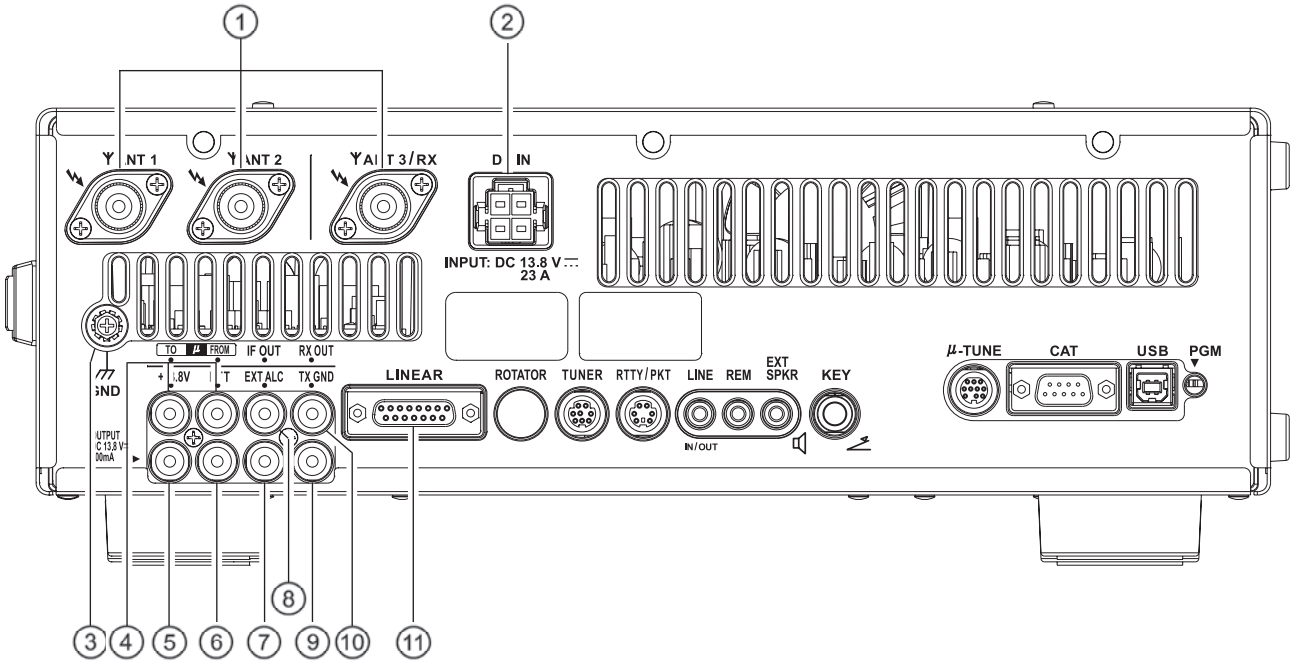


① ANT 1/2/3 Jacks

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

⚠ Warning!

The 100V RF voltage (@100 W/50 Ω) is applied to the TX RF section of the transciver while transmitting. Do not touch the TX RF section absolutely while transmitting.

② DC IN Jack

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.

③ 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, and please refer to page 9 for other notes about proper grounding.

To prevent the damage from a thunder, atmospheric electricity, electrical shock etc., please take a good earth ground.

④ μ-TUNE Jacks

These jacks are used to connect the optional RF μTuning Kit, signal in and signal out.

⑤ +13.8 V Jack

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).

⑥ PTT Jack

This RCA input jack may be used to provide manual transmitter activation using a footswitch or other switching device. Its function is identical to the [**MOX**] button on the front panel. The same line is available at the **RTTY/PKT** jack for TNC control. Open-circuit voltage is +5 VDC, and closed-circuit current is 1 mA.

⑦ EXT ALC Jack

This RCA input jack accepts negative-going external ALC (Automatic Level Control) voltage from a linear amplifier, to prevent over-excitation by the transceiver. Acceptable input voltage range is 0 to –4 VDC.

⑧ IF OUT Jack

This RCA input jack outputs the 9 MHz IF signal of the received signal when Menu item "**109 RGEN IF OUT**" is set to "ENABLED". This signal does not pass through the roofing filter.

⑨ TX GND Jack

This RCA jack's center pin is closed to ground while the transceiver's transmitter is engaged.

