



# VIP 110-24

*innovative non-line-of-sight*



Wi-LAN'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.

## Key Features:

- 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
- Auto-configuration
- CIR and MBR
- Network management over the air



*get in touch with the universe*

# Solutions for the Future

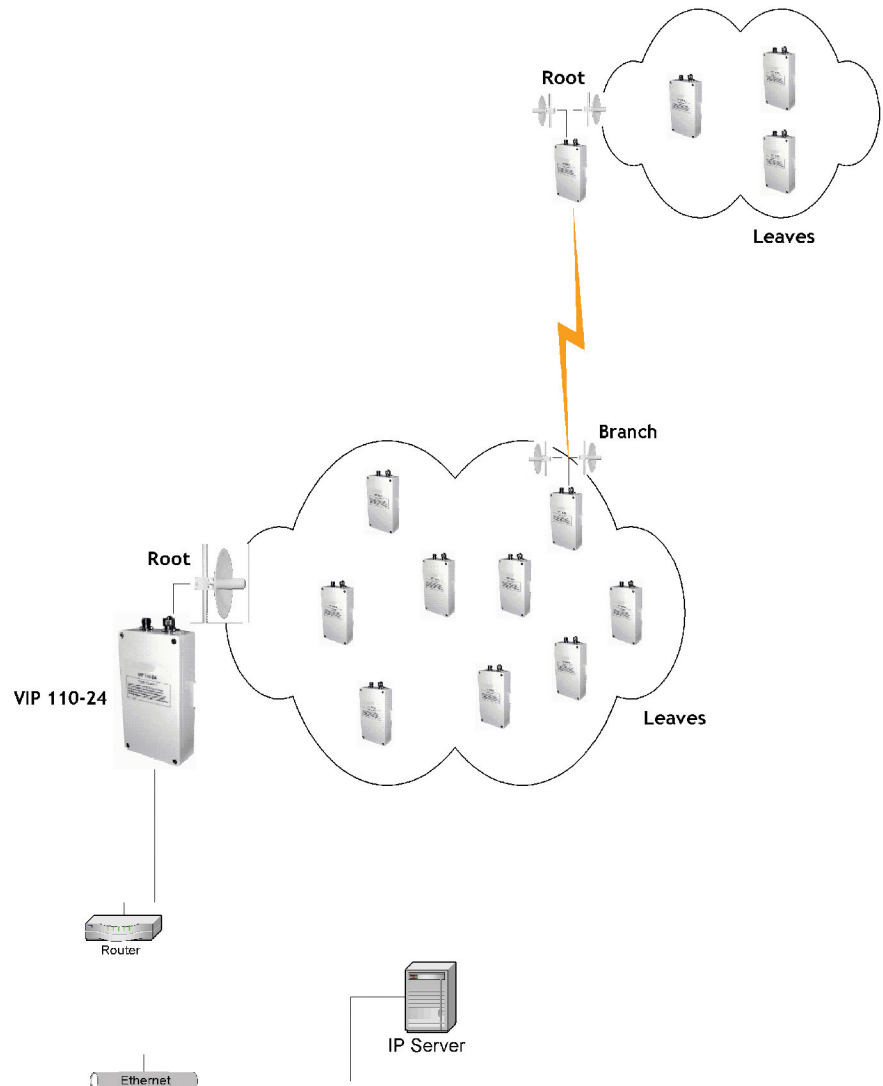
## Effortless Installation

The VIP 110-24 was specifically designed to operate over long distances. All the electronics are enclosed in an environmentally sealed outdoor unit that is mounted in close proximity to the antennas in your network. 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

Total bandwidth can be shared fairly between all the active radios in your VINE network. 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.

## VINE Technology Mixes and Matches Three Topologies with the Same Radio



# Meeting Your Network Needs

## 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.

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

- 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.
- Break a link between the root and the remote and reconfigure that remote as the root of a new VINE ('prune' the VINE). The two separate roots must then be connected with a dedicated link - a backbone. This backbone link is required once enough subscribers are on-line instead of when the network is first deployed, allowing for low start-up cost to your network.

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.

## Self-Configuration

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

## Technical Support

Technical support is available through Wi-LAN Technical Assistance Centre, through our distribution partners and through our website [www.wi-lan.com](http://www.wi-lan.com).



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# Specifications



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 (Q3 2004)
CIR/MBR	Yes - per leaf basis
Bridge functionality	Yes
Network Filtering	MAC address
QoS	Yes via ToS
Wireless Networking	
Network Topologies	Any point to multipoint (VINE)
RF Protocol	Proprietary with 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	Password protected
Management	
Remote Management	Ethernet via Telnet or Econsole
Remote Management Access	From the wired LAN or from the wireless link
Local Management Port	Yes, via serial
Software Upgrade	Local or over the air
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	Cast aluminum, fully weather-proof



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