



P2P Bridge  
2X2 MIMO

## V-Bridge 650

### // Description

CDM Wireless, a leader in innovative wireless broadband network solutions, proudly introduces the V-Bridge 650.

V-Bridge 650 is a wireless bridge kit consisting of a MIMO transmitter and MIMO receiver pair with dual-polarity panel antennas, 1 Ethernet port, ultra-wide frequency range and high RF output for performance up to 6 miles at maximum data rates.

With actual data rates of 470 Mbps, this bridge link delivers constant capacity to stream high resolution video, audio, VoIP and live recordings without interruption of camera control or loss of data.

Installation is fast and easy with an all cast aluminum enclosure, universal mounting kit and 1 Cat-5/6 cable for power and data.

This bridge kit is a proven solution for connecting remote devices or entire networks. V-Bridge 650 is compatible with all Viper 400/650 series products, which allows flexible network design and scalable upgrades to higher capacity bridge links.

### // Designed for Security Integrators

The V-Bridge series are uniquely designed to satisfy the needs of security integrators. They are specifically designed to meet the challenges of designing and deploying P2P links in uncontrolled environments by offering no maintenance, simplicity, and maximum flexibility in configuration and future upgrades.

With multiple radios, antennas, frequencies, channel bandwidths, adaptive noise immunity and selection of modulations and protocols, Viper delivers constant throughput by analyzing, selecting and optimizing the frequency spectrum and mitigating interference.

**All Viper products include software, licenses, accessories and unlimited bandwidth at no additional charge.**

**Assisting customers is our specialty! Each Viper system is pre-programmed to each customer's specific network requirement.**

**At CDM, we deliver complete Plug and Play systems.**



Factory Programmed for Your Application

### // Key Features

- Bridge kit, 1 pair of MIMO transmitter / receiver
- P2P / Bridge / Backhaul
- Bandwidth of 470 Mbps throughput<sup>1</sup>
- Range of 6 miles at maximum throughput<sup>1</sup>
- Frequency 4920 to 5950 MHz
- Adaptive Noise Immunity
- Dynamic Frequency Selection
- 1 Gigabit Ethernet port, 802.3af with Auto-MDI/X
- 16kV ESD protection on Ethernet and RF ports
- AES 256 / 3DES encryption and VLAN support for enhanced security
- Industrial-grade cast aluminum enclosure/mount
- Includes universal mounting kit and POE supply
- Windows-based GUI and Web browser interface for programming and monitoring
- Tested and delivered with a site map drawing showing installation locations of each unit
- Made in USA

<sup>1</sup> Higher/lower actual throughput and range depends on environment

## // WIRELESS INTERFACE

Radios:	2x2 MIMO Receiver, 2x2 MIMO Transmitter
Antennas:	18dBi, 24deg Integrated MIMO panel (each)
Data Connect Rate:	650 Mbps
Data Throughput Rate:	470 Mbps <sup>1</sup>
Frequency:	4920 - 5950 MHz <sup>2</sup> (Dynamic Freq Selection)
Transmit Power:	1300mW (31dBm) <sup>2</sup>
Supported Channels:	20/40/80 MHz
Wireless Standards:	802.11a/n/ac (Standard & Proprietary modes)
MAC protocols:	TDMA, CSMA/CA, Polling
Modulation:	OFDM / BPSK, QPSK, up to 256-QAM
Quality of Service:	4 QoS class levels (voice, video, high, low)
Range:	6 miles at MCS7 with 18dBi antenna <sup>1</sup>
TX Power / RX Sensitivity:	TX/RX at MCS0 30dBm / -96dBm
	TX/RX at MCS7 27dBm / -77dBm
	TX/RX at MCS9 22dBm / -72dBm
	TX/RX at 6Mbit 31dBm / -96dBm
	TX/RX at 54Mbit 27dBm / -81dBm

## // POWER

POE Input :	48VDC power injector and/or POE (802.3at) compatible switch on port 1
Consumption:	11 Watts maximum

## // INTERFACES

Ethernet	1 Gigabit Ethernet port , 802.3af with Auto-MDI/X
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## // SYSTEM MANAGEMENT AND CONTROL

Antenna Alignment, Freq Scan, Freq Sniffer, Spectrum Usage, Channel Snooper, TX Power, TX/RX Signal Strength, Signal Quality, Connection Rate, Data Rate, Noise Floor, Signal-to-Noise Ratio, Bandwidth, Ping, Flood Ping, Ping Speed, Netwatch, IP Scan, Traffic Monitor, Email, Packet Sniffer, Torch, System Health, Resource Stats, History, Logging, Scripts, Scheduler, SMS, Watchdog, Graphing, Trace Route, MAC Server.

<sup>1</sup> Higher/lower actual throughput and range depends on environment

<sup>2</sup> Operating range limited by Country Regulations

## // AUTHENTICATION, SECURITY AND ENCRYPTION

Authentication:	RADIUS server MAC enabled
Security:	SSL based authentication
Local/Remote Admin:	SSH, IP/MAC Telnet, Win GUI, HTTPS, FTP, Serial Console
Encryption:	AES 128/256, Triple DES with CBC-MAC, RADIUS, EAP
VPN:	EOIP, VLAN, PPOE, PPTP, IPIP, L2TP
VLAN:	802.1Q / 802.1QinQ / 802.1ad
Protocols:	RTP/IP, UDP/IP, TCP/IP, HTTPS, VRRP, NTP, DNS, DHCP, ARP, WDS
GPS Support:	Asynchronous NMEA0183, NMEA/RTCM or simple text

## // ENVIRONMENTAL & ENCLOSURE SPECIFICATIONS

Material:	Cast aluminum
Finish:	Powder coat paint
Rating:	IP67, IP66
Temperature:	-40C to +70C
Humidity:	0-95% (wind driven rain)
Dimensions:	7.5" x 7.5" x 2.75"
Weight:	3 Lbs.
Connectors:	1 Weatherized feed thru for cables or conduit
LEDs:	Power, Ethernet Activity
Mounting:	Mast, pole or wall
Grounding:	DC Ground
Vibration:	IEC 60721-3-4 4M5 Random
Mechanical:	IEC 60721-3-4 4M5
Solar Radiation:	ASTM G53 1000 hours
Ice Load:	25mm radial
Salt Fog:	IEC 68-2-11 Ka 500 hours

Regulations:	FCC Part 15, Class B
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## The V-Bridge Product Line

**CDM Wireless, your trusted wireless broadband solutions provider, proudly introduces our V-Bridge product solutions.**

The V-Bridge series are uniquely designed to satisfy the needs of security integrators. They are specifically designed to meet the challenges of designing and deploying P2P links in uncontrolled environments by offering no maintenance, simplicity and maximum flexibility in configuration and future upgrades.

Frequency, RF modes and antenna selection are a few of the most important elements of a reliable high performance P2P link.

The V-Bridge series includes a complete line of bridge transmitters and receivers with a wide selection of configurations for radios, radio modes, bandwidth and features, designed to operate in any environment with fast installation and no maintenance.

With the V-Bridge series, integrators can choose from a wide selection of data rates, frequencies, channels and protocols to provide optimal performance and data throughput.

Installation is fast and easy with an all cast aluminum enclosure, universal mounting kit and 1 Cat-5/6 cable for power/data.

All Viper products include software, licenses, accessories and unlimited bandwidth at no additional charge.

**CDM far surpasses the industry competition on performance, quality, factory programming and assisting customers with design, installation and performance testing and optimization.**

**At CDM, our customers are our #1 priority !**