

PARAGON^{PD+} DATA BASE STATION

VHF, 220, UHF, 800 MHz, 900 MHz



The Dataradio Paragon^{PD+} is an integrated industrial-grade base station. Together with Dataradio's Gemini^{PD+} mobile radio modem, the system delivers high-speed data performance at up to 43.2 Kbps in full channels, 22 Kbps in half (refarmed) channels or 24 Kbps in NPSPAC, and 900 MHz channels.

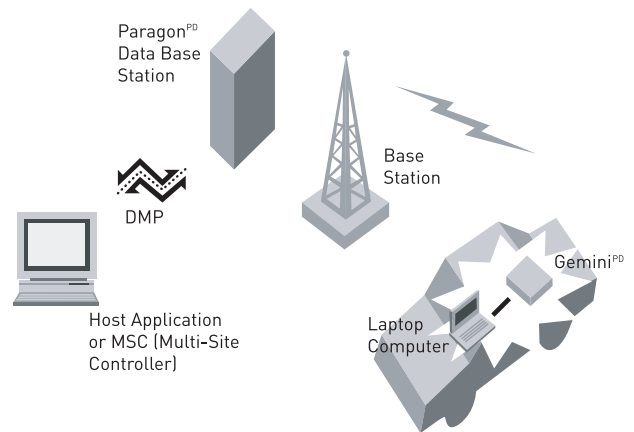
Paragon^{PD+} includes a powerful controller CPU with improved maintenance features and a modular design. Dataradio's advanced DSP Parallel Decode modem (patent pending) offers improved decode sensitivity and fewer retransmissions, resulting in faster response times and greater channel capacity.

The units are supplied in a configuration that includes a Paragon^{PD+} 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



PARAGON^{PD+} SPECIFICATIONS

Paragon^{PD+} 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 models of Paragon^{PD+} 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	UHF (Full Channel)	UHF (Half Channel)	800 MHz (Full Channel)	800 MHz & 900 MHz (NPSPAC 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	- transmit			
	-36 dBm to 1GHz/-30 dBm to 4 GHz			
Hum and Noise	- standby			
	-57 dBm to 1GHz/-47 dBm to 4 GHz			
- narrow	-50 dB	-45 dB		
	-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	