

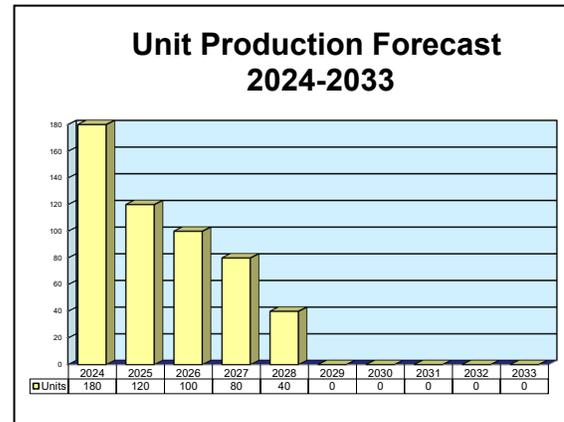
ARCHIVED REPORT

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PRC-150

Outlook

- While existing purchases will continue to be supported, there is only a limited possibility of significant of PRC-150 radios for both international operator base and, to a lesser extent, U.S. forces
- System will likely be replaced by the newer, L3Harris-produced PRC-160 during later years of the forecast period



Orientation

Description. The PRC-150 is a manpack, vehicular, and base station military radio.

Sponsor
L3Harris

RF Communications Division
 1680 University Ave
 Rochester, NY 14610 USA
 Tel: + 1 (585) 244-5830
 Fax: + 1 (585) 242-4755
 Website: <http://rf.harris.com>

Status. Limited production and service, ongoing support.

Application. Dismounted soldiers, tactical vehicles, and other land-based platforms.

Price Range. The average price of one PRC-150 radio is estimated to be \$25,000.

Note: Among other factors, price appears to vary according to the number of radios ordered (the larger the quantity ordered, the lower the price).

Contractors

Prime

L3Harris - Tactical Communications	http://www.l3harris.com , 1680 University Ave, Rochester, NY 14610 United States, Tel: + 1 (585) 242-3561, Fax: + 1 (585) 242-4483, Email: RFComm@harris.com , Prime
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Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

PRC-150**Technical Data****General****Frequency Range:** 1.6 to 59.999 MHz**Net Presets:** 75, fully programmable**Frequency Stability:** $\pm 0.5 \times 10^{-6}$ **RF Input/Output Impedance:** 50 ohm nominal, unbalanced**Power Input:** 26 VDC (21.5 to 32 VDC)**Data Interface:** Synchronous or asynchronous (RS-232C; MIL-STD-188-114A)**Dimensions (with battery case):** 10.5 in W x 3.5 in H x 13.2 in D (26.7 cm x 8.1 cm x 34.3 cm)**Radio Weight:** 10 lb (4.7 kg) without batteries**Transmitter****Power Output:** 1, 5, 20 W PEP/Average -1/+2 dB (1-, 5-, 10-W FM)**Audio Input:** 1.5 mV at 150 ohm or 0 dBm at 600 ohm for full-rated output**Carrier Suppression:** Greater than 60 dB below PEP output (J3E mode)**Undesired Sideband Suppression:** Greater than 60 dB below PEP output**Spurious Outputs:** -50 dB relative to rated output, except harmonics, which are -40 dB

(Greater than 20 kHz from Fc) - Minimum for fo = 1.6-30 MHz

Antenna Tuning Capability: OE-505 10-ft (3 m) whip (1.6 to 60 MHz)

RF-1936P (AS-2259) NVIS (3.5 to 10 MHz)

RF-1940-AT001/RF-1941 dipole

Receiver**Sensitivity - SSB:** -113 dBm (0.5 μ V) minimum for 10 dB SINAD**Audio Output:** 15 mW at 1000 ohm to external handset**Squelch:** Front panel adjustable, active squelch selectable**IF Rejection:** Greater than 80 dB**Image Rejection:** Greater than 80 dB (first IF image)**Intermodulation Distortion:** -80 dB or better for two -30 dBm signals separated 30 kHz or more**Overload Protection:** Receiver protected to 32 VRMS**COMSEC Interoperability**

