
2. Touch desired attenuation level, per the chart below.

OFF	Attenuator is Off
6dB	The incoming signal power is reduced by 6 dB (Signal voltage reduced by 1/2)
12dB	The incoming signal power is reduced by 12 dB (Signal voltage reduced to 1/4)
18dB	The incoming signal power is reduced by 18 dB (Signal voltage reduced to 1/8)



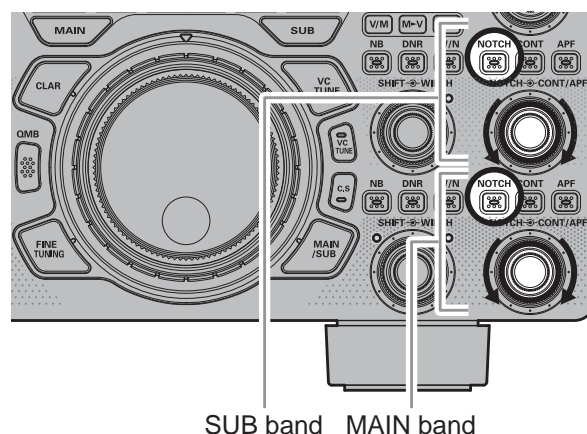
- If the noise level is high or the received signal is extremely strong, the incoming signal level can be suppressed with the IPO/ATT settings. If the S-meter fluctuates S-3 or more in the noise level, or the received signal is extremely strong and it causes a high S-meter indication (+20dB or more), activate the attenuator.
- Since IPO does not only attenuate the incoming signal, but also improves the cross modulation characteristic, try to activate the IPO first. If the signal is still strong, also use the ATT. In this way, you can attenuate the incoming signal and noise effectively.

IF NOTCH Filter Operation

The IF NOTCH filter is a highly effective system that allows cutting out an interfering beat note or other carrier signal from inside the receiver passband.

1. Press the [NOTCH] key.
2. Rotate the [NOTCH] knob to adjust the “null” position of the Notch filter.
 - Press and hold the NOTCH knob to restore the IF NOTCH setting to the factory default.
 - The display will show the current “null” position of the NOTCH filter, while tuning the SHIFT knob.

To exit from IF NOTCH filter operation, press the [NOTCH] key.



DNR Operation

The Digital Noise Reduction (DNR) system is designed to reduce the level of random noise found on the HF and 50 MHz bands, and it is especially effective during SSB operation.

1. Press the [DNR] key.
2. Press and hold the [DNR] key, then rotate the [MULTI] knob to set the noise reduction algorithms.
3. To exit from DNR operation, press the [DNR] key.

DNF Operation

The Digital NOTCH Filter (DNF) is an effective beat-canceling filter that can null out a number of interfering beat notes inside the receiver pass-band.

Because this is an Auto-Notch feature, there is no adjustment knob associated with this filter.

Touch [DNF], then select "ON" or "OFF".

Noise Blanker (NB) Operation

The FTDX101D includes an effective IF Noise Blanker, which can significantly reduce noise caused by automotive ignition systems.

1. Press the [NB] key.
2. Press and hold the [NB] key, then rotate the [MULTI] knob to set the noise blanker level.

To end Noise Blanker operation, press the [NB] key once more.



The NB function may be less effective on some other types of interference.

Adjusting the Noise Attenuation

1. Press the [FUNC] key.
2. Select [OPERATION SETTING]→[GENERAL]→[NB REJECTION].
3. Rotate the [MULTI] knob to set the noise attenuation (10dB/30dB/40dB).
4. Press the [FUNC] key to save the new setting and exit the Setting Menu.
5. Press the [FUNC] key exit to normal operation.

Transmitter Operation

Transmission

1. Press the microphone PTT switch to begin transmitting.
 - o The active band indicator will glow red during transmission.
 - o Release the PTT switch to return to receive mode.
 - o When transmitting in the AM mode, set a maximum (carrier) power output of 25 Watts.
2. Then touch the left meter area on the display to select the "ALC" meter.
3. Close the PTT switch, and speak into the microphone in a normal voice level.

In the SSB mode

Adjust the MIC gain so that the ALC meter stays within the ALC zone of the meter on voice peaks.



In the AM mode

When transmitting in the AM mode, adjust the MIC gain so that the ALC meter does not deflect on voice peaks.

Changing the transmission meter

Touch the meter area and the meter selection screen will be displayed, so touch the desired meter.



PO	Indicates the average power output level.
COMP	Indicates the speech compression level.
TEMP	Indicates the final stage FET transistor temperature.
ALC	Indicates the relative ALC voltage.
VDD	Indicates the final amplifier drain voltage.
ID	Indicates the final stage FET transistor drain current.
SWR	Indicates the Standing Wave Ratio.

TOT (Time Out Timer)

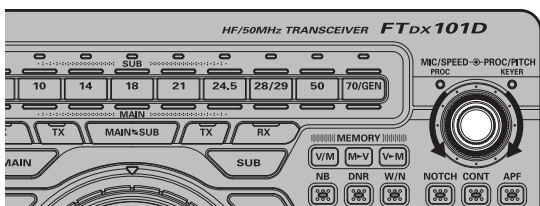
The "Time-Out Timer" (TOT) shuts off the transmitter after continuously transmitting for the programmed time.

1. Press the [FUNC] key.
2. Select [OPERATION SETTING] → [GENERAL] → [TX TIME OUT TIMER] .
3. Rotate the [MULTI] knob to select the TOT countdown time (OFF/1 - 30 min).
4. Press the [FUNC] key to save the new setting and exit the Setting Menu.
5. Press the [FUNC] key exit to normal operation.

Speech Processor

The FTDX101D Speech Processor is designed to increase “talk power” by increasing the average power output (via a sophisticated compression technique).

1. Press the [MIC/SPEED] knob. Speech Processor feature is activated.
2. Then touch the left meter area on the display to select the “COMP” meter.
3. Press the PTT switch on the microphone, and speak into the microphone in a normal voice level.
4. Adjust the [PROC/PITCH] knob to set the compression level.
5. To exit from the Speech Processor, press the [MIC/SPEED] knob.

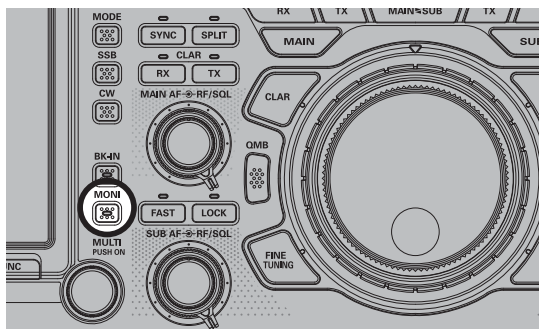


Monitor

Use the Monitor feature to listen to the quality of your transmitted signal.

