
HANDHELD MANPACK SYSTEM (HMS)

December 2021 Selected Acquisition Report (SAR)

2-Channel Handheld Leader Radios (LR)



Single Channel Data Radio (Integrated Visual Augmentation System (IVAS))



1st Generation Manpack (MP) Radios

General Dynamics



AN/PRC-155 (v)2

2nd Generation Manpack (MP) Radios

L3Harris

Collins Aerospace



AN/PRC-158



AN/PRC-162

Table of Contents

Executive Summary	3
Program Highlights Since Last Report (Congress)	3
History of Significant Developments Since Program Initiation	4
Schedule	6
Schedule Events	6
Significant Schedule Risks	7
Performance.....	8
Performance Notes:	16
Performance Deviation Explanations:	16
Acquisition Budget Estimate.....	17
Total Acquisition Cost	17
Total End Item Quantity	17
Budget Notes:.....	18
Quantity Notes:.....	18
Cost Deviations Explanations:	18
Risk and Sensitivity Analysis.....	18
Unit Cost	19
Current Baseline Compared with Current Estimate	19
Original Baseline Compared with Current Estimate	19
Unit Cost Notes.....	19
Contracts.....	20
Contracts and Efforts	20
Technologies and Systems Engineering	23
Significant Technical Risks	23
Deliveries and Expenditures.....	24
Deliveries and Expenditures Notes.....	24

Low-Rate Initial Production	25
Operating and Support (O&S) Cost.....	26
Total Program O&S Costs Compared with Baseline.....	26
Deviation Explanation:.....	26
Operating and Support Cost Breakdown	26

Executive Summary

Program Highlights Since Last Report (Congress):

The HMS Radio program requirements are stable. The program did not experience any requirement updates in CY2021. Funding is adequate to meet cost, schedule, and performance objectives.

- On January 22, 2021, the HMS Initial Operational Test and Evaluation (IOT&E) was completed.
- On February 16, 2021, the Manpack Trellisware TSM license Delivery Order was awarded.
- On March 17, 2021, the Leader Radio Logistics Demonstration concluded.
- On April 16, 2021, the Manpack Radio Logistics Demonstration concluded.
- On July 20, 2021, the HMS Army Cost Position was approved by Assistant Secretary of the Army for Financial Management and Comptroller (ASA FM&C).
- On July 21, 2021, the Manpack and Leader Radio Life Cycle Sustainment Plans (LCSP) were approved.
- On August 12, 2021, Rifleman Radio Increment 2 Revision 2 Capability Production Document (CPD) was approved by Army Futures Command (AFC).
- On August 19, 2021, the HMS Full Rate Production (FRP) Acquisition Decision Memorandum (ADM) was signed.
- On September 22, 2021, the Leader Radio FRP1 Delivery Order was awarded: 3,594 LR (2,498 Harris; 1,096 Thales).
- On September 23, 2021, the Manpack FRP1 Delivery Order was awarded: 3,867 MP (2,320 L3Harris and 1,547 Collins).
- On October 4, 2021, the Manpack Airdrop Certification was completed.
- On October 22, 2021, the Manpack Radio Delta Tech Manual Validation was achieved.
- On December 13, 2021, the Leader Radio FRP1 out of cycle Delivery Order was awarded: 1,136 (568 L3Harris; 568 Thales).
- On December 16, 2021, the Manpack Radio FRP1 out of cycle Delivery Order was awarded: 1,254 (622 L3Harris; 632 Collins).
- On December 16, 2021, the HMS Acquisition Program Baseline (APB) was signed.

There are no significant software-related issues with this program at this time.

