

# F-106

## “Black Box” Project



**Presented by:**  
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**Co-Chair F-106 Reunions**

# Proposal

- Showcase a F-106 MA-1 “Black Box”
- Positioned alongside a F-106 aircraft
- Partner with a F-106 aircraft related museum
- To build a professional grade display case enclosure
- Professional grade signage
  - F-106 mission
  - MA-1 system description
  - Description of 2<sup>nd</sup>/3<sup>rd</sup> generation electronics
- Expert MA-1 “Black Box” Knowledge available through F-106 Association
- Photographs of “black boxes” located in aircraft, technicians working on MA-1 system and ground equipment support
- Partial funding from F-106 Association

# Background



- F-106 was the “Ultimate Interceptor”
- Air Defense Command (ADC)
- 1957 – 1987 Service
- State of the art, Hughes Electronics, MA-1 Integrated Weapon Control System
- Generation 2 and 3 Electronics (tubes, transistors, discrete components)

# F-106 Association

## Mission and Vision

### Mission Statement

To publicize and distribute as much knowledge of the F-106 Delta Dart legacy as can be found...

### Our Vision

Commemorating the past to preserve the memory of the F-106 Delta Dart heritage, keep its history alive, and share its historic legacy with the world

### Our Mission

Founded in 1998 the [www.f-106deltadart.com](http://www.f-106deltadart.com) historical website joined with other F-106 groups to form an association in 2018 with collaborative efforts of the F-106 website creator, F-106 reunion committees, F-106 Facebook social media groups, F-106 alumni groups and many aviation enthusiasts.

Dedicated to preserving the history, lineage and memory of the Convair F-106 Delta Dart, the Ultimate Interceptor and last of the US Air Force Century Series Fighters, we advocate with a large F-106 “Six” community of pilots, maintainers and aviation enthusiasts all sharing a common experience of working with this legendary World Speed Record holding jet aircraft.

# F-106 Association



## Our Associates and Partnerships

<https://www.f-106deltadart.com>

[F-106 Delta Dart All-Troops Reunion Committee](#)

[F-106 Delta Dart Facebook Group](#)

[F-106 Delta Dart Alumni Registry](#)

[456FIS.org](#)

[456th Alumni Committee](#)

[John W. Haverstock Illustrations](#)

The [f-106deltadart.com](https://www.f-106deltadart.com) website is the portal to all aspects of the Association. We are a non-profit group of independent volunteers. We are not associated with Convair or the United States Air Force.

AIRCRAFT  
MAINTENANCE  
GETS A  
STATIC  
DISPLAY...