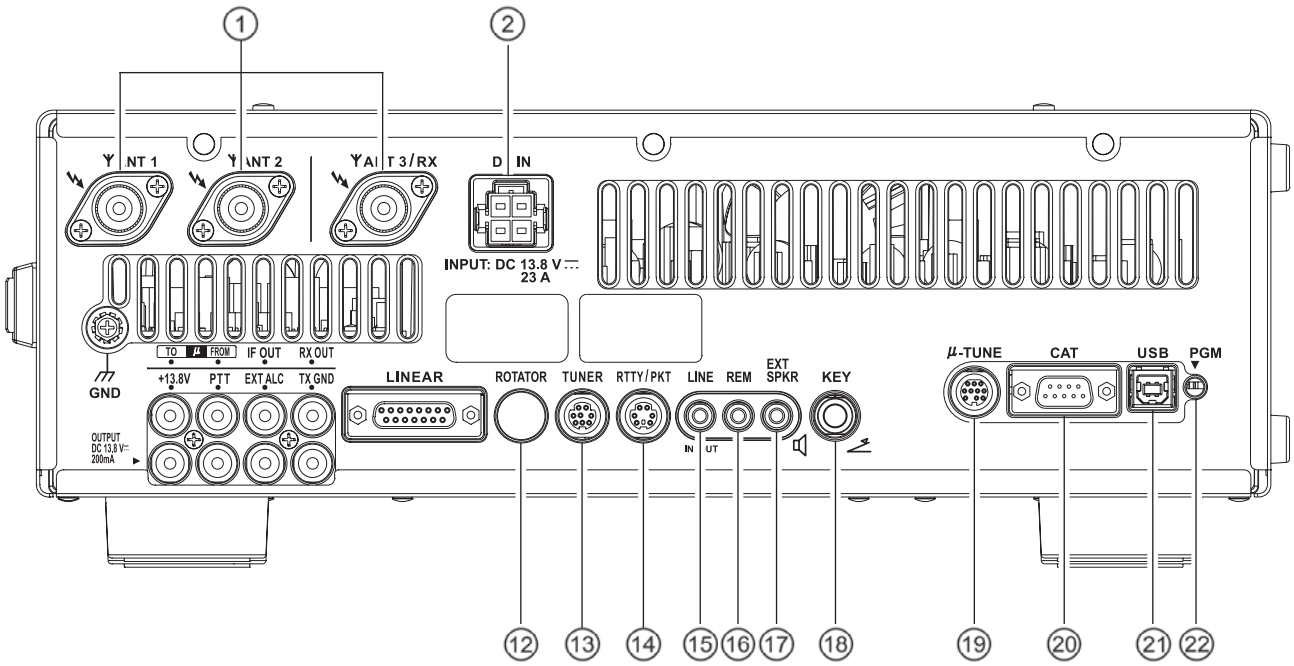
⑩ RX OUT Jack

This RCA input jack provide output of the receiver signal lines from the Antenna jack.

⑪ LINEAR Jack

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.

REAR PANEL



⑫ **ROTATOR** Jack

This covered 6-pin MINI-DIN Jack accepts a cable to connect to a YAESU **G-800DXA**/**-1000DXA/ -2800DXA** (for USA/EXP market) or **G-800DXC**/ **-1000DXC/-2800DXC** (for European market) Antenna Rotator (listed models are current as of early 2012). You may control the antenna azimuth rotation (and rotation speed) using the Function buttons on the front panel.

⑬ **TUNER** Jack

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

⑭ **RTTY/PKT** Jack

This 6-pin input/output jack accepts AFSK input from a Terminal Node Controller (TNC); it also provides fixed level (100-mV @600 Ohms) receiver audio output, and FSK keying line.

⑮ **LINE** Jack

T.B.D.

⑯ **REM** (REMOTE) Jack

By plugging in the optional **FH-2** Remote Control Keypad to this gold-plated jack, direct access to the **FT DX 3000** CPU is provided for control functions such as contest memory keying, plus frequency and function control.

⑰ **EXT SPKR** Jack

This 3.5-mm, 2-contact, gold-plated 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 GAIN**] knob. Inserting a plug into this jack disables the internal loudspeaker.

⑱ **KEY Jack**

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. This jack may be configured for keyer, "Bug", "straight key", or computer keying interface operation via Menu item "039 A1A R-TYPE".

⑲ **μ-TUNE** Jack

This covered 10-pin mini-DIN jack is used for control of the optional RF μTuning Kit.

⑳ **CAT** Jack

This 9-pin serial DB-9 jack allows external computer control of the **FT DX 3000**. Connect a serial cable here and to the RS-232C COM port on your personal computer (no external interface is required).

㉑ **USB** Jack

T.B.D.

