Features: Full 100Mbps Fast Ethernet Wire Speed
HTTP Web Server for Browser Graphical Interface
Static Routing Capability Standard
Complete Level III Routing Capability Available

Applications: Wireless Data Service Providers (ISPs)
Wireless Local Loop / "Last-Mile" Connection
LAN / MAN Interconnection
Hospital, University, Industrial Campus Inter-networking
Point-to-Point Connectivity
Consecutive Point-to-Point (self-healing ring)

Introduction:

Enterprise Networks' Enet100 wireless router is designed for wireless interconnection of Fast Ethernet networks over distances in excess of four miles. Operating in the unlicensed 24 GHz band, the enet100 system offers same day plug and play capability.

The Enet100 is ideal for point-to-point (PTP), consecutive PTP or mesh architecture and point-to-multipoint (PMP) applications. With sophisticated level III routing capabilities, the enet100 can drop, pass or rename traffic as desired. Additionally, the Enet100 wireless router will only pass traffic to designated wireless receiver(s) for security and resistance to intyerference.

System Overview:

Each enet100 transceiver is configured as a node on your wireless network. In the most basic configuration, two enet100 wireless routers can be connected as a point-to-point link. More nodes can be added to form a CPTP or ring network that greatly increases greater reliability with self-healing capability. Should one of the links on the ring fail, traffic can be routed the other direction with loss of service. For even greater reliability, points on the CPTP network ring can be interconnected in a mesh configuration. Not only does the mesh configuration increase reliability to tolerate more than one link failure, traffic can be dynamically re-routed over the least congested path.

Each wireless router or wireless network node has two main components; an indoor Digital Processing Unit (DPU) and an outdoor Microwave Processing Unit (MPU).

The DPU has a single Fast Ethernet connectoin that connects your wireless router to the outside world. Through the RJ-45 connector, the system is configure initially as well monitored and maintained while in operation. As Fast Ethernet data from your network is received by the Enet100 router, the DPU buffers it, adds Reed-Solomon forward error correction (FEC) and modulates the data onto an RF carrier using quadrature-amplitude modulation (QAM). The system uses modulation rates up to 128QAM with concatenated Reed-Solomon FEC for excellent bandwidth efficiency and data integrity.

Initial setup of the DPU for each specific application is performed with local computer and null Ethernet cable. This can be done on site or prior at another location. The Enet100 is menu-driven and offers virtually "plug-and-play" capabiliuty. After setting up the IP address, and aligning the antennas, the system is up and running. All access to the enet100 wireless router is via a standard web browser (Explorer, Netscape, etc.) as the GIU interface. Aside from the basic setup parameters, myriad other functions can be controlled such as QAM rate, baud rate, data payload, Reed-Solomon overhead, IP address and static IP routing tables to name a few. Optional routing protocols such as RIP1-2, OSPF, and BGP/EGP are available for additional router functionality.

After initial setup, and the unit is in service, administrators with the proper authority can access router, view performance parameters, upgrade software and make setup changes via the local network or through the Internet using the DPU's unique IP address. All software upgrades are free to Enet100 users and can be downloaded from the enet100.com website and sent directly to the DPU from a remote location.

High water marks can be set as alarms on a number of parameters. As examples, if payload falls below a specified point, the DPU can be programmed to route data through another path, or if BER exceeds a predetermined threshold, a technician is paged.

A single coaxial cable carries the transmitted signal, received signal and power between the indoor DPU and outdoor MPU. The transmit section of the MPU uses a very low-noise processor to upconvert the RF signal from the DPU to the desired microwave frequency. After upconversion the signal is filtered and amplified for transmission. The receive portion of the MPU uses low noise amplifiers to boost the received signal and then downconvert it to an RF frequency for the DPU. The MPU determines the final operating frequency and is offered in a wide range of licensed and unlicensed frequency bands from 6MHz through 38GHz.

Enterprise Networks' products represent the next generation in wireless technology. Breakthroughs in hardware, software and firmware have made it possible for the Enet100 line of wireless gear to offer extremely high performance and reliability in an inexpensive and easy to use package.

Enterprise Networks has round-the-clock parts and technical support 365 days a year. Comprehensive path calculations are provided free of charge that predict and guarantee link performance. Enterprise Networks also supplies all data, documentation and forms to license paths for immediate temporary and permanent operation.

Please call to discuss your specific application.

Digital Processing Unit

Data Interfaces	Ethernet 10/100 BaseT 802.3
Data Connector	RJ-45
Data Cable	Category 5
IF Output	800-2000 MHz
IF Input	800-2000 MHz
IF Connector	F-type
IF/ Power Cable	RG-6
AC Power In	2A @ 120 VAC
DC Power Out	5A @ 24 VDC
Enclosure	19" Rack Mount, Single Slot
Temp Range	-10 to +40 ^{0} C

Microwave Processing Unit

IF Input	800-2000 MHz
IF Output	800-2000 MHz
IF Connector	F-type
IF/ Power Cable	RG-6
Microwave Output	WR-42 Cover Flange
Microwave Frequencies	17.7 - 19.6 GHz per FCC CFR 47 part 101
Channel Bandwidth	20MHz
Enclosure	6"x8"x9" Waterproof, Cast Aluminum
DC Power	5A @ 24 VDC

General

Transmission Distances for 99.99% Reliability at 18GHz

	2' Antenna	4' Antenna	6' Antenna	8' Antenna
Dallas	4.3 mi.	6.3 mi.	7.8 mi.	8.8 mi.
Denver	7.8 mi.	13 mi.	17 mi.	22 mi.
Los Angeles	8.3 mi.	14 mi.	19 mi.	24 mi.
Miami	4.0 mi.	5.8 mi.	7.1 mi.	8.2 mi.
New York	4.8 mi.	6.8 mi.	8.3 mi.	10 mi.

This device has not yet been authorized as required by the rules of the Federal Communications Commission.
This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.

Enterprise Networks, Inc.
P.O. Box 1008
North Wales, PA 19454
TEL: 215/699-6882
FAX: 215/699-6883
www.enet100.com