

**RF-5710A-MD001****9600/12,800 BPS****HF/LF MODEM****JITC CERTIFIED**

*provides data  
communications at rates  
up to 19,200 bits per  
second over HF circuits  
and up to 300 bits per  
second over LF circuits*

The RF-5710A-MD001 is the most advanced high-speed HF data modem offered from Harris Corporation. It possesses the processing power and memory to accommodate the new generation of 19,200 bps adaptively-equalized HF waveforms and the ability to auto-detect between the MIL-STD-188-110B QAM waveforms and the MIL-STD-188-110A serial tone waveforms. This allows fully adaptive data rates from 75 bps to 9600 bps. It also supports higher speed LF/MF transmissions using the STANAG 5065 MSK waveform.

The RF-5710A-MD001 is compliant with the waveform and performance requirements of MIL-STD-188-110B, STANAG 4539, MIL-STD-188-110A, STANAG 4285, STANAG 4481, STANAG 4529, STANAG 4415, STANAG 5065, 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 9600 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-MD001 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-MD001 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, 75 to 12,800 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, -35 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 115,200 bps  
**Presets** 200 Waveform Presets

Waveform	Mode	Data Rates
MIL-STD-188-110B, APP. C, STANAG 4539	Coded PSK/QAM Uncoded QAM	3200,4800, 6400, 8000, 9600 bps 12800 bps
MIL-STD-188-110B, APP. F	Coded PSK/QAM	9600, 12800, 16000, 19200 bps
MIL-STD-188-110B, APP. B	Coded 39 Tone QDPSK	75, 150, 200, 600, 1200, 2400 bps
STANAG 5066, Annex G	Coded PSK/QAM Uncoded QAM	3200, 4800, 6400, 8000, and 9600 bps 12,800 bps
STANAG 4285	Coded PSK Uncoded PSK	75, 150, 300, 600, 1200, 2400 bps 1200, 2400, 3600 bps
MIL-STD-188-110A Serial Tone	Coded PSK Uncoded PSK	75, 150, 300, 600, 1200, 2400 bps 4800 bps
STANAG 4529	Coded PSK Uncoded PSK	75, 150, 300, 600 1200 bps 600, 1200, 1800 bps
STANAG 4415	Coded PSK	75 bps (NATO Robust Waveform)
STANAG 4481	Coded PSK FSK	300 bps 75 bps
FSK	FSK	50 to 600 bps (variable shift)
STANAG 5065	MSK (LF) FSK (LF)	300 bps 75 bps

**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.

