

# **FIREFLY - NEXT GENERATION ANTI-SUBMARINE WARFARE SONAR**

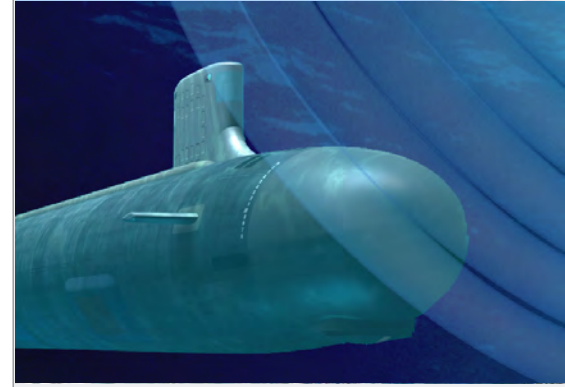
**Firefly offers a quantum improvement in helicopter and unmanned surface vehicle (USV) dipping sonar for anti-submarine warfare (ASW).**

## **FIREFLY**

- > Firefly offers a new, modern, compact, lightweight state-of-the-art ASW multi-mission capability never seen before on small maritime helicopters. This is the culmination of decades of proven, reliable ASW sonars from the supplier of the AN/AQS-13, AN/AQS-18 and HELRAS ASW sonars.
- > Minimal size, weight, power and cooling (SWaP-C)
- > Optimum mid-frequency operation
- > Proven, qualified and reliable
- > Low-cost
- > Electric/hydraulic reeling machine option
- > Digital interface
- > Geo-situational user interface

## **SWAP-C**

- > Optimizing size, weight power and cost (SWAP-C) drives every aspect of design of the next-generation dipping sonar for the mid-size helicopter and USV. The same unmatched ASW performance of the AN/AQS-18A is now available in a light, modern, compact unit.
- > The transducer assembly is based on the proven AN/AQS-18 ultra-slim, hydrodynamic body with improved stability and optimal dip-cycle time.
- > The combined Military-off-the Shelf (MOTS) Intel® processor and display allows for the latest technology and additionally provides for a seamless technology upgrade.



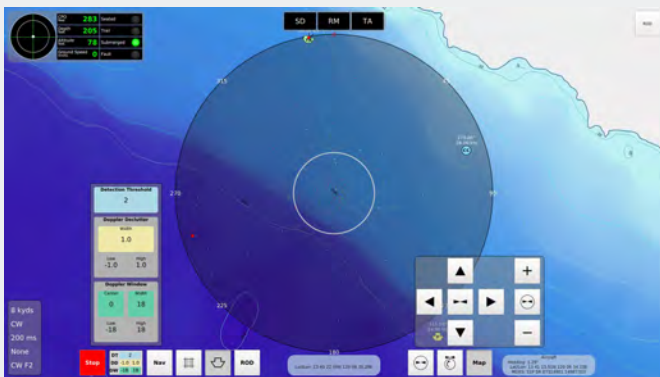
## **SPECIFICATIONS**

System Weight	<236 kg
Max Operating Depth	up to 500 m
Deployment	Manual and automatic
Active Transmission	CW, FM and combo
Active Operating Frequency	10 kHz
Source Level	Up to 215 dB, re 1µ Pa, @1 yd
Passive Processing	Broadband detection, DEMON
Underwater Telephone	STANAG 1074
Built-In Test	Power up, continuous and initiated
Record/Playback	Up to 256 Gb
Display	Color geo-situational based
Performance Prediction	Range-of-the-day and raytrace using measured and database Sound Velocity Profiles (SVPs)
Classification Aids	Doppler zoom, FM amplitude- scan and comparison signature database

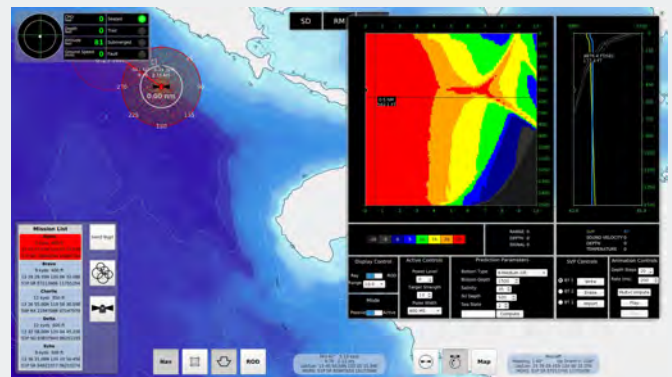


## FIREFLY FEATURES AND BENEFITS

- > **SWaP-C specific for mid-sized helicopters** — A compact MOTS processor and integrated display, combined with an all-new electric reeling machine, optimizes the dipper for mid-sized helos.
- > **Ideal for small helicopters** — Firefly delivers optimal robust acoustic array geometry with interleaved transmit and receive elements with no moving parts and onboard energy storage, allowing for detection ranges up to 40 kiloyards.
- > **Proven and qualified** — Firefly is based on more than 50 years of reliable, military-qualified dipping sonar systems.
- > **Digital interface** — Line replaceable unit functional combination and extensive use of modern digital (Ethernet) I/O make for easier integration, lighter overall aircraft weight and more reliable operation.
- > **Optional Electric reeling machine option** — Firefly does not rely on the aircraft hydraulic supply. All hoisting is done with an optional compact, high-efficiency, reliable, all-electric motor.
- > **Modern geo-situational user interface** — Geo-situational-centric sonar operations result in superior detection and vastly reduced false alarms.
- > **Intuitive screen design and graphics presentation** — Firefly screen design (as shown below) incorporates many years of user interface experience to allow sonar operators to become proficient in controlling and operating the Firefly system quickly.



**Image 1:** Firefly Active Continuous Wave Mode Display shows the dip point in the center and two targets being tracked. Current Sonar parameters are also shown in overlays.



**Image 2:** Firefly Geographic Display with Overlays of the current Sound Velocity Profile and the calculated Range of the Day predicting range detection as a function of depth.

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