Press the [MONI] key.

Monitor feature is activated.



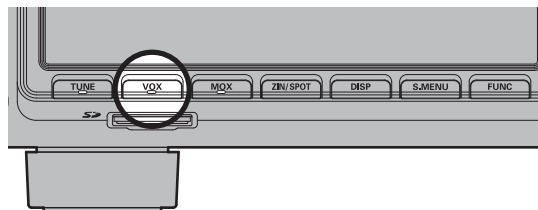
- To adjust the Monitor level:
 1. Press the [FUNC] key.
 2. Touch [MONI LEVEL].
 3. Rotate the [MULTI] knob to adjust the audio level.

To exit from MONITOR operation, press the [MONI] key.

VOX

The VOX (Voice Operated Xmit) circuit will engage the transmitter automatically when you speak into the microphone.

1. Press the [VOX] key. VOX feature is activated.



2. Without pressing the PTT switch, speak into the microphone in a normal voice level. When you start speaking, the transmitter should be activated automatically. When you finish speaking, the transceiver should return to the receive mode (after a short delay).

To cancel VOX and return to PTT operation, press the [VOX] key once more.

Adjusts the VOX GAIN

1. Press the [FUNC] key.
2. Touch [VOX GAIN].
3. While speaking into the microphone, rotate the [MULTI] knob to the point where the transmitter is quickly activated by your voice, without background noise causing the transmitter to activate.

Adjusts the VOX Delay Time

1. Press the [FUNC] key.
2. Touch [VOX DELAY].
3. Rotate the [MULTI] knob while saying a brief syllable like “Ah” and listening to the hang time for the desired delay.

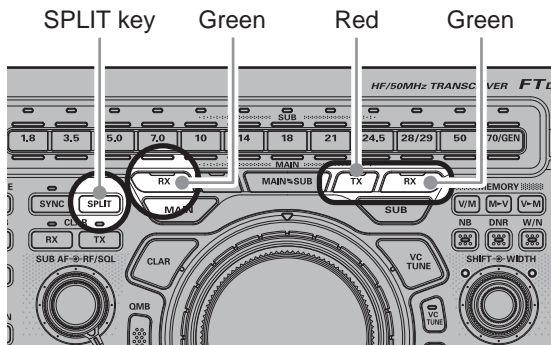
Adjusts the sensitivity of the anti-trip

1. Press the [FUNC] key.
2. Touch [ANTI VOX].
3. Rotate the [MULTI] knob to prevent receiver audio from activating the transmitter (via the microphone).

Split-Frequency Operation

A powerful capability of the FTDX101D is its flexibility in Split Frequency operation using the MAIN band and SUB band frequency registers. This makes the FTDX101D especially useful for high-level DX-peditions. The Split operation capability is very advanced and easy to use.

1. Set the MAIN band frequency as desired.
2. Set the SUB band frequency.
3. Press the [SPLIT] key.
 - During Split operation, the MAIN band register will be used for reception, while the SUB band register will be used for transmission.
 - The front panel switch/LEDs will look like this:



4. Press the [SPLIT] button once more, Split operation will be cancelled.
 - During Split operation, pressing the [MAIN<=>SUB] key will reverse the contents of MAIN band and SUB band. Press the [MAIN<=>SUB] key once more, to return to the original frequency alignment.
 - It is possible to set different operating modes (for example, LSB and USB) on the two VFOs used during Split operation.
 - During Split operation, it is also possible to set MAIN band and SUB band to different amateur bands.

Quick Split Operation

The Quick Split feature allows you to set a one-touch offset of +5 kHz to be applied to the SUB band (transmit) frequency, compared to the MAIN band frequency.

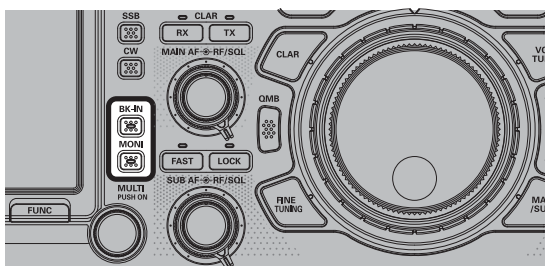
1. Set the MAIN band frequency.
2. Press and hold in the [SPLIT] key for one second to engage the Quick Split feature, and apply a frequency 5 kHz above the MAIN band frequency to the SUB band frequency register.
 - The operating mode applied to the SUB band register will be the same as that in use on the MAIN band register.

CW Mode Operation

The powerful CW operating capabilities of the FTDX101D permit operation using an electronic keyer paddle, a “straight key”, or a computer-based keying device.

Setup for Straight Key Operation

1. Before starting, connect your key line(s) to the front and/or rear panel KEY jack(s).
2. Press the [CW] key to engage CW operation.
3. Rotate the Main Tuning Dial knob to select the desired operating frequency.
4. Press the [BK-IN] key.
5. Press the [MONI] key.
The LED inside the [MONI] key glows orange; and the CW monitor is activated.



6. Operation using your CW key may now proceed.
 - As shipped from the factory, the FTDX101D TX/RX system for CW is configured for “Semibreak-in” operation.

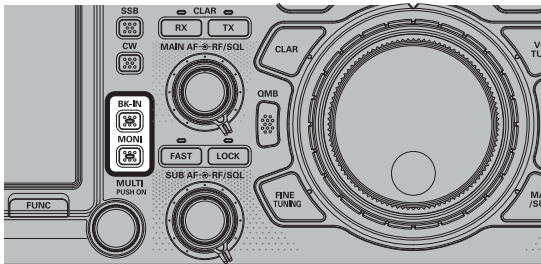
CW Delay Time Setting

During semi-break-in (not QSK) operation, the hang time of the transmitter, after you have finished sending, may be adjusted to a comfortable value consistent with your sending speed.

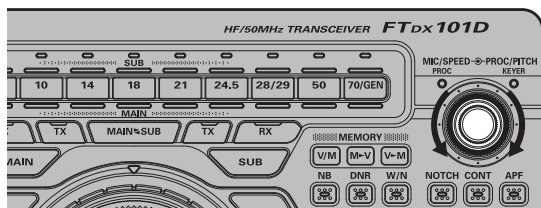
1. Press the [FUNC] key.
2. Select [CW SETTING] → [MODE CW] → [CW BK-IN DELAY] .
3. Start sending and rotate the [MULTI] knob to adjust the hang time, as you prefer for comfortable operation.
4. Press the [FUNC] key to save the new setting and exit the Setting Menu.
5. Press the [FUNC] key exit to normal operation.

