

VULCAN SERIES Product Family Description Long distance High capacity Point to point, point to multi-point Backhaul 400 MHz to 6.06 GHz Outdoor TDMA Radio with External Antenna

VULCANa_PFD_ENC01W

Features

- Time-Division Multiple Access (TDMA).
- Long Distance Backhaul.
- Variable Frequencies.
- 400/900 MHz / 2.3, 2.4, 4.9, and 5 GHz.
- IP-68 Water & dust resistant.
- IEC61000-4-5 surge protection.
- Outstanding MTBF.

Applications

- High capacity backhaul in long distances up to 60~80 Km.
- 5/10/20/40 MHz adjustable channel bandwidth.
- Cost-effective alternative to wired network environment.
- Redundant link between buildings.
- Dedicated ISP connections for high-reliability subscribers.
- Enterprises or institutions LAN and PBX extension for high-reliability subscribers.



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The VULCAN Series by LanPro is an ideal solution for high capacity point to point, point to multi-point backhaul for 400 MHz to 6.06 GHz bands wireless deployment for long distances of up to 60~80 Km.

The support of various licensed bands frequencies from 400/900 MHz to 2.3/4.9 GHz provides the customer more options besides the crowded 2.4/5 GHz ISM band.

The use of an external antenna lets the user select the appropriate antenna pattern for the application. A high gain Yagi or Parabolic antenna would suit long distance PtP, a Panel or Sector antenna for covering a wide area is more suited for PtmP, or an Omni antenna for giving coverage to mobile CPEs in PtmP applications.

5/10/20/40 MHz adjustable channel bandwidth provides flexibility of deployment to channel plan and high capacity backhaul – truly total accumulated throughput (uplink + downlink) up to 50 Mbps with 40 MHz channel BW.

It utilizes TDD – TDMA technology which allows the balanced uplink / downlink tunnels in a single channel with least collision and highest efficiency. The Ethernet products are primarily designed to provide standard Ethernet interface in a wireless link between distant sites

The VULCAN Series of radios has powerful security management because they use a proprietary protocol and supports WEP 128 bits, and AES-256 bits encryption. It also has advanced security and isolates connected CPEs (Layer 2 Isolation). All these functions make the network much more secure and reliable.

A Product Highlights

- **Effective spectrum utility / variable capacities**

The VULCAN series has 4 levels of channel bandwidth (5/10/20/40 MHz) options adjustable via software. This function provides flexibility to channel plans and variable capacities for different applications.

- **Low EIRP for long system and high capacity transmission**

The VULCAN series improves the throughput performance up to 50~70% more than the standard Wi-Fi products, this means that the system has the same performance with lower EIRP (smaller antenna) compared to other standard Wi-Fi products.

- **Time-Division Multiple Access(TDMA) technique**

TDMA tech can avoid the packets collision and send the packets more efficiently and in a stable manner to improve the capacity and quality of data transmission in long distance or NLOS (Near/ Non-Line of sight) situation.

- **Proprietary Security**

The VULCAN series uses a proprietary protocol; it cannot connect to other standard Wi-Fi products. It also provides WEP 128 bits, AES-256 bits encryption, an advanced security, and isolates connected CPEs (Layer 2 Isolation) to build the highest security mechanism to prevent malicious attacks from the Internet.

- **High output power OFDM technology**

High output power OFDM technology provides best performance that supports VULCAN Series to be the most cost-effective solution for the long distance outdoor backhaul.

- **Antenna Alignment (Audible antenna alignment included)**

The site survey function provides the RSSI (signal strength) info to indicate the status of antenna alignment. Audible antenna alignment feature for aligning the antenna by the headphone of your mp3 player, quite easy and simple.

- **Heavy Duty Construction**

Prepared for hostile environments, the IP-68 rating guarantees long life operation.

B Specifications

RADIO				
Model No.	LP-V0405ax37	LP-V0909ax25	LP-V2324ax23	LP-V2424ax23
Frequency Range	450-500 MHz	902-928 MHz	2302-2482 MHz	2402-2482 MHz
OUTPUT Amplifier POWER / RX SENSITIVITY (Packet Error rate:10%)				
64QAM (54 Mbps)	33 (± 1.5) / -72	20 (± 1.5) / -72	20 (± 1.5) / -72	20 (± 1.5) / -72
16QAM (36 Mbps)	33 (± 1.5) / -81	22 (± 1.5) / -81	22 (± 1.5) / -78	22 (± 1.5) / -78
BPSK (18 Mbps)	36 (± 1.5) / -88	25 (± 1.5) / -88	23 (± 1.5) / -84	23 (± 1.5) / -84
QPSK (6 Mbps)	37 (± 1.5) / -92	25 (± 1.5) / -92	23 (± 1.5) / -90	23 (± 1.5) / -90
CCK(DSSS)	37 (± 1.5) / -92	25 (± 1.5) / -92	23 (± 1.5) / -90	23 (± 1.5) / -90
Output power	37 dBm	25 dBm	23 dBm	23 dBm
Channel Bandwidth	5 / 10 MHz	5 / 10 / 20 MHz	5 / 10 / 20 / 40 MHz	
Model No.	LP-V4949ax21	LP-V4958ax23	LP-V5160ax23	
Frequency Range	4940-4990MHz	4920-5875MHz	5150-6060	
OUTPUT Amplifier POWER / RX SENSITIVITY (Packet Error rate:10%)				
64QAM (54 Mbps)	17 (± 1.5) / -72	18 (± 1.5) / -75	18 (± 1.5) / -75	
16QAM (36 Mbps)	19 (± 1.5) / -78	22 (± 1.5) / -86	22 (± 1.5) / -82	
BPSK (18 Mbps)	21 (± 1.5) / -84	23 (± 1.5) / -86	23 (± 1.5) / -86	
QPSK (6 Mbps)	21 (± 1.5) / -90	23 (± 1.5) / -90	23 (± 1.5) / -90	
CCK (DSSS)	N/A	N/A	N/A	
Output Power	21 dBm	23 dBm	23 dBm	
Modulation / Media Access	OFDM / TDMA			
Duplex	TDD			
Channel Bandwidth	5 / 10 / 20 / 40 MHz			