History of Significant Developments Since Program Initiation

Date	Description
May-2004	Milestone B Decision - Joint Tactical Radio Systems (JTRS) Cluster 5 program Milestone Decision Review was held on April 26, 2004 and approved in May 2004 to proceed into System Development and Demonstration (SDD).
Jul-2004	SDD Contract Award - Awarded to General Dynamics C4 Systems in July 2004. A protest was filed, the Government Accountability Office rejected the protest, work resumed in October 2004.
Feb-2005	All JTRS programs were re-aligned under the Joint PEO (JPEO) JTRS.
Nov-2005	A Defense Acquisition Board (DAB) re-planning meeting was held to restructure the JTRS Enterprise. JTRS Cluster 5 was renamed JTRS HMS.
Jun-2011	Milestone C Decision - JTRS HMS Milestone Decision Review was held in May 2011 and final approval received in June.
Jun-2011	The Milestone C ADM signed on June 17, 2011 approved entry into Production and Deployment and authorized the Army to contract for an initial LRIP procurement of 6,250 GEN 1 RR (AN/PRC-154) and 100 GEN 1 MP radios (AN/PRC-155).
Nov-2011	Initial Operational Test and Evaluation: LRIP Rifleman Radio schedule event completed.
May-2012	Follow-on Operational Test and Evaluation (FOT&E): Manpack with Mobile User Objective System (MUOS) schedule event completed.
Jul-2012	IOC: LRIP Rifleman Radio schedule event completed.
Jul-2012	In-Process Review: LRIP Manpack schedule event completed.
Jul-2012	ADM signed that transitioned program management and execution responsibility to the Department of the Army.
Jul-2012	A follow-on ADM signed July 11, 2012 approved the procurement of an additional LRIP of 13,077 GEN 1 RR.
Oct-2012	An October 11, 2012 ADM authorized an additional LRIP procurement of up to 3,726 GEN 1 MP.
Dec-2012	The FRP decisions for Rifleman Radio and Manpack Radio slipped from 2012 to 2015 due to a decision to transition to a full and open competition multi-vendor acquisition strategy.
Dec-2013	A December 12, 2013 ADM authorized LRIP procurement of an additional 1,500 GEN 1 MP.
May-2014	Acquisition strategy approved to procure Non-Developmental Items (NDI) through two full and open competitions (Rifleman Radio and Manpack Radio) available to all potential industry partners.
May-2014	In accordance with the program's May 1, 2014 approved Acquisition Strategy, HMS procured 200 GEN 2 RR (100 per vendor) and 153 GEN 2 MP (51 per vendor).
Aug-2014	IOC: LRIP Manpack Radio schedule event completed.
Apr-2015	Handheld Radio Production Contract Awards - April 29, 2015; 200 LRIP RR were procured during award.

Feb-2016	Manpack Radio Production Contract Awards - February 26, 2016
Jun-2016	FOT&E: Manpack with MUOS schedule event completed during the Multi-Service Operational Test & Evaluation (MOT&E) held by Navy MUOS systems. The MOT&E used the Manpack AN/PRC-155 as the platform to test the MUOS waveform and served as the HMS program's FOT&E achieving completion of the APB schedule event on June 20, 2016 when the test report was received.
Jan-2017	APB Revision Approved - Change 1 to the HMS Production APB was approved on January 6, 2017. This revision corrected schedule events that were previously in APB threshold deviation.
Mar-2017	Acquisition strategy addendum approved to procure the two-channel, handheld Leader Radio through NDI full and open competition contracts available to all potential industry partners.
Mar-2017	ACAT IC Delegation received March 17, 2017 naming the Secretary of the Army as the MDA.
Mar-2017	On July 10, 2018, HMS utilized Other Transactional Agreements to procure 296 LR (148 per vendor) in accordance with the Acquisition Strategy Addendum signed March 8, 2017.
May-2017	Leader Radio Request for Proposal and Manpack Radio test asset delivery order were delayed as a result of anticipated threshold radio waveform adjustments stemming from the 2017 Army Network Review. These adjustments are necessary in order to reduce vulnerabilities and focus on solutions to address capability gaps relative to emerging threats.
Aug-2017	In August 2017, in accordance with the approved May 2014 Acquisition Strategy, the program office procured an additional 202 GEN 2 MP (101 per vendor) - the third vendor for GEN 2 MP was terminated for convenience.
Apr-2018	An April 12, 2018 ADM authorized an additional LRIP procurement of up to 2,258 GEN 2 MP.
Sep-2018	Leader Radio capability on-ramped to the existing Handheld Radio Production Contracts - September 18, 2018
Sep-2018	A September 6, 2018 ADM authorized an LRIP procurement of up to 3,800 LR.
Jun-2019	A June 3, 2019 ADM authorized an additional LRIP procurement of up to 2,004 LR and 1,720 GEN 2 MP.
Dec-2019	As a result of the annual Configuration Steering Board, the HMS program Basis of Issue (BOI) was adjusted to support Army Network Modernization priorities. HMS was directed to remove remaining legacy radio variants from the program baseline and incorporate the Single-Channel Data Radio in support of the Integrated Visual Augmentation System (IVAS) into the program baseline.
Apr-2020	An April 2, 2020 ADM authorized an additional LRIP procurement of up to 4,860 LR and 3,440 GEN 2 MP.
Dec-2020	On December 14, 2020, an ADM authorized the procurement of 10,000 Single-Channel Data Radios (SCDR).
Jan-2021	IOT&E was successfully completed on January 22, 2021 for the GEN 2 MP and LR.
Aug-2021	On August 19, 2021, LR and MP received approval for Full Rate Production (FRP).
Dec-2021	On December 16, 2021, the Acquisition Program Baseline was approved.

