



**RDECOM**



# ENHANCED PORTABLE INDUCTIVE ARTILLERY FUZE SETTER (EPIAFS)



**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**

PRESENTED TO THE NDIA FUZE SYMPOSIUM  
May 15, 2008

*Public Release Information: Approved for public release; distribution unlimited*

Canards Steer  
Projectile

Trajectory  
Optimized for  
Range

Canards Deploy

# EPIAFS to Support Excalibur



Target

FO



**EPIAFS**

Mission data and Power

JLW-155

Paladin

Paladin w/ PEFCS

Fire  
Control

AFATDS

Targeting  
info

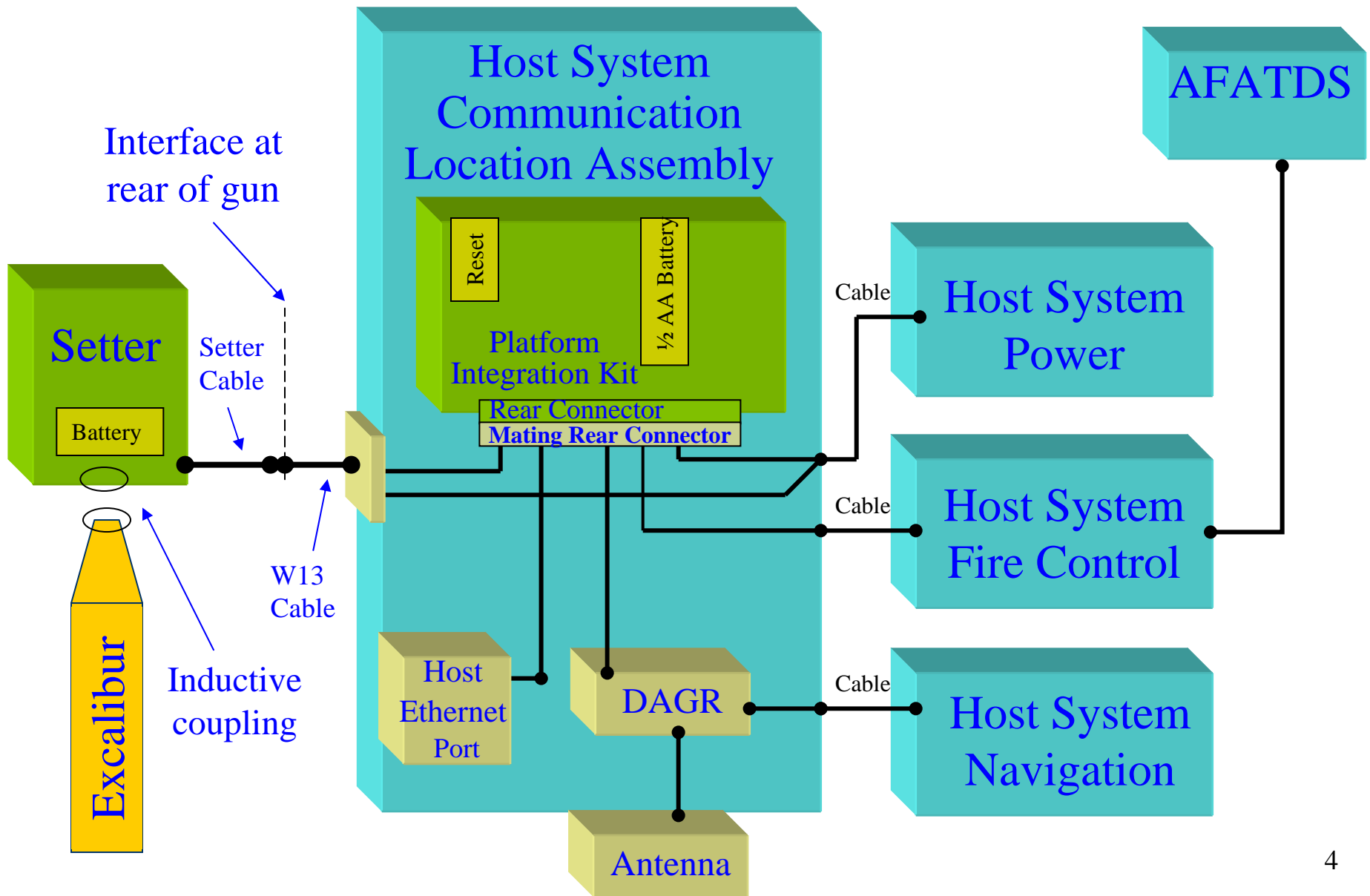
# EPIAFS SYSTEM

- PLATFORM INTEGRATION KIT (PIK)
  - Single board computer
  - Interface circuit
- SETTER and Cable

