



### Culture and values

LanPro is a company of amazing people, producing and delivering high quality, functional, scalable and competitive products, that have earned the confidence for being a One Stop Source supplier (OSS) of IP products and services.

A key component to LanPro's success is its diverse supply base. A diverse supply base creates an environment of inclusion, compatibility and scalability. Also, this very same diversity promotes innovation and creativity. Ultimately, it reflects our commitment to our customers, partners and employees.

From the humblest component of an IP system, the ubiquitous RJ45 connector, to complex wireless systems, LanPro has the capacity to meet the needs of even the most demanding customers.

LanPro has stimulated both, its OEM manufacturers and customers over time, developing products increasingly competitive and always under our culture of quality and reliability.

Rest assured thinking that we aspire to continue our efforts to improve every day in every way, helping the development of our industry and the harmony of our community. We are a green conscious company.



#### Our Values

At LanPro, we follow and enforce a set of values that are in tune with our commitment to be the company we have chosen to be. We are living with these values in our minds.

#### Leadership.

We are committed to become leaders of our markets in all aspects of our business.

Our teams are prepared to lead the company efforts with that commitment in mind.

### Integrity.

We will practice the highest standards of ethics in our business. We use the best codes, ensuring our Clients and our own people the respect and fair treat they deserve. We must be known as a trustworthy company.

### Quality and Customer Satisfaction.

Our customer's satisfaction drives our commitment to Quality. Every product or service we deliver must be considered as best for its value. We enforce a zero-frustration policy along the business.

### Teamwork/Synergy.

Our company is integrated by amazing people, all cooperating in every facet of our work as one synergistic body.

#### Participation.

We encourage team participation and decision making, because it helps our company reach its Vision.

Brainstorming is our preferred process to encourage participation and contribution of new ideas.





#### Good Citizenship.

We are Green conscious, we are body and mind healthy people. We take care of LanPro people and their families. We are helping our community in worthy aspects.

### Value to our Shareholders.

We are profit oriented with a social drive in mind. Our shareholders will see value added to their assets as a result of our work. Our success is dependent on our Customer satisfaction.

### Our Vision.

### The Lanpro Vision is:

People working together to become one of the most important designers and manufacturers of products and devices used to build the IP infrastructure of today and the future.

### How will we move along?

- By enforcing our One Stop Source philosophy.
- By running a profitable and healthy core business.
- By leveraging our strengths into new products and services.
- By keeping our workers and families nurtured in a socially friendly environment.
- By collaborating with our neighbors and society.
- By being a Green Conscious Company.
- By learning from our past experiences.
- And last but not least, by focusing in our customers satisfaction by delivering the quality they deserve.















### TABLE OF CONTENTS Switches Small/medium business IP-SW511 9 LP-SW811.....10 Rack series LP-SW1600..... LP-SW2400..... LP-SG2401..... IP-SGW2400..... 1P-SGW24D4F......15 IP-SGP801 Internet Gateways LP-LB404......17 Nic (Cards) IP-FCINN 18 LP-EC1000..... **Media Converters** I P-ICF7INN-XX /NIIAI FIRFR IN/INNM 71 LP-ICF3100-XX /DUAL FIBER GIGABIT 10/100/1000M.......23 I P-RKICFC 74 **Communication Cards** LP-2USB/PCI......26 IP-PCI/2SFRIAI PoE LP-PoE150......29 Splitter LP-PoE151.....30



### Small / Medium Business 5 Port 10/100 Mbps Ethernet Desktop Switch.

The LP-SW511 5 port Ethernet Switch provides a costeffective service to both Businesses Work Groups and Home Users. It is a highly integrated system at low cost.

Easy to install due to its plug and Play characteristics, the LP-SW511 is just what you need for your 5 to 12 user network.

The Fast Ethernet LP-SW511 Switch is simple, costeffective and highly reliable. Ideal to serve as a bridge between Work Groups on Ethernet Networks and Fast Ethernet Networks.

Moreover, with the innovative energy-efficient technology, the LP-SW511 can save up to 70% of the power consumption and 80% of the packaging material can be recycled, making it an eco-friendly solution for your business network.

These devices are recognized as the most important constructive blocks in the Network Technology of today.



### Features

- Green Technology saving up to 70% of power.
- Fan-less design for quiet Operation.
- 5 x10/100 Mbps Auto Negotiation RJ-45 Ports.
- Plug and Play operation.
- Auto MDI/MDIX.
- Auto-Uplink Every Port.
- MAC address learning.
- Aging time: 300 s.
- 1 Kbyte MAC address Table size.
- 1 Gbps Backplane Bandwidth.

- With 10K Jumbo frames, the performance of large files transfers is improved significantly.
- Non-blocking switching architecture that forwards and filters packets at full wire-speed for maximum throughput.
- Supports IEEE 802.3x flow control for Full Duplex mode and backpressure for Half Duplex mode.
- Forwarding Rate: 10Base-T: 14888pps/port. 100Base-Tx: 1488800pps/port.
- Wire-Speed Performance.
- Complies: IEEE 802.3, 8023u, 802.3x.
- Protocols: CSMA/CD, TCP/IP.
- Desktop or Wall Mounting design.
- Certification: FCC, CE, RoHS.

### How to order

■ LP-SW511 5 Port 10/100 Mbps Ethernet Switch.

### **LP-SW811**

# Switches

### Small / Medium Business 8 Port 10/100 Mbps Mini Ethernet Switch.

The LP-SW811 8 port Ethernet Switch provides a costeffective service to both Businesses Work Groups and Home Users. It is a highly integrated system at low cost.

Easy to install due to its plug and Play characteristics, the LP-SW811 is just what you need for your 8 to 21 user network.

The Fast Ethernet LP-SW811 Switch is simple, cost-effective and highly reliable. Ideal to serve as a bridge between Work Groups on Ethernet Networks and Fast Ethernet Networks.

Moreover, with the innovative energy-efficient technology, the LP-SW811 can save up to 70% of the power consumption and 80% of the packaging material can be recycled, making it an eco-friendly solution for your business network.

These devices are recognized as the most important constructive blocks in the Network Technology of today.





### Features

- Green Technology saving up to 70% of power.
- Fan-less design for quiet Operation.
- 8 x10/100 Mbps Auto Negotiation RJ-45 Ports.
- Plug and Play operation.
- Auto MDI/MDIX.
- Auto-Uplink Every Port.
- MAC address learning.
- Aging time: 300 s.
- 1 Kbyte MAC address Table size.
- 1 Gbps Backplane Bandwidth.

- With 10K Jumbo frames, the performance of large files transfers is improved significantly.
- Non-blocking switching architecture that forwards and filters packets at full wire-speed for maximum throughput.
- Supports IEEE 802.3x flow control for Full Duplex mode and backpressure for Half Duplex mode.
- Forwarding Rate: 10Base-T: 14888pps/port. 100Base-Tx: 1488800pps/port.
- Wire-Speed Performance.
- Complies: IEEE 802.3, 8023u, 802.3x.
- Protocols: CSMA/CD, TCP/IP.
- Desktop or Wall Mounting design.
- Certification: FCC, CE, RoHS.

### How to order

■ LP-SW811 8 Port 10/100 Mbps Ethernet Switch.

# Switches

### LP-SW1600

### Rack Series 16 port, 10/100 Mbps Ethernet Switch.



The LanPro LP-SW1600 is a 16-port 10/100Mbps Fast Ethernet Switch ideally suited for Work Group, Department or Backbone computing environments at SME Business, school, net bars, SOHO(Small Office/Home Office).

The Rack-mount size metal case design combined with a safety certified internal power supply makes this Switch a very cost effective and robust solution for 16 or less environments.

The plug-and-play and self-negotiation capabilities allow the LP-SW1600 to auto-detect its link partner, adopting the highest speed possible, reaching 200MHz in the Full Duplex mode.

One port serves as an UpLink for cascading these switches and expand their port capability.

Easy to read LED port indicators are supported for cable installation and normal operation diagnostics. The Switch can be used on desktop and as 19 inch rack-mount by attaching side legs.

### Features

- Complies with IEEE 802.3 IEEE 802.3u IEEE 802.3x IEEE 802.1p, IEEE 802.3 N Way Auto Negotiation.
- Store and Forward Function. Full / Half Duplex mode.
- Plug and Play installation with automatic port configuration.
- 16 10/100M self-negotiable RJ-45 ports, 1 Uplink port. Auto-Shift 10base-T and 100base-TX.
- All ports support IEEE802.3x Full Duplex flow control, and Half Duplex back-pressure flow control.
- Fabric speed up to 3.2 Gbps for optimun speed and performance on every port.
- 4K MAC address.
- Switch LED indicator: 1 LED (Power).

- Port LED indicator: 2 LEDs (LINK & 10/100 Mbps).
- Power: 100-240VAC,50-60Hz.
- Operation Temperature: 0 ~ 40 °C.
- Store Temperature: -20 ~70 °C.
- Operation Moisture: 10~90%.
- Store Moisture: 5~90%.
- Size: 440x177x44 mm.
- Back plane: 3.2 Gbps

### How to order

■ LP-SW1600 Rack Series 16 port, 10/100 Mbps Ethernet Switch.

### LP-SW2400

# Switches

### Rack Series 24 port, 10/100 Mbps Ethernet Switch.

The LanPro LP-SW2400 is a 24-port 10/100Mbps Fast Ethernet Switch ideally suited for Work Group, Department or Backbone computing environments at SME Business, school, net bars, SOHO(Small Office/Home Office).

The Rack-mount size metal case design combined with a safety certified internal power supply makes this Switch a very cost effective and robust solution for 24 or less environments.

The plug-and-play and self-negotiation capabilities allow the LP-SW1600 to auto-detect its link partner, adopting the highest speed possible, reaching 200MHz in the Full Duplex mode.

One port serves as an UpLink for cascading these switches and expand their port capability.

Easy to read LED port indicators are supported for cable installation and normal operation diagnostics. The Switch can be used on desktop and as 19 inch rack-mount by attaching side legs.



### Features

- Complies with IEEE 802.3 10BASE-T, IEEE 802.3u 100Base-TX. Store and Forward Function. Full or Half Duplex, IEEE 802.3 N Way Auto Negotiation.
- Plug and Play installation with automatic port configuration.
- 24 10/100M self-negotiable RJ-45 ports, Auto-Shift 10base-T and 100base-TX. Fabric speed of 4.8 Gbps to allow true high speed on every and single port.
- Store-and-Forward capability.
- Built-in 4M bit data buffer, supply full forwarding rate.
- 19" standard Rack-mounted size.
- Power: 90-240VAC,50-60 Hz.

- Operation Temperature: 0 ~ 50 °C.
- Store Temperature: -20 ~125 °C.
- Operation Moisture: 10~90%.
- Store Moisture: 5~90%.
- Size: 440x177x44 mm.
- Weight: 3.5KG (with packing).
- Safety: UL,CUL,TUV, CE.
- Back plane: 4.8 Gbps.

### How to order

■ LP-SW2400Rack Series 24 port, 10/100 Mbps Ethernet Switch.

## **Switches**

# Rack Series 24 Port 10/100/1000 Mbps Gigaspeed Switch.



### LanPro Green Technology

This new generation LP-SG2401 Gigabit specially designed for Ethernet (10 Mbps), Fast Ethernet (100 Mbps) and Gigabit Ethernet (1000 Mbps) Switch features the latest innovative energy-efficient technologies that can greatly expand your network capacity with much less power. It automatically adjusts power consumption according to the link status and cable length to limit the carbon footprint of your network. It also complies with the EU'S RoHS, prohibiting the use of certain hazardous materials. Besides, 80% of the packaging material can be recycled.

### **High Performance**

All 24 ports are Gigabit RJ-45 ports which can provide large data transferring and also be compatible with 10Mbps and 100Mbps Ethernet devices. Featuring non-blocking switching architecture LP-SG2401 forwards and filters packets at full wire-speed for maximum throughput. With 10K/10K/10K Jumbo frame the performance of large files transfers is improved significantly. And IEEE 802.3x flow control for Full Duplex mode and backpressure for Half Duplex mode alleviate the traffic congestion and make LP-SG2401 work reliably. It's a perfect choice to update your network to Gigabit while protecting your previous investment properly.

### Easy to Use

The auto features of this gigabit switch makes installation plug and play and hasslefree. No configuring is required. Auto MDI/MDIX eliminates the need for crossover cables. Auto-negotiation on each port senses the link speed of a network device (10,100, or 1000 Mbps) and intelligently adjusts for compatibility and optimal performance.

### Features

### ■ Standards

\* IEEE 802.3, IEEE 802.3u. IEEE 802.3x.

#### ■ Green Technology

- \* Saving power, up to 40%.
- \* Recyclable packaging material.

#### **■ High Performance**

- \* 24 10/100/1000 Mbps Auto-negotiation Ethernet Ports.
- \* IEEE 802.3x Flow control.
- \* Non-blocking switching architecture.
- \* 48 Gbps Switching Capacity.
- \* Filtering and packet transmission rates:

10 Mbps:14880 pps. 100 Mbps:148800 pps.

1000 Mbps: 1488000 pps.

- \* Store and forward.
- \* Auto-MDI/MDIX.
- \* Auto-negotiation.
- \* MAC address auto-learning and auto-aging.
- \* 10KB Jumbo frame.
- \* Back plane: 48 Gbps.

#### ■ Easy to use

\* Plug and Play design.

### How to order

■ LP-SG2401 24 Port 10/100/1000 Mbps Giga Speed Switch.

## **LP-SGW2400**

# Switches\_

### **Rack Series**

### 24 port SNMP Manageable 10/100/1000 M Gigabit Ethernet Switch.

The LP-SGW2400 is a 24 port SNMP manageable Gigabit Ethernet switch.

This cost-effective switch has a form factor of 1RU, and a near silent operation. It supports key features such as VLANs, RSTP (Rapid Spanning Tree Protocol), QoS, Bandwidth Control and more.

With a large 48 Gbps backplane bandwidth, the LP-SGW2400 is designed for large Domains and workgroups connectivity applications with non-blocking, wire speed switching performance and advanced SNMP and remote network management functions.



### Features

- Complies with IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3x, IEEE802.3ad, IEEE802.w, IEEE802.1x, IEEE802.1q, IEEE802.1p standards.
- 24 ports 10/100/1000 Mbps Auto-negotiation RJ45 port, Auto MDI/MDIX function.
- Supports SNMP.
- Supports Jumbo Frame features.
- LanPro-Net Aurora series network managing software available. Only for LanPro Products.
- IEEE802.3x flow control for full-duplex, and backpressure flow control for halfduplex.
- 48 Gbps backplane bandwidth.
- Non-blocking wire-speed forwarding.
- Store and forward architecture, integrated 8K MAC address table, meet all the application demands.
- Up to 8 VLAN groups for port-based VLAN.
- Port trunking.
- Port bandwidth control function.
- Port-based access control support (IEEE 802.1X).

- QoS function.
- STP & RSTP (rapid spanning tree protocol).
- Source IP filter per port to block unwanted access.
- Broadcast storm smart control function.
- Port mirroring.
- Web Smart and console management.
- Non-blocking wire speed Switching.
- Circuit diagnostics.
- HTTP switch system software upgrading, configuration file, backup and reset function.
- RS232 for local inbound administration.
- Flow statistic function, dynamic display switch port receiving transferring data package situation.
- Internal Universal Power Supply (90 to 230VAC) 1U steel case, 19 Inches standard structure design.
- Redundant Fan for more reliability and durability. Less heat and longer life.

### How to order

LP-SGW2400 24 port SNMP Manageable 10/100/1000 Mbps Gigabit Ethernet Switch.

# **Switches**

### LP-SGW2404F

**Rack Series** 

### 24 Copper + 4 fiber ports gigabit managed switch.



Designed for enterprise use, the LP-SGW2404F provides wire-speed performance and full set of layer 2 management features. It provides a variety of service features and multiple powerful functions with high security.

The EIA-standardized framework and smart configuration capacity can provide flexible solutions for a variable scale of networks. ACL, 802.1x and Dynamic ARP Inspection provide robust security strategy. QoS and IGMP snooping/filtering optimize voice and video application. Link aggregation (LACP) increases aggregated bandwidth, optimizing the transport of business critical data. SNMP, RMON, WEB/CLI/Telnet Log-in bring abundant management policies. The LP-SGW2404F Switch integrates multiple functions with excellent performance, and is friendly to manage, which can fully meet the need of the users demanding higher networking performance.

### Features

#### ■ Resiliency and Availability

- \* Link aggregation (LACP) increases aggregated bandwidth, optimizing the transport of business critical data.
- \*IEEE 802.1s Multiple Spanning Tree provides high link availability in multiple VLAN environments.
- \* Multicast snooping automatically prevents flooding of IP multicast traffic.
- \* Root Guard protects root bridge from malicious attack or configuration mistakes.

### ■ Layer 2 Switching

- \* GVRP (GARP VLAN Registration Protocol) allows automatic learning and dynamic assignment of VLANs.
- \*Supports 255 active VLAN groups and 4K VLAN IDs.

### **■ Quality of Service**

- \* Supports L2/L3 granular CoS with 4 priority queues per port.
- \*Rate limiting confines the traffic flow accurately according to the preset value.

### ■ Security

- \* Supports multiple industrystandard user authentication methods such as 802.1x, RADIUS. Based on Mac Address or Port.
- \*Dynamic ARP Inspection blocks ARP packets from unauthorized hosts, preventing man-in-themiddle attacks.
- \* L2/L3/L4 Access Control Lists restrict untrusted access to the protected resource.
- \* Provides SSHv1/v2, SSL 2.0/3.0 and TLS v1 for access encryption.

### Manageability

- \* IP Clustering provides high scalability and easy Single-IPManagement.
- \*Supports Telnet, CLI, SNMP v1/ v2c/v3, RMON and web access.
- \* Port Mirroring enables monitoring selected ingress/ egress traffic.

### How to order

■ LP-SGW2404F 24 Copper + 4 fiber ports gigabit managed switch.

### LP-SGP801

# Switches

### **Rack Series**

### 8-Port Gigabit 10/100/1000 Ethernet PoE Switch

The LP-SGP801 8-Port Gigabit PoE Ethernet Switch is a high-performance 10/100/1000Mbps Gigabit PoE switch with up to seven PoE active ports and one gigabit up-link port active.

Each of the PoE ports can deliver up to 15.4W per port but the user must limit the total PoE outputs active to seven(7) in order to limits total power rating to 112W.

This 112 W limit results from subtracting the 8 W normally consumed by the internal circuit of the PoE Switch from the 48VDC 2.5A power adaptor maximum of 120W.

In real installations, loads are lower than 15.4 W and the LP-SGP801 could power all of them if the 112 W total is enforced.

It's an ideal solution for small office and home users to utilize a combination Gigabit PoE and non-PoE devices. The switch automatically detects IEEE 802.3af compliant devices and provides power and data over a single cable.







#### **Applications**

The LP-SGP801 8-Port Gigabit 10/100/1000 Ethernet PoE Switch is a Power Source Equipment (PSE) and fully compatible with Powered Devices (PD) that comply with the IEEE 802.3af PoE standard, allowing users to attach any IEEE802.3af compliant device such as wireless Access Points (APS), VOIP phone, IP camera, printer and Network Attached Storage (NAS), without requiring additional power on a network.

The unit is designed with home and small business users in mind and is a cost effective solution for environments where AC power is not available or too costly to install at the remote site to power the PD devices.

### Features

- 8 x 10/100/1000Mbps Auto-Negotiation and Auto-MDIX Fast Ethernet RJ45 Ports.
- Built-in 8 PoE Port. ( Port 1 ~ Port 8).
- Supports PoE Power Maximum 15.4 watts for each PoE port.
- Loading limit is seven (7) loaded PoE ports and one for uplink or for a not PoE loading device.
- Supports POE Power Devices (PD).
- Store and Forward Switching Method.
- Built-in 2K entries MAC Address Table/ 4K VLANs / 9216-bytes jumbo packet length.

- IEEE 802.3x Flow Control for Full-Duplex: Back Pressure Flow Control for Half-Duplex Mode.
- Supports 802.1Q VLAN, Port-Based IEEE 802.1p QoS.
- Supports IVL, SVL and IVL/SVL.
- Store & forward, share memory, non-blocking architecture.
- No Special Networking Cable Required.
- Plug and Play.
- The LP-SGP801 is a power source equipment (PSE) that complies with the IEEE 802.3af power over ethernet (PoE) standard.

### How to order

■ LP-SGP801 8 PoE port 10/100/1000 Ethernet Gigabit Switch.

# Internet Gateways

### Quad Wan Load Balancer Router & Firewall.



The LanPro LP-LB404 high performance Quad WAN Load Balancer provides a fast, secure and reliable connection to the Internet. Using state of the art automatic redundancy and bandwidth load balancing technologies, it allows fast, secure and reliable Internet connectivity to all networked computers in home offices, small offices and small-to-medium sized organizations. With the four Internet broadband connections, the LanPro LP-LB404 ensures your network not only to remain connected to the Internet, but all Internet traffic is constantly managed reliably and securely even during periods of high traffic and heavy workloads. The LP-LB404 provides all normal settings of a broadband router, and features much more advanced functions, such as Port Mirror, Port VLAN, UPnP, VPN Pass- through, Firewall and System Log.

A very friendly configuration interface makes it easy to use and meet it's application in Enterprise, broadband users, campus, internet cafes and new usages.

### Features

- Shares data and Internet access for Stations, connecting Internet through PPPoE on demand and disconnecting when idle.
- Supports TCP/IP, PPPoE, DHCP, ICMP, NAT, SNTP.
- Provides quad-bandwidth and supports Load Balancing.
- Backups connections automatically for each other.
- Specifies priority channels according to source or destination IP addresses, distributing flexibly Internet resource and services from different ISPs.
- Built-in NAT and DHCP server supporting static IP address distributing.
- Built-in firewall supporting IP address filtering, Domain Name filtering, and MAC address filtering.
- Supports Virtual Server, Special Application, and DMZ host.

- Supports UPnP, Static Routing, VPN pass-through.
- Supports connecting/disconnecting Internet on a specified time of day.
- Supports access control based on time of day, parents and network administrators can establish restricted access policies for children or staffs.
- Supports Flow Statistics.
- Supports ICMP-FLOOD, UDP-FLOOD, TCP-SYN-FLOOD filter.
- Supports web-based firmware upgrade.
- Supports Remote and Web management.
- Desktop steel case.

### How to order

■ LP-LB404 Quad Wan Load Balancer Router & Firewall.

## LP-EC100

# Nic (Cards)

### PCI 10/100 Mbps NIC Card.

The LanPro PCI LP-CE100 NIC card supports up to 100 Mbps in the IEEE 802.3 100 Base.TX mode. It goes down to 10 Mbps in the IEEE 802.3 10 Base-T Mode.

The technology is based on the RTL8139C/D Chipset and supports several OS's including: Win9x, 2000, XP, NT, ME, Vista and Linux. Plug & Play ready. Microsoft certified. Flawless installation.

Compact and reliable, and supporting ACPI 1.1. power management for energy saving systems.



### **Features**

- Adopting Realtek RTL8139C/D chip.
- 32 bit PCI-Bus & Plug-and-play.
- Compatible with IEEE802.3 10Base-T and IEEE802.3 100Base-TX.
- Supports IEEE802.3X full duplex flow control.
- Supports 10/100 Mbps N-way auto-negotiation operation, half & full duplex mode.
- Supports PCI 2.2., CSMA/CD.

- Supports ACPI 1.1 power management.
- Supports PXE/RPL remote BootRom.
- Supports remote Wake-on-line.
- 1 RJ-45 port and 2 leds to indicate network link/ activity.
- Supports Win9x/2k/XP/NT/ME, Netware, Linux system.
- SFF and regular size brackets available. A must for new, smaller generation of small factor computers.

### How to order

■ LP-EC100 PCI 10/100 Mbps NIC Card.

# Nic (Cards)

### PCI 10/100/1000 Nic Card Gigabit Speed.



The LanPro PCI LP-EC1000 NIC PCI Card supports gigabit Ethernet 2000 Mbps data rates in full-duplex maximum speed, and can go as low as 10Mbps if necessary.

Supports PCI 2.1/2.2 and Netware 4.2, and 5.1, Win98,98SE, 2K, NT, XP, Linux and Vista.

### Features

- 32bits PCI, plug-and-play installation and wake on LAN.
- Advanced ASIC technology, providing max transfer with min host CPU time.
- Intelligent interrupt management, IP, TCP and UDP checksum off-loading can make host CPU time min.
- Supports IEEE802.3X full duplex flow control, up to 2000mbps data rates.
- Supports 10/100/1000 Mbps data transfer rate.
- Improved 30% speed with concurrent mode.
- Supports N-way auto-negotiation operation, auto-detect the duplex/half flow control & fit network speed.
- Supports PCI 2.1/2.2.
- Supports carrier wave extension and frame collision of Gigabit half- duplex.
- Supports Gigabit jumbo frame transfer and receive.

- With more advanced functions, such as VLAN tagging, Quality of Service(Qos) priority.
- Supports high bandwidth usage.
- Use with CAT-5e/Cat6 LanPro Reliable UTP cable.
- One STP/UTP interface.
- Auto match MDI/MDIX.
- Auto set IRQ and I/O port address.
- Including a bulk independent FIFO cache.
- With LEDs to show the network state and link speed.
- Supports NetWare 4.2 and 5.1, Microsoft Windows 98, 98SE, 2000, NT, XP, Linux, etc.
- SFF and regular size brackets available. A must for new, smaller generation of small factor computers.

### How to order

■ LP-EC1000 PCI 10/100/1000 Nic Card Gigabit Speed.

## LP-ICF2100DXX

# Media Converters

Single Fiber BiDi WDM 10/100M Media Converters Series. Supports 20/80 Km transmission.

The LanPro's LP-ICF2100DXX Series of BiDi WDM 10/100M Single Fiber 1310nm/1550nm Single Mode Media Converters exploit the WDM technology and it's Bi-Directional communication capability in order to support 20 Km and 80 Km distances via a single optical fiber. Sold in pairs.



### **Features**

- Comply with IEEE802.3, IEEE802.3u 10 Base-T 100 Base-TX, 100Base-FX Standard.
- BiDi WDM Technology.
- One Single Mode Fiber.
- SC Connector.
- TP port supports Auto-negotiation for automatic speed selection.
- TP port supports automatic MDI/MDIX crossover.
- Embedded with 1 Mbit memory used for frame buffering.
- Supports up to 1K MAC address entries with automatic learning and aging.
- Store and Forward switching mode.
- Transmission distance: Single mode 20/40/60/80Km.

