Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-421

AMF JTRS

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Airborne and Maritime/Fixed Station Joint Tactical Radio System (AMF JTRS)

DoD Component

DoD

Joint Participants

Army; Navy; Air Force

Army is the lead Component per Secretary of Defense (SECDEF) Memo dated August 31, 2009.

Responsible Office

Responsible Office

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References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated October 14, 2008.

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated October 14, 2008

Mission and Description

The Airborne and Maritime/Fixed Station (AMF) Joint Tactical Radio System (JTRS) enables synchronization of information in a joint operational environment to achieve Joint Vision 2020's goal of Full Spectrum Dominance. AMF will assist United States (U.S.) Armed Forces in the conduct of prompt, sustained, and synchronized operations, and allow users the freedom to operate in all domains: land, sea, air, space and information.

The AMF JTRS is a software programmable, multi-band, multi-mode, mobile ad hoc networking radio, providing simultaneous voice, data, and video communications which may be employed in new and innovative ways as compared to currently fielded legacy radio systems. AMF JTRS supports increased interoperability among the Services. AMF JTRS enhances user situational awareness by increasing information flow through the JTRS network and the Global Information Grid (GIG). It streamlines logistics support by allowing multiple communications capabilities to reside on one set rather than multiple radios thereby decreasing the total required radio sets.

The AMF JTRS program brings vital transformational advanced networking communications capability to the fingertips of users in every theater of operation. It provides users vertical and horizontal digital radio communications throughout the battlespace, allowing for seamless, high-speed, and digital information exchange. It enables the user to access link and gateway services, transmit, receive, route and retransmit, and bridge between waveforms and network service functions used within radio frequency (RF) operating ranges. Users require the ability to consistently and securely network the battlefield to aid airborne, mobile, ground, and fleet combat operations. AMF brings these capabilities to users operating numerous and diverse weapon systems.

Operators of military weapon systems require the ability to network and maintain several methods of legacy secure communications but lack space to integrate additional radios on fielded platforms. Weapon systems are currently limited to legacy hardware based radio communication solutions. It is difficult for users to add additional legacy radio capabilities to platforms due to: platform physical size, weight and power restrictions limiting additional radios and associated ancillary equipment; prohibitive integration cost to add supplementary hardware-based legacy radios and ancillary equipment and the inflexibility of modifying hardware-based radios to meet war fighting requirements changes; and a lack of National Security Agency (NSA) Type 1 certified Commercial Off the Shelf (COTS) solutions. AMF mitigates these challenges.

AMF is an incremental development program. Each increment builds upon the technological achievements of previous increments and provides expanded capability. The initial AMF JTRS is designed to meet JTRS Increment 1 requirements as identified by JTRS Operational Requirements Document (ORD) version 3.2.1. AMF JTRS is a two channel communications and networking device designed to meet the needs of diverse airborne, shipboard, mobile and fixed site weapon systems.

Additional capabilities beyond the ORD v3.2.1 Increment 1 requirements are supported as requirements are approved and funded. AMF JTRS offers the user scalable, software defined communication sets with the flexibility to run both legacy radio applications and Internet Protocol (IP) based capabilities simultaneously. It meets this critical need without the enormous physical footprint required to add several legacy hardware solutions to fielded and future weapon systems.

Executive Summary

The Airborne and Maritime/Fixed Station (AMF) Joint Tactical Radio System (JTRS) Program incurred numerous challenges during the past year. Congressional budget reductions, contractor cost growth, contractor product development delays, and degradation of Air Force and Navy support impacted the program's ability to execute within the original schedule and budget. These factors impacted AMF JTRS ability to stay within the approved Acquisition Program Baseline (APB) schedule threshold dates.

A $60M FY 2011 Research Development Test and Evaluation (RDT&E) Congressional budget reduction created a gap in the program's ability to meet Cost, Schedule and Performance goals. In January 2011, this challenge required a partial deferment of FY 2011 development work. This deferment forced significant reductions in contractor Full Time Equivalent (FTE) staff, added increased pressure to development challenges and contributed to Prime and Sub Contractor contract cost increases. The AMF JTRS Program worked with the Prime Contractor, Lockheed Martin, to identify work scope for deferral to FY 2012. Formal discussions with Lockheed Martin ensued in January 2011 to restructure the development effort based on these fact of life changes. The Government and contractor agreed to a course of action allowing continuation of critical technical capability development and looked at options to defer select capabilities that were no longer a high priority to the Services.

In April 2011, the Under Secretary of Defense for Acquisition, Technology & Logistics (USD (AT&L)) conducted a program review in response to the previously highlighted issues. Discussions focused on the impacts of Congressional budget reductions, the Contractor's estimated contract cost growth and planned delivery of the first Engineering Development Model (EDM). The program office was directed to analyze and consider alternative Courses of Action (COAs) to determine a way forward, and deliver the first EDM to the AH-64D Apache program no later than July 2011.

