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Project Director**

**Improvised Explosive Device
Effects Simulator (IEDES) Program**

4 May 2010

- **IEDES Description**
 - System Overview
 - Operational Concept
 - Kit Contents
 - Device Overview
 - MCU, ECID, NPC, NPSSD, PSSD, MEU
 - Ancillary Devices
 - Fielding
 - Questions



Improvised Explosive Device Effects Simulator (IEDES)

DESCRIPTION: The IED Effects Simulator (IEDES) kit is a Training Aids Device that will assist the Army in training the joint and individual service on operational support tasks, conditions, and standards needed to achieve U.S. Military IED objectives. The IEDES is configured to simulate a Small, Medium, Large, and Extra Large explosive signature. The IEDES is designed to train key tasks of Explosive Hazards (EHs) defeat, to predict, prevent, detect, classify, neutralize, mark, report and record EH and to protect personnel, equipment and facilities from EH effects.

CHARACTERISTICS/CAPABILITIES:

- Kit consists of both pyro and non-pyro training devices
- Realistic detection/reaction training against IED threats through simulated, battlefield cues and effects
- Trains key tasks of Explosive Hazards (EHs) defeat, in support of full spectrum operations
- Systems work with MILES
- Scalable pyro and non-pyro signature effects

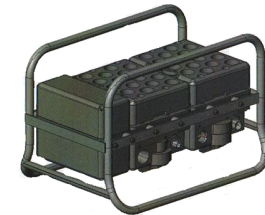
CAPABILITY/IMPROVEMENTS:

The IEDES provides the tools for trainers to create simulated battle field cues and effects for a training audience. The IEDES, under current force structure, is programmed to be fielded and operated in a full spectrum of operations and conflicts.

Non-Pyro Kit



Pyro Kit



PROJECT TEAM:

- Project Director – Ingrid Neal
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- Acquisition Logistician – JoAnn Cardwell
- Engineers – Nicole Coeyman and Jose Rodriguez
- SETA Support – Cheryl Peavler
- NET Trainers– Ruben Bermudez/Maurice Price



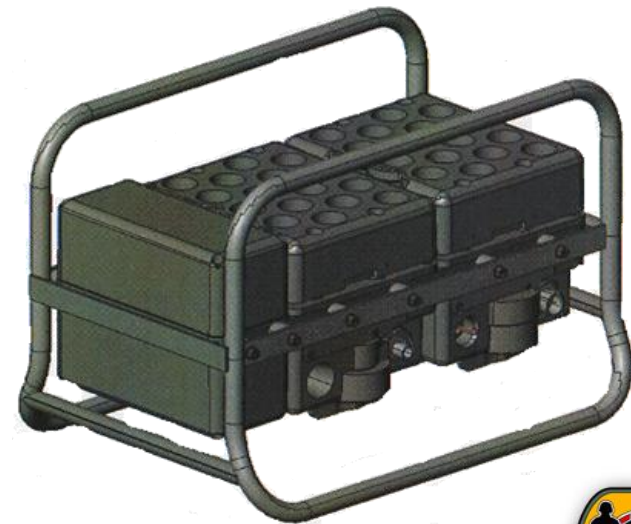
A-Kit: Non-Pyrotechnic

- 6 - Non-Pyrotechnic Scalable Signature Devices (NPSSD) that are scalable and allow multiple shots before requiring reloading; Device replicates small through large signatures
- 2 - 320 ounce commercial and reusable recharge systems
- 6 - MILES Emitter Units (MEU)
- 2 -Simulation Push/Pull Booby Trap devices
- 1 - Pressure Sensitive device
- 2 -Simulation Suicide Vests
- 6 - Electronic Common Interface Devices (ECID)
- 6 - Non-Pyrotechnic Controllers (NPC)
- 3 - Module Control Units (MCU)
- Safety mask/glasses
- Hearing protection
- Leather gloves
- Consumables



