

2005 REQUIREMENTS SYMPOSIUM



**BREAKOUT TOPIC:
Common Large Area Display
Set
(CLADS)**

**542d
Electronics
Sustainment
Group (ESG)**

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Overview



- Brief Program / Issue Description
- Current Status of Program / Issue
- Acquisition & Sustainment Strategy
- Program Requirements - Program Requirements Roadmap
- Funded Requirements (Not on Contract)
- Program Budget
- Unfunded Requirements
- Program Challenges/Opportunities
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- Technology Insertion Roadmap/Plan
- Government Focal Points
- Summary



Program / Issue Description



- What is a Common Large Area Display Set (CLADS)?
 - Common modular form, fit, function display replacement for 19-21inch avionics C⁴I workstation displays
 - Designed to improve reliability, logistics and maintenance support
- Why?
 - Every C⁴I display implementation for every platform is unique even though they all share many common requirements
 - Rugged CRTs are going obsolete
 - Standardization is possible and offers many benefits



Program / Issue Description (cont.)

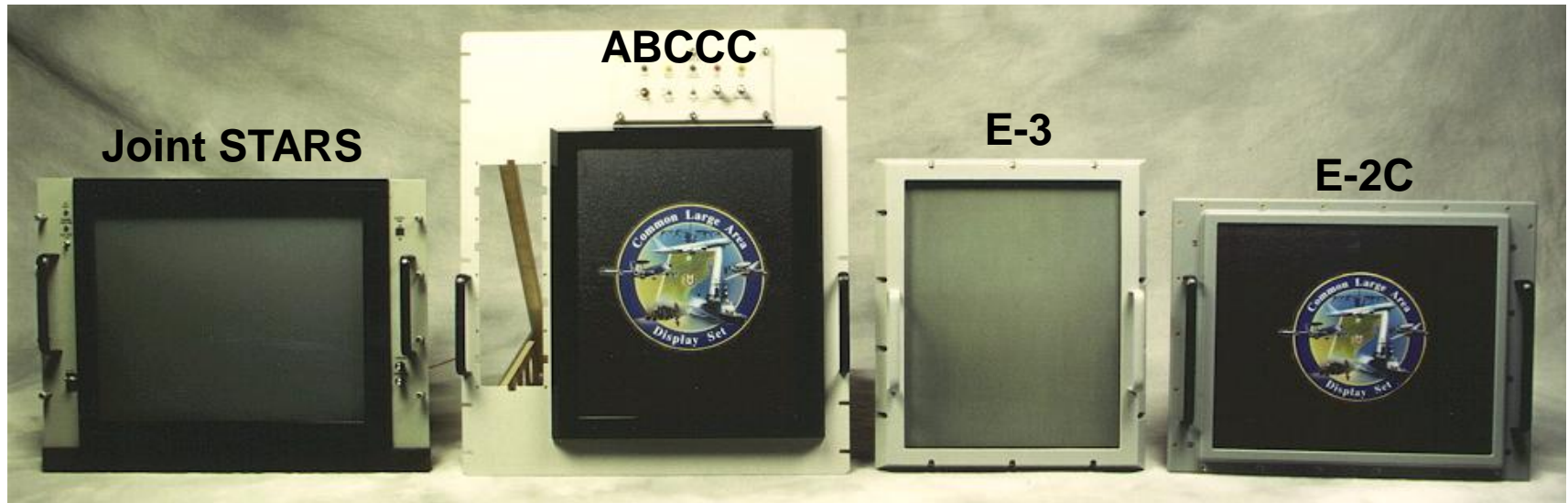
- How? The plan.....
 - Defined modular architecture
 - Develop FFF performance specifications for modules
 - and displays
 - Specifications are display technology independent
 - Modules could be reused across multiple applications. This would....
 - Increase quantities of modules
 - Permit the establishment of common repair and spares to keep the total parts count low (reduce logistics support requirements)
 - Permit reduced cost obsolescence mitigation across platforms



Program/ Issue Description (cont.)



- Form, fit, function replacement display for most avionics C⁴I workstation displays
- New technology
- Status: Used on US AWACS