The program office worked with Office of the Secretary of Defense (OSD), Army, Navy and Air Force stakeholders from April through July 2011 and obtained consensus on a recommended path forward. The Services agreed that the AMF Small Airborne form factor was a suitable option to meet the majority of their Maritime/Fixed requirements. This recommendation was presented to the USD (AT&L) in July 2011 and direction was received on September 12, 2011 to delay further development of the Maritime/Fixed Station (M/F) form factor and seek formal relief of Joint Requirements Oversight Council (JROC) directed requirements such as the M/F form factor and the Ultra High Frequency Satellite Communication (UHF SATCOM) waveform which was no longer needed by the Navy. In addition, AMF JTRS was directed to transfer the majority of cost risk from the Government to the contractor by restructuring the current contract and provide an updated acquisition strategy consistent with the restructure.

The Navy and Air Force removed support and funding starting in FY 2013 from the AMF JTRS program due to the Services funding challenges. The Army has revalidated the importance of the AMF JTRS capability to extend the communications network of deployed Soldiers and remains committed to the program.

AMF JTRS delivered the first EDM to the Apache program on June 30, 2011. To date, ten EDMs have been delivered to the Services and Government test facilities. These EDMs are now in use supporting platform integration and test lab accreditations. In addition to the delivery of EDMs, the AMF JTRS Prime Contractor, Lockheed Martin, demonstrated positive steps toward showing how software-defined radios extend the Army's tactical network by connecting communications links to disparate ground troops. During a recent Army exercise, Lockheed Martin used select prototype AMF JTRS software and hardware components to demonstrate relaying voice, data and imagery from a test-bed AH-64D Apache helicopter to ground forces over the Internet Protocol (IP)-enabled Soldier Radio Waveform (SRW).

The program office remains in contract negotiations with Lockheed Martin to cap the Government's cost growth liability. AMF JTRS is working to ensure capability is delivered to the user when needed within fiscal and budget constraints. The program is working on strategy solutions including leveraging commercially available software defined tactical radios to rapidly deliver partial AMF JTRS capability to users. This strategy will support a "family of radios" concept in which multiple modified Non-Developmental Item (NDI) radios can be selected from the vendor

base to meet platform needs. This strategy is pending approval from USD(AT&L).

As pursuant to section 2432 of title 10, United States Code, AMF JTRS experienced software issues that caused schedule delays and cost growth. Prime and Sub-contractor under-estimated the complexity associated with integrating the Link 16 waveform and the Software Build 2.0 Operating Environment on to the radio. This underestimation resulted in a delay to the subsequent Software Build 2.1 completion date as resources were not able to be applied due to the continuation of integrating the software for the first Government EDM delivery.

Threshold Breaches

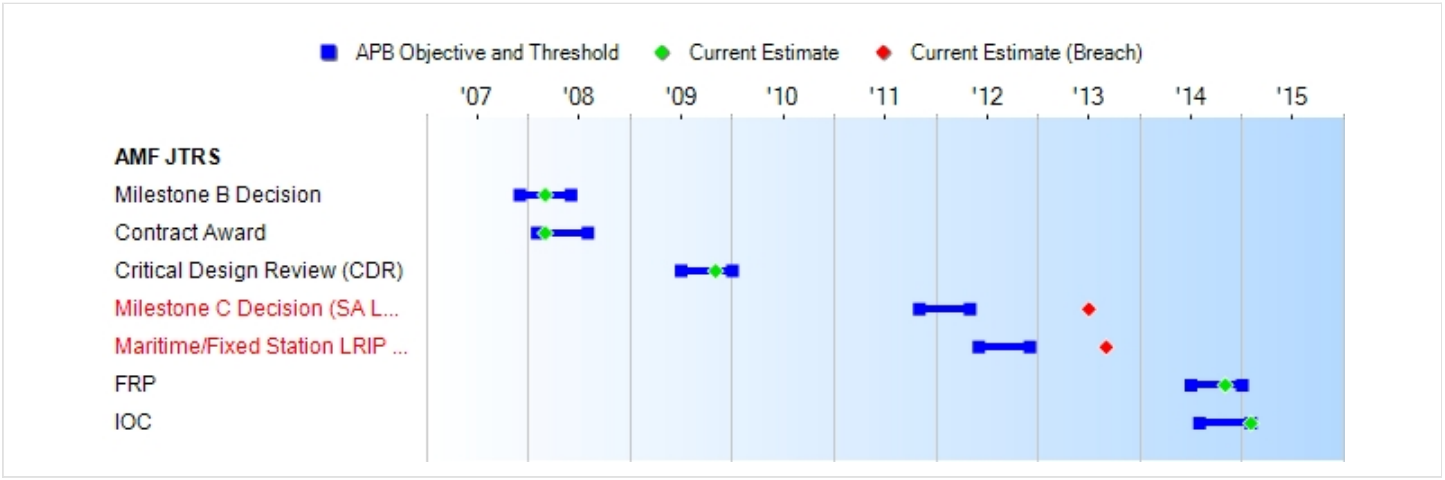
APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

The schedule breach was previously reported in the December 2010 SAR.