B-Kit: Pyrotechnic

- 2 - Pyrotechnic Scalable Signature Devices (PSSD) that are scalable and allow multiple shots before requiring reloading; Device replicates small through extra-large signatures
- Safety mask/ glasses
- Hearing protection
- Leather gloves
- A - Kit components are required for B-Kit setup/operation



Module Control Unit (MCU)

- 3 - MCU's provided in each Non-Pyrotechnic Kit
- Ruggedized for field environment
- Range of up to 1000 meters
- Can control up to 6 ECIDS from one MCU
- Has GPS and mapping capability
- Can be used in RF mode or hardwired to an ECID

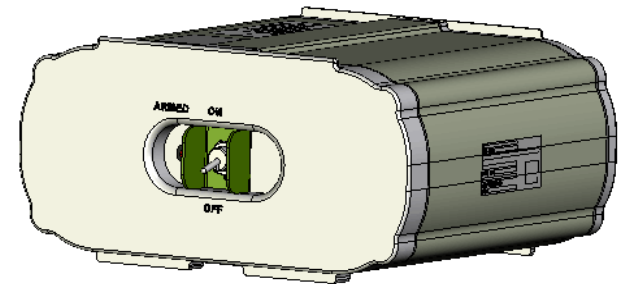
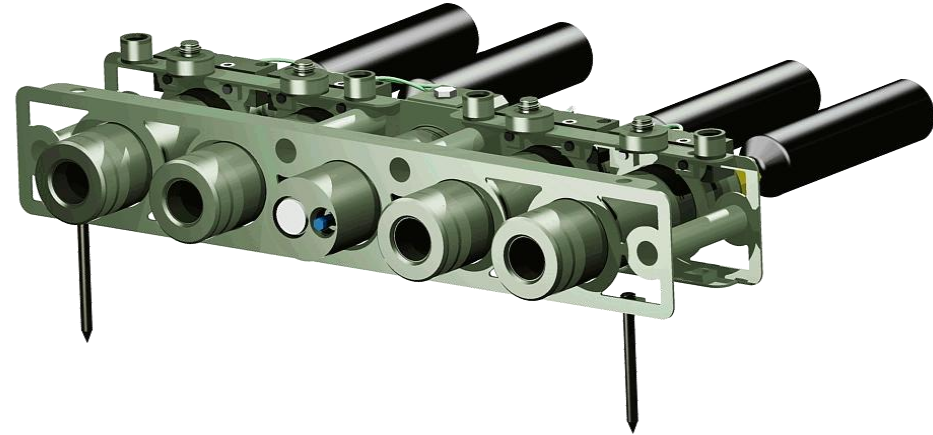


- 6 - ECID's are provided in each Non-Pyrotechnic Kit
- Provides the interface between the MCU and IED simulated effect
- Provides an additional layer of safety
- Can connect up to 4 signature devices to one ECID



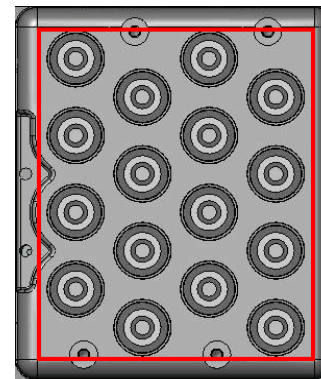
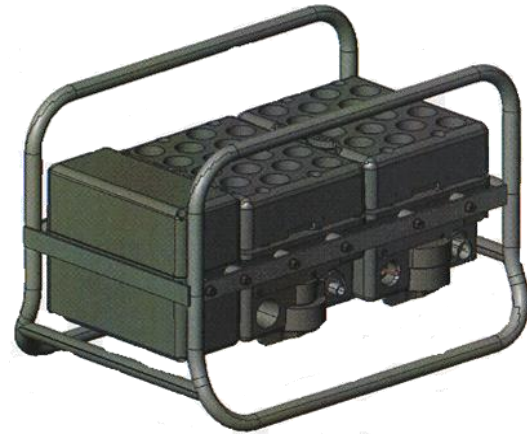
Non-Pyrotechnic Scalable Signature Device (NPSSD)