Model No.	LP-V4949ax21	LP-V4958ax23	LP-V5160ax23
Frequency Stability	±10 ppm		
Range	60~80 Km		
INTERFACES			
RF	N-Jack		
Ethernet	IEEE 802.3 (10 Base-T) / IEEE 802.3u (100 Base-Tx)		
ADVANCE			
Base Station Scanning	RSSI		
Antenna Alignment	Audible Antenna Alignment beeper (Included)		
MANAGEABILITY			
Management and setup	Web-based configuration		
Network Architecture	PTP Bridge/PtmP bridge		
Operating System	Windows 98 / 2000 / NT / XP		
SNMP agents	MIB II		
Protocol	TCP/IP, IPX/SPX, NetBEUI		
DHCP Support	DCHP Client		
SECURITY			
Data Encryption	WEP 128 bits / AES-256 bits		
Advanced Security	Proprietary Protocol / Isolates connected CPEs (Layer 2 Isolation)		
ENVIRONMENT			
Operating Temperature	-30~55°C		
Storage Temperature	-30~70°C		
Humidity	95% non-condensing		
POWER SUPPLY			
	x: 1 100-264 VAC 50-60 Hz, 24 VDC , x: 2 48 VDC (for Telecom Grade),		
PHYSICAL			
Weight	900 MHz /2.3/2.4/4.9/5 GHz: 1.8 Kg; 400 MHz: 2.2 Kg.		
Dimensions	Typical 259 (L) * 250 (W) * 75 (H) ; mm		
WARRANTY			
Time	1 year.		

C How to order

LP-V0909a125	902-928 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 25 dBm @ QPSK OFDM, IP-68 rated. Power input: 100-264 VAC 50-60 Hz, 24 VDC
LP-V2324a123	2302-2482 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 23 dBm @ QPSK OFDM, IP-68 rated. Power input: 100-264 VAC 50-60 Hz, 24 VDC
LP-V2424a123	2402-2482 MHz Vulcan Series TDMA Radio with external antenna ISM band high capacity / long distance outdoor backhaul, power 23 dBm @ QPSK OFDM, IP-68 rated. Power input: 100-264 VAC 50-60 Hz, 24 VDC
LP-V4949a121	4940-4990 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 21 dBm @ QPSK OFDM, IP-68 rated. Power input: 100-264 VAC 50-60 Hz, 24 VDC

LP-V4958a123	4920-5875 MHz Vulcan Series TDMA Radio with external antenna ISM band high capacity / long distance outdoor backhaul, power 23 dBm @ QPSK OFDM, IP-68 rated. 100-264 VAC 50-60 Hz, 24 VDC
LP-V5160a123	5150-6060 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 23 dBm @ QPSK OFDM, IP-68 rated. Power input: 100-264 VAC 50-60 Hz, 24 VDC
LP-V0909a225	902-928 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 25 dBm @ QPSK OFDM, IP-68 rated. Power input: 48 VDC (for Telecom Grade),
LP-V2324a223	2302-2482 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 23 dBm @ QPSK OFDM, IP-68 rated. Power input: 48 VDC (for Telecom Grade),
LP-V2424a223	2402-2482 MHz Vulcan Series TDMA Radio with external antenna ISM band high capacity / long distance outdoor backhaul, power 23 dBm @ QPSK OFDM, IP-68 rated. Power input: 48 VDC (for Telecom Grade),
LP-V4949a221	4940-4990 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 21 dBm @ QPSK OFDM, IP-68 rated. Power input: 48 VDC (for Telecom Grade),
LP-V4958a223	4920-5875 MHz Vulcan Series TDMA Radio with external antenna ISM band high capacity / long distance outdoor backhaul, power 23 dBm @ QPSK OFDM, IP-68 rated. Power input: 48 VDC (for Telecom Grade),
LP-V5160a223	5150-6060 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 23 dBm @ QPSK OFDM, IP-68 rated. Power input: 48 VDC (for Telecom Grade),