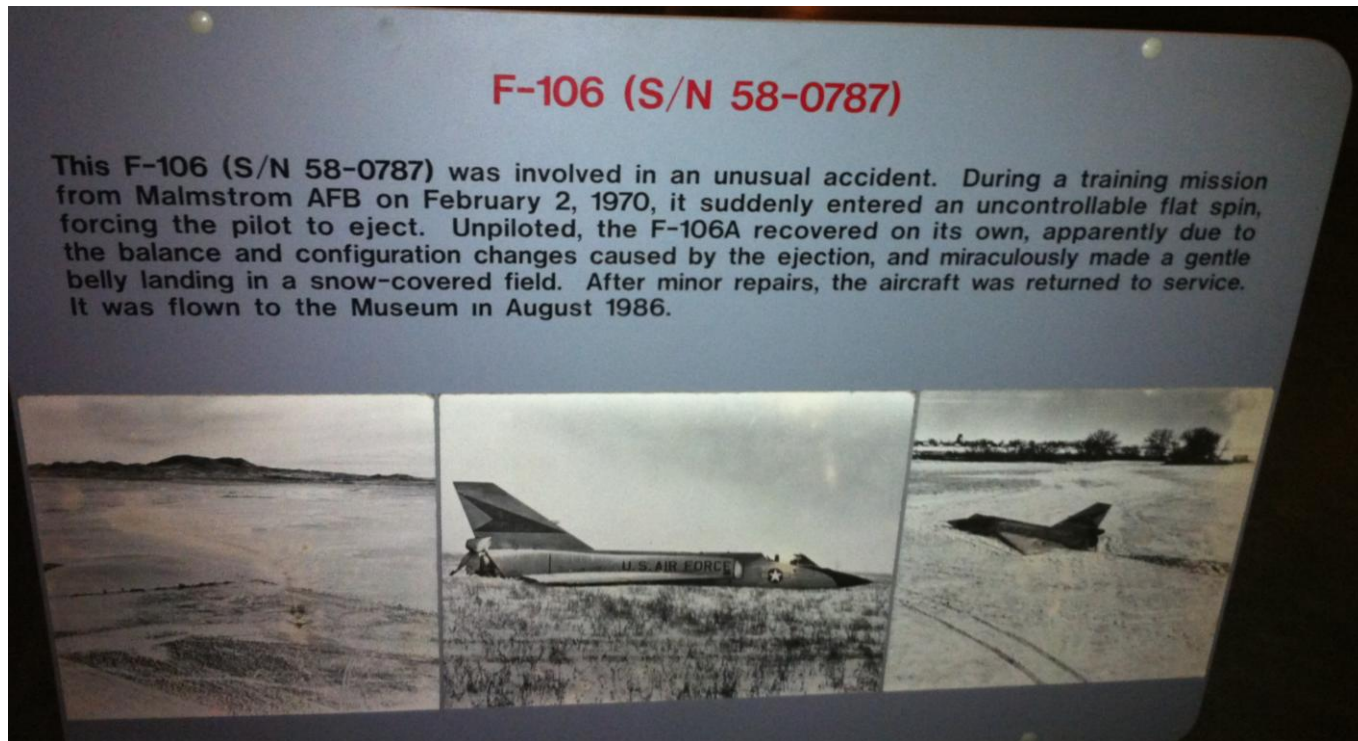
Welcome to the 2013  
All F-106 Reunion

## 2013 F-106 Reunion, Air Force Museum



## Cornfield Bomber

