

Vector D Series

FEATURES ISSUE 3.4
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750 W to 3,000 W DGPS Transmitter

ATU Control (If ATU-HP or ATU-LP used)

Control available over a serial RS485 connection, 1,000 m (3,280 ft.) maximum.

Resistive Match Servo Inhibit

Inductive Tune Servo Inhibit

Increase/Decrease Resistive Match

Increase/Decrease Inductive Tune

ATU Monitor (If ATU-HP or ATU-LP used)

Monitoring available over a serial RS485 connection, 1,000 m (3,280 ft.) maximum.

Antenna Current

Resistive Match Servo Inhibited

Inductive Tune Servo Inhibited

Resistive Match Limit

Inductive Tune Limit

Local/Remote

Set-up Mode

ATU Temperature

Fan Fail

Monitor Failure Thresholds

Adjustable threshold normally set so that changeover can occur if:

- Carrier power reduces more than 3 dB
- Carrier power increases more than 2 dB

In current feedback mode (if used with Nautel's ATU-HP or ATU-LP), the output power automatically adapts to ensure a constant antenna current.

As the output power level changes, the fault thresholds adjust to reflect the new output power level. Essentially, when in current feedback mode, the fault thresholds are referenced to the preset antenna current.

Transmitter Local/Remote Control

Including but not limited to:

Control available using RSIM over a serial RS422 and/or RS232 connection

Operating Side (A/B)

Transmitter Reset

Automatic Side Switchover Enable

Transmitter Power (On/Off)

Power Source (AC/DC)

Increase/Decrease RF Power

Transmitter Local/Remote Monitor

Including but not limited to:

Monitoring available using RSIM over a serial RS422 and/or RS232 connection

Transmitter temperature

Operating Side Status

Main Side Selected

Power Source (AC/DC)

Interlock Open

Local / Remote

Monitor Bypass

RF On Status

VSWR Alarm

MSK Input Alarm

Low AC

Memory Battery

Changeover

Shutdown

Monitor Failure

Fault location to the lowest replaceable unit

Metering (Analog meter and digital display)

Forward Power, Reflected Power, Antenna Current, DC Voltages, DC Current, VSWR, AC Voltage, Transmitter and ATU Temperature, PA Volts.

Shipping

Export packed in wooden crate

All assemblies to remain in transmitter for shipment

ISTA Procedure 1B compliant

Options

Dual Operation

ATU-HP or ATU-LP

Extended warranty

CSA inspection

DGPS site control/monitor

Battery charger

USB

144V back-up operation for Vector D750 and D1500

*48 V dc back-up operation

*available only for Vector D750 transmitter output power limited to 375 W when operating on 48 V dc

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Modulation Rates

25 to 2,000 bits/sec

Continuous Carrier Power

750 W, 1, 500 W, 2,250 W and 3,000 W maximum

All are adjustable from 10% to 100% of maximum

Frequency Range

Single channel

190 kHz to 535 kHz standard band

Emission Mode

G1D (MSK)

External Drive Level

0.4 vpp - 4 vpp into 50 ohms

RF Terminating Impedance

50 ohms unbalanced

Maximum Reflected Power Threshold

Product	Peak Reflected Watts
Vector D750	30 W
Vector D1500	60 W
Vector D2250	90 W
Vector D3000	120 W

* The above peak reflected watts causes stepped reduction in output power until reflected power is less than maximum peak reflected watt threshold

Product	Peak Reflected Watts
Vector D750	80 W
Vector D1500	160 W
Vector D2250	240 W
Vector D3000	320 W

* The above peak reflected watts causes instantaneous reduction in output power to 0 W.

Changeover and shutdown are inhibited when reflected power thresholds have been exceeded.

Harmonic Levels

Not exceeding -80 dB relative to carrier when used in conjunction with an ATU-HP into a standard antenna load.

Not exceeding -70 dB relative to carrier when used in conjunction with an ATU-LP into a standard antenna load

MTBF Transmitter

Greater than or equal to 15,072 hours using MIL_HDBK 217E calculation methods

Field experience indicates MTBF in excess of 3,000,000 hours for Nautel NDB/DGPS systems.

MTRR Transmitter

Less than or equal to ½ hour at PWB/module level

Electromagnetic Compatibility

Designed for compliance with applicable standards

ESD

Designed for compliance with applicable standards

AC Efficiency

70% AC input to RF output

Environmental Limits

Operating:

-10°C to +55°C

0% to 95% relative humidity

Storage:

-30°C to +70°C

0% to 95% relative humidity

Climate

Any including tropical

Altitude

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

Safety

Compliant with EN60215:1996 Safety Requirements for Radio Transmitting Equipment

Compliant with Nautel Internal Safety Audit.

Designed with intent to comply with Safety Code 6 and/or IEEE C95.1-1999 when used with Nautel ATU-HP or Nautel ATU-LP

Compliances

Designed with intent to comply with R&TTE Directive 1999/5/EC

Weight (Unpacked)

Vector D750

121 kg (265 lbs)

Weight (Packed)

Vector D750

168 kg (371 lbs)

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Dimensions

(Includes side panels, rear door and output connector)

186.7 cm H x 58.4 cm W x 75.2 cm D

(73.5 in. H x 23.0 in. W x 29.6 in. D)

Power Requirements

Product	Power Requirements
Vector D750	single phase 170 V ac to 270 V ac, 50/60 Hz 1550 VA maximum, dc 144 V dc @ 6.9A
Vector D1500	single phase 170 V ac to 270 V ac, 50/60 Hz 3100 VA maximum, dc 144 V dc @ 13.8A
Vector D2250	single phase 170 V ac to 270 V ac, 50/60 Hz 4650 VA maximum
Vector D3000	single phase 170 V ac to 270 V ac, 50/60 Hz 6200 VA maximum

*dc input is reverse polarity protected and has low battery disconnect.

Cooling and Heat Flushing

(Forced Air pressure)

Product	Normal Operation cu. ft/min
Vector D750	110
Vector D1500	220
Vector D2250	330
Vector D3000	440

*additional 55 cu. ft/min when operating from external 48 V dc
and 110 cu. ft/min when operating from external 144 V dc

Notes:

Specifications defined in a laboratory environment with high grade source and demodulation equipment. Standard factory measurement does not include all items

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.