Datasheet
Sentinel Sonar Processor

The Sentinel Sonar Processor is a rack mounted or expeditionary unit used for processing the raw sonar data received via the Sonar Cable from a Sentinel Sonar Head. In any Sentinel system deployment, one Sentinel Sonar Processor is required for each Sonar Head. Multiple Sonar Processors may be connected to a single Command Workstation in a multi-head Sentinel system.

Raw hydrophone data is received from the Sonar Head via the Sonar Router in the Power Distribution Unit (PDU). The data is directed to the Processor Unit, running the Signal Processing (SP) software. The SP performs pulse compression and beamforming processes to produce full resolution sonar data and image data suitable for display. The sonar data is fed to the Automatic Detection and Tracking (ADT) software. The ADT performs an advanced detection process followed by tracking and classification. The resulting track data, along with the display images and system status messages, are transferred to the Command Workstation.
The Sentinel Processor Units are completely interchangeable, with

the full suite of Sentinel software installed on every processor and the role determined at run time by a coded USB dongle. This approach significantly reduces spares keeping requirements and increases ease of maintenance and upgrade.

The PDU accepts 115/230 V 60/50 Hz AC input and provides power to the Processor Unit, protected by a residual current device circuit breaker with a further, separately switched output for Sonar Head power, protected by a secondary earth-leakage protection device. As an additional safety measure when in air the Sonar Head casing can be connected to the supply ground via a third PDU switch.

For expeditionary systems, the Sonar Head Ethernet and power connections are provided via IP65 immersion and salt spray proof connectors and the entire unit is packed in a shock and weather resistant enclosure, suitable for air shipping.

Th Processor Unit is configured to start the Sentinel applications automatically on power-up, allowing the system to be started without a monitor or keyboard connected.

Sentinel is a Wavefront product developed, commercialised, and sold in partnership with Sonardyne, a Covelya Group company

- Ruggedised COTS-based Processors
- Sonar Processor contains 1 Processor Unit (590-0007) and 1 PDU (620-0035)
- Standard 19"/482.6 mm IEC 60297 Rack Mounting
- Performs pulse compression, beamforming, detection and tracking processes
- Receives control and configuration from Command Workstation
- Exports sonar display data, tracks and status to Command Workstation
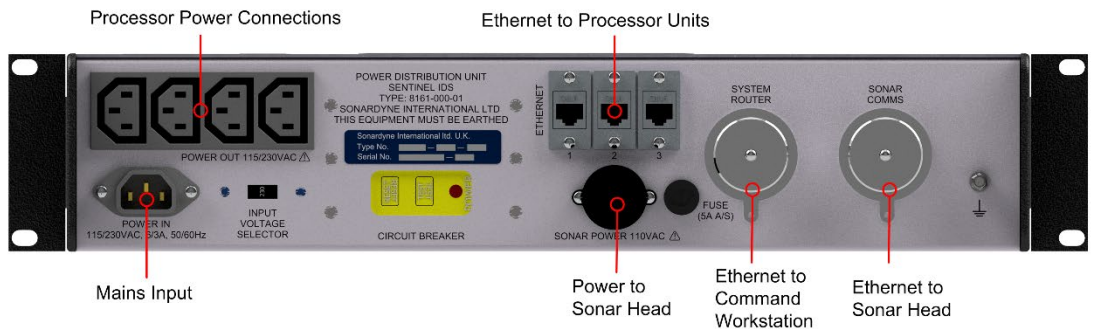- Auto-ranging power input, 115/230V AC
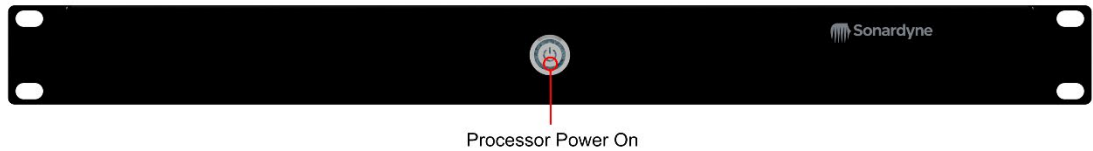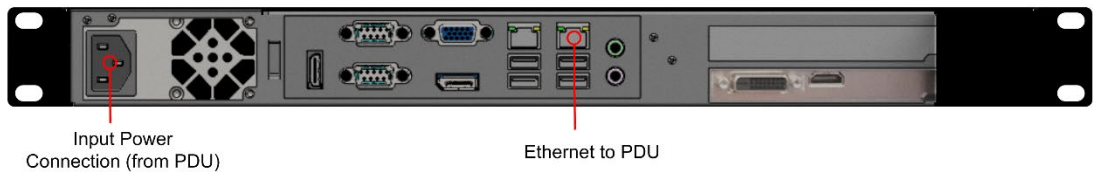
Specifications
Sentinel Sonar Processor

PDU Front

System Power On Indicator   Sonar Power On Indicator   Sonar Grounded Indicator

SYSTEM POWER   SONAR POWER   SONAR GROUNDED

PDU Rear

Processor Power Connections   Ethernet to Processor Units

Mains Input   Power to Sonar Head   Ethernet to Command Workstation   Ethernet to Sonar Head

Processor Unit Front

Processor Power On

Processor Unit Rear

Input Power Connection (from PDU)   Ethernet to PDU

Type 8161-002-01		
Power Supply		Auto-switching 115/230 V AC, 6/3 A, 60/50 Hz
Environmental Specifications	Operating	0 to 40°C (32 to 104°F)
	Storage	-10 to 70°C (14 to 158°F)
	Relative Humidity	20–80% (non-condensing)
	Shock	10 G acceleration peak to peak 5–17 Hz, 0.1" double amplitude displacement 17–640 Hz, 1.5 G acceleration peak to peak
Dimensions in expeditionary case (Length x Width x Height)		772 x 563 x 307 mm

Specifications subject to change without notice

For further information, contact us at   enquiries@wavefront.systems

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