



# Target Acquisition Fire Control Technology Presentation + Panel Discussion

(10 Minute Presentations)

Naval Surface Warfare Center, Crane Division

Crane, IN

Gregory Petty

10 May 2018

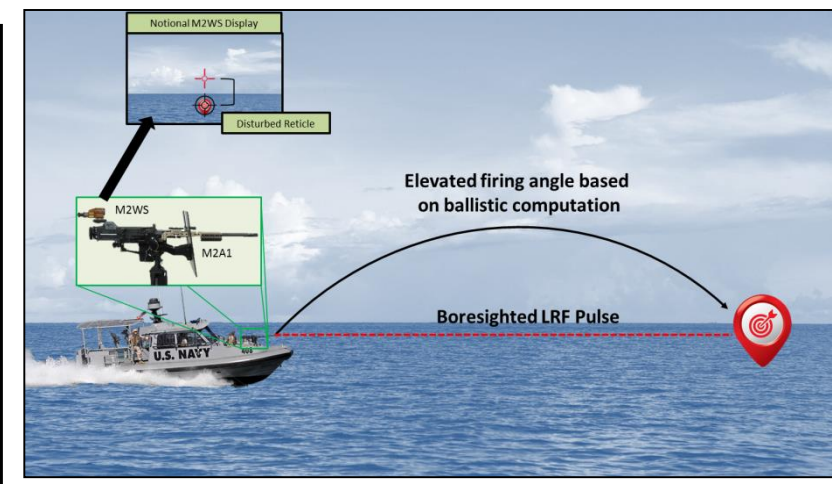
NDIA Armament Conference / Small Arms Division Themes

“Armament System Response to the Evolving Threat Spectrum”

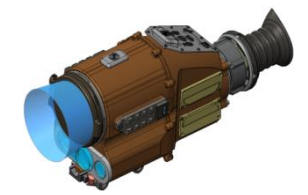
“Small Arms Technology Which Creates Asymmetric Operational Advantage for Soldiers, Sailors, Airmen and Marines”

# M2 Weapon Sight (M2WS)

The M2 day/night Weapon Sight (M2WS) is an integrated system under development that will provide the Warfighter with both thermal and visible spectrum imaging capabilities for crew-served weapons such as the M2HB/M2A1. Additionally, the M2WS takes advantage of the integrated laser range finder (LRF) and environmental sensors to provide the user a disturbed reticle based on an automatic ballistic calculation to improve the probability of first round hit.

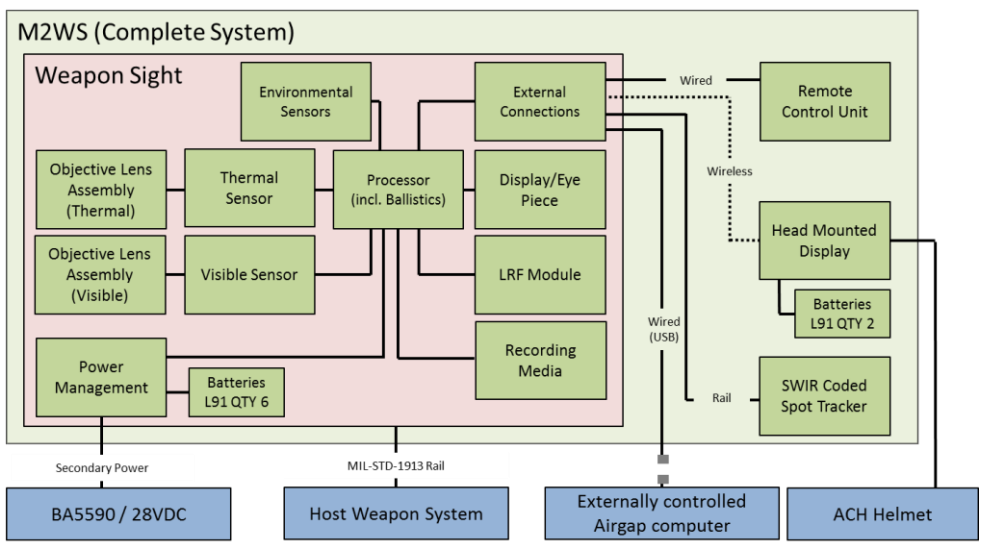


Notional System Usage



Preliminary M2WS Model

M2WS Mounting Location



- Provides target detection capabilities out to the effective range of the host weapon.
- Enables improved target detection in adverse weather.
- Utilizes LRF and environmental sensors to improve probability of first round hit.
- Records Motion Imagery (MI) to support after action reporting and training exercises.

# System Response to the Evolving Threat Spectrum

- Aspects of Evolving Threat Spectrum
  - Increased target detection range equates to increased decision time.
- Highlight Fire Control Technology Capabilities to Cope with Emerging Threats
  - Combination of imaging sensors provides greater capability to the warfighter
    - Visible, Long Wave Infrared, Short Wave Infrared
  - Decision making and crew-served weapon operation still left to the warfighter.
  - Disturbed reticle capability
- Prioritization to Balance Needs
  - Inherent trade off in all EO/IR sensors – target detect range vs. Field of View (FOV)
  - SWaP-C
    - Weight is less critical for crew-served applications; limits utility on shoulder fired weapons.
    - Multiple sensors, LRF, HMD, and recording function limit the system run time.

# True Operational Advantages for Soldiers, Sailors, Airmen and Marines

- The M2WS gives warfighters increased target acquisition and fire control capability for crew-served weapon systems through the use of multiple imaging sensors, laser range finder, and disturbed reticle capability.
  - Use of the M2WS over existing crew-served weapon aiming solutions include:
    - Increased first round hit % via LRF and ballistic offset
    - The ability to detect targets 24/7 out to the effective range of the host weapon
- Existing Navy systems utilize products such as the SU-252/U as a thermal sight on crew-served weapons such as the M2HB and M240B.
- No COTS solutions are being pursued as interim solutions between the SU-252/U and M2WS.

