

# Vector D Series

FEATURES Issue 2.0

www.nautel.com | info@nautel.com

Preliminary Specifications. Subject to change.

## 750 W to 3,000 W DGPS - Features

### 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

RF Over Current

MSK Input Alarm

Low AC

Memory Battery

Changeover

Shutdown

Monitor Failure

Fault location to the lowest replaceable unit

### Metering

Analog Meter:

Forward Power, Reflected Power, Antenna Current, Modulation Percentage

Digital Display:

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

### Shipping

Export packed in wooden crate

All assemblies to remain in NDB for shipment

ISTA Procedure 1B compliant

### Options

ATU-HP or ATU-LP

Extended warranty

CSA inspection

DGPS site control/monitor

Modem

USB

\*48 V dc back-up operation

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

### Standard Warranty

13 months after shipment



# Vector D Series

SPECIFICATIONS Issue 2.0

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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

-3 dBm to +10 dBm 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 15,000 hours using MIL-HDBK 217E calculation methods

Field experience indicates MTBF in excess of 3,000,000 hours for Nautel Radiobeacon Transmitters.

## MTTR 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:

-30°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

Designed with intent to comply with Directive 73/23/EEC

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 1995/5/EC

## Weight (Unpacked)

Unknown at present

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## Dimensions

(Includes side panels, rear door and output connector)

186.7 cm H x 58.4 cm W x 73.7 cm D

(73.5 in. H x 23.0 in. W x 29 in. D)

## Power Requirements

Product	Power Requirements
Vector D750	single phase 170 V ac to 270 V ac, 50/60 Hz 1550 VA maximum
Vector D1500	single phase 170 V ac to 270 V ac, 50/60 Hz 3100 VA maximum
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

## Cooling and Heat Flushing

(Forced Air pressure)

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

