

About the internal antenna tuner

The internal automatic antenna tuner automatically matches the transceiver to the antenna within the range of 16.7 ~ 150 Ω (SWR of less than 3:1). When the tuner has matched an antenna over some period of operating time, latching relays of up to 100 combinations have been memorized as preset points. If the frequency is tuned over $\pm 1.5\%$ of the current memorized frequency point, the tuner uses the relay combinations of the next memorized point (if it is within $\pm 1.5\%$ of the new frequency). If there are no memorized points with the range, the tuner switches to bypass.

- When you install a new antenna, or you want to change the antenna settings, you can clear the all of the internal antenna tuner preset points with the “<<Preset Memory Clear>>” item on the TUNER set screen. (p. 12-5)

MENU » SET > Function > Tuner > <<Preset Memory Clear>>

- You can select whether or not to save the internal antenna tuner's status after pushing **TUNER** on each band in the “[TUNER] Switch” item on the TUNER set screen. (p. 12-5)

MENU » SET > Function > Tuner > [TUNER] Switch

NOTE: When the transceiver receives a strong physical shock, some of the internal latching relays may unlatch. In that case, push **TUNER** to turn OFF the tuner, then turn ON again to reset all the latching relays.

Internal antenna tuner operation

1. Push **TUNER** to turn ON the internal antenna tuner.
 - “TUNE” is displayed when the tuner is ON.
2. Tune the antenna.
 - ① To tune the antenna, see “Manual tuning” or “PTT Tuner start” below.

◇ Manual tuning

You can manually tune the antenna before transmitting for the first time.

1. Hold down **TUNER** for 1 second to start manual tuning.
 - The tuner reduces the SWR to less than 1.5:1 after 2~3 seconds of tuning.
 - ① While tuning, a side tone is heard and “TUNE” blinks red.
2. After tuning, “TUNE” is displayed.
 - ① If the tuner cannot tune, “TUNE” disappears and the tuning circuit is automatically bypassed

◇ PTT Tuner start

The tuner is always activated when PTT is pushed after the frequency is changed (more than 1% from last-tuned frequency). This function tunes the antenna for the first transmission on a new frequency.

- ① This function can be turned ON in the “PTT Start” item of the TUNER set screen. (p. 12-5)

MENU » SET > Function > Tuner > **PTT Start**

NOTE: If the SWR is higher than about 1.5:1, hold down **TUNER** for 1 second to start manual tuning.

If the tuner cannot tune the antenna

- Repeat manual tuning several times.
- Even if the tuner cannot tune the antenna on the first tuning, it may success at the second tuning.
- Some antennas, especially for the low bands, have a narrow bandwidth. These antennas may not tune at the edge of their bandwidth, therefore, tune such an antenna as follows:
(Example):
Suppose you have an antenna which has an SWR of 1.5:1 at 3.55 MHz and an SWR of 3:1 at 3.8 MHz.
 1. Set 3.55 MHz, and hold down **TUNER** for 1 second to start manual tuning.
 2. Set 3.80 MHz, and hold down **TUNER** for 1 second to start manual tuning.