- Wave lengths: 1310nm/ 1550nm for 20/40 Km.
- LED indicators: PWR, TX-LNK, TX-ACT, FX-LNK, FX-ACT, FDX.
- Connector: one UTP RJ-45 connector and one SC connector.
- Power: Internal power supply: 110-260V AC.
- Operating temperature: 0°C ~ 50°C.
- Storage temperature: -40 ~ 70°C.
- Humidity: 5-90% (non-condensing).
- Dimension: 140mm x 110mm x 29mm (without mounting brackets).
- Sold in pairs.

- LP-ICF2100D20 Single Fiber, 1310nm/1550nm Single-Mode, WDM, 10/100M Media Converter, Supports 20 Km transmission. (Sold in pairs), SC Connector.
- LP-ICF2100D40 Single Fiber, 1310nm/1550nm Single-Mode, WDM, 10/100M Media Converter, Supports 40 Km transmission. (Sold in pairs), SC Connector.
- LP-ICF2100D60 Single Fiber, 1310nm/1550nm Single-Mode, WDM, 10/100M Media Converter, Supports 60 Km transmission. (Sold in pairs), SC Connector.
- LP-ICF2100D80 Single Fiber, 1310nm/1550nm Single-Mode, WDM, 10/100M Media Converter, Supports 80 Km transmission. (Sold in pairs), SC Connector.

### **Media Converters**

### LP-ICF2100XX

Dual Fiber 10/100M Series Media Converters. Supports Multi-Mode: 2 Km, Single Mode: 20/40/60/80 Km transmission.



The LP-ICF2100XX Series of Dual Fiber, 10/100M SC Media Converters are Fast Ethernet optical translators that interconnect the electric signal of 100Base-TX twisted pair and the optical signal of 100Base-TX. By dual fiber optic connecting, it extends the network transmission range from 100m to 80 Km. The Multimode model supports distances up to 2 km and the single-mode models support distances of up to 20/40/60/80 km.

### Features

- Comply with IEEE802.3, IEEE802.3u 10 Base-T 100 Base-TX, 100Base-FX Standard.
- TP port supports Auto-negotiation for automatic speed selection.
- TP port supports automatic MDI/MDIX crossover.
- Embedded with 1 Mbit memory used for frame buffering.
- Support up to 1K MAC address entries with automatic learning and aging.
- Store and Forward switching mode.
- Transmission distances, Multi-Mode: 2 Km, Single mode: 20/40/60/ 80 Km.
- Wavelength: 1310nm for 2/20/40/60 Km, 1550nm for 80 Km, 1310/1550nm for SM series.

- LED indicators: PWR, TX-LNK, TX-ACT, FX-LNK, FX-ACT, FDX.
- Connectors: one TP RJ-45 connector and one SC connector.
- Power: Internal power supply: 110-260V AC.
- Operating temperature: 0 °C ~ 50 °C.
- Storage temperature: -40 ~ 70°C.
- Humidity: 5-90% (non-condensing).
- Dimensions: 140mm x 110mm x 29mm (without mounting brackets).

- LP-ICF21002 Dual Fiber, 1310nm Multi-Mode, 10/100M SC Media Converter, Supports 2 Km transmission.
- LP-ICF210020 Dual Fiber, 1310nm Single-Mode, 10/100M SC Media Converter, Supports 20 Km transmission.
- LP-ICF210040 Dual Fiber, 1310nm Single-Mode, 10/100M SC Media Converter, Supports 40 Km transmission.
- LP-ICF210060 Dual Fiber, 1310nm Single-Mode, 10/100M SC Media Converter, Supports 60 Km transmission.
- LP-ICF210080 Dual Fiber, 1550nm Single-Mode, 10/100M SC Media Converter, Supports 80 Km transmission.

## LP-ICF3100DXX

# Media Converters

BiDi WDM Gigabit 10/100/1000 M Series Media Converters.

Supports 0.55 to 40 Km transmission. (Sold in pairs).

The LanPro Gigaspeed LP-ICF3100DXX series Single Fiber Media Converters operate as seamless translators between a 10/100/1000 TP port and optical ports. The IP data is immediately and flawlessly translated from one port to the other, both ways. By using 1310/1550nm WDM single fiber signal transmission scheme, they extend the network coverage from the TP limit of 100m to up to 40 Km. The 550m Multi-Mode version is recommended if you wish to go Gigabit when Multi-Mode fiber is already installed in shorthaul legacy networks.



### **Features**

- Comply with 802.3z & 802.3ab Standard.
- One(1) Multi-mode fiber for 550 m, or one(1)Single-mode fiber for 20 Km/40 Km.
- WDM Technology.
- TP port supports Auto-negotiation for automatic speed selection.
- TP port supports automatic MDI/MDIX crossover.
- Transmission distance: 550 m / 20 Km / 40 Km.
- Wavelengths: 1310/1550nm.

- LED indicators: PWR, TX-LNK, TX-ACT, FX-LNK, FX-ACT, FDX.
- Connector: one TP RJ-45 connector and one SC connector.
- Power: Internal power supply.
- Excellent quality guarantee on whole solution design, built-in heat emission fan to ensure high stable working performance.
- Operating temperature: 0°C ~ 50°C.
- Storage temperature: -40°C ~ 70°C.
- Humidity: 5-90% (non-condensing).

- LP-ICF3100D2 Single Fiber, WDM, 1310nm/1550nm Multi-Mode, Gigabit 10/100/1000M SC Media Converter, Supports 550 m transmission. (Sold in pairs).
- LP-ICF3100D20 Single Fiber, WDM, 1310/1550nm Single-Mode, Gigabit 10/100/1000M SC Media Converter, Supports 20 Km transmission. (Sold in Pairs).
- LP-ICF3100D40 Single Fiber, WDM, 1310/1550nm Single-Mode, Gigabit 10/100/1000M SC Media Converter, Supports 40 Km transmission. (Sold in Pairs).

# **Media Converters**

## LP-ICF3100XX

### Dual Fiber Gigabit 10/100/1000 M Series Media Converters Supports 0.55 Km to 60 Km Transmission.



LanPro Gigaspeed LP-ICF3100XX Series of Dual Fiber 10/100/1000, SC Media Converters, operate as a seamless dual fiber translators between TP ports and optical ports. The IP data is immediately and flawlessly translated from one port to the other, both ways. Distances jump from the TP limit of 100 m to distances of 550 m, 2 Km, 20 Km, 40 Km and 60 Km.

### Features

- Comply with 802.3z & 802.3ab Standard.
- Gigabit 10/100/1000 M.
- TP port supports Auto-negotiation for automatic speed selection.
- TP port supports automatic MDI/MDIX crossover.
- Transmission distances: 550 m / 2 Km / 20 Km / 40 Km /60 Km.
- Wavelength: 850nM for 550 m, 1310nm from 2 Km to 20 Km and 1550nm from 40 Km to 60Km.
- LED indicators: PWR, TX-LNK, TX-ACT, FX-LNK, FX-ACT, FDX.

- Connector: one TP RJ-45 connector and one SC connector.
- Power: Internal power supply.
- Excellent quality guarantee on whole solution design, built-in heat emission fan to ensure high stable working performance.
- Operating temperature: 0°C ~ 50°C.
- Storage temperature: -40 ~ 70°C.
- Humidity: 5-90% (non-condensing).

| ■ LP-ICF310005 | Dual Fiber, 850nm Multi-Mode, Gigabit 10/100/1000 M SC Media Converter, Supports 550 m transmission.    |
|----------------|---|
| ■ LP-ICF31002  | Dual Fiber, 1310nm Multi-Mode, Gigabit 10/100/1000 M SC Media Converter,<br>Supports 2 Km transmission. |
| ■ LP-ICF310020 | Dual Fiber, 1310nm Single-Mode, Gigabit 10/100/1000 M SC Media Converter, Supports 20 Km transmission.  |
| ■ LP-ICF310040 | Dual Fiber, 1550nm Single-Mode, Gigabit 10/100/1000 M SC Media Converter, Supports 40 Km transmission.  |
| ■ LP-ICF310060 | Dual Fiber, 1550nm Single-Mode, Gigabit 10/100/1000 M SC Media Converter, Supports 60 Km transmission.  |
|                |   |

### LP-RKICFC

# Media Converters

19 inch rack mountable chassis with dual power supplies for the housing and powering the LP-ICFCxx Family of Series of Media Converters in PCB Cassette module format.

The LP-RKICFC 19 inch rack mountable chassis with dual power supplies is the housing specially designed for powering and carrying the LP-ICFCxx Family of Series of Media Converters in PCB Cassette module format.

Dual power supplies increase the overall availability of the system of media converters by signaling the user the failure of the power supplies by means of an audible and visual indication.

This media converter chassis can supply up to 16 media converters with power in the PCB card Cassette format, it will simplify the cabling and installation, and can work reliably and adapt to a broad range of voltages that go from 100 to 260 VAC or 48 VDC as an option. Operation, management and maintenance of this chassis is very easy.

The LanPro LP-RKICFC is highly recommended to meet the requirements of good stability, high capacity, good integration and good quality.

This chassis supports hot-swap convert modules. It can work with single power supply or dual power supply as users wish. When the power supply must be maintained or changed, it is not necessary to pull-out the converters, this makes the maintenance easy. With all these advantages, the LanPro LP-RKICFC provides an effective solution for the deployment of optical link networks.





# **ELANPRO**

### Features

- Number of slots:16.
- For Media-converters: 10/100 Mbps; 10/100/1000 Mbps.
- Mains voltage: AC 100 V~260 V; or DC 48V.
- TP port supports Auto-negotiation for automatic speed selection.
- Power out: For 16 slots media converter chassis: DC 5V, 12A.
- Diameter of DC plug: 2.5/5.5 mm.
- Ripple: 50 mV rms.

- Noise: 50 mV rms.
- Protection of power supply: over voltage, overcurrent and short circuit.
- Operating temperature: 0°C~50°C.
- Storage temperature:-20°C~85°C.
- Humidity: 5%~95%.
- Dimensions: L485 x W231 x H90 mm; 19 inches rack, 2U Height.

- LP-RKICFCA 16 slots media converter Rack-mounted chassis Dual power supply (AC 100 to 260 VAC).
- LP-RKICFCB 16 slots media converter Rack-mounted chassis Dual power supply (DC 48V).

### **Media Converters**

### LP-ICFCXX



### Family of Series of Media Converters in PCB Cassette module format.

A new family of four(4) new series of 10/100 Mbps Fast Ethernet and Gigabit Ethernet 10/100/1000 Mbps Media Converters in PCB Cassette module format are now available to reduce costs and augment availability for long haul fiber link deployment.

The LP-ICFC2100xx series is composed of 10/100 Mbps Fast Ethernet SC connector Multimode 2Km and Singlemode 20, 40, 60 Km at 1340 nm, 80 and 120 Km at 1550 nm PC board cassette modules.

The LP-ICFC2100Dxx series is composed of 10/100 Mbps WDM Fast Ethernet Bi-Di SC connector Bridge Singlemode 2Km, 25, 40, 60 and 80 Km 1310 nm/1550 nm PC board cassette modules.

The LP-ICFC4100Dxx series is composed of 10/100/1000 Mbps WDM Gigabit Ethernet Bi-Di SC connector singlemode 20, 40 Km, at 1310 nm/1550 nm PC board cassette modules.

These modules can be installed in the LP-RKICFC, 16 slot 19 inch rack mountable chassis made by LanPro, specially built with dual hot swappable power supplies for higher availability in its operation.

### **Features**

- 10/100 Mbps Ethernet comply with: IEEE802.3, IEEE802.3u 10/100Base-TX, 100Base-FX Standard.
- 10/100/1000 Mbps Gigabit Ethernet comply with: 802.3z & 802.3ab Standard.
- Embedded with 1 Mbit memory used for frame buffering.
- Store and forward switching mode.

- Transmission distances, multi-Mode: 2 Km, single mode: 20/40/60/80/120 Km.
- Wave length: 1310 nm for 2/20/40/60 Km, 1550 nm for 80 and 120 Km, 1310/1550 nm for SM series.
- Connector: one UTP RJ-45 connector and one SC connector.
- Power: these PCB Cassettes are powered from the backplane of the LP-RKICFC 19 inch rack with dual hot swapable power supplies.

| ■ LP-ICFC21002   | MM 2 km 10/100M SC media converter 1310 nm, PC board module rack insertable.                                      |
|------------------|---|
| ■ LP-ICFC210020  | SM 20 km 10/100M SC media converter, 1310 nm, PC board module rack insertable.                                    |
| ■ LP-ICFC210040  | SM 40 km 10/100M SC media converter, 1310 nm, PC board module rack insertable.                                    |
| ■ LP-ICFC210060  | SM 60 km 10/100M SC media converter, 1310 nm, PC board module rack insertable.                                    |
| ■ LP-ICFC210080  | SM 80 km 10/100M SC media converter, 1550 nm, PC board module rack insertable.                                    |
| ■ LP-ICFC2100120 | SM 120 km 10/100M SC media converter, 1550 nm, PC board module rack insertable.                                   |
| ■ LP-ICFC2100D2  | SM WDM 2 km 10/100M SC bridge media converter 1310/1550 nm(Sold in pairs), PC board module rack insertable.       |
| ■ LP-ICFC2100D20 | SM WDM 20 km $10/100$ M SC bridge media converter $1310/1550$ nm(Sold in pairs), PC board module rack insertable. |
| ■ LP-ICFC2100D40 | SM WDM 40 km $10/100$ M SC bridge media converter $1310/1550$ nm(Sold in pairs), PC board module rack insertable. |
| ■ LP-ICFC2100D60 | SM WDM 60 km 10/100M SC bridge media converter 1310/1550 nm(Sold in pairs), PC board module rack insertable.      |
| ■ LP-ICFC2100D80 | SM WDM 60 km $10/100$ M SC bridge media converter $1310/1550$ nm(Sold in pairs), PC board module rack insertable. |
| ■ LP-ICFC410005  | MM 500 m 10/100/1000 Gigabit SC media converter, PC board module rack insertable.                                 |
| ■ LP-ICFC41002   | MM 2 Km 10/100/1000 Gigabit SC media converter, PC board module rack insertable.                                  |
| ■ LP-ICFC410020  | MM 20 Km 10/100/1000 Gigabit SC media converter, PC board module rack insertable.                                 |
| ■ LP-ICFC410040  | MM 40 Km 10/100/1000 Gigabit SC media converter, PC board module rack insertable.                                 |
| ■ LP-ICFC410060  | MM 60 Km 10/100/1000 Gigabit SC media converter, PC board module rack insertable.                                 |
| ■ LP-ICFC410080  | MM 80 Km 10/100/1000 Gigabit SC media converter, PC board module rack insertable.                                 |
| ■ LP-ICFC4100D20 | SM WDM 20 km 10/100/1000M Gigabit SC bridge media converter 1310/1550 nm (Sold in pairs), PC board                |
|                  | module rack insertable.   |
| ■ LP-ICFC4100D40 | SM WDM 40 km 10/100/1000M Gigabit SC bridge media converter 1310/1550 nm (Sold in pairs), PC board                |
|                  | module rack insertable.   |

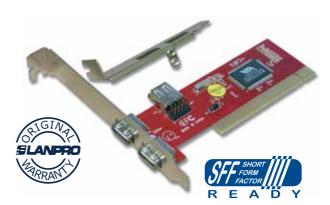
## LP-2USB/PCI

# Communication Cards

### 2 + 1 USB 2.0 PCI Card.

The Universal Serial Bus (USB) has the power to connect you with a whole new world of PC experiences. USB is your instant connection to the fun of digital photography or the limitless creative possibilities of digital imaging. You can use USB to connect with other people through the power of PC-telephony and video conferencing. Once you've tried USB, we think you'll grow quite attached to it!.

LanPro 2 port PCI card is simple, ready to use, low cost and reliable. It does not uses the old 1.0 standard, but the new revision (2.0). You will be more than happy with the performance of this simple, yet powerfull card.



### Features

- Compliant with Universal Serial Bus, Specification revision 1.1 and 2.0.
- Data transfer rate can be 1.5, 12 and 480 Mbps.
- Downstream port can handle High Speed (480Mbps), Full Speed (12 Mbps) and Low Speed (1.5 Mbps).
- 32-bit 33Mhz host interface compliant to PCI Specification release 2.2.
- Supports up to 127 devices.
- Supports devices hot swap and wake-up.
- Includes 2 external ports and one internal port (Bus with one external port).
- Interface Card-PCI Bus.
- Driver Software: Windows 98 SE, 2000, Me & XP.
- Compliant with Universal Host Controller Interface Specification Revision 1.1.

- Compliant with International Enhanced Host Controller Interface Specification Revision 0.95.
- PCL multi-function device consists of two EHCT Host Controller core for Full/Low speed signaling and one EHTC Host Controller core for high speed signaling.
- Root hub comprises 2 downstream facing ports with integrated physical layer.
- Supports PCI-Bus Power Management Interface Specification release 1.1.
- Legacy Support for all downstream ports.
- SFF (short form factor) ready.
- 2.5 V power supply with 5V tolerant inputs.
- Supports USB 2.0 devices and Fully Backward compatible with USB 1.1 devices.
- Easy plug-n play connectivity and set-up.
- Supports all USB-compliant devices.

### How to order

■ LP-2USB/PCI 2+1 USB 2.0 PCI Card.

# **Communication Cards**

### LP-PCI/2SERIAL

2 Serial Port PCI Card.



The LP-PCI/2SERIAL 2 Serial Port PCI Card by LanPro is a very versatile device with many applications.

Used to interface with Automated Teller machines, Bar-Code Readers, Digital Cameras, Digitizing Tablets, External Modems, Finger Print Identification equipment, Infra-Red Transceivers, ISDN T/A, Magnetic Card Readers, PDA'S, Point of Sale (POS) Devices, Multi-Modem Dial-Up Server, etc.

### Features

- PCI to Serial 2 -Port Controller Card based on the NM9835CV chipset.
- Easy plug & Play installation automatically selects IRQ and I/O address.
- Supports PCI IRQ sharing-saves valuable resources for other expansion card.
- Supports 32-bit PCI Bus, PCI Specification 2.1.
- Compatible with standard 16C550 UART with 16 byte transmitreceive FIFO.
- Fast Data Rates up to 1 Mbytes/ sec.

- DB9 serial port connector x 2.
- Pin Header serial port connector x 2.
- Support more than one card into system.
- Requires PC Computer with one 32bit PCI Slot.
- Support Windows 95, 98, ME, 2000,NT4.0,XP, Linux & DOS Operating System.
- Package includes 1xPCI to Serial 2-port host controller card, User manual, Software Driver disk x 1.

### How to order

■ LP-PCI/2SERIAL 2 Serial Port PCI Card.

Parallel Port PCI Card.

Parallel interfaces are still used on some equipment, specially financial and commercial printers, fiscal printers and related Commercial/Government applications. Also, there is a good inventory of old and reliable printers still in operation worldwide. For all those reasons, LanPro still produces and sells this single port parallel port PCI card. Standard brackets available or SFF model as well, all in the same package.



### **Features**

- PCI to Parallel 1-Port Controller Card based on IT8875F.
- Easy plug & Play installation automatically selects IRQ and I/O address.
- Support PCI IRQ sharing-saves valuable resources for other expansion card.
- Support 32-bit PCI Bus, PCI Specification 2.1.
- SPP, PS2. EPP, ECP compatible IEEE1284 printer port.
- Fast Data Rates up to 1.5Mbytes/sec.

- Built in 16 byte FIFO.
- DB25 parallel port connector x 1.
- Support Re-mapping to Legacy Address.
- Supports more than one card into system.
- Supports Windows 95, 98, ME, 2000, NT4.0, XP, Linux & DOS Operating System.
- SFF and regular size brackets available. A must for new, smaller generation of small factor computers.

### How to order

■ LP-PCI/P Parallel Port PCI Card.

### LP-PoE150

### Power Over Ethernet Injector.



To achieve best performance of a Wireless LAN, the location of the Access Point (AP) must be carefully chosen. In most cases, finding a power supply for AP is a common obstacle. Power over Ethernet (PoE) technology provides the ideal power solution to help overcome these obstacles.

In Ethernet, four pairs of Cat5 or Cat5e twisted pairs are used as the medium for transmission. The actual data transmission, however, only takes up two pairs of wires (pairs 1-2 and 3-6). PoE technology utilizes the remaining pairs (pairs 4-5 and 7-8) to carry electricity.

But not only AP devices take advantage of this compact technology. Also IP cameras and basically any kind of IP equipment may be subjet to be powered with this kind of technology if power consumption is under 16W. This unit has been throughfully tested on every thinkable situation getting second to none qualifications. This is an indoor device. It can be utilized to support voltage from 18V to 55V or comply with 802.3af standard by switch.

### Features

■ Input:100-240V AC 50/60Hz 0.4A. Output: 48V 16W (Max).

■ **Data:** 1/2 & 3/6.

Power: 4/5+ & 7/8- (48V).

■ Data In: Connects PC/HUB/Switch.

■ Weight: 0.16kg.

■ **Dimensions:** 108mm x 74mm x 33mm.

■ Case of material: ABS UL94V-0.

■ Ethernet Cable

Data rate: 10/100 Mbps TIA/EIA 568 Cat5e Connector: RJ-45.

■ Operating Temperature: 0°C to 40°C.

■ Storage Temperature: -40°C to 70°C.

■ Operating Humidity: 10% to 80% RH.

■ Storage Humidity: 5% to 90% RH.

■ CE FCC UL.

### How to order

LP-PoE150 Power Over Ethernet Injector, (PoE) IEEE 802.3af standard compliant.

# PoE

### Splitter, compatible with the 802.3af Standard.



The LP-Poe151 PoE Splitter is designed to supply operational power to surveillance cameras, wireless LAN devices such as access points, bridges and routers or any IP equipment within the power supply capability of this splitter.

It enables electric energy to travel on the Ethernet network cable, thus eliminates the need to directly connect a power supply to the IP device. It can be utilized to support voltage from 18V to 55V or comply with 802.3af standard by switch.

This is the perfect match for the injector LP-Poe150, but may use any other injector that complies with the industrial standard 802.3af. This is an indoor device, but may be set-up on an outdoor environment with the use of an adequated enclosure.

### Features

■ Category 5 Pin Power Usage:

Data: pins 1 & 2, 3 & 6 Power: pins 4 & 5, 7 & 8.

**■ Ethernet Cable:** 

Data rate: 10/100 Mbps TIA/EIA 568B-2, Cat5e Connector: RJ-45

**■ Dimensions:** 76 x 52.5 x 28 mm.

■ Operating Temperature: 0°C to 50°C.

■ Storage Temperature: -40°C to 70°C.

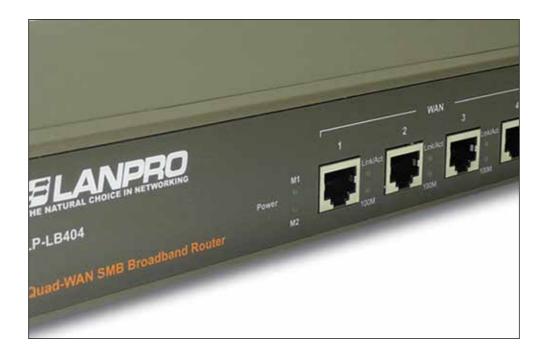
■ Operating Humidity: 10% to 80% RH.

■ Storage Humidity: 5% to 90% RH.

