

AT7000B & RAT7000B 125W Antenna Tuners



RAT7000B

The AT7000B and RAT7000B are 125W HF automatic antenna tuners specifically designed to interface with Datron's TW7000-series, RT7000-series, and PRC1099A HF transceivers to tune whip and long-wire antennas. The tuners are designed for operation under the severe environmental conditions that can be encountered in mobile usage. They are contained in rugged cases which are immersible and can be mounted in any attitude, but should be located as close as possible to the radiating portion of the antenna for maximum system efficiency. The tuners come with a set of brackets for convenient mounting to any surface in any orientation. An optional mobile mount is available for the RAT7000B.

A 100 Channel memory is standard in the tuners in order to permit scanning, ALE, and other silent tune applications. After each channel has been initially tuned, it "remembers" the settings for that particular channel and automatically reverts to them each time that channel is selected. Channel tuning time in memory mode is less than 10 msec.

The tuners are designed to interface with the associated Datron radio (or a computer) via a RS485 serial port. This bi-directional port allows 9600 baud communications with either the radio or the computer, enabling rapid selection of previously tuned channels from the tuner memory. The tuner can also be used with other HF/SSB transceivers provided a suitable interface is provided.

The tuners are designed primarily for use with end-fed, unbalanced antennas (whips and long wires). They will effectively tune almost any antenna of this type within the specified frequency range provided a good ground system is used with the antenna. Broadband, resonant antennas like LPAs may be used with the tuner if desired. Narrowband, resonant antennas, such as dipoles should only be used if the antenna VSWR is less than 3:1 at the operating frequency.

- **Automatic antenna tuning**
- **125W RF power handling**
- **100 Channel memory for rapid tuning - ALE and silent tuning applications**
- **MIL-STD-810 for environmental performance**
- **Tunes whips and long wire antennas**
- **Control Interface to 7000-series & PRC1099A transceivers**
- **Waterproof (immersible)**



AT7000B & RAT7000B

SPECIFICATIONS

General

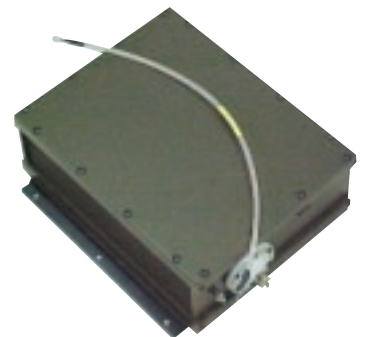
RF Power handling capability	125W, PEP or average
Frequency range	1.6 to 30 MHz
Tuning range - whips and wires with minimum specified length	10 foot whip: 2.5 - 30 MHz 16 foot whip: 2 - 30 MHz 32 foot whip: 1.6 - 30 MHz 75 to 150 foot long wires: 1.6 - 30 MHz
	NOTE: effective tuning depends on setting up a good ground system in conjunction with the antenna
RF tune power	10W
Tune time	3 - 5 secs, initial tune (typical) 10 msec, memory tune (typical)
Input impedance	50 Ohms
Power requirements	12Vdc, 1.8A, max
Memory channels	100
Tuning accuracy	1.5:1 VSWR (typical)
Continuous duty operation (FSK)	The minimum antenna lengths stated here must be adhered to: <ul style="list-style-type: none">• 75ft (2-30 MHz)• 32ft (3-30 MHz)• 16ft (5-30 MHz)• 10ft (7-30 MHz)
Control interface	RAT7000B: RT7000-series and PRC1099A; AT7000B: TW7000-series

Mechanical, Environmental

Size	RAT7000B: 5.25" (13.3cm) x 13.0" (33cm) x 16.0" (40.6cm) (H x W x D) AT7000B: 3.0" (7.62cm) x 11.0" (27.9cm) x 14.0" (35.6) (H x W x D)
Weight	RAT7000B: 13.8 lbs, (6.27 kg) AT7000B: 6.2 lbs, (2.8 kg)
Construction	RAT7000B: sealed metal case, MIL connectors; AT7000B: Sealed fiberglass case, MIL connectors
Temperature (operating)	30 to +60 degrees C (ambient inside case) NOTE: this temperature can easily be exceeded if the case is exposed to direct sunlight. For FSK operation, it is important that the tuner is installed so that the case is not exposed to direct sunlight.
Shock, vibration	MIL-STD-810 (with shock mount)
Immersion	Waterproof; immersion to 3 feet

Controls and Indicators

Connectors	MIL connectors: RF input, control input, RF output; grounding lug
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Note: all specifications subject to change without notice

Made in the USA