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FEATURES

Medium Frequency NAVTEX Transmitter

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

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

Selected Channel

Local/Remote

ATU Temperature

Fan Fail

Transmitter Inhibit/Enable

Monitor Failure Thresholds

Adjustable threshold may be set so that shutdown 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 and ATU Local/Remote Control including but not limited to:

(Control available using RS422 and/or RS232 connection via Nautel VR-Link)

Channel 1 or 2

Transmitter Reset

Power Level 1, 2 or 3

Transmitter Power (On/Off)

Increase/Decrease RF Power

F1B Enable

CW Test

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

(Monitoring available using RS422 and/or RS232 connection via Nautel VR-Link)

Transmitter temperature

Operating Status

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

IP via VR-Link

ATU-HP-TT

F1B Modem

Extended warranty

CSA inspection

Remote Interface (opto-isolators/relay contacts)

USB

Changeover unit for two transmitter (main/standby) site configurations

Simple remote control/monitoring panel

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SPECIFICATIONS

Continuous Carrier Power
750 W, 1500 W and 3000 W maximum
All are adjustable from 10% to 100% of maximum

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
N0N (CW no modulation)

F1B - FSK with ± 85 Hz shift

RF Terminating Impedance
50 ohms nominal

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
30 W (Vector VR750TT)
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.

80 W (Vector VR750TT)
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.

Spurious Levels
Not exceeding -60 dB relative to carrier.

MTBF Transmitter
Greater than or equal to 15,444 hours using MIL_ HDBK 217E calculation methods (two transmitter configuration).

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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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)

VR750TT - Approx. 128 kg (282 lbs)
VR1500TT - Approx. 137 kg (302 lbs)
VR3000TT - Approx. 155 kg (342 lbs)

Weight (Packed)

VR750TT - Approx. 175 kg (386 lbs)
VR1500TT - Approx. 184 kg (405 lbs)
VR 3000TT - Approx. 202 kg (445 lbs)

Power Requirements

Vector VR750TT:

Single phase 170 V ac to 270 V ac, 50/60 Hz
1550 VA maximum

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)

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

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.