

PARAGON 3™

Base Station Controller

UHF 64 kbps 25 kHz

700 MHz 128 kbps 50 kHz

800 MHz 64 kbps 25 kHz



WIDEBAND DATA ADAPTABLE TO YOUR NEEDS! The Paragon 3 Base Station gets the most from your network in terms of both speed and coverage delivering 128 kbps in a 50 kHz wideband channel for 700 MHz, 64 kbps for 800 MHz and 64 kbps over UHF frequencies in 25 kHz channels. With the new Paragon3 base station, you can choose between top speeds for high urban areas and have good coverage, or mid-range kbps for suburban areas and get great coverage, or normal speeds for rural areas and have outstanding coverage from your Base Station controller. Network administrators using GeminiG3 mobiles will be amazed at how they can adapt the speeds of their Base Station controllers based on the needs of the area. Within their network, GeminiG3 mobiles automatically adapt to the speed of the Base Station controller encountered. Adjustments are made completely automatic when roaming from high to low-density areas, and vice versa.

NO PROPRIETARY NETWORK INFRASTRUCTURE REQUIRED The Paragon 3 Base Station provides an open architecture that makes the task of implementing the Base Station controller much easier than in the past. Each Base Station controller comes equipped with a built-in standard IP router with dual Ethernet 10/100 BaseT interfaces, replacing the need for proprietary controllers and equipment. Add a second router anywhere within your network if you need a fault tolerant network.

REMOTELY MANAGE YOUR RF NETWORK The Paragon 3 Base Station can be completely reprogrammed remotely through your LAN and backhaul lines. Most of your network maintenance can be carried out from a single location - no need to actually visit each location to make changes. A real-time operating system and flash file system make upgrading seamless and hassle free.

Adding an optional Network Management system lets you take full advantage of both offline and online diagnostics - available in the built-in Base Station Monitor, which provides both performance and health status network information.

INCREASE NETWORK ACCESSIBILITY Dataradio's patented Parallel Decode® technology uses a space-diversity, smart combining receiver system to virtually eliminate multi-path fading problems. With Parallel Decode technology, network administrators will notice an increase in RF network performance by a minimum of 10 dB, which is equivalent to increasing the output power of your mobile unit by a factor of 10 - no need to add 15-20 dB fade margin to ensure adequate coverage. The end result is a significant boost in your wireless network performance and double the effective wireless network coverage area.

INTEROPERATION OR INTEROPERABILITY Interoperation and interoperability can be accomplished using any application that is IP v4 compliant. It simply plugs right in! The modular design of the Paragon 3 Base Station gives you the flexibility to expand your system to include other public safety agencies based within your community or with surrounding communities. Due to very tight control of the Paragon 3 Base Station's transmitted signal, unbound network expansion can be accomplished using only four channels.

NETWORK SECURITY The Paragon 3 Base Station utilizes AES 128-bit encryption to ensure system data is transferred securely over-the-air to keep mission-critical information safe from unwanted intrusion.

GET THE MOST OF YOUR AVAILABLE BANDWIDTH To help make the most efficient use of your available bandwidth, the Paragon 3 Base Station utilizes "stateless" data compression and protocol reduction. Why 'stateless' data compression? Stateless data compression can compress both UDP and TCP packets transparently and with minimal effort. The gains are often enough to support bandwidth intensive applications.

The Paragon 3 Base Station modem control unit features our most powerful modem ever - capable of handling over 900 million instructions per second. With 16 megabytes of flash memory and plenty of horsepower to spare, you'll get a unit that can grow as your future needs grow.

PARAGON 3 BASE STATION SPECIFICATIONS

GENERAL	UHF	700 MHZ	800 MHZ
Frequency Range (MHz)	403-512 Rx/Tx	762-773 Tx, 792-803 Rx	851-869 Tx, 806-824 Rx
Emission Designators	16K0F1D (all data rates)	30K0F1D (all data rates)	13K7F1D (64, 48 kbps) 16K0F1D (32 kbps)
Regulatory Designators	FCC Part 90 / IC RSS-119	FCC Part 27, 90	FCC Part 90 / IC RSS-119
FCC ID	EOTBDD4T85-2	EOTBDP3-AMP	EOTBDD4T889
IC ID	773A-BDD4T85		773A-BDD4T88
Mode of Operation	Full-duplex, 100% duty cycle		
Cabinet Size	22.06" W x 75.82" H (without leveling feet) x 27.06" D		
Power Supply	120 VAC / 6 A max, 60 Hz		
Operating Temperature Range	-22° F to +140° F / -30° C to +60° C		

MODEM / NETWORK

User Interface	Dual Ethernet RJ45 Auto MDIX 10-100/T with LED status indicators Dual RS-232 DB-9F Serial Ports configured as Terminal Servers, USB Port (future use)		
Addressability	Native TCP/IP		
Data Encryption	AES 128-bit		
Data Rate	64, 48 or 32 kbps	128, 96 or 64 kbps	64, 48 or 32 kbps
Protocols	Dataradio Proprietary E-DBA with OOB AAVL support Ethernet IEEE 802.3, (ICMP, IGMP, TCP, UDP) IP Fragmentation, Address Resolution Protocol (ARP) IP directed broadcast, IP limited broadcast, IP multicast relay DHCP client and server, Network Address Translation (NAT), Dynamic Routing (RIPv2)		

RADIO

Rx Sensitivity (for 1% Packet Error Rate [PER] with Parallel Decode at carrier frequency)	-98 dBm @ 64 kbps -104 dBm @ 48 kbps -108 dBm @ 43.2 kbps -110 dBm @ 32 kbps	-94 dBm @ 128 kbps -100 dBm @ 96 kbps -106 dBm @ 64 kbps	-95 dBm @ 64 kbps -101 dBm @ 48 kbps -105 dBm @ 43.2 kbps -107 dBm @ 32 kbps
Channel Spacing	25 kHz	50 kHz	25 kHz
Receiver Frequency Range (MHz)	403 - 512	792 - 794, 796 - 803	806 - 824
Transmitter Frequency Range (MHz)	403 - 512	762 - 764, 766 - 773	851 - 869
Power Output	20 - 100 W	35 - 70 W	20 - 70 W

System Diagram

