



VIP 110-24

wireless Ethernet bridge

Wi-LAN's VIP 110-24 wireless Ethernet bridges are the only wireless solution you'll need for deploying a high-speed wireless network. With 8 Megabits of effective data throughput, Wi-LAN's VIP 110-24 sets the standard in anypoint-to-multipoint broadband wireless networking by overcoming line of sight limitations in your networks using Wi-LAN's patented VINE technology. Operating in the 2.4 GHz license-exempt frequency band, the VIP 110-24 wireless Ethernet bridge offers the solution for quick installation and true quality of service.



Overcoming Non Line-of-Sight Obstacles with Patented VINE Technology

Wi-LAN's patented wireless VINE technology is a new networking technology that overcomes the non line-of-sight obstacles and minimizes initial up-front costs of developing networks. VINE technology focuses on overcoming the LOS issues imposed by challenging terrain topography.

As your network grows, any node can be promoted to become a repeater; the only requirement for a new node to get 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 once the VINE spreads into that neighbourhood.

Effortless Installation with Increased Performance

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 effectively 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, but 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 may 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.

Network Scalability and Self-Configuration

Wireless networks based on the VIP 110-24 can be deployed one node at a time without an expensive upfront infrastructure. Each unit contains complete functionality to operate as a hub, repeater or an end node. As the number of subscribers grows, a VINE network can be scaled up in one of 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). The two separate roots must then be connected with a dedicated link - a backbone. This backbone link is only required once enough subscribers are on-line instead of when the network is first deployed, allowing for fewer start up costs to your network.

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 Assistance

There are a number of ways to get technical assistance for your Wi-LAN VIP wireless Ethernet bridges. Support is available through Wi-LAN's Technical Assistance Centre, through our distribution partners and through our website.

Wi-LAN VIP 110-24 wireless Ethernet bridge:

Radio Specifications:

Output Power (Antenna Port)	0 to +23 dBm
Software Controllable	Yes (Steps of 1 dB)
Frequency Range	2.40 - 2.50 GHz GHz
Number of Channels	31, 4 non-overlapping (ISM band) 50, 6 non-overlapping (extended freq. range)
Channel Width	18 MHz
Receive Sensitivity (1e ⁻⁶ BER)	-82 dBm at 11 Mbps -85 dBm at 5.5 Mbps -87 dBm at 2 Mbps -90 dBm at 1 Mbps
Max Receive Level	0 dBm (no damage)
Processing Gain	> 10 dB
Antenna Connector	N Female (2 antenna connectors)
Wireless Data Rate Raw/Effective (Mbps)	11 Mbps raw, up to 8 Mbps effective
RF Modulation Scheme	BPSK, QPSK, CCK
Duplex Format	Time Division Duplexing (TDD)
Certification	FCC, ETSI, IC, Mexico
Remotes Per Base	Up to 500 nodes in a VINE network
Range	Up to 60 km

Diagnostics:

Front Panel	LED in Power Inserter Unit
Monitor/Control	Through Ethernet port using "Ethernet Console" program

Network Support:

Packet Format	IEEE 802.3 and Ethernet II
Network Connection	10 Base T RJ Female Ethernet Connection
Bridge Functionality	Intelligent Local Packet Filtering (self-learning) Node by node user configurable data rates (CIR and MBR)

Wireless Networking:

Network Topologies	Anypoint-to-Multipoint (VINE)
Repeater Mode	Built-in Mode
RF Collision Management	Combined TDD and Frequency Diversity built into VINE

Security:

Data Scrambling	Built-in scrambler, not user configurable
Data Security Password	Network attachment is password protected

Management:

Remote Management	Econsole
Management Port	Ethernet using "Econsole"
SNMP	MIB2 (available in March 2002)
Management Port Functionality	Full configuration/management from any station through a command line interface
Software Management	File download over RF for firmware updates

Electrical:

Power Adapter Requirements	110 VAC or 220 VAC
Power Consumption	5 W

Dimensions:

Width	3.14" (79 mm)
Height	4.92" (125 mm)
Depth	2.24" (56 mm)
Weight	2.4 lbs (1.1 Kg)

Environmental:

Operational Temperature	-40C to +65C
Humidity	Humidity 0-95% non-condensing



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