**■ EMI Certification:** CE Class B.

### How to order

■ LP-PoE151 Power Over Ethernet, (PoE splitter) IEEE 802.3af standard compliant.





www.lanpro.com











### **EQUIPMENT**

| Industrial and E | nterorise / | \olications: |
|------------------|-------------|--------------|
|------------------|-------------|--------------|

| N 4 | erci |      |     |     |
|-----|------|------|-----|-----|
| М   | ONCI | IMV. | \nn | 100 |
|     |      |      |     |     |

| <ul><li>2.4 GHz</li></ul> | <ul> <li>5.8 GHz</li> </ul> |             |
|---------------------------|-----------------------------|-------------|
| LP-34843                  | LP-5a43                     | IP-788ai 43 |
| LP-34943                  | LP-5ai43                    | LP-289ai43  |

### Convergence Series \_\_\_\_\_

| • | Convergence 31xx and 32xx Series |     |
|---|----------------------------------|-----|
|   | LP-31ET21, LP-31ET11             | .46 |
|   | LP-32ET21, LP-32ET11             | .46 |
|   | LP-31ET22, LP-31ET12             | .46 |
|   | LP-32ET22, LP-32ET12             | .46 |
|   | LP-31ET24, LP-31ET14             | .46 |
|   | LP-32ET24, LP-32ET14             | .46 |
|   |                                  |     |

### 

#### Atlas Series

## • ATLAS SERIES Product Family Description Broadband Wireless Access Radio Licensed Band Outdoor Solutions with external antenna.

| LP-A0303a, LP-A0405a | 54 | LP-A2729a, LP-A3334a | 54 |
|----------------------|----|----------------------|----|
| LP-A0707a, LP-A0909a | 54 | LP-A3437a, LP-A4447a | 54 |
| LP-A2324a. LP-A2527a | 54 | LP-A4949a, LP-A5160a | 54 |

### ATLAS SERIES Product Family Description Broadband Wireless Access Radio Licensed Band Outdoor Solutions with integrated antenna.

| LP-A2324ai, LP-A2527ai | 58 | LP-A3437ai,LP-A4949ai | 58 |
|------------------------|----|-----------------------|----|
| LP-A2729ai, LP-A3334ai | 58 | LP-A5160ai            | 58 |

#### NYX Series

### • NYX Near-LOS Single Band MESH Bridge Series by LanPro®.

| LP-NYXO3O3A1, LP-NYXO4O4A1 | 62 | LP-NYX0303A2, LP-NYX0404A2 | 62 |
|----------------------------|----|----------------------------|----|
| LP-NYX0909AI, LP-NYX2324AI | 62 | LP-NYXO909A2, LP-NYX2324A2 | 62 |
| LP-NYX5758A1               | 62 | LP-NYX5758A2               | 62 |

### **VULCAN Series**

# VULCAN400 SERIES Product Family Description Long Distance High Capacity Point to Point Backhaul, Point to Multi-Point 450 MHz to 500 MHz Outdoor or mobile application OFDM/TDMA Subscriber Radios with External Antenna.

| LP-V0405a137  | 66 | LP-V0405a33766 |
|---------------|----|----------------|
| I P-VN4N5a737 | 66 |                |

### VULCAN SERIES Product Family Description Long distance High capacity Point to Point Backhaul 2.3 GHz to 6.06 GHz Outdoor TDMA Subscriber with External Antenna.

| LP-V242430a70 | LP-V495823a70 |
|---------------|---------------|
| LP-V242434a70 | LP-V516023a70 |



# **TABLE OF CONTENTS**

| <b>3 GHz Outdoor TDMA Subscriber wi</b><br>LP-V232441ai<br>LP-V242441ai<br>LP-V494944ai. | 74           | LP-V495846aiLP-V516046ai         | 74  |
|--|--------------|----------------------------------|-----|
|  |              |                                  | 74  |
|  |              |                                  |     |
| mall Business Series SBS   |              |                                  |     |
| 1111aii dusiiless series sos<br>LP-N24V2   | QΠ           | LP-N24P                          | QÇ  |
| LP-N300  |              | LP-N300P                         |     |
| LP-1521  |              | LP-N24U                          |     |
| LP-1321<br>LP-1577   |              | LP-N24U                          |     |
|  |              | LL-N9000                         | 00  |
| LP-1520ai  |              |                                  |     |
| JSB Wireless Adaptors  |              |                                  |     |
| LP-570G  | 89           | LP-575G                          | 89  |
| RF Amplifiers  |              |                                  |     |
| LP-PAR2405   | qn           | LP-PAR2420                       | qn  |
| LP-PAR2410   |              | LP-PAR2440                       |     |
| ZANI   |              |                                  |     |
| LP-YAGIOX8YZHD   | 94           | LP-OMNIXXXXO5AHD                 | 140 |
| LP-YAGIFFFFGGCHDFW   |              | LP-OMNIMOBILEO406                | 142 |
| LP-YAGIO90010AHDFW   | 98           | LP-OMNIMOBILE090                 | 144 |
| LP-YAGI0412  | 100          | LP-0MNI2406                      | 146 |
| LP-YAGIO512  | 102          | LP-0MN12407                      | 148 |
| LP-SECTORO407UI2O  | 104          | LP-0MNI2408                      | 150 |
| LP-YAGI2410  |              | LP-0MNI2408HD                    | 152 |
| LP-YAGI24I5N   |              | LP-0MNI2410                      | 154 |
| LP-YAGI24I5SMA   |              | LP-0MN12412                      |     |
| LP-PAR2415   |              | LP-OMNI24I2HD                    |     |
| LP-PAR2420.  | <del>-</del> | LP-0MNI2415                      |     |
| LP-PAR2424   |              | LP-OMNIMOBILE2407                |     |
| LP-PAR2427   |              | LP-OMNINAV2407                   |     |
|  |              | LP-PANELO908HDSMLP-PANELO908HDSM |     |
| LP-PAR2429   |              |                                  |     |
| LP-PAR2430   |              | LP-PANEL2408                     |     |
| LP-PAR2433   |              | LP-24/2C                         |     |
| LP-SEC2412180  |              | LP-PANEL2414                     |     |
| LP-SEC2413120  |              | LP-PANEL2418                     |     |
| LP-SEC241490   |              | INWAVE SERIES                    |     |
| LP-SEC2415180  |              | LP-YAGI5815                      |     |
| LP-SEC2416120  | 13/          | LP-SEC5815120                    | 1RU |
| LT-9EP7410170"""""""""""""""""""""""""""""""""   | 107          | LI ULUUUIUIZU                    |     |
| LP-SEC241790   |              | LP-SEC581790                     |     |

## TABLE OF CONTENTS

| 16 |  |  |
|----|--|--|
| 8  |  |  |
| 0  |  |  |
| 12 |  |  |
| 14 |  |  |

| 18 |
|----|
| 10 |
| 12 |
| ]4 |
| 16 |
|    |



LP-PAR5829.

LP-PAR5832. LP-PAR5835.

LP-PAR5828.....

LP-PAR5830.....

LP-PAR5W31.....

| Ы | 1000001/10                |             |                           |     |
|---|---------------------------|-------------|---------------------------|-----|
| • | RF Coaxial Connectors     |             |                           |     |
| Ĭ | LP-61636                  | 210         | LP-4710                   | 211 |
|   | LP-52128                  |             | LP-4110                   | 211 |
|   | LP-4718                   |             | LP-4614                   | 211 |
|   | LP-4610                   | 210         |                           |     |
| • | RF Cable                  |             |                           |     |
| Ĭ |                           |             |                           | 212 |
|   | Universal Mounting System |             |                           |     |
|   |                           |             |                           | 213 |
| • | All Weather Enclosures    |             |                           |     |
|   | ENCLOSURES                |             |                           | 213 |
| • | Surge Arrester            |             |                           |     |
|   | LP-G10                    | 214         | LP-G11                    | 214 |
| • | Signal Splitters          |             |                           |     |
|   | LP-SPL2825W               | 715         | LP-SPL45058W              | 215 |
|   | LP-SPL3825W               |             | LP-SPL224                 |     |
|   | LP-SPL4825W               |             | LP-SPL324                 |     |
|   | LP-SPL25058W              |             | LP-SPL424                 |     |
|   | LP-SPL35058W              |             |                           |     |
| • | LanPro Pigtails           |             |                           |     |
| _ | N-TNC                     |             | N Male to SMA Pigtails    |     |
|   | LP-8871                   | 71 <b>6</b> | LP-82623                  | 216 |
|   | LP-8872                   |             | LP-82624                  |     |
|   | LP-8873                   |             | LP-82625                  | 216 |
|   |                           |             | LP-82626                  | 216 |
|   | N Female to SMA Pigtails  |             | N Male to N Male Pigtails |     |
|   | LP-83088                  | 216         | LP-81145                  | 216 |
|   |                           |             | LP-81146                  | 216 |
|   |                           |             | LP-81147                  | 216 |
|   | SMA to SMA Pigtails       |             | LP-81148                  |     |
|   | LP-83087                  | 216         | LP-81149                  | 216 |
| • | Accesories                |             |                           |     |
|   | LP-SPL2825W               | 217         | LP-SPL45058W              |     |
|   | LP-SPL3825W               | 217         | LP-SPL224                 |     |
|   | LP-SPL4825W               | 217         | LP-SPL324                 | 217 |
|   | LP-SPL25058W              | ·····       | LP-SPL424                 | 217 |
|   | LP-SPL35058W              | 217         |                           |     |



# **Industrial and Enterprise Applications**



LanPro is proud to present a series of product families for Industrial and Enterprise Wireless Applications that expand into a wide selection of characteristics and specifications suited for solving Point to Point and Point to Multi-Point wireless connectivity in their environments.

Beginning with the Mercury Series of Classic WiFi 802.11 a/b/g implementations in the ISM 2.4 GHz and 5 GHz bands whose target are the low cost WISP applications and the 5 GHz band intended mostly for High Quality PtmP or backbone applications that go from 5.1 to 5.8 GHz.

The next level is covered by our Convergence Series of Radios with applications that are targeted at the convergence of technologies of Voice/Data/Video serving up to 23 Mbps air-rate Ethernet and Plesiosychronous fractional E1/T1 and V.35 services in a Last-Mile configuration.

For TelCo applications, the Atlas Series of radios serve target Base Side High Capacity/Long Distance outdoor subscriber services. Implemented with OFDM, TDM and QoS for PtmP applications ensuring that no CPE will talk at the same time. Not WiFi compatible for no interference from widely deployed WiFi installations. Nx64 Kbps for their own CPE.

The next family of PtP and PtmP radios, the Vulcan series, used for Long Range high capacity Outdoor Subscriber TDMA/TDD with up to 40 MHz adjustable bandwidth with propietary security, not compatible with regular WiFi products, with 50% more throughput (Up to 56 Mbps) than the Mercury or Atlas series.

And last but not least is a new family just be released soon, used for fix and mobile applications in a Mesh/Bridge configuration: our Nyx series, it fills the gap of Self Routing and Self Healing needs. Mesh allows Mobility and Redundance.



# Mercury and Convergence Series

## Mercury Series

|   | Features Peatures   |  |  |  |  |  |
|---|---|--|--|--|--|--|
| 802.11a/b/g   | 802.11a/b/g - Classic WiFi Equipment.                                 |  |  |  |  |  |
| <b>OFDM</b>   | - Fixed Bandwith: 20 MHz CSMA/CA.                                     |  |  |  |  |  |
| DSSS  | - OFDM.   |  |  |  |  |  |
| CSMA/CA   | - Line of Sight required.   |  |  |  |  |  |
| - 5 GHz recommended for High Quality PtmP or backbones. |   |  |  |  |  |  |
| PtP, PtMP   | From 5.1 GHz - 5.8 GHz.   |  |  |  |  |  |
| ŕ   | - 2.4 GHz recommended for low cost WISP.                              |  |  |  |  |  |
| All WIFI  | All WIFI Note:The LP-288ai & LP-289ai+ support 108 Mbps into a 40 MHz |  |  |  |  |  |
| Products  | <b>Products</b> channel bandwidth in turbo mode.                      |  |  |  |  |  |

## Convergence Series

|  | Description  |
|--|--|
| PDH<br>OFDM/TDD                              | Convergence Series: Voice / Data / Video Multiplex Microwave System.  - This is a cost-effective solution that delivers up to 23 Mbps air rate for Ethernet and 4E1s (4T1s) traffic.  - The system supports a variety of spectrum bands.   |
| PtP  | <ul> <li>- Available in FE1 (Fractional E1), V.35 and Ethernet interface version. Strictly PtP.</li> <li>- The 2/4E1 model's frequency available in 2.4 GHz and 5 GHz.</li> <li>- The FE1/V.35 model's frequency Available in 700 MHz, 900 MHz, 2.3 GHz, 2.4 GHz, 2.7 to 2.9 GHz, 3.3-3.7 GHz, 4.9 and 5 GHz.</li> </ul> |
| Convergence<br>E1/T1<br>+ Ethernet +<br>V.35 | - SNMP ready 120/240VAC and 48VDC available LOS mandatory Excellent CAPEX Versions ready with or without integrated antenna.   |

# Equipment

# **Atlas and Vulcan Series**

Atlas Series (Industrial UHF/SHF)

|   | Description  |
|---|--|
| OFDM/TDD<br>TDM/QoS   | Our series of OFDM TDM & QoS TelCo Radios.  - Channel bandwidths of 5, 10 and 20 MHz.  - Not WiFi compatible.  - Operating frequency range ≤ 40 MHz.  - Output power of 1W and 5W on UHF bands.  |
| PtP, PtMP   | - Available UHF frequency bands: 300 MHz, 400 MHz, 500 MHz, 600 MHz, 700 MHz and 800 MHz and 900 MHz Customized output power and frequency from 300 MHz to 6.06 GHz TDM/QoS capable base station for PtmP applications, two CPE's will never   |
| TELCO Base Side High Capacity/ Long distance Outdoor subscriber | talk at the same time.  - Efficiency highly improved.  - The UHF frequencies show non-LOS capabilities.  - Over 2.4 GHz are Near LOS only.  - It provides the TDM/QoS and data flow control Nx64kbps for their own CPE.  - SNMP and PoE ready.  - Atlas series is designed for TelCo Business. |

## • Vulcan and Vulcan 400 Series

|                                      | Description  |
|--------------------------------------|--|
| TDMA/TDD                             | - High Capacity/ Long distance outdoor subscriber TDMA/TDD,<br>Frequency available in 400MHz, 900MHz, 2.3 GHz, 2.4 GHz,<br>3.4-3.7 GHz, 4.9-6.06 GHz.<br>- 5/10/20/40 MHz adjustable bandwith provides flexibility up to 56 Mbps   |
| PtP/PtMP                             | in a 40 MHz channel bandwidth 5/10 MHz for Vulcan 400 only High EIRP Propietary security Not compatible with regular WiFi products.  |
| Long Range<br>Up to 80 Km<br>40 Mbps | <ul> <li>No interference.</li> <li>Ideal for long bridge applications.</li> <li>PtP / PtMP.</li> <li>Integrated Antenna offers 10 degrees E x H.</li> <li>Ideal for rural and remote villages.</li> <li>Ideal for VoIp to isolate locations.</li> <li>Near-Far issue unnafected.</li> <li>50% more flow than Mercury or Atlas series.</li> </ul> |





## **MERCURY SERIES**

Industrial and Enterprise Applications.

# MERCURY SERIES Product Family Description Multi-function Wi-Fi Radio ISM Band Outdoor Solutions with external and integrated antenna.

Integrated Antenna



The Lanpro Mercury series provides large output power and high throughput options for ISM Band outdoor Wi-Fi radios. It operates at 2.4 GHz and 5 GHz unlicensed ISM band with OFDM technology and support 5 different operation modes – AP / Station / WDS(Bridge) / Repeater / Inter-building private LAN. It provides a turn-key solution for Hotspot, enterprise / campus connectivity, and PWLAN applications.

It's easier and more cost effective to deploy the wireless access environment with the Wireless Distribution System (WDS) technology. Saving  $30\% \sim 50\%$  cost for telecom operators, ISPs and enterprises.

The Mercury series has powerful security management because it supports WEP 64 / 128 / 152 bits, 802.1x Authentication (EAP), MAC address filter, disable broadcast the SSID, client isolation and WPA-PSK/ WPA2-PSK / WPA(TKIP) / WPA2(AES-128bits) encryption. All these functions make the network much more secure and reliable.

# **MERCURY SERIES**



## Industrial and Enterprise Applications.

### **Applications**

- Enterprise / Campus Hotspot, Long distance P-T-P / P-T-MP (CPE) Bridge.
- Redundant link between buildings.
- Wireless Distribution System (WDS).
- Wireless Repeater.

- Dedicated ISP connections for high-reliability base stations and subscribers.
- Enterprises or Institutions LAN and PBX extension.
- Cost effective alternative to wired network environment.
- IP-68, Enclosure rating for harsh environments.

| Product Highlights  |   |  |  |  |
|---|---|--|--|--|
| Large area coverage  High output power for IEEE 802.11b/g and low noise figure extends signal transmit distart enlarge the coverage area as well. |   |  |  |  |
| High data rate at long distance   | Break the distance limit of $802.11a/b/g$ standards. We succeeded in extending the signal up to $40~\rm Km$ with the proper antenna.  |  |  |  |
| Flexibility   | This radio can play various roles in the wireless infrastructure, the customer can attach the proper antenna according to the application, and make the wireless infrastructure deployment more flexible.   |  |  |  |
| QoS - Wi-Fi Multi-media (WMM) With this feature, the radio can support quality of service for prioritizing traffic from the Eth the access point. |   |  |  |  |
| Security  | WEP 64 / 128 / 152 bits, 802.1x Authentication (EAP), MAC access control, disable broadcast the SSID, client isolation, WPA-PSK, WPA-TKIP encryption and WPA2 (AES-128bits) build the highest security mechanism to prevent malicious attacks from the wireless interface.                    |  |  |  |
| Antenna Alignment<br>(Audible antenna alignment<br>optional)  | The site survey function provides the RSSI (signal strength) info to indicate the status of antenna alignment. Customer can order the audible antenna alignment model, and just align the antenna with the sound heard through a headphone, like the one of your mp3 player, easy and simple. |  |  |  |
| Robust Construction   | Prepared for harsh environments, the IP-67/IP-68 rating ensures long life operation.  |  |  |  |

|                        | External Antenna Version Specifications          |   |                   |                    |                    |                   |  |
|------------------------|--|---|-------------------|--------------------|--------------------|-------------------|--|
| RADIO                  | RADIO  |   |                   |                    |                    |                   |  |
| Model No.              | LP-348   | LP-349  | LP-5a             | LP-288AI           | LP-289AI           | LP-5AI            |  |
| Standards              | IEEE 802.11b/g                                   | IEEE 802.11b/g  | IEEE 802.11a      | IEEE 802.11a       | IEEE 802.11a       | IEEE 802.11a      |  |
| Frecuency              | 2.4 GHz  | 2.4 GHz   | 5 GHz             | 5 GHz              | 5 GHz              | 5 GHz             |  |
| OUTPUT POWE            | R / RX SENSITIVIT                                | Y (Packet Error rate  | e:10%)            |                    |                    |                   |  |
| 64QAM(54Mbps)          | 26(±1.5)/-77(dBm)                                | 31(±1.5)/-79(dBm)   | 20(±1.5)/-72(dBm) | 17±1.5dBm/-71(dBm) | 12±1.5dBm/-75(dBm) | 20(±1.5)/-72(dBm) |  |
| 16QAM(36Mbps)          | 28(±1.5)/-85(dBm)                                | $3(\pm 1.5)/-85(dBm)$ $33(\pm 1.5)/-88(dBm)$ $22(\pm 1.5)/-78(dBm)$ |                   | 19±1.5dBm/-81(dBm) | 14±1.5dBm/-81(dBm) | 22(±1.5)/-78(dBm) |  |
| QPSK(18Mbps)           | 30(±1.5)/-90(dBm)                                | 34(±1.5)/-93(dBm)   | 23(±1.5)/-84(dBm) | 20±1.5dBm/-84(dBm) | 14±1.5dBm/-86(dBm) | 23(±1.5)/-84(dBm) |  |
| BPSK(6Mbps)            | 30(±1.5)/-93(dBm)                                | 34(±1.5)/-96(dBm)   | 23(±1.5)/-90(dBm) | 20±1.5dBm/-89(dBm) | 15±1.5dBm/-89(dBm) | 23(±1.5)/-90(dBm) |  |
| CCK(DSSS)              | 30(±1.5)/-93(dBm)                                | 34(±1.5)/-96(dBm)   | N/A               | N/A                | N/A                | N/A               |  |
| Modulation             | odulation OFDM/ (DSSS)                           |   |                   |                    |                    |                   |  |
| Duplex                 |  |   | С                 | SMA/CA             |                    |                   |  |
| Frequency<br>Stability | ±10ppm   |   |                   |                    |                    |                   |  |
| Range                  | 20 Km  | 25 Km   | 20 Km             | 20 Km              | 13 Km              | 20 Km             |  |
| INTERFACES             | INTERFACES                                       |   |                   |                    |                    |                   |  |
| RF                     | N-Jack N/U                                       |   |                   |                    |                    |                   |  |
| Ethernet               | IEEE 802.3(10 Base-T) / IEEE 802.3u(100 Base-Tx) |   |                   |                    |                    |                   |  |



# **MERCURY SERIES**

|                          | External Antenna Version Specifications                         |  |                                  |                                  |                              |                                |
|--------------------------|---|--|----------------------------------|----------------------------------|------------------------------|--------------------------------|
| RSSI (Receive Signal     | Strength Indicatio  | n)   |                                  |                                  |                              |                                |
| Bridge Mode              |   |  | Link T                           | est                              |                              |                                |
| Station Mode             |   |  | Site Su                          | rvey                             |                              |                                |
| Antenna Alignment        |   | Audibl   | e Antenna Alignment              | (beeper) Only in LP-             | -5AI                         |                                |
| MANAGEABILITY            |   |  |                                  |                                  |                              |                                |
| Management and setup     |   |  | Web-based co                     | nfiguration                      |                              |                                |
| Operating mode           |   | AP / Station /   | WDS (Bridge) / Repe              | ater / Inter-building            | private LAN                  |                                |
| Network Architecture     |   | Hot  | spot / PTP Bridge / P            | TMP Bridge / Repeat              | er                           |                                |
| Operating System         |   |  | Windows 98 / 20                  | 000 / NT / XP                    |                              |                                |
| SNMP agents              |   |  | MIB LP-289AI, I                  | MIB II LP-5AI                    |                              |                                |
| Protocol                 |   |  | TCP/IP, IPX/SP                   | X, NetBEUI                       |                              |                                |
| IP Routing               |   |  | Enable a                         | anyIP                            |                              |                                |
| QOS                      |   |  | Wi-Fi Multi-media / l            | Uplink speed limit               |                              |                                |
| DHCP support             |   | DH   | HCP server / DHCP CI             | ient (LP-289AI only)             |                              |                                |
| Other Features           | VLAN ,  | VLAN / HTTP Re-direct / Virtual Servers / AP Channel Auto Selection / Station Fast Roaming /<br>CPU Loading Monitor / Load Balance |                                  |                                  |                              |                                |
| SECURITY                 |   |  |                                  |                                  |                              |                                |
| Data Encryption          | WEP (64/128/152 bits) / WPA-PSK / WPA-TKIP / WPA2 (AES 128bits) |  |                                  |                                  |                              |                                |
| Authentication           | 802.1x Auth.(EAP)   |  |                                  |                                  |                              |                                |
| Authorization            |   |  | MAC Access                       | S Control                        |                              |                                |
| Advanced Security        | Disal   | ole Broadcast SSID /   | Firewall / Wireless Cl           | lient Security Sepera            | tion (Layer 2 Isola          | tion)                          |
| ENVIRONMENT              |   |  |                                  |                                  |                              |                                |
| Model No.                | LP-348  | LP-349   | LP-5a                            | LP-288AI                         | LP-289AI                     | LP-5AI                         |
| Operating<br>Temperature | -0~55°C   | -0~55ºC  | -30~55°C                         | -30~55°C                         | -30~55°C                     | -30~55°C                       |
| Storage Temperature      | -30~70°C  | -30~70°C   | -30~70°C                         | -30~70°C                         | -30~70°C                     | -30~70°C                       |
| Humidity                 | 95% non-condensing  |  |                                  |                                  |                              |                                |
| IP Enclosure Rating      | IP-68   |  |                                  |                                  |                              |                                |
| POWER                    |   |  |                                  |                                  |                              |                                |
| Power Supply             |   | AC 100-264V, I   | DC 24 V, 50-60Hz, LP             | 2-5AI DC 24 V, LP-28             | 8AI DC 15 V                  |                                |
| PHYSICAL                 |   |  |                                  |                                  |                              |                                |
| Dimension                | 259 (L) * 250 (W)<br>*75 (H); mm                                | 259 (L) * 250 (W)<br>*75 (H); mm   | 259 (L) * 250 (W)<br>*75 (H); mm | 197 (L) *197 (W)<br>* 70 (H); mm | 197(L)*197(W)<br>*70 (H); mm | 259 (L)* 250 (W)<br>x 75(H);mm |
| Weight                   | 2.2Kg   | 2.5Kg  | 1.8Kg                            | 0.75Kg                           | 0.8Kg                        | 1.8Kg                          |
| WARRANTY                 | 1 Years   |  |                                  |                                  |                              |                                |

## How to order

- LP-348 2.4 GHz 802.11 b/g ENTERPRISE LEVEL WISP OUTDOOR RADIO with WDS.
- LP-349 2.4 GHz 802.11 b/g ENTERPRISE LEVEL WISP OUTDOOR RADIO with WDS.
- **LP-5a** 5.8 GHz 5 GHz Band, 802.11a AP.
- LP-5ai 5.8 GHz 5 GHz Band, 802.11a, Outdoor Panel Integrated Antenna, IP-68 rated.
- LP-288ai Small and Compact 5.8GHz OFDM Outdoor Radio 5/10/20MHz Fractional bandwidth.
- LP-289ai 5.8 GHz Antenna Integrated Medium Range AP.



Industrial and Enterprise Applications.

## CONVERGENCE 31XX and 32XX Series PDH / Ethernet Convergent System.



CONVERGENCE 31XX and 32XX Series delivers up to 23 Mbps air rate for Ethernet and up to 4 ports E1 (T1) traffic. The system supports a variety of spectrum bands.

CONVERGENCE 31XX and 32XX Series employs Time Division Duplex (TDD) transmission. This technology simplifies the installation and configuration procedure. There is no need to plan and to allocate separate channels for the uplink and downlink data streams.

Operation over 2.4 GHz ISM band and 5.x GHz UNII bands in not affected by harsh weather conditions, such as fog, heavy rain etc.

The CONVERGENCE 31XX and 32XX Series system offers more than just an attractive price-point per link and powerful performance characteristics. Easy of installation and alignment along with smart management capabilities make setup and configuration a snap.



## Industrial and Enterprise Applications.

#### Features and Benefits

- High quality Voice / Data / Video transmission.
- Cost-effective alternative to traditional E1(T1) devices.
- Up to 4 ports E1(T1) supported.
- High reliability of radio link provides excellent BER.
- Operate on 2.4 GHz ISM band and 5 GHz UNII bands with OFDM technology.
- Employs Time Division Duplex (TDD) transmission, no need to plan and to allocate separate channels for the uplink and downlink data streams.
- End to end transmission of multiple user services over packet switched networks.

