



- Non-line-of-sight obstacles conquered with patented VINE technology
- Operating in the 2.4 GHz license-exempt frequency band
- Specifically designed to operate over-long distances
- Strength in point-to-multipoint networking
- Data rates from 1.5 to 11 Mbps
- Effortless installation
- Plug-and-Play, Auto-configuration and Auto-Acquire
- CIR and MBR
- Automatic Email Alarms on faults
- DHCP Client
- VLAN Support
- Web-Based graphical user interface
- Network management over the air and via Internet

EION's VIP 110-24 uses patented VINE technology as a networking solution that overcomes non-line-of-sight problems caused by challenging terrain. VINE implementation lowers the initial cost of deploying a network, using "Any point-to-Multipoint" architecture.

Networking features like CIR and MBR provide a Service Provider more flexibility to control bandwidth to users and maximize his revenue. ToS provides the ability to offer delay sensitive services such as VoIP and video.

### EFFORTLESS INSTALLATION

The VIP 110-24 was specifically designed to operate over long distances. All the electronics are enclosed in a sealed outdoor unit that is mounted in close proximity to the antenna. This outdoor unit reduces installation time and eliminates the cable loss, thereby increasing the range. For long-range links, where the antennas need to be mounted on towers and rooftops, this configuration reduces costly RF cables and improves RF system performance.

### QUALITY OF SERVICE

If your network demands allocation of bandwidth, the VINE protocol supports different levels of Quality of Service (QoS) assigned to individual radios. The network manager can assign different Committed Information Rates (CIR) and Maximum Burst Rates (MBR) for each radio, separately for the inbound and outbound directions. This allows an ISP to provide different service plans charged at different

rates. However, if the radio is not active, the committed bandwidth is not wasted, it is shared among all the other active radios.

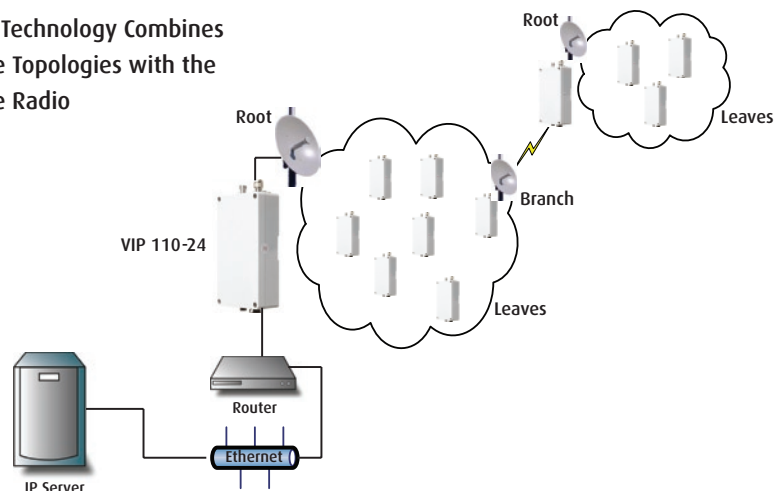
### SCALABILITY

As your network grows, any node can be promoted to become a repeater; the only requirement for a new node to be attached is to have RF connectivity to any node already in the network - a deployment strategy called anypoint-to-multipoint, since any node already in the network can become the centre of a point-to-multipoint branch. Hard to reach locations that are obstructed can easily be reached by VINE implementation into that neighbourhood.

### SELF-CONFIGURATION

The VIP 110-24 is self-configuring; at power up, it automatically determines its place in the network, finds the addresses of the hosts connected to the various LANs, and then starts routing packets appropriately.

### VINE Technology Combines Three Topologies with the Same Radio





## FLEXIBILITY

Wireless networks based on the VIP 110-24 can be deployed one node at a time without an expensive upfront infrastructure expense. Each unit can be configured to operate as the VINE root, branch or a leaf. As the number of subscribers grows, a VINE network can be scaled up in one of the two ways:

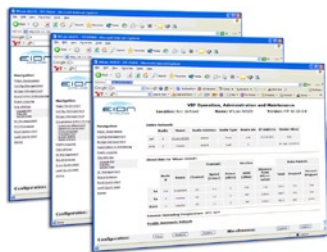
1. Use multiple radios at the root location, each feeding a separate sector antenna. Each of these radios becomes the root of a separate VINE with full capacity.
2. Break a link between the root and the remote and reconfigure that remote as the root of a new VINE ('prune' the VINE).

## CONFIGURATIONS

VIP leaves are available in 2 Mbps, 5.5 Mbps and 11 Mbps throughput configurations. Leaves are upgradeable to higher throughput speeds either locally or over the air.

## WEB-BASED GUI

The intuitive Web-Based Graphical User Interface simplifies the process of installing and configuring and monitoring your VIP network. The GUI provides all the functionality as the Command Line Interface (CLI), but in a familiar point and click web environment.



## RADIO SPECIFICATIONS

Output Power (Antenna Port)	0 to +23 dBm (FCC) Software Controllable in 1 dB
Frequency Range	2.400 to 2.483 GHz (FCC/ETSI/IC/Mexico)
Technology	DSSS
Coverage	Structured NLOS (VINE Technology)
Range	Up to 66 km (41 miles)
Cell Configuration	Omni, 1-4 sectors
Throughput (Raw/Effective)	11/8 Mbps; 5.5/4 Mbps; 2.0/1.5 Mbps
Receive Sensitivity (at 10E-6 BER)	-82 dBm at 11 Mbps -85 dBm at 5.5 Mbps -87 dBm at 2 Mbps -90 dBm at 1 Mbps
Channel Size/Separation	18 MHz / 20 MHz
Integrated Antenna	No
RF Connector	N Female (two ports)
Duplexing Format	Time Division Duplexing (TDD)
Certification	FCC, ETSI, IC, Mexico

## NETWORK SUPPORT

Network Connection	10/100 Base T - Autonegotiate
VLAN (802.1q) Compliance	Yes
CIR/MBR	Yes - per leaf basis
Bridge functionality	Yes
DHCP Client	Built-in
NTP Support	Yes, via Ethernet and RF
Network Filtering	MAC address
QoS	Yes, via ToS and VLAN tagging

## WIRELESS NETWORKING

Network Topologies	Anypoint-to-multipoint (VINE)
RF Protocol	Open standard (with patented dynamic polling)
No. of CPEs per AP	Up to 100 - based on subscriber requirements

## SECURITY

Data Scrambling	Built-in
Data Security Password	Network attachment is password protected
Configuration Security	Two- Tier Password protected

## MANAGEMENT

Remote Management	Ethernet via Telnet or Web-Based GUI
Remote Management Access	From the wired LAN or from the wireless link
Alert Notification	via E-mail
Configuration	Automatic using script files
Local Management Port	Yes, via serial
Software Upgrade	Local or over the air (FTP or Web Download)

## PHYSICAL, ELECTRICAL AND ENVIRONMENTAL

Power Consumption	5 W average
Input Voltage	10 to 28 volts DC/110-220 VAC 50 - 60 Hz (external supply)
Dimensions	12 x 22 x 5.1 cm (4.72" x 8.66" x 2.0")
Weight	1.1 kg (2.4 lb)
Operating Temperature	-40° C to 50° C (-40° F to 130° F)
Relative Humidity	0-95% non-condensing
Enclosure	IP66, Cast aluminum, fully weather-proof



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