Using the Built-in Electronic Keyer

1. Before starting, connect your key line(s) to the front and/or rear panel KEY jack(s).
2. Press the [CW] key to engage CW operation.
3. Rotate the Main Tuning Dial knob to select the desired operating frequency.
4. Press the [BK-IN] key.
5. Press the [MONI] key.
The LED inside the [MONI] key glows orange; and the CW monitor is activated.



6. Press the [MIC/SPEED] knob to confirm that the builtin Electronic Keyer is now active.
7. Rotate the [MIC/SPEED] knob to set the desired sending speed (4 to 60 WPM). Clockwise rotation of the [MIC/SPEED] knob will increase the keying speed.



8. CW operation utilizing the CW paddle may now commence.
 - o By pressing either the "Dot" or "Dash" side of the paddle, the CW keying tone will automatically be generated.

Setting the Keyer Weight (Dot/Dash) Ratio

Adjust the dot/dash ratio for the built-in Electronic Keyer (default weighting is 3:1).

1. Press the [FUNC] key.
2. Select [CW SETTING]→[KEYER]→[CW WEIGHT].
3. Rotate the [MULTI] knob to set the weight to the desired value. The available adjustment range is a Dot/Dash ratio of 2.5 to 4.5.
4. Press the [FUNC] key to save the new setting and exit the Setting Menu.
5. Press the [FUNC] key exit to normal operation.

Selecting the Keyer Operating Mode

The configuration of the Electronic Keyer may be customized independently for the front and rear KEY jacks of the FT DX101D. This permits utilization of Automatic Character Spacing (ACS), if desired. This permits the use of an electronic keyer via the front jack and a straight key or computer-driven keying line via the rear panel jack.

1. Press the [FUNC] key.
2. Select [CW SETTING] → [KEYER].
3. Select [F KEYER TYPE] or [R KEYER TYPE].
4. Select the keyer to the desired mode. The available selections are:

OFF	The built-in Electronic Keyer is turned off ("straight key" mode).
BUG	Dots will be generated automatically by the keyer, but dashes must be sent manually.
ELEKEY-A	A code elements ("Dot" or "Dash") are automatically transmitted upon pressing either side of the paddle.
ELEKEY-B	Pressing both sides of the paddle transmits the currently generated "Dash" followed by the "Dot" (or reverse order).
ELEKEY-Y	Pressing both sides of the paddle transmits the currently generated "Dash" followed by the "Dot" (or reverse order). While transmitting the "Dash", the first transmitted "Dot" will not be stored.
ACS	Same as "ELEKEY" except that the spacing between characters is precisely set by the keyer to be the same length as a dash (three dots in length)

5. Press the [FUNC] key to save the new setting and exit the Setting Menu.
6. Press the [FUNC] key exit to normal operation.

FM Mode Operation

Repeater Operation

The FTDX101D may be utilized on 29 MHz and 50 MHz repeaters.

1. Press and hold the [MODE] key, and then touch [FM].
2. Set the FTDX101D to the desired repeater's output frequency (downlink from the repeater).
3. Press the [FUNC] key.
4. Touch [RPT] .
5. Rotate the [MULTI] knob to select the desired repeater shift direction.
The selections are:
"SIMP" → "+" → "-" → "SIMP"
where "SIMP" represents "Simplex" operation (not used on a repeater).
6. Press the [FUNC] key.
7. Touch [ENC/DEC] .
8. Rotate the [MULTI] knob to select "ENC".
9. Press the [FUNC] key.
10. Touch [TONE FREQ] .
11. Rotate the [MULTI] knob to select the desired CTCSS Tone to be used. A total of 50 standard CTCSS tones are provided (see the CTCSS Tone Chart).
12. Press and hold the microphone PTT switch to begin transmission.

Tone Squelch Operation

The "Tone Squelch" may be activated to keep the receiver silent until an incoming signal modulated with a matching CTCSS tone is received. The receiver squelch will then open in response to the reception of the required tone.

1. Press and hold the [MODE] key, and then touch [FM].
2. Set the transceiver to the desired frequency.
3. Press the [FUNC] key.
4. Touch [ENC/DEC] .
5. Rotate the [MULTI] knob select to "TSQ".
6. Press the [FUNC] key.
7. Touch [TONE FREQ] .
8. Rotate the [MULTI] knob to select the desired CTCSS Tone to be used. A total of 50 standard CTCSS tones are provided (see the CTCSS Tone Chart).

CTCSS Tone Frequency (Hz)					
67.0	69.3	71.9	74.4	77.0	79.7
82.5	85.4	88.5	91.5	94.8	97.4
100.0	103.5	107.2	110.9	114.8	118.8
123.0	127.3	131.8	136.5	141.3	146.2
151.4	156.7	159.8	162.2	165.5	167.9
171.3	173.8	177.3	179.9	183.5	186.2
189.9	192.8	196.6	199.5	203.5	206.5
210.7	218.1	225.7	229.1	233.6	241.8
250.3	254.1	-	-	-	-

The FTDX101D is equipped with two types of screen mode.

Center Mode (default)

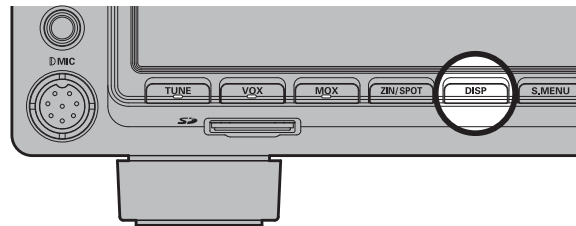
The "Center Mode" shows the receive frequency constantly in the center of the screen.

Cursor Mode

The "Cursor Mode" the position of the marker moves in conjunction with the dial knob and the screen scrolls when the marker exceeds the upper or lower limit frequency.

Switching the screens

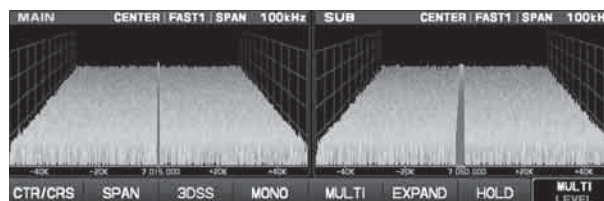
Four different screens may be shown on the display by pressing the [DISP] key.