EPIAFS uses Host DAGR →



# EPIAFS System Integrated into JLW155





# EPIAFS Host: M777E1

DAGR

Communication  
Location  
Assembly (CLA)

PIK  
mounts  
inside  
CLA



# EPIAFS Host: Paladin

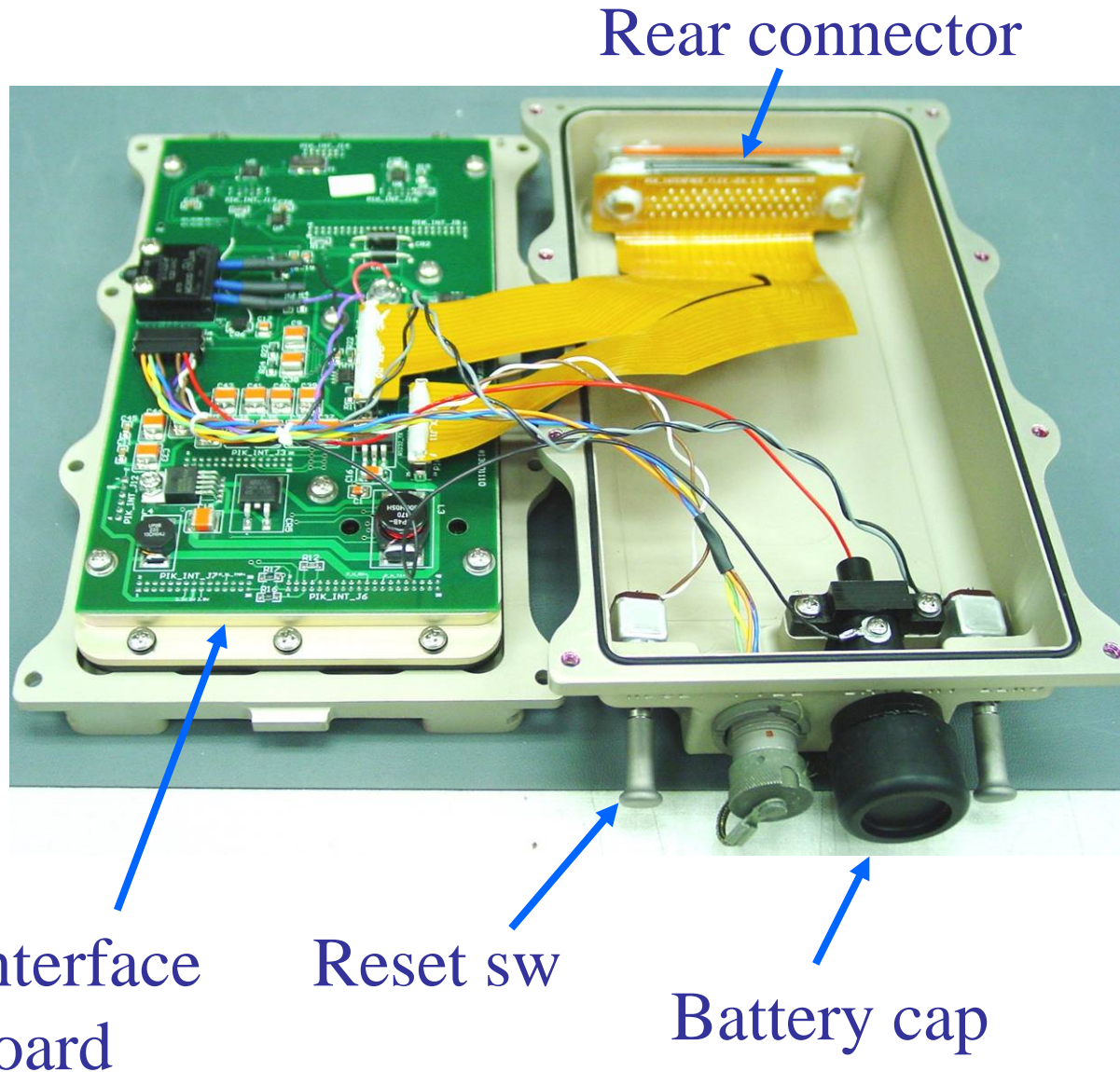


PEFCS system



# PIK FUNCTIONS

- Formats and sends all XM982 initialization data and TMP's through Setter
- Passes Standard Fuze Data to Setter
- Interfaces with Host system
- Interfaces with SPORT or MSD for software upgrades



