Thank you for your purchase of the model FC-40 Automatic-Matching 200-Memory Antenna Tuner. The FC-40 microprocessor controlled antenna impedance matching network is designed to provide wideband transmitting capability for many Vertex Standard / Yaesu transceivers, when used with an end-fed random wire or long whip antenna.

The FC-40 makes use of the control circuitry built into the transceiver, which allows the operator to control and monitor automatic operation of the FC-40, which mounts near the antenna feedpoint. The FC-40 uses specially selected, thermally-stable components, and is housed in a waterproof case to withstand severe environmental conditions with high reliability.

A carefully-chosen combination of solid-state switching components and high-speed relays allows the FC-40 to match a wide variety of antennas to within a 2:1 SWR on 1.6 - 54 MHz, typically in less than eight seconds. Transmitter power required for matching may be as little as 4 - 60 Watts, and matching settings are automatically stored in memory for instant recall when the same frequency range is selected later. The FC-40 is a current feed design and may not be able to match frequencies that are near 1/2 wavelength (or multiple) of the antenna element.

Check with your Vertex Standard / Yaesu dealer for a list of current transceivers that may be used with the FC-40 Antenna Tuner.

Specifications
- Operating Frequency Range: 1.6 - 54 MHz with 20+ m end-fed wire
- 7 - 54 MHz with YA-007 HF 2.5 m Mobile Whip Antenna
- Input Impedance: 50 Ohms
- Maximum Input Power: 100 W (3 minutes maximum continuous TX)
- Matched SWR: 2.0:1 or less (if antenna is not near a multiple of \(\lambda/2\))
- Tune-up Power: 4 - 60 W
- Tune-up Time: 8 seconds maximum
- Impedance Matching Memories: 200 channels
- Power supply: 13.8V DC±15% (supplied from transceiver)
- Case Size (WHD): 9” x 7” x 2.1” (228 x 175 x 55 mm)
- Weight: 2.6 lbs. (1.2kg)

Specifications subject to change without notice of obligation.

Supplied Accessories
- Control Cable 5m ................................................................. 1
- Coaxial Cable (5D-2V) 5m ................................................... 1
- Sealing Tape 50cm ................................................................ 1
- Ferrite Core ............................................................................ 1
- U-bolt Kit
  - U-bolts ............................................................................. 2
  - Plate ................................................................................. 2
  - Washers (FW6) .......................................................... 4
  - Spring washers (SW6) ............................................... 4
  - Nuts (N6) ................................................................... 4

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Supplied Accessories: Machine Screws, Nuts & Washers (set)
- * Screws (5 x 20) ......................................................... 4
- * Screws (M5 x 20) .................................................... 4
- * Outer washers (GW5) ........................................... 4
- * Washers (FW5) .......................................................... 4
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VERTEX STANDARD CO., LTD.
4-8-8 Nakameguro, Meguro-Ku, Tokyo 153-8644, Japan

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VERTEX STANDARD (AUSTRALIA) Pty. Ltd.
Normanby Business Park, Unit 3/14 Normanby Road
Notting Hill 3168, Victoria, Australia

Interconnections to FT-897D and FT-857D

After mounting, connect the cables from the FC-40 to the ANT and TUNER jacks on the rear panel of the FT-897D/857D Transceiver.

Automatic-Matching 200-Memory Antenna Tuner
FC-40

Installation Instructions

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FT-857D/-897D Tuner Operation

Please see your transceiver's Operating Manual for operation with the FT-857T Tuner. See the instructions at the right side of this page for operation of the FT-847 with FT-857D/-897D transceivers.

Microprocessor Resetting

Instead of an internal DIP switch, the microprocessor in the FT-847T may be re-set by holding in the "SELECT" key for one second to turn the transceiver off, and then immediately pressing and holding in the "FUNC" key for one second. This sets the microprocessor to its initial factory setting. To change the initial factory setting, please refer to the table below to correct the situation.

If you accidentally set a switch to the wrong position, please refer to the table below to correct the situation.

<table>
<thead>
<tr>
<th>Switch</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1001</td>
<td>1 ON, 2 OFF</td>
</tr>
<tr>
<td>S1002</td>
<td>1 OFF, 2 OFF</td>
</tr>
<tr>
<td>S1003</td>
<td>1 OFF, 2 ON</td>
</tr>
</tbody>
</table>

Tuning data is shared when you make an active effort to store it. Although the memory may have automatically saved itself because of low battery voltage, this will not ensure that your memory will be stored unless you have pressed the "STORE" key for one second.

Do not set up the FC-40 and your transceiver in such a way that the "HSWR" icon is illuminated, the microprocessor will not be able to set correct memory. Then go back to the original frequency and try again.

Please change the Microprocessor Resetting memory system at the start-up of the transceiver. Settings are stored in the following order:

1. Press and hold in the "STORE" key for one second to access the memory mode.
2. Press the "CALL" key to select the menu mode.
3. Press the "DIAL" key to change the setting to "STORE" and the FC-40 will change memory to the start-up memory.
4. Press and hold in the "STORE" key for one second to save the new setting and exit. If you do not do this, the transceiver will be turned off.
5. If you are not happy with the memory, proceed to the next section on tuning.
6. If you are happy with the memory, proceed to the next section on tuning.
7. Return the FC-40's internal DIP switch per the illustration on the opposite page of this manual, then turn on the transceiver.
8. Return the 4th switch of S1003 to "off".
9. D1002 will glow green briefly, then turn off. This confirms the resetting of the microprocessor.
10. Remove the case.

Cautions

- When tuning the antenna, if the SWR is above 2:1, the tuning process will stop, and no memory will be stored unless you have pressed the "STORE" key for one second. This allows you to store your favorite operating frequency areas into memory without trying memory space with matching data for frequencies you do not operate.

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