Schedule

Schedule Events

Events Title (or Header)	Current Objective	Current Threshold	Current Estimate/Actual Date	Deviation?
Milestone B Decision	May-2004	May-2004	May-2004	
Contract Award	Jul-2004	Jul-2004	Jul-2004	
Milestone C Decision: HMS	Jun-2011	Jun-2011	Jun-2011	
IOT&E: AN/PRC-154 Rifleman Radio	Nov-2011	Nov-2011	Nov-2011	
MOT&E: AN/PRC-155 Manpack	May-2012	May-2012	May-2012	
IOC: AN/PRC-154 Rifleman Radio	Jul-2012	Jul-2012	Jul-2012	
IPR: AN/PRC-155 Manpack	Jul-2012	Jul-2012	Jul-2012	
IOC: AN/PRC-155 Manpack	Aug-2014	Aug-2014	Aug-2014	
FOT&E: AN/PRC-155 Manpack with MUOS	Jun-2016	Jun-2016	Jun-2016	
Fielding: AN/PRC-155 Manpack with MUOS	Jun-2019	Jun-2019	Jun-2019	
HMS IOT&E: Generation 2 Products (1)	Jan-2021	Jan-2021	Jan-2021	
FRP Decision Review: Generation 2 Manpack Radio (2)	Aug-2021	Aug-2021	Aug-2021	

Schedule Notes:	Schedule Deviation Explanations:
<p>(1) HMS IOT&E: Generation 2 Products was added in the 16 Dec 2021 APB.</p> <p>(2) FRP Decision Review: Generation 2 Manpack Radio was added in the 16 Dec 2021 APB.</p> <p>(3) FRP Decision Review: Leader Radio was added in the 16 Dec 2021 APB.</p> <p>The Single-Channel Data Radios (SCDR) reported in this SAR support the Integrated Visual Augmentation System (IVAS) which is a Middle Tier of Acquisition (MTA) Rapid Fielding effort. At such time that IVAS transitions to a major capability acquisition pathway the SCDR will meet all schedule events in accordance with the established IVAS baseline.</p>	

Significant Schedule Risks

Event	Date	Description
MS B	5/31/2004	Waveform Availability
MS B	5/31/2004	Size, Weight, and Power Issues
MS B	5/31/2004	Aggressive schedule for software development and component system testing
MS C	6/30/2011	Mobile User Objective System (MUOS) requirements and availability
MS C	6/30/2011	Manpack software and National Security Agency corrective action issues
FRP	12/31/2020	If the FY21 FRP contract is not awarded in 4QFY21, then units scheduled to be fielded at that time may be delayed and coordination will be required to reprioritize fielding to other units upon receipt of award.
Current	12/31/2021	If L3Harris is unable to provide a SW baseline with SINCGARS CT2 by 4QFY23, then PM TR may not have enough time to fully field the crypto modernization ready SW baseline to all PRC-158s prior to the Cease Key Date (CKD).

Performance

Performance Attributes					
Current Objective	Current Threshold	Current Estimate	Deviation ?	Demonstrated Performance	Date
Attribute Title:	Voice and Data Communication: Generation 2 Manpack			KPP	
Must provide networked voice and data exchange (i.e., mission command information) to support tactical actions while dispersed across the battlefield.*	(T=O) Must provide networked voice and data exchange (i.e., mission command information) to support tactical actions while dispersed across the battlefield.*	Meets Objective		Objective verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E).	1/22/2021
Attribute Title:	Net Ready Capability: Generation 2 Manpack			KPP	
Must fully support execution of all operational activities and information exchanges identified in the DOD Enterprise Architecture and solution architectures based on the integrated DOD Architecture Framework (DODAF) content and must satisfy the technical requirements for transition to Net-Centric military operations to include 1) Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information exchanges,	Must fully support execution of joint critical operational activities and information exchanges identified in the DOD Enterprise Architecture and solution architectures based on the integrated DOD Architecture Framework (DODAF) content and must satisfy the technical requirements for transition to Net-Centric military operations to include 1) Solution architecture products compliant with DOD Enterprise Architecture based on integrated DODAF content, including specified operationally effective information	Meets Threshold		Threshold verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E).	1/22/2021

<p>2)Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD Information Enterprise Architecture (DOD IEA), excepting tactical and non-IP communications, 3)Compliant with GIG Technical Guidance to include the Technical View 1 (TV-1) and implementation guidance of GIG Enterprise Service Profiles (GESPs) necessary to meet all operational requirements specified in the DOD Enterprise Architecture and solution architecture views, 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non- repudiation, and issuance of an Interim Authorization to Operate(IATO) or Authorization to Operate (ATO) by the Designated Accrediting Authority (DAA), and 5)Supportability requirements to include Selective Availability Anti-Spoofing Module(SAASM), Spectrum and JTRS requirements.*</p>	<p>exchanges, 2)Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DOD Information Enterprise Architecture (DOD IEA), excepting tactical and non-IP communications, 3)Compliant with GIG Technical Guidance to include the Technical View 1 (TV-1) and implementation guidance of GIG Enterprise Service Profiles (GESPs) necessary to meet all operational requirements specified in the DOD Enterprise Architecture and solution architecture views, 4) Information assurance requirements including availability, Integrity, authentication, confidentiality, and non- repudiation, and issuance of an Interim Authorization to Operate(IATO) or Authorization to Operate (ATO) by the Designated Accrediting Authority (DAA), and 5)Supportability requirements to include Selective Availability Anti-Spoofing Module (SAASM), Spectrum and JTRS requirements.*</p>			
--	--	--	--	--

