

412TW-PA-15212



Test and Check Out Cart (T.A.C.O. Cart)

Douglas Pilcher

AIR FORCE TEST CENTER
EDWARDS AFB, CA

14 May 2015

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14. ABSTRACT This briefing will discuss the Test and Check-Out (TACO) cart. It is basically a mobile weatherproof laboratory. The primary purpose is to validate, verify and troubleshoot telemetry and data collection systems. We will discuss the reason for creating it, how it is used and possible future upgrades.					
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412th Test Wing



War-Winning Capabilities ... On Time, On Cost

Test And Check-Out Cart

(T.A.C.O. Cart)



U.S. AIR FORCE

14 May 2015

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Integrity - Service - Excellence



Overview



- The Problem
- The Solution
- Why we chose this
- Benefits
- Conclusion / Questions



The Problem



- Technicians had to carry large amounts of equipment to the aircraft every day for pre-flights, post-flights and to troubleshoot the systems.



The Solution

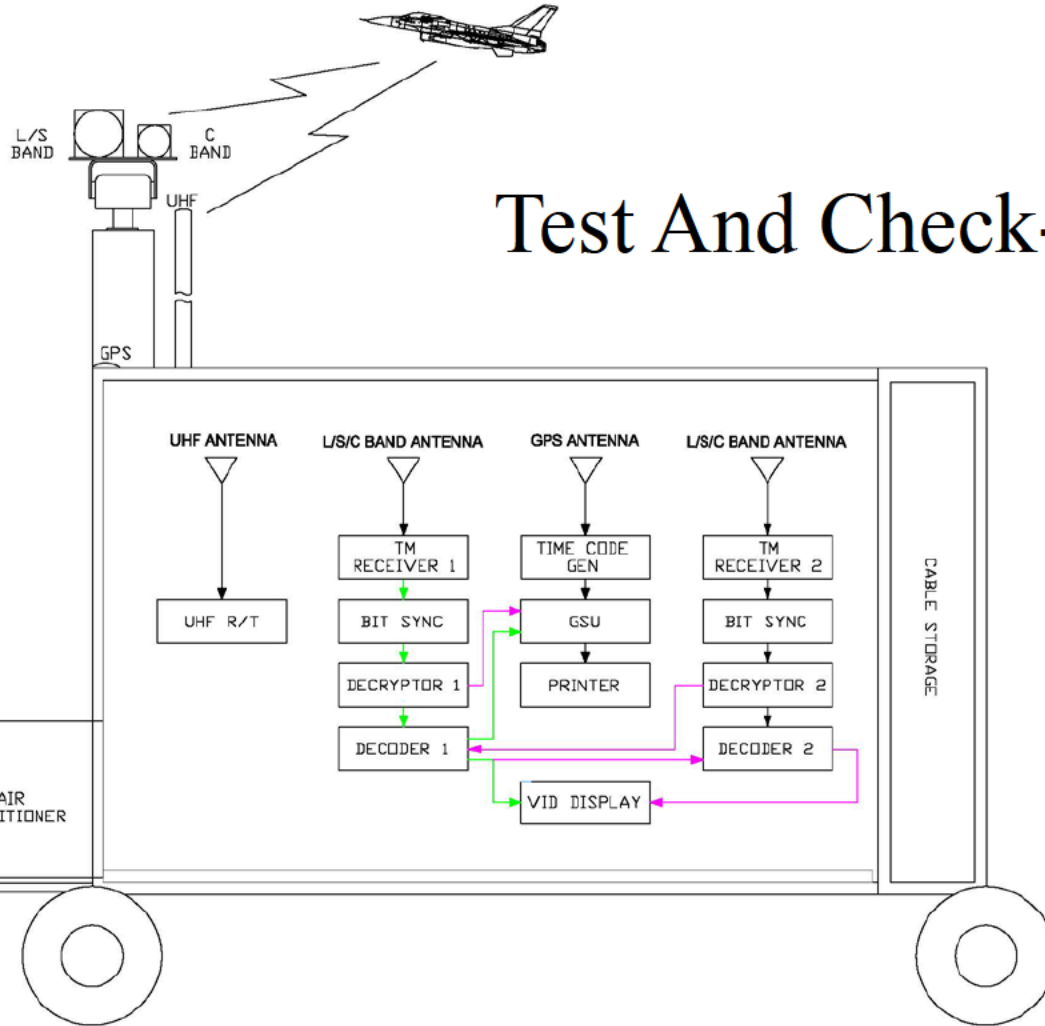




The Solution



412TW



Test And Check-Out (TACO)



