



## 125 W Automatic Antenna Tuning Unit

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

RF antenna current  
Inductive tune status  
Local/remote

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

Inductive tune servo inhibit  
Increase/decrease inductive tune

### Metering

Forward power: 0W - 200W  
Reflected power: 0W - 200W  
Antenna current: 0A-10A

### Local Control

Inductive tune servo inhibit  
Increase/decrease inductive tune  
Transmitter On/Off when used in conjunction with the Nautel Vector series transmitter

### Local Monitoring

Inductive tune servo inhibited  
Inductive tune status/limit  
Transmitter OFF  
Local/remote  
CPU ok  
DC supply status

### Equipment Interface

Remote control/monitoring with RS485 serial communication (DB-9 connector with 5 connections and additionally available on terminal block).

DC Input (terminal block)

RF input - (N connector)

Antenna feeder connection (mechanical bolt)

Antenna system ground (mechanical bolt)

### Lightning Protection

Adjustable Spark Gap

### Static Discharge

Direct DC Ground at Antenna Feeder to assist with static discharge requirements

### Shipping

Export packed in wooden crate  
All assemblies to remain in ATU for shipment

### Options

Sunshield to reduce thermal load  
Extended warranty

### Maximum Carrier Power

200 W

### Maximum Peak Envelope Power

500 W

### Maximum VSWR after fixed resistive match and Auto Reactive Tune

<1.25:1 at carrier frequency

### Frequency Range

Standard band: 190 kHz to 1800 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

### Maximum Series Loss Resistance

Not greater than 1/200 x antenna reactance

### Antenna System Resistance

2 to 60 ohms

# ATU-500SR

TECHNICAL SUMMARY ISSUE 1.3  
www.nautel.com | info@nautel.com



## 125 W Automatic Antenna Tuning Unit

### Dimensions

#### Wall Mount

72.4 cm H x 63.5 cm W x 31.1 cm D  
(28 1/2" H x 25" W x 12 1/4" D)

#### Base Mount

74.6 cm H x 60.4 cm W x 25.9 cm D  
(29 3/8" H x 23 3/4" W x 10 3/16" D)

### Weight

18 kg (40 lbs) unpacked

29 kg (86 lbs) packed

### Standards

IP66 rated

Exceeds performance of FAA9782/1

Finish meets AAMA 603.8 an CGSB-1-GP-300  
specification

### Compliant with Green Passport requirements

### MTBF

Greater or equal to 99,844 hours using MIL HDBK  
217E calculation methods

Field data for Nautel NDB/DGPS systems 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

Cooled by radiation from the sealed enclosure

### Altitude

Up to 3048 M (10,000 ft)

### Environmental Limits

#### Operating:

-50° C to +55° C

0%-100% relative humidity

#### Climate

Any - including tropical

Finish meets AAMA 603.8 an CGSB-1-GP-300  
specification

### Typical Antenna Capacitance

Height	35 ft	70 ft	100 ft
Fiberglass Whip with no coil loading	130 pF	270 pF	-
Insulated Tower without top loading guys	190 pF	370 pF	500 pF
Insulated Tower with top loading guys	250 pF	480 pF	650 pF
"T" Antenna (Note: span is twice height)	470 pF	700 pF	900 pF
Helipad Antenna	230 pF to 690 pF		

### Loading Coil Selection Matrix

kHz \ pF	190	300	450	700	1000	1250	1800
125	-	A	A	A,B	A,B	B	B
250	A	A	A,B	A,B	B	B	B
500	A	A	A,B	B	B	B	-
1000	A	A,B	B	B	-	-	-
2000	A,B	B	B	-	-	-	-
3000	B	B	B	-	-	-	-

**A - High Inductance set of coils with ferrite slugs**

**B - Low Inductance Set of coils with ferrite slugs**

SPECIFICATIONS SUBJECT TO CHANGE  
WITHOUT NOTICE.