Attribute Title:	Sustainment (Operational Availability (Ao)): KPP Generation 2 Manpack			
0.99 (Channel)*	0.96 (Channel)*	Meets Threshold		Threshold verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E). 1/22/2021
Attribute Title:	Multi-Channel Operations: Generation 2 Manpack			KPP
To enable Warfighters to conduct combat missions across the battlefield, any channel of the MP must have ability to operate any of the waveforms listed as Objective in Table EE-2. The MP must also allow simultaneous operations using KPP waveform combinations identified in Table EE-3. In addition, the MP must have the ability to route and retransmit waveforms listed as Objective in Table EE-4.*	To enable Warfighters to conduct combat missions across the battlefield, any channel of the MP must have ability to operate the KPP waveforms listed in Table EE-2. The MP must also allow simultaneous operations using KPP waveform combinations identified in Table EE-3. In addition, the MP must have the ability to route and retransmit KPP waveforms listed in Table EE-4.*	Meets Objective		Objective verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E). 1/22/2021
Attribute Title:	Voice and Data Communications: Leader Radio			KPP
The Leader Radio shall provide SECRET voice and data transport communications (C2 and SA) (e.g. Nett Warrior, Fires Warrior etc.) to Platoon, Squad and Team Leaders using ANWf; and provide SECRET voice and data (e.g.	The Leader Radio shall provide secure but unclassified (SBU) (up to SECRET) voice and data transport communications (C2 and SA) (e.g. Nett Warrior, Fires Warrior etc.) to Platoon, Squad and Team Leaders using ANWf; and	Meets Objective		Objective verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E). 1/22/2021

digital fires messaging) communication by SINCGARS to communicate with combat support and enablers.*	provide secure (up to SECRET) voice and data (e.g. digital fires messaging) communication by SINCGARS to communicate with combat support and enablers.*				
Attribute Title:	Net-Ready Capability: Leader Radio			KPP	
T=O*	The Leader Radio shall meet the three principal attributes required for any IT system: Support Military Operations; Enter and Be Managed in a Network; and Effectively Exchange Information. (Threshold = Objective). The Net-Ready KPP is required by JCIDS Manual (12 Feb 15) and DoDI 8330.01. NR-KPP attributes and the measures of performance(MoP)/measures of effectiveness (MoE) are derived from mission analysis, information analysis, and systems engineering.*	Meets Threshold		Threshold verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E).	1/22/2021
Attribute Title:	System Survivability (Resiliency): Leader Radio			KPP	
T=O*	The Leader Radio's ANWf and SINCGARS waveforms are both vulnerable to modern forms of EW Attacks. The Leader Radio can provide some forms of mitigation of these threats by use of tactics techniques and procedures and other low detection measures (e.g. time	Meets Threshold		Threshold verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E). Follow-on testing	1/22/2021

	<p>randomization, frequency hopping, receive only mode, and direct sequence spreading). (For current threat to the Leader Radio see Appendix D). If Communication Security (COMSEC) is compromised the Leader Radio shall be able to receive new COMSEC keys by both Over The Air Rekey (OTAR) and a physically connected device (Threshold). The Leader Radio must survive the effects of chemical, biological and radiological (CBR) and relevant decontamination. The Leader Radio must be able to conduct its mission while contaminated for 72 hours without failure due to contamination. (RATIONALE: Leaders must have secure reliable communications in order to maintain operational security and situational awareness on the battlefield)*</p>			confirmed fixes post- IOT&E.	
Attribute Title:	Sustainment (Operational Availability (Ao)): KPP Leader Radio				
Dismounted: 0.99 (Channel) Mounted: 0.97 (Channel)*	Dismounted: 0.96 (Channel) Mounted: 0.94 (Channel)*	Meets Threshold		Threshold verified by third party test agency at Performance Verification Test (PVT) and Initial	1/22/2021

				Operational Test and Evaluation (IOT&E). Follow-on testing utilized for continued reliability growth.	
Attribute Title:	Sustainment (Material Availability (Ao)): Leader Radio			KPP	
0.96*	0.75*	Meets Threshold		Threshold verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E). Follow-on testing utilized for continued reliability growth.	1/22/2021
Attribute Title:	Energy Capability: Leader Radio			KPP	
Dismounted battery life: 24 hours Mounted power draw: NTE 15 Amps*	Dismounted battery life: 8 hours Mounted power draw: NTE 15 Amps*	Meets Threshold		Threshold verified by third party test agency at Performance Verification Test (PVT) and Initial Operational Test and Evaluation (IOT&E).	1/22/2021
Attribute Title:	Channel and Simultaneous Operation Leader Radio			KPP	
The Leader Radio shall support two separate channels simultaneously. The Leader Radio must have the ability to route and retransmission KPP	The Leader Radio shall support two separate channels simultaneously. One channel shall support the SINCGARS voice and data (e.g. digital	Meets Objective		Objective verified by third party test agency at Performance Verification Test (PVT) and Initial	1/22/2021

