

Datasheet

Sentinel Sonar Processor



The Sentinel Sonar Processor is used to perform signal and data processing on the raw sonar data received via the Sonar Cable from the Sonar Head. In any Sentinel System deployment, one Sentinel Sonar Processor is required for each Sonar Head.

Raw hydrophone data is received, via ethernet, at the Sonar Power Distribution Unit (PDU). The internal router then redirects this traffic to the Sentinel Processing Unit (SPU) that has had its role set as Signal Processor (SP). The SP receives the raw hydrophone data and performs correlation/pulse compression and beamforming processes to produce both a full-resolution ping matrix and the required raw data display images. Using the internal router, the ping matrix is transferred to the SPU that has had its role set as Automatic Detection and Tracking Processor (ADT). The ADT receives the ping matrix and performs an advanced detection process followed by tracking and classification processes, the resulting track data is then output to the internal router, where, along with the display images and any system status messages, it is made available to the Command Workstation.

The Sentinel Processing Units (SPU's) 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 a switched output for the two SPU's, protected by a residual current device circuit breaker with a further, separately switched output for sonar 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

Sonar Cable Reel signal 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.

SPU's are configured to start the Sentinel applications automatically on power-up allowing the system to be started without a monitor or keyboard connected.

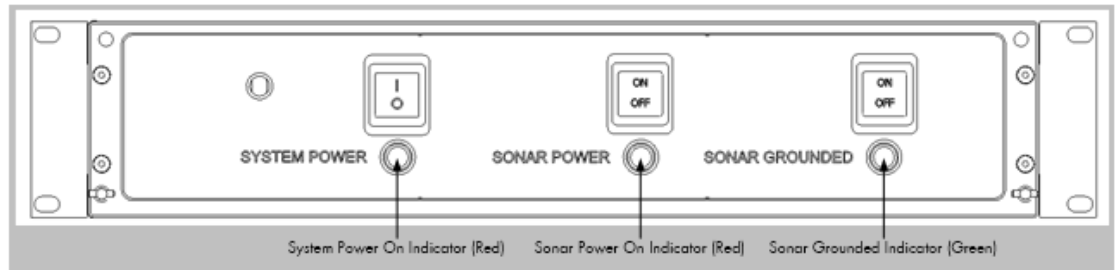
Key Features

- Ruggedised COTS Based Processing
- Sonar Processor contains 2 SPU's (620-0051) and 1 PDU (620 0035)
- Standard 19"/482.6 mm IEC 60297 Rack Mounting
- Performs Correlation, Beamforming and Tracking Processes
- Receives control and configuration data from Command Workstation
- Exports Track, Status and Display Image data to Command Workstation
- Switchable Power Input, 115/230 V

Specifications

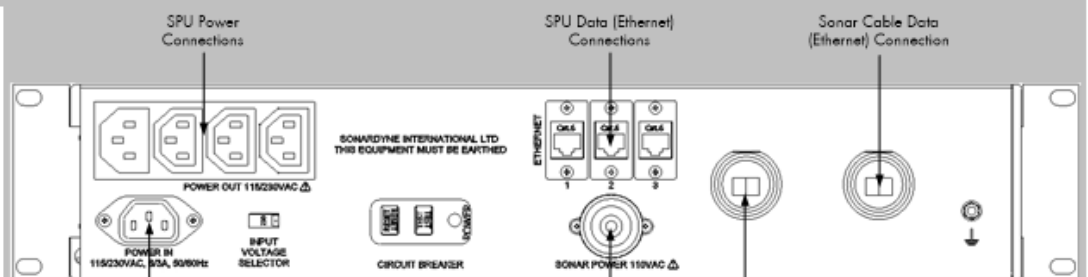
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PDU Front



System Power On Indicator (Red) Sonar Power On Indicator (Red) Sonar Grounded Indicator (Green)

PDU Rear



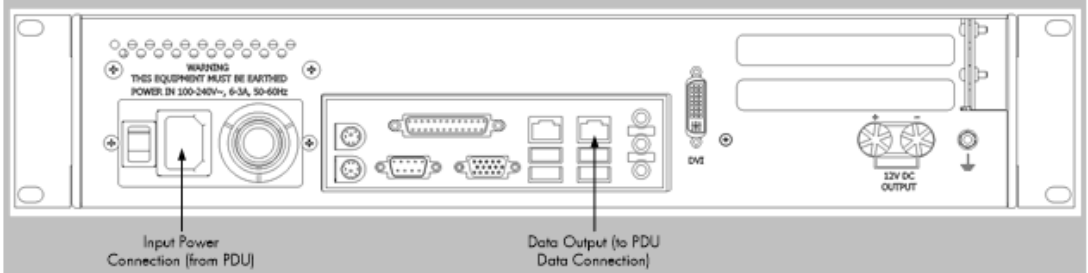
Input Power Connection SPU Power Connections SPU Data (Ethernet) Connections Sonar Cable Data (Ethernet) Connection Sonar Cable Reel Power Connection Command Workstation Data Connection

SPU Front



SPU Power Indicator SPU Disk Activity Indicator

SPU Rear



Input Power Connection (from PDU) Data Output (to PDU Data Connection) 12V DC OUTPUT

Feature		Type 8161-002-001
Power Supply		Manual switched 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 (Length x Width x Height)		384 x 482 x 88 mm (15.1 x 18.9 x 3.4")