ANDVT/KY-99, ANDVT/KY-100, KG-84C, KY-57 VINSON (VHF), CITADEL (coalition)

Environmental**Test Method:** Per MIL-STD-810E**Vibration:** Ground tactical**Immersion:** 3 feet (0.9 m) of water**Operating Temperature:** -40°C to +70°C**HF Features****Encrypted Data:** HF – MIL-STD-188-110B Appendix C (9,600 bps and 12,800 bps uncoded)

Appendix B 39 tone (to 2,400 bps)

Serial tone (to 9,600 bps)

STANAG 4285 (2,400 bps), STANAG 4415 (75 bps)

STANAG 4539 (9,600 bps), FSK (600 bps)

VHF: FSK (16 kbps)

Automatic Link Establishment: STANAG 4538 FLSU, MIL-STD-188-141B Appendix A with Appendix B AL-1 LP, including the scope command telephony call type**Frequency Hopping:** Serial Tone ECCM**Vocoder:** HF – LPC-10-52E (600/2400) MELP (600/2400); VHF – CVSD**Datalink Layer Protocol (ARQ):** STANAG 4538 (3G), pFED-STD-1052**VHF Features****Data:** Wideband FSK (16 kbps)**Voice Digitization:** CVSD (16 kbps)

PRC-150PRC-150

Source: Harris Corp

Program Review

Harris Corporation introduced its PRC-150(C) radio in 2000. In the summer of 2001, Harris began shipping the radios to the U.S. Army's 82nd Airborne Division, which selected the PRC-150(C) radio in large part because of its embedded communications security (COMSEC).

The following summarizes orders and contracts for the PRC-150 received by Harris since 2001.

In September 2001, Harris announced that the National Security Agency (NSA) had certified the PRC-150(C) radio for communications security. In April 2002, Harris announced that it had received a \$17 million contract from the U.S. Special Operations Command (USSOCOM) for the PRC-150(C). In October 2002, Harris began shipping its PRC-150(C) radio to the U.S. Army Reserve.

In January 2005, the U.S. Army awarded Harris service contracts valued at more than \$30 million for the PRC-150(C). In March 2005, the U.S. Marine Corps awarded Harris an indefinite delivery/indefinite quantity (IDIQ) contract for the supply of PRC-150(C) radios, spares, and training. In December 2005, the Marine Corps increased the maximum value of this contract to \$586 million from \$75 million.

In March 2006, Harris received a \$58 million order for PRC-150(C) radios from the Army (Harris said the order was awarded to the company under the terms of a previously awarded IDIQ contract). During the same

month, Harris said the USMC had replaced some of its legacy radios with PRC-150(C)s.

Also in March, the USMC awarded Harris orders totaling approximately \$140 million for its PRC-150(C) and PRC-117F(C) radios (the USMC awarded these orders under two previously announced contracts). According to Harris, the USMC's orders replaced the following legacy radios: the PRC-104, PRC-113, and PSC-5.

In June 2006, the Army purchased more radios, awarding Harris contracts totaling approximately \$50 million for the PRC-150(C).

Harris received a delivery order in August 2006 totaling \$35 million from the U.S. Marine Corps Systems Command for PRC-150(C) radios. These radios were ordered to replace legacy radios (specifically, the MRC-138 and GRC-193) used by Marine Corps active-duty and reserve components.

In September 2006, Harris received a delivery order from the General Services Administration under previously awarded contract M67854-06-A-7034 for spares specific to the Marines' High Frequency Manpack Radio, also known as the PRC-150(C).

Harris received a \$130 million order in October 2006 from the U.S. Army for PRC-150(C) radios. One month later, the Marine Corps awarded Harris a delivery order (0038) against a previously awarded contract (M67854-

PRC-150

05-D-7015) for 995 PRC-150(C) radios and 293 TRC-209 150-W high-frequency base stations.

In February 2007, Harris received a \$16 million contract from the U.S. Navy for VRC-110, VRC-103, and VRC-104 vehicular radio systems, possibly including the PRC-150(C).

In April 2007, the U.S. Navy awarded Harris an IDIQ contract for PRC-117F and PRC-150 radios and for the VRC-103, VRC-104(V)2, VRC-104(V)3, and VRC-104(V)4 vehicular radio systems.

