

Headquarters U.S. Air Force

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Air Traffic Control and Landing Systems (ATCALs) Modernization and Remote Maintenance



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OVERVIEW



- **Air Traffic Control and Landing Systems (ATCALS) Roadmap**
- **Pilot Program**
- **Key Tenets**
- **Regional Maintenance Concepts**
- **RMC Locations**
- **Fixed Base and Deployable ATCALS Modernization Equipment Status**
- **Current Mobile Air Traffic Control and Landing Systems**



USAF ATCALS Roadmap

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 Transition or Multiple Systems


FY 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

Current

Transitional Period

End-State

Current as of: 21 Apr 10



Pilot Program

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- **AF Material Command led pilot program**
 - **Replaced ILS systems in FY02-05**
 - **Replaced TACAN, and VORTAC systems in FY06-07**
 - **Installed 13 ILS, 1 DME, 4 TACANs, and 1 VORTAC**
- **Instituted remote maintenance in FY03**
 - **Maintained by 6 technicians assigned to RMC located at Eglin AFB, FL**
- **Pilot program demonstrated remote maintenance to be functional/cost effective**



Key Tenets

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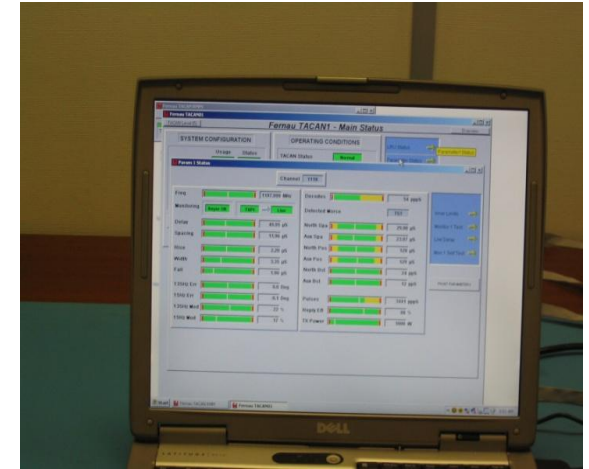
- **Replace fixed base/mobile legacy equip with remote maintenance capable systems**
 - **ILS, TACAN, VOR and ATC Radios**
 - **Deployable TACAN and D-PAR with D-ILS**
- **Implement regionalized maintenance**
 - **3 fixed base RMC's**
 - **Perform all maintenance, flight inspections and certifications**
- **114 positions repurposed FY12--382 total positions by FY19**
- **Net savings \$365M by 2025**



Regional Maintenance

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- Use technology to remotely maintain some ATCALS systems
 - Replace D-TACAN, D-Par with D-ILS, fixed base ILS, VORTAC, and ATC Radios with remote maintenance capable systems
 - Use “off the shelf” technology
- Updated maintenance and support concepts
- 3 fixed base RMCs (CONUS, PACAF, USAFE)
 - Fully operational Feb 12
- Performs all maintenance, flight inspections and certifications
- May have advantages for civil airport operations in winter weather
 - NAVAIDS may become inaccessible in heavy snow/ice





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Flight Check Radio



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Localizer/ Glideslope Transmitter/Monitor