Equipment Location



Picture by Douglas Pilcher



Equipment Location



Antenna Patch panel

Receiver

Video Distribution Amp

Bit Synchronizer

UHF Radio

Antenna Control

BNC Cable on a reel



Equipment Location



Patch panel

Receiver

Video Distribution Amp

GPS Receiver

Oscilloscope/Spectrum Analyzer

USB Connections

Power Strip

UPS



Equipment Location



Computer Monitor/Keyboard

Computer w/MIL-STD-1553 adapter

UPS



Equipment Location



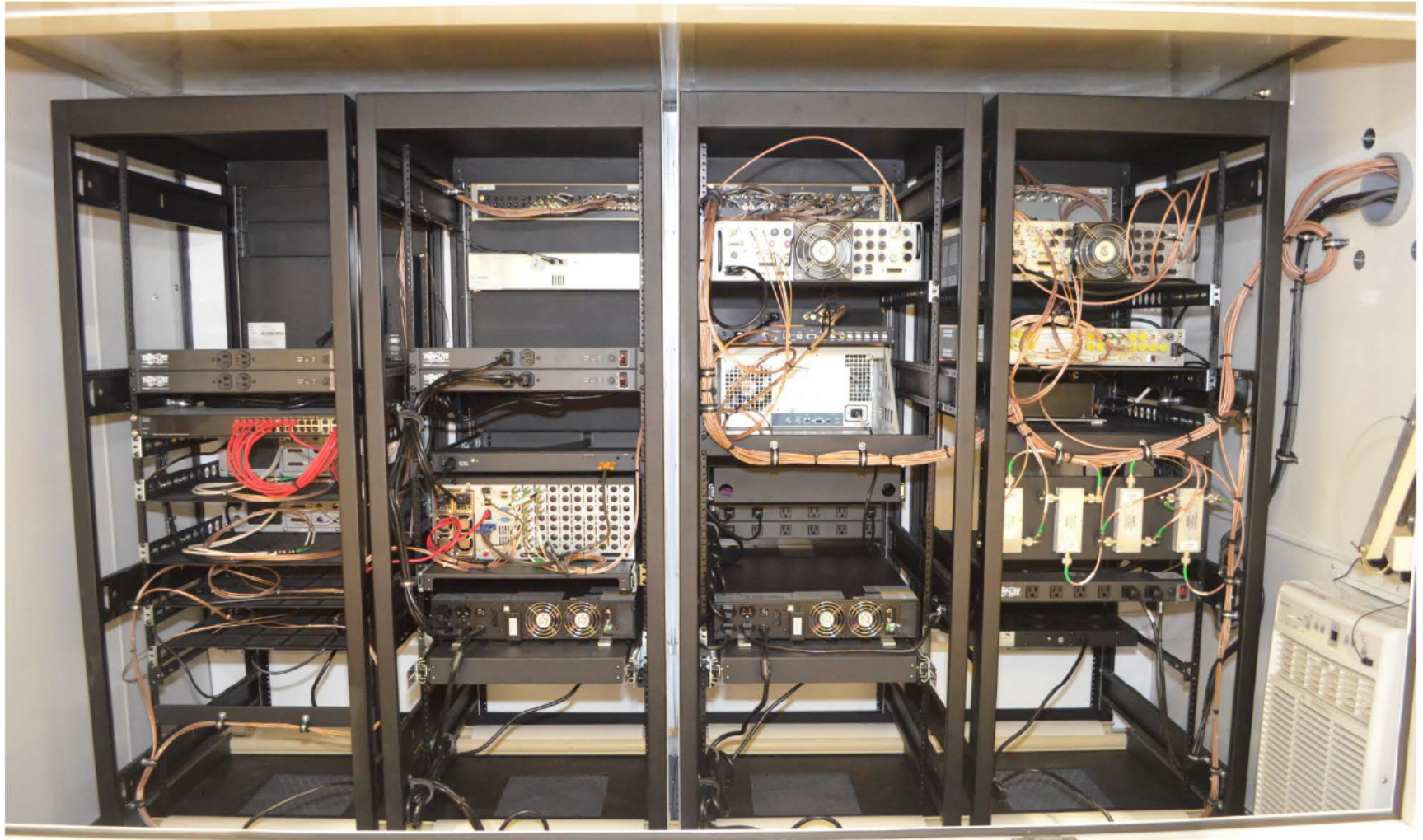
Video Encoders

Decryptors

Picture by Douglas Pilcher



Back



Picture by Douglas Pilcher



Air Conditioner



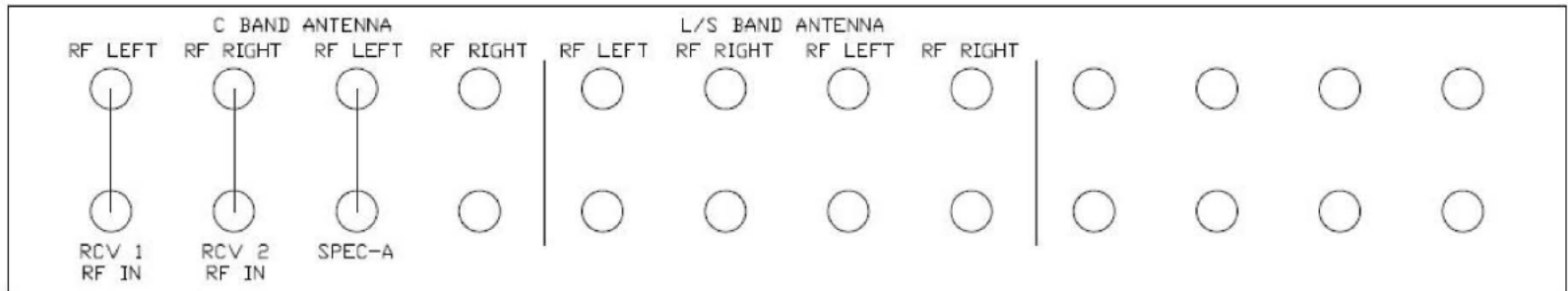
Antennas



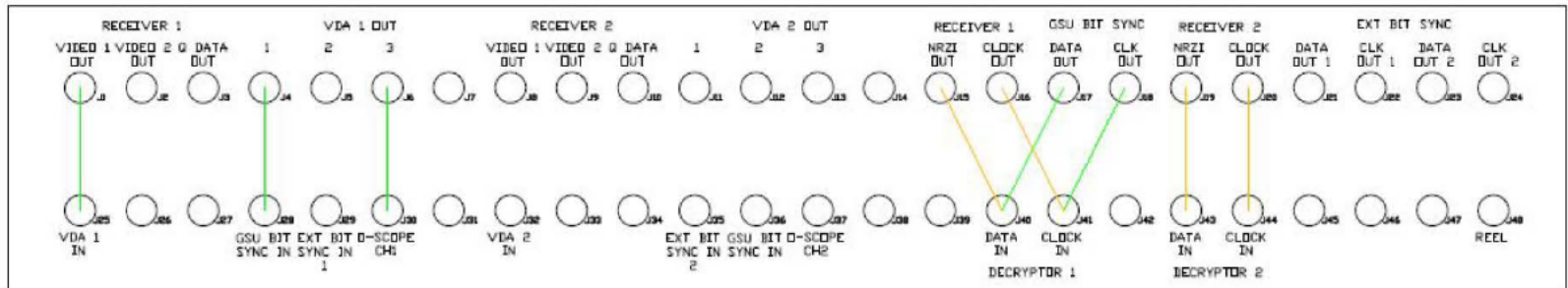
Patch Panel



PATCH PANEL 1 ANTENNA



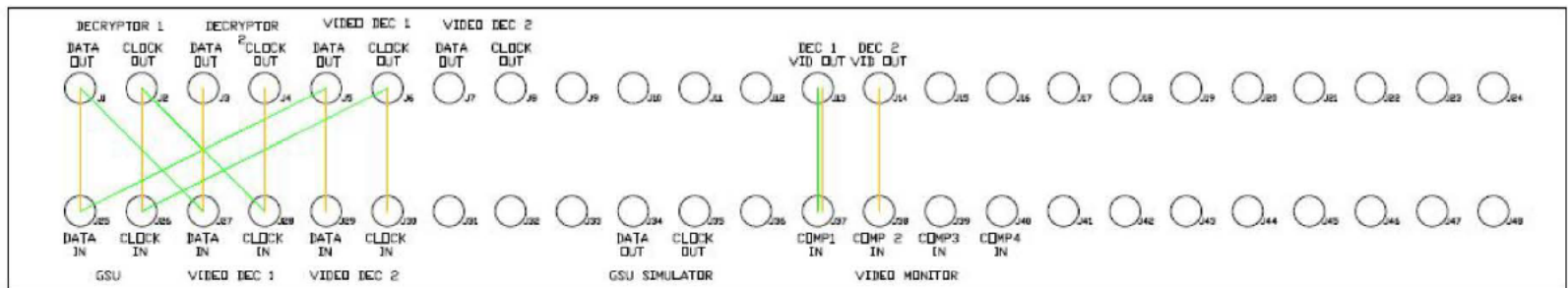
PATCH PANEL 2



17 APRIL 2014

TPS PATCHING
416TH PATCHING

PATCH PANEL 3





Why this?



- The TACO Cart is a self contained, weatherproof mobile laboratory.
- It can receive/send data through a cable, Ethernet or telemetry.
 - Pre-flight the aircraft and verify system operation prior to flight.
 - Connect directly to the aircraft to troubleshoot the system.
 - Receive data via telemetry to verify the transmitter.
 - In the future Blue Tooth and Wi-Fi communication will be added.
- It can decode various avionics busses such as MIL-STD-1553 and ARINC 429.
- It can receive, decode and display video and audio.
- The Tektronics MDO4054 is both an oscilloscope and a spectrum analyzer.



Benefits



- Dramatically saves time.
 - All in one means no extra equipment needs to be hand carried to the plane.
- Reduces the potential for damaged equipment as it is transported from the shop.
- Can be stored close to the point of use.



Questions?

