

# IP Series Base Station



## IP100/400/800 Base Stations



## Features

- Patented, triple-receiver, Intelligent Diversity Reception™ system with three (3) independent, high-performance, low-noise FM receivers
- Internal four-level frequency shift keying (FSK) modem (32000 bps or 19200 bps) for 25 kHz channel spacing
- Forward Error Correction (FEC)
- Data Interleaving for burst error protection
- High-speed Serial or Ethernet Port
- Collision-tolerant radio modems
- Full-duplex, continuous-duty operation
- Two (2) independent digital Phase Lock Loop (PLL) frequency synthesizers
- Broadband operation by design
- Rugged construction, compact size (one rack unit), modular design
- Fast transmit attack time
- Adjustable RF output power

State-of-the-art base station designed specifically for the stringent requirements of mobile data communication systems. The base station utilizes a multi-layered approach to signaling reliability, including Intelligent Diversity Reception™, dynamic scrambling, data interleaving, Forward Error Correction (FEC), Viterbi soft-decision algorithms, and more to ensure messages are received error-free. The IP Series base station requires very little room at crowded tower sites. The one rack unit (ru) base station may be installed in existing racks, or assembled into its own rack.



### Corporate Offices

16842 Von Karman Avenue, Suite 200  
Irvine, California 92606  
Voice: (949) 417-4590 Fax: (949) 417-4591

### Web Site

[www.ipmn.com](http://www.ipmn.com)



# IP Series Base Stations

## IP100/400/800

### GENERAL SPECIFICATIONS

PARAMETER	Specification IP100	Specification IP400	Specification IP800
frequency range	135 to 175 MHz	400 to 512 MHz	806 to 869 MHz
channel spacing / speed			
IPSeries	12.5 kHz / 9.6 kbps 25.0 kHz / 19.2 kbps	12.5 kHz / 9.6 kbps 25.0 kHz / 19.2 kbps	12.5 kHz / 9.6 kbps 25.0 kHz / 19.2 kbps
IPSeries 32	12.5 kHz / 16 kbps 25.0 kHz / 32 kbps	12.5 kHz / 16 kbps 25.0 kHz / 32 kbps	12.5 kHz / 16 kbps 25.0 kHz / 32 kbps
mode of operation	full-duplex, diversity reception	full-duplex, diversity reception	full-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	<1 amp receive	<1 amp receive	<1 amp receive
current consumption	16 amps transmit	13 amps transmit	8 amps transmit
number of channels	1	1	1
intelligent diversity reception	triple receiver, diversity reception	triple receiver, diversity reception	triple receiver, diversity reception
antenna connections	four (4) type N jacks (tx, rx1, rx2, rx3)	four (4) type N jacks (tx, rx1, rx2, rx3)	four (4) type N jacks (tx, rx1, rx2, rx3)
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)	1.75" X 19" X 8.2" / 9.5 lbs	1.75" X 19" X 8.2" / 9.5 lbs	1.75" X 19" X 8.2" / 9.5 lbs
regulatory	FCC Part 90 and Part 15	FCC Part 90 and Part 15	FCC Part 90 and Part 15

### IP TRANSMITTER SPECIFICATIONS

PARAMETER	Specification IP100	Specification IP400	Specification IP800
frequency stability	+/- 2.4 ppm @ operating temp	+/- 1.5 ppm @ operating temp	+/- 1.0 ppm @ operating temp
emission designator	20K0F1D	20K0F1D	20K0F1D
spurious and harmonic	-61 dBc maximum	-59 dBc maximum	-56 dBc maximum
transmit power	60 watts	40 watts	20 watts
transmit attack time	less than 5 ms	less than 5 ms	less than 5 ms

### IP RECEIVER SPECIFICATIONS

PARAMETER	Specification IP100	Specification IP400	Specification IP800
sensitivity (voice)	12.0 dB SINAD@ -119 dB max level	12.0 dB SINAD@ -118dB max level	12.0 dB SINAD@ -118dB max level
distortion	less than 3% @ 5.0 kHz	less than 3% @ 5.0 kHz	less than 3% @ 5.0 kHz
spurious response	-85 dBm minimum	-85 dBm minimum	-85 dBm minimum
intermodulation distortion	-75 dB maximum	-75 dB maximum	-75 dB maximum