# PIK Hardware

## Flex & Rear Interface Connector

Board mount

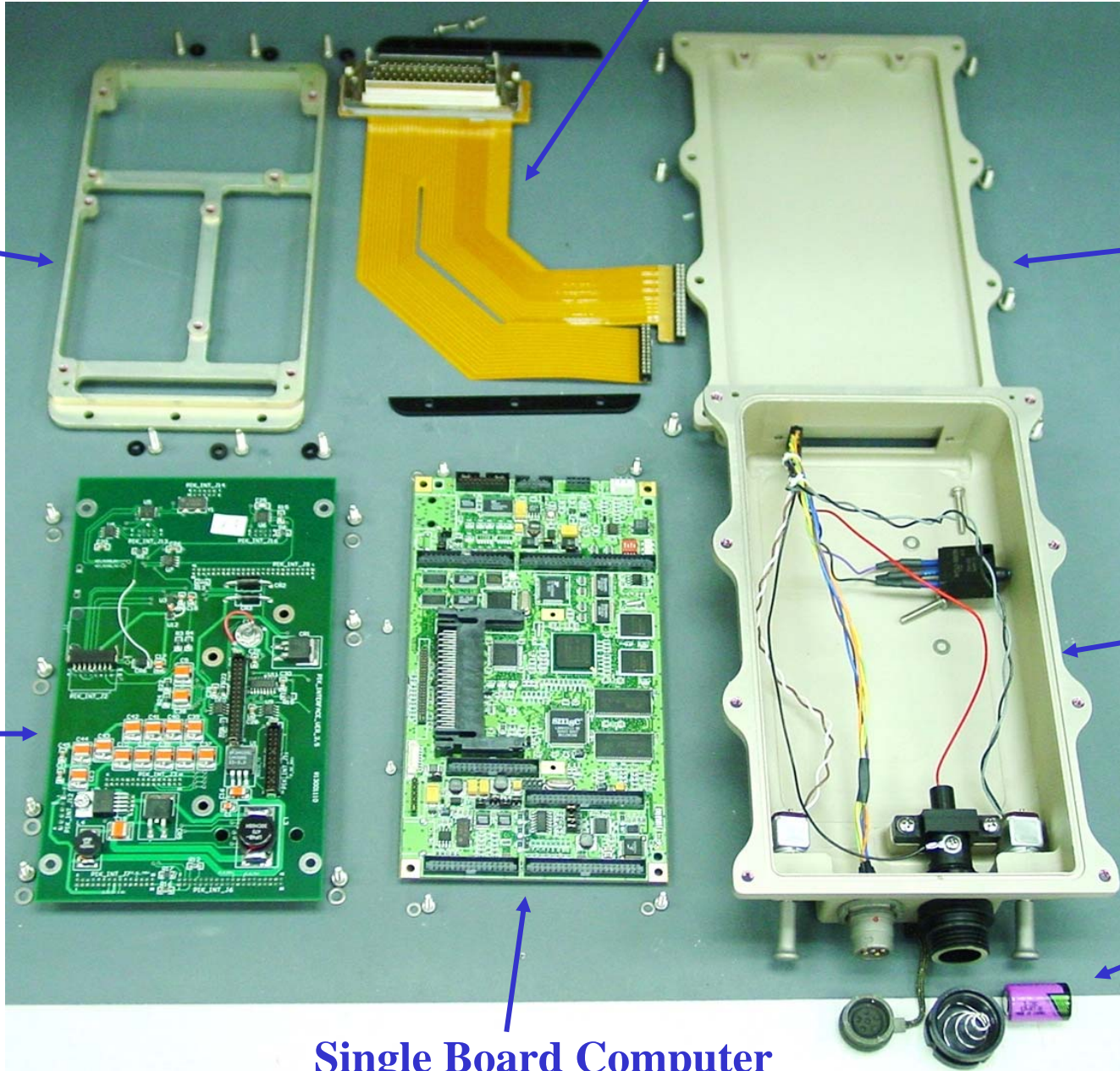
Cover

Interface Board

Box assembly

Battery

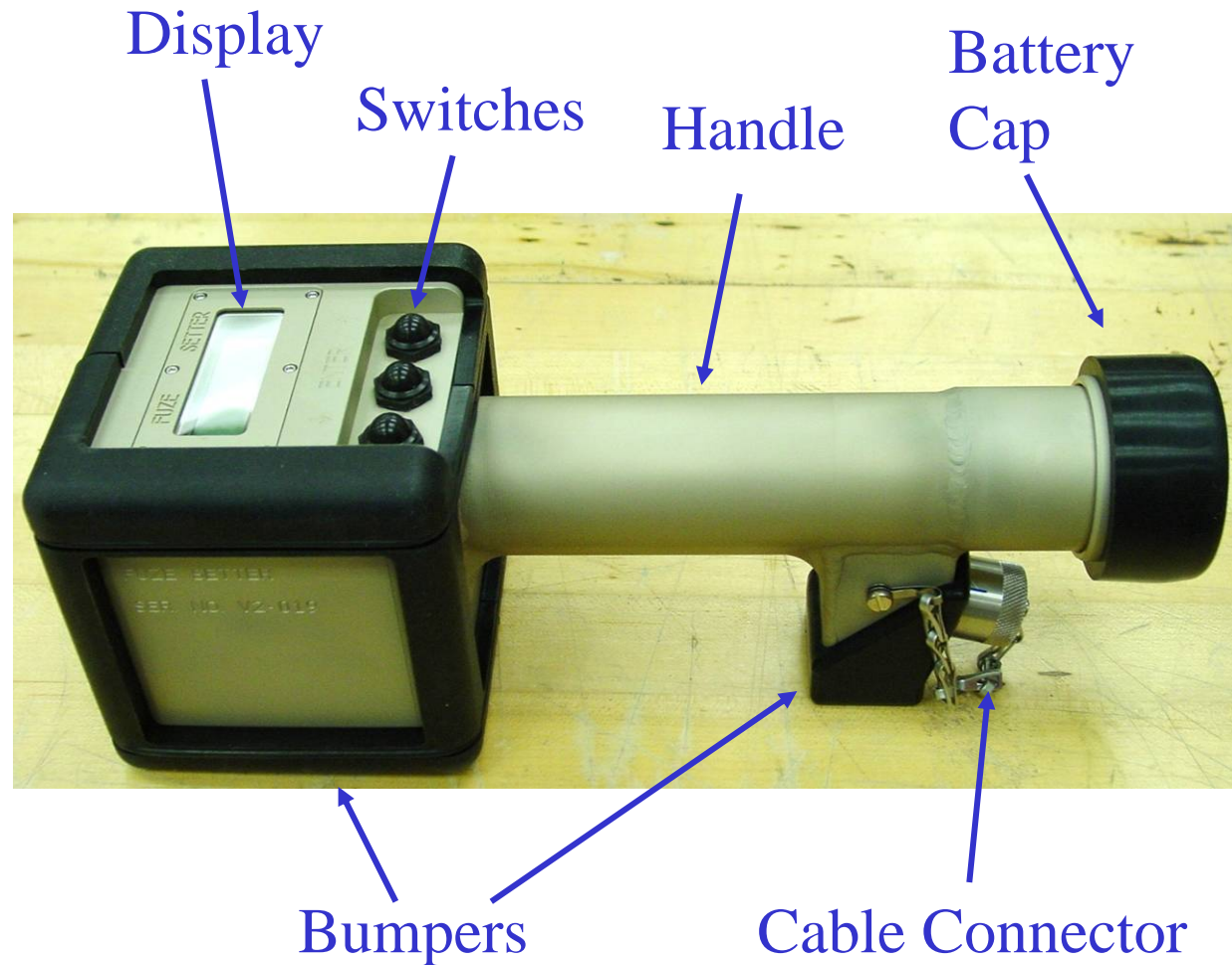
Single Board Computer





# SETTER FUNCTIONS

- Interface with PIK
- Interface with standard fuzes and XM982
- Convert XM982 data stream to power/data format
- Interface with user via 3 switches and LCD
- Un-cabled setting for standard fuzes



