

FORAX-LS-1H2-VE User Guide



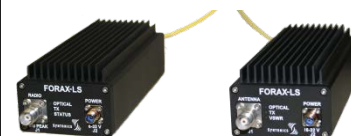
SYNTONICS

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Class 1 Laser Product
Optical Fiber Communication System
Service Group 1
Maximum Power 3 mW
Wavelength 1310 / 1550 nm
Complies with 21 CFR 1040.10 and 1040.11

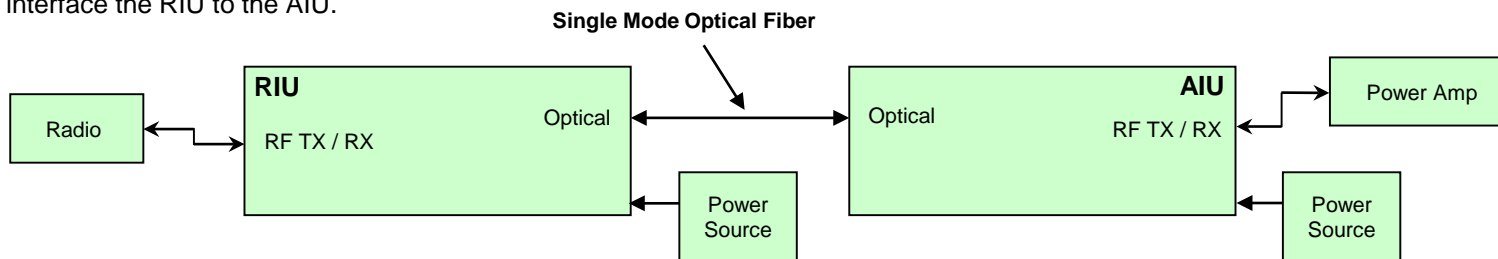
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System Description

The FORAX-LS-1H2-VE system is designed to operate in the 30 – 512 MHz band with all waveforms and provide optical links between tactical radios and power amplifier / antenna set.

Basic System Installation

The FORAX-LS system consists of a Radio Interface Unit (RIU) and Amplifier Interface Unit (AIU). One single mode optical fiber interface the RIU to the AIU.



- Install the RIU and AIU in a sheltered location that provides sufficient clearance for cooling.
- Carefully remove protective caps on the AIU/RIU fiber optic connectors and mate to single mode fiber optic cable.

NOTE: It is imperative to keep the fiber connectors as clean as possible to minimize RF link losses. ALL fiber connectors should be cleaned with a ferrule end-face cleaner (or an equivalent) each time they are mated. When fiber connectors are not in use, the provided covers should be installed to prevent dirt intrusion. ALL Fiber connections must be Angled Polished Connection (APC). FC-APC connectors are provided on both RIU And AIU

- Using the shortest possible RF cables, connect the tactical radio to the RIU RADIO (J1) connector. Similarly, connect the AIU ANTENNA (J1) to the power amplifier / antenna set.
- Connect the provided AIU/RIU power adaptor to the POWER (J2) connector.

NOTE: The RIU and AIU do not provide a power switch. ALWAYS remove power prior to mating or demating any RF or fiber optic connections.

Operation

The FORAX-LS system is designed to operate autonomously with minimal user configuration required. RF and fiber optic link status is indicated by 3 tri-color LEDs on the front panel of both RIU and AIU.

Controls and Indicators

Unit	Front Panel Text	Amber	Solid Green	Solid Red	Rapid Red Flash
RIU	Optical	Excessive Fiber Loss	Fiber Nominal	Fiber Bad or Disconnected	Not Used
RIU	TX	Input Low	Input Nominal	Input Excessive	Input Overload
RIU	Status	AIU VSWR (Flash)	System Nominal	RIU Hardware Fault (30s Persistent)	AIU Hardware Fault
AIU	Optical	Excessive Fiber Loss	Fiber Nominal	Fiber Bad or Disconnected	Hardware Fault
AIU	TX	Output Below 1 W (RF Power < +30 dBm)	Output Power Nominal	Output Power Exceeds Rating	
AIU	SWR	VSWR worse than 1.9 (worse than 10 dB return loss)	VSWR 1.8 or better (better than 10 dB return loss)	VSWR worse than 3.5 (5 dB Return Loss)	

System Specifications

RF/Fiber Optic Link Characteristics

Radio TX power into FORAX RIU	1 W Nominal
FORAX AIU output power to external amplifier/antenna	2 W Nominal
Operating Frequency	30 - 512 MHz
Maximum Optical Cable Loss	Less than 5 dB Optical reflections less than -50 dBm

Product Characteristics

Fiber optic connector type	Single-mode, SC/APC
RF connector type	TNC female
Power connector type	Glenair 807-522-02M5-3PA
Power requirements	<u>RIU</u> Power: 1.2 W RX/TX Input Voltage: 6-32 VDC <u>AIU</u> Power: 6 W RX, 21 W TX Input Voltage: 16-32 VDC
Operating temperature	-34 C to +60 C
Storage temperature	-40 C to +80 C
Case Size	RIU and AIU (W x H x D): 6.9 x 5 x 16.5 cm 2.75 x 2 x 6.5 in.
Weight	RIU: 0.68 Kg (1.5 lb.) AIU: 0.68 Kg (1.5 lb.)

Limited Hardware Warranty

Syntonics warranty obligations are limited to the terms set forth below:

1. LIMITED WARRANTY. SYNTONICS warrants this hardware product against defects in materials and workmanship, under normal use and service, for a period of one (1) year from the date of receipt by the Purchaser.

If the Purchaser discovers a defect within the warranty period, SYNTONICS will repair the product with either new or refurbished replacement parts at no charge. If SYNTONICS is unable to restore the product to good working order, SYNTONICS will, at its option, replace or refund the purchase price of the product. All products that are replaced will become the property of SYNTONICS. Any replaced or repaired product is warranted for the remainder of the initial warranty period or ninety days, whichever is longer. SYNTONICS shall not be responsible for any software, firmware, information or memory data of the Purchaser contained in, stored on, or integrated with any products for system components returned to SYNTONICS pursuant to any warranty.

2. RETURN PROCEDURES. To obtain service under this warranty within the established period, the Purchaser must:

Call SYNTONICS Technical Service Support Operations at 1-410-884-0500 between 9 a.m. and 5 p.m. EST, Monday through Friday, excluding holidays.

To insure that your product qualifies for return to factory warranty service, you will be asked to provide the model and serial number of your product, the date of original purchase, and the Purchaser's name, address, and phone number.

Products returned to SYNTONICS' Technical Service Support Operations must be pre-authorized by SYNTONICS with a Return Material Authorization (RMA) number marked on the outside of the package, and sent prepaid, insured, and packaged appropriately for safe shipment. The repaired or replaced item will be shipped to the Purchaser at SYNTONICS' expense.

3. APPLICABILITY.

This warranty applies only to hardware products (including internal components) supplied by SYNTONICS that can be identified by the "SYNTONICS" trademark, trade name, or logo affixed to them. Any warranty on external third-party hardware installed by SYNTONICS with this product is provided by the hardware vendor, not SYNTONICS. This warranty applies to all SYNTONICS products and third party products included in each purchase. This warranty does not apply to damage caused by accident, abuse, misuse, improper installation or testing, misapplication, service performed by a third party other than SYNTONICS, or any other cause beyond the range of the intended use, or by fire, lightning, or other hazard; if the product has been modified without the written permission of SYNTONICS; or if any SYNTONICS serial number has been removed or defaced.

4. LIMITATIONS OF REMEDIES AND DAMAGES.

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