HARRIS®

Strategic Radio Products

RF-7210A

AUTOLINK II ADAPTIVE® CONTROLLER

a Digital Signal Processing (DSP) based unit that provides automatic HF frequency management, Link Quality Analysis (LQA), and selective calling

The RF-7210A Adaptive Controller provides telephone-like simplicity of operation and highly reliable communications. It is also MIL-STD-188-141A and FED-STD-1045 compliant. The RF-7210A incorporates a speaker and microphone, providing the operator with audio and allowing the RF-7210A and the radio(s) to be separated.

The RF-7210A automates the operator-intensive and time-consuming tasks of HF radio operation. By virtue of automation, links are established faster, with greater reliability, and on better channels, than with traditional manual HF systems.

By using automatic real-time channel evaluation, the RF-7210A links on the best available channel, increasing circuit reliability.

The RF-7210A performs one-way (broadcast) and two-way (message exchange) LQAs. The LQA information is stored and used for automatic channel selection upon placement of operator call. Up to ten LQAs can be queued to be performed at a later time and interval.

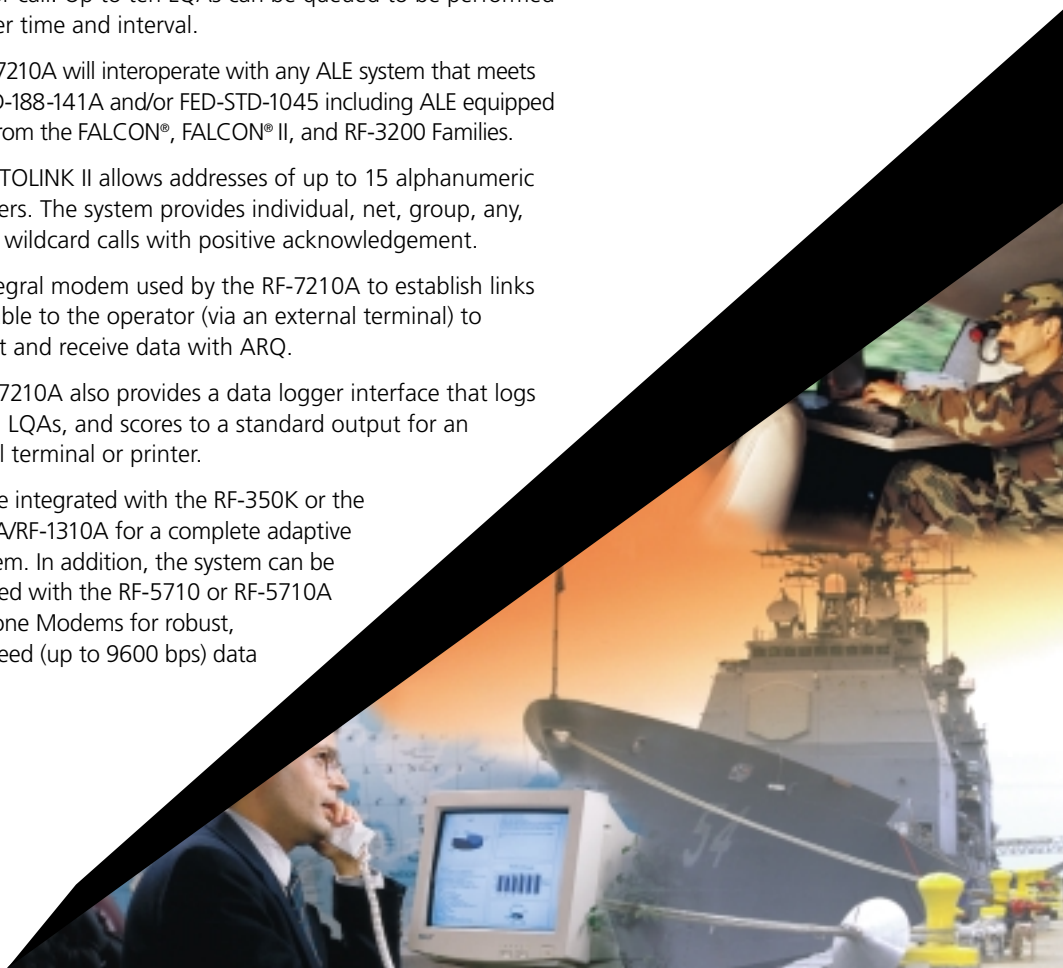
The RF-7210A will interoperate with any ALE system that meets MIL-STD-188-141A and/or FED-STD-1045 including ALE equipped radios from the FALCON®, FALCON® II, and RF-3200 Families.