# SETTER Hardware

Board Cage

Box & Handle Assembly

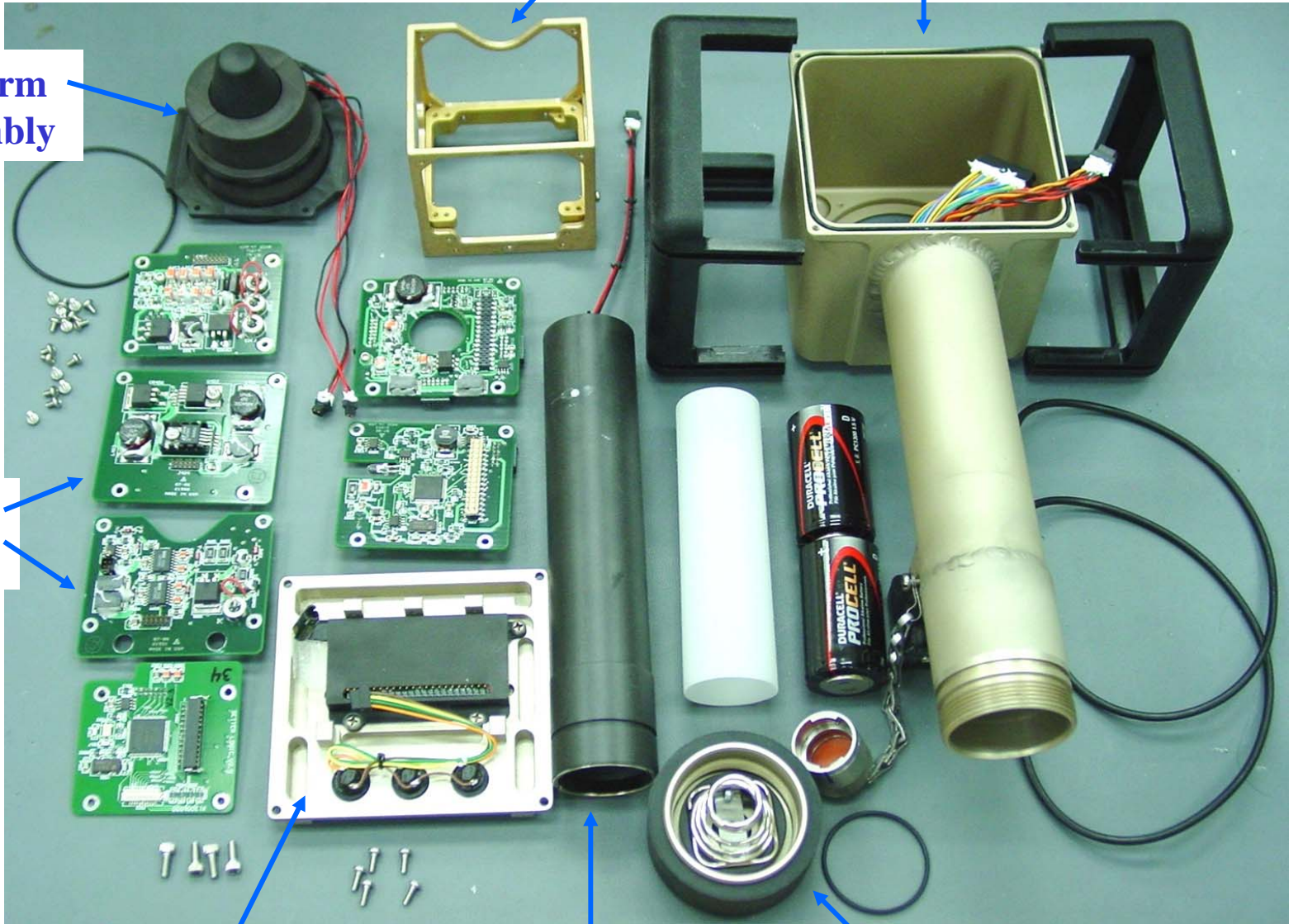
Coilform Assembly

Circuit Boards

Faceplate Assembly

Battery Contact Assembly

Battery Cap Assembly





# EPIAFS Software

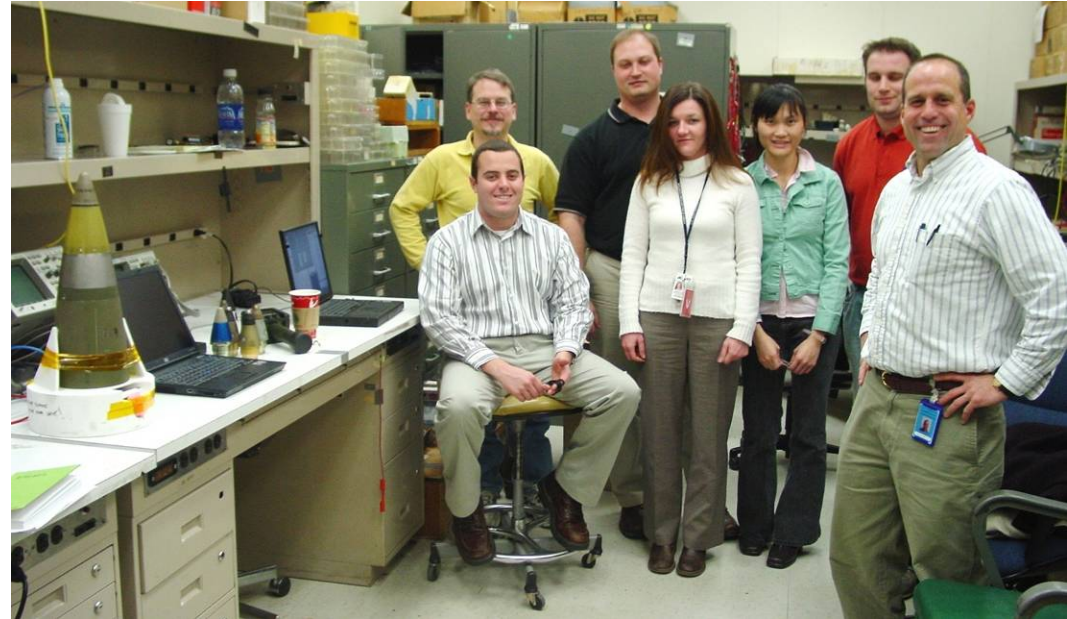
- PIK

- Written in C++
- 33,000 lines of code
- Software Ver 3.04

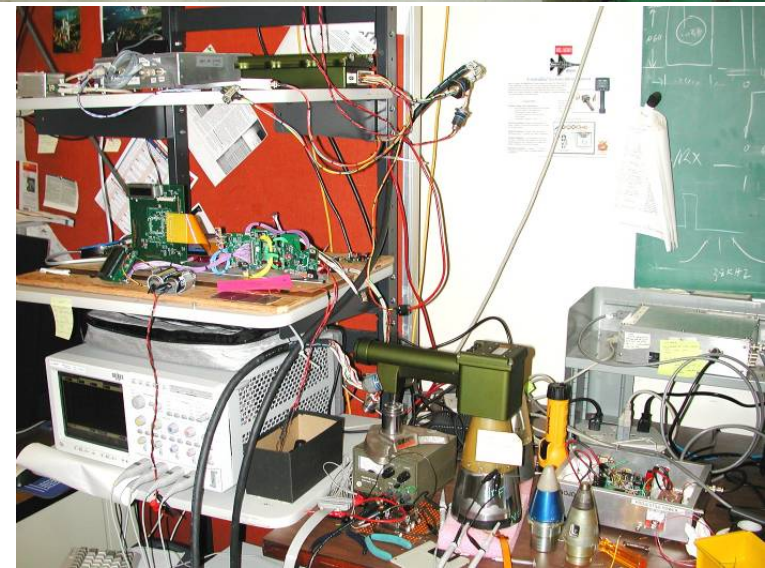
- Setter

- Written in C
- 17,000 lines of code