waveforms listed in Table 5.2 and described in Table 5.3. The Leader Radio shall also have the capability to operate ANWf or SINCGARS waveforms on either channel. The Leader Radio shall also have the capability to support additional waveforms listed in Table 7.1.*	fires messaging) modes and the second channel shall support ANWf voice and data operational modes.*			Operational Test and Evaluation (IOT&E).	
Attribute Title:	Intra-Squad Communication: AN/PRC-154 Rifleman Radio			KPP	
Voice	Voice	Voice		Objective/Threshold verified by third party test agency Initial Operational Test and Evaluation (IOT&E).	11/30/2011
Attribute Title:	Net Ready (NR) Capability: AN/PRC-154 Rifleman Radio			KPP	
The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication,	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles		Objective/Threshold verified by third party test agency Initial Operational Test and Evaluation (IOT&E).	11/30/2011

<p>confidentiality, and non- repudiation, and issuance of an ATO by the DAA, and 5)Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.</p>	<p>including availability, integrity, authentication, confidentiality, and non- repudiation, and issuance of an IATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.</p>	<p>identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non- repudiation, and issuance of an ATO by the DAA, and 5)Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.</p>			
<p>Attribute Title:</p>	<p>Soldier Location: AN/PRC-154 Rifleman Radio</p>		<p>KPP</p>		
<p>Automatic PLI</p>	<p>Automatic PLI</p>	<p>Automatic PLI</p>		<p>Objective/Threshold verified by third party test agency Initial Operational Test and Evaluation (IOT&E).</p>	<p>11/30/2011</p>
<p>Attribute Title:</p>	<p>Sustainment (Operational Availability (Ao)):</p>		<p>KPP</p>		

AN/PRC-154 Rifleman Radio					
0.99 (Channel)	0.96 (Channel)	0.999 (Channel)		Objective verified by third party test agency Initial Operational Test and Evaluation (IOT&E).	11/30/2011
Attribute Title:	One Channel (Additional Performance Attribute - APA)**			APA	
One Channel (APA) – Operations Specific Single Channel Radio. The Leaders Radio shall provide a one channel capability including platform embedded, attached modular, or handheld variant(s). Size, weight, power, communication range, and classification attributes shall conform to applicable platform specifications, and mission needs. One Channel variant shall comply with all Leader Radio KPPs applicable to single channel operations not specified above.	T=O	Meets Threshold		To be operationally validated as part of IVAS IOT&E in FY22.	

<i>Performance Notes:</i>	<i>Performance Deviation Explanations:</i>
<p>* Denotes change in Objective/Threshold from prior APB.</p> <p>**Only applies to Single-Channel Data Radio in support of IVAS.</p> <p>ANWf - Advanced Networking Waveform ATO - Approval to Operate</p> <p>CBR - Chemical, Biological and Radiological</p> <p>COMSEC - Communications Security</p> <p>DoDAF - Department of Defense Architecture Framework</p> <p>EW - Electronic Warfare</p>	

GESP - Global Information Grid Enterprise Service Profile GIG - Global Information Grid IATO - Interim Approval to Operate IEA - Information Environment Architecture JCIDS - Joint Capabilities Integration and Development System JTRS - Joint Tactical Radio System KPP - Key Performance Parameters LR - Leader Radio MoE - Measures of Effectiveness MoP - Measures of Performance MP - Manpack Radio SAASM - Selective Availability Anti-Spoofing Module SINGARS - Single Channel Ground and Airborne Radio System	
--	--

Acquisition Budget Estimate

Total Acquisition Cost

Budget Year: 2023 Budget Year: 2021

Appropriation Category (\$Millions)	Objective Base Year (Current APB)	Threshold Base Year (Current APB)	Budget Estimate Base Year	Budget Estimate Then Year	Deviation?
RDT&E	\$ 1,426.0	\$ 1,568.6	\$ 1,446.4	\$ 1,206.8	
Procurement	\$ 9,107.0	\$ 10,017.7	\$ 9,256.6	\$ 10,259.0	
MILCON	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	
Acq O&M	\$ 87.0	\$ 95.7	\$ 86.9	\$ 99.4	
Total Acquisition	\$ 10,620.0		\$ 10,789.9	\$ 11,565.2	
PAUC	\$ 0.041	\$ 0.045	\$ 0.042	\$ 0.045	
APUC	\$ 0.036	\$ 0.040	\$ 0.036	\$ 0.040	

Total End Item Quantity

Quantity	Current APB	Current Estimate
Development Qty	833	833
Procurement Qty	255,162	255,162

Budget Notes:

Current APB Cost baseline is from the approved FRP Army Cost Position dated July 20, 2021. Current estimate is based on the most recent HMS cost model, "HMS FRP ACP 25March2022.acex" using custom inflation indices. The SAR funding position is based on PB23 LOCK dated March 11, 2022, however it includes the FY22 Congressional mark of \$50.970M.