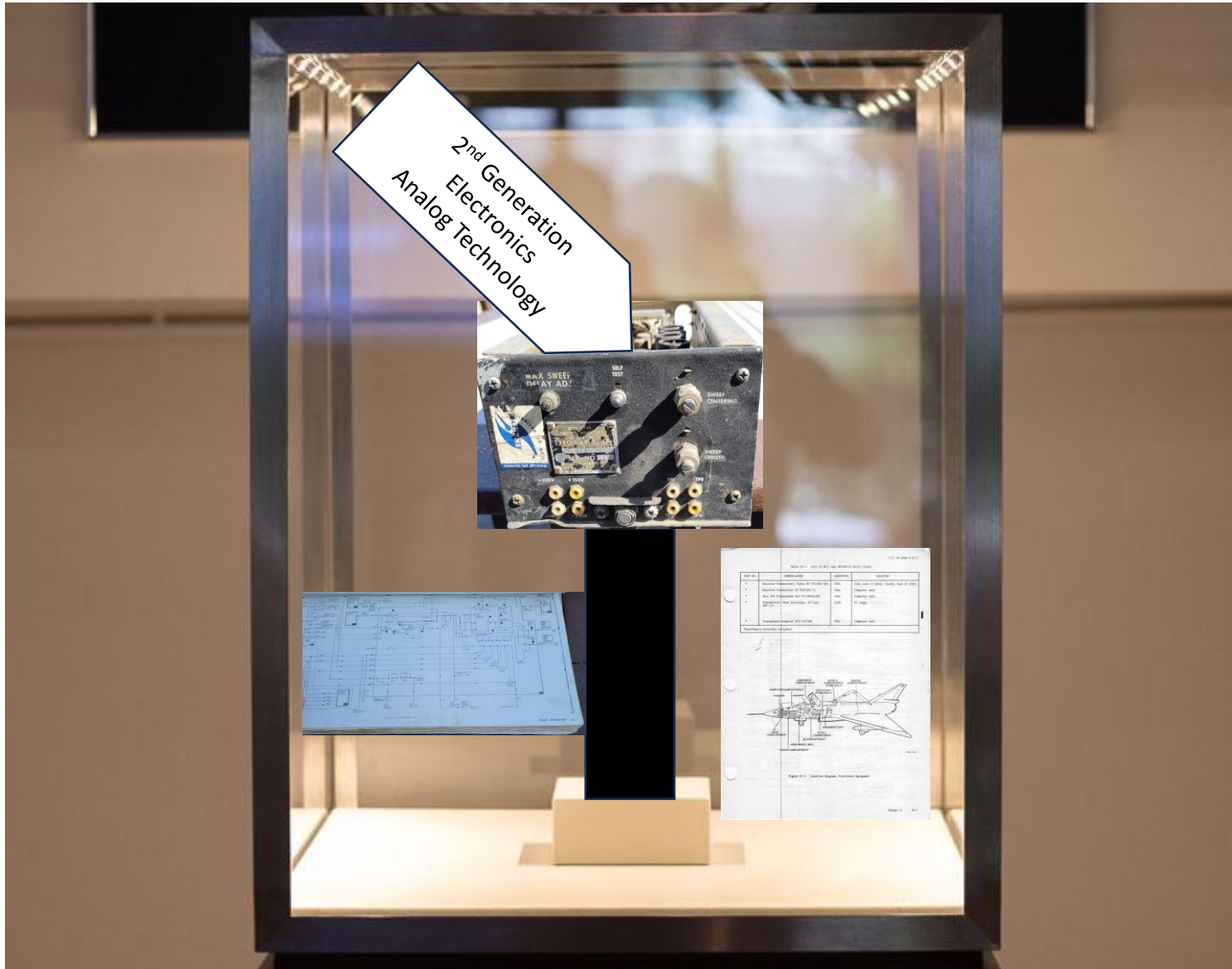
- Aircraft 787 on display at the Air Force Museum
- Pilot, Gary Foust is a member on our F-106 Reunions Committee



