

## TECHNICAL SPECIFICATIONS

### VisionMaster FT Navigation & Surveillance Radar 6002

#### ANTENNA

Frequency Band: 9.0 - 9.2 GHz  
9.225 – 9.5 GHz  
Peak Sidelobe Level Ratio (PSLR): >60dB

Antenna sizes and types:

- High performance 7, 12ft
- Alternative sizes and various beam shapes can be offered as well as built in IFF antenna

#### TRANSCIVER

##### Transmitter Characteristics

Solid-State Power Amplifier (SSPA)  
Power: 200W/40W/350KW peak/average/equivalent  
Modulation: up to 40MHz bandwidth  
Duty Cycle: up to 20%  
Chirp Duration: 0.15 – 160  $\mu$ s  
Chirp Repetition Frequency (CRF) 1-20KHz  
Stagger: Up to 50%  
Pulse compression ratio/gain: up to 1500:1/ ~32dB  
Frequency Sub-bands: up to 16 carriers  
Sector Transmission: Sector Blanking and adjustable power level with 0 -  $\geq$ 16 dB attenuation in up to 31 sectors. Sector Size 10 $^{\circ}$  - 359 $^{\circ}$

##### Receiver Characteristics

Dual Channel – Superheterodyne 14bit IF sampling @ 400MHz  
Dynamic Range:> 140dB  
Noise Figure LNFE 2.5dB  
Minimum Detectable Signal (MDS): -130dBm (equivalent after pulse compression and processing)  
MTI improvement factor: 35dB  
Sub-clutter visibility: 25dB  
Range cells 3 and 6 meter cells  
Target Separation: better than 12 m (3 meter cells)  
better than 18 m (6 meter cells)

#### Transceiver features

Performance monitoring and measurements: FWD/REV powers and noise figure  
Number of profiles: 16  
Global Tracker ET2  
LPI mode from 0.2 Watt to full power in all 16 sectors  
Built in service software: operated with remote laptop

Minimum Detection Range (MDR): 30m  
Instrumented Range: up to 96 nmi  
Target Separation: better than 12m (3m cells)

## NAVIGATIONAL FEATURES

#### Display

Extreme Dynamic Video Range  
Transceiver Control and Status:

- Operator selection of surface or air video
- Profile selection
- Control of STC / gain
- Change of operational state
- BITE Diagnostics, with Alarms & Warnings

Range:

- Scales: 0.125NM to 96NM
- Rings Intervals: 0.025NM to 16NM
- Units: NM, km, kyd, mi, cables

Processing: Doppler based  
Colour Levels: 256

Sector management: up to 16 sectors

Trails modes:

- True and relative trails
- Ground or water stabilised
- 6 different modes
- Trails retention (up/down scale, true/relative)
- Instant trail display

iHelp:

- Surveillance: Quick and Extended versions in Transmit and Standby
- Radar: Quick Version in Transmit mode
- Extended in stand-by mode

Use of the entire screen for increased awareness  
Multiple Menu Management

### Target

Global Tracking: up to 600 per system  
 AIS Capacity: up to 240  
 Correlation: built-in  
 Separation: down to 0.028nmi at 2nmi range  
 Past Positions: up to 4

Naming: Manual or AIS  
 Vectors: True and Relative  
 Vector Length: 1 to 60 minutes  
 Anchor Watch, PDS,  
 System Targets on Radar

### Other Features

Man Overboard Detection  
 Total Watch capability in same display:

- Radar and Chart Radar
- Ecdis and Ecdis with Radar Overlay
- Conning Display
- Surveillance mode
- Central Alarm Management (Option)
- Track Control (Option with Sperry Marine Navipilot 4000 & 4000+)

Search and Rescue Patterns  
 Navalised Features:

- Helicopter Approach Sector
- Target Intercept
- Remote Marker Input/output
- Station Keeping

### POWER REQUIREMENTS

Top Unit Supply Voltage: 110, 220, 380, 440 VAC  
 Powered by frequency inverter

Display: Voltage 92-276V, 1 Phase,  
 Frequency 47-64 Hz

### ENVIRONMENTAL CONDITIONS

#### Display

Meets the environmental requirements of IEC 60945

#### Turning Units & Transceiver

Designed to meet the following environmental aspects of IEC 60945 in the condition stated:

Vibration: 3-13Hz  $\pm$  1mm / 13.2 – 100Hz, 0.7g 2h  
 IP Protection Class: IP 54 (Dust and Watersplash)

Temperature: -30°C to 55°C  
 Humidity: 80%RH to 96%RH @ -10°C to 60°C

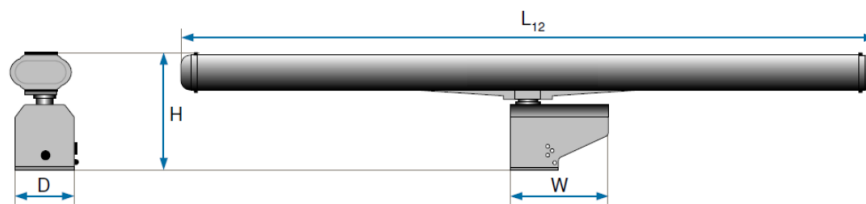
### PHYSICAL DIMENSIONS

#### 7ft Top Unit

Weight in kg: 100  
 H x L x D x W in mm: 694 x 2337 x 305 x 580

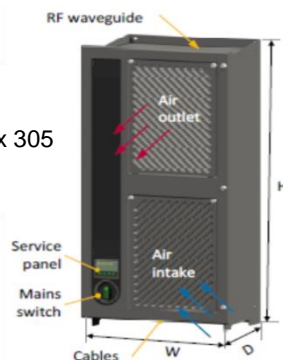
#### 12ft Top Unit

Weight in kg: 130  
 H x L x D x W in mm: 694 x 4112 x 305 x 580



#### Transceiver

Weight in kg: 77  
 H x D x W in mm: 990 x 497 x 305



#### Display

Weight in kg: 136.5  
 H x D x W in mm: 1102 x 843 x 680  
 Also available in kit format for console mounting.