Schedule



Milestones	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	
Milestone B Decision	DEC 2007	DEC 2007	JUN 2008	MAR 2008	
Contract Award	FEB 2008	FEB 2008	AUG 2008	MAR 2008	
Critical Design Review (CDR)	JUL 2009	JUL 2009	JAN 2010	NOV 2009	
Milestone C Decision (SA LRIP Authorization)	NOV 2011	NOV 2011	MAY 2012	**JUL 2013** [1]	(Ch-1)
Maritime/Fixed Station LRIP Authorization	JUN 2012	JUN 2012	DEC 2012	**SEP 2013** [1]	
FRP	JUL 2014	JUL 2014	JAN 2015	NOV 2014	(Ch-2)
IOC	AUG 2014	AUG 2014	FEB 2015	FEB 2015	(Ch-2)

[1] *APB Breach*

Acronyms And Abbreviations

FRP - Full Rate Production
IOC - Initial Operational Capability
LRIP - Low Rate Initial Production
SA - Small Airborne

Change Explanations

(Ch-1) Milestone C Decision (SA LRIP Authorization) current estimate changed from August 2012 to July 2013 as part of the phased capability delivery approach with each corresponding phase building on the technological achievements of the preceding phase.

(Ch-2) FRP current estimate changed from September 2015 to November 2014 as a result of the Non-Developmental Item (NDI) Acquisition Strategy.

IOC current estimate changed from October 2015 to February 2015 as a result of the NDI Acquisition Strategy.

Memo

IOC is achieved when an increment meets all threshold requirements as defined for that increment; training has been completed for the increment; the first unit is equipped with authorized equipment, personnel and training materials to support unit sustainment training and required maintenance and training support programs are in place.

Performance

Characteristics	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Have an internal Growth Capability	Open system architecture IAW DISR; Modular, Scaleable, Flexible Form Factors	Open system architecture IAW DISR; Modular, Scaleable, Flexible Form Factors	Open system architecture IAW DISR; Modular, Scaleable, Flexible Form Factors	TBD	Open system architecture IAW DISR; Modular, Scaleable, Flexible Form Factors
JTR Set modes/capabilities configuration and reconfiguration via software	By operators in their operational environment	By operators in their operational environment	By operators in their operational environment	TBD	By operators in their operational environment
Multi-channel routing and retransmission	Objective waveforms that are in the same mode (voice, data, or video) and use like data rates and operate at permissible security classification levels.	Objective waveforms that are in the same mode (voice, data, or video) and use like data rates and operate at permissible security classification levels.	KPP waveforms that are same in mode (voice, data, or video) and use like data rates and operate at permissible security classification levels.	TBD	KPP waveforms that are same in mode (voice, data, or video) and use like data rates and operate at permissible security classification levels
Support Waveforms	Maritime/Fixed; Same as Threshold Small Airborne: Threshold plus UHF SATCOM, SINCGARS, Havequick II, EPLRS	Maritime/Fixed; Same as Threshold Small Airborne: Threshold plus UHF SATCOM, SINCGARS, Havequick II, EPLRS	Maritime/Fixed: UHF SATCOM, MUOS Small Airborne: MUOS, SRW, WNW, Link 16	TBD	Maritime/Fixed: UHF SATCOM, MUOS. Small Airborne: MUOS, SRW, WNW, Link 16
Operate on designated number of channels at the same time.	Airborne 10 Channels Martime/Fixed (full duplex) 10 Channels	Airborne 10 Channels Maritime/Fixed (full duplex) 10 Channels	Airborne 2 channels Maritime/Fixed (full duplex) 4 channels	TBD	Airborne 2 channels Maritime/Fixed (full duplex) 4 channels
Scaleable Networking services	All Domains.	All Domains.	All Domains	TBD	All Domains

Network extension/coverage.	Across organization-al boundar-ies.	Across organization-al boundar-ies.	Across organization-al boundar-ies.	TBD	Across organization-al boundaries.
JTR System network interoperability.	Interoperate with Allied/ Coalition and commercial networks; satisfy 100% of top-level IERs.	Interoperate with Allied/ Coalition and commercial networks; satisfy 100% of top-level IERs.	Interoperate with Service and Joint networks; satisfy 100% of critical top-level IERs.	TBD	Interoperate with Service and Joint networks; satisfy 100% of critical top-level IERs.
Operational Availability A(o)	0.99 (channel)	0.99 (channel)	0.96 (channel)	TBD	0.96 (channel)

Requirements Source:
JTRS Operational Requirements Document (ORD) 3.2.1, dated August 28, 2006.

