

IP Series Mobile Radios



IP Series D25 Mobiles

**700 and/or 800 MHz
32/64 Kbps**



The IP Series 32-D25 and 64-D25 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, or 700 MHz bands. The dual band 700/800 MHz radio can be programmed for 700 MHz channels and 800 MHz channels, allowing agencies to eventually migrate to 700 MHz frequencies without replacing mobile hardware.

These mobile radios utilize a high-performance, four level Frequency-Shift Keying (FSK) wireless data modem for 32 kbps operation, and between four and sixteen-level FSK for up to 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 data in a fast moving vehicle.

Features

- Multi-patented, dual receiver, Intelligent Diversity Reception System™
- Dual band 700/800 MHz radios available
- 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 WAAS 12-channel Global Position System (GPS) receiver



IPMobileNet™

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IP Series D25 Mobiles, 700 and 800 MHz

GENERAL SPECIFICATIONS

PARAMETER	Specification, 700 MHz	Specification, 800 MHz	Specification, 700/800 MHz Dual Band Radio
frequency range	TX: 794-806 MHz RX: 764-776 MHz	TX: 806-823 MHz RX: 851-869 MHz	TX: 794-823 MHz TX RX: 764-776, and 851-869 MHz
IPSeries32-D25	25.0 kHz / 32 kbps – firmware upgradeable to variable 32/48/64 kbps	25.0 kHz / 32 kbps – firmware upgradeable to variable 32/48/64 kbps	25.0 kHz / 32 kbps – firmware upgradeable to variable 32/48/64 kbps
IPSeries64-D25	25.0 kHz / variable 32/48/64 kbps	25.0 kHz / variable 32/48/64 kbps	25.0 kHz / variable 32/48/64 kbps
mode of operation	half-duplex, diversity reception	half-duplex, diversity reception	half-duplex, diversity reception
operating temperature range	-30C to +60C (-22F to +140F)	-30C to +60C (-22F to +140F)	-30C to +60C (-22F to +140F)
power supply voltage	13.8 VDC +/-20%	13.8 VDC +/-20%	13.8 VDC +/-20%
power supply	<0.75 amps receive, typical	<0.75 amps receive, typical	<0.75 amps receive, typical
current consumption	<10 amps transmit, typical	<10 amps transmit, typical	<10 amps transmit, typical
number of channels	50	50	50
intelligent diversity reception	dual receiver, dual conversion superheterodyne architecture	dual receiver, dual conversion superheterodyne architecture	dual receiver, dual conversion superheterodyne architecture
antenna connections	two (2) type "N" jacks (tx/rx1, rx2)	two (2) type "N" jacks (tx/rx1, rx2)	two (2) type "N" jacks (tx/rx1, rx2)
interface connection	RS232 serial port connector or RJ45 Ethernet 10 Base T	RS232 serial port connector or RJ45 Ethernet 10 Base T	RS232 serial port connector or RJ45 Ethernet 10 Base T
Dimensions (HxWxD / lbs)	3" X 6.5" X 10" / 5.5 lbs	3" X 6.5" X 10" / 5.5 lbs	3" X 6.5" X 10" / 5.5 lbs
regulatory	FCC Part 90 and Part 15	FCC Part 90 and Part 15	FCC Part 90 and Part 15
emission designator	20K0F1D	20K0F1D	20K0F1D
transmit power	25 watts (+/- 1 dB)	20 watts (+/- 1 dB)	20 watts (+/- 1 dB) @ 800 MHz band 25 watts (+/- 1 dB) @ 700 MHz band
transmit attack time	less than 5 ms	less than 5 ms	less than 5 ms
sensitivity	12.0 dB SINAD@ -116 dBm with a 1.0 kHz test tone @ +/- 2/3 rated maximum deviation	12.0 dB SINAD@ -116 dBm with a 1.0 kHz test tone @ +/- 2/3 rated maximum deviation	12.0 dB SINAD@ -116 dBm with a 1.0 kHz test tone @ +/- 2/3 rated maximum deviation
distortion	less than 3% with a 1.0 kHz test tone @ +/- 2/3 rated maximum deviation	less than 3% with a 1.0 kHz test tone @ +/- 2/3 rated maximum deviation	less than 3% with a 1.0 kHz test tone @ +/- 2/3 rated maximum deviation
shock / vibration	per TIA/EIA-603-A	per TIA/EIA-603-A	per TIA/EIA-603-A
modulation	4 level FSK @ 32Kbps only. 4, 8 or 16 level FSK @ variable 64 Kbps operation	4 level FSK @ 32Kbps only. 4, 8 or 16 level FSK @ variable 64 Kbps operation	4 level FSK @ 32Kbps only. 4, 8 or 16 level FSK @ variable 64 Kbps operation

GPS RECEIVER SPECIFICATIONS

general	12 channel WAAS
protocols	NMEA, UBX binary

Specifications are subject to change.