

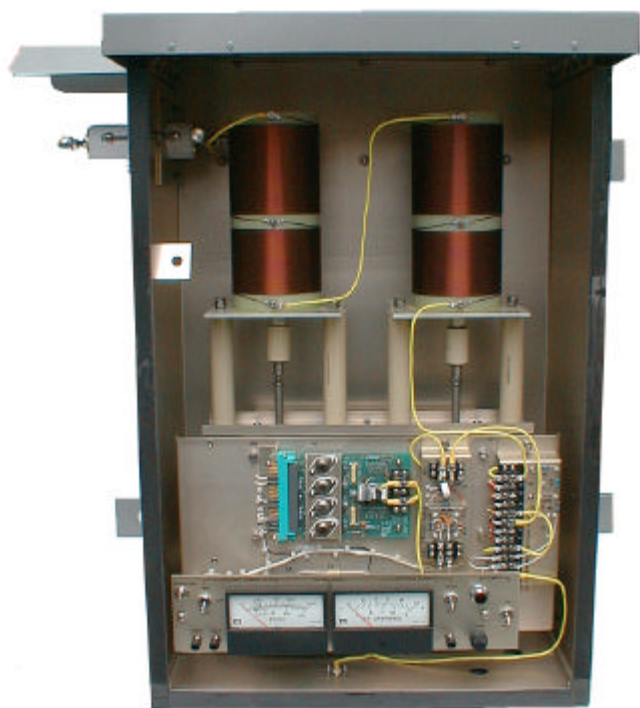


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Marine + Aero

NX500TUB

(FAA9782/1)

**125 Watt AUTOMATIC
ANTENNA TUNING UNIT**



Nautel Automatic Antenna Tuning Units eliminate the detuning problems inherent in high 'Q' LF/MF antennas encountered under varying climate conditions. A closed loop servo tuning system ensures that the antenna is maintained at series resonance and therefore provides a constant 50 ohm resistive load. This allows the transmitter to be installed at any distance from the antenna site.

An adjustable spark gap and a direct ground return in the antenna circuit within the unit provide a high degree of protection against lightning transients.

This AATU is housed in a heavy-duty ventilated, weather resistant cabinet with a protective finish suitable for outdoor land environments. Brackets for rear mounting are provided on the cabinet. Meters and controls are conveniently mounted on the front panel of a readily removable chassis immediately behind the lockable door.

NAUTEL's NX500TUB Automatic Antenna Tuning Unit, (AATU) is designed to match the ND500 125 watt radiobeacon to any customer's antenna system.

- Inherently Stable A-Static Pair of Coils
- Automatic Fine Tuning
- 50 Ohm Input Impedance, install any distance from antenna
- Adjustable Spark Gap and Direct Ground Return
- Separate FWD/REFL POWER and ANTENNA CURRENT meters

GENERAL

The closed loop servo system operates by deriving an error signal proportional to the phase difference between the voltage and current in the antenna circuit. This signal is then amplified to drive a servo motor which moves two ferrite tuning slugs in or out of the two loading coils to maintain zero phase error and achieve series resonance.

The use of two identical loading coils connected in series or parallel but with windings in opposite directions establishes a magnetic field that flows around in a loop formed by these loading coils. This minimizes shielding losses and detuning when the AATU cover is opened and closed.

Two sets of coils are available.
(see *Antenna Capacitance Ranges*)
Choose A or B or both.

SPECIFICATIONS

Average power
200 watts

Maximum P.E.P
500 watts

Frequency range
190 – 1.8 MHz

Automatic tuning range
± 5% Antenna capacity variation

Input impedance
50 ohms (VSWR <1.25:1 at carrier frequency)

Power requirements
15 VDC at 0.5 A max.
Supplied from ND500

Metering
FWD/REFL power and
Antenna Current 0-10 and
0-2 amps

Matching range antenna system resistance
2-60 ohms

Maximum series loss resistance of loading coil
Not greater than 1/200 x antenna reactance

Size
Height 65.5cm (26.2")
Width 46cm (18.4")
Depth 25.5cm(10.2")

Weight
18 kg (40 lbs.)
39 kg (86 lbs.) packed

Environmental limits
-50°C to +55°C, 0 to 100% relative humidity

• **Adjustable Spark Gap and Direct Ground**



Antenna Capacitance Ranges**

FREQUENCY BAND	CAPACITANCE RANGE	COIL SET
190 – 535 kHz	250 to 2500 pF	A and B
190 - 650 kHz	250 to 1500 pF	A and B
650 - 1250 kHz	80 to 480 pF	B only
1.65 – 1.8 MHz	50 to 240 pF	B only

• ****Lower limits:**
i.e. minimum antenna capacity shown is for 190 kHz operation and defines peak voltage limit, lower antenna capacities can be accommodated at higher frequencies – consult factory for additional details.

FOR FURTHER DETAILS PLEASE CONTACT

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Specifications subject to change without notice