

Automatic Antenna Tuner FC-50

Installation Instructions

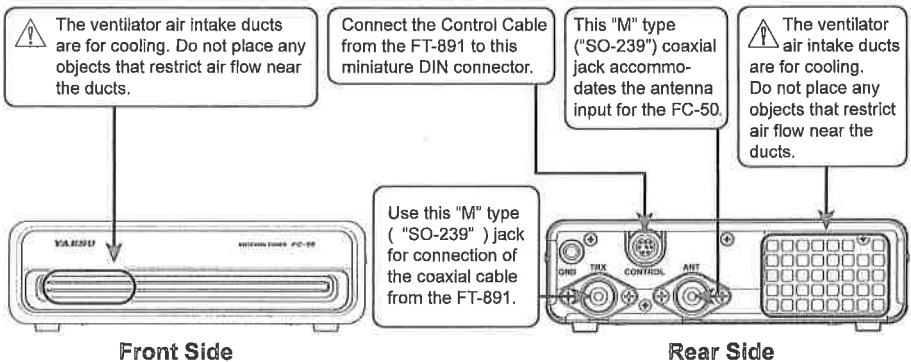
Thank you for your purchase of the model FC-50 Automatic Antenna Tuner. The FC-50 is designed specifically for the FT-891 HF/VHF Transceiver. A cooling fan is incorporated in the tuner to ensure thermal stability of the critical matching elements mounted within the compact case.

The FC-50 Automatic Antenna Tuner responds to control commands from the FT-891 Transceiver, providing microprocessor-based impedance matching on the 160 through 6 meter Amateur bands. On the HF bands the impedance matching range is from 16 Ω to 150 Ω (up to 3:1 SWR) and on the 50 MHz band the impedance matching range is from 25 Ω to 100 Ω (up to 2:1 SWR). Accordingly, the FC-50 should not be expected to match "long wire" type antennas unless specific design steps are taken to ensure that the impedance presented to the FC-50 is within these specifications.

Please refer to the FT-891 Operating Manual for operating instructions.

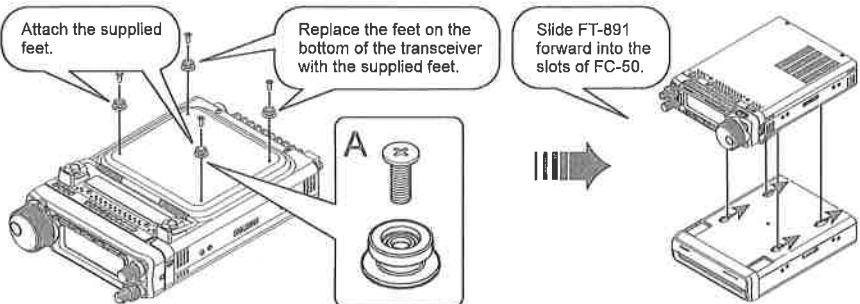
The FC-50 tuner can be activated during receive (refer to "Activate the tuner during receive" on page three of these instructions).

Front & Rear Panel Information



Installation to the FT-891

1. Referring to the figure below, remove the four feet and reattach the feet on the bottom of the transceiver with the supplied screws A (M3x8B) (use a screwdriver).
⚠ Do not attach any parts other than the supplied mounting parts .
2. Remove the four rubber caps on the top case of the FC-50.
3. Slide FT-891 with the supplied feet toward the rear of the FC-50, into the slots from which the rubber caps were removed in step (2) above.

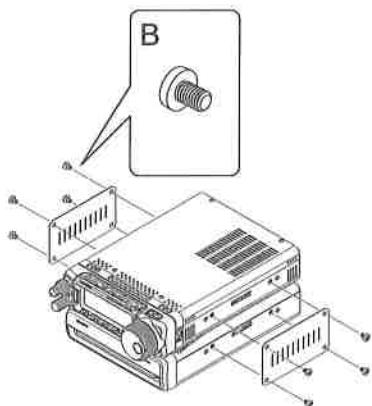


⚠ When installing the FC-50 and the FT-891 separately, purchase an additional Mobile Mounting Bracket(MMB-82), and mount both units securely.

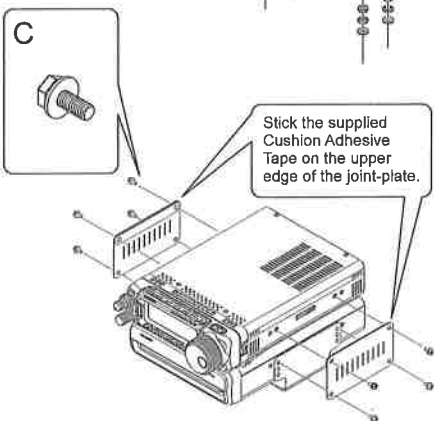
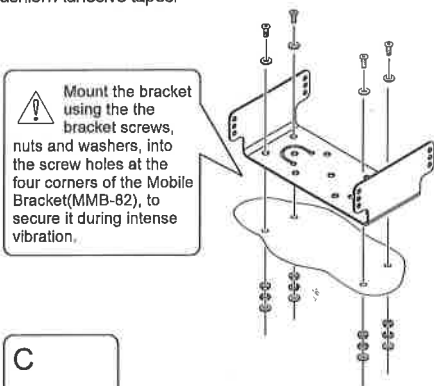
4. Attach the joining plates on both sides of the FC-50 and the FT-891 respectively with the supplied screws (use a screwdriver).