Quantity Notes:

FRP APB

Total Quantity* 255,162

Single-Channel Data Radio 68,000

Rifleman Radio 21,579

Leader Radio 85,964

Manpack 79,569

Navy Manpack Systems 50

*Unit of measure is an HMS radio, which includes multiple variants (Handheld Radio, Manpack, and Single-Channel DataRadio). The cost, quantities, and subsequent APUC breakout reflects the current program of record.

Cost Deviations Explanations:

N/A

Risk and Sensitivity Analysis**Current Procurement Risks:**

A revised FRP APB was approved 16 Dec 2021 incorporating the 20 Jul 2021 Army Cost Position. The most significant cost driver in the HMS cost estimate remains the recurring manufacturing cost for radios. The recurring manufacturing cost estimate assumes high component design maturity and continued unit cost reductions resulting from annual competitive delivery orders.

Unit Cost

Current Baseline Compared with Current Estimate

Current Baseline Base Year: 2021

Category (\$M)	Current Baseline	Current Estimate	% Change	Breach? Significant or Critical
Program Acquisition Unit Cost				
Acquisition Cost	\$ 10,620.00	\$ 10,789.9		
Program Quantity	255,995	255,995		
PAUC	\$ 0.041	\$ 0.042	1.60%	None
Average Procurement Unit Cost				
Procurement Cost	\$ 9,107.00	\$ 9,256.6		
Procurement Quantity	255,162	255,162		
APUC	\$ 0.036	\$ 0.036	0.00%	None

Original Baseline Compared with Current Estimate

Original Baseline Base Year: 2021

Category (\$M)	Original Baseline	Current Estimate	% Change	Breach? Significant or Critical
Program Acquisition Unit Cost				
Acquisition Cost	\$ 11,669.9	\$ 10,789.9		
Program Quantity	329,574	255,995		
PAUC	\$ 0.035	\$ 0.042	19.03%	None
Average Procurement Unit Cost				
Procurement Cost	\$ 11,036.6	\$ 9,256.6		
Procurement Quantity	328,514	255,162		
APUC	\$ 0.034	\$ 0.036	7.98%	None
Impacts of Schedule Changes on Unit Cost				
Unit Cost Notes				

Contracts

Contracts and Efforts

Contract Number	W15P7T-15-D-0016	Order Number		Contract Title	Harris-Handheld Radios		
CAGE Code	14304	City	Rochester	Contracting Office	ACC-APG		
CAGE Legal Name	Harris Corporation	State/Province	NY	Contract Strategy	FAR 16.5: Indefinite Delivery Indefinite Quantity		
Effort Number							
Supported Phase	Production	Latest Modification Number	21-F-0189 P00003	Definitization Date			
Contract Type	Firm-Fixed-Price	Latest Modification Date	12/13/2021	Work Start Date	4/29/2015		
Technical Data Rights	None	Notes					
Contract/Effort Price, Quantity and Performance (\$M)							
Initial Target Price	\$ 2.00	Current Target Price	\$ 237.93	Contractor's EAC	\$ 237.93		
Initial Ceiling Price		Current Ceiling Price		PM's EAC	\$ 237.93		
Initial Quantity	0	BAC		BCWP		Work Completed	0.00%
Current Quantity	8,240	ACWP		BCWS		Cost Variance	
Delivered Quantity	5,300					Schedule Variance	
Factors Contributing to Cost Variance and Projected Effects on Program Costs:				Factors Contributing to Schedule Variance and Projected Effects on Program Schedule:			
This is a Firm Fixed Price contract that will be administered on an Indefinite Delivery Indefinite Quantity basis as task orders are awarded. No EVM reporting is required on this Firm Fixed Price effort.				Cost and Schedule Variance reporting is not required on this (FFP/IDIQ) contract.			

Contract Number	W15P7T-16-D-0003	Order Number		Contract Title	Collins Aerospace-Generation 2 Manpack Radios		
CAGE Code	0NYT5	City	Cedar Rapids	Contracting Office	ACC-APG		
CAGE Legal Name	Collins Aerospace	State/Province	IA	Contract Strategy	FAR 16.5: Indefinite Delivery Indefinite Quantity		
Effort Number							
Supported Phase	Production	Latest Modification Number	21-F-0082 P00002	Definitization Date			
Contract Type	Firm-Fixed-Price	Latest Modification Date	12/16/2021	Work Start Date	2/26/2016		
Technical Data Rights	None	Notes					
Contract/Effort Price, Quantity and Performance (\$M)							
Initial Target Price	\$ 4.00	Current Target Price	\$ 447.80	Contractor's EAC	\$ 447.80		
Initial Ceiling Price		Current Ceiling Price		PM's EAC	\$ 447.80		
Initial Quantity	0	BAC		BCWP		Work Completed	0.00%
Current Quantity	6,040	ACWP		BCWS		Cost Variance	
Delivered Quantity	3,844					Schedule Variance	
Factors Contributing to Cost Variance and Projected Effects on Program Costs:				Factors Contributing to Schedule Variance and Projected Effects on Program Schedule:			
This is a Firm Fixed Price contract that will be administered on an Indefinite Delivery Indefinite Quantity basis as task orders are awarded. No EVM reporting is required on this Firm Fixed Price effort.				Cost and Schedule Variance reporting is not required on this (FFP/IDIQ) contract.			

