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FALCON III® RF-7850A-UA

Unmanned Aircraft Networking Radio

Designed for unmanned aircraft deployment, the L3Harris RF-7850A-UA Unmanned Aircraft Networking Radio delivers advanced Intelligence, Surveillance and Reconnaissance (ISR) capabilities with unprecedented high-speed data and video for improved Situational Awareness and decision making. Acting as a communications relay, it also supports expanded communications coverage for geographically isolated units.

Based on the combat-proven L3Harris Falcon® family of radios, the RF-7850A-UA provides narrowband interoperability—including traditional Combat Net Radio waveforms—as well as next-generation functionality. Between these advanced networking capabilities and its minimal Size, Weight and Power (SWaP) profile, the RF-7850A-UA is the ideal unmanned aircraft radio for operations at the tactical edge.

Despite its small SWaP profile, the RF-7850A-UA is fully capable of delivering both high-speed IP-networked data and Full Motion Video for improved ISR. It also takes advantage of tactical VHF/UHF networks to provide range extension of secure air-to-air and air-to-ground communications by functioning as an advantage node.

As part of the L3Harris Falcon III RF-7850A platform, which includes a multi-channel airborne networking radio, the single-channel RF-7850A-UA leverages combat-proven technology to provide the world's first wideband-capable airborne radio designed for Unmanned Aerial System deployment.

EXTENDED RANGE AND ADVANCED ISR

KEY BENEFITS

> Provides high-speed networked data and video via M-TNW

> Fulfills evolving mission needs for ISR, close combat support and joint operations with ground troops

> Improves and expands battlefield communications with an interoperable airborne relay node

> Based on combat-proven L3Harris Falcon III® technology

> Full compatibility with legacy narrowband

> Designed to easily integrate into a wide variety of UAV platforms

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GENERAL

RT Nomenclature	RF-7850A-UA
Frequency Range	Narrowband: 30 - 512 MHz Wideband: 225 - 512 MHz
Channel Spacing/Bandwidth	8.33, 12.5, 25, 75 kHz and 1.2 MHz
Net Presets	25
GPS	Internal GPS Accepts external GPS input
Management Tool	Communications Programming Applications
Software Environment	Software Defined Radio
RF Input/Output Impedance	50 Ohms

TRANSMITTER

Power Output	Up to 10 watts
Harmonic Suppression	> 50 dBc typical
Frequency Stability	±1 parts per million
Spurious Suppression	> 50 dBc typical

RECEIVER

Sensitivity	AM -103.5dBm at a 10dBm SINAD FM -116dBm at a 12dBm SINAD
Squelch	Noise, tone, CTCSS, digital
IF Rejection	80 db typical

POWER

Power Input	10-13 VDC

SECURITY

Encryption	128 & 256 bit L3Harris proprietary Citadel® AES 128 & 256 Customer Algorithm Modification

MODES AND WAVEFORMS

Voice and Data Modes	AM/FM Analog Voice FSK/TCM Data FSK/ASK MELP Voice GMSK/QPSK Data FSK/ASK CVSD Voice ECCM
ECCM	Quicklook 1A, 2, 3 and Quicklook-Wide
Narrowband Waveforms	TDMA Networking Waveform (TNW) 25K and 75K
Wideband Networking	M-TNW, ANW2®C (optional)
Optional Waveforms	Export SINCGARS with Pavilion encryption Satellite Tactical Communications HAVEQUICK I/II ARROW™ SATURN

PHYSICAL

Dimensions	3.30 H x 5.30 W x 1.75 D in (8.13 H x 13.46 W x 4.44 D cm)
Weight	1.4 lbs (0.635 kg)
Color/Finish	CARC Green 383

ENVIRONMENTAL

Shock and Vibration	MIL-STD-810G
Temperature	MIL-STD-810G -22 F to +140°F (-30°C to +60°C) (operational-convection cooled) -40°F to +185°F (-40°C to +85°C) (storage)

INTERFACES

Data	USB 2.0, Synchronous, Asynchronous, and Ethernet
Audio	Analog, fixed level, and Internet Protocol
Antenna Port	50 Ohm SSMA female
Programming	Communications Programming Applications
Remote Control	ASCII and Ethernet (Web API)
Web UI	WEB UI

INCLUDED ACCESSORIES

10515-0484-4100	Quick Reference Guide

OPTIONAL ACCESSORIES

12113-1000-12	KDU IPA/VAA RF-7800V/RF-7850M Black (for use with the Bench-top Cable Kit)
12178-7000-02	RF-7850A-UA Bench-top Programming Kit
12178-7500-02	RF-7850A-UA Integration Kit

TECHNICAL PUBLICATIONS

10515-0484-4200	RF-7850A-UA Operator's Manual
10515-0484-7000	RF-7850A-UA Interface Control Document

See L3Harris Product Catalog for accessories

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