Acronyms And Abbreviations

DISR - DoD Information Technology Standards Registry
EPLRS - Enhanced Position Location Reporting System
IAW - In Accordance With
IER - Information Exchange Requirement
JTR - Joint Tactical Radio
KPP - Key Performance Parameter
M/F - Maritime/Fixed
MUOS - Mobile User Objective System
SATCOM - Satellite Communcations
SINCGARS - Single Channel Ground and Airborne Radio System
SRW - Soldier Radio Waveform
TBD - To Be Determined
UHF - Ultra High Fequency
WNW - Wideband Networking Waveform

Change Explanations

None

Track To Budget

General Memo

As part of the JTRS Joint Program Acquisition Strategy, each Military Department (MILDEP) budgets for a portion of the total program. During each Budget Cycle, each MILDEP's Budget Year RDT&E for JTRS is transferred to Navy Program Element (PE) 0604280N. Thus for FY 2007-FY 2013 all Airborne Maritime/Fixed (AMF) RDT&E funding is located in Navy PE 0604280N.

RDT&E

APPN 1319	BA 05	PE 0604280N	(Navy)
	Project 3073	Joint Tactical Radio System (JTRS) / AMF JTRS	(Shared)
APPN 2040	BA 05	PE 0604280A	(Army)
	Project 162	Joint Tactical Radio / Network Enterprise Domain (NED)	(Shared)
APPN 3600	BA 05	PE 0604280F	(Air Force)
	Project 655068	Joint Tactical Radio System (JTRS)	(Shared)

Procurement

APPN 2035	BA 02	PE 0310700A	(Army)
	ICN B90110	JTRS (AMF)	

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2008 $M			BY2008 $M	TY $M		
Appropriation	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	1850.7	1850.7	2035.8	1677.7	1941.8	1941.8	1724.3
Procurement	5907.9	5907.9	6498.7	2043.7	7092.5	7092.5	2505.2
Flyaway	5907.9	--	--	1279.3	7092.5	--	1550.3
Recurring	5907.9	--	--	1279.3	7092.5	--	1550.3
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	764.4	0.0	--	954.9
Other Support	0.0	--	--	611.4	0.0	--	769.3
Initial Spares	0.0	--	--	153.0	0.0	--	185.6
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	7758.6	7758.6	N/A	3721.4	9034.3	9034.3	4229.5

Procurement cost does not reflect platform installation and integration funding which will be budgeted and executed by the Services. Specific Service requirements by platform and year, including installation and integration of AMF JTRS on host platforms, are documented separately.

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E	224	224	92
Procurement	26878	26878	12080
Total	27102	27102	12172

Unit of Measure is Channels.

Fielding plan and procurement funding are based on current Army requirements as Navy and Air Force are no longer planning on procuring AMF JTRS radios. Total Army requirements are 6,040 Small Airborne radios, or 12,080 channels.

R&D Funded Units include 92 Small Airborne Channels.

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	1297.0	347.5	58.2	19.5	2.1	0.0	0.0	0.0	1724.3
Procurement	0.0	0.0	74.0	76.3	324.0	294.2	308.8	1427.9	2505.2
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2013 Total	1297.0	347.5	132.2	95.8	326.1	294.2	308.8	1427.9	4229.5
PB 2012 Total	1367.8	563.0	355.0	290.4	474.1	679.7	924.0	4351.7	9005.7
Delta	-70.8	-215.5	-222.8	-194.6	-148.0	-385.5	-615.2	-2923.8	-4776.2

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	92	0	0	0	0	0	0	0	0	92
Production	0	0	0	220	356	1958	1670	1934	5942	12080
PB 2013 Total	92	0	0	220	356	1958	1670	1934	5942	12172
PB 2012 Total	224	0	628	390	638	1570	1940	3094	18618	27102
Delta	-132	0	-628	-170	-282	388	-270	-1160	-12676	-14930

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2003	--	--	--	--	--	--	8.4
2004	--	--	--	--	--	--	43.0
2005	--	--	--	--	--	--	54.3
2006	--	--	--	--	--	--	55.9
2007	--	--	--	--	--	--	56.3
2008	--	--	--	--	--	--	99.8
2009	--	--	--	--	--	--	212.6
2010	--	--	--	--	--	--	304.7
2011	--	--	--	--	--	--	307.9
2012	--	--	--	--	--	--	347.5
2013	--	--	--	--	--	--	58.2
Subtotal	**92**	**--**	**--**	**--**	**--**	**--**	**1548.6**

