



Our name says it all.

APR

Asynchronous Packet Radiomodem



The cornerstone of asynchronous point-to-point and point to multi-point data communications.

FEATURES:

- 110/220 VAC or 12 VDC models available
- VHF/UHF/900 MHz available
- Store-and-forward repeater option
- Automatic error detection/correction
- CARMA collision avoidance protocol
- Built-in radio privacy algorithm for security
- RS-232 interface with buffering and flow control
- Digital I/O for SCADA and alarms
- Network protection circuitry
- FCC and DOC type accepted

Thinking phone lines are your only option? Think again. The APR series offers you dependable and affordable data-by-radio. Anytime. Anywhere.

Why should you choose an APR?

Because it offers the highest reliability at the greatest value. For some agencies or companies, there is no alternative. Phone lines may be unavailable, unreliable, or too expensive. For others, APRs can provide back-up service, continuous monitoring, and added security.

How do you choose an APR?

DATARADIO offers APRs in a variety of configurations for point and multi-point data systems. APRs range from a robust 2400 b/s to 9600 b/s for the higher capacity networks. A 4800 b/s version is also available.

The APR is available in one, three and five-port models. Your choice will depend on the application as well as the number of remote hosts your system must access.

In some communications systems, a terminal is identified with a physical port on the host computer, usually a mini-computer. For this type of system, DATARADIO offers five-port APRs that can be stacked up to four high to yield up to twenty ports interfaced to one radio. As a result, each port on the APR may be addressed to a specific unit. Existing software can be used without changes.

If you have multiple devices with different protocols, such as a data acquisition system or process control and alarm monitoring, each can have its own port and communicate with the appropriate host, all while sharing the same radio channel. Saving frequencies also saves you money.

The APR's on-board intelligence and Collision Avoidance Radio Multiple Access (CARMA) protocol also support remote configuration and diagnostics. Units in the field can be interrogated, their statistics collected and tests conducted, without going to the site and often without interrupting the application. Statistics are kept in non-volatile memory to survive power outages and will even tell you how long the unit has been running. True on-line diagnostics and remote configuration help you keep your system up longer.

Every APR has a 6-bit digital I/O port for contact closure monitoring and basic control functions, power failure, and equipment room door alarms. The 32-bit SP option adds more outputs and provides opto-isolated inputs, while retaining a serial port for high-speed communications.

What do you get with each APR?

Flexibility. Performance. Value. DATARADIO's products have been in service around the world for over 15 years. Whether your wireless data system calls for a one, three or five-port unit, you can be certain that your APR has a track record of proven reliability and long-term value.

Want to know more?

If you have a need for an extremely versatile and reliable wireless data communication device with built-in "intelligence", ask us more about our Asynchronous Packet Radiomodem.

DATARADIO APR Specifications

GENERAL

Dimensions	5.25" (H) x 13.0" (W) x 10.75" (D)
(Optional Rack Mount)	5.25" (H) x 19.0" (W) x 10.75" (D)
Weight	7 lbs. nominal
Voltage Requirements	110/220 VAC 50/60 Hz (optional 12 VDC)
Power Requirements	4 VA receive, 14 VA transmit (except 1.5 ppm)
S-5 Models	6 VA receive, 14 VA transmit

Environmental	-30 to +60°C non-condensing
Antenna Connector(s)	Female type N 50 ohms

USER DATA I/O

Serial Interface	EIA RS-233, DB-25 female, async DCE
Options	3 or 5 serial ports, or 32-bit digital I/O
Baud Rates	2400-9600 b/s
Data Format	7/8 bits, even/odd/no parity, 1/2 stop
Handshake	DTR/CTS and Xon/Xoff (selectable)
Digital I/O	6 bits TTL in, open-collector out

NETWORK DATA I/O

Bit Rate	2400, 4800, 9600 b/s
Communication Mode	Serial synchronous (on radio channel)
Modulation Type	2400: FFSM or MSK 4800/9600: DGMSK or Bipolar
Error Detection/Correction	16 bit CRC/positive acknowledgement
Addressability	255 stations
Undetected BER	1×10^{11} for nominal signal -107 dBm

RADIO

Emission Type	16F9 (for both 4800 and 9600 models)
Frequency of Operation	150-174, 403-430, 450-512, 928-960 MHz

TRANSMITTER

Power Output	2 watts
Stability	5 ppm (1.5 ppm optional on 928-960 MHz)
FM Hum and Noise	-50 dB maximum

Spurious and Harmonic Output	-50 dBc maximum
Attack Time	2 milliseconds

RECEIVER SECTION

Sensitivity	0.35 μ V for 12 dB SINAD with de-emphasis per EIA 316-B (0.5 μ V 928-960 MHz)
Stability	10 ppm (5 ppm on 928-960 MHz)
Intermodulation	-18 dBm typical 3rd order intercept (-24 dBm on 928-960 MHz)
I.F. Selectivity	60 dB (25 kHz bandwidth)
Turnaround Time	4 milliseconds

DIGITAL I/O

Rear Panel	DB-15M Connector 6 bits input TTL compatible CMOS (dry contacts) 6 bits output open collector (25 V DC, 30 mA)
Modes	Transmit on change or on request

FRONT PANEL CONTROLS AND INDICATORS

Reset/ Programmed Function	Momentary contact push button with audible alert
Network/Indicators	Transmit data/receive data/carrier sense
Operation LED Indicator	Check (flashing)
Alarm LED Indicators	Unit failure/link failure/remote minor/ local minor
RS-232 LEDs	5 switchable to monitor each port individually or to show overall port activity

Dataradio Inc. 5500 Royalmount Avenue, Suite 200, Town of Mount Royal, Quebec H4P 1H7
(514) 737-0020 Fax (514) 737-7883