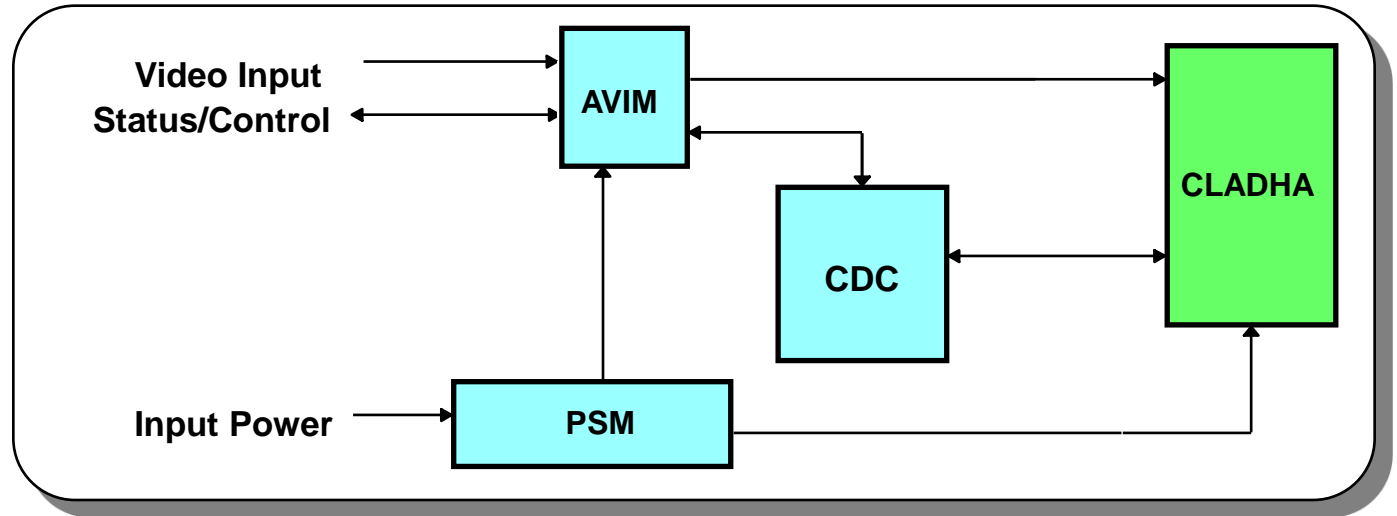




CLADS Design Architecture



- **Common modules**
- **Standard interfaces**
- **Platform Integration Kits**



CLADS Module	Reference Specification	Common Use
E-3 Common large Area Display Set	Document No. 3310030010	No
CLAD Head Assembly (CLADHA)	Document No. 3310030011	Yes
Common Display Controller (CDC)	Document No. 3310030012	Yes
Power Supply Module (PSM)	Document No. 3310030013	Yes
E-3 Application Video Interface Module (AVIM)	Document No. 3310030014	No
E-3 Integration Kit	Drawing No. 3310030310	No



CLADS Accomplishments

(from 1998 presentation)



CLADS Goals

- **Form, fit, & function preferred spare replacement**
- **Reduce cost of ownership**
- **Improve reliability and maintainability**
- **Maintain or enhance current performance**
- **Commonality & modularity**

Accomplishments

- **CLADS is form, fit, & function replacement**
- **<25% of AWACS CRT support saves \$ millions annually**
- **Increased reliability >10x, reduced maintenance**
- **Increased size, resolution, displayable colors**
- **Guaranteed through performance specifications**



CLADS – The Present State



- CLADS units were installed on the US AWACS fleet in FY01, FY02
- Current maintenance data indicates realized MTBF of approximately 6000 hours exceeding specified requirement



Acquisition & Sustainment Strategy



- **CONTRACTING STRATEGY**
 - DESP II
- **DATA RIGHTS**
 - Unlimited when engineering services Contract completed
- **SUSTAINMENT**
 - The program is currently under CLS to ELCAN. Anticipate that WR-ALC/MAI will become the organic depot for CLADS.



Program Requirements Roadmap



- Projected service life – Thru 2018
- Organic depot planned



Funded Requirements (Not On Contract)



- Not applicable



Program Budget



	R&D	Acquisition
FY 06	\$1,248,000	\$0
FY 07	\$1,000,000	\$0
FY 08	\$0	\$0



Unfunded Requirements



- Program
 - Production is not anticipated only repair
- Schedule
 - See budget
- Funding & Execution Probability
 - Funding has been requested for engineering and logistic support to set up an organic depot in the FY 06 budget



Program Challenges / Opportunities



- The present challenge is to keep the CLADS operational thru 2018 whether through CLS or organic depot
- DMS issues are a concern
- Method of repair is a concern. Original concept was to repair only to the modular level. Anticipate utilizing this method in the organic depot.
- Presently repair and production is sole source.



Area / Issues Needing Improvement or Assistance



- The USAF anticipates setting up an organic depot through an engineering services contract with an independent organization.
- The concept utilized should solve problems of DMS and availability as outlined in previous slides.
- The concept should utilize the latest display technology available.



Technology Insertion Roadmap/Plans



- CLADS was designed as a modular system. This will allow us to utilize the latest in Display Technology as the repair cycle in the Organic Depot is developed.
- Discussions are planned with the Navy in October or November 2005 to discuss the objective of common solutions to Display opportunities in both services.



Government Focal Points



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Summary



- CLADS summarized:
 - An ongoing program.
 - Will be re-configurable to meet future requirements.
 - Increased Mean Time Before Failure rate.
 - Opportunity for joint participation.
- LESSONS LEARNED:
 - See Next Slides

Lessons Learned From CLADS

- Common components can be developed for multiple platforms
- Commonality and requirements assessments (now and future) must be carefully performed and used for system design input
- Technology Assessments (now and future) must be performed and considered in system architecture/design
- Maintenance philosophy and supply chain must be understood and considered as part of system design
- Long term program needed to maintain/sustain and proliferate commonality

Lessons Learned From CLADS

- It is important to determine the perceived value gained by each of the relevant stakeholders. Commonality cannot be easily achieved without common or integrated goals, and decision authority