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Common Data Link (CDL) Hawklink - Harris

Outlook

- The Harris CDL Hawklink is a datalink system
- No production is forecast
- Barring further activity, this report will be archived in April 2013

Orientation

Description. Common Data Link (CDL) Hawklink is a datalink system that transmits data gathered by the sensors of a Light Airborne Multipurpose System (LAMPS) Mk III MH-60 helicopter to the ship that hosts the helicopter. The CDL Hawklink is manufactured by Harris Corporation.

Sponsor

Harris Corporation

Government Communications Systems Division

2800 Jordan Blvd, Malabar, FL 32950 USA

Tel: +1 (321) 727-9100

Web site <http://www.govcomm.harris.com>

Status. In service.

Application. Data transmission.

Price Range. Common Data Link (CDL) Hawklink is composed of two components: the ARQ-58 radio terminal set (which is installed on LAMPS Mk III MH-60 helicopters) and the SRQ-4(Ku) RTS (which is installed on surface ships). Forecast International estimates the price of one **SRQ-4(Ku)** field-installed kit to be approximately **\$1,200,000**. Forecast International estimates the price of one **ARQ-58 RTS** to be **\$500,000**.

Contractors

Prime

**Harris Government
Communications Systems
Division**

<http://www.govcomm.harris.com>, 2800 Jordan Blvd, Malabar, FL 32950 United States,
Tel: +1 (321) 727-9100, Email: gcsdweb2@harris.com, Prime

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Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

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Technical Data

Common Data Link (CDL) Hawklink is designed for incorporation into LAMPS Mk III MH-60 helicopters and their complement of surface ships such as the DDG-51, FFG-7, and CG-47. CDL Hawklink is a high-speed, air-to-surface, digital datalink that transmits data, imagery, electronic support measures, communications, and radar information gathered by the helicopter's sensors to the helicopter's host ship.

CDL Hawklink transmits the data from the helicopter to the host ship via the Ku-band link at rates of 10.71 and 21.42 megabits per second. The data transmission is received by the surface ship in near real-time via an

above- and below-deck terminal system, is down-converted from Ku-band to required base-band levels, and is distributed throughout the ship for analysis.

Common Data Link Hawklink is composed of two components: the ARQ-58 radio terminal set (RTS), which is installed on LAMPS Mk III MH-60 helicopters; and the SRQ-4(Ku) RTS, which is installed on surface ships such as the DDG-51, FFG-7, and CG-47, which are capable of hosting LAMPS helicopters.

	<u>Metric</u>	<u>U.S.</u>
<u>ARQ-58 Radio Terminal Set</u>		
Dimensions		
Multiplexer	21.6 cm H x 25.8 cm W x 49.7 cm D	8.5" H x 10.15" W x 19.56" D
Electronic frequency converter	21.6 cm H x 39.14 cm W x 49.7 cm D	8.5" H x 15.41" W x 19.56" D
Directional array	32.8 cm H x 26.7 cm W x 26.7 cm D	12.9" H x 10.5" W x 10.5" D
RF amplifier	11.4 cm H x 30.6 cm W x 40.7 cm D	4.5" H x 12.03" W x 16.02" D
Weight	<65.8 kg	<145 lb
Data Rate – Selectable		
Power	200 kb/s, 10.71 Mb/s, and 21.42 Mb/s	
	1,710 VA and 140 Wdc	
<u>SRQ-4 Radio Terminal Set</u>		
Weight		
Receiver/transmitter processor group	451.3 kg	995 lb
Directional antenna/RF amplifier	83 kg	183 lb
Omni antenna	1.36 kg	3 lb
Data Rate – Selectable		
Ku-band frequency ranges	200 kb/s, 10.71 Mb/s and 21.42 Mb/s	
Uplink	15.15-15.35 GHz	
Downlink	14.53-14.93 GHz	
Power	1,670 W, 115 V, 60 Hz	

Program Review

In November 1999, Harris Corporation announced it had received a contract from the U.S. Defense Advanced Research Projects Agency (DARPA) to develop and demonstrate a prototype Ku-band datalink system for incorporation into the LAMPS Mk III H-60 family of helicopters and its complement of surface ships, such as the DDG-51, FFG-7, and CG-47. Harris subsequently named this datalink system Common Data Link (CDL) Hawklink. The contract was awarded as part of the Tactical Common Data Link (TCDL) Hawklink technology development and demonstration program.

In October 2002, Harris announced it had successfully completed the U.S. Navy's Critical Design Review (CDR) of its CDL Hawklink system. Almost two and a half years later (in March 2005), the U.S. DoD announced that the U.S. Navy was awarding Harris a contract to begin production of its CDL Hawklink system.