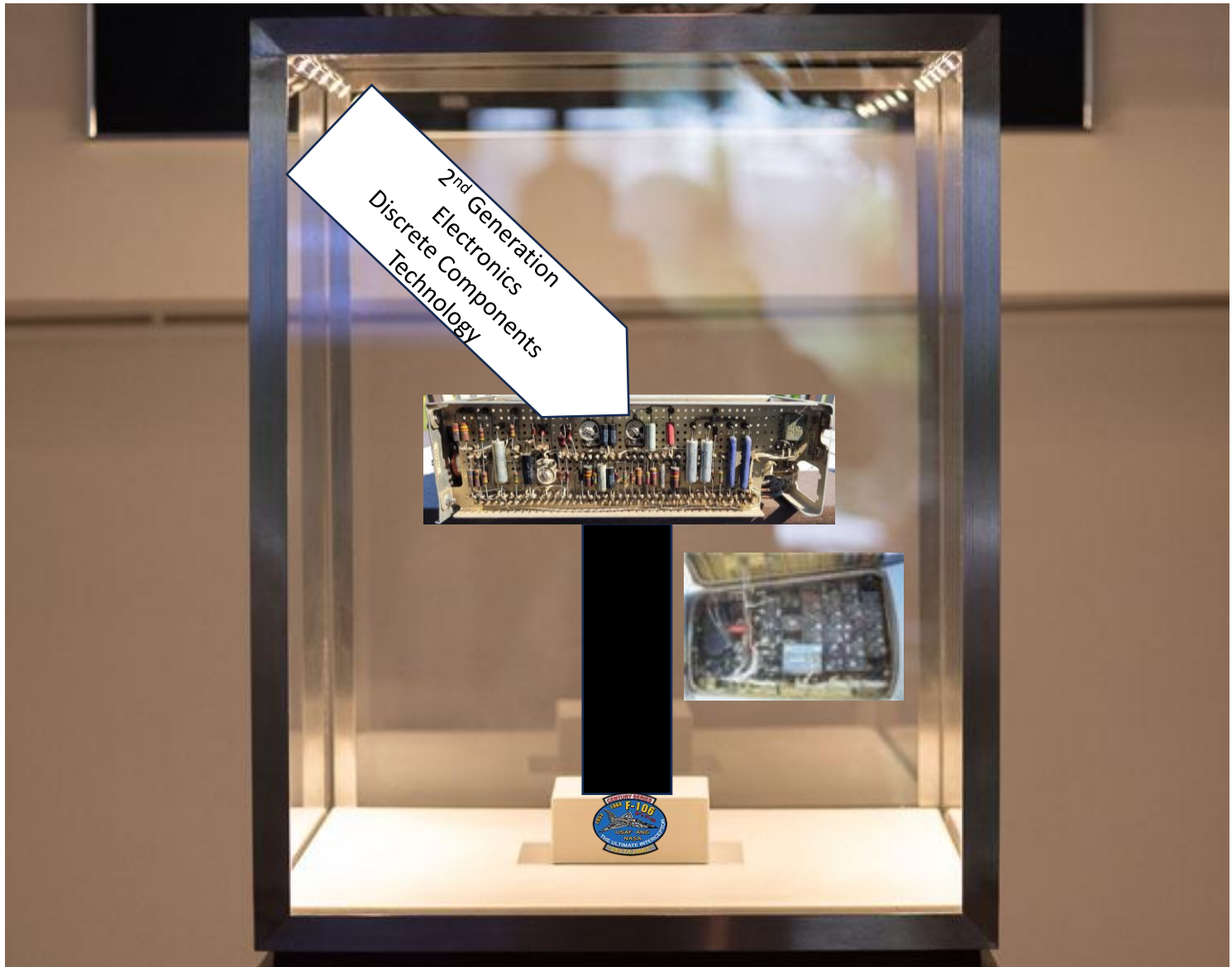
# Resources

- Manpower
  - Unlimited knowledge of techs who worked on MA-1 system
    - Weapon Control Systems Technicians, AFSC 322X1A, B, C
    - Associated Air Force knowledge input:
      - Pilots, Aerospace Ground Equipment support, maintenance control, weapons, crew chiefs,
    - Original Lowry AFB Tech School Instructors
    - F-106 Association active with website, periodic reunions, Facebook and Newsletters
- Hardware Display Sample
  - Original “Black Box” available as donation
- Original AF Tech Orders available
- Thousands of photos
- Limited financial support available from F-106 Reunions Committee

