

# **c4i** **communication**

EXPERIENCE THE DIFFERENCE  
YOUR SECURITY & SAFETY PRODUCTS

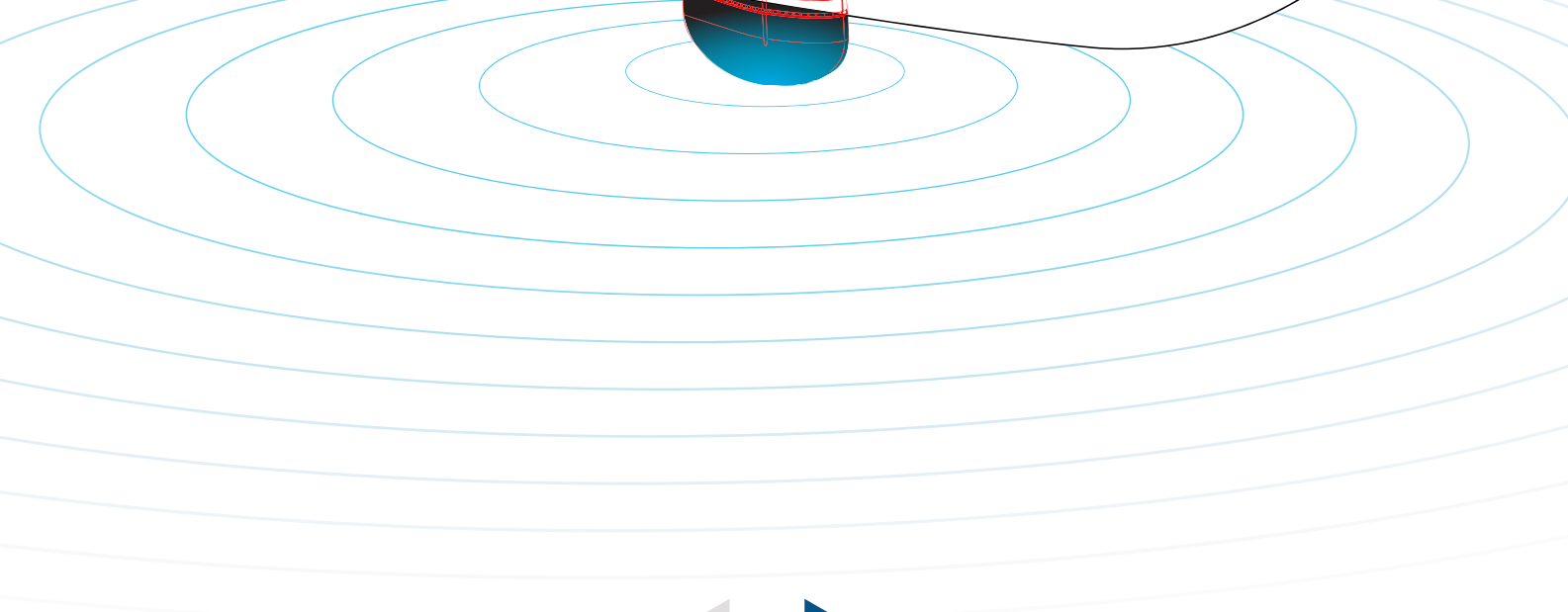
## **BLACKFISH™ HULL MOUNTED SONAR (HMS)**