In November 2006, the U.S. Department of Defense announced that Harris was receiving a modification to a previously awarded U.S. Navy contract to provide testing of the CDL Hawklink system. This contract modification also included an option for the Navy

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purchase of three ARQ-58 and three SRQ-4(Ku) systems.

In August 2008, the U.S. Department of Defense announced that the U.S. Navy was awarding Harris a modification to a previously awarded CDL Hawklink contract for the procurement of 11 ARQ-58 Aircraft Terminal Equipment (ATE) sets, three ARQ-58 spare

ATE sets, and five SRQ-4(Ku) radio shipboard terminal sets.

In December 2008, Harris completed flight and ground testing of its CDL Hawklink system. According to Harris Corporation, both the ground test and a series of flight tests validated the performance of the CDL Hawklink system.

Funding

Harris Corporation

Contracts/Orders & Options

<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
Harris Corp	1.39/15.44	Oct 1999 – U.S. Defense Advanced Research Projects Agency awarded Harris Corp's Government Communications Systems Division an increment of a modification to a Section 845 prototype agreement for additional TCDL prototype terminals, sensor interface definition tasking, and development of the LAMPS Hawklink Ku-band prototype. Work was scheduled to be completed by Oct 2001. DARPA was the contracting agency. (MDA972-97-C-0803 Mod 0009)
Harris Corp	7.51	Mar 2005 – The U.S. Navy awarded Harris Corp's Government Communications Systems Division a contract to produce SRQ-4(Ku) field change kits for retrofit on ships, to complete SRQ-4(Ku) systems for forward fit ships, and to produce ARQ-58 radio terminal sets for MH-60 aircraft. Work was scheduled to be completed in Feb 2006. The Naval Air Systems Command, Patuxent River, MD, was the contracting agency. (N00019-04-C-0130)
Harris Corp	82.02	Nov 2006 – The U.S. Navy awarded Harris Corp's Government Communications Systems Division a modification to a previously awarded contract (N00019-04-C-0130) to conduct testing of the MH-60R CDL Hawklink systems (including integrated logistics support and analysis, sustaining engineering, training, non-recurring and recurring engineering changes, and provision of technical, administrative, and financial data). This modification included an option for the procurement of three ARQ-58 and three SRQ-4(Ku) systems. Work was scheduled to be completed in Jan 2009. The Naval Air Systems Command, Patuxent River, MD, was the contracting activity.
Harris Corp	7.99	Mar 2008 – The U.S. Navy awarded Harris Corp's Government Communications Systems Division a modification to a previously awarded contract (N00019-04-C-0130) for the design and manufacture of production test equipment in support of the MH-60 CDL Hawklink system. Work was scheduled to be completed in Jun 2009. The Naval Air Systems Command, Patuxent River, MD, was the contracting agency.
Harris Corp	53.06	Aug 2008 – The U.S. Navy awarded Harris Corp's Government Communications Systems Division a modification to a previously awarded contract (N00019-04-C-0130) for the production of 11 ARQ-58 ATE sets and three ARQ-58 spare ATE sets for the MH-60R helicopter program, plus five SRQ-4(Ku) radio shipboard terminal sets for surface combatant ship classes CG-47, DDG-51, and FFG-7. Work was scheduled to be completed in Aug 2011. The Naval Air Systems Command, Patuxent River, MD, was the contracting agency.

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Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Nov	1999	Harris receives contract from U.S. DARPA to develop and demonstrate a prototype Ku-band datalink system for incorporation into the LAMPS Mk III H-60 family of helicopters and its complement of surface ships
Oct	2002	Harris successfully completes the CDR of its CDL Hawklink system
March	2005	U.S. Navy awards Harris a contract to begin production of the Harris CDL Hawklink system
Nov	2006	Harris receives a modification to a previously awarded contract to produce three ARQ-58 and three SRQ-4(Ku) systems for the U.S. Navy
Aug	2008	U.S. Navy awards Harris a modification to a previously awarded contract for the production of 11 ARQ-58 ATE sets, three ARQ-58 spare ATE sets, and five SRQ-4(Ku) radio shipboard terminal sets
Dec	2008	Harris completes a ground test and a series of flight tests to validate the performance of its CDL Hawklink system

Worldwide Distribution/Inventories

Common Data Link (CDL) Hawklink has been purchased by the **United States Navy**.

Forecast Rationale

The last United States DoD contract announcement for Harris' CDL Hawklink system was made in August 2008 (under that contract, Harris was to produce 14 ARQ-58 and five SRQ-4(Ku) radio terminal sets). No Harris CDL Hawklink system production is forecast.

Barring further activity, this report will be archived in April 2013.

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