Only "MAIN" or "SUB" will be displayed



Upper side: MAIN, Lower side: SUB



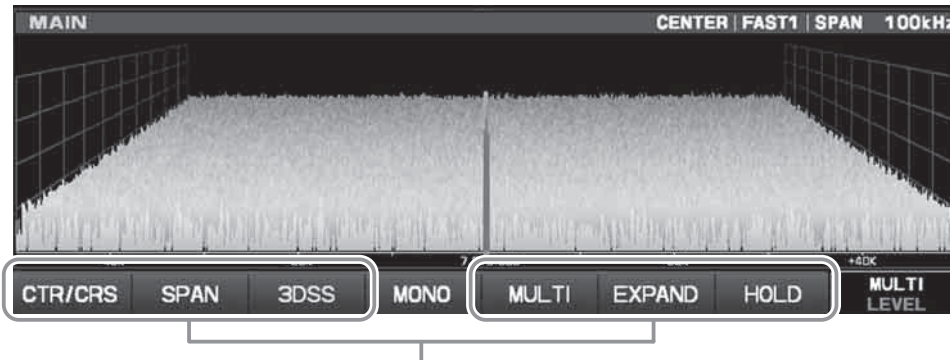
Left side: MAIN, Right side: SUB



Left side: MAIN, Right side: SUB

Scope function setting

The settings related to the scope display are done with the items on the screen or with the [S.MENU] key.



CTR/CRS	Switch between the center mode and cursor mode of the scope display method.	
SPAN	Selects the desired frequency span of the Spectrum Scope.	
3DSS	The display of the waterfall switches between “conventional type” and “3DSS type”.	
MULTI	In addition to the scope display, the oscilloscope and AF-FFT are also displayed.	<p>Touch this area to set the attenuator.</p> <p>Touch this area to set the level and sweep speed.</p>
EXPAND	The image of the scope screen expands in the vertical direction.	
HOLD	Temporarily pause refreshing the scope display and hold the filter function display image.	

Press the [S.MENU] key and the "SCOPE MENU" screen will be displayed, so touch the desired item.

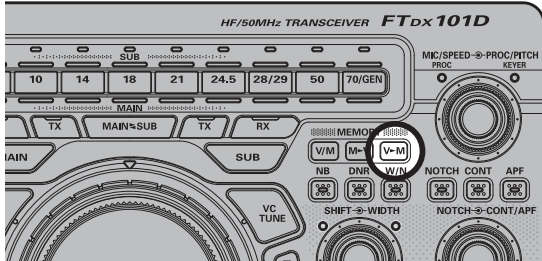


SPEED	Setting Scope Sweep Speed.
PEAK	Adjust the Peak Signal Color Density.
MARKER	Marker display ON or OFF.
COLOR	Changing scope display color.
LEVEL	Adjust the reference level to make it easier to distinguish between target signal and noise.

Memory Operation

Memory Storage

1. In the VFO mode, select the frequency, mode, and status, the values you want to have stored.
2. Press and hold the [V/M] key.



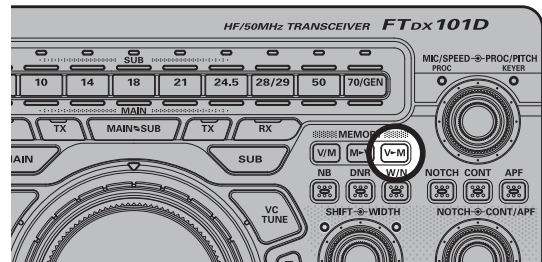
3. Rotate the [MULTI] knob to select the memory channel that you wish to store the data on.



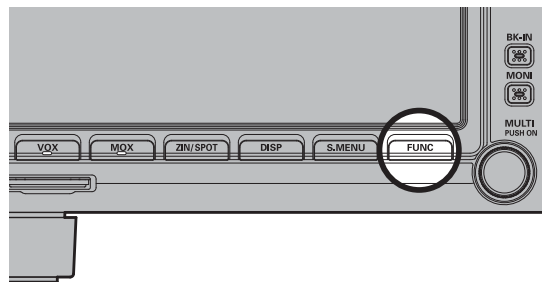
4. Press the [V/M] key to store the frequency and other data into the selected memory channel.
5. Press the [V/M] key, to confirm that the operation is completed.

Memory Channel Recall

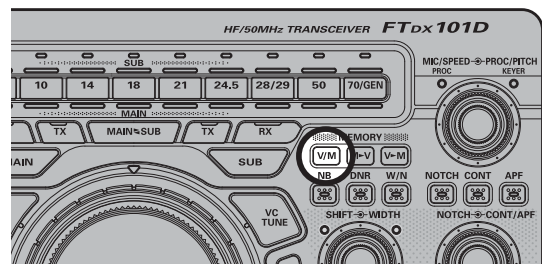
1. Press the [V/M] key.



2. Press the [FUNC] key.



3. Touch [MEM CH].
4. Rotate the [MULTI] knob to select the desired memory channel.
5. To exit from memory mode and return to the VFO mode, press the [V/M] key.



Memory Tune Operation

The frequency may be freely tuned off from any memory channel in “Memory Tune” mode; this is similar to VFO operation.

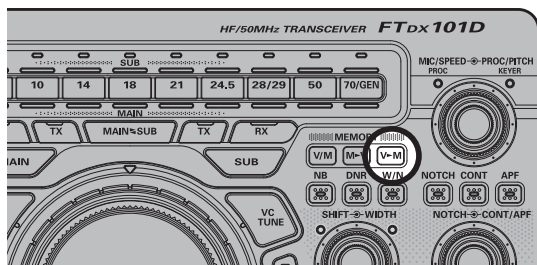
So long as you do not over-write the contents of the current memory, Memory Tune operation will not alter the contents of the memory channel.

- o The “Memory Channel Number” will be replaced by one which indicates “MT” (Memory Tune).

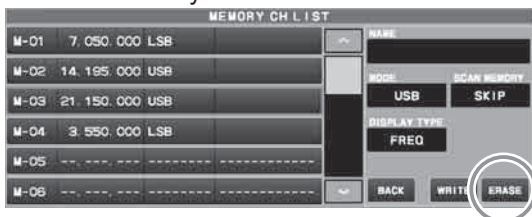
Press the [V/M] key momentarily to return to the originally memorized frequency of the current memory channel.

Erasing Memory Channel Date

1. Press and hold the [V▶M] key.



2. Rotate the [MULTI] knob to select the memory channel that you would like to erase.
3. Touch [ERASE] to erase the contents of the selected memory channel.



- The FTDx101D can not erase the memory channels "M-01".