When operating the FC-50 attached to the FT-891 without the Mobile Mounting Bracket, attach them with the supplied screws B (M4x6B).

When operating the FC-50 attached to the FT-891 with the Mobile Mounting Bracket (MMB-82), attach the plates and the bracket with the supplied screws C (M4x10B) and the Cushion Adhesive tapes.



Normal Attachment



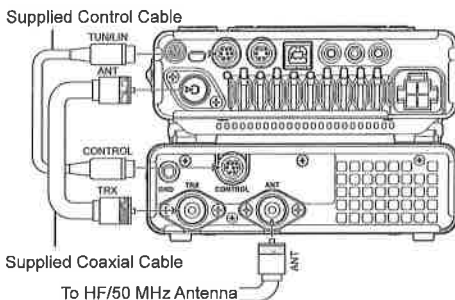
Attachment with the Mobile Mounting Brackets (MMB-82)

Interconnections to the FT-891

- ⚠ Turn the power OFF before connecting the cables to the FC-50.

- ⚠ Do not connect or disconnect the control cable or the coaxial cable with wet hands. Do not connect or disconnect the control cable or the coaxial cable while transmitting, this may cause an electric shock or injury.

- ⚠ Do not place any objects near the FC-50 ventilator ducts.



Activate the tuner during receive

By configuring the internal DIP switches, the RF signal path may be changed to enable the tuner on both receive and transmit.

Remove case

1. Turn the FT-891 POWER switch OFF and Remove all cables that are connected to the FC-50.
2. Turn FC-50 upside down.
3. Remove the 8 screws securing the case of the FC-50, and then remove the bottom case (**Figure A**).
4. Remove the 2 screws*¹ securing the top case of the FC-50, and then remove the top case.

Activate the tuner during receive

Do not activate the tuner for receive during cross-band operation. If the difference in frequency between TX and RX is more than 100 kHz, the receive signals will be degraded.

1. Turn the FT-891 POWER switch OFF.
2. Remove the 10 screws securing the case of the FC-50, and then remove the top case (**Figure A**).
3. Move the 8th DIP switch toward the rear of the FC-50 circuit board (use a pin) (**Figure B**).
4. Replace the case, using the 10 screws removed in step (2) above.

Figure A

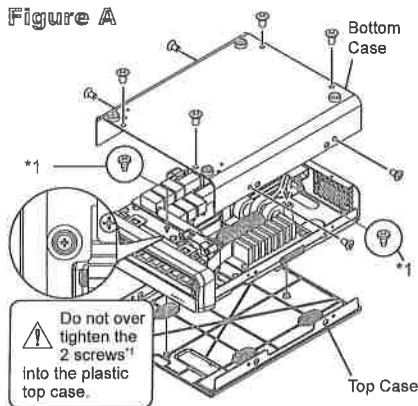
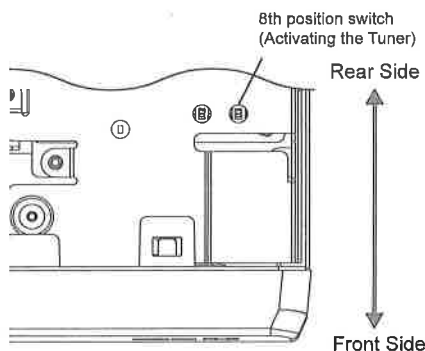


Figure B (inside of the top case)



Cautions

- Note the default positions of the internal DIP switch components. All switches on the circuit board, except for the 8th switch, are for factory setup use only, and they should not be touched.
- Switch the FC-50 OFF before connecting the cables to the transceiver.
- If the FC-50 does not tune when the FT-891 tuner operation is started, there may be a serious antenna or coaxial cable problem (very high or low impedance due to an "open" or "short"). Please check the antenna and coax if this happens.
- Do not place any objects near the FC-50 ventilator ducts.
- It is normal to hear the sound of the relays while tuning is in progress.
- Depending on the installation and location of some antennas, it may not be possible to tune to a low SWR.
- Do not operate the FC-50 and the FT-891 in a place with intense vibration.

Supplied Accessories

Coaxial Cable (0.5 m).....	1
Control Cable (0.5 m).....	1
Feet attached on the bottom of the FT-891.....	4
Screws A(M3x8B).....	4
Screws B(M4x6B).....	8*
Screws C(M4x10B).....	8*
Joint-Plates.....	2
Cushion Adhesive Tapes.....	2

* Either Screws B or Screws C are used through the attaching method.