㉒ **PGM-SW** Switch

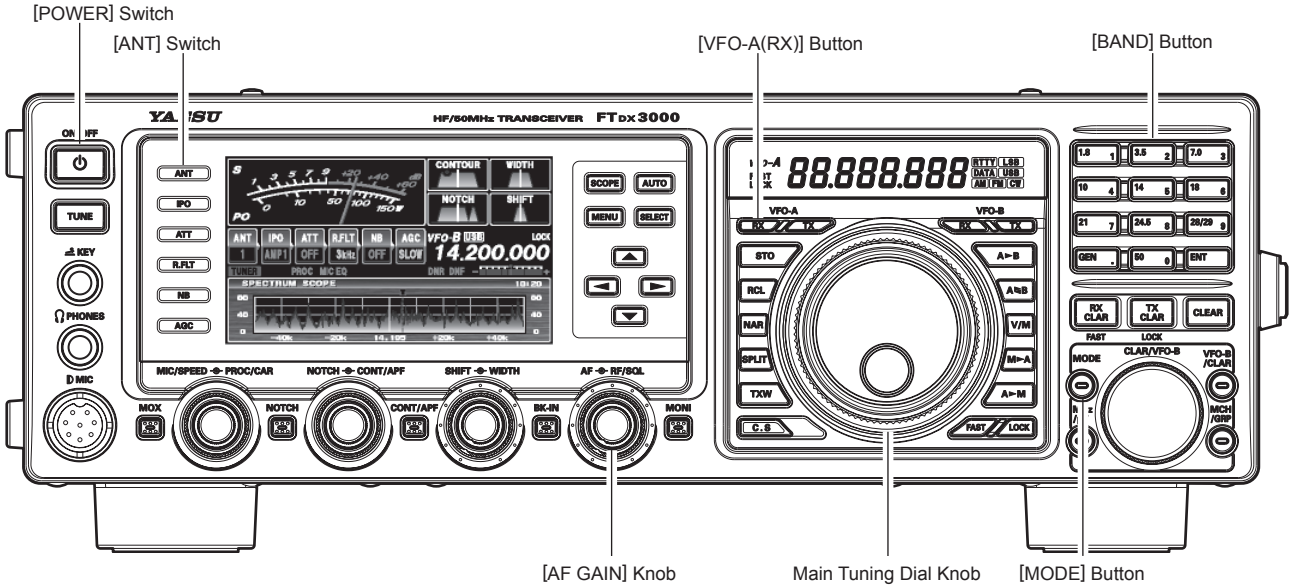
This slide switch is used for updating the transceiver's firmware. The update software and instructions are available for download from the YAESU website (http://www.yaesu.com/).

Before turning on main power, please verify the following items once more.

- ❒ Have you made all ground connections securely? See page ?? for details.
- ❒ Do you have your antenna(s) connected to the rear-panel Antenna jack(s)? See page ?? for details.
- ❒ Is your microphone (and/or key or paddle) connected? See page ?? for details.
- ❒ If using a linear amplifier, have all interconnections been successfully completed? See page ?? for details.
- ❒ Please rotate the [**AF GAIN**] control to the fully counter-clockwise position, to avoid a loud blast of audio when the transceiver turns on. See page ?? for details.

BASIC OPERATION: RECEIVING ON AMATEUR BANDS

Here is the typical start-up procedure for normal operation:



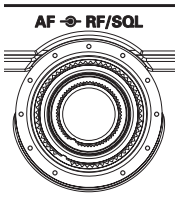
1. Turn on the external DC power supply.
2. Press and hold in the front-panel [**POWER**] switch until the transceiver turns on. After about five seconds (ten seconds if the optional μ-Tuning Kit is connected), the transceiver is ready for full operation.

3. The transceiver will start up on 7.000.00 MHz LSB, and normal operation may begin.

   NOTE:

   To turn power off, press and hold in the front panel [**POWER**] switch for two seconds.

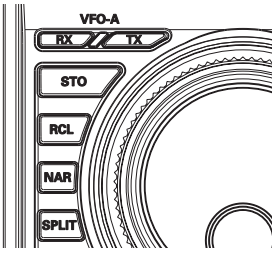
4. Rotate the [**AF GAIN**] knob to set a comfortable audio level on incoming signals or noise. Clockwise rotation of the [**AF GAIN**] knob increases the volume level.



   NOTE:

   When using headphones, start by rotating the [**AF GAIN**] knob counter-clockwise, then bring the volume level up after you put the headphones on. This will minimize the chance of damage to your hearing caused by an unexpectedly high audio level.

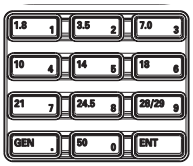
5. Press the [(**VFO-A**)**RX**] Indicator/Switch to engage the VFO-A; the imbedded LED will glow green.