Annual Funding BY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2008 $M	Non End Item Recurring Flyaway BY 2008 $M	Non Recurring Flyaway BY 2008 $M	Total Flyaway BY 2008 $M	Total Support BY 2008 $M	Total Program BY 2008 $M
2003	--	--	--	--	--	--	9.4
2004	--	--	--	--	--	--	47.0
2005	--	--	--	--	--	--	57.8
2006	--	--	--	--	--	--	57.7
2007	--	--	--	--	--	--	56.7
2008	--	--	--	--	--	--	98.8
2009	--	--	--	--	--	--	207.7
2010	--	--	--	--	--	--	293.2
2011	--	--	--	--	--	--	290.8
2012	--	--	--	--	--	--	322.5
2013	--	--	--	--	--	--	53.1
Subtotal	**92**	**--**	**--**	**--**	**--**	**--**	**1494.7**

RDT&E-funded units include 92 Small Airborne channels. All RDT&E funding and associated channels are transferred to Navy in each execution year, consistent with the JTRS Joint Program Acquisition Strategy.

Annual Funding TY$
3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2003	--	--	--	--	--	--	12.8
2004	--	--	--	--	--	--	28.1
2005	--	--	--	--	--	--	36.1
2006	--	--	--	--	--	--	77.1
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**154.1**

Annual Funding BY$
3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2008 $M	Non End Item Recurring Flyaway BY 2008 $M	Non Recurring Flyaway BY 2008 $M	Total Flyaway BY 2008 $M	Total Support BY 2008 $M	Total Program BY 2008 $M
2003	--	--	--	--	--	--	14.4
2004	--	--	--	--	--	--	30.8
2005	--	--	--	--	--	--	38.6
2006	--	--	--	--	--	--	80.0
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**163.8**

Annual Funding TY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2014	--	--	--	--	--	--	19.5
2015	--	--	--	--	--	--	2.1
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**21.6**

Annual Funding BY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2008 $M	Non End Item Recurring Flyaway BY 2008 $M	Non Recurring Flyaway BY 2008 $M	Total Flyaway BY 2008 $M	Total Support BY 2008 $M	Total Program BY 2008 $M
2014	--	--	--	--	--	--	17.4
2015	--	--	--	--	--	--	1.8
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**19.2**

Annual Funding TY$
2035 | Procurement | Other Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2013	220	41.8	--	--	41.8	32.2	74.0
2014	356	56.9	--	--	56.9	19.4	76.3
2015	1958	265.7	--	--	265.7	58.3	324.0
2016	1670	211.3	--	--	211.3	82.9	294.2
2017	1934	233.6	--	--	233.6	75.2	308.8
2018	1152	139.5	--	--	139.5	91.4	230.9
2019	924	112.8	--	--	112.8	82.5	195.3
2020	840	103.7	--	--	103.7	81.9	185.6
2021	800	99.8	--	--	99.8	83.6	183.4
2022	748	94.5	--	--	94.5	85.6	180.1
2023	700	89.5	--	--	89.5	87.4	176.9
2024	640	83.0	--	--	83.0	89.1	172.1
2025	138	18.2	--	--	18.2	83.5	101.7
2026	--	--	--	--	--	1.9	1.9
Subtotal	**12080**	**1550.3**	**--**	**--**	**1550.3**	**954.9**	**2505.2**

Annual Funding BY$
2035 | Procurement | Other Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2008 $M	Non End Item Recurring Flyaway BY 2008 $M	Non Recurring Flyaway BY 2008 $M	Total Flyaway BY 2008 $M	Total Support BY 2008 $M	Total Program BY 2008 $M
2013	220	37.7	--	--	37.7	29.1	66.8
2014	356	50.5	--	--	50.5	17.2	67.7
2015	1958	231.4	--	--	231.4	50.8	282.2
2016	1670	180.8	--	--	180.8	70.9	251.7
2017	1934	196.3	--	--	196.3	63.3	259.6
2018	1152	115.2	--	--	115.2	75.4	190.6
2019	924	91.5	--	--	91.5	66.9	158.4
2020	840	82.6	--	--	82.6	65.3	147.9
2021	800	78.1	--	--	78.1	65.4	143.5
2022	748	72.7	--	--	72.7	65.8	138.5
2023	700	67.6	--	--	67.6	66.0	133.6
2024	640	61.6	--	--	61.6	66.1	127.7
2025	138	13.3	--	--	13.3	60.8	74.1
2026	--	--	--	--	--	1.4	1.4
Subtotal	**12080**	**1279.3**	**--**	**--**	**1279.3**	**764.4**	**2043.7**

Procurement cost does not reflect platform installation and integration funding which will be budgeted and executed by the Services. Specific Service requirements by platform and year, including installation and integration of AMF JTRS on host platforms, are documented separately.