The AUTOLINK II allows addresses of up to 15 alphanumeric characters. The system provides individual, net, group, any, all, and wildcard calls with positive acknowledgement.

The integral modem used by the RF-7210A to establish links is available to the operator (via an external terminal) to transmit and receive data with ARQ.

The RF-7210A also provides a data logger interface that logs all calls, LQAs, and scores to a standard output for an external terminal or printer.

It can be integrated with the RF-350K or the RF-590A/RF-1310A for a complete adaptive HF system. In addition, the system can be combined with the RF-5710 or RF-5710A Serial Tone Modems for robust, high-speed (up to 9600 bps) data over HF.



Specifications for the RF-7210A

General

Programming

Parameters	Radio channels, local address, network addresses, group addresses, add channels, delete channels, delete addresses, time of day, alarm period
Program Memory Retention	1 year minimum, 5 years typical with power off

Channels

Number	100 simplex and/or duplex
Frequency Range	1.6 to 29.999 MHz
Modes	USB, LSB, AM, AME, FM, AFSK, CW, 2-ISB, 4-ISB

Scan

Rate	5 or 2 channels/second
Scanned Channels	100 maximum
Channel Scan List	Programmable

Addresses

Format	Up to 15 character alphanumeric
Total Available	$>10^6$
Programmed Addresses	20 self, 100 individual, 20 net, 20 group
Channels per Address	100 maximum

Selective Calling

Types	Individual, net, group, any, all, wildcard
AMD	With all types
Channel Selection	Auto or manual
Handshake	3 way for individual, group, net any calls, or wildcard; 1 way for all calls
Calls while Linked	Unlimited (late net entry or 3rd party add-on)

Built-In Test

Functions Tested	RF-7210A, radios; reported to module level to RF-7210A front panel

LQA

Measurements	One way and two way weighted average SNR and PBER (with decay)
Number of Channels	2 way —100 maximum 1 way —100 maximum
LQA Queuing	Address, start time, repeat interval
Addresses Queued	10 maximum
Unidentified Addresses	100 maximum
Matrix Size	100 addresses x 100 channels
Data Logger	Logs calls, LQAs, scores (one way and two way), status changes. Interfaces to DTM serial interface

Signaling

Modulation	Phase continuous 8-ary FSK
On-Air Symbol Rate	125 baud
On-Air Bit Rate	375 bits/second
Coding	Golay Forward Error Correction (FEC) and 2/3 majority vote
Calling Cycle	1 second to 50 seconds (calculated automatically)
Data Mode Thruput	53.6 bps text mode, 187.5 bps maximum block mode

Interfaces

Remote Control Interface

Electrical Interface	RS-422 (multidrop), RS-232
Baud Rate	300 to 9600 baud asynchronous
Stop Bits/Parity	2 stop bit, odd parity
Word Length	8 bits

Integral Data Transmission (DTM)

Electrical Interface	RS-232
Baud Rate	300 to 9600 baud asynchronous
Stop Bits/Parity	1 stop bit, no parity
Terminal Requirements	ASCII, respond to XON, XOFF
Word Length	7 or 8 bits

Auxiliary Audio Interface

Input	–20 dBm to +10 dBm/600ohm
Output	–20 dBm to +10 dBm/600ohm
Key Line	Closure to ground

Environmental

Operating Temperature	–10˚C to +55˚C
Storage Temperature	–40˚C to +70˚C
Humidity	95% @50˚C
Elevation	15,000 feet
Vibration	MIL-STD-810D, Category I

Installation

Size	5.25H x 19W x 17.25D in (13.3H x 48.3W x 43.2D cm)
Weight	30 lb (13.6 kg)
Rack Mount	Included, standard 19-inch rack
Power Input	115/230 VAC ±15%, 47-400 Hz; 12 VDC (10-16V) (optional); 24 VDC (20-33V) (optional)
Power Dissipation	50 watts maximum

Other Products and Accessories

RF-7200A/RSK Series	Running Spares Kit
RF-7200A/SSK Series	Site Spares Kit
10122-3600	12 Volt DC Power Supply
10122-3400	24 Volt DC Power Supply

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