QMB (Quick Memory Bank)

The Quick Memory Bank consists of five memories (labeled "QMB 1" through "QMB 5") independent from the regular and PMS memories. These can quickly store operating parameters for later recall.

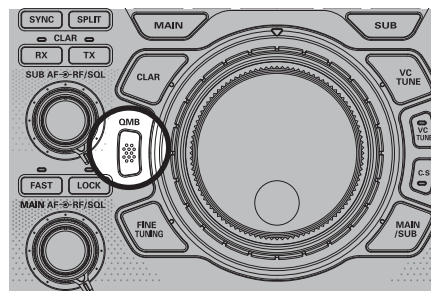
QMB Channel Storage

1. Tune to the desired frequency on the MAIN band.
2. Press and hold the [QMB] key. The "beep" will confirm that the VFO-A contents have been written to the currently available QMB memory.

If you repeatedly press and hold the [STO] key, the QMB memories will be written in the following order:

QMB 2 → QMB 3 → QMB 4 →
→ QMB 5 → QMB 1

Once all five QMB memories have data on them, previous data (starting with channel Q-1) will be over-written on a first-in, first-out basis.

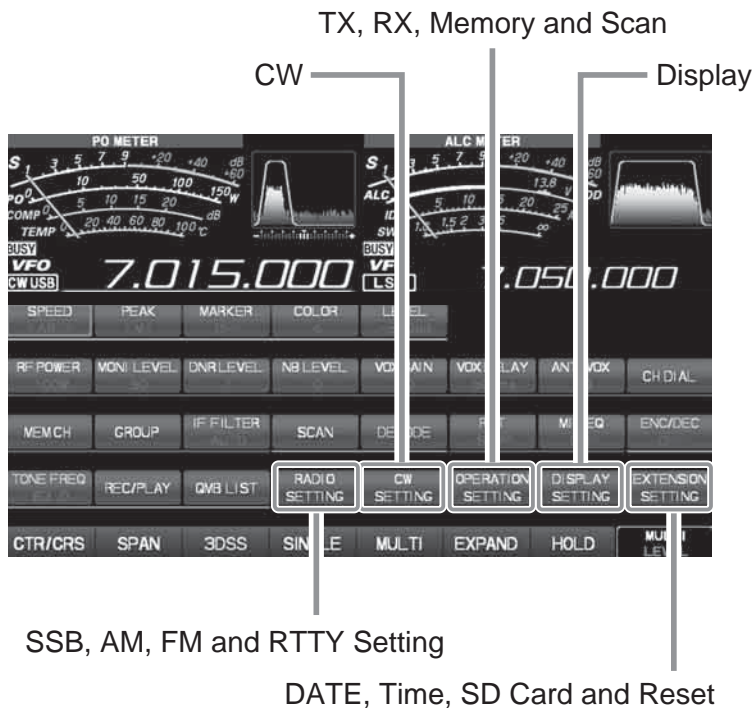


QMB Channel Recall

1. Press the [QMB] key.
The current QMB channel data will be shown on the frequency display area.
2. Repeatedly pressing the [QMB] key will toggle you through the QMB channels:
QMB 2 → QMB 3 → QMB 4 →
→ QMB 5 → QMB 1
3. Press the [V/M] key to return to the VFO mode.

Setting Menu

The Menu system of the FTDX101D provides extensive customization capability; the transceiver may be setup to complete - ment personal operating preferences. Menu items are grouped by general utilization categories.



Using Menu

1. Press the [FUNC] key.
2. Touch the desired item in Setting Menu.
3. Touch to select the desired Menu item.
4. Select the Menu item you wish to modify.
5. Rotate the [MULTI] knob (or touch) to change the current setting of the selected Menu item.
6. Press the [FUNC] key to save the new setting and exit the Setting Menu.
7. Press the [FUNC] key exit to normal operation.

Setting Menu Resetting

All the Set mode settings can be restored to the default settings by following the procedure below.

1. Press the [FUNC] key.
2. Select [EXTENSION SETTING] → [RESET].
3. Touch "DONE" in the [MENU CLAR].
4. Touch [OK] to reset and automatically restart the transceiver.
To cancel resetting, touch [CANCEL].

Menu Function		Available Settings
RADIO SETTING		
MODE SSB	AGC FAST DELAY	20 - 300 - 4000 (20msec/step)
	AGC MID DELAY	20 - 1000 - 4000 (20msec/step)
	AGC SLOW DELAY	20 - 3000 - 4000 (20msec/step)
	LCUT FREQ	OFF/ 100 - 1000 (50Hz/step)
	LCUT SLOPE	6dB/oct / 18dB/oct
	HCUT FREQ	700 - 3000 - 4000 (50Hz/step)/OFF
	HCUT SLOPE	6dB/oct / 18dB/oct
	SSB OUT SELECT	MAIN/SUB
	SSB OUT LEVEL	0 - 50 - 100
	TX BPF	50 - 3050/100 - 2900/200 - 2800/ 300 - 2700 / 400 - 2600
	SSB MOD SOURCE	MIC/REAR
	REAR SELECT	DATA/USB
	RPORT GAIN	0 - 50 - 100
	RPTT SELECT	DAKY/RTS/DTR
MODE AM	AGC FAST DELAY	20 - 1000 - 4000 (20msec/step)
	AGC MID DELAY	20 - 2000 - 4000 (20msec/step)
	AGC SLOW DELAY	20 - 4000 (20msec/step)
	LCUT FREQ	OFF /100 - 1000 (50Hz/step)
	LCUT SLOPE	6dB/oct / 18dB/oct
	HCUT FREQ	700 - 4000 (50Hz/step)/ OFF
	HCUT SLOPE	6dB/oct / 18dB/oct
	AM OUT SELECT	MAIN/SUB
	AM OUT LEVEL	0 - 50 - 100
	TX BPF SEL	50 - 3050 /100 - 2900/200 - 2800/ 300 - 2700/400 - 2600
	AM MOD SOURCE	MIC/REAR
	MIC GAIN	MCVR /0 - 100
	REAR SELECT	DATA/USB
	RPORT GAIN	0 - 50 - 100
	RPTT SELECT	DAKY/RTS/DTR
MODE FM	AGC FAST DELAY	20 - 160 - 4000 (20msec/step)
	AGC MID DELAY	20 - 500 - 4000 (20msec/step)
	AGC SLOW DELAY	20 - 1500 - 4000 (20msec/step)
	LCUT FREQ	OFF/100 - 250 - 1000 (50Hz/step)
	LCUT SLOPE	6dB/oct / 18dB/oct
	HCUT FREQ	700 - 4000 (50Hz/step)/ OFF
	HCUT SLOPE	6dB/oct / 18dB/oct
	FM OUT SELECT	MAIN/SUB
	FM OUT LEVEL	0 - 50 - 100
	FM MOD SOURCE	MIC/REAR
	MIC GAIN	MCVR /0 - 100
	REAR SELECT	DATA/USB
	RPORT GAIN	0 - 50 - 100
	RPTT SELECT	DAKY/RTS/DTR
	RPT SHIFT(28MHz)	0 - 100 - 1000 (10kHz/step)
	RPT SHIFT(50MHz)	0 - 1000 - 4000 (10kHz/step)
MODE PSK/DATA	AGC FAST DELAY	20 - 160 - 4000 (20msec/step)
	AGC MID DELAY	20 - 500 - 4000 (20msec/step)
	AGC SLOW DELAY	20 - 1500 - 4000 (20msec/step)
	PSK TONE	1000 /1500/2000 (Hz)
	DATA DISP (SSB)	0 - 1500 - 3000 (10Hz/step)
	DATA SHIFT (SSB)	0 - 1500 - 3000 (10Hz/step)
	LCUT FREQ	OFF/100 - 300 - 1000 (50Hz/step)