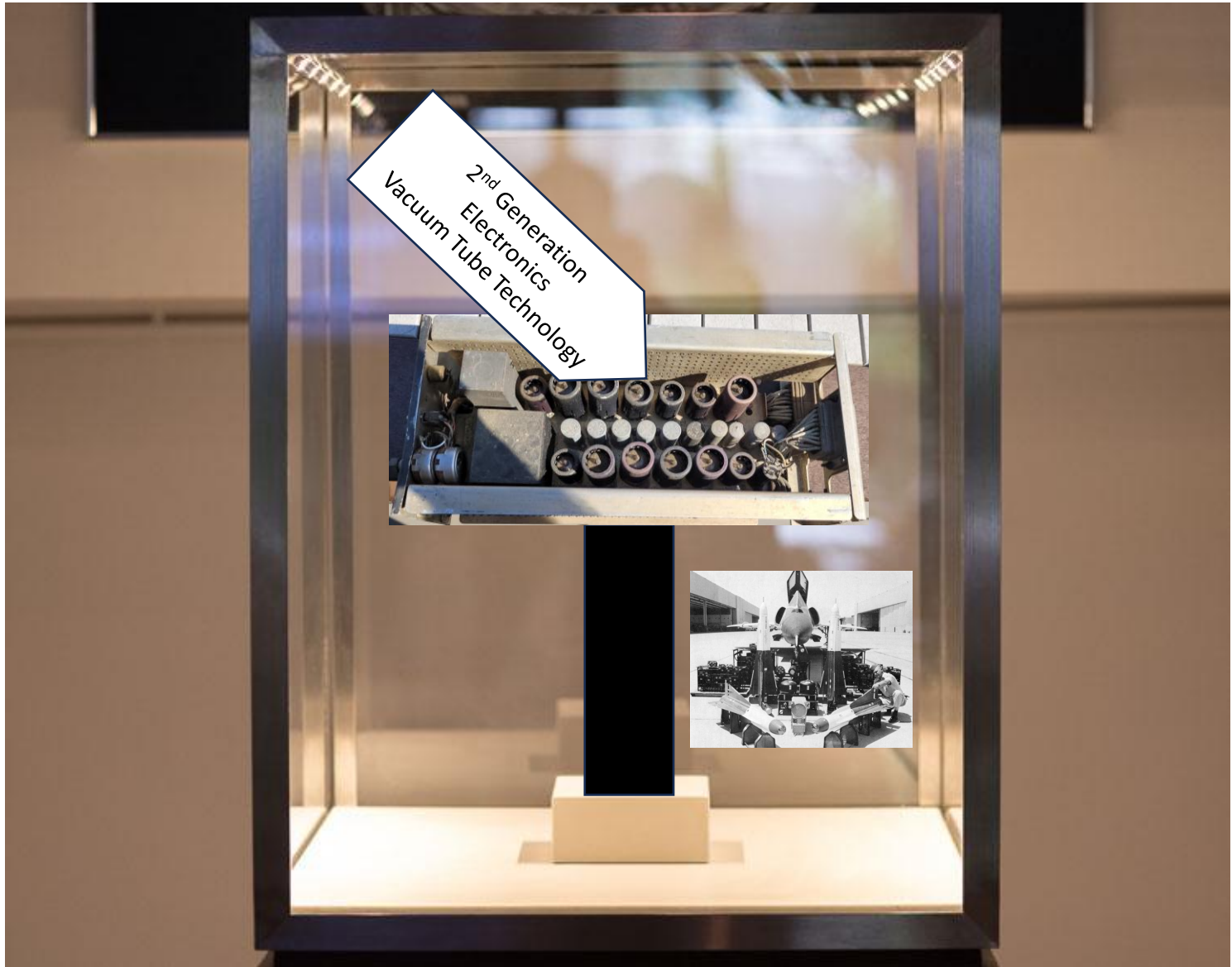
# Concepts – Front View



# Concepts – Side View 1



## Concepts – Top View 2

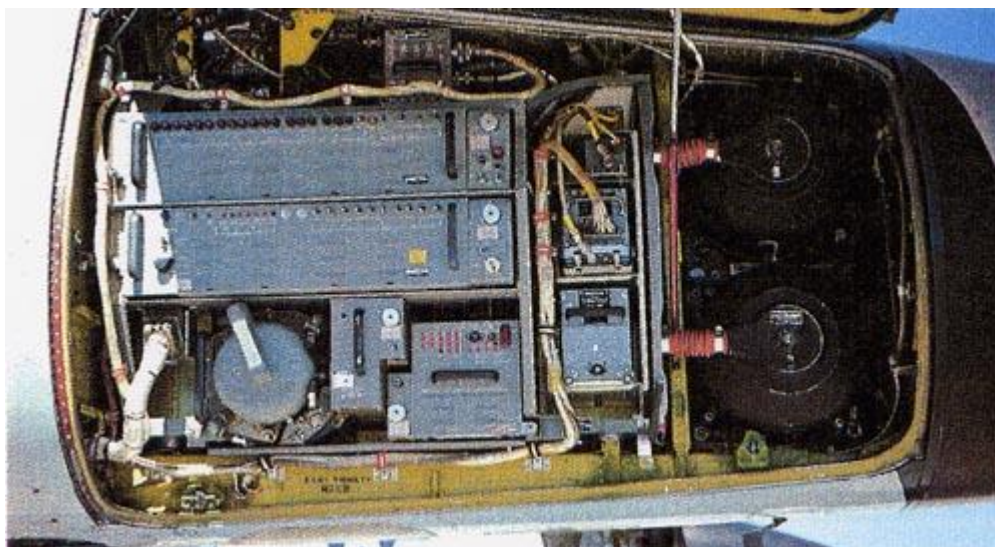


## MA-1, 389 unit “Black Box,” physical dimensions

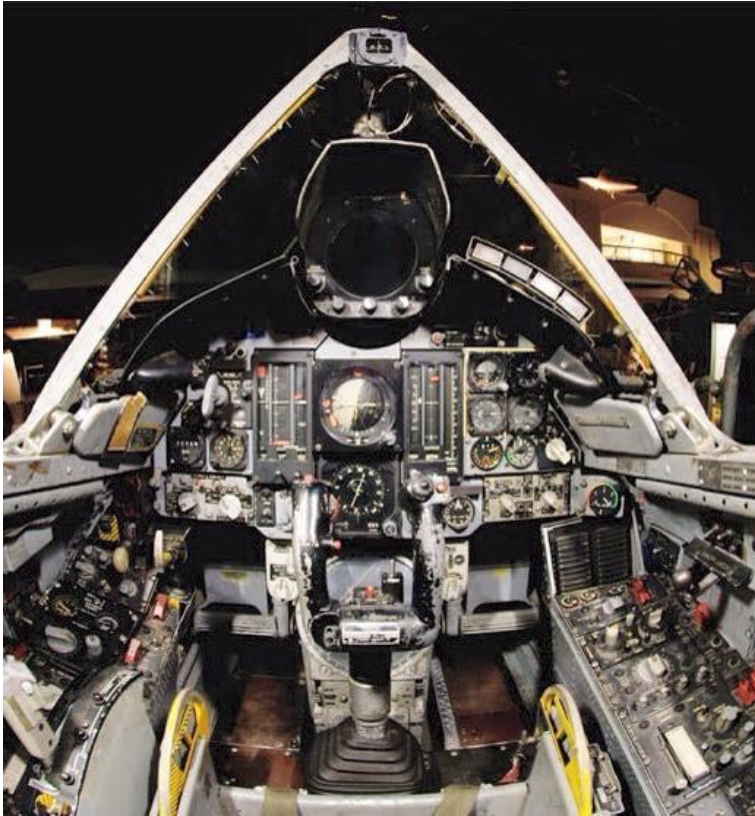
- 6”W X 4”H X 13”D
- Weight: 5 lbs.
- No internal batteries or hazardous materials
- Original condition “beat up” as on aircraft!



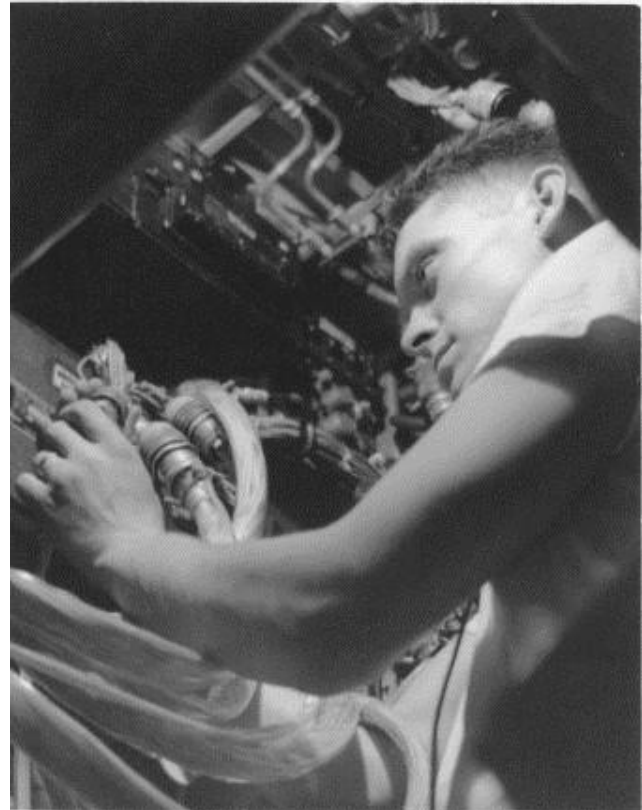
First MA-1 Analog Computer, 14  
“Black Boxes”



2<sup>nd</sup> MA-1 Digital Computer 4 “Black Boxes”



F-106 Cockpit



Working in the "Hell Hole, O-5 area"

# Ground Support Equipment



*With a 94th FIS Six in the background, this 1960 photo shows some of the specialized AGE equipment needed. From left to right are: M32A-13, MC-11, MA-3, and a LOX cart. When the IRST was added, a similar cart was used to service the system with liquid nitrogen. (USAF via El Mason)*

# Credits

- Dave Kuntz – Donation of 464389 “Black Box” for project display
- All the MA-1 people who will be involved in this project
- Marv Donnelly, Lowry AFB Instructor – T.O.’s, diagrams