- 6 - NPSSD's are provided in each Non-Pyrotechnic Kit
- Scalable device – Small thru large signature effects
- Uses CO₂, smoke powder and burst disks/plastic cups to produce the signature effect
- Controlled by the Non-Pyrotechnic Controller
- Can be set up with a MILES Emitter Unit
- Stackable for multiple shots prior to reload

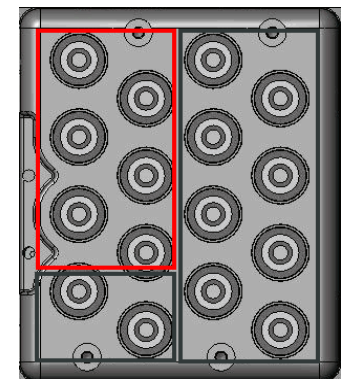


Pyrotechnic Scalable Signature Device (PSSD) ^{PEO}STRI

- 2 - are provided in each Pyrotechnic Kit
- Uses Standard Issue Type Classified M30 and M31A1 Cartridges
- Controlled by the MCU thru the ECID
- Scalable from small thru extra large signature effects
- Has 2 types of magazines – one M30 only and one mixed M30/M31A1 variation
- Magazines are coded (RFID) for identification of round types



16 x M30



6 x M30
10 x M31



MILES Emitter Unit (MEU)

- Six MEUs are provided in each Non-Pyrotechnic Kit
- Used in conjunction with multiple devices:
 - NPSSD
 - PSSD
 - Pressure Sensitive Device
 - Simulation Booby Trap Device
- Emits the appropriate MILES codes depending on the size of the effect being simulated
- Requires 1 - 9V battery



- 2 - are provided in each Non-Pyrotechnic Kit
- Can be activated by either a push or pull trigger
- Uses CO₂, smoke powder and a burst disk to produce the effect
- Can be connected to the MILES Emitter Unit via a Pressure Switch (provided in the kit)



Pressure Sensitive Device (PSD)

- Two PSDs are provided in each Non-Pyrotechnic Kit
- Used to simulate pressure sensitive IEDs (activated via pressure)
- Uses CO₂, smoke powder and a burst disk to produce the effect
- Can be connected to the MILES Emitter Unit via a Pressure Switch (provided in the kit)



Simulation Suicide Vest (SSV)

- Two Simulation Suicide Vests are provided in each Non-Pyrotechnic Kit
- Contains two -Simulation Push/Pull Booby Trap Devices
- Contains a shoulder mounted MILES Emitter Unit
- Uses CO₂, smoke powder and burst disks to produce the effect



- A-Kit consists of 5 cases for the devices and 1 case for consumables
- Device Case Dimensions: L 49" X W 25" X H 24"
- Consumables Case Dimensions: L 26" X W 26" X H 13.25"
- Case weights:
 - A1 and A2: 195 lbs.
 - A3: 160 lbs.
 - A4: 171 lbs.
 - A5: 174 lbs.
 - Consumables Case: 50 lbs.
- A-Kit Storage Foot print: Approximately 91 Cubic Feet per Kit



- B-Kit consists of 1 case for the devices
- Device Case Dimensions: L 49" X W 25" X H 24"
- Case weight: 170 lbs.
- Must have A-Kit components in order to setup/operate the B-Kit



- **Home Station Training Lane (HSTL) NET Training was conducted at White Sands Missile Range (WSMR) in July 09**
- **Fielding of A-Kits began in October 2009**
- **Fielding of B-Kits began April 2010**
- **All other sites will receive NET training at the installation, once both the A and B kits have been fielded**



Questions?

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