- Transparent Ethernet forwarding.
- Support SNMP for remote monitor and management.
- Window based utility provides user friendly interface to configure the IDU/ODU.
- Rapid installation and easy configuration for deploying the link.
- Enhanced Security and access control.
- Power over Ethernet to ODU.
- IP-68 rated weather-proof housing for ODU.

| Applications  |  |  |  |  |
|---|--|--|--|--|
| Wireless Backup.     Lossless Backhaul for Hot Spots. |  |  |  |  |
| • Emergency Services and Temporary Deployment.        | • Interconnecting Multiple Legacy Services over Packet Networks. |  |  |  |
| Cellular Backhaul.                                    | Extension to MMDS and 3G last mile networks.                     |  |  |  |
| Telephony Extension.                                  |  |  |  |  |

| Specifications       |                               |   |  |  |  |
|----------------------|-------------------------------|---|--|--|--|
| Configuration        | Configuration                 |   |  |  |  |
| Architecture         | IDU: Indoor Unit              |   |  |  |  |
| Architecture         | ODU: Outdoor Unit             |   |  |  |  |
| IDU to ODU Interface | Outdoor CAT-5 cable: Maxi     | imum cable length: 90 m                     |  |  |  |
| Radio                |                               |   |  |  |  |
|                      | LP-32ETXX                     | 2.400 – 2.4835 GHz                          |  |  |  |
|                      | LP-31ETXX                     | 5.150 – 5.250 GHz                           |  |  |  |
| Frequency bands      |                               | 5.250 - 5.350 GHz                           |  |  |  |
|                      |                               | 5.470 - 5.725 GHz (includes DFS / TPC)      |  |  |  |
|                      |                               | 5.725 - 5.850 GHz                           |  |  |  |
| Data Rate            | Configurable up to 23 Mbp     | Configurable up to 23 Mbps (bi-directional) |  |  |  |
| Channel Bandwidth    | 20 MHz                        |   |  |  |  |
| Duplex Technique     | TDD                           |   |  |  |  |
| Modulation           | OFDM-BPSK, QPSK, 16QAM, 64QAM |   |  |  |  |
| Transmit Power       | 23 dBm max.                   |   |  |  |  |



## Industrial and Enterprise Applications.

| Specifications                             |                              |                             |                |          |  |  |
|--|------------------------------|-----------------------------|----------------|----------|--|--|
| Rx Sensitivity @ Packet<br>Error Rate: 10% | 54Mbps                       | 36Mbps                      | 18Mbps         | 6Mbps    |  |  |
| LP-32ETXX                                  | -72 dBm                      | -77 dBm                     | -84 dBm        | -89 dBm  |  |  |
| LP-31ETXX                                  | -70 dBm                      | -75 dBm                     | -82 dBm        | -87 dBm  |  |  |
| Received Dynamic Range                     | > 60 dB                      |                             |                |          |  |  |
| Ethernet Interface                         |                              |                             |                |          |  |  |
| Туре                                       | 10/100 Base T Interface wi   | th Auto-negotiation (IEEE   | 802.3)         |          |  |  |
| Number of Ethernet<br>Ports                | 1 (LAN Traffic Bandwidth Co  | ontrol)                     |                |          |  |  |
| Framing / Coding                           | IEEE 802.3/U                 |                             |                |          |  |  |
| Bridging                                   | Self-learning up to 2047 M   | AC addresses IEEE 802.1Q    | ]              |          |  |  |
| Traffic Handling                           | MAC layer bridging, self-lea | arning                      |                |          |  |  |
| Line Impedance                             | 100 Ω                        |                             |                |          |  |  |
| VLAN Support                               | Transparent                  | Transparent                 |                |          |  |  |
| Connector                                  | RJ-45                        |                             |                |          |  |  |
| E1/T1 Interface                            |                              |                             |                |          |  |  |
| Framing                                    | Unframed (transparent)       |                             |                |          |  |  |
| Number of E1(T1)                           | 0, 1, 2, 3, 4                |                             |                |          |  |  |
| Standard Compliance                        | G.703, G.826                 |                             |                |          |  |  |
| Timing                                     | Independent Tx and Rx tim    | ing                         |                |          |  |  |
| Line Code                                  | E1: HDB3 @ 2.048 Mbps; T     | T1: B8ZS/AMI @ 1.544 Mb     | ps             |          |  |  |
| Impedance                                  | E1-120 Ω. Balanced; T1 – 3   | 100 Ω, Balanced             |                |          |  |  |
| Management                                 |                              |                             |                |          |  |  |
| Local Management                           | CLI / RS232, SNMP            |                             |                |          |  |  |
| Remote Management                          | SNMP                         |                             |                |          |  |  |
| SNMP Agent                                 | MIB II, Private MIB          |                             |                |          |  |  |
| Security                                   | User log on, MAC Access co   | ontrol list, WEP Encryption | 40,128,152 bit | <u> </u> |  |  |
| Power and Mounting                         |                              |                             |                |          |  |  |
| Power Feeding                              | 100/240 VAC                  |                             |                |          |  |  |
| Mounting                                   | Pole and Wall                |                             |                |          |  |  |



Industrial and Enterprise Applications.

| Specifications                        |   |  |  |  |
|---------------------------------------|---|--|--|--|
| Mechanics                             |   |  |  |  |
| ODU (integrated antenna not included) | 259 (L) x 250 (W) x 75 (H); mm.<br>Weight: 1.8kg    |  |  |  |
| IDU Dimensions                        | 425 (L) x 256 (W) x 44.5 (H); mm.<br>Weight: 2.9 Kg |  |  |  |
| Environmental                         |   |  |  |  |
| Outdoor Unit Enclosure                | IP-68 rated weather-proof enclosure                 |  |  |  |
| ODU Operating Temperatures            | -20°C ~ 60°C  |  |  |  |
| IDU Operating Temperatures            | -5°C - 55°C   |  |  |  |
| Humidity                              | Up to 90% non-condensing                            |  |  |  |

## How to order

- LP-31ET21 2.4 GHz ISM band, 1xE1, 1xEthernet IDU/ antenna-integrated ODU.
- LP-31ET11 5 GHz UNII band, 1xE1, 1x Ethernet IDU/ antenna-integrated ODU.
- LP-32ET21 2.4 GHz ISM band, 1xE1, 1xEthernet IDU/ antenna detachable ODU.
- LP-32ET11 5 GHz UNII band, 1xE1, 1x Ethernet IDU/ antenna detachable ODU.
- LP-31ET22 2.4 GHz ISM band, 2xE1, 1xEthernet IDU/ antenna-integrated ODU.
- LP-31ET12 5 GHz UNII band, 2xE1, 1x Ethernet IDU/ antenna-integrated ODU.
- LP-32ET22 2.4 GHz ISM band, 2xE1, 1xEthernet IDU/ antenna detachable ODU.
- LP-32ET12 5 GHz UNII band, 2xE1, 1x Ethernet IDU/ antenna detachable ODU.
- LP-31ET24 2.4 GHz ISM band, 4xE1, 1xEthernet IDU/ antenna-integrated ODU.
- LP-31ET14 5 GHz UNII band, 4xE1, 1x Ethernet IDU/ antenna-integrated ODU.
- LP-32ET24 2.4 GHz ISM band, 4xE1, 1xEthernet IDU/ antenna detachable ODU.
- LP-32ET14 5 GHz UNII band, 4xE1, 1x Ethernet IDU/ antenna detachable ODU.



Industrial and Enterprise Applications.

## CONVERGENCE 21XX and 22XX Series PDH / V.35 / Ethernet Convergent System.



CONVERGENCE 21XX and 22XX by LanPro is a compact, cost effective and very easy for deployment E1/T1 (Full / Fractional) last mile device, which convergent E1/T1, V.35 and IP protocol and is ideal for wireless links because it delivers LAN and high quality voice to remote locations over high reliability OFDM radio.

With single E1/T1, CONVERGENCE 21XX and 22XX can provide 30 or 24 voice channels, two types of connectors ( $120\Omega/75\Omega$ ) can be manually selected by dip switch, E1/T1 is selectable via software. One Ethernet port for IP packets transfer can be independently set for each Ethernet port: 128, 256, 512 kbps, 1, 2, 4, 8 Mbps, or unlimited

CONVERGENCE 21XX and 22XX includes an internal mechanism for identifying and assigning priority to E1/T1 packets, over those containing other LAN traffic. This ensures that voice packets are not delayed and a high voice service quality is maintained.



## Industrial and Enterprise Applications.

## Features and Benefits

- High quality Voice / Data / Video transmission.
- Cost-effective alternative to traditional E1(T1) devices.
- Serial data transmission V.35 (n\*64 Kbps; n=1~31).
- High reliability of radio link provides excellent BER.
- Several Frequencies with OFDM technology.
- Employs Time Division Duplex (TDD) transmission, no need to plan and to allocate separate channels for the uplink and downlink data streams.
- End to end transmission of multiple user services over packet switched networks.

- Transparent Ethernet forwarding.
- Support SNMP for remote monitor and management.
- Window based utility provides user friendly interface to configure the IDU/ODU.
- Rapid installation and easy configuration for deploying the link.
- Enhanced Security and access control.
- Power over Ethernet to ODU.
- IP-68 rated weather-proof housing for ODU.

| Applications  |  |  |  |  |
|---|--|--|--|--|
| Cellular Backhaul for small capacity area.     Internet and voice service extension for remote districts. |  |  |  |  |
| Telephony Extension.  | Compressed Digital Voice and data over Wireless Network. |  |  |  |
| Interconnecting Multiple Legacy Services over Packet<br>Networks.   | Wireless Backup.   |  |  |  |
| Extension to MMDS and 3G last mile networks.  | Emergency Services and Temporary Deployment.             |  |  |  |

| Specifications       |                        |  |  |  |  |
|----------------------|------------------------|--|--|--|--|
| Configuration        |                        |  |  |  |  |
| Architecture         | IDU: Indoor Unit       |  |  |  |  |
| Architecture         | ODU: Outdoor Unit      |  |  |  |  |
| IDU to ODU Interface | Outdoor CAT-5 cable: I | Maximum cable length: 90 m             |  |  |  |
| Radio                |                        |  |  |  |  |
|                      | 2.3 GHz                | 2.300 - 2.3835 GHz                     |  |  |  |
|                      | 2.4 GHz                | 2.400 - 2.4835 GHz                     |  |  |  |
|                      | 3.3 GHz                | 3.300 – 3.400 GHz                      |  |  |  |
|                      | 4.9 GHz                | 4.940 – 4.990 GHz                      |  |  |  |
| Frequency Bands      |                        | 5.150 – 5.250 GHz                      |  |  |  |
|                      | 5 GHz                  | 5.250 - 5.350 GHz                      |  |  |  |
|                      |                        | 5.470 - 5.725 GHz (includes DFS / TPC) |  |  |  |
|                      |                        | 5.725 – 5.850 GHz                      |  |  |  |
| Throughput           | Up to 23 Mbps          |  |  |  |  |
| Channel Bandwidth    | 20 MHz                 | 20 MHz                                 |  |  |  |
| Duplex Technique     | TDD                    | TDD                                    |  |  |  |
| Modulation           | OFDM-BPSK, QPSK, 16    | GQAM, 64QAM                            |  |  |  |
| Transmit Power       | 23 dBm max.            |  |  |  |  |



## Industrial and Enterprise Applications.

| Cussifications                             |                               |   |          |          |  |  |
|--|-------------------------------|---|----------|----------|--|--|
| Specifications                             |                               |   |          |          |  |  |
| Rx Sensitivity @ Packet Error<br>Rate: 10% | 54 Mbps                       | 36 Mbps   | 18 Mbps  | 6 Mbps   |  |  |
| Natc. 1070                                 | -70 dBm                       | -75 dBm   | -82 dBm  | -87 dBm  |  |  |
| Received Dynamic Range                     | > 60 dB                       | 75 dbiii  | OZ UDITI | O7 UDITI |  |  |
| Ethernet Interface                         |                               |   |          |          |  |  |
| Туре                                       | 10/100 Base T Interface wit   | h Auto-negotiation (IEEE 80   | 02.3)    |          |  |  |
| Number of Ethernet Ports                   | 1 (LAN Traffic Bandwidth Co   |   | ,        |          |  |  |
| Framing / Coding                           | IEEE 802.3/U                  |   |          |          |  |  |
| Bridging                                   | Self-learning up to 2047 MA   | C addresses IEEE 802.1Q   |          |          |  |  |
| Traffic Handling                           | MAC layer bridging, self-lear | ning  |          |          |  |  |
| Line Impedance                             | 100 Ω                         | <del>-</del>  |          |          |  |  |
| VLAN Support                               | Transparent                   |   |          |          |  |  |
| Connector                                  | RJ-45                         |   |          |          |  |  |
| E1/T1 Interface                            |                               |   |          |          |  |  |
| Framing                                    | Unframed (transparent)        |   |          |          |  |  |
| Number of E1(T1)                           | One E1 (T1) or disabled       |   |          |          |  |  |
| Standard Compliance                        | G.703, G.826                  |   |          |          |  |  |
| Line Code                                  | E1: HDB3 @ 2.048 Mbps; T      | 1: B8ZS/AMI @ 1.544Mbps   |          |          |  |  |
| Impedance                                  | E1-120 Ω. Balanced; T1 – 1    | 00 Ω, Balanced  |          |          |  |  |
| Connector                                  | RJ-45                         |   |          |          |  |  |
| Jitter & Wander                            | According to G.823, G.824     |   |          |          |  |  |
| V.35 Interface                             |                               |   |          |          |  |  |
| Connector interface                        | M/34 female                   |   |          |          |  |  |
| Туре                                       | DCE                           |   |          |          |  |  |
| Data rate                                  | n*64 Kbps; n=1~31             |   |          |          |  |  |
| Local Management                           | CLI / RS232, SNMP             | CLI / RS232, SNMP   |          |          |  |  |
| Remote Management                          | SNMP                          | SNMP  |          |          |  |  |
| SNMP Agent                                 | MIB II, Private MIB           | MIB II, Private MIB   |          |          |  |  |
| Security                                   | User log on, MAC Access cor   | User log on, MAC Access control list, WEP Encryption 40,128,152 bit |          |          |  |  |
| Power and Mounting                         |                               |   |          |          |  |  |
| Power Feeding                              | 100/240 VAC                   |   |          |          |  |  |
| Mounting                                   | Pole and Wall                 | Pole and Wall   |          |          |  |  |



## Industrial and Enterprise Applications.

| Specifications                               |  |  |  |  |
|--|--|--|--|--|
| Mechanics                                    |  |  |  |  |
| ODU Dimensions (includes integrated antenna) | 335 (L) $\times$ 335 (W) $\times$ 81 (H) ; mm Weight: 2.9 Kg |  |  |  |
| ODU (integrated antenna not included)        | 259 (L) x 250 (W) x 75 (H); mm.<br>Weight: 1.8kg             |  |  |  |
| IDU Dimensions                               | 379 (L) × 133 (W) × 44.5 (H)                                 |  |  |  |
| Environmental                                |  |  |  |  |
| Outdoor Unit Enclosure                       | IP-68 rated weather-proof enclosure                          |  |  |  |
| ODU Operating Temperatures                   | -30°C ~ 60°C   |  |  |  |
| IDU Operating Temperatures                   | -5°C - 55°C  |  |  |  |
| Humidity                                     | Up to 90% non-condensing                                     |  |  |  |

### How to order

- LP-22ET51 2.3 GHz, 1xE1/T1, 1xEthernet with V.35 IDU/ antenna-detachable ODU.
- LP-21ET51 2.3 GHz, 1xE1/T1, 1xEthernet with V.35 IDU/ antenna-integrated ODU.
- LP-22ET21 2.4 GHz ISM band, 1xE1/T1, 1xEthernet with V.35 IDU/ antenna-detachable ODU.
- LP-21ET21 2.4 GHz ISM band, 1xE1/T1, 1xEthernet with V.35 IDU/ antenna-integrated ODU.
- LP-22ET81 3.3 GHz, 1xE1/T1, 1xEthernet with V.35 IDU/ antenna-detachable ODU N.A.: Not available.
- LP-21ET81 3.3 GHz, 1xE1/T1, 1xEthernet with V.35 IDU/ antenna-integrated ODU N.A.: Not available.
- LP-22ET71 4.9 GHz Public safety band, 1xE1/T1, 1xEthernet with V.35 IDU/ antenna-detachable ODU.
- LP-21ET71 4.9 GHz Public Safety band, 1xE1/T1, 1xEthernet with V.35 IDU/ antenna-integrated ODU.
- LP-22ET11 5 GHz ISM band, 1xE1, 1xEthernet with V.35 IDU/ antenna-detachable ODU.
- LP-21ET11 5 GHz ISM band, 1xE1, 1xEthernet with V.35 IDU/ antenna-integrated ODU.



Industrial and Enterprise Applications.

# ATLAS SERIES Product Family Description Broadband Wireless Access Radio Licensed Band Outdoor Solutions with external antenna.















The ATLAS Series by LanPro is an ideal solution for Broadband wireless access. The support of various frequencies from 336 MHz~6060 MHz, including the licensed band for Wimax or customized frequencies. That flexibility provides the customer more options besides the crowded ISM band. The use of an external antenna adds to this flexibility, enabling the user to adapt the antenna to the application.

The fractional bandwidth control feature (5/10/20 MHz adjustable via software) allows more non-overlapping channels in a practical deployment, providing better flexibility in deploying the network.

High output power OFDM/TDD technology supports better performance for near-line of sight deployment, and the unique regatta mode enhances the throughput of the radio up to  $25{\sim}35\%$ .

Supports WEP 64 / 128 / 152 bits, 802.1x Authentication (EAP), MAC address filtering, disable broadcast the SSID, client isolation and WPA-PSK / WPA(TKIP) / WPA2 (AES-128bits) encryption. All these functions make the network much more secure and reliable.



## Industrial and Enterprise Applications.

## **Applications**

fractional (nx64 Kbps).

- Long distances P-T-P or P-T-MP Bridge (CPE).
- Monitoring of remote systems.
- Sensor data capture in embedded systems.

and data transmission. Throughput of the radio can be set in

■ Home automation & building control.

- SCADA (supervisory control & data Acquisition).
- Dedicated ISP connections for high-reliability subscribers.

headphone of your mp3 player, easy and simple.

■ Enterprises or Institutions LAN and PBX extension.

| Product Highlights   |  |  |  |  |  |
|--|--|--|--|--|--|
| • Effective spectrum utility. The LanPro ATLAS series support fractional bandwidth control. There are 3 different bandwidths (5, 10 and 20 MHz) adjustable via software, that provide better flexibility in deploying the network. | • Security WEP 64 / 128 / 152 bits, 802.1x Authentication (EAP), MAC access control, disable broadcast the SSID, client isolation, WPA-PSK, WPA-TKIP encryption and WPA2 (AES-128bits) build the highest security mechanism to prevent malicious attacks from the internet.              |  |  |  |  |
| • Regatta mode increases performance up to 35%. Unique regatta mode enhances the throughput of the radio up to 25~35%.   | High output power OFDM technology and external antenna design.     External antenna with high output power OFDM technology provides best flexibility and lowest price, and at the same time makes the ATLAS series the most cost effective solution in the WLAN outdoor radio market.    |  |  |  |  |
| Versatile Quality of Service / Time-Division<br>Multiplexing technique.  TDM tech can avoid packet collision and send packets more efficiently and in a stable manner to improve voice quality                                     | • Antenna Alignment (Audible antenna alignment optional). The site survey function provides the RSSI (signal strength) info to indicate the status of antenna alignment. Customer can order the audible antenna alignment model. Just align the antenna with the sound heard through the |  |  |  |  |

| Specifications  |                      |                      |                      |                         |                      |  |  |
|-----------------|----------------------|----------------------|----------------------|-------------------------|----------------------|--|--|
| RADIO           | RADIO                |                      |                      |                         |                      |  |  |
| Model No.       | LP-A0405A            | LP-A0707A            | LP-A0909A            | LP-A2324A               | LP-A2729A            |  |  |
| Frequency Range | 450-510 MHz          | 760-780 MHz          | 902-928 MHz          | 2302-2482 MHz           | 2700-2900 MHz        |  |  |
|                 | OUTPUT POWER / RX    | SENSITIVITY (Packet  | Error rate: 10%) Ext | ernal antenna version   | s                    |  |  |
| 64QAM (54 Mbps) | 33(±1.5) / -90 (dBm) | 22(±1.5) / -72(dBm)  | 20(±1.5) / -72(dBm)  | 20(±1.5) / -72(dBm)     | 18(±1.5) / -73 (dBm) |  |  |
| 16QAM (36 Mbps) | 33(±1.5) / -98 (dBm) | 24(±1.5) / -81(dBm)  | 22(±1.5) / -81(dBm)  | 22(±1.5) / -78<br>(dBm) | 21(±1.5) / -81 (dBm) |  |  |
| BPSK (18 Mbps)  | 36(±1.5)/-101 (dBm)  | 26(±1.5) / -88(dBm)  | 25(±1.5) / -88(dBm)  | 23(±1.5) / -84(dBm)     | 25(±1.5) / -88 (dBm) |  |  |
| QPSK (6 Mbps)   | 37(±1.5)/-103 (dBm)  | 26(±1.5) / -92(dBm)  | 25(±1.5) / -92(dBm)  | 23(±1.5) / -90(dBm)     | 25(±1.5) / -92 (dBm) |  |  |
| CCK (DSSS)      | 37(±1.5)/-103 (dBm)  | 26(±1.5) / -92 (dBm) | 25(±1.5) / -92(dBm)  | 23(±1.5) / -90(dBm)     | N/A                  |  |  |



| Specifications          |   |   |                           |                            |                      |  |  |
|-------------------------|---|---|---------------------------|----------------------------|----------------------|--|--|
| Model No.               | LP-A3334A   | LP-A3437A   | LP-A4447A                 | LP-A4949A                  | LP-A5160A            |  |  |
| Frequency Range         | 3300-3400 MHz   | 3400-3700 MHz   | 4475-4725 MHz             | 4940-4990 MHz              | 5150-6060 MHz        |  |  |
|                         | OUTPUT POWER / R)                                     | SENSITIVITY (Packet   | t Error rate: 10%) Ext    | ernal antenna version      | s .                  |  |  |
| 64QAM (54 Mbps)         | 25(±1.5) / -77 (dBm)                                  | 18(±1.5) / -73 (dBm)  | 18(±1.5) / -73(dBm)       | 17(±1.5) / -72 (dBm)       | 18 (±1.5) / -72(dBm) |  |  |
| 16QAM (36 Mbps)         | 27(±1.5) / -85 (dBm)                                  | 21(±1.5) / -81 (dBm)  | 22(±1.5) / -81(dBm)       | 19(±1.5) / -78 (dBm)       | 22(±1.5) / -78 (dBm) |  |  |
| QPSK (18 Mbps)          | 28(±1.5) / -92 (dBm)                                  | 25(±1.5) / -88 (dBm)  | 24(±1.5) / -88(dBm)       | 21(±1.5) / -84 (dBm)       | 23(±1.5) / -84 (dBm) |  |  |
| BPSK (6 Mbps)           | 28(±1.5) / -96 (dBm)                                  | 25(±1.5) / -92 (dBm)  | 24(±1.5) / -92(dBm)       | 21(±1.5) / -90 (dBm)       | 23(±1.5) / -90 (dBm) |  |  |
| CCK and DSSS            | 28(±1.5) / -96 (dBm)                                  | N/A   | N/A                       | N/A                        | N/A                  |  |  |
| Modulation              |   |   | OFDM / CCK and DSSS       |                            |                      |  |  |
| Duplex                  |   |   | TDD/TDM                   |                            |                      |  |  |
| Channel<br>Bandwidth    |   |   | 5 / 10 / 20 MHz           |                            |                      |  |  |
| Frequency<br>Stability  |   |   | ±10ppm                    |                            |                      |  |  |
| INTERFACES              |   |   |                           |                            |                      |  |  |
| RF                      |   |   | N-Jack                    |                            |                      |  |  |
| Ethernet                |   | IEEE 802.3(1  | 0 Base-T) / IEEE 802.3u   | (100 Base-Tx)              |                      |  |  |
| RSSI (Receive Sign      | RSSI (Receive Signal Strength Indication)             |   |                           |                            |                      |  |  |
| Bridge Mode             |   | Connections Status  |                           |                            |                      |  |  |
| CPE Mode                |   |   | Site Survey               |                            |                      |  |  |
| Antenna<br>Alignment    |   | Audib   | e Antenna Alignment (b    | eeper)                     |                      |  |  |
| MANAGEABILITY           |   |   |                           |                            |                      |  |  |
| Management and setup    |   | Web-based configuration / SSH                                   |                           |                            |                      |  |  |
| Operating mode          | Peer to Peer (Bridge) / AP / CPE                      |   |                           |                            |                      |  |  |
| Network<br>Architecture |   | PTP Bridge / PTMP Bridge / Repeater                             |                           |                            |                      |  |  |
| Operating System        |   | Windows   | s 98 / 2000 / NT / XP / \ | /ISTA / 7                  |                      |  |  |
| SNMP agents             |   |   | MIB II                    |                            |                      |  |  |
| Protocol                | TCP/IP, IPX/SPX, NetBEUI                              |   |                           |                            |                      |  |  |
| QOS                     | Peer to Peer link speed limit/ CPE uplink speed limit |   |                           |                            |                      |  |  |
| DHCP support            | DHCP Client   |   |                           |                            |                      |  |  |
| Other Features          | VLAN(IEEE 802.1Q)                                     |   |                           |                            |                      |  |  |
| SECURITY                |   |   |                           |                            |                      |  |  |
| Data Encryption         |   | WEP (64/128/152 bits) / WPA-PSK / WPA-TKIP / WPA2 (AES 128bits) |                           |                            |                      |  |  |
| Authentication          | 802.1x Auth.(EAP)                                     |   |                           |                            |                      |  |  |
| Authorization           | MAC Access Control                                    |   |                           |                            |                      |  |  |
| Advanced<br>Security    | Dis   | able Broadcast SSID / W   | ireless Client Security S | eperation (Layer 2 Isolati | on)                  |  |  |



## Industrial and Enterprise Applications.

| Specifications           |  |
|--------------------------|--|
| ENVIRONMENT              |  |
| Operating<br>Temperature | -30~55°C: LP-A0707A / LP-A0909A / LP-A2324A / LP-A2729A / LP-A3437A / LP-A4447A/ LP-A4949A / LP-A5160A 0~55°C: LP-A0405A / LP-A3334A           |
| Storage<br>Temperature   | -30~70°C   |
| Humidity                 | 95% non-condensing   |
| POWER                    |  |
| Power Supply             | AC 100-264V, DC 24 V, 50-60Hz  |
| PHYSICAL                 |  |
| Dimensions               | 259 (L) * 250 (W) *75 (H) ; mm   |
| Weight                   | <b>1.8Kg:</b> LP-A0707A / LP-A0909A / LP-A2324A / LP-A2729A / LP-A3437A / LP-A4447A/ LP-A4949A / LP-A5160A <b>2.5Kg:</b> LP-A0405A / LP-A3334A |
| WARRANTY                 |  |
| Validity                 | 1 Year   |

### How to order

- LP-A0303a 336 MHz 386 MHz, 5W OFDM Ethernet Radio.
- LP-A0405a 450 MHz 510 MHz, 5W OFDM Ethernet Radio.
- LP-A0707a 760 MHz 780 MHz, 800mW OFDM Ethernet industrial Radio.
- LP-A0909a 902 MHz 928 MHz ISM Band, 600mW OFDM Ethernet Radio.
- LP-A2324a 2302 MHz 2482 MHz Band, 200mW OFDM Ethernet Radio.
- **LP-A2527a** 2550 MHz 2700 MHz, 800mW OFDM Ethernet Radio.
- **LP-A2729a** 2700 MHz 2900 MHz, 300mW OFDM Ethernet Radio.
- LP-A3334a 3300 MHz 3400 MHz, 500mW OFDM Ethernet Radio.
- LP-A3437a 3400 MHz 3700 MHz, 300mW OFDM Ethernet Radio.
- LP-A4447a 4475 MHz 4725 MHz, 300mW OFDM Ethernet Radio.
- LP-A4949a 4940 MHz 4990 MHz, 100mW OFDM Ethernet Radio.
- **LP-A5160a** 5150 MHz 6060 MHz, 100mW OFDM Ethernet Radio.



Industrial and Enterprise Applications.