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Remote Control Display Unit



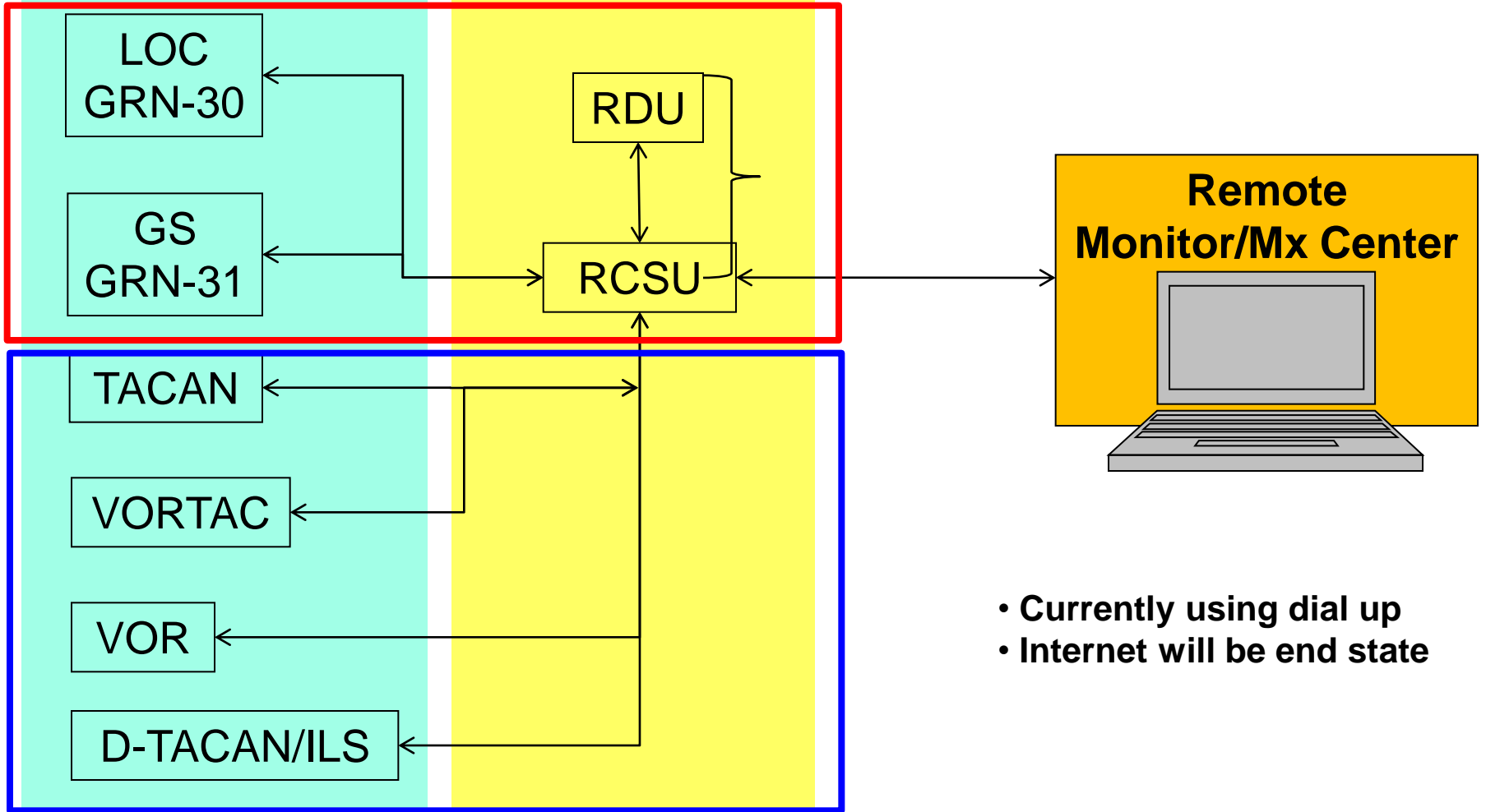


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Regional Maintenance Concepts

Airfield Systems

Control Tower



- Currently using dial up
- Internet will be end state



RMC Locations

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- **United States Region (Oklahoma City)**
 - **27 positions**
 - **Maintain 96 locations**

- **European Region (Kapaun, GE)**
 - **17 positions**
 - **Maintain 17 locations**

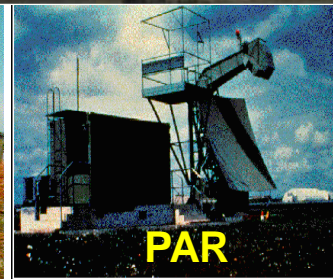
- **Pacific Region (Yokota)**
 - **15 positions**
 - **Maintain 11 locations**



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Key Tasks

- **Manage Regional Maintenance Centers**
- **Wind Turbine Mitigation Modeling ATCALS test/evaluation support**
- **Air Traffic Control and Landing Systems (ATCALS) evaluations**
 - **Solve complex ATCALS problems**
 - **ATCALS siting/modeling/analysis**
 - **ATCALS special maintenance/engineering support**



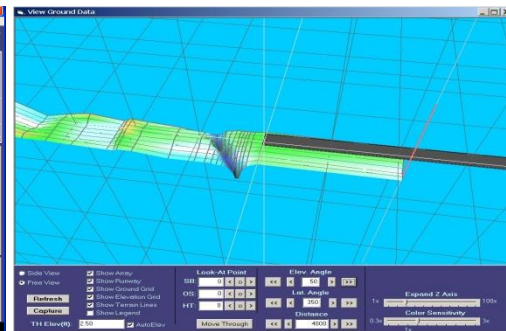
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ATCAL S Evaluation