Future Years Defense Program funding and quantities are based on the FY 2013 President's Budget. FY 2018 and beyond quantities are adjusted to reflect total Army requirements. Quantities are channels with the assumption of two channels per radio.

Channel and radio quantities in accordance with planned funding are:
Total Channels --12,080
Total Radios -- 6,040

FY 2026 procurement funding is for initial training on quantities procured in FY 2025.

Low Rate Initial Production

A Low Rate Initial Production (LRIP) quantity has not yet been approved.

Foreign Military Sales

None

Nuclear Cost

None

Unit Cost

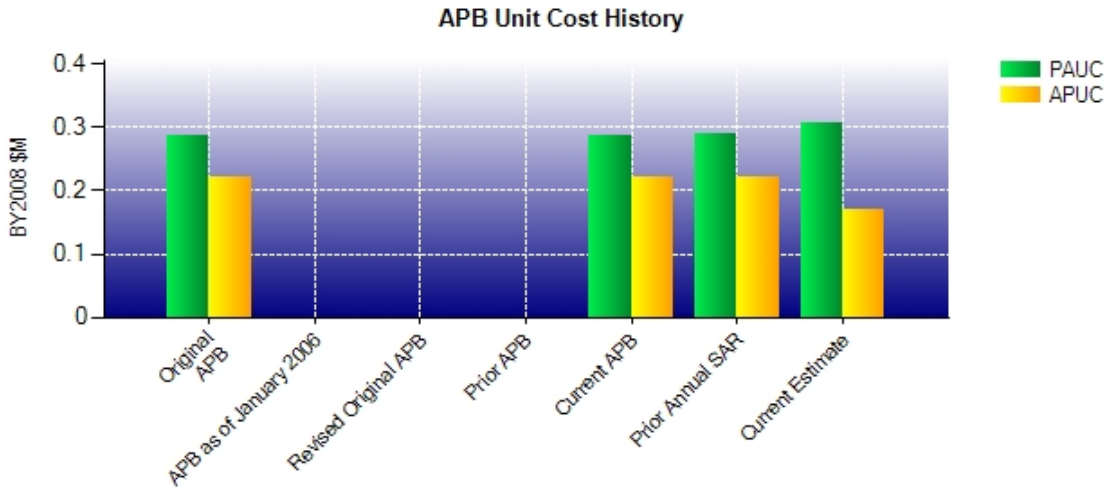
Unit Cost Report

Unit Cost	BY2008 $M Current UCR Baseline (OCT 2008 APB)	BY2008 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7758.6	3721.4	
Quantity	27102	12172	
Unit Cost	0.286	0.306	+6.99
Average Procurement Unit Cost (APUC)			
Cost	5907.9	2043.7	
Quantity	26878	12080	
Unit Cost	0.220	0.169	-23.18

Unit Cost	BY2008 $M Original UCR Baseline (OCT 2008 APB)	BY2008 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7758.6	3721.4	
Quantity	27102	12172	
Unit Cost	0.286	0.306	+6.99
Average Procurement Unit Cost (APUC)			
Cost	5907.9	2043.7	
Quantity	26878	12080	
Unit Cost	0.220	0.169	-23.18

AMF JTRS PAUC and APUC calculations are per channel.

Unit Cost History



		BY2008 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	OCT 2008	0.286	0.220	0.333	0.264
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	OCT 2008	0.286	0.220	0.333	0.264
Prior Annual SAR	DEC 2010	0.289	0.220	0.332	0.262
Current Estimate	DEC 2011	0.306	0.169	0.347	0.207

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Dev Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.333	-0.006	0.092	0.011	0.001	-0.161	0.000	0.077	0.014	0.347

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.264	-0.004	0.003	0.011	0.000	-0.145	0.000	0.078	-0.057	0.207

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	DEC 2007	N/A	MAR 2008
Milestone C	N/A	NOV 2011	N/A	JUL 2013
IOC	N/A	AUG 2014	N/A	FEB 2015
Total Cost (TY $M)	N/A	9034.3	N/A	4229.5
Total Quantity	N/A	27102	N/A	12172
Prog. Acq. Unit Cost (PAUC)	N/A	0.333	N/A	0.347

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	1941.8	7092.5	--	9034.3
Previous Changes				
Economic	-41.5	-175.6	--	-217.1
Quantity	--	--	--	--
Schedule	--	+109.9	--	+109.9
Engineering	+13.5	--	--	+13.5
Estimating	+61.0	-1070.1	--	-1009.1
Other	--	--	--	--
Support	--	+1074.2	--	+1074.2
Subtotal	+33.0	-61.6	--	-28.6
Current Changes				
Economic	+13.3	+125.3	--	+138.6
Quantity	--	-3858.8	--	-3858.8
Schedule	--	+26.0	--	+26.0
Engineering	--	--	--	--
Estimating	-263.8	-683.8	--	-947.6
Other	--	--	--	--
Support	--	-134.4	--	-134.4
Subtotal	-250.5	-4525.7	--	-4776.2
Total Changes	-217.5	-4587.3	--	-4804.8
CE - Cost Variance	1724.3	2505.2	--	4229.5
CE - Cost & Funding	1724.3	2505.2	--	4229.5

