CREW SERVED WEAPONS
MODERN SIGHTING SYSTEMS FOR PROVEN WEAPONS

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BACKGROUND

• Crew Served Weapons currently fielded:
  – M2HB .50 Caliber Machine Gun
  – MK44 Minigun
  – MK46/MK48 Light Machine Guns
  – M240/M249 Heavy Machine Guns
  – MK19/MK47 Grenade Launchers

• MK47 has an integral targeting system

• Iron sights are the “targeting system” for the remainder
DEFICIENCY

- Mounting surfaces
- Targeting Optics
- Active Aiming Components
- Illumination Systems
- Control At Operator/Weapon Interface
OBSTACLES

• Increased shock load from weapon

• Shock from vehicle platforms

• Maintain Situational Awareness (SA)

• Protection from Accidental Discharge (AD) of illumination and target designation equipment
OBSTACLES

• Ballistic compensation for Targeting, Designation, and Illumination (TDI) components

• Control of TDI components

• Power source for TDI components

• Integration with existing ballistic shields

• Size, Weight, and Location (Weapon Balance) of Devices
SOLUTION

- Utilize the MK93 mount as the platform for M2HB, MK19, and M240

- Mount TDI components to the MK93 mount

- Component mounts incorporate ballistic compensation

- Provide targeting components that have long standoff distance (eye relief)
SOLUTION

• All Combat Critical functions of TDI components controlled from spade grip area

• All TDI capable of operating from internal battery, remote battery, and vehicle power

• Stand alone optic

• Large components mounted forward of the ballistic shield
PROJECT DEVELOPMENT

- USSOCOM’s Weapons Accessories program initiated the Miniature Day/Night Sight-Crew Served Weapons (MDNS-CSW) project

- Integrated Product Teams (IPT) developed initial requirements for MDNS-CSW project

- Early User Assessment (EUA) provided a “first look” at COTS TDI components

- Results from the EUA were used to refine MDNS-CSW Performance Specification
PATH FORWARD

• MDNS-CSW will utilize a two-phase incremental development path

• Initial effort will provide TDI components which are mounted on the MK93 Mount and controlled from the spade grip area

• Incremental development will explore a “smart” integrated system that incorporates magnified day/night optics, Head Mounted Targeting Viewer (HMTV) and remote observation capability
INITIAL EFFORT

• Large “Reflex” sight: MDNS-CSW identifier: Enhanced Combat Optical Sight-Heavy (ECOS-H)

• Visible and IR laser: MDNS-CSW identifier: Crew Served Heavy Weapon Aiming Laser (CSHWAL)

• White Light Source: MDNS-CSW identifier: Visible Bright Light-Heavy (VBL-H)

• Ranging Device: MDNS-CSW identifier: Laser Range Finder-Heavy (LRF-H)

• Flash Suppression: MDNS-CSW identifier: Crew Served Flash Suppressor (CSFS)
INCREMENTAL DEVELOPMENT

- Will integrate control of system components
- Incorporate Day/Night camera technology
- Video display at weapon with remote capability
- Data bus controlled from Operator/Weapon interface
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