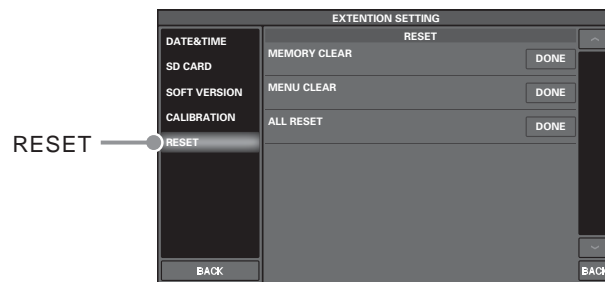
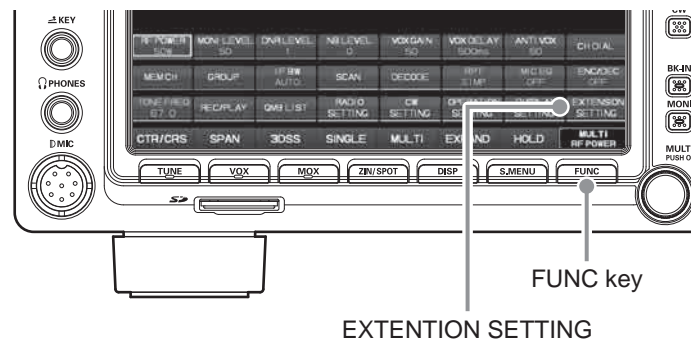
Menu Function		Available Settings
	LCUT SLOPE	6dB/oct / 18dB/oct
	HCUT FREQ	700 - 3000 - 4000 (50Hz/step)/OFF
	HCUT SLOPE	6dB/oct / 18dB/oct
	DATA OUT SELECT	MAIN/SUB
	DATA OUT LEVEL	0 - 50 - 100
	TX BPF SEL	50 - 3050/100 - 2900/200 - 2800/ 300 - 2700 / 400 - 2600
	DATA MOD SOURCE	MIC/ REAR
	REAR SELECT	DATA/USB
	RPORT GAIN	0 - 50 - 100
	RPTT SELECT	DAKY/RTS/DTR
MODE RTTY	AGC FAST DELAY	20 - 160 - 4000 (20msec/step)
	AGC MID DELAY	20 - 500 - 4000 (20msec/step)
	AGC SLOW DELAY	20 - 1500 - 4000 (20msec/step)
	POLARITY RX	NOR/REV
	POLARITY TX	NOR/REV
	LCUT FREQ	OFF/100Hz - 300Hz - 1000Hz (50Hz/step)
	LCUT SLOPE	6dB/oct / 18dB/oct
	HCUT FREQ	700Hz - 3000Hz - 4000Hz (50Hz/step)/ OFF
	HCUT SLOPE	6dB/oct / 18dB/oct
	RTTY OUT SELECT	MAIN/SUB
	RTTY OUT LEVEL	0 - 50 - 100
	RPTT SELECT	SHIFT/DTR/RTS
	MARK FREQUENCY	1275/ 2125 (Hz)
	SHIFT FREQUENCY	170/200/425/850 (Hz)
ENCDEC PSK	PSK MODE	BPSK/QPSK
	DECODE AFC RANGE	8/ 15/30 (Hz)
	QPSK POLARITY RX	NOR/REV
	QPSK POLARITY TX	NOR/REV
	PSK TX LEVEL	0 - 70 - 100
ENCDEC RTTY	RX USOS	DISABLE/ ENABLE
	TX USOS	DISABLE/ ENABLE
	RX NEW LINE CODE	CR, LF, CR+LF /CR+LF
	TX AUTO CR+LF	DISABLE/ ENABLE
	TX DIDDLE	OFF/ BLANK/LTRS
	BAUDOT CODE	CCITT/ US
CW SETTING		
MODE CW	AGC FAST DELAY	20 - 160 - 4000 (20msec/step)
	AGC MID DELAY	20 - 500 - 4000 (20msec/step)
	AGC SLOW DELAY	20 - 1500 - 4000 (20msec/step)
	LCUT FREQ	OFF/100Hz - 250Hz - 1000Hz (50Hz/step)
	LCUT SLOPE	6dB/oct / 18dB/oct
	HCUT FREQ	700Hz - 1200Hz - 4000Hz (50Hz/step)/OFF
	HCUT SLOPE	6dB/oct / 18dB/oct
	CW OUT SELECT	MAIN/SUB
	CW OUT LEVEL	0 - 50 - 100
	CW AUTO MODE	OFF/50M/ON
	CW BK-IN TYPE	SEMI/FULL
	CW BK-IN DELAY	30 - 200 - 3000 (msec)
	CW WAVE SHAPE	1/2/ 4/6 (msec)
	CW FREQ DISPLAY	DIRECT FREQ/ PITCH OFFSET
	PC KEYING	OFF/DAKY/RTS/DTR
	QSK DELAY TIME	15/20/25/30 (msec)
KEYER	F KEYER TYPE	OFF/BUG/ELEKEY - A/ ELEKEY - B/ELEKEY - Y/ACS
	F KEYER DOT/DASH	NOR/REV

