

SATCOM Antenna Interface Unit



Overview

Northrop Grumman's UHF SATCOM Antenna Interface Unit provides improved receive sensitivity and receive protection for the Ground Mobile Radio (GMR) system. The SATCOM AIU is a Line Replaceable Unit (LRU) that is part of a Joint Tactical Radio System (JTRS) Cluster 1 Joint Tactical Radio (JTR) Set.

The SATCOM AIU includes a low noise amplifier (LNA) component and block filtering required to achieve the receive performance parameters for the UHF SATCOM waveforms. The AIU is mounted in close proximity to the antennas to minimize losses between the antennas and internal LNA. In addition to the receive path, a low loss bypass path is provided in transmit mode routing the transceiver to one of two output ports for a High Angle or Low Angle Antenna element. Control information from the transceiver is decoded to select the antenna port desired, transmit or receive mode and to route built in test status back to the transceiver.

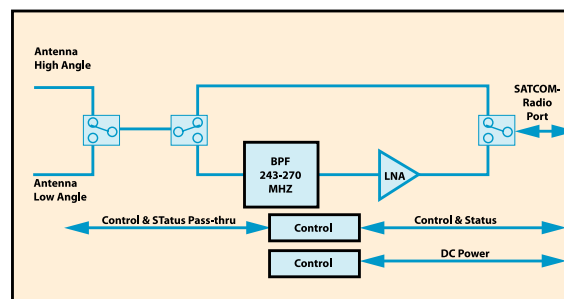
Key Features

- Developed on the JTRS program
- Improves Receive Performance
 - Low Noise Pre-Amplifier < 2 dB NF
- Provides Receiver Protection
 - Receive Band Pass Filter
- Dual Antenna Ports
 - Automatic signal routing to high angle or low angle antenna ports
- DAMA Compatible
- PIN Diode Switches
 - Fast transmit to receive transitions



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Electrical Requirements	
Frequency Range Receive	243.000 - 272.000 MHz
Frequency Range Transmit	291.000 – 319.000 MHz
Receiver Gain	20 ± 3 dB
Receive Input Power	< +5 dBm
Receive Input Power Overdrive	< +25 dBm
Receive Noise Figure	< 2.0 dB
Receive Filtering at < 225 MHz, > 290 MHz	> 35 dB
Receive Input 3Rd Order Intercept	> + 11 dBm
Transmit Insertion Loss	< 1.25 dB
Transmit Power Handling	+50 dBm
Control	Serial data RF Control Bus
Transmit to Receive Switching	< 150 microseconds
DC Power (28 VDC)	MIL-STD 704 and MIL-STD-1275
Power Consumption	< 15 Watts
Physical Requirements	
Size	2.25”H x 6.5”W x 5.9” L
Weight	< 3.1 lbs
Mounting	Hard Mount
Cooling	Free Convection/conduction
Connector, RF (3)	TNC Jack
Connector, Power	MIL-C-38999
Connector, Control	MIL-C-38999
Environmental	MIL-STD-810
Ground Mobile and Airborne	
Temperature, Operational	-40 C to +55 C
Part Number	840600



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Specifications and features subject to change without notice.

DS-442-VFB-0211
 ES20100496
 ES-DSEA-10-09456
 2011 RM Graphics

