Active Tuning Antenna System
ATAS-25
Installation/Operating Instructions

Thank you for choosing Yaesu’s exciting new ATAS-25 Active Tuning Antenna System. We hope and trust that you will enjoy many years of enjoyable field operation with the ATAS-25!

The ATAS-25 utilizes a manual tuning system which resonates the radiating element for lowest SWR without the need for expensive, inconvenient mono-band resonating whip assemblies. The ATAS-25 allows dual-frequency operation (on HF or 50 MHz and either 144 or 430 MHz), if two transceivers are combined via a suitable diplexer (not supplied). The ATAS-25 is designed to mount directly onto a standard camera tripod (not supplied); see Figure 1.

INSTALLATION

1. Mount the ATAS-25 main body onto the tripod.
2. Referring to Figure 2 and the following chart, connect the radiating elements according to the operating band, then screw the radiating element securely to the top of the coil assembly of the ATAS-25.

<table>
<thead>
<tr>
<th>OPERATING BAND</th>
<th>RADIATING ELEMENT(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 MHz</td>
<td>Three Elements</td>
</tr>
<tr>
<td>14 MHz</td>
<td>Three or Two Elements</td>
</tr>
<tr>
<td>21 MHz</td>
<td>Two Elements</td>
</tr>
<tr>
<td>25 MHz</td>
<td>Two or One Element(s), or No Connection</td>
</tr>
<tr>
<td>50 MHz</td>
<td>Do Not Connect</td>
</tr>
<tr>
<td>144 MHz</td>
<td>Not Used</td>
</tr>
<tr>
<td>430 MHz</td>
<td>Not Used</td>
</tr>
</tbody>
</table>

NOTE: When the ATAS-25 is fitted with two radiating elements, use the top radiating element (the one with the rubber cap) and the bottom radiating element (the one with the threaded adapter at the bottom). When the ATAS-25 is fitted with only one radiating element, move the threaded adapter to the bottom of the element with the rubber cap, then screw that element onto the top of the coil assembly (Figure 3).

3. Secure the UHF radial elements to the bottom of the ATAS-25 main body, using the supplied Allen wrench (Figure 4).
4. Connect the supplied radial wires to the bottom of the ATAS-25 main body, then extend them outward from the antenna base (Figure 5).
5. Connect the coaxial cable from the transceiver’s HF antenna jack (see Figure 6). Typically, you can use the built-in SWR meter in the transceiver, but alternatively you may adjust the SWR using an “Analyzer” or by mounting the appropriate coaxial cable to your transceiver. If you operate the ATAS-25 along with the FT-817, we recommend that you set the transceiver’s Menu 807 (ANTENNA) to “REAR” for all bands (HF/50 MHz/144/430 MHz), to pass all bands RF power to the rear antenna jack of the FT-817. Refer to the FT-817 operating manual for details regarding the Menu selections.

For operation on the 144 and 430 MHz bands, in addition to HF/50 MHz bands, please feel free to experiment on these bands, as low SWR and good efficiency will be obtained in many instances.

NOTE: The ATAS-25 is designed for temporary field operation. We do not recommend that the ATAS-25 be used for permanent operation, as it does not include the weatherproofing needed for long-term outdoor installation.

The ATAS-25 is designed for a maximum power of 100 Watts (SSB/CW) or 50 Watts (AM/FM, 144 MHz, 430 MHz). Do not exceed this combined power input (if two transmitters are connected via a diplexer) when operating the ATAS-25.

Do not connect (mount) the ATAS-25 to the antenna jack of the transceiver or antenna mount directly using a double-male coaxial adapter plug. The ATAS-25 must be mounted onto a tripod or other similar item using the Camera Screw hole (Type “U-¼”) on the bottom of the ATAS-25 main body.

Do not exceed the power output of the transmitter during a transmitting session, due to the danger of burning of the skin caused by the high RF voltage present. It helps the accuracy of the SWR measurements if all people are standing at least 10 feet (3 m) away from the transmitting antenna element.