In May 2007, Harris received a five-year IDIQ contract (with a not-to-exceed value of \$422 million) from the U.S. Special Operations Command to provide radios from its Falcon line of high-frequency multiband radio systems. Under this order, Harris was to deliver PRC-150(C) radios and related vehicular and base station systems, as well as provide installation and training, over a five-year period.

Harris received a \$45.2 million order in March 2008 to supply the U.S. Air Force with a complete suite of radios for the service's fleet of Mine Resistant Ambush Protected (MRAP) vehicles. Under this order, Harris supplied VRC-103 and VRC-104 vehicular radio systems, and possibly the PRC-150(C). In April 2009, Harris received a contract from the Polish Ministry of National Defense for PRC-152(C), PRC-117F(C), and PRC-150(C) radios.

In December 2009, Harris received a \$228 million order from the USMC to provide VRC-104 vehicular radio systems for use in U.S. DoD MRAP-All Terrain Vehicles (M-ATVs). This order included the PRC-150(C).

In February 2010, Harris received another order from the Marine Corps for VRC-104 systems for use in its M-ATVs. The order was valued at \$78 million.

In April 2010, Harris received an order from the Australian Department of Defence for PRC-152(C) handheld radios and PRC-117F, PRC-117G, and PRC-150(C) manpack radios.

In May 2010, the U.S. Department of Defense awarded Harris a \$139 million order for VRC-104 radio systems. This VRC-104 system includes the PRC-150(C). The radios would be installed in new standard-size MRAP vehicles and M-ATVs.

In September 2010, the U.S. Navy awarded Harris a \$70 million ceiling increase modification to a previously awarded contract for the procurement of PRC-117, PRC-150, and PRC-152 radios, plus ancillary parts. One month later, the U.S. Army awarded the company a \$9 million order for PRC-150(C) radios.

In February 2011, Harris received a \$9 million order for PRC-150(C) radios from the U.S. Army.

Harris then announced that from April through July 2011, the company had received some \$58.1 million in orders from the U.S. Army for VRC-104 radio systems for use in MRAP vehicles.

In July 2011, Harris received orders totaling \$16 million to supply the U.S. DoD with a range of military radios, including the PRC-117G, PRC-152(C), RF-310M-HH, and VRC-104.

In December 2011, the U.S. Navy awarded Harris a modification to a previously awarded contract (N00039-07-D-0001) for the procurement of its handheld, manpack, fixed-mount, vehicular and/or base station radio families, including the PRC-117, PRC-150, and PRC-152, plus ancillary parts.

In January 2012, Harris received a \$235 million order to deliver military radios to the Australian Department of Defence. Under the order, Harris would supply the ADF principally with PRC-152(C) radios, but also the PRC-150(C).

In August 2012, the U.S. Navy awarded Harris a \$297 million IDIQ contract to deliver tactical radio systems. The five-year contract enabled the Navy to acquire Harris's Falcon tactical radios and accessories. The contract covered all major radio types and frequency ranges in the Falcon family, including the PRC-117G wideband manpack, PRC-152 multiband handheld, and PRC-150(C) high-frequency manpack radios.

In September 2012, Harris received a \$10 million order to supply the Polish Ministry of National Defense with PRC-117G multiband manpack and PRC-150(C) high-frequency manpack radios.

Harris made two announcements in December 2013 regarding orders for its PRC-150 radio. The first was a \$100 million order to supply PRC-150(C)s and PRC-152s to the Australian Department of Defence. This order marked the latest phase of the Australian DoD's Joint Project 2072 communications modernization program. The second announcement was a \$36 million order to provide PRC-150(C) radios to an unnamed NATO country.

In March 2015, Harris received a \$16 million order from a NATO nation for PRC-117, PRC-152A, and PRC-150 radios.

In September 2015, Harris received a \$13 million order to supply the U.S. Air National Guard (ANG) with radio systems. Each system would include multiple PRC-117(G) radios, the PRC-150 radio, and the XG-100M radio. The radios are networked with the

PRC-150

Harris RF-7800I Advanced Vehicular Intercom System and integrated into the ANG's HMMWVs.

