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 receiving 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, raise and lower the coil assembly while listening to the band noise, and seek the position of the coil assembly producing the most noise in the receiver. If a peak in the sensitivity is not obtained when the coil assembly is fully retracted to the lowest (shortest) position, remove one radiating element from the coil assembly and try again. You may have a total antenna length that is too long.

3. Key the transmitter in the CW mode, and check the SWR of the coil assembly.

4. Referring to Figure 7 again, carefully turn the coil assembly to the right or to the left while the transceiver is receiving. After making an adjustment, stand away from the antenna and check the SWR again, and repeat the procedure until the best SWR is obtained. Do not touch the coil assembly during a transmitting session.

5. If low SWR on an HF band cannot be satisfactorily obtained, connect (add) the supplied spare radial wire to the bottom of the ATAS-25 main body and extend it outward from the antenna base, then try the above procedures again.

OPERATION

1. Tune the transceiver to the desired operating frequency.

2. Referencing to Figure 7, raise and lower the coil assembly while listening to the band noise, and seek the position of the coil assembly producing the most noise in the receiver. If a peak in the sensitivity is not obtained when the coil assembly is fully retracted to the lowest (shortest) position, remove one radiating element from the coil assembly and try again. You may have a total antenna length that is too long.

3. Key the transmitter in the CW mode, and check the SWR of the coil assembly.

4. Referring to Figure 7 again, carefully turn the coil assembly to the right or to the left while the transceiver is receiving. After making an adjustment, stand away from the antenna and check the SWR again, and repeat the procedure until the best SWR is obtained. Do not touch the coil assembly during a transmitting session.

5. If low SWR on an HF band cannot be satisfactorily obtained, connect (add) the supplied spare radial wire to the bottom of the ATAS-25 main body and extend it outward from the antenna base, then try the above procedures again.

USE OF CAPACITOR TUBE

If it is not possible to achieve a low SWR on the 144 MHz band, pass the supplied “Capacitor Tube” into the VHF radiator, and slide the Capacitor Tube outward, starting at the innermost position, so as to obtain the best SWR. When the optimum position is identified, secure the Capacitor Tube to the radiating element using the supplied Allen wrench.

CAUTIONS

- 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 coaxial adapter plug. The ATAS-25 must be mounted onto a tripod or other similar item using the Camera Screw hole (Type “U”) on the bottom of the ATAS-25 main body.

- Do not connect (mount) the ATAS-25 to the antenna jack of the transceiver, 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 radiating 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. Make an RF choke by coating about 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 worst 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 antenna and check the SWR again, and repeat (or reverse) the procedure until the best SWR is obtained.

- For SSB/CW DX operation on the 144/430 MHz bands, remember that the convention 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>7142/21/28/50/144/430 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Impedance</td>
<td>50 Ohms</td>
</tr>
<tr>
<td>Max. Input Power</td>
<td>HF: 50 MHz/100 W (SSB/CW, 50% duty)</td>
</tr>
<tr>
<td></td>
<td>50 W (AM/FM)</td>
</tr>
<tr>
<td>Matched SWR</td>
<td>Less than 2.0:1</td>
</tr>
<tr>
<td>Height</td>
<td>Max: 7.2 ft (2.2 m) during Operation Min: 1.96 ft (0.6 m) for Transporating</td>
</tr>
<tr>
<td>Weight</td>
<td>2.05 lb (930 g)</td>
</tr>
</tbody>
</table>

SUPPLIED ITEMS

- ATAS-25 Main Body
- Radiating Elements
- Radial Element (for VHF band)
- Radial Element (for UHF band)
- Radial Wire (20 ft (6 m), 9.8 ft (3 m) & 6.6 ft (2 m) Length)
- Spare Radial Wire (32.8 ft (10 m) Length)
- Capacitor Tube
- Allen Wrench
- Operating Manual
- Operating Manual
**アテイプチューニング・アンテナシステム ATAS-25 取扱説明書**

お世話になっております。ATAS-25は、良好な信号を得ることを目的として設計されたアンテナシステムです。基本構成はアンテナのブラケット、アンテナ、及びアンテナケーブルで構成されています。現在の通信技術では、電子回路の強度が高いことから、無線通話の高品質な利用が可能に。同システムは、通常のアンテナの機能を一部だけを強化し、他の部分は保持したものであると理解してください。

### 注意

- 事故を未然に防ぐため、以下の注意事項を必ずお守りください。

### 組立・取付方法

1. 三脚等の固定具にATAS-25を取り付けます。固定具の位置は適当にして取付完成してください。
2. エレメントを3本を取り付けます。その際、中央のエレメントが他の2つと角度が異なります（下図参照）。

### 容量管の使いかた

144MHz帯のSRWが5メートル下がらないときは、144MHz帯のラジアル管に容量管を挿入し、調節してから再起動を行ってください。SRWが5メートル下がるに調節しました。調節が完了したら、容量管の依存性がないように、60センチメートルの線を繋いだ付。

### 定格

- 頻域帯域：M-10：174/1225MHz/440MHzのアンテナチューナー
- 入力電流：1mWと1kWの間
- 入力電圧：5Vと25Vの間
- F400×M-10：300Ω (OUT 100Ω)
- 144MHz帯：50Ω
- 
- 3.8kW (W1-MとW2-M)の間
- 使用温度：0℃～50℃
- 使用方法：テレコネクト機器のスイッチをONに、W1-Mは瞬間的にONにし、W2-Mは20分間ONにしないでください。
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- 定格を守ることにより、故障を防ぐことができます。