If erratic transceiver operation is observed, there may be common-mode current flowing on the shield of the coaxial cable that can be cleared by sealing the ferrite choke by cobbling eight turns of cable into a coil of diameter approximately 6” (roughly 150 mm) near the ATAS-25, taping the coils to hold them in place. If this does not eliminate the problem, reverse the coax ends, placing the coil near the transceiver. If additional cable is available, place a coil at both ends of the coaxial cable in difficult cases.

Set up the tripod as low and level as possible, for maximum stability of the tripod/antenna assembly. SWR tends to be lower with the base of the ATAS-25 near the ground, as well (Figure 1). Should the ATAS-25 get wet due to rain, wipe off the antenna’s components using a dry cloth, then completely dry the ATAS-25 overnight with the coil assembly fully extended.

For SSB/CW DX operation on the 144/430 MHz bands, remember that the conversion for polarization in most areas is horizontal, not vertical, so we recommend the ATAS-25 mostly for local FM work on those bands.

Make every effort to install the ATAS-25 away from areas where people might trip over the tripod legs, coaxial cable, or counterpoise wires. We strongly recommend that the tripod legs be staked firmly to the ground, or the tripod and antenna be otherwise secured with guy ropes and stakes, to prevent the antenna from accidentally tipping over, so as to avoid injury to bystanders and/or damage to antenna components.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Frequency Range</th>
<th>7/14/21/28/50/144/430 MHz</th>
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<tbody>
<tr>
<td>Amateur Bands</td>
<td>50 MHz</td>
</tr>
<tr>
<td>Max. Input Power</td>
<td>100 W (SSB/CW, 50% Duty)</td>
</tr>
<tr>
<td>50 W (AM/FM)</td>
<td>144/430 MHz</td>
</tr>
<tr>
<td>Matched SWR</td>
<td>Less than 2.0:1</td>
</tr>
<tr>
<td>Height (Approx.)</td>
<td>Max. 7.2 ft (2.2 m)</td>
</tr>
<tr>
<td>Weight (Approx.)</td>
<td>2.05 lb. (930 g)</td>
</tr>
</tbody>
</table>

SUITED ITEMS

ATAS-25 Main Body........................................................................ 1
Radiating Elements....................................................................... 3
Radial Element (for VHF band)..................................................... 1
Radial Element (for UHF band)..................................................... 1
Radial Wires (20 ft (6 m), 9.8 ft (3 m) & 6.6 ft (2 m) Length)... 1
Spare Radial Wire (32.8 ft (10 m) Length)................................... 1
Allen Wrench............................................................................... 1
Operating Manual........................................................................ 1

CAUTIONS

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- Do not exceed the power output of the transmitter during a transmitting session, due to the danger of burning of the skin caused by the high RF voltage present. It helps the accuracy of the SWR measurements if all people are standing at least 10 feet (3 m) away from the transmitting antenna element, anyway to minimize inaccuracies due to mutual coupling to the human figure(s) in the vicinity.
- If erratic transceiver operation is observed, there may be common-mode current flowing on the shield of the coaxial cable that can be cleared by sealing the ferrite choke by cobbling eight turns of cable into a coil of diameter approximately 6” (roughly 150 mm) near the ATAS-25, taping the coils to hold them in place. If this does not eliminate the problem, reverse the coax ends, placing the coil near the transceiver. If additional cable is available, place a coil at both ends of the coaxial cable in difficult cases.
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VERTEX STANDARD CO., LTD.
4-8-8 Nakamigawa, Maeguro-Ku, Tokyo 153-8644, Japan

YAESU EUROPE B.V.
P.O. Box 75025, 1181 ZN Schiphol, The Netherlands

YAESU UK LTD.
Unit 12, Sun Valley Business Park, Wimnall Close Winchester, Hampshire, SO23 0LB, U.K.

VERTEX STANDARD HK LTD.
Unit 6, 20/F, Seaview Centre, 139-141 Hol Bum Road, Kwun Tong, Kowloon, Hong Kong

VERTEX STANDARD N.V.
10900 Walker Street, Cypress, CA 90630, U.S.A.