**BLACKFISH**  
HMS



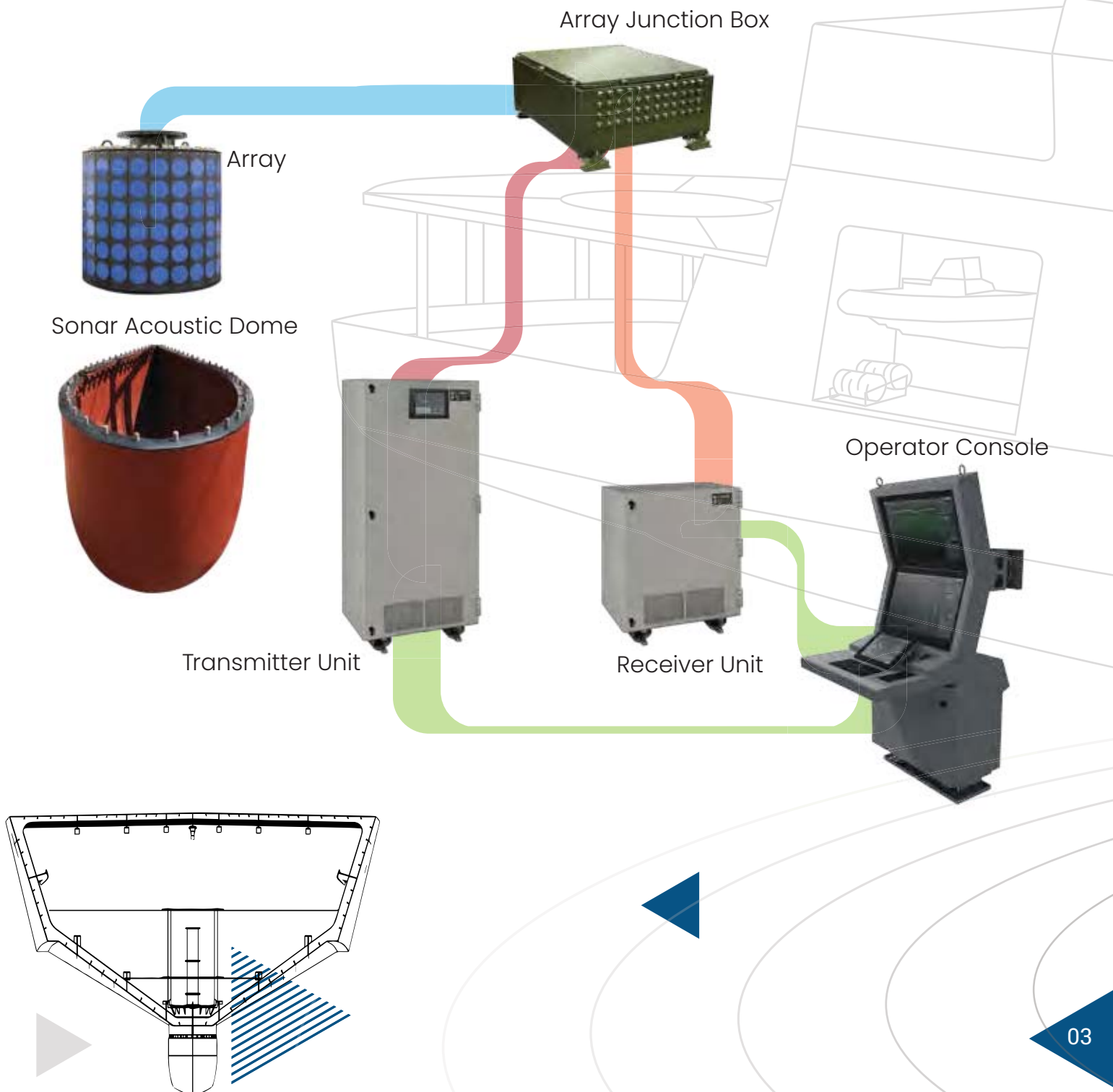
# HULL MOUNTED SONAR





- C4i's Blackfish HMS is a medium frequency Hull Mounted Sonar (HMS) for littoral and deep water ASW operations
- C4i offers two versions of the Blackfish HMS:
  - Blackfish 567 operating at 5-7KHz
  - Blackfish 911 operating at 9-11KHz
- The Blackfish sonar performs: Target search, Detection, Tracking and Classification both in active and passive modes
- The system includes advanced automatic functions for operator ease