- Software Ver 3.04

FQT Team

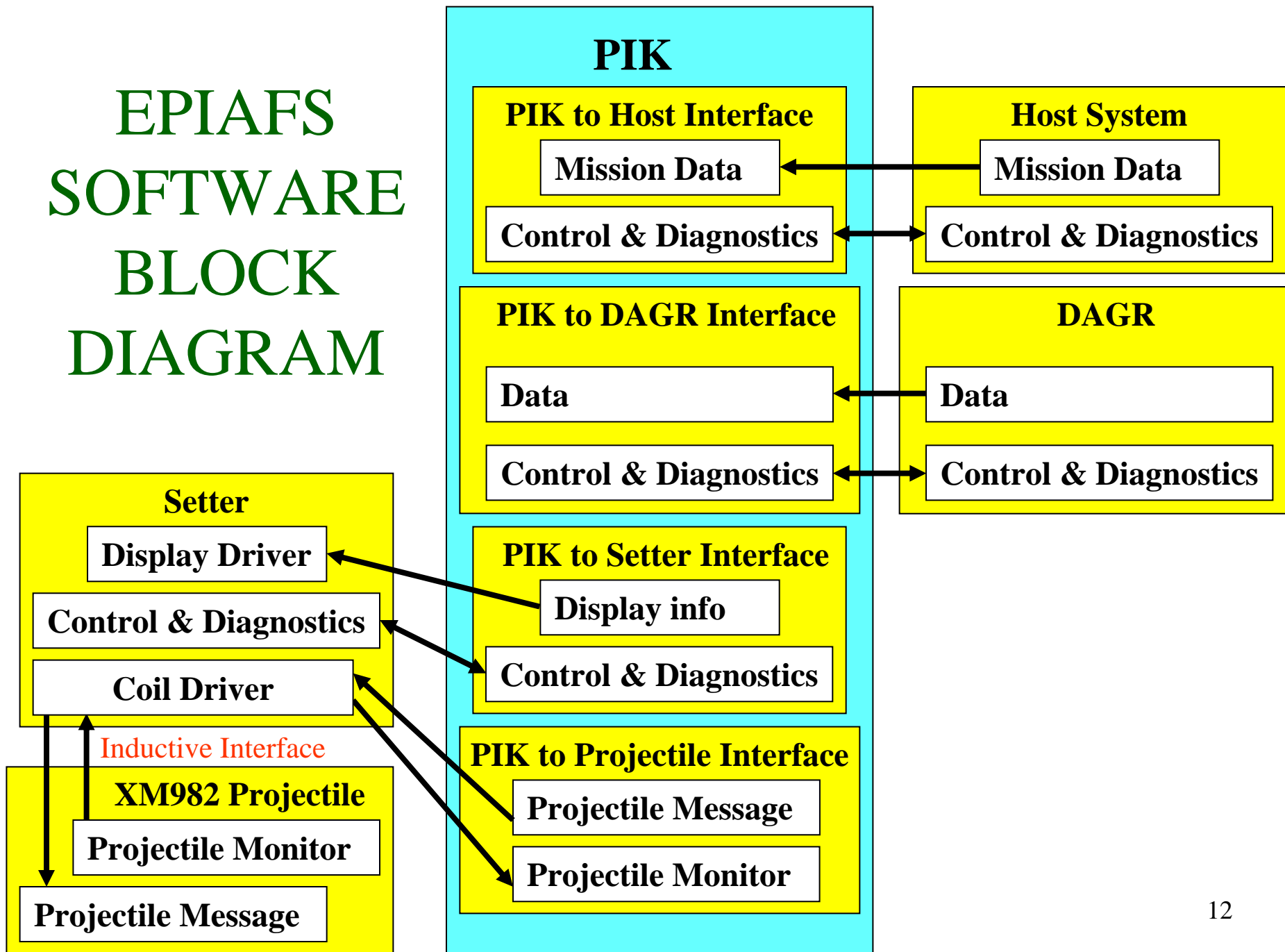


Andy's Software Development Lab

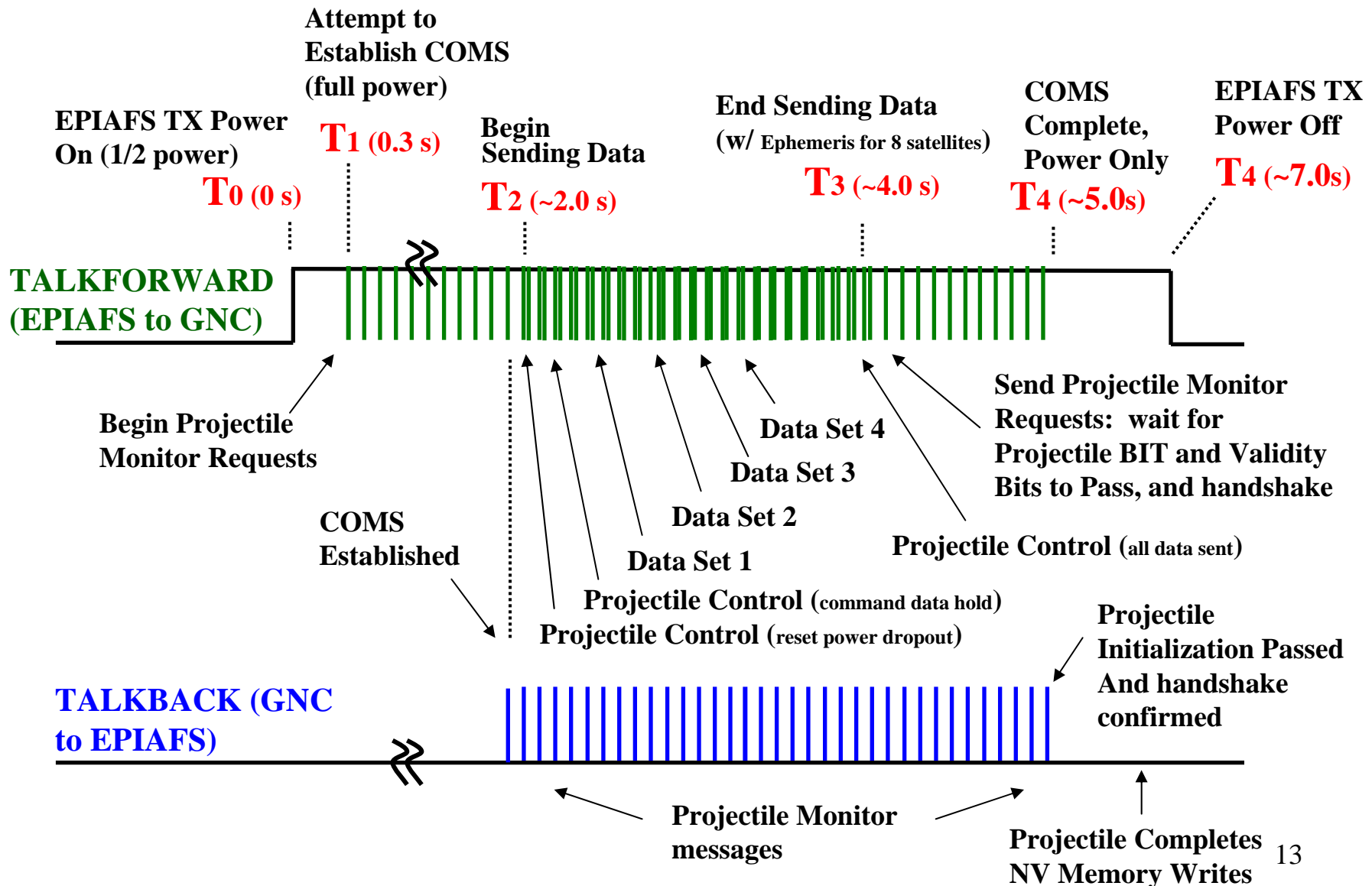




# EPIAFS SOFTWARE BLOCK DIAGRAM

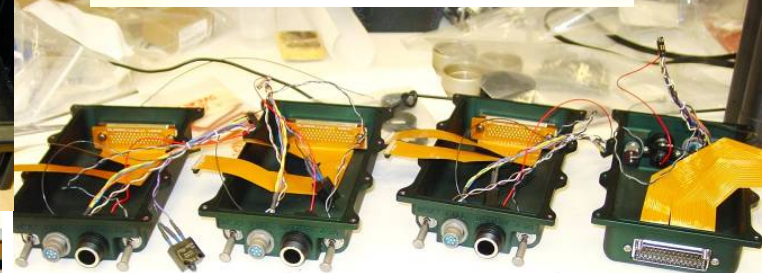


# INITIALIZATION TIME-LINE for EXCALIBUR





# EPIAFS Fabrication





# EPIAFS Fabrication

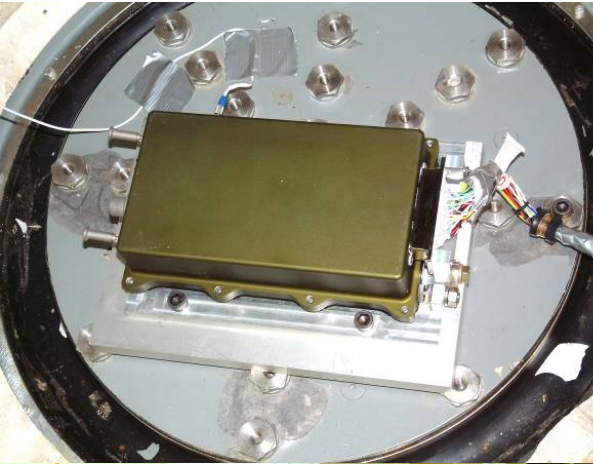


Training the 2<sup>nd</sup> Shift ...