# ATLAS SERIES Product Family Description Broadband Wireless Access Radio Licensed Band Outdoor Solutions with integrated antenna.



The ATLAS Series by LanPro is an ideal solution for Broadband wireless access. The support of various frequencies from 400 MHz~6 GHz, including the licensed band for Wimax or customized frequencies. That flexibility provides the customer more options besides the crowded ISM band. The use of an integrated antenna simplifies the deployment work.

The fractional bandwidth control feature (5/10/20 MHz adjustable via software) allows more non-overlapping channels in a practical deployment, providing better flexibility in deploying the network.

High output power OFDM/TDD technology supports better performance for near-line of sight deployment, and the unique regatta mode enhances the throughput of the radio up to  $25\sim35\%$ .

Supports WEP 64 / 128 / 152 bits, 802.1x Authentication (EAP), MAC address filtering, disable broadcast the SSID, client isolation and WPA-PSK / WPA (TKIP) / WPA2 (AES-128bits) encryption. All these functions make the network much more secure and reliable.



## Industrial and Enterprise Applications.

## **Applications**

- Long distances P-T-P or P-T-MP Bridge (CPE).
- Monitoring of remote systems.
- Sensor data capture in embedded systems.
- Home automation & building control.

- SCADA (supervisory control & data Acquisition).
- Dedicated ISP connections for high-reliability subscribers.
- Enterprises or Institutions LAN and PBX extension.

#### **Product Highlights**

#### · Effective spectrum utility.

The LanPro ATLAS series support fractional bandwidth control. There are 3 different bandwidths (5, 10 and 20 MHz) adjustable via software, that provide better flexibility in deploying the network.

• Regatta mode increases performance up to 35%. Unique regatta mode enhances the throughput of the radio up to 25~35%.

## • Versatile Quality of Service / Time-Division Multiplexing technique.

TDM tech can avoid packet collision and send packets more efficiently and in a stable manner to improve voice quality and data transmission. Throughput of the radio can be set in fractional (nx64 Kbps).

#### Security

WEP 64 / 128 / 152 bits, 802.1x Authentication (EAP), MAC access control, disable broadcast the SSID, client isolation, WPA-PSK, WPA-TKIP encryption and WPA2 (AES-128bits) build the highest security mechanism to prevent malicious attacks from the internet.

#### High output power OFDM technology and Integrated antenna design.

Integrated panel antenna with high output power OFDM technology provides best flexibility and lowest price, and at the same time makes the ATLAS series the most cost effective solution in the WLAN outdoor radio market.

#### • Antenna Alignment (Audible antenna alignment optional).

The site survey function provides the RSSI (signal strength) info to indicate the status of antenna alignment. Customer can order the audible antenna alignment model. Just align the antenna with the sound heard through the headphone of your mp3 player, easy and simple.

| Specifications  |  |  |  |                      |                      |  |
|-----------------|--|--|--|----------------------|----------------------|--|
| RADIO           |  |  |  |                      |                      |  |
| Model No.       |  |  |  | LP-A2324AI           | LP-A2729AI           |  |
| Frequency Range |  |  |  | 2302-2482 MHz        | 2700-2900 MHz        |  |
| OUTPUT A        | OUTPUT Amplifier POWER / RX SENSITIVITY (Packet Error rate: 10%) Internal antenna versions |  |  |                      |                      |  |
| 64QAM (54 Mbps) |  |  |  | 20(±1.5) / -72(dBm)  | 18(±1.5) / -73 (dBm) |  |
| 16QAM (36 Mbps) |  |  |  | 22(±1.5) / -78 (dBm) | 21(±1.5) / -81 (dBm) |  |
| BPSK (18 Mbps)  |  |  |  | 23(±1.5) / -84(dBm)  | 25(±1.5) / -88 (dBm) |  |
| QPSK (6 Mbps)   |  |  |  | 23(±1.5) / -90(dBm)  | 25(±1.5) / -92 (dBm) |  |
| CCK (DSSS)      |  |  |  | 23(±1.5) / -90(dBm)  | N/A                  |  |
| Antenna Gain    |  |  |  | 18 dBi               | 18 dBi               |  |
| EIRP            |  |  |  | 41 dBm               | 43 dBm               |  |



## Industrial and Enterprise Applications.

| Specifications              |   | ·                            | 1                       |                       |  |
|-----------------------------|---|------------------------------|-------------------------|-----------------------|--|
| Model No.                   | LP-A3334AI  | LP-A3437AI                   | LP-A4949AI              | LP-A5160AI            |  |
| Frequency Range             | 3300-3400 MHz   | 3400-3700 MHz                | 4940-4990 MHz           | 5150-6060 MHz         |  |
| OUTPUT Am                   | plifier POWER / RX SENSIT                             | IVITY (Packet Error rate:    | 10%) Internal antenna   | versions              |  |
| 64QAM (54 Mbps)             | 25(±1.5) / -77 (dBm)                                  | 18(±1.5) / -73 (dBm)         | 17(±1.5) / -72 (dBm)    | 18 (±1.5) / -72 (dBm) |  |
| 16QAM (36 Mbps)             | 27(±1.5) / -85 (dBm)                                  | 21(±1.5) / -81 (dBm)         | 19(±1.5) / -78 (dBm)    | 22(±1.5) / -78 (dBm)  |  |
| QPSK (18 Mbps)              | 28(±1.5) / -92 (dBm)                                  | 25(±1.5) / -88 (dBm)         | 21(±1.5) / -84 (dBm)    | 23(±1.5) / -84 (dBm)  |  |
| BPSK (6 Mbps)               | 28(±1.5) / -96 (dBm)                                  | 25(±1.5) / -92 (dBm)         | 21(±1.5) / -90 (dBm)    | 23(±1.5) / -90 (dBm)  |  |
| CCK and DSSS                | 28(±1.5) / -96 (dBm)                                  | N/A                          | N/A                     | N/A                   |  |
| Antenna Gain                | 18 dBi  | 18 dBi                       | 23 dBi                  | 23 dBi                |  |
| EIRP                        | 45 dBm  | 43 dBm                       | 44 dBm                  | 46 dBm                |  |
| Modulation                  |   | OFDM / CCK a                 | ind DSSS                |                       |  |
| Duplex                      |   | TDD/TI                       | DM                      |                       |  |
| Channel Bandwidth           |   | 5 / 10 / 20                  | ) MHz                   |                       |  |
| Frequency Stability         |   | ±10 pp                       | m                       |                       |  |
| INTERFACES                  |   |                              |                         |                       |  |
| RF                          | N-Jack  |                              |                         |                       |  |
| Ethernet                    |   | IEEE 802.3 (10 Base-T) / IEE | E 802.3u (100 Base-Tx)  |                       |  |
| RSSI (Receive Signal Streng | gth Indication)                                       |                              |                         |                       |  |
| Bridge Mode                 | Connections Status                                    |                              |                         |                       |  |
| CPE Mode                    | Site Survey   |                              |                         |                       |  |
| Antenna Alignment           | Audible Antenna Alignment (beeper)                    |                              |                         |                       |  |
| MANAGEABILITY               |   |                              |                         |                       |  |
| Management and setup        |   | Web-based cor                | nfiguration             |                       |  |
| Operating mode              |   | Peer to Peer (Bridg          | je) / AP / CPE          |                       |  |
| Network Architecture        |   | PTP Bridge / PTMP Bi         | ridge / Repeater        |                       |  |
| Operating System            |   | Windows 98 / 2000 / N        | T / XP / VISTA / 7      |                       |  |
| SNMP agents                 |   | MIB I                        | I                       |                       |  |
| Protocol                    |   | TCP/IP, IPX/SP               | K, NetBEUI              |                       |  |
| qos                         | Peer to Peer link speed limit/ CPE uplink speed limit |                              |                         |                       |  |
| DHCP support                | DHCP Client   |                              |                         |                       |  |
| Other Features              |   | VLAN(IEEE 8                  | 302.1Q)                 |                       |  |
| SECURITY                    |   |                              |                         |                       |  |
| Data Encryption             | WEP (64   | 1/128/152 bits) / WPA-PSK /  | WPA-TKIP / WPA2 (AES 12 | 28bits)               |  |
| Authentication              | 802.1x Auth.(EAP)                                     |                              |                         |                       |  |
|                             | MAC Access Control                                    |                              |                         |                       |  |
| Authorization               |   | MAC Access                   | Control                 |                       |  |



## Industrial and Enterprise Applications.

| Specifications        |  |  |  |  |  |  |  |
|-----------------------|--|--|--|--|--|--|--|
| ENVIRONMENT           | ENVIRONMENT  |  |  |  |  |  |  |
| Operating Temperature | -30~55°C: LP-A2324AI / LP-A2729AI / LP-A3437AI / LP-A4949AI/ LP-A5160AI<br>0~55°C: LP-A3334AI            |  |  |  |  |  |  |
| Storage Temperature   | -30~70°C   |  |  |  |  |  |  |
| Humidity              | 95% non-condensing   |  |  |  |  |  |  |
| POWER                 |  |  |  |  |  |  |  |
| Power Supply          | AC 100-264 V, DC 24 V, 50-60 Hz  |  |  |  |  |  |  |
| PHYSICAL              |  |  |  |  |  |  |  |
| Dimensions            | 259 (L) * 250 (W) *75 (H) ; mm   |  |  |  |  |  |  |
| Weight                | <b>1.8Kg:</b> LP-A2324AI / LP-A2729AI / LP-A3437AI / LP-A4949AI / LP-A5160AI<br><b>2.5Kg:</b> LP-A3334AI |  |  |  |  |  |  |
| WARRANTY              | WARRANTY   |  |  |  |  |  |  |
| Validity              | 1 Year   |  |  |  |  |  |  |

## How to order

- LP-A2324ai 2302 MHz 2482 MHz, OFDM Ethernet Radio with EIRP=41 dBM, and 12 dBi Integrated Panel Antenna.
- LP-A2527ai 2550 MHz 2700 MHz, OFDM Ethernet Radio with EIRP=49 dBm, and 18 dBi Integrated Panel Antenna.
- LP-A2729ai 2700 MHz 2900 MHz, OFDM Ethernet Radio with EIRP=43 dBm, and 18 dBi Integrated Panel Antenna.
- LP-A3334ai 3300 MHz 3400 MHz, OFDM Ethernet Radio with EIRP=45 dBm, and 18 dBi Integrated Panel Antenna.
- LP-A3437ai 3400 MHz 3700 MHz, OFDM Ethernet Radio with EIRP=43 dBm, and 18 dBi Integrated Panel Antenna.
- LP-A4949ai 4940 MHz 4990 MHz, OFDM Ethernet Radio with EIRP=44 dBm, and 23 dBi Integrated Panel Antenna.
- LP-A5160ai 5150 MHz 6060 MHz, OFDM Ethernet Radio with EIRP=46 dBm, and 23 dBi Integrated Panel Antenna.

## **NYX SERIES**



Industrial and Enterprise Applications.

## NYX Near-LOS Single Band MESH Bridge Series by LanPro®.







NYX Near-LOS Single Band MESH Bridge Series by LanPro® enable our customers to implement the wireless MESH architecture based on the IEEE 802.11s standard, providing high bandwidth wireless networking over a selected coverage area. Equipments are deployed as network routers. It's built with peer to peer radios that don't need not be wired as conventional AP's in a WLAN. Coverage provided by the Mesh architecture enables uniform wireless signal levels, by dividing long hops into shorter distances. Nodes cooperate by using smart forwarding software routing algorithms and perform as signal boosters for coverage. These technologies provide high bandwidth, efficient spectrum utilization and better economics.

The wireless node can self-configure, dispose the network, and the network failures can be repaired automatically so that the overall performance and the usability achieves the optimization. This equipment makes use of advance algorithm to enhance the throughput and low time-out from the centre to the edge of the network. It provides the wireless broadcast access and the high bandwidth audio frequency/data/video frequency service.

This outdoor Mesh bridge provides customers with the greatest flexibility to deploy applications due to customers need and would be easily upgraded or switched to another interface with the lowest cost.

This radio incorporates Time Division Duplex (TDD) technology that can be operated on a single channel. The Ethernet products are primarily designed to provide standard Ethernet interface in a wireless link between distant sites

Available in 300 MHz to  $6.0~\mathrm{GHz}$  by customization and in standard bands  $400~\mathrm{MHz}$ ,  $900~\mathrm{MHz}$ ,  $2.4~\mathrm{GHz}$  and  $5~\mathrm{GHz}$ .

# Equipment

## **NYX SERIES**

## Industrial and Enterprise Applications.

#### **Applications**

|  | Basic | Fixed | Bridge | Network. |
|--|-------|-------|--------|----------|
|--|-------|-------|--------|----------|

- Data Backhaul.
- Public Safety.

#### ■ Temporary Urgent Network.

Fixed bridge and mobile mix application.

## The advantages of the Nyx mesh radio

- Stable and reliable network.
- Have the ability of automatic adjustment to choose optimal path.
- Simple network structure.

- Easy to install.
- New node to join the network can be discovered automatically. application.
  - Reduce the deployment cost and the operation management work load.

### FEATURES AND BENEFITS

- Effective spectrum utilization.
- Technique operating in currently available models in the following bands: 900 MHz, 2.4 MHz and 5GHz, for customized frequencies in the 300 MHz to 6 GHz band of frequencies, a longer lead time is needed for evaluation.
- Long range and Near-LOS nodes connection.
- With a data rate up to 5.5Mbps / 10Mbps / 20Mbps (with different software selectable bandwidths of: 5MHz / 10MHz / 20MHz), the system is much faster than an E1/ T1 data link. Customer can select the suitable bandwidth via the software.
- All wireless nodes auto-discover and self-configure.
- Self-tuning and self-healing mesh for network optimization.
- High throughput performance and low time-out.
- Supports QoS (WMM) / Multi-BSSID/VLANs, the Wi-Fi Multimedia (WMM) based on the 802.11e interoperability certification standard by the Wi-Fi Alliance, to prioritize the real time voice, video, and data applications.
- Up to 8 sets SSIDs for VLAN application.
- Multiple security settings per VLAN with up to 8 VLANs Security settings for multiple groups; so employees, guests and contractors now easily and securely share the same infrastructure.

- VAPs (VLAN) (Virtual Access Point) Assign Multi-SSIDs on your radio (one SSID per VAP) to differentiate policies and services among users forming a wide variety of VLANs.
- Transmit Power Control
  - Supports settable transmit power levels to adjust coverage cell size, ranging from full, half(50%), quarter(25%) eighth(12.5%) and minimum.
- Mesh protocol only supports WEP 64 / 128 / 256 bit encryption. Access point mode supports all of security protocol: WPA-PSK and WPA2(AES) as well as MAC access control to increase security.
- Provides Web-based configuration utility, user friendly interface.
- Antenna Alignment. The site survey and link test function provides the RSSI (signal strength) info to indicate the status of antenna alignment.
- When using 2.4 or 5GHz, @200mW with external Omni antenna version @ 12dBi, they deliver Node to Node @ 1.3 km about 20Mbps capacity (single node to node, is similar with PTP but using Omni antenna in each site) Each node @ 1km and under multi-nodes environment deliver 10-20Mbps capacity.
- IP-68 rated weatherproof housing.

# **NYX SERIES**

# **Equipment**

## Industrial and Enterprise Applications.

| SPECIFICATIONS          |   |   |  |  |  |  |
|-------------------------|---|---|--|--|--|--|
|                         | LP-NYX0404p   | LP-NYX0909p   | LP-NYX2324p  | LP-NYX5058p  |  |  |
| RADIO                   | •   |   | •  | •  |  |  |
| Frequency               | 400 MHz   | 902 MHz - 928 MHz                                       | 2.4GHz   | 5GHz (5.725~5.845GHz)                              |  |  |
| Maximum Output Power    | 37dBm   | 25dBm   | 23dBm  | 23dBm  |  |  |
| Sensitivity @ 6Mbps     | -92dBm  | -92dBm  | -92dBm   | -92dBm   |  |  |
| Note                    | * RX sensitivity: Packet B                              | Error Rate: 10 %  | •  |  |  |  |
| HARDWARE                | •   |   |  |  |  |  |
| CPU                     | IXP 422 266MHz  | IXP 422 266MHz  | IXP 422 266MHz                                     | IXP 422 266MHz                                     |  |  |
| FLASH                   | 8Mbyte  | 8Mbyte  | 8Mbyte   | 8Mbyte   |  |  |
| SDRAM                   | 32Mbyte   | 32Mbyte   | 32Mbyte  | 32Mbyte  |  |  |
| Power Over Ethernet     | Yes   | Yes   | Yes  | Yes  |  |  |
| Power Supply            | 24VDC p=1 (DC +/-<br>48VDC p=2                          | 24VDC p=1 (DC +/-<br>48VDC p=2                          | 24VDC p=1 (DC +/- 48VDC p=2                        | 24VDC p=1 (DC +/- 48VDC p=2                        |  |  |
|                         | A power adaptor is used power the +/- 48VDC un          |   | 24VDC for radio, an optional Po                    | DE injector can be used to                         |  |  |
| Reset button            | Yes   | Yes   | Yes  | Yes  |  |  |
| INTERFACES              |   |   |  |  |  |  |
| RF (connect to antenna) | N-type (Jack)   | N-type (Jack)   | N-type (Jack)                                      | N-type (Jack)                                      |  |  |
| Ethernet                | 1 x 10/100Base T IEEE<br>802.3 RJ-45 with Auto-<br>MDIX | 1 x 10/100Base T IEEE<br>802.3 RJ-45 with Auto-<br>MDIX | 1 x 10/100BaseT IEEE 802.3<br>RJ-45 with Auto-MDIX | 1 x 10/100BaseT IEEE 802.3<br>RJ-45 with Auto-MDIX |  |  |
| ENVIRONMENT             | •   |   | •  |  |  |  |
| Operating Temperature   | -30 ~ 60 degree C                                       | -30 ~ 60 degree C                                       | -30 ~ 60 degree C                                  | -30 ~ 60 degree C                                  |  |  |
| Storage Temperature     | -30 ~ 60 degree C                                       | -30 ~ 60 degree C                                       | -30 ~ 80 degree C                                  | -30 ~ 80 degree C                                  |  |  |
| Storage Humidity        | 5 ~ 95% RH  | 5 ~ 95% RH  | 5 ~ 95% RH   | 5 ~ 95% RH   |  |  |
| FEATURE                 |   | *   |  |  |  |  |
| Operation Modes         | MESH, 802.11s   | MESH, 802.11s   | MESH, 802.11s                                      | MESH, 802.11s                                      |  |  |
| Link Test               | Yes   | Yes   | Yes  | Yes  |  |  |
| WMM (Next Edition)      | Yes   | Yes   | Yes  | Yes  |  |  |
| Radio Modes             | OFDM  | OFDM  | Standard 802.11b/g Mode                            | Standard 802.11a Mode                              |  |  |
| MESH Diagnose           | Yes   | Yes   | Yes  | Yes  |  |  |
| Channel Bandwidth       | 20 / 10 / 5 MHz   | 20 / 10 / 5 MHz   | 20 / 10 / 5 MHz                                    | 20 / 10 / 5 MHz                                    |  |  |
| SECURITY                |   |   |  |  |  |  |
| User Logon              | Yes   | Yes   | Yes  | Yes  |  |  |
| WEP Encryption          | 64, 128, 256 - bit                                      | 64, 128, 256 - bit                                      | 64, 128, 256-bit                                   | 64, 128, 256-bit                                   |  |  |
| WPA (Next Edition)      | WPA/WPA2 Enterprise/<br>WPA-PSK                         | WPA/WPA2 Enterprise/<br>WPA-PSK                         | WPA/WPA2 Enterprise/<br>WPA-PSK                    | WPA/WPA2 Enterprise/<br>WPA-PSK                    |  |  |

# Equipment

## **NYX SERIES**

## Industrial and Enterprise Applications.

|                               | SPECIFICATIONS                 |                                |                                |                                   |  |  |  |
|-------------------------------|--------------------------------|--------------------------------|--------------------------------|-----------------------------------|--|--|--|
| MANAGEMENT                    |                                |                                |                                |                                   |  |  |  |
| Web Base Management           | Yes                            | Yes                            | Yes                            | Yes                               |  |  |  |
| HTTP F/W Upgrade              | Yes                            | Yes                            | Yes                            | Yes                               |  |  |  |
| SNMP                          | Yes, MIB II                    | Yes, MIB II                    | Yes, MIB II                    | Yes, MIB II                       |  |  |  |
| Window Utility                | Yes                            | Yes                            | Yes                            | Yes                               |  |  |  |
| Save & Load<br>Configurations | Yes                            | Yes                            | Yes                            | Yes                               |  |  |  |
| PHYSICAL                      |                                |                                |                                |                                   |  |  |  |
| Dimension                     | 259 (L) x 250 (W) x 75 (H); mm | 259 (L) x 250 (W) x 75 (H); mm | 259 (L) x 250 (W) x 75 (H); mm | 259 (L) x 250 (W) x 75 (H);<br>mm |  |  |  |
| Weight                        | 1.8 Kg                         | 1.8 Kg                         | 1.8 Kg                         | 1.8 Kg                            |  |  |  |
| WARRANTY: 1 Year              |                                |                                |                                |                                   |  |  |  |

| SPECIFICATIONS   |   |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|
| Wireless Network Connection Frequency Range: 300MHz - 6000 MHz. Throughput: Max 23Mbps. Emission Type: 0FDM. Channel Spacing: 5, 10 and 20 MHZ. Modulation: 64QAM/16QAM/QPSK / BPSK.   | Security WEP 64 / 128 / 152 bits, 802.1x Authentication (EAP), MAC access control, disable broadcast the SSID, client isolation, WPA-PSK, WPA-TKIP encryption and WPA2 (AES-128bits) build the highest security mechanism to prevent malicious attacks from the internet. |  |  |  |  |  |  |
| Output power: 37dB (400MHz), 25dBm (900MHz), 23dBM (2.4/5 GHz) output of other customized frequencies depends on the RF components.  Operating modes: Access Point / Mesh protocol.  Only Mesh protocol can connect to each other. When select | Network Architecture  •PTP Connection ( point to point )  •PTMP Connection ( point to multi-point )   |  |  |  |  |  |  |
| Access point mode, it is available for other WiFi radios in CPE mode.  | Operating System Support<br>Supports Windows 98/2000/NT/XP.   |  |  |  |  |  |  |
| • Security WEP 64/128/152 bits encryption; MAC address control; WPA-<br>PSK and WPA encryption.  | Manageability     Management and setup: Web-based configuration.  |  |  |  |  |  |  |
| Network  | Advance     Base Station Scanning: RSSI.     Watchdog   |  |  |  |  |  |  |
| SNMP, TCP/IP, IPX/SPX, NetBEU<br>SNMP agents: MIB II   | • Certifications<br>FCC<br>EMS (EN301489, IEC 61000-4-5 (Surge).  |  |  |  |  |  |  |

### How to order

Code: LP-NYXF1F2P

F1: Start frequency first two digits (I.e.:400MHz: 04, 5000MHz: 50)

F2: End frequency (I.e.: 450MHz: 04, 5400MHz: 54)

A: AI= Antenna Integrated - A= External Antenna

**P:**(Power supply), 1=24VDC (Can be powered from 100-264VAC with a furnished 100-264VAC/24VDC converter),

2=+/-48VDC (Can be powered from 110-264VAC with a PoE injector, this is optional).

| ■ LP-NYX0303A1 | 300 MHz band 33dBm @ QAM-16 Non-LOS Wireless Mesh Radio, 24VDC.          |
|----------------|--|
| ■ LP-NYX0404A1 | 400 MHz band 33dBm @ QAM-16 Non-LOS Wireless Mesh Radio, 24VDC.          |
| ■ LP-NYX0909A1 | 902 - 928 MHz band 22dBm @ QAM-16 Non-LOS Wireless Mesh Radio, 24VDC.    |
| ■ LP-NYX2324A1 | 2.312 - 2.472 GHz band 22dBm @ QAM-16 LOS Wireless Mesh Radio, 24VDC.    |
| ■ LP-NYX5758A1 | 5725 - 5845MHz band 22dBm @ QAM-16 LOS Wireless Mesh Radio, 24VDC.       |
| ■ LP-NYX0303A2 | 300 MHz band 33dBm @ QAM-16 Non-LOS Wireless Mesh Radio, +/-48VDC.       |
| ■ LP-NYX0404A2 | 400 MHz band 33dBm @ QAM-16 Non-LOS Wireless Mesh Radio, +/-48VDC.       |
| ■ LP-NYX0909A2 | 902 - 928 MHz band 22dBm @ QAM-16 Non-LOS Wireless Mesh Radio, +/-48VDC. |
| ■ LP-NYX2324A2 | 2.312 - 2.472 GHz band 22dBm @ QAM-16 LOS Wireless Mesh Radio, +/-48VDC. |
| ■ LP-NYX5758A2 | 5725 - 5845MHz band 22dBm @ QAM-16 LOS Wireless Mesh Radio, +/-48VDC.    |

(Note: output power @ QAM-16 in ordering information is not max output power).



Industrial and Enterprise Applications.

VULCAN400 SERIES Product Family Description

Long Distance High Capacity Point to Point Backhaul, Point to Multi-Point 450 MHz to 500 MHz Outdoor or mobile

application OFDM/TDMA Subscriber Radios with External Antenna.



The VULCAN400 Series by LanPro are an ideal solution for high capacity point-to-point (PtP) backhaul for 450 MHz to 500 MHz band wireless deployment for distances up to 80 Km and point to multi point (PtmP) and mobile applications. Frequencies available are: 450.0 MHz, 455.0 MHz, 460.0 MHz, 465.0 MHz, 470.0 MHz, 475.0 MHz, 480.0 MHz, 485.0 MHz, 490.0 MHz, 495.0 MHz, 500.0 MHz.

The use of an external antenna lets the user select the appropriate pattern for the application. A high gain Yagi antenna suit long distance PtP, a panel or sector antenna for covering a wide area with PtmP, or Omni for mobile CPE's PtmP applications.

The basic radio hardware permits a selection of 5/10/20/40 MHz adjustable channel bandwidth (only 5/10MHz available in 400 MHz radio via web interface). This provides flexibility of deployment to channel plan and high capacity backhaul – truly total accumulated throughput (uplink + downlink) of up to 8Mbps with 5 MHz channel BW and 18 Mbps with 10 MHz channel BW, larger throughputs like 30 Mbps with 20 MHz BW, or 50+ Mbps with 40 MHz BW are more applicable to standard Vulcan radios which operate in higher frequencies.