## SYSTEM BLOCK DIAGRAM





# DISPLAY FORMATS

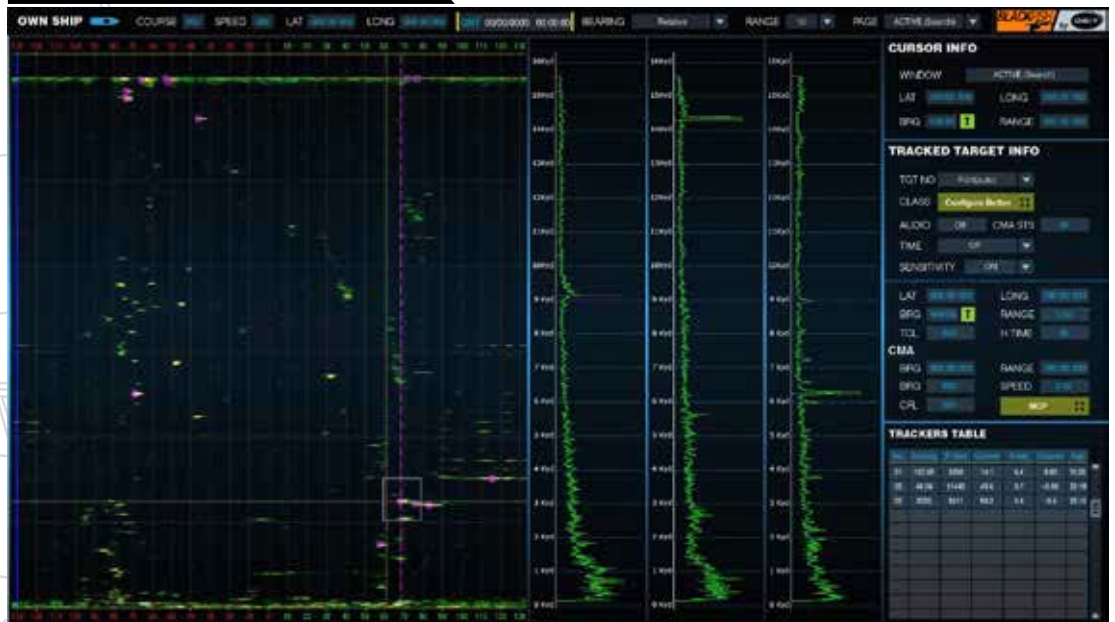
## ACTIVE MODE

- Search: PPI or B-Scan
- Zoom on Search display format
- Classify: A-Scan or Doppler

## PASSIVE MODE

- Search: Envelope, Energy vs. Bearing, 3 Waterfalls at different time scale (BTR)
- Classify: DEMON, Spectrum, Frequency Waterfall

### ACTIVE DISPLAY



### PASSIVE DISPLAY



# ADDITIONAL CAPABILITIES

- Mutual interference suppression
- Onboard Training Simulator (TS)
- Range Prediction (RP) function
- Built in Test (BIT)

## TECHNICAL INFORMATION



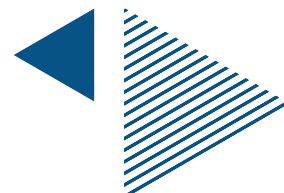
### ACTIVE OPERATION

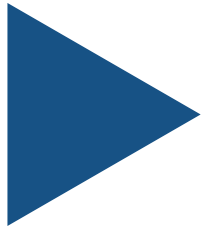
Parameter	Performance	
	911	567
Transmission modes	ODT (Omni Directional Transmit) SDT (Directional Transmission, single beam) RDT (Rotational Directional Transmission) BRDT (Bi-Rotational Directional Transmission) MCC – Maintain Close Contact (wide vertical beam width)	
Frequency	9, 10, 11 KHz (user selectable)	5, 6, 7 KHz (user selectable)
Pulse types	CW, LFM, SFM, HFM, Combined CW/LFM	
PRI	1. Slave to Range Scale 2. Slave to Cursor 3. Variable	
Transmit/Receive beam stabilization against Roll & Pitch	Yes	
Transmit/Receive beam vertical tilt	Yes, ±10°	
Range Scale	1-32 Kyard	1-96 Kyard
No. of automatic trackers	999	
Active Audio Frequency	Heterodyned to 1 KHz	
Active Audio Modes	Omni, Slave to Tracker, Slave to Cursor	
Array Size	65 cm (diameter) / 60 cm (height)	95 cm (diameter) / 100 cm (height)



### PASSIVE OPERATION

Parameter	Performance	
	(Both Sonar Types)	
Bandwidth	2000 – 10,000 Hz	
Passive Search Detectors	Broadband Energy Detector (BBED) Broadband Split Beam Correlator (BBSBC)	
Receive beam stabilization against Roll & Pitch	Yes	
Receive beam vertical tilt	Yes, ±10°	
No. of automatic trackers	999	
Audio modes	Omni, slave to cursor, slave to tracker	
DEMON frequency band	75, 150, 300 Hz	





LEARN MORE: [c4icommunication.com](http://c4icommunication.com)

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