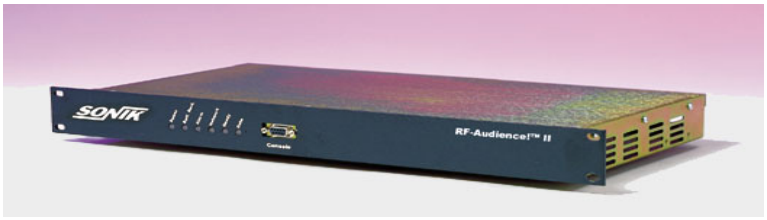
SONIK
MESSAGING SYSTEMS

RF AUDIENCE II
ReFLEX25™ Paging Infrastructure Receiver System



The *RF Audience II* ReFlex25 Infrastructure Receiver is a joint development effort between SONIK, MobileComm, and Motorola's Paging Infrastructure Division. It is now available for the first time directly from the manufacturer – SONIK Messaging Systems. It has undergone extensive performance and quality tests by Motorola (test data is available).

The *RF Audience II* offers the paging industry the first real breakthrough in the performance and economy of ReFLEX25 systems. Utilizing the latest in DSP technology and new ***XS*** algorithms, the *RF Audience II* offers the most sensitive ReFLEX25 receiving system on the market. In addition, the *RF Audience II* offers paging operators the most comprehensive feature set of network management and built-in test functions.

The *RF Audience II* is actually three receivers in one. Two high sensitivity receivers are used in a diversity combination to provide excellent weak signal reception of signals from subscribers. The third receiver monitors the forward (outbound) channel. Forward channel information is used to extract synchronization time and frequency lock as well as monitor the health of the forward transmitter. This eliminates the need for a separate GPS receiver at remote standalone installations! A separate GPS port is available for synchronization at sites which currently have co-located GPS units.

A wide range of network management tools gives paging carriers the information they need to efficiently monitor the health of their system. Standard interfaces include a 10base2 Ethernet LAN port and a PPP connection. System maintenance and diagnostics are available using the front panel serial port, Telnet via LAN, or PPP via the serial port.

The *RF Audience II* has the most extensive array of diagnostic and alarm capabilities in the industry. Supervision and control of the system utilizes the Simple Network Management Protocol (SNMP). Comprehensive system diagnostics include an error log, statistics history, noise monitoring, BER measurements and a built-in test function. The *RF Audience II* also includes extensive alarm capabilities including external alarms which report back to the network.

The *RF Audience II* is mounted in a 1U high 19 inch rack chassis and is designed to operate over a temperature range of -30^{o} to $+60^{o}$ C. Operating power is 20-31 VDC and

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the maximum operating current is only 660 mA, allowing back-up battery and solar powered operation. An external battery connector with auto changeover is provided for use with an external battery.

FEATURES

- **Breakthrough in performance and economy**
- **Most sensitive ReFLEX25 Infrastructure Receiver on the market**
- **Advanced statistics, alarms, and network management tools**
- **Three receivers in one – two inbound receivers operating in dual diversity plus forward channel sync receiver**
- **Comprehensive diagnostic and self test features**
- **Synchronizes from either forward channel or GPS**
- **LAN, PPP and local serial port connections**
- **SNMP Management Control**

SPECIFICATIONS

IN-BOUND RECEIVERS (Two)

Frequency Range	895-902 MHz
Modulation	Per ReFELX25 specification
Off-channel Acceptance	± 500 Hz
Center Frequency resolution	6.25 kHz, Synthesized
Channel Spacing	12.5 kHz
Typical Sensitivity (90% packet throughput @ 25°C with diversity)	-133 to -135 dBm @ 800 bps -131 to -133 dBm @ 1600 bps
Adjacent Channel Rejection (Selectivity)	70 dB
Spurious Rejection	90 dB
Image Rejection	90 dB (with external preselector)
Intermod Rejection	80 dB (>100 kHz)
Maximum RF Input	-20 dBm (no damage @ +10 dBm)
Frequency Stability (Locked to Forward Channel or GPS)	0.2 ppm over operating temperature range
Data Rate	Programmable 800/1600 bps
Error Correction	Reed-Soloman decoding for sensitivity enhancement
RF Connectors	50 Ohm Type “N”

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OUT-BOUND RECEIVER

Frequency Range	928-941 MHz
Modulation	per ReFlex25 protocol
Center Frequency Resolution	6.25 kHz, Synthesized
Channel Spacing	12.5 kHz
Off Channel Acceptance	± 500 Hz, maximum
Sensitivity (Minimum for forward channel Sync)	-100 dBm
Adjacent Channel Rejection (Selectivity)	60 dB adjacent, 70dB alternate
Spurious Rejection	70 dB
Image Rejection	70 dB
Intermodulation Rejection	70 dB (> than alternate channel)
Maximum RF Input	0 dBm (No damage @ +15 dBm)
RF Connector	50 Ohm, Type BNC

INTERFACES & PROTOCOLS

Network	10Base2, TCP/IP and pPP RS-232
Local terminal	RS-232, 1200 bps to 115.2 Kbps, 8/N/1
Air Interface	Motorola ReFLEX25
Application Layer	Inbound Paging Protocol (IPP), SNMP v1, TELNET

GENERAL SPECIFICATIONS

Operating temperature	-30^{o} to $+60^{o}$ C
Storage Temperature	-40^{o} to $+85^{o}$ C
Size	19 Inch Rack, 1U (3.5 in) High, 11 in (279mm) deep
Weight	9.5 lbs (4.3 Kg)
Input Power	20 to 31 VDC
DC Current	660 mA max
Back-up Battery	Auto switchover for external 24 VDC Battery (not supplied)
Regulatory Compliance	Compliant with FCC Part 15 for receivers and Class B computing devices

Note: requires external pre-selector for proper operation

Specifications subject to change without notice

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