# EPIAFS Lab Testing

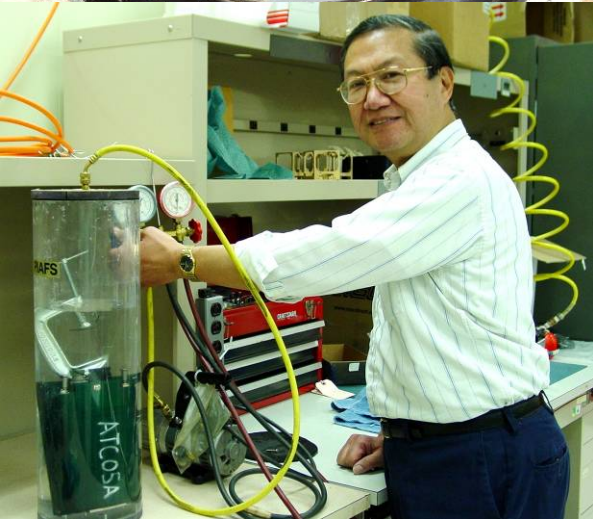
Shock/vibration



Temperature



5' Drop



Leak



Electrical



PEFC system



# EPIAFS Field Testing

Paladin



Excalibur



Setting Excalibur before firing



Yuma Proving Ground

EPIAFS Laptop Host FCS



# Supporting the War Fighter



## FIELDDED EPIAFS UNITS

In-House Qualification

Build: Qty 50

In-House Production Build:  
Qty 50

EPIAFS SETTER

EXCALIBUR

# PLANS

- Complete 130 EPIAFS Production units (in-house)
- Support EPIAFS production contractors
  - ATK; EPIAFS PIK's and Setters
  - Sechan; EPIAFS PIK's and Setters
  - Maryland Integrated; Setter cables
- Maintain and repair fielded EPIAFS units
- Transfer EPIAFS TDP to Picatinny CM
- Upgrade EPIAFS for PGK fuze
- Support EPIAFS integration into JLW-155, Paladin and NLOS-C
- Support EPIAFS integration into Sweden's Archer

