

PARAGONPD+ DATA BASE STATION

VHF, 220, UHF, 800 MHz, 900 MHz



The Dataradio ParagonPD+ with Parallel Decode®[PD]¹ is an integrated industrial-grade base station designed for use with Gemini with Parallel Decode mobile radio modem. This system delivers high-speed data performance at up to 43.2 Kbps in full-channels, 22 Kbps in half-channels or 24 Kbps in NPSPAC and 900 MHz channels.

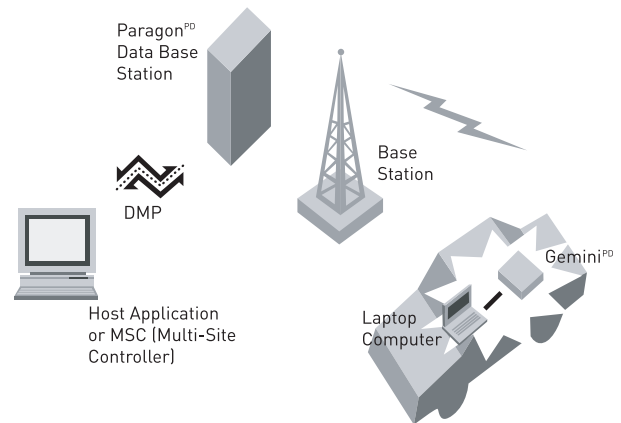
ParagonPD+ includes a powerful controller CPU with improved maintenance features and a modular design. Dataradio's advanced DSP Parallel Decode modem offers improved decode sensitivity and fewer retransmissions resulting in faster response times and greater channel capacity.

The units are supplied in a configuration that includes a ParagonPD+ RF assembly and a high-speed Dataradio BDLC (Base station Data Link Controller) with three ports. Duplexer, wireline modem(s) and backup power units are optional.

FEATURES

- Parallel Decode (PD) technology featuring dual receivers for added data decode sensitivity
- Supports IP network connections
- Up to 43.2 Kbps network data rate with DSP modem
- Supports high efficiency DBA over-the-air protocol
- Modular design featuring field-swappable RF modules with on-board calibration memory
- FLASH-memory for downloadable configuration data, CPU firmware and DSP modem
- New controller CPU with expanded memory; improved test/maintenance features and 4x more DSP memory
- Factory configured and programmed
- Two-year limited factory warranty

SYSTEM DIAGRAM



¹Parallel Decode (PD)patent number: 6,853,694 B1

Dataradio Corp. 6160 Peachtree Dunwoody Road, Suite C-200, Atlanta, Georgia 30328 Tel: (770) 392-0002 Fax: (770) 392-9199

Dataradio Inc. 5500 Royalmount Avenue, Suite 200, Montreal, Quebec, Canada H4P 1H7 Tel: +1 (514) 737-0020 Fax: +1 (514) 737-7883 Visit us on the web at www.dataradio.com

PARAGONPD+ SPECIFICATIONS

ParagonPD+ base stations are supplied "system ready" with a Dataradio BDLC (Base station Data Link Controller) and optional duplexer, wireline modem, and backup power supply per Dataradio system design. All ParagonPD+ models meet FCC and Industry Canada regulations.

GENERAL

Frequency Range (MHz)	136-156, 148-174, 216-225	400-440 , 440-480, 480-520	800-870	860-960
Cabinet Size	22.06" W x 75.82" H (without leveling feet) x 27.06" D			
RF/Modem Assembly Size	19.0" W x 14.0" H x 12.5" D +2.0" connector allowance			
Frequency Stability	2.5 ppm	1.0 ppm	1.0 ppm	
Operating Voltage/ Current Consumption	120 V AC /6 A max, 60 Hz			
Tx Current Consumption	20 A DC max@13.8 V DC	24 A DC max@13.8 V DC	28 A DC max@13.8 V DC	
Channel Bandwidth	12.5 KHz or 25 KHz			
Operating Temp. Range	-22°F to +140°F / -30°C to +60°C			

RECEIVER

Selectivity (Typical)	@ 25 KHz	95 dB	90 dB	88 dB
	@ 12.5 KHz	89 dB	85 dB	80 dB
Spurious Response	100 dB			
Intermodulation (Typical)	- EIA 25 KHz	85 dB	85 dB	80 dB
	- ETS300-096 12.5 KHz	80 dB	80 dB	75 dB
Spurious Emissions - conducted	-90 dBm to 4 GHz			
Rx Sensitivity for 1 % (PER) Packet Error Rate with Parallel Decode, at carrier frequency	VHF (Full Channel)	UHF (Half Channel)	800 MHz (Full Channel)	800 MHz & 900 MHz (NPSAC Channel)
	-113 dBm @ 19.2 Kbps	-109 dBm @ 16 Kbps	-113 dBm @ 19.2 Kbps	-108 dBm @ 19.2Kbps
	-110 dBm @ 25.6 Kbps	-112 dBm @ 14.4 Kbps	-109 dBm @ 25.6 Kbps	-112 dBm @ 16 Kbps
	-107 dBm @ 32 Kbps		-108 dBm @ 32 Kbps	
	-106 dBm @ 43.2 Kbps	-108 dBm @ 21.6 Kbps	-107 dBm @ 43.2 Kbps	-112 dBm @ 24 Kbps

TRANSMITTER

Rated Continuous RF Power	100 W	70 W	100 W
Range of Adjustment	20 -100 W	20-70 W	65-100 W
Spurious Emissions	-36 dBm to 1GHz/-30 dBm to 4 GHz		
	-57 dBm to 1GHz/-47 dBm to 4 GHz		
Hum and Noise	- narrow	-50 dB	-45 dB
	- wide	-55 dB	-50 dB
VSWR Stability	5:1 mismatch		
Transmitter Sideband Noise	@ 25 KHz	-95 dBc	-88 dBc
	@ 12.5 KHz	-105 dBc	-100 dBc