



## Paragon 4<sup>™</sup> Base Station Controller for Private Networks

The Paragon Base Station delivers optimum data rates while balancing coverage and capacity. Based on open IP architecture, each Paragon controller is equipped with a standard IP router, dual Ethernet 10/100BaseT interfaces and AES 128-bit encryption to ensure system data is transferred securely.

To make the most efficient use of bandwidth, the Paragon utilizes "stateless" data compression and protocol reduction to compresses both UDP and TCP packets transparently with minimal effort. Interoperability is easily accomplished using any IP v4 compliant application. The modem control unit is capable of handling over 900 million instructions per second, giving you the capacity and the flexibility to expand your system to include other agencies based in or around your community.

The Paragon 4 can be completely reprogrammed remotely through your LAN and backhaul lines and network maintenance can be carried out from a single location with no need to visit each site. A real-time operating system and flash file system make upgrades seamless and hassle free. Add an optional Network Management system and take full advantage of both offline and online diagnostics.

The Paragon 4 comes with a one-year warranty. Extended warranty plans are available.

### Key Benefits

- Uses standard IP technology so no proprietary network infrastructure is required
- Remote RF network management reduces costly site visits
- Parallel Decode eliminates multi-path fading and substantially boosts network performance
- Field swappable auto-configuring modular design for faster turnaround time during repair
- Fully integrated configuration significantly decreases setup time
- AES 128-bit data encryption for additional cyber security for the data and the network
- Software configurable multi-bandwidth transceiver means fewer models are required

High Speed

Long Range

Ruggedized

Safe/Secure

Diversity

Connectivity

# Paragon 4 Specifications



RADIO	UHF		700MHz			800MHz	
	25 kHz	12.5 kHz	50 kHz	25 kHz	12.5 kHz	25 kHz	NPS PAC
Receiver Sensitivity (For 1% Packet Error Rate with Parallel Decode at carrier frequency)			-96 dbm @ 128 kbps				
			-102 dbm @ 96 kbps				
	-98 dbm @ 64 kbps		-107 dbm @ 64 kbps	-96 dbm @ 64 kbps		-96 dbm @ 64 kbps	
	-104 dbm @ 48 kbps			-103 dbm @ 48 kbps		-102 dbm @ 48 kbps	
	-107 dbm @ 43.2 kbps			-105 dbm @ 43.2 kbps		-105 dbm @ 43.2 kbps	
	-110 dbm @ 32 kbps	-101 dbm @ 32 kbps		-110 dbm @ 32 kbps	-99 dbm @ 32 kbps	-109 dbm @ 32 kbps	-105 dbm @ 32 kbps
	-107 dbm @ 24 kbps			-104 dbm @ 24 kbps		-111 dbm @ 24 kbps	
	-112 dbm @ 16 kbps			-110 dbm @ 16 kbps		-115 dbm @ 16 kbps	
Selectivity	>85 dB	>67 dB	>87 dB	>85 dB	>67 dB	>85 dB	>85 dB
Spurious Response Rejection	100 dB (Typical)						
Intermodulation Rejection	>83 dB	>80 dB	>83 dB	>83 dB	>80 dB	>83 dB	>83 dB
Receiver Frequency range	403 - 512 MHz		FCC: 787 - 788, 793 - 805 MHz ~ IC: 794 - 806 MHz			806 - 824 MHz	
Transmitter Frequency range	403 - 512 MHz		FCC: 757 - 758, 763 - 775 MHz ~ IC: 764 - 766 MHz			851 - 869 MHz	
Power Output (user adjustable)	40-100 W		35-70 W			35-70 W	
Spurious Emissions	Transmit: <-36 dBm to 1 GHz, <-30 dBm to 3.2GHz Standby: <-57 dBm to 1 GHz, <-47 dBm to 3.2GHz						
VSWR Stability	> 5:1 mismatch						
Approvals	UHF 403-512MHz (Pending)		700 MHz (Pending)			800 MHz EOTBDP4-EXT8	

## Frequency Increment

6.25 kHz

## Mode of Operation

Full Duplex, 100% Duty Cycle

## Supported Protocols

Dataradio Proprietary E-DBA with OOB AAVL Support  
 Ethernet/IP (Any protocol running over IP such as ICMP, IGMP, TCP, UDP, SNMP, etc.)  
 IP Fragmentation  
 ARP  
 IP Directed Broadcast  
 IP Limited Broadcast  
 IP Multicast Relay  
 DHCP Client and Server  
 NAT  
 RIP v2

## Data Encryption

AES 128-bit

## Network Management

HTTP embedded web server for setup and help, SNMP

## Operating Temperature

-22 to +140oF; -30 to +60oC

## Storage Temperature

-40 to +158oF; -40 to +70oC

## Ethernet Host

Dual RJ-45  
 Auto MDIX 10/100 BaseT

## Serial Interface

Dual EIA-232F DE9 Female DCE (300-115,200 bps)

## Supply Voltage

120 VAC (6 A Max., 60 Hz)

## LEDS Display

PWR, RX, TX, Status, Eth0, Eth1

## Cabinet Size

22.06 W x 75.82 H x 27.06 D inches  
 56.03 W x 192.58 H x 68.73 D cm

## Chassis

Aluminum shelf, steel rack cabinet

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