



The CSDS-85 surveillance sonar is a fifth generation, high-performance, active omni sonar designed for the detection of underwater intruders such as divers using open or closed breathing apparatus, swimmers, swimmer delivery vehicles, mini-submarines and unmanned underwater vehicles. It can be deployed in a single unit configuration for harbour surveillance or can be networked as a series of sonars to maximize area coverage. The sonar can also be deployed from a ship to provide security in high risk locations, such as foreign ports. The sonar can be integrated with other sensors to provide a common operational picture of a designated area.

APPLICATIONS

- Harbour surveillance
- Coastal perimeter surveillance - naval
- bases, power plants, etc.
- Strategic waterway access monitoring
- Protection of high value assets - surface
- ships, offshore drill rigs, etc.

CSDS-85 Omni Sonar® Surveillance System Specifications

Equipment Type	Omni directional scanning sonar
Operating Frequency	80 kHz nominal
Sound speed	1400 m/s to 1600 m/s manual setting
Sonar Image Display	Flat panel monitor (LCD) in SVGA format. PPI display of echo intensity encoded image. Operator selectable echo encoding up to 16 colours or 16 shades of grey. Video output in standard SVGA format.
Field of View	360° normal
Compass Corrected Display	Relative Bearing or North-Up operator selected bearing reference.
Range Scales (@ sound speed 1500 m/s)	2000 m, 1500 m, 1000 m, 500 m, 250 m
Zoom	Sonar data "True" Zoom - 4X maximum
Numeric Readouts	<ul style="list-style-type: none"> • Range Scale · Tx power level · Tilt setting · Cursor range, bearing, mode (relative and normal) • Target range, bearing, depth, speed, heading, target ID · Time and Date • Climometer X and Y · Compass
Graphic Readouts	<ul style="list-style-type: none"> • Cursor mark (position controlled by operator) · Target markers · Target tracks for locked • and / or manual targets · Range rings: 3 per display · Compass ring provides bearing indication • Maps - Suppression Zones or Geographic areas
Display Formats	<ul style="list-style-type: none"> • PPI · Volume search PPI · PPI with movable PPI or A-Scan ZOOM window • Reference image - build, show · Draw geographic map · Draw suppression zones • Draw TVG profile · System status · BITE
Beam Tilt	Electronic tilt; operator selectable within $\pm 24^\circ$ of ground plane
Automatic Detection	Automatic detection of targets above threshold set by the Operator; Target marker automatically displayed and audible alarm initiated
Suppression Zones	Operator selected areas are excluded from automatic alarm
Static Suppressed Image	Static images are excluded from alarm and display
Audible Alarm	Automatic audible alarm and contact closure (250 V, 100 MA minimum rating) for new target above threshold set by Operator (see Automatic Detection)
Automatic Tracking	Automatic tracking of detected targets; Track length 200 pings minimum
Multiple System Integration	Multiple System operation in one area without interference
BITE	Automatic system status messages. Operator initiated self-diagnostic tests via various menus
Remote Data Link	Sonar may be operated by local or optional remote console. Target position data output via RS-232, RS-422 or Ethernet interface
Video Recorder	Display may be recorded, with optional converters, on a PAL or NTSC format S-VHS video recorder (recorder not included)