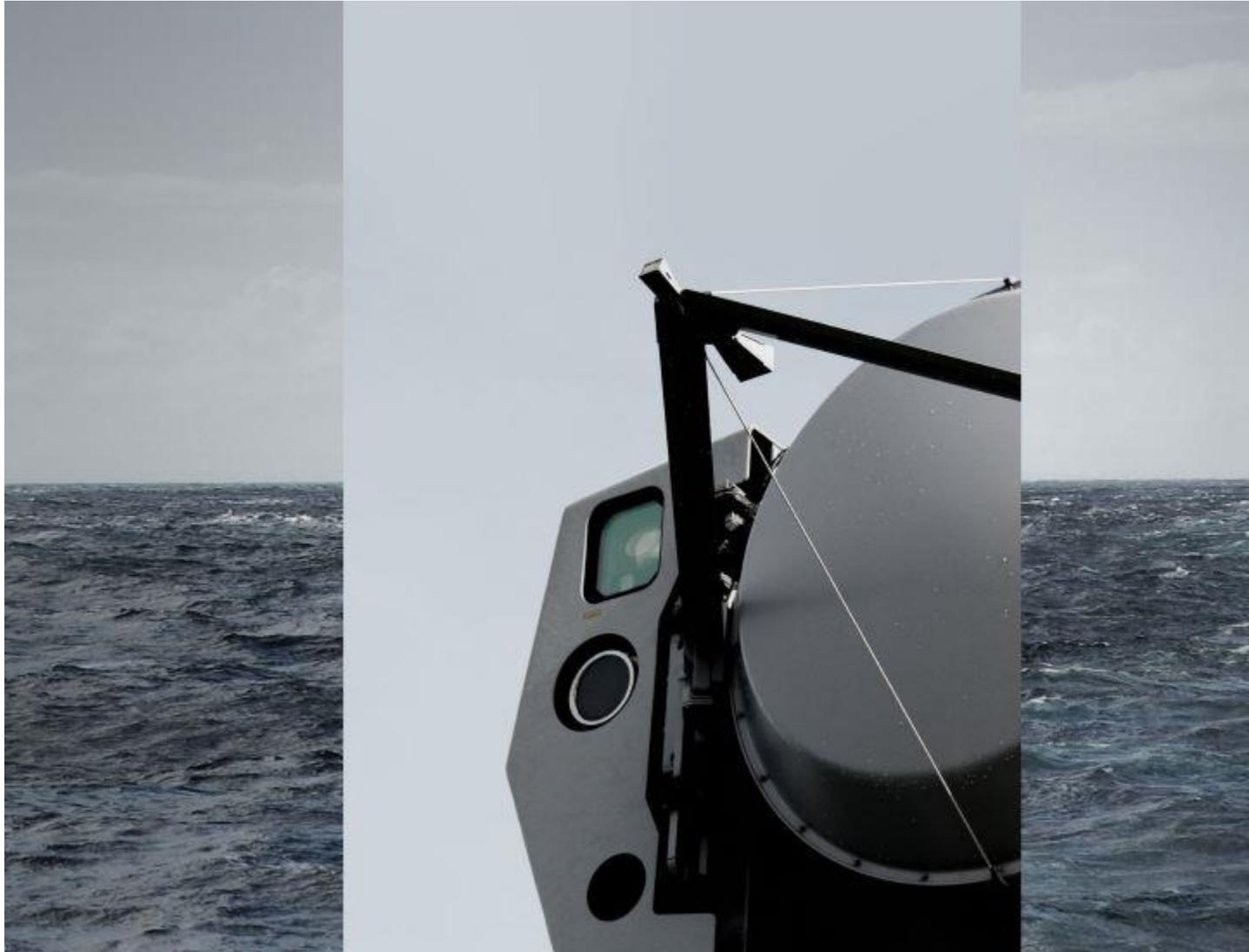


Ceros 200 - Optimal Weapon Control Onboard

Provides excellent defense against any modern threat



CEROS 200 is a radar and optronic tracking fire control director designed for use on naval ships. When interfaced to modern missile or gun systems it provides excellent defense against any modern threat including advanced sea skimming missiles or asymmetric surface threats in littoral environments.

For the operators the advantages of CEROS 200 are found in the world class performance in terms of automatic target detection and lock-on, high acquisition speed and great tracking precision combined with the ability to track any target in any weather situation.

The versatile CEROS 200 can track multiple supersonic missiles as well as surface targets extremely close to the ship and enables fast target switching.

CEROS 200 is based on the experience from deliveries of more than 200 fire control systems to navy's world-wide and has proven successful operation in all waters from arctic to tropical.

FEATURES

CEROS 200 can also be combined with the 9LV (CMS or FCS) to provide precision control for any naval gun or SAM missile system. Several CEROS 200, EOS 500 electro optical tracking systems, gun fire control and missile control modules can be combined in a 9LV fire control subsystem where the operators dynamically allocate any combination of tracker and weapon for flexible handling of surrounding threats.

For best performance the 9LV air defense coordination (ADC) suite is available for performance based engagement optimization of incoming threats.

The CEROS 200 incorporates CHASE, a patented method for processing of the complex radar target return signal from a very low flying target such as sea skimming missiles, to eliminate multi-path effects. A prerequisite for the CHASE algorithm is the very wide RF-bandwidth of the tracking radar on the CEROS 200. The CHASE algorithm has been thoroughly tested in a wide range of sea states.

The extensive testing proves that the radar tracking accuracy of the CHASE method against sea skimming targets is better than 0.2 mrad in calm sea and better than 0.4 mrad in rough sea. Combined with Saab's gun fire control CEROS 200 provides unparalleled accuracy for gun engagements.

Depending on the clutter situation and Electronic Countermeasures (ECM) threat the radar selects its frequency agility pattern between: 32-pulse bursts and pulse doppler signal processing, 4-pulse bursts and moving target indication processing, or pulse-to-pulse agility. The pulse repetitive frequency and pulse width are selected depending on the range to the target. The digital receiver in combination with the improved signal processing enables a higher degree of flexibility of e.g. pulse length and waveform for adaptation to new threats. The transmitted pulses are frequency coded and pulse compression in the receiver ensures a high range resolution in all modes.

The radar design incorporates many Electronic Counter-Countermeasures (ECCM) features:

- ◆ Very low antenna side lobes
- ◆ Very wide bandwidth
- ◆ A large number of transmit frequencies
- ◆ Random selection of frequency
- ◆ Lock on jam, track on jam

TECHNICAL SPECIFICATIONS

Tracking radar	
Frequency range	Ku-band, 15.5-17.5 GHz
Pulse Compressor	Frequency coded
Transmitter	
Type	Grid-pulse helix TWT
Output power	1.5 kW peak 4 percent duty cycle
Number of frequencies	More than 100
Transmission patterns	Pulse Doppler: 32-pulse batches
MTI	4-pulse batches
Frequency agility	pulse-to-pulse frequency agility
Director pedestal	
Type	2-axis, elevation over azimuth
Angular speed	2 rad/s
Angular acceleration	10 rad/s ²
Dimension and weight	
Height above deck	Approximately 2 meters
Diameter	Approximately 1.6 meters
Weight	625-750 kg depending on version

Contact: navy@saabinc.com