

IP Series Mobile Radios



IP 700/800 MHz Mobile Radio



The IP Series mobile digital transceivers are intelligent mobile radios designed for the challenging requirements of mobile data and voice applications. Mounted in vehicles, intelligent devices may connect to the serial port or Ethernet port for connectivity back to the Internet Protocol Network Controller (IPNC) and other servers (CAD, message switch, records servers, LAN, etc.). The IP Series mobile radios provide the mobile link to land-based wired networks. Radios may be programmed to public safety 800 MHz bands, and/or 700 MHz bands.

These mobile radios utilize a high-performance, four-level Frequency-Shift Keying (FSK) wireless data modem for 32 kbps operation, and sixteen-level FSK for 64 kbps in 25 kHz channels. A multi-layered approach is taken to maximize signal reliability including patented multi-receiver Intelligent Diversity Reception™, data scrambling, data interleaving, Forward Error Correction (FEC), and Viterbi soft-decision algorithms. The result is up to 20 dB performance improvement over competing products in low signal-to-noise environments. These unique features assure very high message success rates, even while transferring large blocks of data in a moving vehicle.

The IP 700/800 Series digital radios can automatically switch between 800 MHz public safety band frequencies and 700 MHz frequencies. They also feature a low-power consumption, high performance integrated GPS receiver.

Features

- Multi-patented, dual receiver, Intelligent Diversity Reception System™
- Native, end-to-end IP (no middleware)
- Ruggedized for public safety
- Multi-channel, multi-site intelligent roaming
- Supports up to 50 channels
- Over-the-air programming
- Forward Error Correction (FEC)
- Data interleaving for burst error protection
- Ultra high stability
- Serial Line Internet Protocol (SLIP) interface or 10 Base T Ethernet interface
- Digital Phase Lock Loop (PLL) frequency synthesizer
- Fast radio transmit attack time (less than 5 ms)
- Two (2) extremely sensitive, high overload, FM receivers
- Integrated Global Position System (GPS) receiver



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PARAMETER	SPECIFICATION
Frequency range TX	700 MHz (794-806) 800 MHz (806-823)
Frequency range RX	700 MHz (764-776) 800 MHz (851-869)
TX/RX Frequency separation	30 MHz @ 700 MHz 45 MHz @ 800 MHz
Channel spacing	25 or 50 kHz, software controlled
Receiver type	Dual receiver, dual conversion superheterodyne architecture for 25 kHz
Data rate	32 kbps, firmware upgradeable to 64 kbps in 25 kHz
Sensitivity	12 dB SINAD @ -116 dBm with a 1 kHz test tone @ +/- 2/3 rated maximum deviation
Distortion	Less than 3.0% with a 1 kHz test tone @ +/- 2/3 rated maximum deviation
Operating temperature	-30 to +60 degrees Celsius
Power supply voltage	13.6 +/- 15%
Current consumption TX	<10 amps, typical
Current consumption RX	<.75 amps, typical
Number of channels	50
Shock/Vibration	Per TIA/EIA-603-A
RF Output power	25 Watts (+/- 1 dB) @ 700 MHz 20 Watts (+/- 1 dB) @ 800 MHz
Transmitter attack time	Less than 5.0 milliseconds
Modulation	4 to 16 level FSK

Specifications are subject to change.