Menu Function		Available Settings
	R KEYS TYPE	OFF/BUG/ELEKEY - A/ELEKEY - B/ELEKEY - Y/ACS
	R KEYS DOT/DASH	NOR /REV
	CW WEIGHT	2.5 - 3.0 - 4.5
	NUMBER STYLE	1290 /AUNO/AUNT/A2NO/A2NT/12NO/12NT
	CONTEST NUMBER	1 - 999
	CW MEMORY 1	TEXT /MESSAGE
	CW MEMORY 2	TEXT /MESSAGE
	CW MEMORY 3	TEXT /MESSAGE
	CW MEMORY 4	TEXT /MESSAGE
	CW MEMORY 5	TEXT /MESSAGE
	REPEAT INTERVAL	1 - 5 - 60 (sec)
DECODE CW	CW DECODE BW	25/50/ 100 /250 (Hz)
OPERATION SETTING		
GENERAL	DECODE RX SELECT	MAIN /SUB
	HEADPHONE MIX	SEPARATE /COMBINE - 1/COMBINE - 2
	ANT3 SELECT	TRX /RX
	NB WIDTH	1/ 3 /10 (msec)
	NB REJECTION	10/ 30 /40 (dB)
	BEEP LEVEL	0 - 10 - 100
	RF/SQ VR	RF /SQL
	TUNER/232C SELECT	TUNER /RS232C
	232C RATE	4800 /9600/19200/38400 (bps)
	232C TIME OUT TIMER	10 /100/1000/3000 (msec)
	CAT RATE	4800 /9600/19200/38400 (bps)
	CAT TIME OUT TIMER	10 /100/1000/3000 (msec)
	CAT RTS	DISABLE/ ENABLE
	QMB CH	5ch /10ch
	MEM GROUP	DISABLE /ENABLE
	QUICK SPLIT INPUT	DISABLE /ENABLE
	QUICK SPLIT FREQ	- 20 - 5 - 20 (kHz)
	TX TIME OUT TIMER	OFF /1 - 30 (min)
	MIC SCAN	DISABLE/ ENABLE
	MIC SCAN RESUME	PAUSE/ TIME
	REF FREQ FINE ADJ	- 25 - 0 - 25
	CS DIAL	RF POWER /MONI LVL/DNR LVL/NB LVL/ VOX GAIN/VOX DELAY/ANTI VOX/FM CH/ MEM CH/GROUP/IF FILTER
RX DSP	APF WIDTH	NARROW/ MEDIUM /WIDE
	CONTOUR LEVEL	- 40 - - 15 - 0 - 20
	CONTOUR WIDTH	1 - 10 - 11
	DNR LEVEL	1 - 15
	IF NOTCH WIDTH	NARROW/ WIDE
TX AUDIO	PRMTRC EQ1 FREQ	OFF /100 - 700 (100Hz/step)
	PRMTRC EQ1 LEVEL	- 10 - 0 - 5 - 10
	PRMTRC EQ1 BWTH	0 - 10
	PRMTRC EQ2 FREQ	OFF /700 - 1500 (100Hz/step)
	PRMTRC EQ2 LEVEL	- 10 - 0 - 5 - 10
	PRMTRC EQ2 BWTH	0 - 10
	PRMTRC EQ3 FREQ	OFF /1500 - 3200 (100Hz/step)
	PRMTRC EQ3 LEVEL	- 10 - 0 - 5 - 10
	PRMTRC EQ3 BWTH	0 - 10
	P PRMTRC EQ1 FREQ	OFF /100 - 700 (100Hz/step)
	P PRMTRC EQ1 LEVEL	- 10 - 0 - 10
	P PRMTRC EQ1 BWTH	0 - 2 - 10
	P PRMTRC EQ2 FREQ	OFF /700 - 1500 (100Hz/step)

Menu Function		Available Settings
	P PRMTRC EQ2 LEVEL	- 10 - 0 - 10
	P PRMTRC EQ2 BWTH	0 - 1 - 10
	P PRMTRC EQ3 FREQ	OFF /1500 - 3200 (100Hz/step)
	P PRMTRC EQ3 LEVEL	- 10 - 0 - 10
	P PRMTRC EQ3 BWTH	0 - 1 - 10
TX GENERAL	HF MAX POWER	5 - 100 (W)
	50M MAX POWER	5 - 100 (W)
	70M MAX POWER	5 - 50 (W)
	AM MAX POWER	5 - 25 (W)
	LINEARIZER	DISABLE /ENABLE
	VOX SELECT	MIC /DATA
	DATA VOX GAIN	0 - 50 - 100
	EMERGENCY FREQ TX	DISABLE /ENABLE
TUNING	SSB/CW DIAL STEP	5/ 10 (Hz)
	RTTY/PSK DIAL STEP	5/ 10 (Hz)
	CH STEP	1/ 2.5 /5 (kHz)
	AM CH STEP	2.5/ 5 /9/10/12.5/25 (kHz)
	FM CH STEP	5 /6.25/10/12.5/20/25 (kHz)
	MAIN STEPS PER REV.	250 /500/1000
	MPVD STEPS PER REV.	250/ 500
DISPLAY SETTING		
DISPLAY	MY CALL	Max 12 characters (FTDX101)
	MY CALL TIME	OFF/1/2/3/4/5 (sec)
	SCREEN SAVER	OFF/15/30/ 60 (min)
	TFT CONTRAST	0 - 10 - 20
	TFT DIMMER	0 - 15 - 20
	LED DIMMER	0 - 10 - 20
	MOUSE POINTER SPEED	0 - 10 - 20
	COLOR STYLE	ORANGE /BLUE
	FREQ STYLE	LIGHT /BOLD
SCOPE	RBW	HIGH /MID/LOW
	SCOPE CTR	FILTER /CAR POINT
	2D DISPLAY AREA	NORMAL/ ZOOM
	3DSS DISPLAY AREA	NORMAL/ ZOOM
EXT MONITOR	EXT DISPLAY	DISABLE /ENABLE
	PIXEL	800x480 /800x600
EXTENSION SETTING		
DATE&TIME	DAY	-
	MONTH	-
	YEAR	-
	HOUR	-
	MINUTE	-
SD CARD	MEM LIST LOAD	-
	MEM LIST SAVE	-
	MENU LOAD	-
	MENU SAVE	-
	INFORMATIONS	-
	FIRMWARE UPDATE	-
	FORMAT	-
SOFT VERSION	-	-
CALIBRATION	CALIBRATION	-
RESET	MEMORY CLEAR	-
	MENU CLEAR	-
	ALL RESET	-

Resetting the Microprocessor

Some or all transceiver settings can be reset to their factory-default states using one of the following routines:



1. Select [FUNC] → [EXTENSION SETTING] → [RESET].
2. Touch "DONE" of the desired item (see below).

MEMORY CLEAR (Memory Reset)

To reset (clear) the previously stored Memory channels, without affecting any configuration changes you may have made to the Menu settings.

