



Strategic Radio Products

RF-5710A-MD002

2400/4800 BPS

HF MODEM



JITC CERTIFIED

*provides data
communications at rates
up to 4800 bits per
second over HF circuits*

The RF-5710A-MD002 is an advanced high-speed HF data modem offered by Harris Corporation. It is a version of the industry standard RF-5710A-MD001 and includes additional processing power and memory to accommodate the new generation of adaptively-equalized HF waveforms. It also supports optional upgrades to 9600/19,200 bps HF waveforms and higher speed LF/MF transmissions using the STANAG 5065 MSK waveform.

The RF-5710A-MD002 is compliant with the waveform and performance requirements of MIL-STD-188-110A serial and parallel tone, STANAG 4285, STANAG 4529, and FSK. A powerful adaptive equalizer eliminates the effects of intersymbol interference due to HF multipath. The performance is further enhanced by convolutional error correction coding (FEC) and Viterbi soft decision decoding at all data rates from 75 to 2400 bps.

Considerable protection against co-channel interference is provided by adaptive excision filtering which can automatically remove up to four simultaneous interfering signals.

The state-of-the-art hardware is designed to support new NATO interoperable waveforms. It is field software upgradeable and is "IP ready" with a built-in Ethernet interface for future networking applications.

The waveform, data rate, and other modem parameters are selectable from the front panel keys and LCD display or via the remote control interface. The RF-5710A-MD002 is provided with a "multi-drop" remote control bus that can address multiple modems on the same bus. The remote control commands comply with the requirements of STANAG 5066 Annex E. The RF-5710A-MD002 also provides flexible electrical interfaces that ensure compatibility with a wide range of radio, cryptographic, and terminal equipment.



Installation

Size 1.75H x 8.375W x 12.D inches (4.5H x 21.3W x 30.5D cm)
Weight 4 lbs (1.8 kg)
Primary Power 85 to 260 VAC, 47 to 440 Hz, less than 15 watts
Mounting Desktop or rack mountable

Environment

Temperature 0°C to +50°C (operating); -40°C to +80°C (storage)
Humidity 0 to 90%, non-condensing
Shock MIL-STD-810E Method 516.4, Procedure 1, Functional (40G, 11 mS duration)
Vibration MIL-STD-810E Method 514.4, Category 9, Shipboard

Interfaces

Data EIA RS-422 balanced, EIA RS-423/RS-232D unbalanced, MIL-STD-188-114 unbalanced
Synchronous: selectable polarity, internal or external data clock, 50 to 4800 bps
Asynchronous: selectable polarity, 50 to 19200 bps, 1 or 2 stop bits, 5/6/7/8 bit character lengths

Input Audio 600 ohm balanced, -30 to +10 dBm without adjustment
Output Audio Balanced, -40 to +10 dBm adjustable into 600 ohm load
Radio Keyline Open collector to ground (45 volts, 50 mA) and non-polarized contact closure (45 V, 200 mA)
Remote Control EIA RS-485, EIA RS-422 balanced, EIA RS-423/RS-232D unbalanced ASCII format in accordance with STANAG 5066 Annex E, Selectable from 50 to 19,200 bps

Presets 16 waveform Presets

Waveform	Mode	Data Rates
MIL-STD-188-110A Serial Tone	Coded PSK Uncoded PSK	75, 150, 300, 600, 1200, 2400 bps 4800 bps
MIL-STD-188-110A, APP B	Coded 39 Tone QDPSK	75, 150, 300, 600, 1200, 2400 bps
STANAG 4285	Coded PSK Uncoded PSK	75, 150, 300, 600, 1200, 2400 bps 1200, 2400, 3600 bps
STANAG 4529	Coded PSK Uncoded PSK	75, 150, 300, 600 1200 bps 600, 1200, 1800 bps
STANAG 4481	Coded PSK FSK	300 bps 75 bps
FSK	FSK	50 to 600 bps (variable shift)

FSK Mode Specifications

The FSK mode transmits one of two tones during each symbol period. The RF-5710A implements the modulation and demodulation digitally, allowing programmable 1 Hz steps for the center and shift frequencies. The front-panel display provides a tuning meter for frequency tuning in narrow shift applications.

Data Rates (bps) 50, 75, 100, 150, 300, 600
Bandwidth Selections FSK-NS: Center=2805 Hz, Shift ±42.5 Hz;
 FSK-WS: Center=2000 Hz, Shift ±42.5 Hz;
 FSK-A: Center=2000 Hz, Shift ±85 Hz;
 FSK-V: Programmable Mark/Space Frequency Range (50-2999 Hz)

Specifications are subject to change without notice.

