



- Increase survivability
- Reduce detectability
- Move RF emitters/antennas 20+ km away from the command post

FORAX-4VHF connects four FM radios operating in the 30-88 MHz frequency band to remote antennas 20+ km away using one single-mode optical fiber. FORAX-4VHF offers a high performance alternative to conventional radio-to-antenna coaxial cables, affording great flexibility in antenna location plus opto-isolation for all the User's radios. The optical fiber can have as much as 7 dB of optical loss, enabling uninterrupted fiber paths as long as 25-km.

A FORAX-4VHF antenna remoting system consists of a four-port Radio Interface Unit (RIU) and a four-port Antenna Interface Unit (AIU), both operating on 28Vdc vehicle/generator power. At the radio site, each RIU is connected by short coaxial cables to the Combat Net Radios' antenna portst. At the antenna site, each AIU is connected using coaxial cables to four VHF antennas. The AIU delivers 50W RF power at each antenna port.

FORAX-4VHF functions as a long, loss-free link between the radios and the antennas. System limitations and installation difficulties associated with coaxial cable are overcome by the simplicity and performance of RF-over-Fiber connections.

Protect the command post – Let FORAX put distance between your radios and antennas

FORAX – 4VHF

Full Radio Power

- 50W at each antenna port
- 100% duty cycle

Full Radio Sensitivity

- -115 dBm at each radio port

Built to Deploy

- 28 Vdc power
- MIL-SPEC temperatures
- Can be network-controlled

SYNTONICS



Communication Innovations in the RF Domain

SYNTONICS LLC

Sales@SytonicsCorp.com

410-884-0500 ext 205

www.SytonicsCorp.com



Product Characteristics:

Parameter	Radio Interface Unit (RIU)	Antenna Interface Unit (AIU)
Operating frequency	<ul style="list-style-type: none"> • 30-88 MHz • Other frequency bands available upon request. 	
Transmit (TX) power	<ul style="list-style-type: none"> • 50W adjustable to -3 dB (25W), -6 dB (12W), -9 dB (6W) • With optional serial interface, power level can be remotely commanded 	
Receive (RX) sensitivity	-115 dBm (10 dB SINAD)	
RX/TX switching time	<ul style="list-style-type: none"> • < 1 ms with no frequency change; manual frequency changes implemented in < 10 ms • Supports hopping waveforms 	
Co-site performance	<ul style="list-style-type: none"> • System auto-tunes filters to radio's frequency upon first transmission • With optional serial interface, filter tuning can be remotely commanded • $\geq 10\%$ carrier separation from nearby transmitters to achieve full RX sensitivity • 40 dB antenna-to-antenna isolation achieves full RX sensitivity (20 dB with high-perf. option) 	
Radio TX power into RIU, each port	<ul style="list-style-type: none"> • 3-5W nominal, 50W survive • Excess TX power causes audible alarm 	
AIU TX power into antenna, each port		50W adjustable to -3 dB (~25W), -6 dB (~12W), -9 dB (~6W)
Optical loss in user's optical plant	<ul style="list-style-type: none"> < 7 dB optical <p><i>NOTE: To calculate optical loss, allow 1/4 dB per kilometer plus 1/4 dB per SC/APC connector.</i></p>	
Optical reflectance in user's optical plant	< -50 dB optical	
System packaging	2U tall chassis for 19-inch rack	3U tall chassis for 10-in rack
Power	18-32 Vdc from tactical generator, 70W	18-32 Vdc from tactical generator, 1100W max.
Operating temperature	-10° C to +60° C	
Storage temperature	-40° C to +80° C	
Installation notes	<ul style="list-style-type: none"> • User supplies DC power, single-mode optical fiber from RIU to AIU. • Patch Cable Kits are optionally available with four coax cables for radios and two FO patch cables for the RIU and AIU. 	
Available Options (Ask for details)	<ul style="list-style-type: none"> • SINGARS Hopping Interface (FORAX-4VHF-SNAP) • Serial Interface (FORAX-4VHF-SIF) • High Performance RF Filters (FORAX-4VHF-HPF) 	<ul style="list-style-type: none"> • Field Kit (FORAX-4VHF-FK) • Patch Cable Kit (FORAX-4VHF-PCK) • Customer-Witnessed Factory Acceptance Test (FORAX-FAT) • Extended Warranty (FORAX-4VHF-EW)

Contact us at Sales@SytonicsCorp.com or 1-877-968-6642 or visit us at SytonicsCorp.com