This is a multi-session radio, more sessions bring larger capacity. In a PtmP configuration, the AP limits the overall throughput of the CPE's, the whole throughput of the AP must be divided between the CPE's sessions, and because each CPE is located at a different location, the total output depends on distance and path characteristics. The VULCAN400 family of radios can be used in mobile applications up to a speed of 60 to 80Km/h in the mobile version of the CPE.



## Industrial and Enterprise Applications.

### **Applications**

- High capacity backhaul in long distances up to 40 Km.
- 5/10 MHz adjustable channel bandwidth multi session.
- 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.
- Mobile CPE version for applications up to 80Km/h.
- IP-68 Enclosure rating for harsh environments.



#### Throughput Limitation of each session up to 8~9Mbps



The VULCAN400 Series utilizes OFDM – TDMA technology which allows an Upload Stream Time Ratio web configurable from the default 50%, adjustable from 20 to 80% uplink / downlink tunnels in a single channel with least collision and highest efficiency. This feature is only available in the Base station mode. The Ethernet products are primarily designed to provide standard Ethernet interface in a wireless link between distant sites.

The VULCAN400 Series of radios have powerful security management because they use a proprietary protocol and support WPA-PSK,WPA-TKIP and WPA2 (AES-128 bits) encryption, and MAC address filter at the same time. As an advanced security, the Disable Broadcast SSID and Wireless Client Security Separation (Layer 2 Isolation added to these functions to make the network much more secure and reliable.

| Product Highlights   |   |  |  |  |  |
|--|---|--|--|--|--|
| • Effective spectrum utility / variable capacities. The VULCAN400 Series has 2 levels of channel bandwidth (5/10 MHz) options, they are adjustable via software. This function provides flexibility to channel plans and variable capacities for different applications. | • (Audible antenna alignment optional). The site survey function provides the RSSI (signal strength) info to indicate the status of antenna alignment. Customers can also align the antenna by using MP3 player headphone, quite easy and simple. |  |  |  |  |
| High output power OFDM/TDMA technology wit external antenna.  The Vulcan400 series gives users the inherent flexibility of   | Robust Construction.  Prepared for harsh environments, the IP-68 rating ensures long life operation.  |  |  |  |  |

antenna selection for the applications.



## Industrial and Enterprise Applications.

| Specifications                            |  |                             |                                 |                               |  |  |
|---|--|-----------------------------|---------------------------------|-------------------------------|--|--|
| RADIO                                     |  |                             |                                 |                               |  |  |
| Operating Channels 450~500 MHz            |  |                             |                                 |                               |  |  |
| Channel Bandwidth                         | Software selectable of                             | hannel bandwidths of 5 Al   | ND 10 MHz                       |                               |  |  |
| Output power and Rx Sensitivity           | Data Rte   | Modulation                  | Tx Output pwr                   | Rx sensitivity                |  |  |
| RX sensitivity: Packet Error<br>Rate: 10% | 54Mbps@OFDM  | 64QAM 3/4                   | 33(±1.5) dBm                    | -90 dBm                       |  |  |
| *   | 36Mpbs@OFDM  | 16QAM 3/4                   | 33(±1.5) dBm                    | -98 dBm                       |  |  |
|   | 18Mbps@OFDM  | QPSK 3/4                    | 36(±1.5) dBm                    | -101 dBm                      |  |  |
|   | 6Mbps@OFDM   | BPSK 1/2                    | 37(±1.5) dBm                    | -103 dBm                      |  |  |
| Frequency Stability                       | ±10 ppm  |                             |                                 | <u>'</u>                      |  |  |
| Modulation                                | OFDM   |                             |                                 |                               |  |  |
| Range                                     | Up to 40 Km.                                       | ,                           | ,                               |                               |  |  |
| EFFECTIVE THROUGHPUT                      |  |                             |                                 |                               |  |  |
| Effective Throughput                      | Single Stream throug                               | hput                        | Streams throughput a            | Streams throughput aggregated |  |  |
| 5MHz Channel BW                           | 6 Mbps   |                             | 8 Mbps                          | 8 Mbps                        |  |  |
| 10MHz Channel BW                          | 11 Mbps  |                             | 18 Mbps                         | 18 Mbps                       |  |  |
| Upload Stream Time Ratio support          | 20 - 80 %  |                             | •                               |                               |  |  |
| INTERFACES                                |  |                             |                                 |                               |  |  |
| RF antenna connector                      | N-type (Jack) (user o                              | an protect against lightnin | g with external arrestors)      |                               |  |  |
| Ethernet                                  | IEEE 802.3(10Base-T                                | ) / IEEE 802.3u(100Base-    | Tx) (Lightning Protector Per IE | C61000-4-5(4KV/2KA)           |  |  |
| MANAGEABILITY                             |  |                             |                                 |                               |  |  |
| Management and setup                      | Web-based configura                                | tion / SSH                  | ,                               |                               |  |  |
| Operating mode                            | Base station / CPE (P                              | TMP)                        | ,                               |                               |  |  |
| SNMP agents                               | MIBII  |                             |                                 |                               |  |  |
| Protocol                                  | TCP/IP, IPX/SPX, Net                               | BEUI                        |                                 |                               |  |  |
| QoS                                       | CPE data flow control                              |                             |                                 |                               |  |  |
| DHCP support                              | DHCP client  | DHCP client                 |                                 |                               |  |  |
| Other features                            | VLAN(IEEE 802.1Q); Spanning tree protocol (802.1d) |                             |                                 |                               |  |  |
| SECURITY                                  |  |                             |                                 |                               |  |  |
| Data Encryption                           | 64/128/152 bits WEF                                | encryption, WPA-PSK, WF     | PA-TKIP, WPA2-AES 128bits       |                               |  |  |
| Authorization                             | MAC Address Access                                 | MAC Address Access Filter   |                                 |                               |  |  |
|   | Disable broadcast SS                               | ID                          | ,                               |                               |  |  |
| Advanced Security                         | Wireless Client Secur                              | ity Separation (Layer 2 Iso | plation)                        |                               |  |  |



## Industrial and Enterprise Applications.

| Specifications                          |                          |                                |                           |                                |                |
|---|--------------------------|--------------------------------|---------------------------|--------------------------------|----------------|
| ENVIRONMENT                             |                          |                                |                           |                                |                |
| Operating Temperature                   | -10°C to 60°C without    | heater plates / -30°C          | C~60°C with heater plat   | es                             |                |
| Heater plates power consumption         | 12 Watt, set point thres | shold: 18°C turns or           | when temperature is u     | ınder 18ºC                     |                |
| Storage temperature                     | -30°C~70°C               |                                | '                         |                                |                |
| Humidity                                | 95% non-condensing       |                                |                           |                                |                |
| IP enclosure rating                     |                          | 37 / LP-V0405a237<br>-68 rated |                           | LP-V0405a337<br>(Not IP rated) |                |
| POWER SUPPLY SOLUTIONS                  |                          |                                |                           |                                |                |
| DC 24V, AC 100-264VAC, 50-60Hz (        | (Includes 48VDC/24VDC    | converter and 110V             | AC/48VDC Power Supp       | ly -Converter)                 |                |
| DC 48V, (Includes 48VDC/24VDC o         | converter)               |                                |                           |                                |                |
| LP-V0405a137 / LP-V0405a237             |                          | AC 100-264v, 50-6              | 0Hz, DC 24V; DC+/-48      | V, optional                    |                |
| LP-V0405a337                            |                          | Wide range power               | input (10-30VDC), optio   | onal for Vehicle unit purp     | ose            |
| POWER CONSUMPTION                       |                          |                                |                           |                                |                |
|   | Radio                    |                                |                           | Heater                         |                |
| Tx                                      | Rx                       |                                | Activated (ON)            |                                | OFF            |
| 16W                                     | 9W                       |                                | 12W                       |                                | 0W             |
| POWER CONSUMPTION Maximum               | m, Minimum and Avera     | ige                            |                           |                                |                |
| Max: Radio(Tx)+Heater Activated=        | 16W+1                    | .2W                            | 28W                       |                                |                |
| Min: Radio(Rx)+ Heater Off              | 9W+0                     | )W                             | 9W                        |                                |                |
| Average                                 | Without heater on: 12W   | to 14W (In cold weath          | ner with heater is on mos | t of the time, depends on 1    | Tx/Rx duty cyc |
| PHYSICAL                                |                          |                                |                           |                                |                |
| Model name                              |                          | LP-V0405a137 / LP-V0405a237    |                           | LP-V0405a337                   |                |
| Dimensions                              |                          | 259 (L) x 250 (W) x 75 (H); mm |                           | 230 (L) x 198 (W) x 60 (H); mm |                |
| Weight                                  |                          | 2.2 Kg                         |                           | 2.3 Kg                         |                |
| WARRANTY                                |                          |                                |                           |                                |                |
| 1 year                                  |                          |                                |                           |                                |                |
| ADVANCE                                 |                          |                                |                           |                                |                |
| Base Station scanning                   |                          |                                |                           |                                |                |
| Ethernet Surge Protection               |                          |                                |                           |                                |                |
| IMPORTANT NOTICE:                       |                          |                                |                           |                                |                |
| All specifications are typical values a | and subject to change wi | thout prior notice.            |                           |                                |                |

### How to order

- LP-V0405a137 450 to 500 MHz, 37 dBm (5W) VULCAN 400 TDMA/TDD Outdoor Radio (AC 100-264V) (IP-68 rated).
- LP-V0405a237 450 to 500 MHz, 37dBm (5W) VULCAN 400 TDMA/TDD Outdoor Radio (DC 48V) (IP-68 rated).
- LP-V0405a337 450 to 500 MHz, 37dBm (5W) VULCAN 400 TDMA/TDD Vehicle Unit (10-30 VDC).



Industrial and Enterprise Applications.

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.



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  $60{\sim}80$  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.



## Industrial and Enterprise Applications.

## 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.

#### 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.

#### Features

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

|  |  | ca |  |  |
|--|--|----|--|--|
|  |  |    |  |  |
|  |  |    |  |  |

#### 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) 22(±1.5) / -81 33(±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 37(±1.5) / -92 25(±1.5) / -92 23(±1.5) / -90 QPSK (6 Mbps) 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 LP-V4958ax23 Model No. LP-V4949ax21 LP-V5160ax23 Frequency Range 4940-4990 MHz 4920-5875 MHz 5150-6060 MHz



## Industrial and Enterprise Applications.

| Specifications                               |  |                     |                |  |  |  |
|--|--|---------------------|----------------|--|--|--|
|  | ' RX SENSITIVITY (Packet E   | rror rate :10%)     |                |  |  |  |
| 64QAM (54 Mbps)                              | 17(±1.5) / -72   |                     |                |  |  |  |
| 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           | A              |  |  |  |
| Duplex                                       |  | TDD                 |                |  |  |  |
| Channel Bandwidth                            |  | 5 / 10 / 20 / 40    | MHz            |  |  |  |
| 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, N  | letBEUI        |  |  |  |
| DHCP Support                                 | DCHP Client  |                     |                |  |  |  |
| SECURITY                                     |  |                     |                |  |  |  |
| Data Encryption                              | a 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   |                     |                |  |  |  |



## **VULCAN SERIES**

### Industrial and Enterprise Applications.

| Specifications  |  |  |  |  |
|---|--|--|--|--|
| 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   |  |  |  |

#### How to order

- LP-V0405a137 450-500 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 37 dBm @ QPSK OFDM, IP-68 rated. Power input: 100-264 VAC 50-60 Hz, 24 VDC.
- 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 @ OPSK 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-V0405a237 450-500 MHz Vulcan Series TDMA Radio with external antenna licensed band high capacity / long distance outdoor backhaul, power 37 dBm @ QPSK OFDM, IP-68 rated. Power input: 48 VDC (for Telecom Grade).
- 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),

### **VULCAN SERIES**



Industrial and Enterprise Applications.

VULCAN SERIES Product Family Description Long Distance High capacity Point to point, point to multipoint Backhaul 2.3 GHz to 6.06 GHz Outdoor TDMA Subscriber with Internal Antenna.



The VULCAN Series by LanPro is an ideal solution for high capacity Point to Point and Point to multi-Point backhaul for 2.3/4.9 GHz licensed bands, and 2.4/5 GHz ISM band wireless deployment in long distances up to 50 Km, providing the customer more options besides the crowded ISM band. The use of an internal antenna simplifies the deployment work.

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.

The series utilizes OFDM – TDMA technology which allowing 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 an advanced security and isolates connected CPEs (Layer 2 Isolation). All these functions make the network much more secure and reliable.

# \_**Equipment**

### **VULCAN SERIES**

### Industrial and Enterprise Applications.

#### Applications

- High capacity backhaul in long distances up to 50 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.
- IP-68 rating of the box for hostile environment.

#### **Features**

Non-Line of sight) situation.

- Time-Division Multiple Access (TDMA).
- Long distance Point to point, Point to Multi-point backhaul links.
- Variable Frequencies 2.3/2.4/4.9/5 GHz.

- IP-68 Water & dust resistant.
- IEC61000-4-5 surge protection.
- Outstanding MTBF.

#### **Product Highlights**

#### • Effective spectrum utility / variable capacities.

The VULCAN series have 4 levels of channel bandwidth (5/10/20/40 MHz) options, which are 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 improve 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

• Time-Division Multiple Access(TDMA) technique.

TDMA tech can avoid the packets collision and send the packets
more efficiently and in a stable way to improve the capacity and
quality of data transmission in long distance or NLOS (Near/

(smaller antenna) compared to other standard Wi-Fi products.

#### High output power OFDM technology and Integrated antenna.

Integrated panel antenna with the high output power OFDM technology provides best performance and lowest price and at the same time makes the VULCAN series to be the most cost effective solution in the long distance wireless backhaul market.

#### Proprietary Security

The VULCAN series uses a proprietary protocol; hence 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.

#### 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.

#### • Antenna Alignment (Audible antenna alignment included).

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

| Specifications               |               |               |               |               |               |
|------------------------------|---------------|---------------|---------------|---------------|---------------|
| Radio                        |               |               |               |               |               |
| Model No.                    | LP-V2324aix41 | LP-V2424aix41 | LP-V4949aix44 | LP-V4958aix46 | LP-V5160aix46 |
| Frequency Range              | 2302-2482 MHz | 2402-2482 MHz | 4940-4990 MHz | 4958-5875 MHz | 5150-6060 MHz |
| OUTPUT Amplifier POWER(EIRP) |               |               |               |               |               |
| 64QAM (54 Mbps)              | 38 (±2) dBm   | 38 (±2) dBm   | 40 (±2) dBm   | 41(±2) dBm    | 41 (±2) dBm   |
| 16QAM (36 Mbps)              | 40 (±1) dBm   | 40 (±1) dBm   | 42 (±1) dBm   | 45(±1) dBm    | 45 (±1) dBm   |
| BPSK (18 Mbps)               | 41 (±1) dBm   | 41 (±1) dBm   | 44 (±1) dBm   | 46(±1) dBm    | 46 (±1) dBm   |
| QPSK (6Mbps)                 | 41 (±1) dBm   | 41 (±1) dBm   | 44 (±1) dBm   | 46(±1) dBm    | 46 (±1) dBm   |
| CCK (DSSS)                   | 41 (±1) dBm   | 41 (±1) dBm   | N/A           | N/A           | N/A           |
| Antenna Gain                 | 18 dBi        | 18 dBi        | 23 dBi        | 23 dBi        | 23 dBi        |

## **VULCAN SERIES**



### Industrial and Enterprise Applications.

| Specifications                                    |  |                  |                  |                  |                |               |
|---|--|------------------|------------------|------------------|----------------|---------------|
| Model No.   | LP-V2324aix41  | LP-V2424aix41    | LP-V4949         | aix44            | LP-V4958aix46  | LP-V5160aix46 |
| Receive Sensitivity<br>(Packet error<br>rate:10%) | -75 dB (±2) dBm @64QAM 2/3<br>-82 dB (±2) dBm @16QAM 1/2<br>-86 dB (±2) dBm @64QPSK 1/2<br>-90 dB (±2) dBm @64BPSK 1/2 |                  |                  |                  |                |               |
| Modulation  | OFDM   |                  |                  |                  |                |               |
| Channel Bandwidth                                 |  | ī                | 5 / 10 / 20 / 40 | MHz              |                |               |
| Frequency Stability                               | ±10 ppm  |                  |                  |                  |                |               |
| INTERFACES  |  |                  |                  |                  |                |               |
| Ethernet  |  | IEEE 802.3 (10 E | Base-T) / IEEE 8 | 02.3u (10        | 00 Base-Tx)    |               |
| ADVANCE   |  |                  | <u> </u>         |                  |                |               |
| Base Station Scanning                             |  |                  | RSSI             |                  |                |               |
| Watchdog  |  |                  | Yes              |                  |                |               |
| Audible antenna<br>alignment                      | Yes  |                  |                  |                  |                |               |
| ANTENNA   |  |                  |                  |                  |                |               |
| Frequency   | 2.3 ,  | ′ 2.4 GHz        |                  |                  | 4.9 / 5 GHz    |               |
|   | 2.302 GF   | lz∼2.482 GHz     |                  |                  | 4.9 GHz~6.1 GH | z             |
| Gain  | 1  | .8 dBi           |                  | 23 dBi           |                |               |
| Beamwidth   | H 16   | °; E 16°         |                  | H 11.4°; E 10.6° |                |               |
| VSWR  | 1  | 1.7 :1           |                  | 1.7 :1           |                |               |
| Front to back ratio                               | 4  | 40 dB            |                  | 40 dB            |                |               |
| Impedance   | 50 Ohm 50 Ohm  |                  |                  |                  |                |               |
| Antenna Alignment                                 | Audible Antenna Alignment beeper(Optional)   |                  |                  |                  |                |               |
| MANAGEABILITY                                     |  |                  |                  |                  |                |               |
| Management and setup                              | Web-based configuration  |                  |                  |                  |                |               |
| Network Architecture                              | PTP / PtmP   |                  |                  |                  |                |               |
| Operating System                                  | Windows 98 / 2000 / NT / XP  |                  |                  |                  |                |               |
| SNMP agents                                       | MIB II   |                  |                  |                  |                |               |
| Protocol  | TCP/IP, IPX/SPX, NetBEUI   |                  |                  |                  |                |               |
| SECURITY  |  |                  |                  |                  |                |               |
| Data Encryption                                   | WEP 128bits/AES-256bits  |                  |                  |                  |                |               |
| Other security                                    | Proprietary Protocol/Isolates connected CPEs (Layer 2 Isolation)   |                  |                  |                  |                |               |
| ENVIRONMENT                                       |  |                  |                  |                  |                |               |
| Operating Temperature                             | -30∼55°C   |                  |                  |                  |                |               |
| Storage Temperature                               | -30~70°C   |                  |                  |                  |                |               |
| Humidity  | 95% non-condensing   |                  |                  |                  |                |               |



### **VULCAN SERIES**

### Industrial and Enterprise Applications.

| POWER SUPPLY  |                                       |                                      |  |  |
|---|---------------------------------------|--------------------------------------|--|--|
| Option X: 1 =100-264 VAC 50-60 Hz, 24 VDC or Option X: 2 =48 VDC (for Telecom grade). |                                       |                                      |  |  |
| PHYSICAL  |                                       |                                      |  |  |
| Frequency   | 2.3 / 2.4 GHz                         | 4.9 / 5 GHz                          |  |  |
| Dimensions  | Typical 330 (L) * 295 (W) *105 (H) mm | Typical 335 (L) * 335 (W) *81 (H) mm |  |  |
| Weight  | 2.8 Kg ; 6.17 lib                     | 2.9 Kg ; 6.39 lb                     |  |  |

#### How to order

- LP-V2324ai141 2302-2482 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 41 dBm, AC 100-264V, 50-60 Hz, DC 24V.
- LP-V2424ai141 2402-2482 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 41 dBm, AC 100-264V, 50-60 Hz, DC 24V.
- LP-V4949ai144 4940-4990 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 44 dBm, AC 100-264V, 50-60 Hz, DC 24V.
- LP-V4958ai146 4958-5875 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 46 dBm, AC 100-264V, 50-60 Hz, DC 24V.
- **LP-V5160ai146** 5150-6060 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 46 dBm, AC 100-264V, 50-60 Hz, DC 24V.
- **LP-V2324ai241** 2302-2482 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 41 dBm, DC 48V.
- LP-V2424ai241 2402-2482 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 41 dBm, DC 48V.
- **LP-V4949ai244** 4940-4990 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 44 dBm, DC 48V.
- LP-V4958ai246 4958-5875 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 46 dBm, DC 48V.
- LP-V5160ai246 5150-6060 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 46 dBm, DC 48V.46 dBm, DC 48 V.



# Equipment

## Small Business Series SBS.



LanPro supplies a wide variety of Access Points (AP´s) and Clients for Small Business Systems and Home Solutions. The user can choose technologies that adhere to the 803.11 a, b, g and n(light) standards in outdoor to indoor applications, including versatile and powerful USB connected adaptors with or without external antennas.

### **LP-N24V2**

# 2.4 GHz Wireless-N Broadband Router and/or Access Point (AP).

The LP-N24 V2.0 is a versatile product that includes a wireless Access point (AP), a router, a four port switch and a Firewall, all in one, that increases the transmission speed more than three-fold compared to the ordinary 802.11g products. It is compatible with the IEEE802.11n (Draft 4.0) and IEEE803.11g/b standards, and suited for SOHO and family networking.

This router creates a high speed and absolutely secure wireless networking environment to connect computers with an on-line gaming platform and/or for sharing photos, files, music, video, printers, etc., becoming the ideal choice for SOHOs to enjoy the networking activities.

#### Features

- Includes router, wireless access point, four-port switch and firewall in one.
- Provides up to 150Mbps uploading and downloading speed.
- Supports two WPS (Wi-Fi Protected Setup) encryption methods: PBC and PIN.
- Disable broadcast SSID(suppress SSID); Wireless Isolation.
- Compliant to IEEE802.11n, IEEE802.11g, IEEE802.11b, IEEE802.3 and IEEE802.3u standards.
- Supports far-distance transmission, 100 meters indoor, 400 meters outdoor (depends on the surrounding environment).
- Supports 64/128-bit WEP encryption, WPA and the latest WPA2 encryption security authentication.
- Supports RTS/CTS protocol and data partitioning function.
- Provides one 10/100Mbps Auto-Negotiation Ethernet WAN ports for WAN connection.
- Provides four 10/100Mbps Auto-Negotiation Ethernet LAN ports for LAN connections.
- Supports xDSL/Cable MODEM, static and dynamic IP in community networking.
- Supports remote/local Web management.
- Supports WMM to better smooth your voice and video.



- Supports SSID stealth mode and access control based over MAC address (up to 10 entries).
- Supports Auto MDI/MDIX.
- Supports wireless Roaming technology and ensures high-efficient wireless connections.
- Supports auto negotiation/manual mode for 802.11b/802.11q/802.11n.
- Supports UPnP and DDNS.
- Supports Firefox 1.0, IE5.5 or above.
- Supports SNTP.
- Supports virtual server, DMZ host.
- Built-in firewall for hacker's attack prevention.
- Supports DHCP server/client.
- Supports auto wireless channel selection.
- Supports the control over LAN access to Internet.
- Provides syslog to record the status of the router.
- Supports WDS wireless network extension, (Only with LP-N24 V2.0 equipment).
- Supports for Bandwidth control QoS function.
- 5 dBi high-gain Omni Directional antenna for increased wireless coverage.
- Quick Installation Guide.

#### How to order

■ LP-N24 V2.0 2.4 GHz Wireless-N Broadband Router and/or Access Point (AP).

## Equipment

### LP-N300



- Includes router, wireless access point, four-port switch and firewall in one.
- Provides up to 300 Mbps uploading and downloading speed.
- Two WPS (Wi-Fi Protected Setup) encryption methods: PBC and PIN.
- Disable broadcast SSID(suppress SSID); Wireless Isolation.
- Compliant to IEEE802.11n, IEEE802.11g, IEEE802.11b, IEEE802.3 and IEEE802.3u standards.
- Far-distance transmission, 100 meters indoor, 400 meters outdoor (depends on the surrounding environment).
- 64/128-bit WEP encryption, WPA and the latest WPA2 encryption security authentication.
- RTS/CTS protocol and data partitioning function.
- Provides one 10/100Mbps Auto-Negotiation Ethernet WAN ports for WAN connection.
- Provides four 10/100Mbps Auto-Negotiation Ethernet LAN ports for LAN connections.
- xDSL/Cable MODEM, static and dynamic IP in community networking.

### 2.4 GHz Wireless N 300 Mbps Broadband High Power Router and/or Access Point (AP).

The LP-N300 is a versatile product that includes a wireless Access point (AP), a router, a four port switch and a Firewall, all in one, that is 802.11n compliant and delivers up to 6x faster wireless speeds than 802.11g while staying backward compatible with 802.11g devices. Powered by MIMO technology and equipped with two external 7dBi antennas, this router provides superior wireless coverage for larger homes and offices. Connect the LP-N300 to a cable or DSL modem and provide high speed Internet access to multiple computers, game consoles, and media players. With intelligent QoS, it prioritizes both wired and wireless Internet traffic to bandwidth-sensitive applications like online gaming, VoIP or stream multimedia. Also it supports for WPA/WPA2 security standards to ensure that you will be able to use the best possible encryption regardless of your other wireless devices.

#### Features

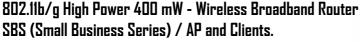
- Remote/local Web management.
- WMM to better smooth your voice and video.
- SSID stealth mode and access control based over MAC address (up to 10 entries).
- Auto MDI/MDIX.
- Wireless Roaming technology and ensures high-efficient wireless connections.
- Auto negotiation/manual mode for 802.11b/802.11g/ 802.11n.
- UPnP and DDNS.
- Firefox 1.0, IE5.5 or above.
- SNTP.
- Virtual server, DMZ host.
- Built-in firewall for hacker's attack prevention.
- DHCP server/client.
- Auto wireless channel selection.
- The control over LAN access to Internet.
- Provides syslog to record the status of the router.
- WDS wireless network extension with push button. (Only with LP-N300 equipment).
- Bandwidth control QoS function.
- 5 dBi high-gain Omni Directional antenna for increased wireless coverage.
- Quick Installation Guide.

#### How to order

LP-N300 Wireless N, 300 Mbps Broad Bandwidth Power Router and AP.

