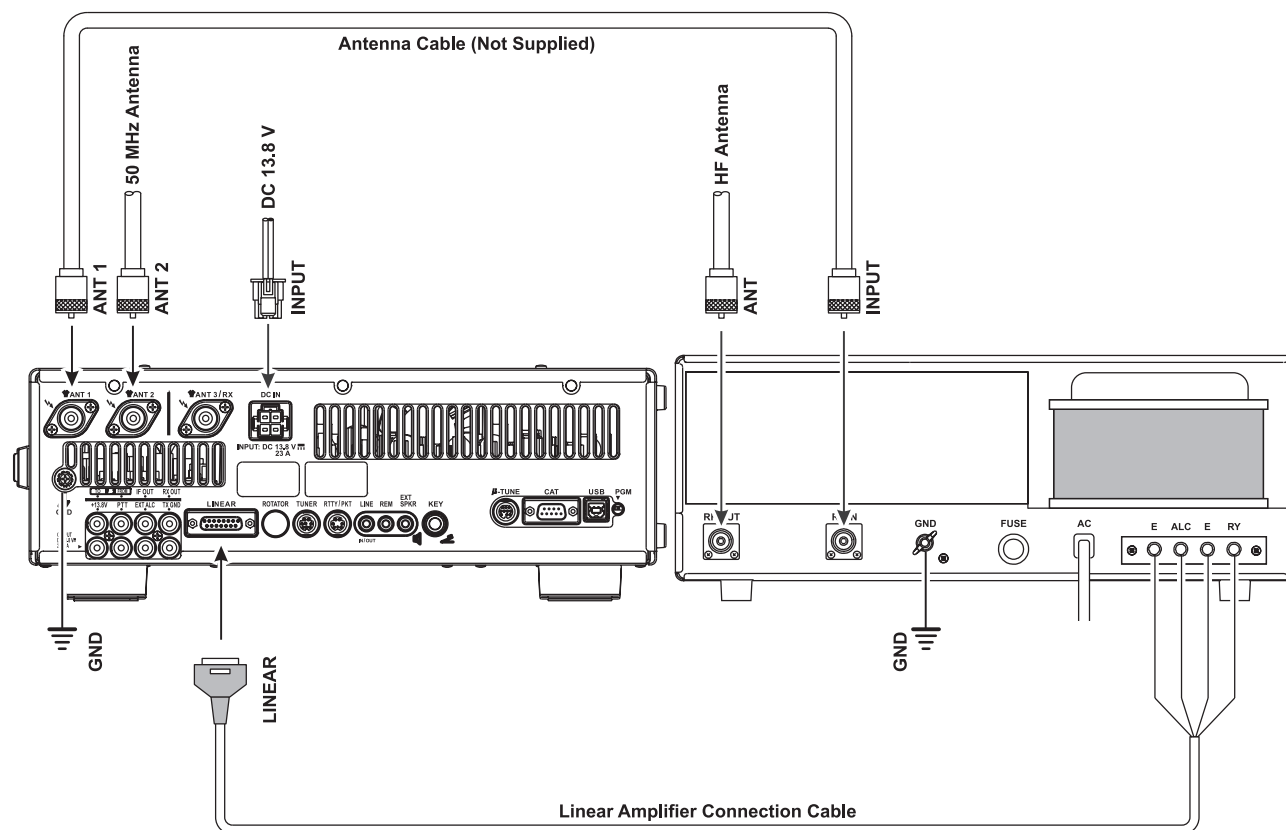


INSTALLATION AND INTERCONNECTIONS

INTERFACING TO OTHER LINEAR AMPLIFIERS



NOTE

- ❑ The TX GND OUT pin (pin 2) of the **LINEAR** jack is a transistor “open collector” circuit. It is capable of handling positive relay coil voltages up to +60VDC at 200 mA or +30 VDC at 1 A. If you plan to use multiple linear amplifiers for different bands, you must provide external band switching of the “Linear Tx” relay control line from the “TX GND OUT” line at the **LINEAR** jack.
- ❑ The specified range for ALC voltage to be used with the **FT dx 3000** is 0 to -4 Volts DC.
- ❑ Amplifier systems utilizing different ALC voltages will not work correctly with the **FT DX 3000**, and their ALC lines must not be connected if this is the case.

Note

When the **FC-40** is connected to the **FTDX3000**, TX GND (pin 2) of the **TUNER** jack and the **LINEAR** jack (pin 2) are common circuits.

Therefore, the maximum voltage at TX GND (pin 2) of the **LINEAR** jack must not exceed +5V.

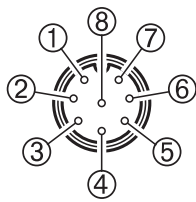
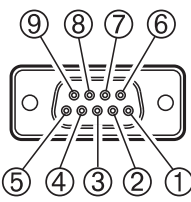
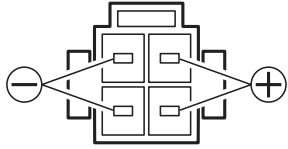
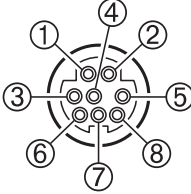
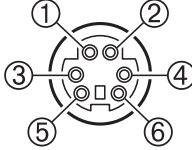
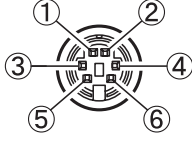
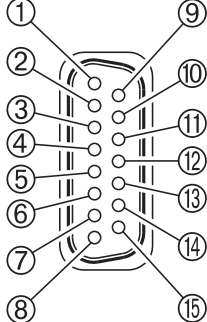
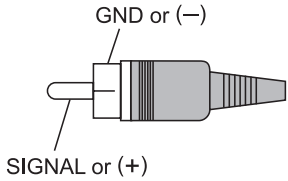
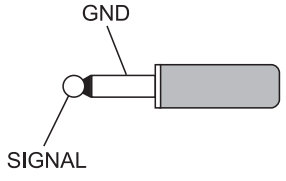
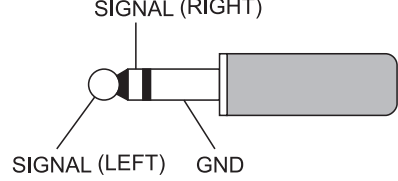
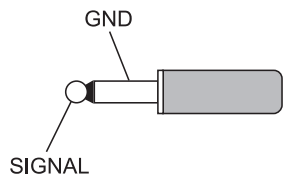
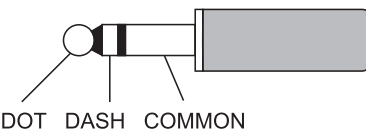
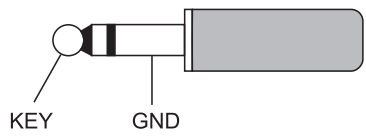

IMPORTANT NOTE!

- ❑ Do not exceed the maximum voltage or current ratings for the “TX GND OUT” pin (pin 2) of the **LINEAR** jack. This line is not compatible with negative DC voltages, or AC voltages of any magnitude.
- ❑ Most amplifier control relay systems require only low DC voltage/current switching capability (typically, +12V DC at 25 ~ 75 mA), and the switching transistor in the **FTDX3000** will easily accommodate such amplifiers.

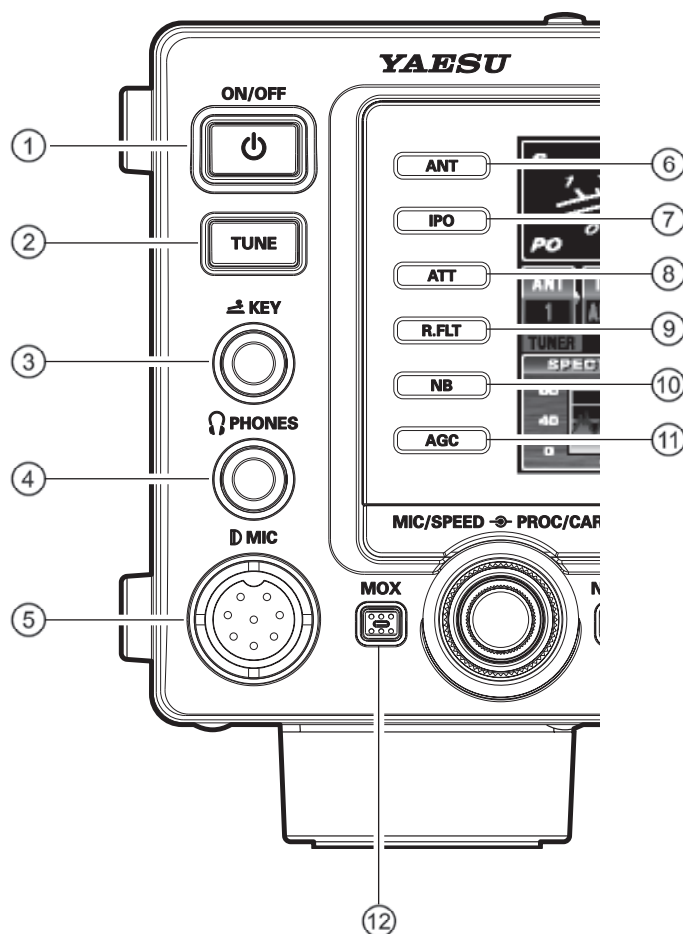
Linear Amplifier Connection Cable (T9207451)
Color Code Information

Wire Color	LINEA Jack (Pin Number)	Function
Orange	1	+13.8 V
Yellow	2	TX GND
Green	3	GND
Red	4	BAND DATA A
White	5	BAND DATA B
Blue	6	BAND DATA C
Violet	7	BAND DATA D
Brown	8	TX INH
Black	9	EXT ALC IN
Gray	10	TX REQ IN
Light Blue	Case	Shield

PLUG/CONNECTOR PINOUT DIAGRAMS

MIC	CAT	DC IN
 <ul style="list-style-type: none"> ① UP ② +5V ③ DOWN ④ FAST ⑤ GND ⑥ PTT ⑦ MIC GND ⑧ MIC <p>(as viewed from front panel)</p>	 <ul style="list-style-type: none"> ① N/A ② SERIAL OUT ③ SERIAL IN ④ N/A ⑤ GND ⑥ N/A ⑦ RTS ⑧ CTS ⑨ NC <p>(as viewed from rear panel)</p>	 <p>(as viewed from rear panel)</p>
TUNER	RTTY/PKT	ROT (ROTATOR)
 <ul style="list-style-type: none"> ① +13V OUT ② TX GND ③ GND ④ RX D ⑤ TX D ⑥ TUNER SENSE ⑦ RESET OUT ⑧ TX INH <p>(as viewed from rear panel)</p>	 <ul style="list-style-type: none"> ① DATA IN ② GND ③ DATA PTT ④ FSK IN ⑤ DATA OUT ⑥ SQL OUT <p>(as viewed from rear panel)</p>	 <ul style="list-style-type: none"> ① CW ROTATION ② CCW ROTATION ③ SPEED ④ DIRECTION ⑤ GND ⑥ NC <p>(as viewed from rear panel)</p>
LINEAR		
 <ul style="list-style-type: none"> ① +13V OUT ② TX GND ③ GND ④ BAND DATA A ⑤ BAND DATA B ⑥ BAND DATA C ⑦ BAND DATA D ⑧ TX INH ⑨ EXT ALC IN ⑩ TX REQ IN <p>(as viewed from rear panel)</p>		
RCA PLUG	REM (REMOTE)	PHONE
 <p>GND or (-) SIGNAL or (+)</p>	 <p>GND SIGNAL</p>	 <p>SIGNAL (RIGHT) SIGNAL (LEFT) GND</p>
EXT SPKR	KEY	
 <p>GND SIGNAL</p>	<p><i>For Internal Keyer</i></p>  <p>DOT DASH COMMON</p> <p><i>For Straight Key</i></p>  <p>KEY GND</p> <p> Do not use 2-conductor type plug</p>	

FRONT PANEL CONTROLS & SWITCHES



① [POWER] 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 [TUNE] Switch

This is the on/off switch for the **FTdx3000's** Automatic Antenna Tuner.

Pressing this button momentarily places the antenna tuner in line between the transmitter final amplifier and the antenna jack (The "**TUNER**" icon will appear in the display). Reception is not affected.

Pressing and holding in this button for two seconds, while receiving in an amateur band, activates the transmitter for a few seconds while the automatic antenna tuner rematches the antenna system impedance for minimum SWR. The resulting setting is automatically stored in one of the antenna tuner's 100 memories, for instant automatic recall later when the receiver is tuned near the same frequency.

Pressing this button momentarily, while the Tuner is engaged, will take the Automatic Antenna tuner out of the transmit line.

NOTE:

When the Automatic Antenna Tuner is tuning itself, a signal is being transmitted. Therefore, be certain that an antenna or dummy load is connected to the selected antenna jack before pressing and holding in the [TUNE] button to start antenna tuning.

③ KEY Jack

This 1/4-inch, 3-contact jack accepts a CW key or keyer paddles (for the built-in electronic keyer), or output from an external electronic keyer. Pinout is shown on page 15. 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 "018 KEYSER F KEYSER TYPE" (see page ???). There is another jack with the same name on the rear panel, and it may be configured independently for Internal Keyer or pseudo-straight-key operation.

NOTE:

You cannot use a 2-contact plug in this jack (to do so produces a constant "key down" condition).

FRONT PANEL CONTROLS & SWITCHES

④ PHONES Jack

A 1/4-inch, 3-contact jack accepts either monaural or stereo headphones with 2- or 3-contact plugs. When a plug is inserted, the loudspeaker is disabled.

NOTE:

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 Microphone Connector

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

⑥ [ANT] Switch

Pressing this switch selects the **ANT 1**, **ANT 2** or the **ANT 3** connector on the rear panel, and allows convenient antenna switching at the press of button. The selected antenna jack is indicated on the Block Diagram Display shown in the Transceiver Display.

⑦ [IPO] (INTERCEPT POINT OPTIMIZATION) Switch

This button may be used to set the optimum front end characteristics of the receiver circuit for a very strong signal environment. Available selections are AMP 1 (low distortion amplifier), AMP 2 (2-stage low-distortion RF amplifier), or IPO (bypasses the front end RF amplifier), and the selected receiver RF amplifier appears in the IPO column of the Block Diagram Display on the display.

⑧ [ATT] Switch

This button selects the degree of attenuation, if any, to be applied to the receiver input. Available selections are -6 dB, -12 dB, -18 dB, or OFF. The attenuation level appears in the ATT column of the Block Diagram Display on the display.

ADVICE:

The Attenuator may be used in conjunction with the [IPO] button to provide two stages of signal reduction when an extremely strong signal is being received.

⑨ [R.FLT] (ROOFING FILTER) Switch

This button selects the bandwidth of the receiver first IF Roofing Filter. Available selections are 3 kHz, 6 kHz, 15 kHz, or Auto. The selected bandwidth appears in the R.FLT column of the Block Diagram Display on the display.

ADVICE:

Because the roofing filter is in the first IF, the protection it provides against interference is quite significant. When set to AUTO, SSB bandwidth is 6 kHz, CW is 3 kHz, FM and RTTY are 15 kHz. On a crowded SSB band, however, you may wish to select the 3 kHz filter, for the maximum possible interference rejection.

⑩ [NB] Switch

This button turns the IF Noise Blanker on and off. Press this button momentarily to reduce short-duration pulse noise.

Available selections are ON, OFF, or NBW ON. The attenuation level appears in the ATT column of the Block Diagram Display on the display.

⑪ [AGC] Switch

This button selects the AGC characteristics for the receiver. Available selections are FAST, MID, SLOW, or AUTO. The “AGC” icon will change according to the AGC characteristics selected.

Press the [AGC] button repeatedly to select the desired receiver-recovery time constant. Press and hold in the [AGC] button for one second to disable the AGC (for testing or weak-signal reception).

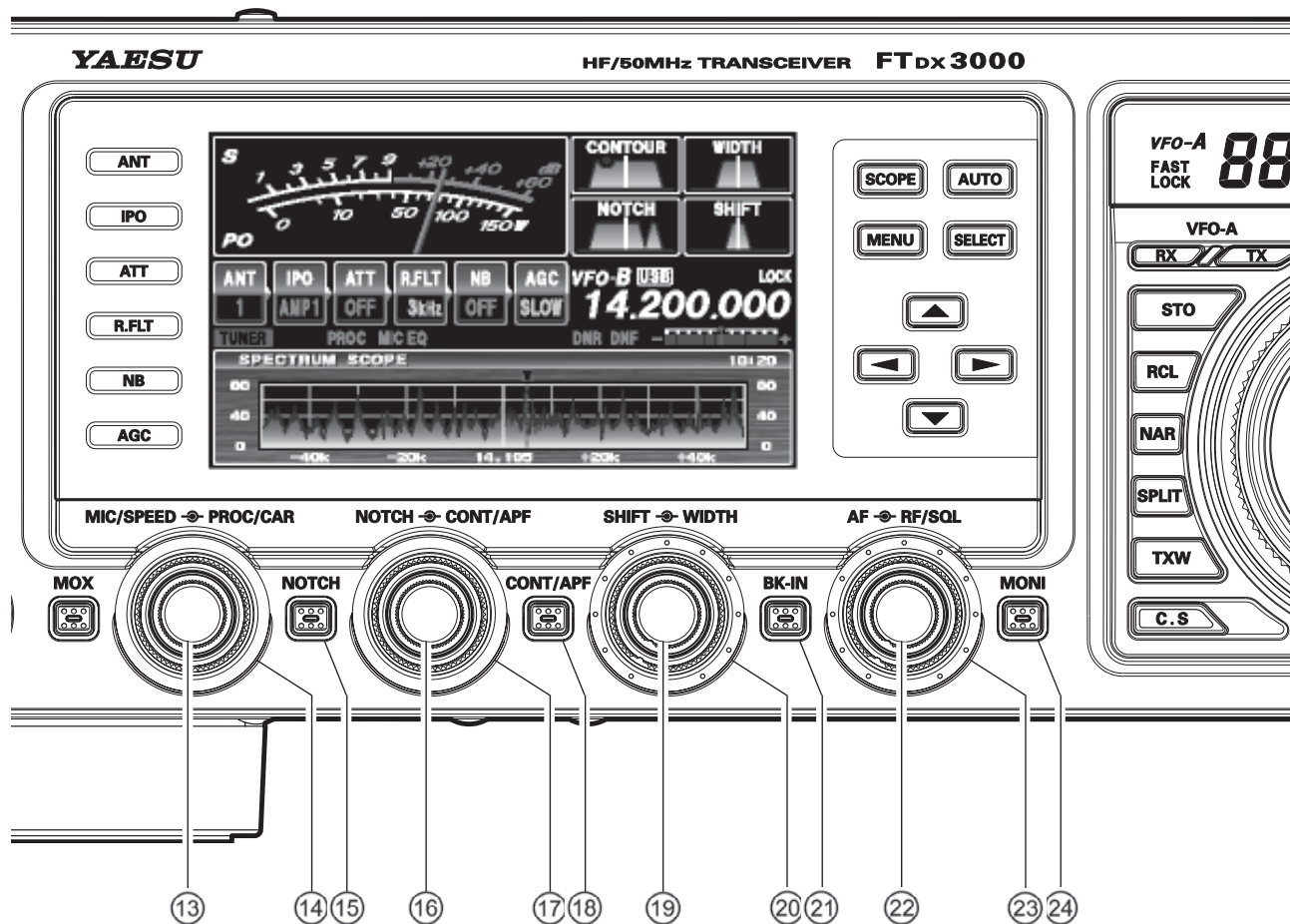
ADVICE:

- The Attenuator may be used in conjunction with the [IPO] button to provide two stages of signal reduction when an extremely strong signal is being received.
- If the AGC receiver-recovery time is set to “Off” by pressing and holding in the [AGC] button, the S-meter will no longer deflect. Additionally, you will likely encounter distortion on stronger signals, as the IF amplifiers and the following stages are probably being overloaded.

⑫ [MOX] Switch

Pressing this button engages the PTT (Push to Talk) circuit, to activate the transmitter (the LED inside this button will glow red). It must be turned off (the red LED will be off) for reception. This button replicates the action of the Push to Talk (PTT) switch on the microphone. When engaging the [MOX] button, or otherwise causing a transmission to be started, be certain you have either an antenna or 50-Ohm dummy load connected to the selected Antenna jack.

FRONT PANEL CONTROLS & SWITCHES



⑬ [MIC/SPEED] Knob

MIC

This knob adjusts the microphone input level for (non-processed) SSB and AM transmission. The display will show the relative microphone gain level for 3 seconds whenever this knob is turned.

ADVICE:

Adjust the [MIC GAIN] knob while speaking in a somewhat louder than normal voice level, watch the ALC level and adjust the [MIC GAIN] knob so that the ALC level indication just reaches the right edge of the ALC scale. Then, when you speak in your normal voice level, you will not be over-driving the microphone amplifier stages.

SPEED

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

The display will show the keying speed for 3 seconds whenever this knob is turned.

⑭ [PROC/CAR] Knob

PRO

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

CAR

This knob adjusts the RF Power output control for the transceiver.

ADVICE:

The RF Power output will show for 3 seconds in the right of the TFT Display whenever the outer [RF PWR] knob is turned.

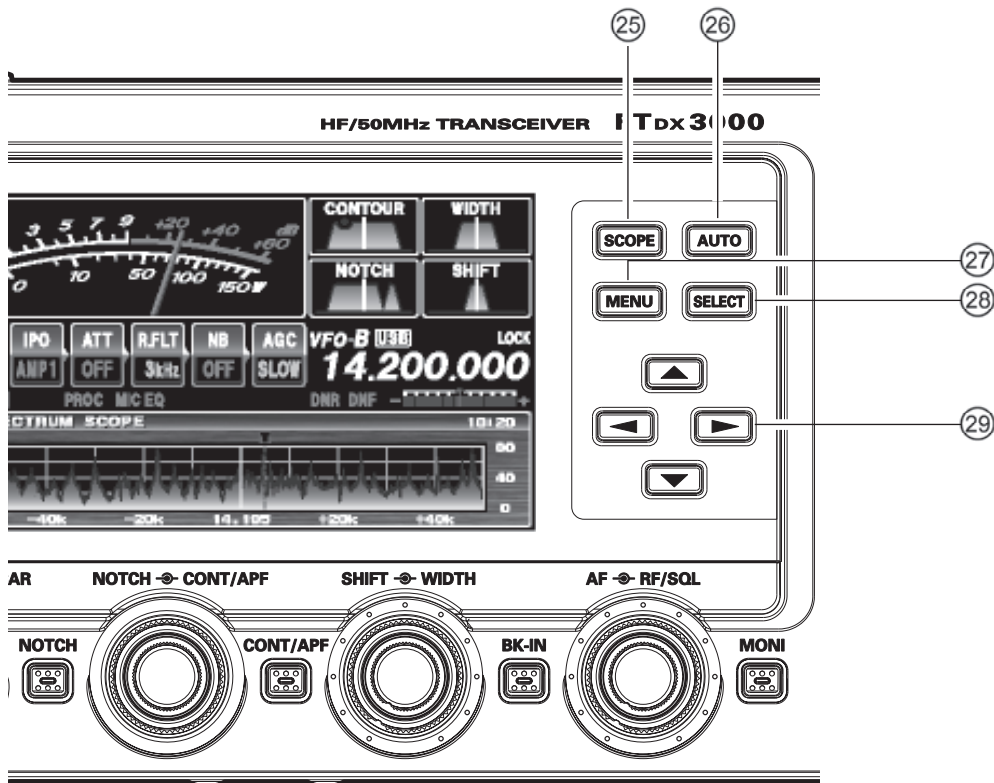
⑮ [NOTCH] Switch

Pressing this button allows you to adjust the center frequency of the IF Notch filter using the [NOTCH] knob. While activated, the LED inside this button glows orange. Press the [NOTCH] knob briefly to toggle the IF Notch filter on/off.

FRONT PANEL CONTROLS & SWITCHES

- ⑩ **[NOTCH] Knob**
Press the **[NOTCH]** switch to turn the IF NOTCH filter on and 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 3 seconds whenever the **[NOTCH]** knob is turned.
- ⑪ **[CONT/APF] Knob**
CONT
In the SSB, AM, and FM modes, press the **[CONT/APF]** switch to turn the inner **[CONT/APF]** knob selects the desired CONTOUR filter response. The CONTOUR filter is engaged via the **[CONT/APF]** switch.
APF
In the CW mode, press the **[CONT/APF]** switch to turn the inner **[CONT/APF]** knob selects the desired APF (Audio Peak Filter) response. The APF is engaged via the **[CONT/APF]** switch.
- ⑫ **[CONT/APF] Switch**
Pressing this button allows you to select the DSP Contour filter response using the **[CONT/APF]** knob. While activated, the LED inside this button glows orange. Press the **[CONT/APF]** knob briefly to toggle the IF Contour filter on/off.
Furthermore, in the CW mode, pressing this button to activate the APF (Audio Peak Filter) which provides a very narrow audio bandwidth. The APF circuit is an automatic circuit, and there is no adjustment knob for the APF.
- ⑬ **[SHIFT Knob] (EXCEPT ON FM MODE)**
Rotate the inner **[SHIFT]** to move the passband of the IF DSP filter by 20 Hz steps. The total adjustment range is ± 1 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 3 seconds whenever the **[SHIFT]** knob is turned.
- ⑭ **[WIDTH Knob] (EXCEPT ON FM MODE)**
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 bandwidth can be observed on the display. Furthermore, the frequency display will show the bandwidth of the IF passband for 3 seconds whenever the **[WIDTH]** knob is turned.
- ⑮ **[BK-IN] Switch**
This button turns the CW break-in capability on and off. While CW break-in is activated, the LED inside this button glows orange.
- ⑯ **[AF] Knob**
AF Knob
The inner **[AF GAIN]** knob sets the receiver's audio volume level. Typically, you will operate with this control set between the 9 o'clock and 10 o'clock positions.
- ⑰ **[RF/SQL] Knob**
RF
The outer **[RF/SQL]** knob is the receiver's RF gain control, which adjusts the gain of the receiver's RF and IF amplifier stages. This control is normally left in the fully clockwise position.
SQL
This knob sets the signal level threshold, below which the receiver audio is muted, in all modes. It is very useful during local rag-chews, to eliminate noise between incoming transmissions. This control is normally kept fully counter-clockwise (off), except when scanning and during FM operation.
- ⑱ **[MONI] (Monitor) Switch**
This button enables the transmit monitor in all modes. While activated, the LED inside this button glows orange.
ADVICE:
When using headphones, the Monitor function is very helpful while adjusting the Parametric Equalizer or other voice quality adjustments. The voice heard in the headphones represents the transmitted audio qualities.

FRONT PANEL CONTROLS & SWITCHES



25 [SCOPE] Switch

T. B. D.

26 [AUTO] Switch

T. B. D.

27 [MENU] Switch

This button is used to access the Menu system. The various transceiver characteristics may be configured. Menu operation is described in detail, in this manual.

IMPORTANT NOTE:

Press and hold in the [MENU] switch, activates the Menu. The Menu items will appear on the display; once you have changed the parameters, you must press and hold in the [MENU] button for one second to save any configuration changes.

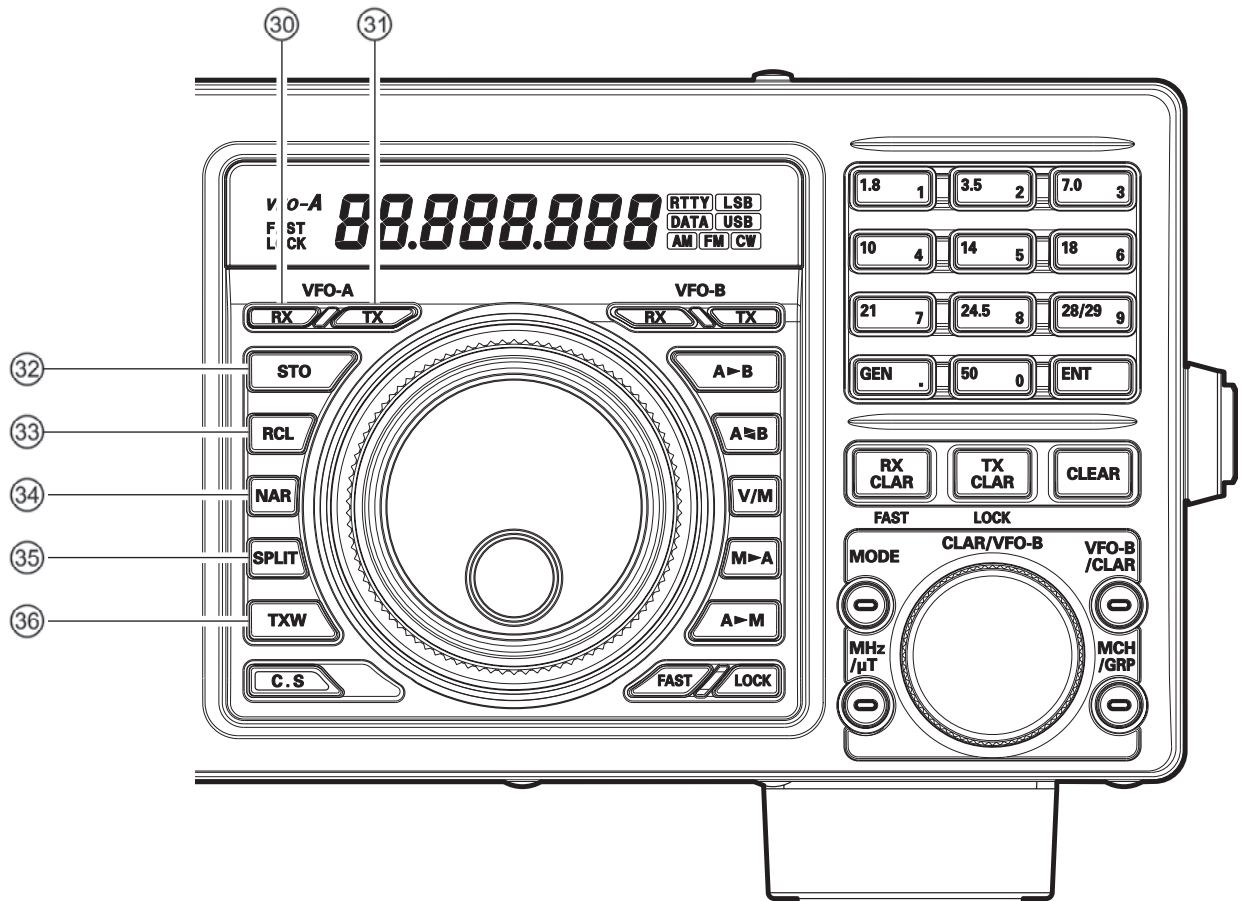
28 [SELECT] Switch

This button is used to select the Menu system.

29 [◀▲▼▶] Switch

These buttons select the setting of the Menu item.

FRONT PANEL CONTROLS & SWITCHES



③① [(VFO-A)RX] Indicator/Switch

Press this button to activate receive on the VFO-A frequency. The LED inside the button will glow green when the transceiver receives the VFO-A frequency. When the transceiver receives the VFO-A frequency, pressing this button momentarily will mute the receiver, and the indicator will blink. Pressing the button once more will restore receiver operation, and the indicator will glow green steadily.

③② [(VFO-A)TX] Indicator/Switch

When this button is pushed, the LED inside the button will glow red; and, when the **PTT** switch is pressed, the transceiver will transmit on the VFO-A frequency (subject to any Clarifier offset, of course).

ADVICE:

If this indicator is not illuminated, it means the [(VFO-B)TX] Indicator/Switch has been selected (it will be glowing red). In this case, transmission will be on the frequency and mode programmed for VFO-B.

③③ [STO] (Store) Button

Pressing the [STO] button copies the contents (frequency, mode, bandwidth, and also FM repeater frequency shift/direction and CTCSS functions) of VFO-A, into consecutive QMB Memories.

③④ [RCL] (Recall) Button

Pressing the [RCL] button, recalls one of up to five Quick Memory Bank memories for operation.

③⑤ [NAR] (Narrow) Switch

In the SSB/CW/RTTY/PSK modes, this button is used to set the DSP (digital) IF filters to Narrow bandwidth.

ADVICE:

You may adjust the bandwidth using the [WIDTH] knob.

In the AM mode, this button is used to toggle the receiver's bandwidth between wide (9 kHz) and narrow (6 kHz).

In the FM mode on the 28 MHz and 50 MHz bands, this button is used to toggle the FM deviation/bandwidth between wide (± 5.0 kHz Dev./25.0 kHz BW) and narrow (± 2.5 kHz Dev./12.5 kHz BW).

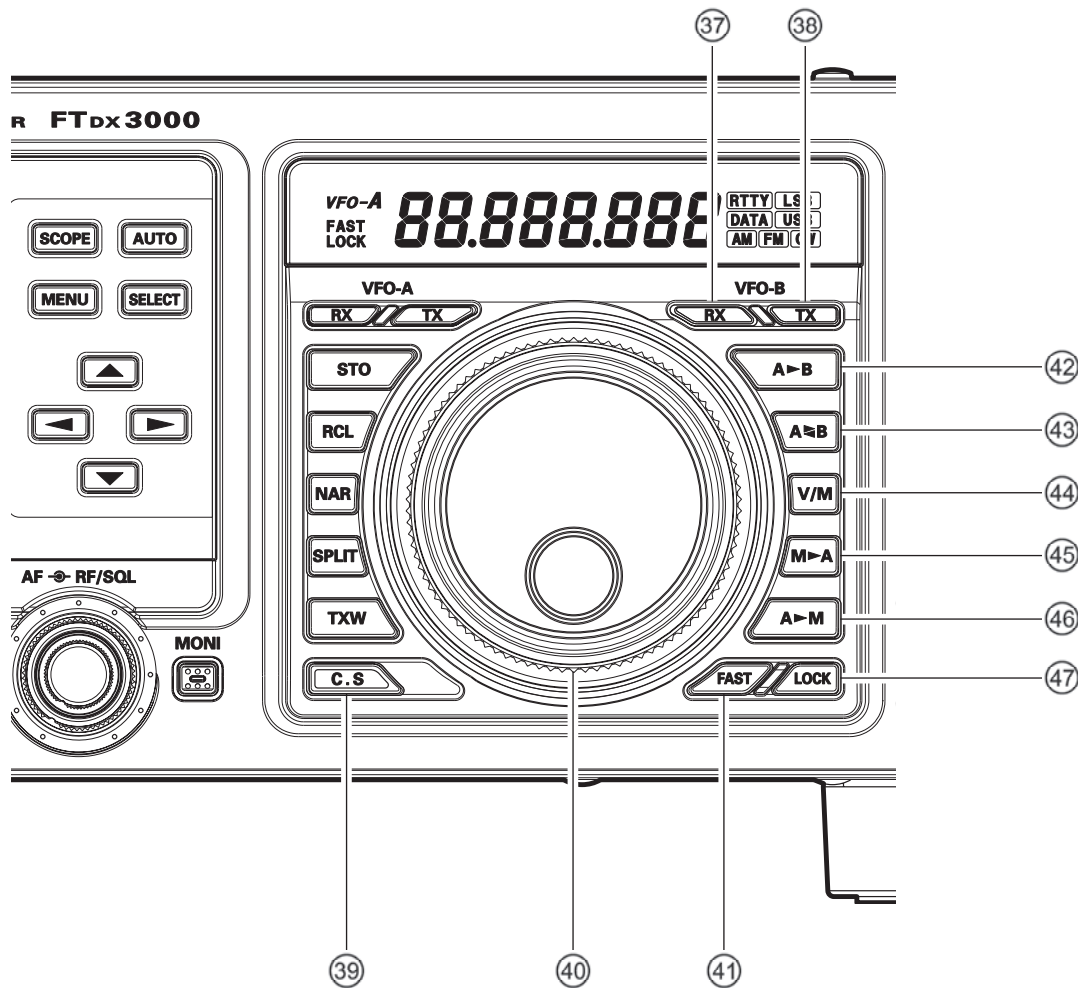
③⑥ [SPLIT] Switch

Press this button to operate split frequency between VFO-A (used for reception) and VFO-B (used for transmission). If you press and hold in the [SPLIT] button for one second, the "Quick Split" feature will be engaged. VFO-B will automatically be set to a frequency 5 kHz higher than the VFO-A frequency, with the same operating mode. The transceiver will be placed in the Split mode.

③⑦ [TXW] (TX Watch) Switch

Pressing this button lets you monitor the transmit frequency when split frequency operation is engaged. Release the button to return to normal split frequency operation.

FRONT PANEL CONTROLS & SWITCHES



37 [(VFO-B)RX] Indicator/Switch

This button switches the receiving frequency to VFO-B, the green LED imbedded within the button will light up. When the transceiver receives the VFO-B frequency, pressing this button momentarily will mute the receiver, and the indicator will blink. Pressing the button once more will restore receiver operation, and the indicator will glow green steadily.

38 [(VFO-B)TX] Indicator/Switch

This button transfers control of the transmit frequency/mode to VFO-B, and the red LED in the button will light up. Pressing this button again will transfer frequency/mode control back to the VFO-A side, and the red LED imbedded within this button will turn off.

39 [C.S] Switch

Press this button momentarily to directly recall a favorite Menu Selection.

To program a Menu selection to the [C.S] button: press the [MENU] button to enter the Menu. Select the Menu item you want to set as the short cut. Then press and hold in the [C.S] button for one second; this will lock in the selected Menu item as the short cut.

40 Main Tuning Dial Knob

This large knob adjusts the operating frequency of the VFO-A. Clockwise rotation of this knob increases the frequency. Default tuning increments are 10 Hz (100 Hz in FM mode); when the [FAST] button is pressed, the tuning steps increase. The available steps are:

ADVICE:

The tuning steps for the Main Tuning Dial knob are set, at the factory, to 10 Hz per step. Via Menu item "150 TUNING DIAL STEP", however, you may change this setting from 10 Hz to 1 or 5 Hz instead.

41 [FAST] Switch

Pressing this button will change the tuning rate of the Main Tuning Dial knob (VFO-A) to 100 Hz/step. When this function is activated, the "FAST" appears in the frequency display.

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

Numbers in parentheses indicate steps when the [FAST] button is On.

FRONT PANEL CONTROLS & SWITCHES

④② [A▶B] Switch

Press this button momentarily to transfer the frequency or memory channel data, from VFO-A to VFO-B, overwriting any previous contents in VFO-B. Use this key to set both VFO-A and VFO-B to the same frequency and mode.

④③ [A▶◀B] Switch

Pressing this button momentarily, exchanges the frequency or memory channel data, of VFO-A and VFO-B.

④④ [V/M] Switch

This button toggles frequency control between VFO-A and the memory system. In memory mode, either “MCH” (Memory Channel) or “M-TUNE” will be shown the Display to indicate the current selection. If you have tuned the frequency off the Memory channel, “M-TUNE” will be displayed. Pressing the [V/M] button returns the display to the original memory frequency, and the “MCH” will again be displayed. Pressing it once more returns frequency operation to the VFO-A, and the icon will no longer be displayed.

④⑤ [M▶A] Switch

Pressing this button momentarily, will display the contents of the currently-selected memory channel for 10 seconds.

Holding [M▶A] button in for one second copies the data from the selected memory to VFO-A, and two beeps sound. Previous data in VFO-A will be overwritten.

④⑥ [A▶M] Switch

Pressing this button momentarily, displays the contents of the currently-selected memory channel for 10 seconds.

Pressing and holding in this key for one second (until the double beep) copies the current operating data into the currently selected memory channel, overwriting any previous data stored there.

④⑦ [LOCK] Switch

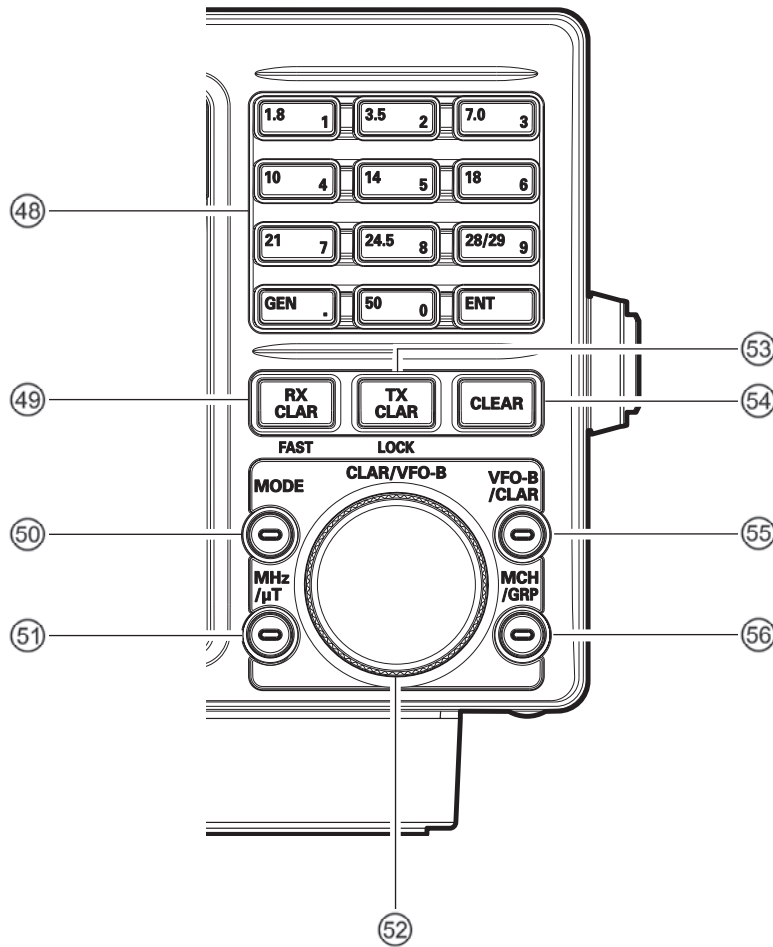
This button toggles locking on/off for the Main Tuning Dial knob (VFO-A). With “Lock” on, the Main Tuning Dial knob can still be turned, but the frequency will not change, and the “LOCK” appears in the frequency display.

④⑧ [BAND] Keys

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.

FRONT PANEL CONTROLS & SWITCHES



49 [RX CLAR] Switch

Pressing this button activates the RX Clarifier. This will allow you to temporarily adjust the receiving frequency up to ± 9.99 kHz with the [CLAR/VFO-B] knob. Press this button 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 the [CLEAR] button.

Press the [VFO-B/CLAR] button followed by this switch will change the tuning rate of the Main Tuning Dial knob (VFO-B) to 100 Hz/step.

When this function is activated, the “FAST” appears in the frequency display.

50 [MODE] Switch

This button selects the operating mode. The selections available are:

LSB \Rightarrow CW (USB) \Rightarrow RTTY (LSB) \Rightarrow
 \Rightarrow DATA (LSB) \Rightarrow AM \Rightarrow LSB \Rightarrow

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.

51 [MHz/μT] Switch

Pressing this button allows you to tune the VFO frequency down or up in 1 MHz increments, using the [CLAR/VFO-B] knob.

52 [CLAR/VFO-B] Knob

This knob usually tunes the Clarifier offset frequency up to ± 9.999 kHz. Additionally, it is used to adjust the functions selected with five buttons located around the knob.

FUNCTION SWITCH	EFFECT
[(VFO-B)RX]	Rotate the [CLAR/VFO-B] knob to adjust the VFO-B frequency, in the same step as the Main Tuning Dial knob.
[GRP]	Rotate the [CLAR/VFO-B] knob to select the memory group.
[MHz]	Rotate the [CLAR/VFO-B] knob to tune the VFO frequency in 1 MHz step.
[MCH]	Rotate the [CLAR/VFO-B] knob to select the memory channel.

FRONT PANEL CONTROLS & SWITCHES

⑤③ [TX CLAR] Switch

Pressing this button activates the TX Clarifier, to allow offsetting the transmit frequency temporarily. Press this button once more to return the transmitter to the original frequency; the Clarifier offset will be remembered, though, in case you want to use it again. To cancel the Clarifier offset, press the [CLEAR] button.

Press the [VFO-B/CLAR] button followed by this switch toggles locking on/off for the CLAR/VFO-B knob (VFO-B). With “Lock” on, the CLAR/VFO-B knob can still be turned, but the frequency will not change, and the “LOCK” appears in the display.

⑤④ [CLEAR] Switch

Pressing this button clears out any frequency offset you have programmed into the Clarifier register (thereby setting the offset to “Zero”).

⑤⑤ [VFO-B/CLAR] Switch

Pressing this button clears out any frequency offset you have programmed into the Clarifier register (thereby setting the offset to “Zero”).

⑤⑥ [MCH/GRP] Switch

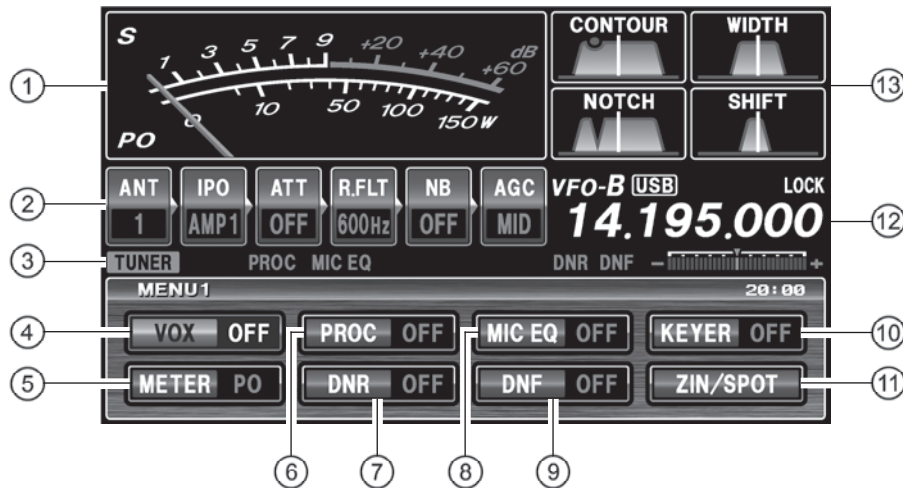
MCH

Pressing this button allows you to select the memory channel using the [CLAR/VFO-B] knob.

