

250 W Automatic Antenna Tuning Unit - Features

Automatic Resistive Matching Range

0.5 R-2 R where R equals antenna system series loss resistance (including ATU)

Remote Monitoring (when used in conjunction with the Nautel Vector series NDB transmitter)

RF antenna current

Resistive match servo inhibited

Inductive tune servo inhibited

Resistive match status/limit

Inductive tune status/limit

Set-up mode

Local/remote

ATU temperature

Fan fail (when fan option installed)

Remote Control (when used in conjunction with a Nautel Vector series NDB transmitter)

Resistive match servo inhibit

Inductive tune servo inhibit

Increase/decrease resistive match

Increase/decrease inductive tune

Metering

Forward power

Reflected power

Antenna current

Local Control

Resistive match servo inhibit

Inductive tune servo inhibit

Increase/decrease resistive match

Increase/decrease Inductive tune

Set-up mode

Transmitter On/Off

Local Monitoring

Resistive match servo inhibited

Inductive tune servo inhibited

Resistive match status/limit

Inductive tune status/limit

Set-up mode

Local/remote

Fan fail (when fan option installed)

Equipment Interface

Remote control/monitoring with RS485 serial communication (DB-9 connector). Additionally available on terminal block.

RF input - (N connector)

Antenna feeder connection (mechanical bolt)

Antenna system ground (mechanical bolt)

Shipping

Export packed in wooden crate

All assemblies to remain in ATU for shipment

ISTA Procedure 1B compliant

Standard Warranty

13 months after shipment

Options

Frequency change kit

Sunshield to reduce thermal load

Adjustable external series resistor increases bandwidth for improved system performance (this option includes the sunshield).

Extended warranty

CSA inspection (offered with ac input only)

Internal circulating fans

Extended frequency band

AC input



250 W Automatic Antenna Tuning Unit – Specifications

Maximum Carrier Power

375 W

Maximum Peak Envelope Power

1,000 W

Maximum Reflected Power after Auto Resistive Match and Reactive Tune

<1.5 W at carrier frequency

Frequency Range

Standard band: 190 kHz to 650 kHz

Extended band: 651 kHz to 1,200 kHz

1,600 kHz to 1,800 kHz

Automatic Tuning Range

±5% antenna capacity variation

Input Impedance

50 ohms nominal

Power Requirements

24 V dc ± 5% at 1 A dc, supplied from transmitter

Optional: 115 V / 230 V ac single-phase

± 15%, 50 Hz / 60 Hz, 35 VA maximum

Maximum Series Loss Resistance

Not greater than 1/600 x antenna reactance

Fixed Matching Range Antenna System Resistance

2 to 60 ohms

Antenna Capacitance

190 pF to 1,250 pF

Capable of tuning larger and smaller capacitances dependent on frequency.

Consult factory.

MTBF

Greater or equal to 56,405 hours using MIL HDBK 217E calculation methods.

Field data for Nautel ATU's indicate MTBF in excess of 3,000,000 hours

MTTR

Less than or equal to 30 minutes at PWB/module level

Cooling and Heat Flushing

Convection cooled

Optional Fan Assembly which internally circulates air at approximately 220 cu.ft/min when internal ATU temperature is greater than 60°C

Altitude

Up to 3,048 m (10,000 ft.)

Environmental Limits

Operating:

-50°C to +55°C

0%-100% relative humidity

Storage:

-50°C to +100°C

0% to 100% relative humidity

Climate

Any – including tropical

Dimensions (without sunshield)

Wall Mount

97.6 cm H x 95 cm W x 43.6 cm D

(38.42" H x 37.4" W x 17.16" D)

Base Mount

100.2 cm H x 90.7 cm W x 38.5 cm D

(39.5" H x 35.7" W x 15.16" D)

Dimensions (with external series resistor and/or sunshield)

Wall Mount

112 cm H x 96.3 cm W x 52.5 cm D

(44.08" H x 37.92" W x 20.68" D)

Base Mount

115.8 cm H x 96.3 cm W x 50.8 cm D

(45.6" H x 37.92" W x 20" D)

Weight (without sunshield)

Less than or equal to 40.4 kg (80 lbs) unpacked.

Standards

IP66 rated

Tested for compliance to MIL-STD-810 F Method 509.2 (Salt Fog)

Specifications established at rated power unless otherwise noted. All measurements at standard antenna load; AC input voltage at nominal level.