   ADVICE:

   If you press the [(**VFO-A**)**RX**] Indicator/Switch when the imbedded LED is already glowing green, the LED will now blink "on" and "off"; this indicates that the VFO-A receiver is temporarily muted. Just press the [(**VFO-A**)**RX**] Indicator/Switch once more to restore VFO-A receiver operation.

6. Press the [**BAND**] button corresponding to the Amateur band on which you wish to begin operation.



   ADVICE:

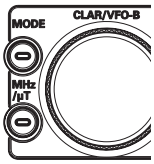
   - ❒ One-touch selection of each Amateur band between 1.8 and 50 MHz is provided.
   - ❒ The **FT DX 3000** utilizes a triple band-stack VFO selection technique, which permits you to store up to three favorite frequencies and modes onto each band's VFO register. For example, you may store one frequency each on 14 MHz CW, RTTY, and USB, then recall these frequencies by successive, momentary presses of the [**14**] MHz band button. Each Amateur band button may similarly have up to three frequency/mode settings applied.
   - ❒ When the [**MHz**] button (located to the left of the [**CLAR/VFO-B**] knob), is pressed, the imbedded LED will glow orange, and then rotation of the [**CLAR/VFO-B**] knob will change the frequency in 1 MHz steps.

7. Press the [**ANT**] button to select the appropriate antenna for the band in use.

   ADVICE:

   When you make an antenna selection, that antenna is "remembered" by the microprocessor in conjunction with the VFO register in use.

8. Press the [**MODE**] button to select the desired operating mode.

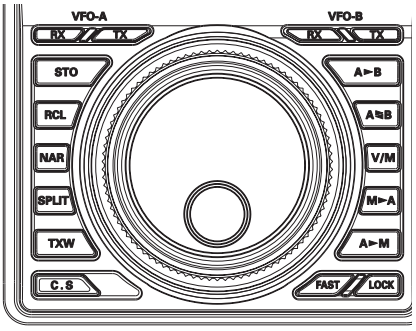


Repeated presses this button, step through the available selections.
Press and hold in the this button, will toggle to the alternate mode.
For example, ***In the LSB or USB modes***, press and hold in the this button toggles between "LSB" and "USB" mode.

ADVICE:

- ❒ By convention in the Amateur bands, LSB is used on the 7 MHz and lower bands (with the exception of 60 meters), while USB is utilized on the 14 MHz and higher bands.
- ❒ When changing modes from SSB to CW, you will observe a frequency shift on the display. This shift represents the BFO offset between the "zero beat" frequency and the audible CW pitch (tone) you can hear (the pitch is programmed via the Menu item "055 MODE CW CW PITCH"), even though the actual tone that you hear is not changing.
- ❒ When operating on the FM mode, rotate the [**SQL**] (Squelch) knob clockwise to the point where the background noise is just silenced. This is the point of maximum sensitivity to weak signals. Excessive advancement of the [**SQL**] knob will degrade the ability of the receiver to detect weak signals.
  You may change the [**RF/SQL**] knob from the RF GAIN function to the squelch function via Menu item "036 GENERAL RF/SQL VR".

9. Rotate the Main Tuning Dial knob to tune around the band, and begin normal operation.



ADVICE:

- ❒ Clockwise rotation of the Main Tuning Dial knob increases the operating frequency, one "step" of the synthesizer at a time; similarly, counter-clockwise rotation of the Main Tuning Dial knob will decrease the frequency. Two settings, one "normal" and one "fast", are available on each operating mode. Pressing the [**FAST**] button engages the "Fast" tuning selection, see chart below.
- ❒ It is possible to set the frequency change over one dial rotation, separately for the CW mode, using the Menu items "084 TUN DIALSTP" and "085 TUN CW FINE". See page 116.
- ❒ If you want to navigate rapidly, so as to effect rapid frequency change, there are several techniques available:
  - Direct keyboard entry of the frequency.
  - Use the [**CLAR/VFO-B**] knob to tune in 1 MHz steps.
  - Use the microphone's [**UP**]/[**DWN**] scanning keys, if your microphone is so equipped.

MAIN TUNING DIAL KNOB TUNING RATE

OPERATING MODE	1 STEP NORMAL [FAST]	1 DIAL ROTATION NORMAL [FAST]
LSB/USB/CW/AM/ RTTY/PKT(LSB)	10 Hz [100 Hz]	10 kHz [100 kHz]
FM/PKT(FM)	100 Hz [1 kHz]	100 kHz [1 MHz]

[ ] : [**FAST**] switch set to "ON"