Summary Base Year 2008 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	1850.7	5907.9	--	7758.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+12.1	--	--	+12.1
Estimating	+57.0	-902.6	--	-845.6
Other	--	--	--	--
Support	--	+897.6	--	+897.6
Subtotal	+69.1	-5.0	--	+64.1
Current Changes				
Economic	--	--	--	--
Quantity	--	-3156.7	--	-3156.7
Schedule	--	-5.0	--	-5.0
Engineering	--	--	--	--
Estimating	-242.1	-564.3	--	-806.4
Other	--	--	--	--
Support	--	-133.2	--	-133.2
Subtotal	-242.1	-3859.2	--	-4101.3
Total Changes	-173.0	-3864.2	--	-4037.2
CE - Cost Variance	1677.7	2043.7	--	3721.4
CE - Cost & Funding	1677.7	2043.7	--	3721.4

Previous Estimate: December 2010

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+13.3
Reduction in funding in FY 2013 - FY 2015 (Air Force). (Estimating)	-51.2	-56.4
Reduction of funding in FY 2013 - FY 2015 (Navy). (Estimating)	-116.1	-127.6
Decrease due to Congressional budget cuts in FY 2011 (Navy). (Estimating)	-67.0	-71.1
Increase due to transfer of $68.2M from Army and $30M from Air Force, as per JTRS Joint Program Acquisition Strategy (Navy). (Estimating)	+89.6	+98.2
Realignment of funding in FY 2013, as per JTRS Joint Program Acquisition Strategy (Army). (Estimating)	-59.4	-65.6
Realignment of funding in FY 2013, as per JTRS Joint Program Acquisition Strategy (Air Force). (Estimating)	-27.4	-30.0
Adjustment for current and prior escalation. (Estimating)	-9.1	-9.7
Miscellaneous funding adjustments. (Estimating)	-1.5	-1.6
RDT&E Subtotal	-242.1	-250.5

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+125.3
Quantity variance resulting from a decrease of 5954 channels (Small Airborne) to 0 (Air Force). (Quantity)	-1610.3	-2002.6
Additional quantity variance due to removal of all procurement quantities (Navy). (Quantity)	-61.5	-79.7
Quantity variance resulting from a decrease of 6992 channels (Maritime/Fixed) to 0 (Air Force). (Quantity)	-1888.7	-2307.5
Additional quantity variance due to removal of all Small Airborne quantities (Air Force). (Quantity)	+839.1	+1052.8
Total variance resulting from an increase of 28 channels (Small Airborne) from 12052 to 12080 (Army). (Subtotal)	+7.6	+10.4
Quantity variance resulting from an increase of 28 channels (Small Airborne) from 12052 to 12080 (Army). (Quantity)	(+5.7)	(+7.8)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(-0.2)	(-0.3)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(+2.1)	(+2.9)
Total Quantity variance resulting from a decrease of 1880 channels (Maritime/Fixed) to 0 (Navy). (Subtotal)	-505.5	-624.3
Quantity variance resulting from a decrease of 1880 channels (Maritime/Fixed) from 1880 to 0 (Navy). (Quantity)	(-390.0)	(-479.0)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+13.2)	(+16.6)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-128.7)	(-161.9)
Additional quantity variance due to removal of all Maritime/Fixed quantities (Air Force). (Quantity)	-51.0	-50.6
Stretch-out of procurement buy profile by three years from FY 2022 - FY 2025 (Army). (Schedule)	0.0	+29.3
Additional Schedule variance due to Milestone C slip from FY 2012 to FY 2013 (Army). (Schedule)	-18.0	-19.6

Revised Unit Cost estimate due to elimination of Maritime/Fixed Form Factor (Army). (Estimating)	-31.4	-36.5
Revised Unit Cost estimate for Small Airborne Form Factor (Army). (Estimating)	-404.0	-485.8
Adjustment for current and prior escalation. (Estimating)	-2.3	-2.5
Adjustment for current and prior escalation. (Support)	-0.3	-0.2
Decrease in Other Support due removal of all quantities (Navy). (Support)	-46.7	-56.8
Decrease in Initial Spares due removal of all quantities (Navy). (Support)	-103.2	-126.1
Decrease in Other Support due to removal of all Small Airborne quantities (Air Force). (Support)	-33.6	-42.1
Decrease in Initial Spares due to removal of all Small Airborne quantities (Air Force). (Support)	-90.5	-111.2
Decrease in Other Support due to removal of all Maritime/Fixed quantities (Air Force). (Support)	-74.7	-91.2
Decrease in Initial Spares due to removal of all Maritime/Fixed quantities (Air Force). (Support)	-231.8	-281.7
Increased funding of Other Support with Other Procurement, Army (OP,A) during Production Phase (Army). (Support)	+501.4	+635.4
Decrease in Initial Spares due to decrease in recurring flyaway cost (Army). (Support)	-53.8	-60.5
Procurement Subtotal	-3859.2	-4525.7

