

Vector 1500TT/3000TT

FEATURES ISSUE 0.1 PRELIMINARY
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FEATURES

1500w and 3000w Medium Frequency NAVTEX Transmitters

ATU Control (If ATU-HP-TT used)

Control available over a serial RS485 connection, 1000 m (3280 ft.) maximum.

Resistive Match Servo Inhibit

Inductive Tune Servo Inhibit

Increase/Decrease Resistive Match

Increase/Decrease Inductive Tune

Channel Select

Servo Inhibit

ATU Monitor (If ATU-HP-TT used)

Monitoring available over a serial RS485 connection, 1000 m (3280 ft.) maximum.

Antenna Current

Resistive Match Servo Inhibited

Inductive Tune Servo Inhibited

Resistive Match Limit

Inductive Tune Limit

Local/Remote

ATU Temperature

Fan Fail

Transmitter Inhibit/Enable

Monitor Failure Thresholds

Adjustable threshold may be set so that shut-down 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-TT), the output power automatically adapts to ensure a constant antenna current. As the output power level changes, the fault thresholds (if enabled) 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:

Channel 1 or 2

Transmitter Reset

Power Level 1, 2 or 3

Transmitter Power (On/Off)

Increase/Decrease RF Power

Operating Mode

F1B Enable

Transmitter and ATU Local/Remote Monitor including but not limited to:

Transmitter temperature

Operating Status and Mode

Active Channel

Interlock Open Alarm

Local/Remote

Antenna Fault

Transmitter Ready (transmitter on and tuned)

Monitor Bypass

RF On Status

VSWR Alarm

Low AC

Memory Battery

Shutdown

Key Status

F1B Enable Status

Power Level Status

Fault location to the lowest replaceable unit

Metering

(Analog meter and digital display)

Forward Power

Reflected Power

Antenna Current

DC Voltages

DC Current

AC Voltage

VSWR

Transmitter and ATU Temperature

PA Volts

Options

VRLink-TT Remote Serial Interface

ATU-HP-TT

F1B Modem

Extended warranty

CSA inspection

Remote Interface (optoisolators/relay contacts)

USB

Changeover unit for two transmitter (main/stand-by) site configurations

Simple remote control/monitoring panel

Standard Warranty

18 months after shipment



SPECIFICATIONS

Continuous Carrier Power

1500 W and 3000 W maximum
Both are specified to meet stated specifications from 10% to 100% of maximum and are adjustable from 0% to 100%.

Frequency Range

Dual channel
490 kHz and 518 kHz
Direct Digital Synthesizer as RF source

Frequency Stability

± 0.0003% over full environmental range

Emission Mode

NON (CW no modulation)
F1B - FSK with ± 85 Hz shift

RF Terminating Impedance

50 ohms unbalanced

F1B Key Data Input

Key Down = logic '0' or logic '1'
Logic '0' = 0 Vdc (ground or open circuit)
Logic '1' = +5.0 Vdc to +48.0 Vdc
or -5.0 Vdc to -48.0 Vdc

Keying Rate

100 baud maximum in F1B emission mode

Keying Bandwidth

Meets requirements of ITU-R SM.328-11 and ITU-R SM.329-10

Maximum Reflected Power Threshold

60 W (Vector VR1500TT)
120 W (Vector VR3000TT)

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

160 W (Vector VR1500TT)
320 W (Vector VR3000TT)

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

Shutdown (if enabled) is 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-TT 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 LF/MF Navigation systems.

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:
-10°C to +55°C
0% to 95% relative humidity (non condensing)
Storage:
-30°C to +70°C
0% to 95% relative humidity (non condensing)

Climate

Any, including tropical

Altitude

Up to 3048 m (10,000 ft.)

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TECHNICAL SUMMARY ISSUE 0.1 PRELIMINAR
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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-TT.

Compliances

Compliant to Industry Canada RSS-117.

Designed with intent to comply with R&TTE Directive 1995/5/EC.

IMO GMDSS NAVTEX Manual

Dimensions

(Includes side panels, rear door and RF out connector)

186.7 cm H x 58.4 cm W x 73.7 cm D
(73.5" H x 23.0" W x 29" D)

Weight (Unpacked)

VR1500TT - Approx. 137 kg (302 lbs)
VR3000TT - Approx. 155 kg (342 lbs)

Weight (Packed)

VR1500TT - Approx. 184 kg (405 lbs)
VR 3000tt - Approx. 202 kg (445 lbs)

Power Requirements

Vector VR1500TT:

Single phase 170 V ac to 270 V ac, 50/60 Hz
3100 VA maximum

Vector VR3000TT:

Single phase 170 V ac to 270 V ac, 50/60 Hz
6200 VA maximum

Cooling and Heat Flushing

(Forced Air pressure)

220 cu. ft./min. (Vector VR1500TT)

440 cu. ft./min. (Vector VR3000TT)

Shipping

Export packed in wooden crate

All assemblies to remain in transmitter for shipment

ISTA Procedure 1B compliant

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.