### LP-1521

Equipment



The LP-1521 is a High-Power Wi-Fi AP Broadband Router for indoors. It is available as a 2.4 GHz (802.11b/g) model, that fully supports the AP/ Bridge/ Client/ Repeater/ Router/WISP/Gateway / AP+WDS / WDS features and functional compliance of IEEE 802.11b/g standard. It is designed to provide good performance, enhance the advantages of a robust system and to be cost-effective. LanPro LP-1521 is targeted at competitive price-performance applications for SOHO and business offices, and includes better power management.

A key point on LanPro's 400mW output power is its ability to reach places that are otherwise inaccessible.



#### <u>Fe</u>atures

- RF output power:
  - 23 dBm (max.) @ 802.11g/54Mbps 200mw.26 dBm(max.) @ 802.11b/11Mbps. 400mw.
- Clone WAN MAC option.
- PPPOE with Service Name option.
- Tx power control.
- Bandwidth control with groups option by MAC.
- Ping based Watchdog.
- Configuration Wizard.
- 3 main operational modes: WISP, Gateway and Bridge.
- 802.1x, WPA and Radius.
- Mac, IP, ports filter.
- DMZ Host.
- PPPoE-Client.
- PPTP Protocol.
- DDNS Protocol.
- IAPP Protocol.

- Hide SSID.
- WEB Interface.
- Signal meter.
- AP, Client, WDS+AP, WDS and Ad Hoc modes.
- Site Survey.
- DHCP server.
- DHCP client.
- Up to 5 IP Alias via WEB interface.
- uPNP.
- Spanning Tree Protocol.
- MAC clone (for just one machine).
- Log system (local and remote).
- ACK Timeout control: Assures long distance connections when using the higher gain 14dB, 16dB and 19dB CPE.
- WEP, WPA Encryption- 64/128bit (WEP), WPA TKIP.
- Telnet.
- QoS.

#### How to order

■ LP-1521 High Speed Long Range 802.11b/g 54Mbps Broadband AP.

## \_Equipment

### LP-1522

### 802.11 b/g High Power 800 mW external antenna AP w/PoE SBS (Small Business Series) / AP and Clients.



The LP-1522 from LanPro is a high-powered access point with advanced security, designed specifically for the hotspot and enterprise market.

The LP-1522 wireless access point (AP) enables any 802.11b or 802.11g client to access resources on the Ethernet network. A comprehensive feature set allows easy access to the office network while maintaining a high level of security.

Featuring a Power Over Ethernet (PoE) data port and it's small foot print, the LP-1522 is ideally suited for placing on the ceiling or anywhere space is a premium.

It delivers the ultimate in power transmission with 800 mW power output. This is the most cost effective solution to provide 54 Mbps wireless coverage and still maintain the security throughout the network .

A metallic and rugged case makes the unit less prone to damage due to vandalism. Also allows a better heat dissipation. This unit can be easily attached to a wall, ceiling or cabinet with ease.

#### Features

- Supports Gateway modes.
- High power design for wider operation range.
- 802.11b/g compliant.
- WEP, WPA Encryption- 64/128bit (WEP), WPA TKIP.
- Wireless users access control.
- Wireless sites survey.
- TCP/UDP/ICMP/ARP protocol stack.
- Dynamic DNS.
- WDS.

- VPN Pass-through with multiple sessions.
- Firewall, DoS, IP/Port/MAC Filtering.
- Virtual DMZ.
- DHCP Client and Server.
- WAN access mode.
- PPPoE PPTP.
- DHCP Client.
- Fixed IP Address.
- UPnP.

### How to order

■ LP-1522 802.11 b/g High Power 800mW external antenna AP w/PoE.

### LP-1520ai

# **Equipment**

## 2.4 GHz WLAN AP. AP and Clients.

The LanPro's LP1520ai Wireless AP's most remarkable characteristics are it's *Full Weatherproof* features which enable this equipment to operate in very harsh environmental conditions (Salty, Sun, Humidity, etc). Besides this, the LP-1520ai has *800 mW* of RF Power into the Antenna, enough to warrant reliable communications over 2 Km links of point to point to multi-point networks or 3.5Km on ISP WIFI cell client applications.

**The Integrated antenna** of the LP-1520ai minimizes cable losses and facilitates its mounting on walls or poles by combining the AP and it's Antenna.

PoE IEEE 802.3af standard support facilitates powering of the divice and simplifies installation. Lenght supported: 100 m.

The LP-1520ai's **Watch Dog Timer** function, named by ISP's as "The Magical Electronics", delivers a "Self Reset" to the hardware in the event that the device "Hangs-up", inhibiting proper operation of the device. All of these features make the LP-1520ai a reliable, robust and integrated solution for WIFI based projects.



#### **Features**

- High Power: 0.8W output power for longer range.
- Environment: Outdoor Capable, weatherproof Enclosure.
- Antenna: Integrated.
- No need for a local power supply. Powered through the Ethernet Data cable. Complies the IEEE 802.3af PoE Standard.

- Self Healing: Watch Dog Timer prevents soft resets.
- Security WEP/WPA/WPA2 encryption.
- Capable of serving as an AP, Bridge, Hot-Spot and Repeater.

### How to order

LP-1520ai 2.4 GHz WLAN AP

## \_Equipment

## Wireless-N 150 Mbps PCI Adapter. AP and Clients.



The LP-N24P is a Wireless PCI Adapter with a transmitting rate of up to 150Mbps.

It adopts the most advanced IEEE802.11n standard, which perfectly complies downwards with IEEE802.11b/g standards, and efficiently reduces the "dead spots" in wireless area and as a result, enlarges the wireless coverage area.

The LP-N24P is suitable for a desktop computer and its transmitting rate can reach up to 150Mbps when connected to the LP-N24 150M 11N Wireless Router.

In a word, the LP-N24P is a 150 Mbps Wireless PCI Adapter with robust signal, long transmitting distance and stable performance for the Small Business Systems (SBS) and Home Networks.

#### Features

- Supports 150 Mbps receiving and transmitting rate.
- Complies with IEEE 802.11n standard, compatible with IEEE 802.11g and IEEE 802.11b standards.
- Supports 20 MHz / 40 MHz frequency bandwidth.
- Detects wireless network and changes transmitting rate automatically.
- Provides two working modes: Infrastructure and Ad-Hoc.

- Supports 64/128- bit WEP and WPA/WPA2 encryption methods.
- Supports WPS encryption for easy and fast wireless encryption to secure wireless network.
- Compatible with Windows 7, Vista, Windows XP, Windows2000, MAC OS, Linux.
- Supports WMM to better smooth your audio and video.

### How to order

LP-N24P Wireless-N 150 Mbps PCI Adapter.

### LP-N300P

# **Equipment**

### 2.4 GHz - 300 Mbps Wireless PCI Adapter.

The LP-N300P is a Wireless PCI Adapter with a transmitting rate of up to  $300 \; \text{Mbps}$ .

It adopts the most advanced IEEE802.11n standard, which perfectly complies downwards with IEEE802.11g/b standards, and efficiently reduces the "dead spots" in wireless area and as a result, enlarges the wireless coverage area.

The LP-N300P is suitable for a desktop computer and its transmitting rate can reach up to 300 Mbps when connected to the LP-N300 300 Mbps Wireless Router.

In a word, the LP-N300P is a 300 Mbps Wireless PCI Adapter with robust signal, long transmitting distance and stable performance for the SBS and Home Network.







#### **Features**

- Supports 300Mbps receiving and transmitting rate.
- Complies with IEEE 802.11n standard, compatible with IEEE 802.11g and IEEE 802.11b standards.
- Supports 20 MHz/40 MHz frequency bandwidth.
- 19 dBm transmit power.
- Detects wireless network and changes transmitting rate automatically.
- Provides two working modes: Infrastructure and Ad-Hoc.

- Supports 64/128- bit WEP WPA-PSK/WPA2-PSK y WPA/ WPA2 encryption methods.
- Provides simple configuration and supervisor program.
- Supports WPS encryption for easy and fast wireless encryption to secure wireless network.
- Compatible with Windows 7, Vista, Windows XP, Windows2000, MAC OS, Linux.
- Supports WMM to better smooth your audio and video.

### How to order

LP-N300P 300 Mbps Wireless-N PCI adapter.

# Equipment

### Mini 11N Wireless USB Adapter.



The LP-N24U is a Wireless-N USB Adapter with a transmitting rate of up to 150 Mbps.

It adopts the most advanced IEEE802.11n standard, which perfectly complies downwards with IEEE802.11g/b standards, and efficiently reduces the "dead spots" in wireless area and as a result, enlarges the wireless coverage area.

The LP-N24U is suitable for a desktop or a laptop computer and its transmitting rate can reach up to 150 Mbps when connected to the LP-N24 150 M 11N Wireless Router.

In a word, the LP-N24U is a 150 Mbps Wireless-N USB Adapter with robust signal, long transmitting distance and stable performance for the SBS and Home Network.

Features such as WPS (Wi-Fi Protected Setup), Soft AP connection with other wireless networks, WMM (Wi-Fi Multimedia), and PSP, WII, and NDS connection options that make the LP-N24U a safe and flexible solution for a wireless Internet connection.

#### **Features**

- Adopts IEEE802.11n Technology and provides up to 150 Mbps Wireless rate which is three times faster than that of a 54 Mbps NIC.
- Super Mini Design, exquisite and easy to carry.
- Supports WPS encryption method to achieve quick encryption and secure network.

- Supports Soft AP to facilitate quick establishment of wireless LAN.
- Supports PSP, NDS and WII connection with Internet and Xlink Kai to enjoy on-line.
- The high speed of the wireless networking makes it ideal for on-line activities like surfing, streaming video, gaming, downloading and Voice over IP telephone, and enables you to share and transfer movies and photos, etc. in a LAN.

#### How to order

LP-N24U Mini 11N Wireless USB Adapter.

### LP-N300U

# **Equipment**

### 2.4 GHz - 300 Mbps Wireless-N USB Adapter.

The LP-N300U is a Wireless-N USB Adapter with a transmitting rate of up to 300Mbps.

It adopts the most advanced IEEE802.11n standard draft 2.0, which perfectly complies downwards with IEEE802.11g/b standards, and efficiently reduces the "dead spots" in wireless area and as a result, enlarges the wireless coverage area.

The LP-N300U is suitable for a desktop or a laptop computer and its transmitting rate can reach up to 300 Mbps when connected to the LP-N300 300M Router.

In a word, the LP-N300U is a 300Mbps Wireless-N USB Adapter with robust signal, long transmitting distance and stable performance for the SBS and Home Network.

Features such as WPS (Wi-Fi Protected Setup), Soft AP connection with other wireless networks, WMM (Wi-Fi Multimedia), and PSP, WII, and NDS connection options that make the LP-N24U a safe and flexible solution for a wireless Internet connection.



#### **Features**

- Compatible with Windows 7, Vista, Windows XP, Windows2000, MAC OS, Linux.
- Complies with IEEE 802.11n (Draft 2.0), IEEE 802.11g, IEEE 802.11b standards.
- USB v2.0.
- Provides 300 Mbps transmission rates.
- Power output 19 dBm.
- Supports 20MHz/40MHz band width.
- Detects wireless network and changes transmission rate automatically.

- Supports two working modes: Infrastructure and Ad-Hoc.
- Supports Soft AP to establish a quick wireless LAN network.
- Supports PSP, WII, and NDS connections for online gaming.
- Meets WEP, WPA, WPA2, WPA-PSK,WPA2-PSK security standards.
- WPS enabled device. Pin and PBC mode.
- Supports WMM for improved audio and video signals.

#### How to order

■ LP-N300U Wireless-N USB Adapter.

## Equipment

## **USB Wireless Adaptors**

WIFI - 2.4 GHz b/g High Power USB Adaptor.



The **LP-570G** and **LP-575G** 2.4 GHz are High Power WLAN USB Adapters that fully support the features and functional compliance of IEEE 802.11 b/g standard.

They enable the deployment of the lastest update of the WMM™ (Wi-Fi Multimedia) standard and our WLAN USB adapter is targeted at competitive price-performance, better power management, high volume desktop and notebook PCs.

The combination of their 20 dBm Output Power and choice of models with external (LP-570G) or internal (LP-575G) antennas, allow these devices to behave as powerful AP's.

#### Features

- 2.412 GHz ~ 2.484 GHz unlicensed ISM frequency band.
- Operating distance of up to 450 meters in free space. It depend on model and antenna used, and on environment topology.
- Supports Software AP mode and WMM™ (Wi-Fi Multimedia) function.
- Supports USB 2.0/1.1 interface.
- 64-bit, 128-bit or 256-bit WEP/WPA/WPA2.

- Support for Microsoft Windows 2000, XP, XP x64, MAC, Linux and Vista.
- Can be used as a low cost premises radio. Can take up to 6m (18ft) USB extension cord to improve the proximite to the antenna location.
- Easy operation and setting up.
- SMA connector for use with any LanPro external Antenna (Except model LP-575G).
- Security: WEP (64,128,256 bit), WPA, WPA-PSK, WPA2 TKIP, WPA2-PSK.

#### How to order

- LP-570G USB Wireless adaptor with external antenna capability.
- LP-575G USB Wireless adaptor without external antenna capability.

## **RF Amplifiers**

# <u>Equipment</u>

### 2.4 GHz automatic gain outdoor RF amplifier.

#### High performance two way amplifier with DC injector.

LaPro RF WiFi Amplifiers (Boosters) are a must in those cases when more transmitting power and receiving gain are needed, mainly to extend the range for wireless radio communications an/or overcome RF cable losses encountered in long cable runs or wireless paths. These devices are sealed for outdoor application and designed to withstand rough weather conditions while being remotely powered through the RF cable.

These boosters operate on the 2.4 GHz ISM band and are high performance two-way amplifiers. Typical gains are:

LP-PA2405 27 dBm (0.5W) Typical / automatically adjusts to 0.5 W power output.

LP-PA2410 30 dBm (1W) Typical / automatically adjusts to 1W power output.

LP-PA2420 23 dBm (2W) Typical / automatically adjusts to 2W power output.

LP-PA2440 36 dBm (4W) Typical / automatically adjusts to 45W power output.

Other custom outputs available upon request.

The LanPro injector provides DC power to the outdoor booster or transponder through the RF feed cable without an additional power cord. It has several types of connectors for custom configuration. The standard products have female N type at both ends.

- High Gain, High Value and High Performance/ Auto Gain Signal Booster.
- Amplify an AP's radio signal from 27 dBm to 36 dBm.
- Extend the coverage of a broadband wireless application, e.g.: WiFi service.
- Increase AP's receiving sensitivity up to -100 dB.
- Increasing the radio communication range by providing transmit gain as well as low-noise receive gain.

- Strong aluminium case construction/weatherproof. (have to be properly installed and the connectors sealed with rubber-tape).
- Simply connect the DC Injector in the path of the RF signal coming from the 2.4 GHz radio, and the cable will power and feed the 2.4 GHz RF signal to the Amplifier through N type connectors.
- In the benefits provided by this signal booster are the savings of a lot of wiring costs and the easiness to install on the infrastructure, being it for home or business use.



# Equipment

## **RF Amplifiers**

2.4 GHz automatic gain outdoor RF amplifier.





### How to order

- LP-PA2405 Outdoor 2.4 GHz 0.5 Watt RF Amplifier.
- LP-PA2410 Outdoor 2.4 GHz 1 Watt RF Amplifier.
- **LP-PA2420 Outdoor 2.4 GHz 2 Watt RF Amplifier.**
- LP-PA2440 Outdoor 2.4 GHz 4 Watt RF Amplifier.



LanPro welcomes other than current models shown in this catalog.

Special frequencies, MIMO, Dual band, Military and Industrial designs are welcome.

Please contact us at sales@lanpro.com for more information.

### **Antennas**



#### LanPro has a broad selection of antennas for every application:

#### Yagi Antennas

Yagi Antennas are an excellent option when medium to large gain, low profile and rugged construction is required.

Our antennas are very stable, lightweight, small in size, and excellent performers. Thousands of them are installed worldwide; from icy fields to caribean beaches without any registered issue.

Is by far, our best seller antenna. Ideal for CPE applications due it's low cost. Available with N or SMA connector. Heavy duty ABS radome. Ideal for temporary and portatile applications.

#### Sector Antennas

The LanPro Sector Antennas are widely used in WISP (wireless Internet service providers) in order to set up tower cells (similar to cellphone cells) and distribute the signal to a broad area or campus.

You can use as many as you need in order to provide the necessary coverage to a sector. Able to handle up to 200 W input power. Scalable tilt-down mechanism for adjustable coverage. They are robust and dependable.

#### Parabolic Antennas

Parabolic Antennas are best suited for long distance backhaul service, their directionality and high gain give best signals at long distances.

#### Panel Antennas

Panel Antennas are best suited when the coverage area is a Campus, Hot spot, large areas where users wander with their Laptops or WiFi gadgets inside the coverage area, tipically a 60° horizontal and 60° vertical or farther with smaller angles.

Is a good substitute for parabolic antennas when distance and performance is not that critical. Easy to hide. They are very easy to align.

#### Omnidirectional Antennas

Omnidirectional antennas are best suited for applications in which a mobile client can be moving or in any position related to the horizontal plane.

Gains depend on the vertical lobe angle, being the lowest when the angle es +90° -90° and the highest when the lobe has a few degrees vertical, a 2dBi to 15dBi range is supplied by LanPro.

### LP-YAGIOX8YZHD

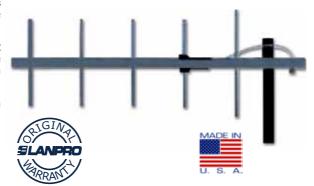


## 370 to 512 MHz 8.8 dBi Yagi Heavy Duty type Antenna Series UHF Band Antennas.

The heavy Duty Yagi Type Antenna Series for the 370 to 512 MHz UHF Band supplied by LanPro are built with a one(1) inch anodized aluminum U-Channel and 3/8" solid elements with the goal of delivering a superior service in extreme environmental conditions.

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time. The pole mounting hardware is made with stainless steel.

These antenna systems can be used in diverse high performance applications in the 370 to 512 MHz UHF Band.

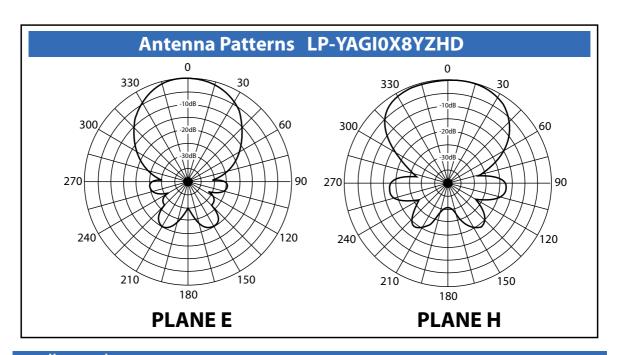


- 370 to 512 MHz UHF Band applications covered by several models.
- 8.8 dBi Gain.
- 300 Watt power handling maximum.
- High stability of physical parameters.
- Strong construction made of aluminum.
- All weather use, UV polyester coated.

- The Balun assembly is filled and sealed with elastomeric thermoplastic.
- Long lasting life.
- Stainless Steel mounting hardware.
- Grounding for lightning protection.
- Termination options:
  - A: N-Female.
  - B: Direct TNC to the Balun.
  - C: Direct N Connection to tha Balun.

### LP-YAGIOX8YZHD

370 to 512 MHz 8.8 dBi Yagi Heavy Duty type Antenna Series UHF Band Antennas.



#### How to order

■ LP-YAGI0381AHD 370-390 MHz 8.8 dBi Yaqi Heavy Duty type Antenna N Female Connector. ■ LP-YAGI0482AHD 406-430 MHz 8.8 dBi Yagi Heavy Duty type Antenna N Female Connector. ■ LP-YAGI0483AHD 430-450 MHz 8.8 dBi Yaqi Heavy Duty type Antenna N Female Connector. ■ LP-YAGI0484AHD 450-470 MHz 8.8 dBi Yagi Heavy Duty type Antenna N Female Connector. ■ LP-YAGI0485AHD 470-490 MHz 8.8 dBi Yagi Heavy Duty type Antenna N Female Connector. ■ LP-YAGI0486AHD 490-512 MHz 8.8 dBi Yaqi Heavy Duty type Antenna N Female Connector. ■ LP-YAGI0381BHD 370-390 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct TNC to the Balun. ■ LP-YAGI0482BHD 406-430 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct TNC to the Balun. ■ LP-YAGI0483BHD 430-450 MHz 8.8 dBi Yaqi Heavy Duty type Antenna Direct TNC to the Balun. ■ LP-YAGI0484BHD 450-470 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct TNC to the Balun. ■ LP-YAGI0485BHD 470-490 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct TNC to the Balun. ■ LP-YAGI0486BHD 490-512 MHz 8.8 dBi Yaqi Heavy Duty type Antenna Direct TNC to the Balun. ■ LP-YAGI0381CHD 370-390 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct N connection to the Balun. ■ LP-YAGI0482CHD 406-430 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct N connection to the Balun. ■ LP-YAGI0483CHD 430-450 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct N connection to the Balun. ■ LP-YAGI0484CHD 450-470 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct N connection to the Balun. ■ LP-YAGI0485CHD 470-490 MHz 8.8 dBi Yagi Heavy Duty type Antenna Direct N connection to the Balun. ■ LP-YAGI0486CHD 490-512 MHz 8.8 dBi Yaqi Heavy Duty type Antenna Direct N connection to the Balun.

### LP-YAGIFFFFGGCHDFW

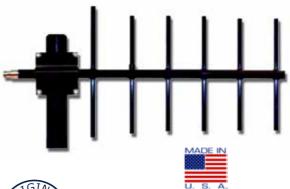


## 400 to 485 MHz 12 dBi Yagi Heavy Duty Fully Welded type Antenna Series UHF Band Antennas.

The heavy Duty Fully Welded Yagi Type Antenna Series for the 400 to 485MHz UHF Band supplied by LanPro are built with aluminum heavy wall tubing and a 3/8" solid elements with the goal of delivering a superior service in extreme environmental conditions.

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time. The pole mounting hardware is made with stainless steel.

These antenna systems can be used in diverse high performance applications in the 400 to 485 MHz UHF Band.



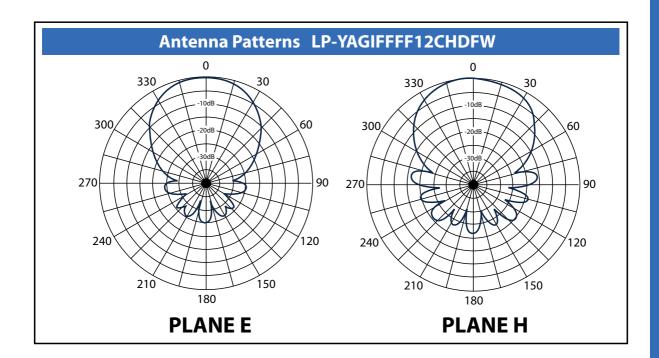


- Two models 400-460MHz band. 425-485MHz band.
- 12 dBi Gain.
- 300 Watt power handling maximum.
- Beamwidth: E 45°, H 55°.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.

- All weather use, UV polyester coated.
- The Balun assembly is filled and sealed with elastomeric thermoplastic.
- Long lasting life.
- Stainless Steel mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- Installable by only one person.

## LP-YAGIFFFFGGCHDFW

400 to 485 MHz 12 dBi Yagi Heavy Duty Fully Welded type Antenna Series UHF Band Antennas.



### How to order

- LP-YAGI040012AHDFW 400-460MHz 12 dBi Yagi Heavy Duty Fully Welded type Antenna N Female Connector.
- LP-YAGI042512AHDFW 425-485MHz 12 dBi Yagi Heavy Duty Fully Welded type Antenna N Female Connector.

### LP-YAGIO90010AHDFW



## 900 to 930 MHz 10 dBi Heavy Duty Fully Welded Yagi Type Antenna UHF Band Antennas.

This Heavy Duty Fully Welded Yagi Type Antenna for the 900 to 930MHz UHF Band supplied by LanPro is built with heavy duty solid UV polyester coated aluminum wall tubing with the goal of delivering a superior service in extreme environmental conditions.

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time. The pole mounting hardware is made with stainless steel.

These antenna systems can be used in diverse high performance applications in the 900 to 930 MHz UHF band.



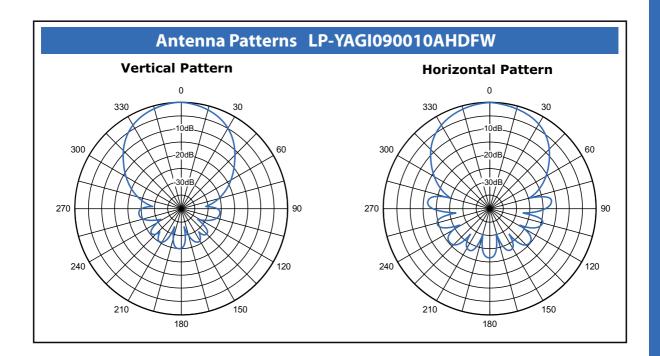


- 10 dBi Gain.
- 900 to 930 MHz UHF Band applications.
- Heavy Duty, Fully Welded.
- High stability of physical parameters.
- Strong construction made of aluminum wall tubing and 3/8" solid elements.
- All exposed areas are coated with UV polyester.

- All weather use.
- The feed system is completely enclosed.
- Lightweight and durable.
- Stainless Steel mounting hardware.
- Grounding for lightning protection.
- Direct Female N type Connector.

## LP-YAGIO90010AHDFW

900 to 930 MHz 10 dBi Heavy Duty Fully Welded Yagi Type Antenna LHF Band Antennas.



### How to order

LP-YAGI090010AHDFW 900 to 930 MHz 10 dBi Heavy Duty Fully Welded Yagi type Antenna.

## LP-YAGI0412

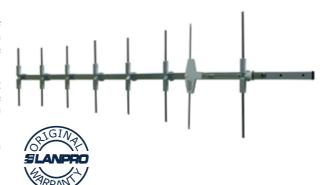
# Antennas

## 450 to 500 MHz 12 dBi Yagi type Antenna UHF Band Antennas.

The Yagi Type Antenna systems for the 450 to 500 MHz UHF Band supplied by LanPro are built with anodized aluminum with the goal of delivering a superior service in extreme environmental conditions.

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time. The pole mounting hardware is made with stainless steel.