(QR) Quantity Related

Contracts

Appropriation: RDT&E

Contract Name	**AMF JTRS SDD**
Contractor	LOCKHEED MARTIN CORPORATION
Contractor Location	SAN DIEGO, CA 92121
Contract Number, Type	FA8726-08-C-0008, CPAF
Award Date	March 28, 2008
Definitization Date	September 13, 2010

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
775.5	N/A	N/A	891.4	N/A	N/A	1395.5	1444.9

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (8/26/2011)	-4.9	-13.2
Previous Cumulative Variances	+3.5	-12.0
Net Change	-8.4	-1.2

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to greater than anticipated problems in resolving Build 2.0 Software (SW) integration issues and the delivery of the Initial Government Engineering Development Model Delivery (IGED).

The unfavorable net change in the schedule variance is due to delays in IGED delivery and the completion of SW Build 2.0, thus delaying the start of SW Build 2.1.

The cost and schedule variances are based on the August 26, 2011, Contract Performance Report because Earned Value Management (EVM) reporting was suspended as of September 1, 2011, due to the impact of the ongoing program restructure resulting from program of record affordability concerns. The accuracy of the EVM data has been compromised by flawed EVM system implementation, schedule integration issues, an ineffective baseline change process, a high percentage of level of effort, and inaccurate estimate at completion projections.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to Option Contract Line Item Numbers (CLINs) being exercised. Note the current price does not include costs or any fee associated with the undefinitized Request for Equitable Adjustment (REA).

The current contract price ceiling includes CLINs exercised through August 26, 2011.

The Program Manager's (PM) Estimated Price at Completion (EPAC) is based on a calculated Estimate at Completion (EAC). The PM's and Contractor's EPACs contain authorized unpriced work, which includes the proposed value of work not yet definitized (a REA was submitted in June 2011). Both the PM's and Contractor's EPACs will decrease following contract negotiations and subsequent contract modification. Due to the undefinitized status of the REA, neither the PM's nor Contractor's EPACs include target profit/fee. The PM's and Contractor's EPACs are for the program of record and do not account for impacts of the ongoing program restructure efforts.

The total value of all CLINs (exercised and remaining options) on the AMF JTRS System Development and Demonstration contract is $1,299.1M.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	50	20	92	21.74%
Production	0	0	12080	0.00%
Total Program Quantities Delivered	50	20	12172	0.16%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	4229.5	Years Appropriated	10
Expenditures To Date	1240.5	Percent Years Appropriated	41.67%
Percent Expended	29.33%	Appropriated to Date	1644.5
Total Funding Years	24	Percent Appropriated	38.88%

Data as of December 31, 2011.

Fielding plan and procurement funding based on total Army requirements as Navy and Air Force are no longer planning to procure AMF JTRS radios. Future Years Defense Program funding and quantities are based on the FY 2013 President's Budget. FY 2018 and beyond quantities are adjusted to reflect total Army requirements.

R&D Funded Units include 92 Small Airborne Channels.

Operating and Support Cost

Assumptions And Ground Rules
O&S Unit Costs are dated from the Cost Assessment and Program Evaluation (CAPE) estimate in support of Milestone B (March 24, 2008) and subsequently the Acquisition Program Baseline (APB) (October 14, 2008). Total quantities are based on current requirements, 6,040 radios (12,080 channels) procured by Army. The service life of a radio is estimated at twenty (20) years. $12,397.7M Total O&S Base Year Cost is derived by taking $102.63K (average annual unit cost/radio) * 6,040 (total radios) * 20 (service life of radios). Disposal costs are not included. There is no antecedent to this program. AMF JTRS radios are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice, data, and video communications which may be employed in new and innovative ways as compared to any currently fielded legacy radio.

Costs BY2008 $K		
Cost Element	**AMF JTRS Average Annual Cost/Radio**	**No Antecedent**
Unit-Level Manpower	6.76	--
Unit Operations	7.84	--
Maintenance	49.48	--
Sustaining Support	1.46	--
Continuing System Improvements	23.13	--
Indirect Support	0.00	--
Other	13.96	--
Total Unitized Cost (Base Year 2008 $)	102.63	--

Total O&S Costs $M	AMF JTRS	No Antecedent
Base Year	12397.7	--
Then Year	17614.1	--

Disposal costs are not included in the above estimate.