Contract Number	W15P7T-16-D-0002	Order Number		Contract Title	Harris Generation 2 Manpack Radio		
CAGE Code	14304	City	Rochester	Contracting Office	ACC-APG		
CAGE Legal Name	Harris Corporation	State/Province	NY	Contract Strategy	FAR 16.5: Indefinite Delivery Indefinite Quant		
Effort Number							
Supported Phase	Production	Latest Modification	21-F-0082 P00002	Definitization Date			

		Number					
Contract Type	Firm-Fixed-Price	Latest Modification Date	12/16/2021	Work Start Date	2/26/2016		
Technical Data Rights		None		Notes			
Contract/Effort Price, Quantity and Performance (\$M)							
Initial Target Price	\$ 1.40	Current Target Price	\$ 530.18	Contractor's EAC	\$ 530.18		
Initial Ceiling Price		Current Ceiling Price		PM's EAC	\$ 530.18		
Initial Quantity	0	BAC		BCWP		Work Completed	0.00%
Current Quantity	6,813	ACWP		BCWS		Cost Variance	
Delivered Quantity	4,465					Schedule Variance	
Factors Contributing to Cost Variance and Projected Effects on Program Costs:				Factors Contributing to Schedule Variance and Projected Effects on Program Schedule:			
This is a Firm Fixed Price contract that will be administered on an Indefinite Delivery Indefinite Quantity basis as task orders are awarded. No EVM reporting is required on this Firm Fixed Price effort.				Cost and Schedule Variance reporting is not required on this (FFP/IDIQ) contract.			

Contract Number	W91CRB-21-9-P002	Order Number		Contract Title	Microsoft - Single Channel Data Radios
CAGE Code	60128	City	Redmond	Contracting Office	ACC-APG
CAGE Legal Name	Microsoft Corpora	State/Province	WA	Contract Strategy	FAR 16.5: Indefinite Delivery Indefinite Quant
Effort Number					
Supported Phase	Production	Latest Modification Number		Definitization Date	
Contract Type	Other Transaction	Latest Modification Date	3/25/2021	Work Start Date	3/25/2021

Technical Data Rights	None	Notes					
Contract/Effort Price, Quantity and Performance (\$M)							
Initial Target Price	\$ 14.97	Current Target Price	\$ 14.97	Contractor's EAC	\$ 14.97		
Initial Ceiling Price		Current Ceiling Price		PM's EAC	\$ 14.97		
Initial Quantity	5,000	BAC		BCWP		Work Completed	0.00%
Current Quantity	5,000	ACWP		BCWS		Cost Variance	
Delivered Quantity	0					Schedule Variance	
Factors Contributing to Cost Variance and Projected Effects on Program Costs:				Factors Contributing to Schedule Variance and Projected Effects on Program Schedule:			
No EVM reporting is required on this effort.				Cost and Schedule Variance reporting is not required on this contract.			

Technologies and Systems Engineering

Significant Technical Risks

Event	Date	Description
MS B	5/31/2004	1) Waveform Availability 2) Size, Weight, and Power Issues 3) Aggressive schedule for software development and component system testing
MS C	6/30/2011	1) Mobile User Objective System (MUOS) requirements and availability 2) Manpack software and National Security Agency corrective action issues
FRP	12/31/2020	If the FY21 FRP contract is not awarded in 4QFY21, then units scheduled to be fielded at that time may be delayed and coordination will be required to reprioritize fielding to other units upon receipt of award.
Current	12/31/2021	If L3Harris is unable to provide a SW baseline with SINCGARS CT2 by 4QFY23, then PM TR may not have enough time to fully field the crypto modernization ready SW baseline to all PRC-158s prior to the Cease Key Date (CKD).