In April 2016, Harris announced it had received two orders totaling \$29 million to provide its Falcon family of tactical radios to a customer in Europe as part of an ongoing standardization program designed to ensure interoperability during coalition operations. Harris would supply PRC-152A handheld radios, PRC-117(G) manpack radios, and PRC-150(C) tactical radios.

In February 2017, Harris announced it had been awarded a five-year, \$403 million IDIQ contract to provide tactical radio spares and components for DLA Land and Maritime and the U.S. Army Communications-Electronics Command. The contract is a continuation and expansion of previous contracts with the Defense Logistics Agency and allows the Army to secure spare and replacement parts as necessary to support Harris's PRC-117G, PRC-150(C), VRC-104, PRC-152, and VRC-114 radios.

In February 2017, Harris announced that the RF-300H manpack is replacing the U.S. Type 1 PRC-150(C).

In May 2017, Harris announced it had received contracts valued at \$90 million from a European nation

for tactical radios – including the PRC-150(C) and PRC-152(A) – as part of the country's communications readiness program.

In late 2019, the newly formed L3Harris announced that a newer manpack radio, the PRC-160(V), with next-generation HF technologies would be offered for new procurement over the PRC-150(C) moving forward. In December 2019, the company received a \$50 million follow-on delivery order for the PRC-160(V) from the U.S. Marine Corps.

In December 2021, L3Harris was awarded a \$45.8 million contract to integrate the PRC-160 into Special Operations Forces MH-47 and MH-60 aircraft.

Two years later, in December 2023, the U.S. State Department approved a Foreign Military Sale to Poland of communications equipment and related elements of logistics and program support for an estimated cost of \$255 million. The request comprised systems including PRC-117G, PRC-152A, PRC-158, PRC-160, PRC-163, and PRC-167 radios; Global Positioning System (GPS) receivers enabled by Selective Availability Anti-Spoofing Module (SAASM) or M-Code; support equipment; spare parts; technical manuals and other related elements of logistics and program support.

Contracts/Orders & Options

<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
Harris	78.00	Feb 2010 – Order from the USMC to manufacture and deliver VRC-104 vehicular radio systems for use in its MRAP-ATVs. The VRC-104 system includes the PRC-150(C).
Harris	112.00	Apr 2010 – Order from the Australian DoD for PRC-152(C) handheld and PRC-117G, PRC-117F, and PRC-150(C) manpack radios. The bulk of the order is for the PRC-152(C).
Harris	139.00	May 2010 – Order from the U.S. DoD for VRC-104 radio systems for the Joint MRAP Vehicle program. The VRC-104 system includes the PRC-150(C).
Harris	9.00	Feb 2011 – Order from the U.S. Army for the PRC-150(C).
Harris	20.40	Apr 2011 – Order from the U.S. Army for VRC-104 radio systems for use in MRAP vehicles. The VRC-104 system includes the PRC-150(C).
Harris	19.90	May 2011 – Contract from the U.S. Army for VRC-104 radio systems for use in MRAP vehicles. The VRC-104 system includes the PRC-150(C).
Harris	17.80	Jul 2011 – Order from the U.S. Army for VRC-104 radio systems for use in MRAP vehicles. The VRC-104 system includes the PRC-150(C).
Harris	16.00	Jul 2011 – Orders totaling \$16 million to supply the U.S. DoD with a range of military radios, including the PRC-117G, PRC-152(C), RF-310M-HH, and VRC-104. The VRC-104 system includes the PRC-150(C).