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- Worldwide mission
- Solve complex ATCAL S problems
- ATCAL S sitting/modeling/analysis
 - Site surveys for new ATCAL S
 - Base expansion, terrain changes, equipment changes
- Airfield surveys
- ATCAL S special maintenance/engineering support/tech assistance





Fixed Base ATCALs Equipment Status

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- Fixed Base ILS
 - Contract award Aug 2011
 - Field FY12 – 17
- Fixed Base TACAN/VORTAC
 - Contract award FY12
 - Field FY14 – 18

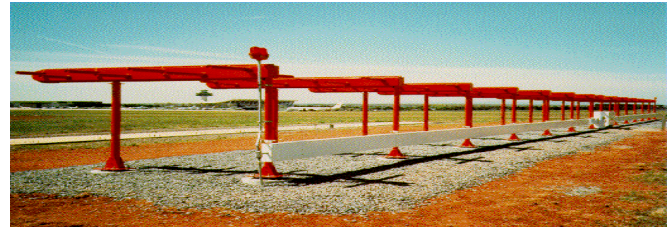




Mobile ATCALS Equipment Status

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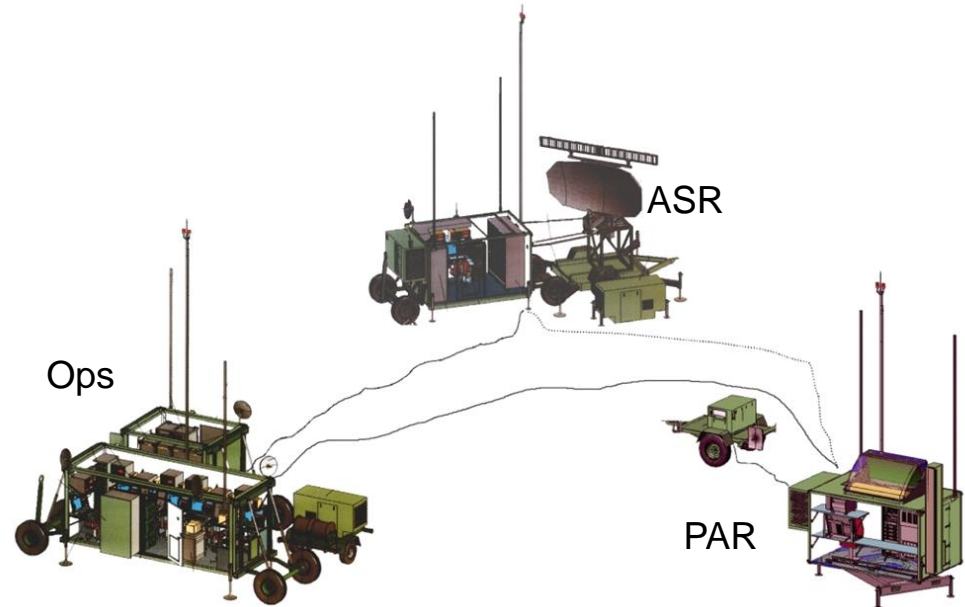
- Modernize deployable ATCALS equipment
 - Deployable Instrument Landing System (ILS): 34 systems, Remote Maintenance Capable
 - Contract awarded: Northrop Grumman
 - Deployable TACAN: 19 systems,
 - Remote Maintenance Capable
 - Contract awarded to MOOG/Fernau
- Deployable Radar Approach Control
 - (D-RAPCON): 19 systems to replace
 - Contract award: April 2012





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Mobile ATCALS Modernization: Deployable RAPCON



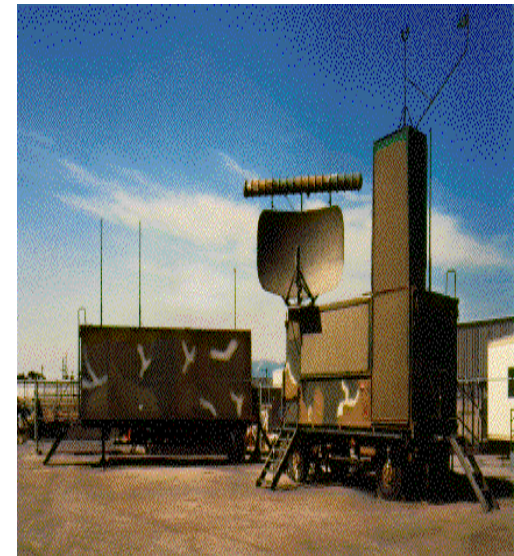
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TPN-19/MPN-14K Landing Control Systems