MENU CLEAR (Setting Menu Reset)

To restore the Menu settings to their factory defaults, without affecting the programmed memories.

ALL RESET (ALL Reset)

To restore all Menu and Memory settings to their original factory defaults. All Memories will be cleared by this procedure.

3. Touch [OK] to reset and automatically restart the transceiver.
To cancel resetting, touch [CANCEL].

Specification

General

Tx Frequency Range:	1.8 MHz - 54 MHz (Amateur bands only)
Rx Frequency Range:	30 kHz - 75 MHz (operating) 1.8 MHz - 29.699999 MHz (specified performance, Amateur bands only) 50 MHz - 53.999999 MHz (specified performance, Amateur bands only) 70 MHz - 70.500000 MHz (specified performance, Amateur bands only)
Emission Modes:	A1A (CW), A3E (AM), J3E (LSB, USB), F3E (FM), F1B (RTTY), G1B (PSK)
Frequency Steps:	1/10 Hz (SSB, CW, AM), 100 Hz (FM)
Antenna Impedance:	50 ohms, unbalanced (Antenna Tuner "OFF") HF: 16.7 - 150 ohms, unbalanced (Antenna Tuner "ON") 50 MHz: 25 - 100 ohms, unbalanced (Antenna Tuner "ON")
Operating Temperature Range:	+32 °F to +122 °F (0 °C to +50 °C)
Frequency Stability:	±0.1 ppm (after 1 minute @ +32 °F to +122 °F [0 °C to +50 °C])
Supply Voltage:	DC 13.8 V ± 10 % (Negative Ground)
Power Consumption (approx.):	Rx (no signal) 3.5 A Rx (signal present) 4 A Tx (100 W) 23 A
Dimensions (WxHxD):	16.5" x 5.1" x 12.7" (420 x 130 x 322 mm)
Weight (approx.):	26.5 lbs (12 kg)

Transmitter

Power Output:	5 - 100 W (2 - 25 W AM carrier)
Modulation Types:	J3E (SSB): Balanced A3E (AM): Low-Level (Early Stage) F3E (FM): Variable Reactance
Maximum FM Deviation:	±5.0 kHz / ±2.5 kHz (Narrow)
Harmonic Radiation:	Better than -60 dB (1.8 MHz - 29.7 MHz Amateur bands: Harmonics) Better than -50 dB (1.8 MHz - 29.7 MHz Amateur bands: Others) Better than -63 dB (50 MHz Amateur band)
SSB Carrier Suppression:	At least 60 dB below peak output
Undesired Sideband Suppression:	At least 60 dB below peak output
3rd-order IMD:	-31 dB @ 14 MHz 100 W PEP
Bandwidth:	3 kHz (LSB/USB), 500 Hz (CW), 6 kHz (AM), 16 kHz (FM)
Audio Response (SSB):	Not more than -6 dB from 300 to 2700 Hz
Microphone Impedance:	600 ohms (200 to 10 k-ohms)

Receiver

Circuit Type:	Double Superheterodyne		
Intermediate Frequencies:	1 st 9.005 MHz (MAIN), 8.9000 MHz (SUB) 2 nd 24 kHz (MAIN/SUB)		
Sensitivity (typ):	SSB/CW (2.4 kHz, 10 dB S+N/N)		
	1.8 MHz - 30 MHz	0.16 μ V (AMP2 "ON")	
	50 MHz - 54 MHz	0.125 μ V (AMP2 "ON")	
	70 MHz - 70.5 MHz	0.16 μ V (AMP2 "ON")	
	AM (BW: 6 kHz, 10 dB S+N/N, 30 % modulation @400 Hz)		
	0.5 MHz - 1.8 MHz	6.3 μ V	
	1.8 MHz - 30 MHz	2 μ V (AMP2 "ON")	
	50 MHz - 54 MHz	1 μ V (AMP2 "ON")	
	70 MHz - 70.5 MHz	2 μ V (AMP2 "ON")	
	FM (1kHz 3.5kHz DEV BW: 12kHz, 12dB SINAD)		
	28 MHz - 30 MHz	0.25 μ V (AMP2 "ON")	
	50 MHz - 54 MHz	0.2 μ V (AMP2 "ON")	
	70 MHz - 70.5 MHz	0.25 μ V (AMP2 "ON")	
Selectivity (typ):	Mode	-6 dB	-60 dB
	CW (BW=0.5kHz)	0.5 kHz or better	0.75 kHz or less
	SSB (BW=2.4kHz)	2.4 kHz or better	3.6 kHz or less
	AM (BW=6kHz)	6 kHz or better	15 kHz or less
	FM (BW=12kHz)	12 kHz or better	25 kHz or less
Image Rejection:	70 dB or better (1.8 MHz - 28 MHz Amateur bands) 60dB or better (50MHz Amateur bands)		
Maximum Audio Output:	2.5 W into 4 Ohms with 10% THD		
Audio Output Impedance:	4 to 16 ohms (4 ohms: nominal)		
Conducted Radiation:	Less than 4 nW		

Specifications are subject to change, in the interest of technical improvement, without notice or obligation, and are guaranteed only within the amateur bands.

YAESU

Declaration of Conformity

Type of Equipment: HF/50MHz TRANSCEIVER
Brand Name: YAESU
Model Number: FTDX101D
Manufacturer: YAESU MUSEN CO., LTD.
Address of Manufacturer: Tennozu Parkside Building, 2-5-8 Higashi-Shinagawa,
Shinagawa-ku, Tokyo 140-0002 Japan

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions; (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The technical documentation as required by the Conformity Assessment procedures is kept at the following address:

Company: Yaesu U.S.A.
Address: 6125 Phyllis Drive, Cypress, CA 90630, U.S.A.
Telephone: (714) 827-7600

- Changes or modifications to this device that are not expressly approved by YAESU MUSEN could void the user's authorization to operate this device.
- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference including received, interference that may cause undesired operation.
- The scanning receiver in this equipment is incapable of tuning, or readily being altered, by the User to operate within the frequency bands allocated to the Domestic public Cellular Telecommunications Service in Part 22.
- The YAESU MUSEN is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

This device complies withISED's applicable 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

DECLARATION BY MANUFACTURER

The Scanner receiver is not a digital scanner and is incapable of being converted or modified to a digital scanner receiver by any user.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

CAN ICES-3 (B) / NMB-3 (B)

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 radiate 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 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 into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



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