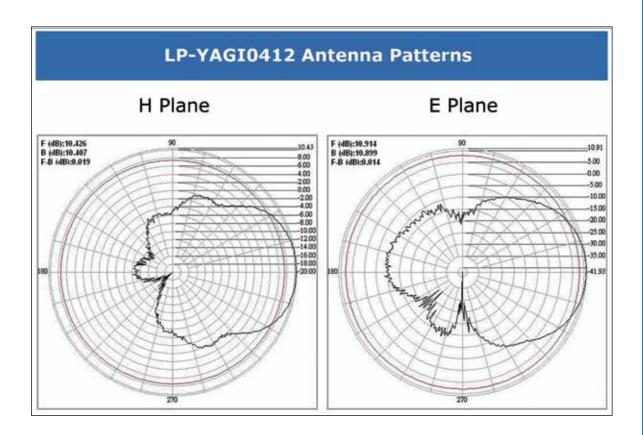
These antenna systems can be used in diverse high performance applications in the 520 to 560 MHz UHF band.



- 450 to 500 MHz UHF Band applications.
- 12 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.

- Long lasting life.
- 360 degrees horizontal and 30 degrees vertical tilt adjustment.
- Stainless Steel mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.

450 to 500 MHz 12 dBi Yagi type Antenna UHF Band Antennas.



### How to order

LP-YAGI0412 450 to 500 MHz 12 dBi Yagi type Antenna.

## LP-YAGI0512

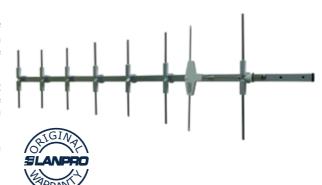
# Antennas

## 520 to 560 MHz 12 dBi Yagi type Antenna UHF Band Antennas.

The Yagi Type Antenna systems for the 520 to 560 MHz UHF Band supplied by LanPro are built with anodized aluminum with the goal of delivering a superior service in extreme environmental conditions.

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time. The pole mounting hardware is made with stainless steel.

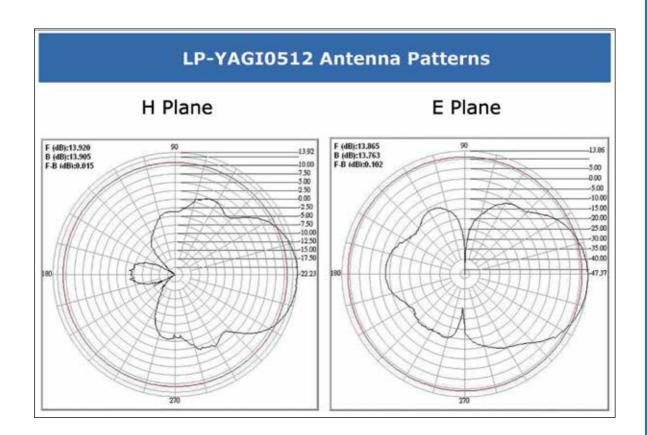
These antenna systems can be used in diverse high performance applications in the 520 to 560 MHz UHF band.



- 520 to 560 MHz UHF Band applications.
- 12 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.

- Long lasting life.
- 360 degrees horizontal and 30 degrees vertical tilt adjustment.
- Stainless Steel mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.

520 to 560 MHz 12 dBi Yagi type Antenna UHF Band Antennas.



### How to order

LP-YAGI0512 520 to 560 MHz 12 dBi Yagi type Antenna.

## LP-SECTORO407U120

Antennas

7 dBi, 120º, 460-500 MHz Sectorial Antenna UHF Band Antennas.

The Yagi Type Antenna systems for the 460 to 500 MHz UHF Band supplied by LanPro are built with anodized aluminum with the goal of delivering a superior service in extreme environmental conditions.

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time. The pole mounting hardware is made with stainless steel.

These antenna systems can be used in diverse high performance applications in the 520 to 560 MHz UHF band.

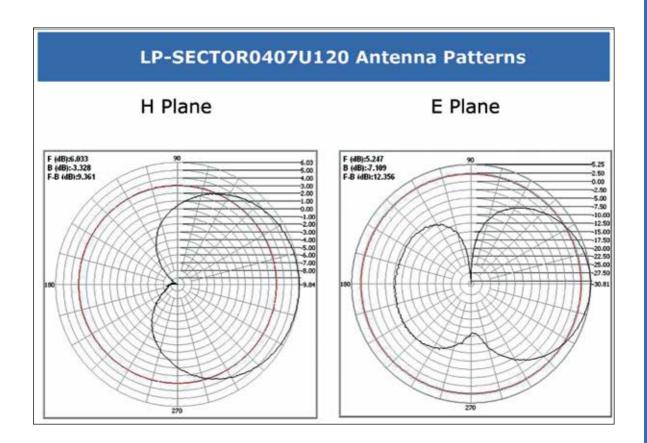


- 460 to 500 MHz UHF Band applications.
- 7 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.

- Long lasting life.
- 360 degrees horizontal and 30 degrees vertical tilt adjustment.
- Stainless Steel mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.

## LP-SECTORO407U120

7 dBi, 120º, 460-500 MHz Sectorial Antenna UHF Band Antennas.



### How to order

■ LP-SECTOR0407U120 460 to 500 MHz 7 dBi 120° Sectorial Antenna.

## LP-YAGI2410

# Antennas

### 2.4 GHz Band Antennas 10 dBi, Yagi Antenna.

Yagi antennas are an excellent option when medium to large gain, low profile and rugged construction is required.

Our antennas are very stable, lightweight, small in size, and excellent performers, thousands of them are installed worldwide.

They are built with the best materials available and the goal of delivering a superior service in extreme environmental conditions. Their heavy duty ABS radome protects the internal elements from harsh weather like that found in icy fields or in hot and humid caribean beaches without any registered issue.

These antenna systems can be used in diverse high performance applications in the 2.4 GHz band and are ideal for CPE applications due it's low cost and used in temporary and portatile applications.

Manufacturing is performed with high precision CNC machinery in order to give our antennas superb parameter's stability and long life. The pole mounting hardware is made with a high quality stainless steel material which tells a lot about the quality that LanPro designs into its products.





#### **Features**

■ Frequency Range: 2400 to 2500 MHz.

■ Beam widths: H: 45° E: 50°.

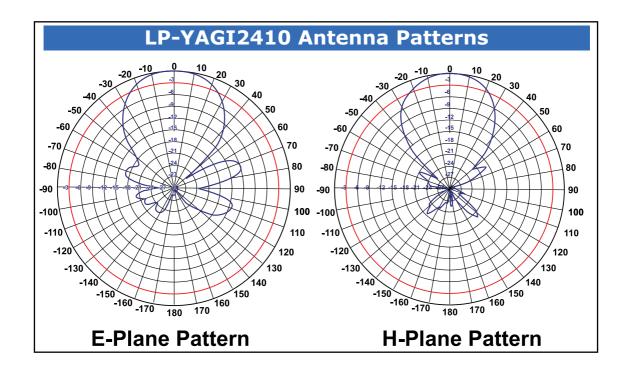
All weather.

■ Includes Cable that Converts N-Female to Reverse SMA.

■ 10 dBi Gain.

■ Works with 802.11b and 802.11g Compliant Devices.

2.4 GHz Band Antennas 10 dBi, Yagi Antenna.



### How to order

LP-YAGI2410 2.4 GHz a 2.5 GHz 10 dBi YAGI Antenna.

## LP-YAGI2415N

# Antennas

### Yagi Antenna, 15 dBi 2.4 GHz Band Antennas.

Yagi antennas are an excellent option when medium to large gain, low profile and rugged construction is required.

Our antennas are very stable, lightweight, small in size, and excellent performers, thousands of them are installed worldwide.

They are built with the best materials available and the goal of delivering a superior service in extreme environmental conditions. Their heavy duty ABS radome protects the internal elements from harsh weather like that found in icy fields or in hot and humid caribbean beaches without any registered issue.

These antenna systems can be used in diverse high performance applications in the 2.4 GHz band and are ideal for CPE applications due it's low cost and used in temporary and portatile applications.

Manufacturing is performed with high precision CNC machinery in order to give our antennas superb parameter's stability and long life. The pole mounting hardware is made with a high quality stainless steel material which tells a lot about the quality that LanPro designs into its products.





#### **Features**

■ 2400 to 2500 MHz Frequency Range.

All weather.

■ Beam widths: H: 30° E: 28°.

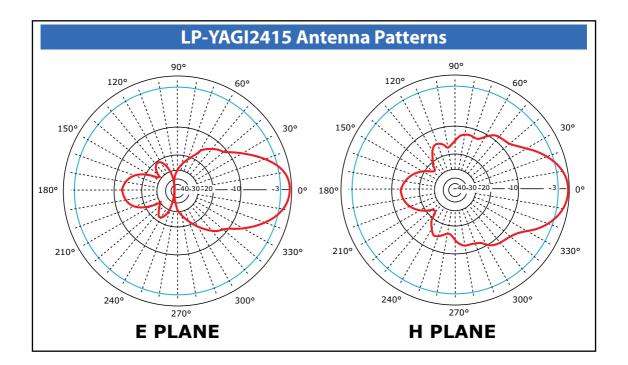
■ Includes Cable that Converts N-Female to Reverse SMA.

■ 15 dBi Gain.

■ Works with 802.11b and 802.11g Compliant Devices.

## LP-YAGI2415N

Yagi Antenna, 15 dBi 2.4 GHz Band Antennas.



### How to order

LP-YAGI2415N 2.4 GHz to 2.5 GHz 15 dBi YAGI Antenna.

## LP-YAGI2415SMA



### Yagi Antenna, 15 dBi 2.4 GHz Band Antennas.

Yagi antennas are an excellent option when medium to large gain, low profile and rugged construction is required.

Our antennas are very stable, lightweight, small in size, and excellent performers. Thousands of them are installed worldwide; from icy fields to caribean beaches without any registered issue. Is by far, our best seller antenna.

Ideal for CPE applications due it's low cost.

Available with N or SMA connector.

Heavy duty ABS radome. Ideal for temporary and portatile applications.



#### **Features**

- Gain up 15 dBi for long reach and great performance.
- All stainless steel hardware.

■ Full coverage.

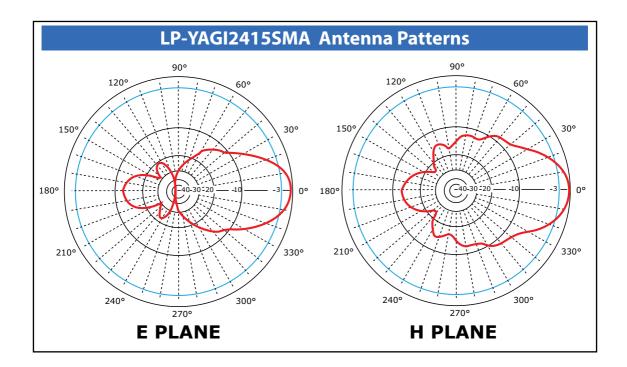
■ Weather Resistant.

Rugged U/V stable ABS radome.

■ 25° E and H plane beamwidth.

## LP-YAGI2415SMA

Yagi Antenna, 15 dBi 2.4 GHz Band Antennas.



### How to order

■ LP-YAGI2415SMA 2.4 GHz 15 dBi.

### **LP-PAR2415**

# Antennas

### Semi Parabolic Die-Cast Grid type 15 dBi 2.4 GHz Band Antennas.

The LP-PAR2415 is a directional antenna system with 15 dBi gain and  $16^{\rm o}$  of horizontal beam-width for directional applications.

It is rugged and weatherproof and almost invisible to the bare eye. It incorporates a two piece aluminum die cast semi parabolic grid type antenna reflector, very lightweight and strong with the PMPF, a patented 50-Ohm passive feed dipole and can be installed for horizontal or vertical polarization applications.

Installation is simple with the LanPro adjustable "Heavy Duty" bracket that comes standard and lets the installer to adjust tilt and swivel angles of up to 60 degrees. The bracket accommodates poles from 1.25" up to 2" OD.

Brackets are 100% aluminum for extreme corrosion protection and each reflector comes complete with stainless steel hardware and assembly instructions.

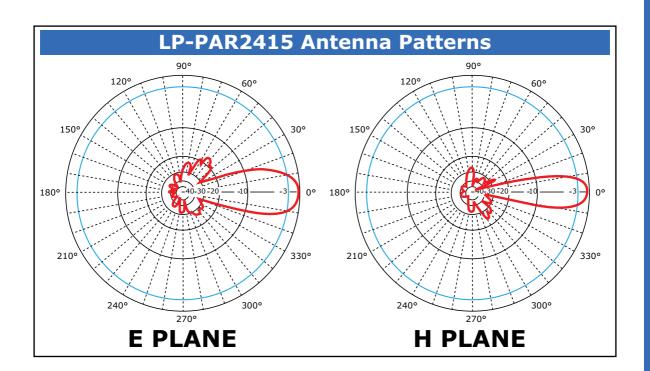
Comes with a 30,48 cm (12") pigtail with terminated in a N-female connector.



- Superior Performance 15 dBi gain.
- 16º Horizontal beamwidth.
- 21º Vertical beamwidth.
- Small Size/Reduced Shipping Cost.
- 100 W Passive Feed Dipole.
- Type N-Female Connector 12" (30.48cm) pigtail.
- Horizontal or Vertical Polarity.
- Rugged, Lightweight and Waterproof.

- Heavy Duty Adjustable Tilt Bracket.
- 2-Piece Powder Coat Painted Die Cast Aluminum Grid.
- Easy to assemble.
- 2400 to 2483 MHz ISM Band.
- IEEE 802.11b/g, Wireless LAN.
- WiFi Systems & Long-range Directional Applications.
- Point to Point Systems.
- Wireless Bridges, Backhaul Applications & Wireless Video Systems.

Semi Parabolic Die-Cast Grid type 15 dBi 2.4 GHz Band Antennas.



### How to order

■ LP-PAR2415 2.4 GHz 15 dBi Semi Parabolic Die-Cast Grid type Antenna.

### LP-PAR2420

# Antennas

### Semi-Parabolic Die-Cast type Antenna 20 dBi 2.4 GHz Rand Antennas

The LP-PAR2420 is a directional antenna system with 20 dBi gain and 12° of horizontal beam-width for directional applications.

It is rugged and weatherproof and almost invisible to the bare eye. It incorporates a two piece aluminum die cast semi parabolic grid type antenna reflector, very lightweight and strong with the PMPF, a patented 50-Ohm passive feed dipole and can be installed for horizontal or vertical polarization applications.

Installation is simple with the LanPro adjustable "Heavy Duty" bracket that comes standard and lets the installer to adjust tilt and swivel angles of up to 60 degrees. The bracket accommodates poles from 1.25" up to 2" OD.

Brackets are 100% aluminum for extreme corrosion protection and each reflector comes complete with stainless steel hardware and assembly instructions.

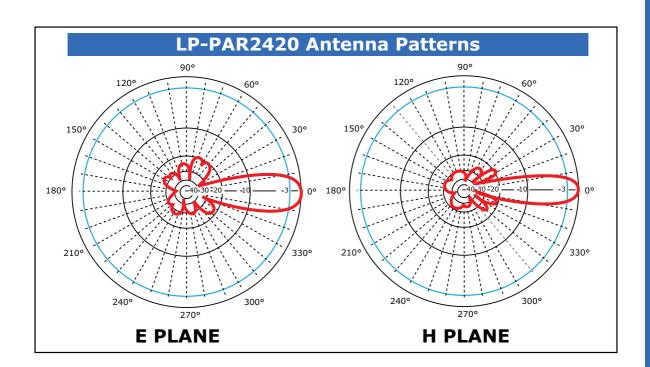
Comes with a 30.48cm (12") pigtail with terminated in a N-female connector.



- Superior Performance 20 dBi gain.
- 12º Horizontal beamwidth.
- 16° Vertical beamwidth.
- Small Size/Reduced Shipping Cost.
- 100 W Passive Feed Dipole.
- Type N-Female Connector 12" (30.48cm) pigtail.
- Horizontal or Vertical Polarity.
- Rugged, Lightweight and Waterproof.

- Heavy Duty Adjustable Tilt Bracket.
- 2-Piece Powder Coat Painted Die Cast Aluminum Grid.
- Easy to assemble.
- 2400-2483 MHz ISM Band.
- IEEE 802.11b/g, Wireless LAN.
- WiFi Systems & Long-range Directional Applications.
- Point to Point Systems.
- Wireless Bridges, Backhaul Applications & Wireless Video Systems.

Semi Parabolic Die-Cast type Antenna 20 dBi 2.4 GHz Band Antennas.



### How to order

■ LP-PAR2420 2.4 GHz 20 dBi Semi-Parabolic Die-Cast type Antenna.

### LP-PAR2424

# Antennas

### Semi-Parabolic Die-Cast type Antenna 24 dBi 2.4 GHz Rand Antennas

The LP-PAR2424 is a directional antenna system with 24 dBi gain and 8° of horizontal beam-width for directional applications.

It is rugged and weatherproof and almost invisible to the bare eye. It incorporates a two piece aluminum die cast semi parabolic grid type antenna reflector, very lightweight and strong with the PMPF, a patented 50-Ohm passive feed dipole and can be installed for horizontal or vertical polarization applications.

Installation is simple with the LanPro adjustable "Heavy Duty" bracket that comes standard and lets the installer to adjust tilt and swivel angles of up to 60 degrees. The bracket accommodates poles from 1.25" up to 2" OD.

Brackets are 100% aluminum for extreme corrosion protection and each reflector comes complete with stainless steel hardware and assembly instructions.

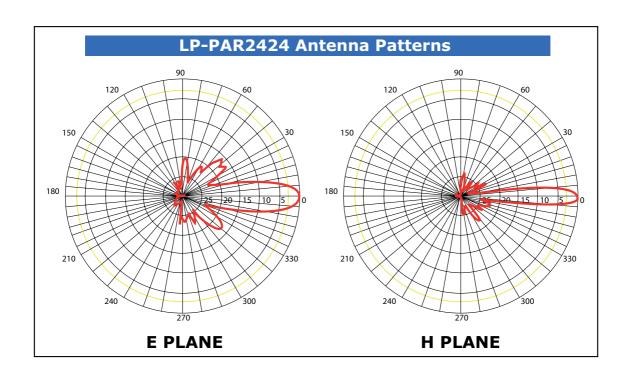
Comes with a  $30.48 \text{cm} \ (12'')$  pigtail with terminated in a N-female connector.



- Superior Performance 24 dBi gain.
- 8º Horizontal beamwidth.
- 12º Vertical beamwidth.
- Small Size/Reduced Shipping Cost.
- 100 W Passive Feed Dipole.
- Type N-Female Connector 12" (30.48cm) pigtail.
- Horizontal or Vertical Polarity.
- Rugged, Lightweight and Waterproof.

- Heavy Duty Adjustable Tilt Bracket.
- 2-Piece Powder Coat Painted Die Cast Aluminum Grid.
- Easy to assemble.
- 2400-2483.5 MHz ISM Band.
- IEEE 802.11b/g, Wireless LAN.
- WiFi Systems & Long-range Directional Applications.
- Point to Point Systems.
- Wireless Bridges, Backhaul Applications & Wireless Video Systems.

Semi Parabolic Die-Cast type Antenna 24 dBi 2.4 GHz Band Antennas.



### How to order

■ LP-PAR2424 2.4 GHz 24 dBi High Performance Die Cast Semi-Parabolic type Antenna.

### LP-PAR2427

# Antennas

### Parabolic Antenna 27 dBi 2.4 GHz Band Antennas.

The LP-PAR2427 is a directional antenna system with 27 dBi gain and 6° of beam-width for highly directional and long distance applications. It is rugged and weatherproof and almost invisible to the bare eye. It incorporates a single piece UV powder coated steel parabolic grid type antenna reflector for strength and low wind-loading, comes with the PMPF, a patented 50-Ohm passive feed dipole and can be installed for horizontal or vertical polarization applications.

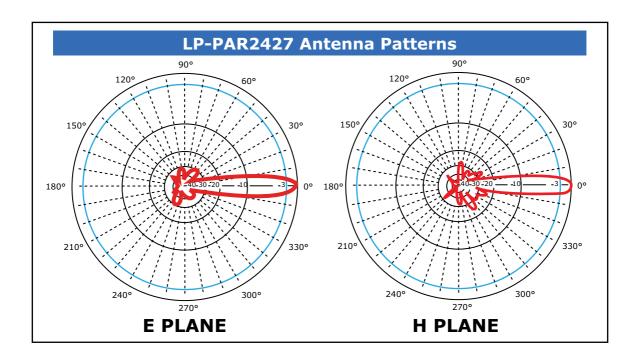
External interference is lowered due to its excellent F/B ratio. Installation is simple with the LanPro adjustable "Heavy Duty" bracket that comes standard and lets the installer to adjust tilt and swivel angles of up to 60 degrees. The bracket accommodates poles from 1.50" up to 3" OD. Brackets are 100% stainless steel for extreme corrosion protection and each reflector comes complete with stainless steel hardware and assembly instructions. Comes with a 0.45 m (18") pigtail terminated in a N-female connector.



- Small Size/Reduced Shipping Cost.
- 100 W Passive Feed Dipole.
- Aperture 6º.
- Type N-Female Connector 18" pigtail.
- 27 dBi Antenna Gain.
- Horizontal or Vertical Polarity.
- Rugged, and Waterproof.

- Heavy Duty Adjustable Tilt Bracket.
- 1-Piece Powder Coat Painted Galvanized Steel.
- Ideal for long range PTP systems.
- 2400 to 2500 MHz ISM Band.
- IEEE 802.11b/g, Wireless LAN.
- WiFi Systems & Long-range Directional.
- Wireless Bridges, Backhaul & Wireless Video Systems.

Parabolic Antenna 27 dBi 2.4 GHz Band Antennas.



### How to order

■ LP-PAR2427 2.4 GHz 27 dBi Parabolic Welded Reflector Grid Type Antenna.

### LP-PAR2429

# Antennas

### Parabolic Antenna 29 dBi 2.4 GHz Band Antennas.

The LP-PAR2429 is a directional antenna system with 29 dBi gain and 5.3° of beam-width for highly directional and long distance applications.

It is rugged and weatherproof and almost invisible to the bare eye. It incorporates a single piece UV powder coated steel parabolic grid type antenna reflector for strength and low wind-loading, comes with the PMPF, a patented 50-Ohm passive feed dipole and can be installed for horizontal or vertical polarization applications.

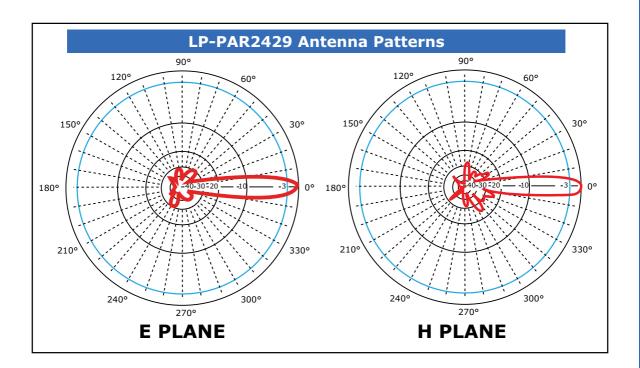
External interference is lowered due to its excellent F/B ratio. Installation is simple with the LanPro adjustable "Heavy Duty" bracket that comes standard and lets the installer to adjust tilt and swivel angles of up to 60 degrees. The bracket accommodates poles from 1.50" up to 3" OD. Brackets are 100% stainless steel for extreme corrosion protection and each reflector comes complete with stainless steel hardware and assembly instructions. Comes with a 0.45 m (18") pigtail terminated in a N-female connector.



- Small Size/Reduced Shipping Cost.
- 100 W Passive Feed Dipole.
- Aperture 5.3°.
- Type N-Female Connector 18" pigtail.
- 29 dBi Antenna Gain.
- Horizontal or Vertical Polarity.
- Rugged, and Waterproof.

- Heavy Duty Adjustable Tilt Bracket.
- 2-Piece Powder Coat Painted Galvanized Steel.
- Ideal for long range PTP systems.
- 2400 to 2483 MHz ISM Band.
- IEEE 802.11b/g, Wireless LAN.
- WiFi Systems & Long-range Directional.
- Wireless Bridges, Backhaul & Wireless Video Systems.

Parabolic Antenna 29 dBi 2.4 GHz Band Antennas.



### How to order

■ LP-PAR2429 2.4 GHz 29 dBi Parabolic Welded Reflector Grid Type Antenna.

### LP-PAR2430

# Antennas

### Parabolic Antenna 30 dBi 2.4 GHz Band Antennas.

The LP-PAR2430 is a directional antenna system with 30 dBi gain and 5.3° of beam-width for highly directional and long distance applications.

It is rugged and weatherproof and almost invisible to the bare eye. It incorporates a single piece UV powder coated steel parabolic grid type antenna reflector for strength and low wind-loading, comes with the PMPF, a patented 50-Ohm passive feed dipole and can be installed for horizontal or vertical polarization applications.

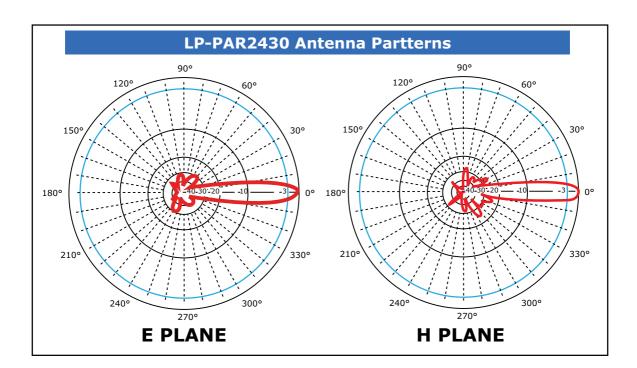
External interference is lowered due to its excellent F/B ratio. Installation is simple with the LanPro adjustable "Heavy Duty" bracket that comes standard and lets the installer to adjust tilt and swivel angles of up to 60 degrees. The bracket accommodates poles from 1.50" up to 3" OD. Brackets are 100% stainless steel for extreme corrosion protection and each reflector comes complete with stainless steel hardware and assembly instructions. Comes with a 0.45m (18") pigtail terminated in a N-female connector.



- Small Size/Reduced Shipping Cost.
- 100 W Passive Feed Dipole.
- Aperture 5.3°.
- Type N-Female Connector 18" pigtail.
- 30 dBi Antenna Gain.
- Horizontal or Vertical Polarity.
- Rugged, and Waterproof.

- Heavy Duty Adjustable Tilt Bracket.
- 2-Piece Powder Coat Painted Galvanized Steel.
- