

INTERFERENCE REJECTION

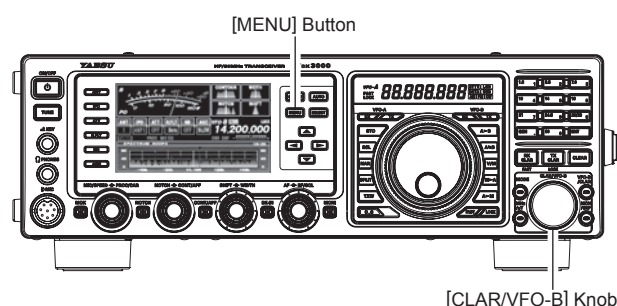
M-TUNE FILTER (REQUIRES THE OPTIONAL RF M TUNING KIT)

ADVICE:

- ❑ The μ -Tune filters are the most advanced, selective RF preselector filters ever incorporated into an Amateur Radio transceiver. The RF selectivity provided by μ -Tune can be of tremendous value in ensuring quiet, intermod-free reception even in the most crowded bands on a contest weekend. The μ -Tune filters provide RF selectivity on the order of a few dozen kHz at -6 dB, at the expense of a few dB of system gain on bands where noise figure is seldom an issue. You will notice that the S-meter deflection, when μ -Tune is engaged, is slightly less than when it is out of the circuit; this is normal. If your antenna system gain is so low that you cannot hear the band noise when μ -Tune is engaged (highly unlikely), just switch it out, to eliminate the slight insertion loss.
- ❑ As you tune around on an amateur band with μ -Tune engaged, the microprocessor automatically commands the stepper motor driving the toroid core stack to center the filter on your current operating frequency. You may, however, use the [SELECT(μ -TUNE)] knob to skew the filter response to one side or the other from your operating frequency, to deal with heavy interference on one side. To re-center the μ -Tune filter on your operating frequency, and eliminate any offset, press the [CLEAR] button.

Changing the Tuning Offset Indicator

1. Press and hold in the [MENU] button for one second to engage the Menu mode.
2. Rotate the [CLAR/VFO-B] knob or $\blacktriangle/\blacktriangledown$ button to select Menu item "011 DISPLAY BAR DISPLAY SELECT".
3. Rotate the [CLAR/VFO-B] knob or $\blacktriangle/\blacktriangledown$ button to select "uTUNE (μ -Tune)" (replacing the default "CW TUNE (CW TUNING)" selection).
4. Press the [SELECT] button, then press the [MENU] button to lock in the new setting and exit to normal operation.



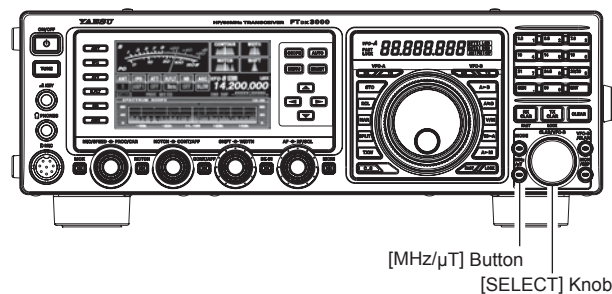
Advice

If you want to use an external bandpass filter or preamplifier, you may connect it between the μ TO and μ FROM jacks on the rear panel.

1. Connect the external equipment between the μ TO and μ FROM jacks on the rear panel.
2. Press the [MHz/ μ T] button, then press the [CLAR/VFO-B] knob. The receive signal will pass through the external equipment. In this case, the " μ -TUNE" and "THRU" icons will be shown in the FLT column of the VFD display Block Diagram.
3. Press the [MHz/ μ T] button again, the receive signal will bypass the external equipment and be applied directly to the transceiver front-end circuit.

ADVICE:

Alternate presses of the [MHz/ μ T] button, will switch the receive signal between the external equipment or the direct front-end receive circuit.



IMPORTANT NOTICE!

When [μ -TUNE] is enabled, the FT DX 3000 cannot receive a signal without an external device of jumper cable between the μ TO and μ FROM jacks.

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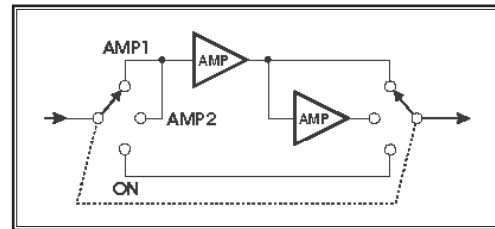
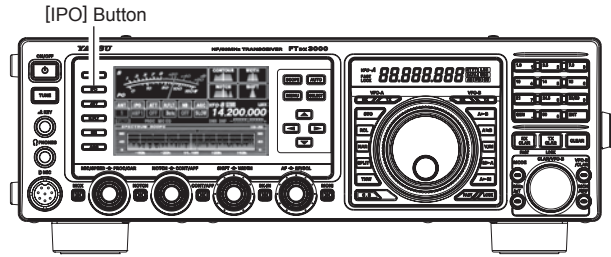
IPO (INTERCEPT POINT OPTIMIZATION)

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.

Press the **[IPO]** button several times to set the desired characteristic of the receiver front end, according to the chart below.

- AMP1:** Amplifies the incoming signals, using a low distortion RF preamplifier (gain: approx. 10 dB).
- AMP2:** Amplifies the incoming signals, using a 2-stage low-distortion RF preamplifier (total gain: approx. 17 dB).
- IPO:** Bypasses the RF preamplifier, yielding direct feed to the first mixer.

The selected receiver RF preamplifier will be indicated in the IPO column of the Block Diagram Display on the display.



ADVICE:

- The IPO selection will be memorized independently on each VFO stack of VFO-A and VFO-B.
- On the 10 MHz and lower bands, it generally is not necessary to use any preamplifier at all; selecting the "IPO ON" position as described above will increase the strong-signal-handling capability of the receiver, and generally will result in more pleasant reception due to reduced noise. If you can hear band noise with the preamplifiers disengaged, then a preamplifier is generally not needed.

NOTE:

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

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R.FLT (ROOFING FILTERS)

Narrow-band Roofing Filters of 15 kHz, 6 kHz, and 3 kHz bandwidths are provided in the first IF, right after the first mixer. These filters provide protection for the 2nd mixer, DSP, and other circuitry that follow and can dramatically improve reception on a very crowded band (during a contest, etc.). Typically, the AUTO selection mode is satisfactory for most operating situations, but in an extremely crowded phone band you may wish to select, for example, the 3 kHz roofing filter for SSB operation.

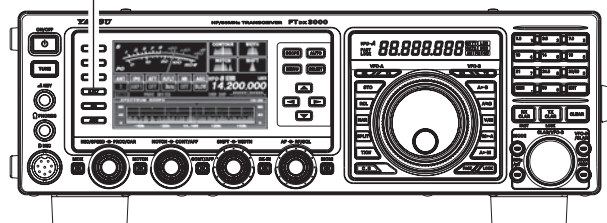
Press the **[R.FLT]** button to toggle the Roofing Filter selection.

AUTO → 15 kHz → 6 kHz → 3 kHz → AUTO

ADVICE:

- As you repeatedly press the **[R.FLT]** button, you will observe changes in the notation in the R.FLT column of the Block Diagram Display on the display, denoting the Roofing Filter currently in use.
- Typically, this selection will be set to “AUTO.”
- The Roofing Filter selection will be memorized independently on each VFO stack of VFO-A and VFO-B.

[R.FLT] Button



QUICK POINT:

The “AUTO” selection of the Roofing Filter is based on the operating mode. However, you may override the automatic selection, if band conditions warrant a different (usually, a tighter) selection.

TERMINOLOGY:

A “Roofing Filter,” as its name implies, places a “Roof” over the receiver’s IF system bandwidth. This “Roof” protects the circuitry downstream from the first mixer from interference, just as a roof on a house protects the contents from rain and snow.

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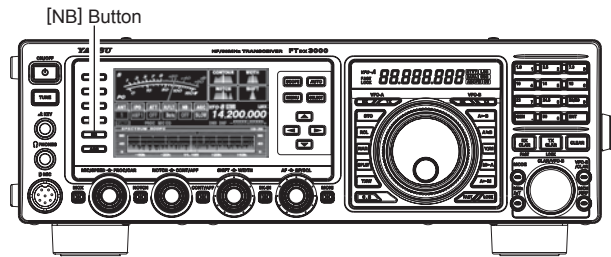
IF NOISE BLANKER (NB) OPERATION

The **FT DX 3000** includes an effective IF Noise Blanker, which can significantly reduce noise caused by automotive ignition systems.

1. Press the **[NB]** button briefly to reduce *short duration pulse noise* such as from switching transients, automobile ignitions and power lines. The “**NB ON**” will appear in the display to confirm that the Narrow-NB is operating.
2. Press the **[NB]** button again to reduce *longer-duration man-made pulse noise*. The “**NBW ON**” will appear in the display to confirm that the Wide-NB is operating.
2. If desired, you may adjust the Noise Blanker level via Menu item “033 GENERAL NB LEVEL” to the point where the offending noise is best reduced or eliminated. See box below for details.
3. To end Noise Blanker operation, press the **[NB]** button once more. The “**NB OFF**” will appear in the display, confirming that the Noise Blanker is no longer in operation.

ADVICE:

The Noise Blanker operation will be memorized independently on each VFO stack of VFO-A and VFO-B. However, the Noise Blanker level is in common.



Adjusting the Noise Blanker Level

1. Press and hold in the **[MENU]** button for one second to engage the Menu mode.
2. Rotate the **[CLAR/VFO-B]** knob or **▲/▼** button to select Menu item “033 GENERAL NB LEVEL”.
3. Rotate the **[CLAR/VFO-B]** knob or **▲/▼** button to the point where the offending noise is best reduced or eliminated.
4. Press the **[SELECT]** button, then press the **[MENU]** button to lock in the new setting and exit to normal operation.