- 7 active duty TPN-19s
 - 1970s technology
- 10 ANG MPN-14Ks
 - 1950s technology
- Requires 7 C-130s to deploy





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MPN-25

GCA 2000

- **Mobile, compact ground controlled approach**
 - **Airport Surveillance Radar**
 - **Secondary Surveillance Radar coverage)**
 - **Precision Approach Radar (coverage)**
- **Assigned to Air Mobility Command**

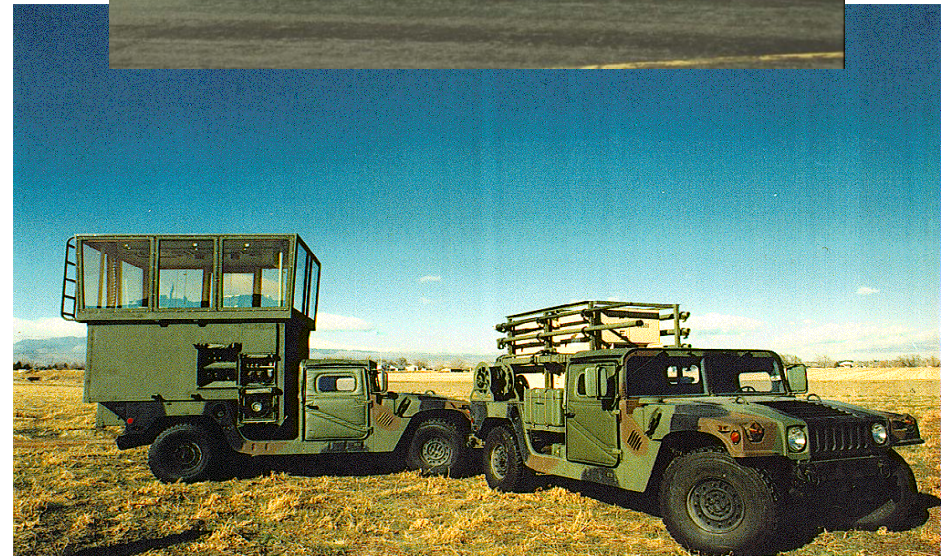




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MSN-7 Tower Restoral Vehicle

- Highly mobile, quick response mobile control tower
- Improved mobility, communications, recorders, & weather sensors
- Requires 2 C-130s
- 17 in inventory



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TRN-41/TRN-26 Deployable TACANs



TRN-41



TRN-26

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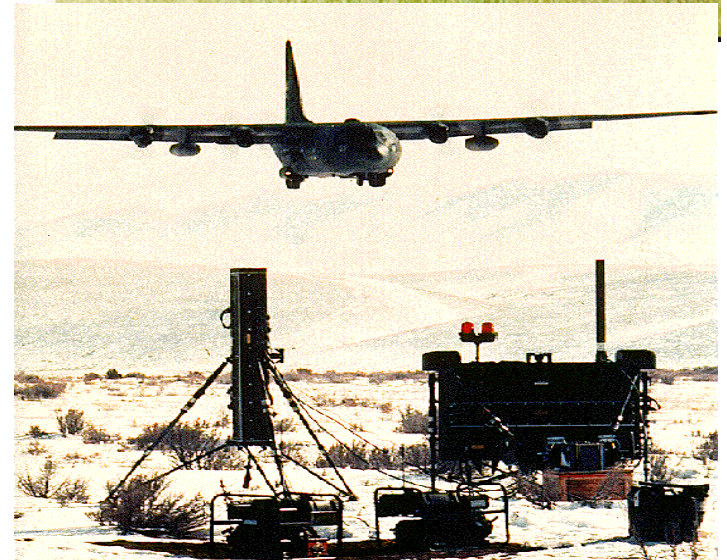


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TRN-45

Mobile Microwave Landing System

- Provides deployable precision landing capability for all weather conditions
- 37 units purchased
- Only USAF C-130 & C-17 equipped to use



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QUESTIONS?

Thanks for The Invite!



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