GRP

Pressing this button allows you to select the memory group by turning the [CLAR/VFO-B] knob.

DISPLAY INDICATIONS (LEFT SIDE)



① S/PO

On receive, this indicates the received signal strength, from S-0 to S-9+60dB on receiving.

On transmit, it indicates the RF Power Output, from 0 to 150 Watts on transmit.

ADVICE:

The S and PO meter types can be change the ANALOG or BAR type via the Menu items “012 DISPLAY METER TYPE SELECT”.

The S and PO meters can be set to the Peak-hold function (BAR type only) via the Menu items “013 DISPLAY BAR MTR PEAK HOLD”.

② Block Diagram Display

ANT (1, 2, 3):

Indicates the antenna selected by the front panel [ANT] button.

IPO (AMP1, AMP2, IPO):

Indicates which front end RF amplifier is selected by the front panel [IPO] button.

ATT (OFF, -6 dB, -12 dB, -18 dB):

Indicates the attenuation level, selected by the front panel [ATT] button.

R.FLT (3 kHz, 6 kHz, 15 kHz):

Indicates the receiver IF Roofing Filter, which is selected by the front panel [R.FLT] button.

NB (OFF, ON, ON (NBW)):

Indicates the receiver’s “short-duration” Noise Blanker, which is selected by the front panel [NB] button.

AGC (SLOW, FAST, MID):

Indicates the AGC decay time setting, selected by the front panel [AGC] switch.

③ Configuration Indicators

TUNER

This indicator appears when the internal Automatic Antenna Tuner is activated.

VOX

This indicator appears when the automatic voice-actuated transmitter switching the SSB, AM, and FM modes.

KEYER

This indicator appears whenever the internal CW keyer is activated.

PROC

This indicator appears whenever the DSP Speech Processor is activated.

MIC EQ

This indicator appears whenever the Three-Band Parametric Microphone Equalizer is activated via the Menu.

DNR

This indicator appears whenever the Digital Noise Reduction feature is activated.

DNF

This indicator appears whenever the Digital Notch Filter is activated.

④ [VOX] Indicator

This indicator enables automatic voice-actuated transmitter switching in the SSB, AM, and FM modes. While activated, the LED inside this button glows red. The controls affecting VOX operation are the Menu items “114 TGEN V GAIN”, “115 TGEN VOX DLY”, and “116 TGEN ANTI VOX”. By proper adjustment of these controls, hands-free voice-actuated operation is possible.

DISPLAY INDICATIONS (CENTER)

⑤ [METER] Indicator

This indicator determines the function of the meter during transmission.

Press this button to change the meter function in the transmit mode as follows:

PO → ALC → SWR → COMP →
→ ID → VDD → PO ……

PO: Indicates the RF Power Output, from 0 to 150 Watts on transmit.

ALC: Indicates the relative ALC voltage.

SWR: Indicates the Standing Wave Ratio (Forward/Reflected).

COMP: Indicates the speech compressor level (SSB/AM modes only).

ID: Indicates the final amplifier drain current.

VDD: Indicates the final amplifier drain voltage.

PO	Indicates the RF Power Output, from 0 to 150 Watts on transmit.
ALC	Indicates the relative ALC voltage.
SWR	Indicates the Standing Wave Ratio (Forward: Reflected), from 1.0 to 3.0.
COMP	Indicates the speech compressor level, from 0 to 30 dB.
ID	Indicates the final amplifier drain current, 0 to 30 ampere.
VDD	Indicates the final amplifier drain voltage (nominal value: 13.8 V).

⑥ [PROC] (Processor) Indicator

This indicator enables the Parametric Microphone Equalizer and Speech Processor for SSB transmission. When the Parametric Microphone Equalizer is activated. Adjustment of the Processor level is accomplished via the Menu item “109 TGEN PROC LVL”.

ADVICE:

- The Speech Processor is a tool for increasing the average power output through a compression technique. However, if the Processor level is advanced too far, the increase in compression becomes counter-productive, as intelligibility will suffer. We recommend that you monitor the sound of your signal using the Monitor (with headphones).

⑦ [DNR] Indicator

This indicator turns the Main band (VFO-A) receiver’s Digital Noise Reduction circuit on and off. Adjustment of the Noise Reduction level is accomplished via the Menu item “111 RX DSP DNR LEVEL”.

⑧ [MIC EQ] switch

This indicator

⑨ [DNF] Indicator

This indicator turns the Main band (VFO-A) receiver’s Digital Notch Filter on and off. This is an automatic circuit, and there is no adjustment knob for the DNF.

⑩ [KEYER] Indicator

This indicator toggles the internal CW keyer on and off. The Keyer sending speed is adjusted via the front panel’s [SPEED] knob and the CW Hang Time is adjusted via the Menu item “044 A1A DELAY”.

⑪ [ZIN/SPOT] Indicator

This indicator enables the the CW receiver spotting tone; by matching the SPOT tone to that of the incoming CW signal (precisely the same pitch), you will be “zero beating” your transmitted signal with the frequency of the other station.

⑫ Sub (VFO-B) Frequency Display

This is the Sub band (VFO-B) frequency display.

ADVICE:

- When turning the [CLAR], [PITCH], [SPEED], [CONTOUR], [NOTCH], [DNR], [DELAY], [CARRIER], [MIC], [PROC], [SHIFT], or [WIDTH] knob, each frequency or value will appear in this area for 3 seconds.

If the knob is turned too slowly, the frequency display may not show the value. This is to prevent undesired display of the functions caused by noise or slight vibration of the controls; however, the actual value will be changed even if not displayed.

You can observe the fine adjustment for a few seconds while the display is active.

While adjusting functions, the display may occasionally skip one of the numbers in the sequence; this is due to “rounding” of the encoder steps in the ADC converter. Set the values to your preference, they are unique to your radio and may not directly correspond to other units.

⑬ DSP Display

T.B.D.

DISPLAY INDICATIONS (RIGHT SIDE)



⑭ [FAST] Indicator

This indicator appears when the Main Tuning Dial knob's, tuning rate is set to "fast".

⑮ [LOCK] Indicator

This indicator appears when the Main Tuning Dial knob is locked.

⑯ Frequency Display

This is the frequency display.

⑰ LSB, USB, CW, AM, FM, RTTY, DATA

Displays the current operating mode.

SWITCH	VARIABLE MODE SELECTIONS
[SSB]	LSB ↔ USB
[CW]	CW(LSB) ↔ CW(USB)
[AM/FM]	AM ↔ FM
[RTTY/PKT]	Momentarily: RTTY(LSB) ↔ PKT(LSB) Press & Hold: RTTY(LSB) ↔ RTTY(USB) or DATA(LSB) → DATA(USB) → PKT(FM) → PKT(LSB)