Deliveries and Expenditures

Quantities	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	833	833	833	100.00%
Procurement	47,425	43,774	255,162	17.16%
Total	48,258	44,607	255,995	17.42%

Years Appropriated to date	18	Total Years Appropriated Funding (Current Baseline):	30	Percent Years Appropriated:	60.00%
----------------------------	----	--	----	-----------------------------	--------

Appropriation Category (\$Millions)	Then Year Appropriated Amount	Then Year Expended Amount
RDT&E	1,185.48	1,179.88
Procurement	3,571.52	2,831.82
MILCON		
Acq O&M		
Total Appropriated/Expended	\$ 4,757.00	\$ 4,011.70
Percent Appropriated/Expended	41.13%	34.69%

Deliveries and Expenditures Notes:

- On September 22, 2021, the Leader Radio FRP1 Delivery Order was awarded: 3,594 LR (2,498 Harris; 1,096 Thales). As of December 31, 2021, a total of 86 Harris LR and 0 Thales LR have been delivered.
- On September 23, 2021, the Manpack FRP1 Delivery Order was awarded: 3,867 MP (2,320 L3Harris and 1,547 Collins). As of December 31, 2021, a total of 492 Harris MP and 0 Collins MP have been delivered.
- On December 13, 2021, the Leader Radio FRP1 out of cycle Delivery Order was awarded: 1,136 (568 L3Harris; 568 Thales). As of December 31, 2021, a total of 0 Harris LR and 0 Thales LR have been delivered.
- On December 16, 2021, the Manpack Radio FRP1 out of cycle Delivery Order was awarded: 1,254 (622 L3Harris; 632 Collins). As of December 31, 2021, a total of 0 Harris MP and 0 Collins MP have been delivered.

Low-Rate Initial Production

	Initial Decision LRIP	Current Total LRIP
Approval Date	6/17/2011	4/2/2020
Approval LRIP Quantity	6,350	55,638
Approval Document Title	ADM	ADM
Start Year	2011	2011
End Year	2012	2020

Rationale if quantity exceeds 10% of the total number of articles to be produced: CUI: _____

Quantity

Note:

CUI: _____

The Milestone C ADM signed on June 17, 2011 approved entry into Production and Deployment and authorized the Army to contract for an initial LRIP procurement of 6,250 GEN 1 RR (AN/PRC-154) and 100 GEN 1 MP radios (AN/PRC-155). The ADM directed the Services to fund to the OSD CAPE ICE position. A follow-on ADM signed July 11, 2012 approved the procurement of an additional LRIP of 13,077 GEN 1 RR. An October 11, 2012 ADM authorized an additional LRIP procurement of up to 3,726 GEN 1 MP. A December 12, 2013 ADM authorized LRIP procurement of an additional 1,500 GEN 1 MP. In accordance with the program's May 1, 2014 approved Acquisition Strategy, HMS procured 200 GEN 2 RR (100 per vendor) and 153 GEN 2 MP (51 per vendor). Also in accordance with the program's May 1, 2014 approved Acquisition Strategy, an additional 202 GEN 2 MP were procured (101 per vendor) - the third vendor for GEN 2 MP was terminated for convenience in August of 2017. An April 12, 2018 ADM authorized an additional LRIP procurement of up to 2,258 GEN 2 MP. On July 10, 2018, HMS utilized Other Transactional Agreements to procure 296 (LR (148 per vendor) in accordance with the Acquisition Strategy Addendum signed March 8, 2017. A September 6, 2018 ADM authorized an LRIP procurement of up to 3,800 LR. A June 3, 2019 ADM authorized an additional LRIP procurement of up to 2,004 LR and 1,720 GEN 2 MP. An April 2, 2020 ADM authorized an additional LRIP procurement of up to 4,860 LR and 3,440 GEN 2 MP. A December 14, 2020 ADM authorized the procurement of up to 10,000 Singled Channel Data Radios (SCDRs) and spares in alignment with the Integrated Visual Augmentation System (IVAS) procurements.

In addition, the Government received all 2,052 one-channel Rifleman Radios in support of Nett Warrior. Nett Warrior End User Devices (EUD) are not a part of the HMS program and are procured for PEO Soldier; however the radio that supports the EUD is a part of the RR Army Acquisition Objective.

Operating and Support (O&S) Cost

Total Program O&S Costs Compared with Baseline

Base Year: 2021

	Current Base Year Objective	Current Base Year Threshold	Current Base Year Estimate	Current Then Year Estimate	Deviation?
Total O&S (\$Millions)	\$ 1,705.8	\$ 1,876.4	\$ 1,571.9	\$ 2,170.6	

Deviation Explanation:

Operating and Support Cost Breakdown

Category (Base Year \$Millions)	System Name: Leader Radio	System Name: Manpack Radio	System Name: Single Channel Data
Unit-Level Manpower	\$ 28.8	\$ 40.7	\$ 0.1
Unit Operations	\$ 166.7	\$ 128.4	
Maintenance	\$ 186.4	\$ 703.8	\$ 8.0
Sustaining Support	\$ 12.1	\$ 12.5	
Continued System Improvements	\$ 106.2	\$ 111.3	
Other	\$ 23.2	\$ 29.2	\$ 14.5
Total O&S	\$ 523.4	\$ 1,025.9	\$ 22.6

Cost Estimate Source

Type: Component Cost Position

Approval Authority and Date: ASA(FM&C) approved Army Cost Position 20 July 2021

Note: Other Costs account for demilitarization costs

O&S Notes: N/A