PRC-150

<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
Harris	46.80	Dec 2011 – Modification to a previously awarded IDIQ, firm-fixed-price contract (N00039-07-D-0001) from the U.S. Navy for the procurement of its handheld, manpack, fixed-mount, vehicular and/or base station radio families, including the PRC-117, PRC-150, and PRC-152, plus ancillary parts. Work was completed Sep 2012. The Space and Naval Warfare Systems Command, San Diego, CA, was the contracting activity.
Harris	235.00	Jan 2012 – Order to deliver military radios to the Australian DoD. Under the order, Harris would supply the ADF principally with PRC-152(C) radios, but also the PRC-150(C). Harris would support radio delivery, installation, and training.
Harris	296.70	Aug 2012 – FFP, IDIQ contract from the U.S. Navy for the following handheld, manpack, fixed-mount, vehicular and/or base station radio families: PRC-117, PRC-150, and PRC-152, plus ancillary parts. Work was completed Sep 2017. The Space and Naval Warfare Systems Command, San Diego, CA, was the contracting activity. (N00039-12-D-0001)
Harris	10.00	Sep 2012 – Order to supply the Polish MoND with PRC-117G and PRC-150(C) radios.
Harris	36.00	Dec 2013 – Order from an unnamed NATO country for PRC-150(C) radios. Harris would provide the radios in both manpack and vehicular configurations.
Harris	16.00	Mar 2015 – Order from a NATO nation for PRC-117, PRC-125A, and PRC-150 radios.
Harris	13.00	Sep 2015 – Order to supply the U.S. Air National Guard with radio systems, including the PRC-117G, PRC-150, and XG-100M. The radios are networked with the Harris RF-7800I Advanced Vehicular Intercom System and integrated into the ANG's HMMWVs. Harris also would provide installation, training, and ongoing service and support.
Harris	29.00	Apr 2016 – Harris received two orders totaling \$29 million to provide its Falcon family of tactical radios to a customer in Europe. Harris will supply PRC-152A handheld radios, PRC-117G manpack radios, and PRC-150© tactical radios.
Harris	403.00	Feb 2017 – Harris received a five-year, \$403 million IDIQ contract to provide tactical radio spares and components for DLA Land and Maritime and the U.S. Army Communications-Electronics Command. The contract allows the Army to secure spare and replacement parts for PRC-117G, PRC-150(C), VRC-104, PRC-152, and VRC-114 radios.
Harris	90.00	May 2017 – Harris received contracts valued at \$90 million from a European nation for tactical radios to equip the country's communications readiness program. The contracts include the provision of PRC-150(C) and PRC-152A radios.
Harris	90.00	Jun 2020 – Modification (P00019) to contract W91CRB-16-D-5006 to procure radios, ancillaries, spare parts, and services. Work completed Jun 2021. The U.S. Army Contracting Command, Aberdeen Proving Ground, MD, was the contracting activity.

Worldwide Distribution/Inventories

Thus far, L3Harris has sold its PRC-150(C) radio to the **U.S. Department of Defense** and to the **U.S. Air Force, Air National Guard, Army, Army Reserve, Marine Corps, Navy, and Special Operations Command**. It has also sold the radio to the **Polish Ministry of National Defense** and the **Australian Department of Defence**, and to an unnamed NATO country (possibly more than one).

Forecast Rationale

The forecast period may see production and support of PRC-150(C) radios for international users and, to a lesser extent, U.S. forces, driven mostly by the likely need for replacement systems.

While prime contractor L3Harris still supports the PRC-150(C), the newer PRC-160(V) manpack, with next-generation HF technologies, is also being offered. In December 2019, the company received a \$50 million follow-on delivery order for the PRC-160(V) from the U.S. Marine Corps.

In December 2021, L3Harris was awarded a \$45.8 million contract to integrate the PRC-160 into Special Operations Forces MH-47 and MH-60 aircraft.

Two years later, in December 2023, the PRC-160 was included in a Foreign Military Sale to Poland of a wide variety of radios. That the PRC-150 was not included, but had been previously acquired by the nation, would strongly suggest that future FMS activity will likely see similar replacement activity.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program	High Confidence					Good Confidence			Speculative			Total
	Thru 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
L3 Harris												
PRC-150 Classified (C) <> Armed Services <> Worldwide												
	6,555	100	80	100	80	40	0	0	0	0	0	400
PRC-150 Classified (C) <> United States <> Department of Defense												
	19,456	80	40	0	0	0	0	0	0	0	0	120
Subtotal	26,011	180	120	100	80	40	0	0	0	0	0	520
Total	26,011	180	120	100	80	40	0	0	0	0	0	520