

ACOM 03AT

Automatic HF Antenna Tuner



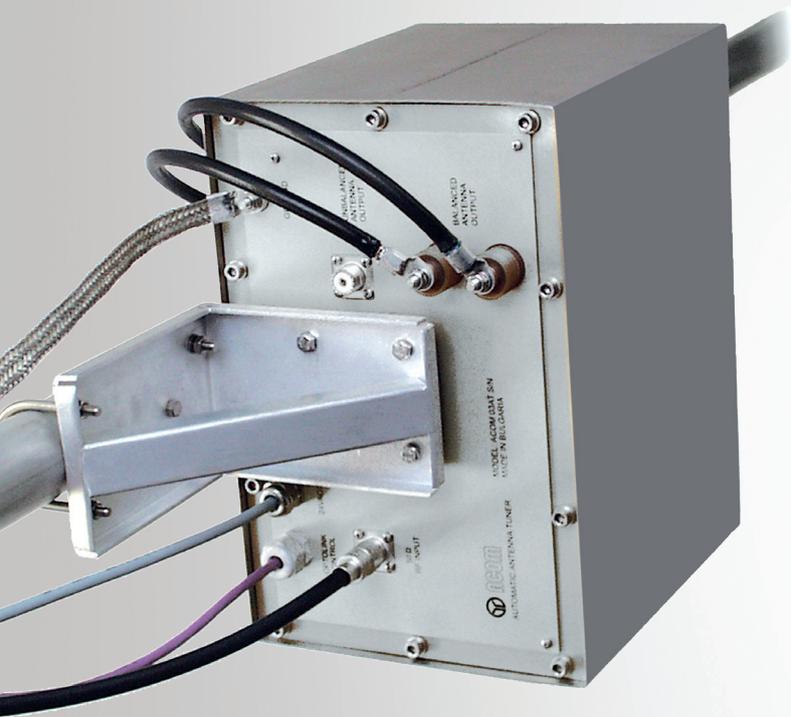
The remote tuner unit is shown with optional Unbalanced Antenna Output.

OUTSTANDING HF POWER PRODUCTS

MAIN FEATURES

The Automatic HF Antenna Tuner (AATU) model ACOM 03AT is a complete and self-contained device for automatic matching of HF symmetrical antenna impedance to an unbalanced 50 Ohm output, that covers a continuous 1.8 to 16 MHz frequency range and will withstand 200 to 2500 W input power depending on the antenna SWR.

ACOM 03AT consists of two modules - a Remote Tuner Unit and Remote Control Unit (RCU).



EASY TO OPERATE

The only operator obligation is to apply CW power while the matching process is fully automatic.

REMOTE MATCHING

Remote matching - less losses in the feed line. The remote tuner unit design complies outdoor-installation requirements.

This permits you to locate it closely to the antenna feed-points, thus considerably reducing the high-SWR RF path length.

NON-VOLATILE MEMORY

Non-volatile memory for 99 different user's tuning settings and selection of the power-on default.

AUTOMATIC OPERATION

Operates automatically with any transceiver without special signals - 10 to 100 W CW for several seconds is the only requirement to perform automatic impedance matching.

OPTICAL CONTROL LINK

Optical control link (up to 50 m) between RCU and remote tuner unit.

This avoids erratic control at a strong electromagnetic RF field which is the typical case in the near-field zone of an antenna when emitting 1-2 kW.

BYPASS FUNCTION

Features BYPASS function, performed by default also when powered off, where the effect of the inductors and capacitors on the impedance is excluded for broadband operation (the balun transformer still inline).

RESOURCE-ESTIMATE FUNCTION

Resource-estimate function (STATUS) giving the percentage of inductors and capacitors involved to achieve a match.

This offers a possibility for monitoring the condition of the RF path and the antenna, thus to forewarn possible problems.

PROTECTION AGAINST ATMOSPHERIC ELECTRICITY

Protected against atmospheric electricity via sphere spark gaps and a bleeder choke.

PROTECTION

Guards your transmitter during the tuning process against excessive impedance mismatch via inserting a powerful attenuator at the input, and removing it after that. Protected against relays "hot" switching, excessive antenna voltage, overheating, etc.

OPTION

- Unbalanced antenna output with 50 Ohm UHF (SO-239A) connector.

SPECIFICATIONS

FREQUENCY COVERAGE

Continuous from 1.8 to 16 MHz
(extensions and changes on request)

MAXIMUM ALLOWED INPUT POWER

PEP or CW, RTTY, FM, digital, etc., Without Mode Limitations, 100% duty cycle:

- At antenna SWR below 3: 2500 W (97% efficiency)
- At antenna SWR between 3 and 5: 1600 W (95% efficiency)
- At antenna SWR between 5 and 10: 1000 W (92% efficiency)
- At antenna SWR between 10 and 20: 500 W (85% efficiency)
- At antenna SWR between 20 and 50: 200 W (60% efficiency)
- At antenna SWR above 50: 100 W.

RF INPUT CHARACTERISTICS

- Rated impedance: 50 Ohm unbalanced
- Input connector type: UHF/PTFE (SO-239A)
- Input SWR during AUTO TUNE procedure: 1.7 max.
- Input SWR during OPERATE (matched): 1.5 max. (1.2 typically)

ANTENNA IMPEDANCE MATCHING CAPABILITY

Antenna impedance range, SWR in respect to the nominal load impedance 200 Ohm balanced:

- 1.8 - 16 MHz: Up to SWR 10 (20 Ohm - 2 kOhm)
- 3 - 14 MHz: Up to SWR 20 (10 Ohm - 4 kOhm)
- 6.5 - 12 MHz: Up to SWR 50 (4 Ohm - 10 kOhm)

POWER SUPPLY

- Remote Tuner Unit:
Fed by RCU output "24VAC/3A OUT"
- Remote Control Unit:
230 VAC, +10/-25% (172 - 253 VAC),
50-60 Hz, 80 VA

SIZE & WEIGHT

- Operating (excluding connected cables and opened tilt foot bar on RCU)
 - Remote Tuner Unit, WxDxH: 330x215x305 mm, 12.0 kg (13.0x8.5x12.0 inches, 26.5 lbs.)
 - Remote Control Unit, WxDxH: 175x255x77 mm, 2.5 kg (6.9x10.1x3.1 inches, 5.5 lbs.)
- Shipping (including both units)
WxDxH: Approx. 600x420x430 mm, 23.0 kg (23.7x16.6x17.0 inches, 50.8 lbs.)

OPERATING ENVIRONMENTS

- Remote Tuner Unit
 - Weather protection: IP 53 (NEMA type 3)
 - Temperature range:
-40...+65 °C (-40 °F to 149 °F)
 - Relative air humidity:
Up to 98% @ +40 °C (104 °F)
 - Height above sea level:
Up to 3050 m (10000 ft) without output deterioration.
- Remote Control Unit
 - Temperature range: 0...+50 °C (32 °F to 122 °F)
 - Relative air humidity: Up to 95% @ +35 °C (95 °F).



Dealer/Partner's address:

ACOM



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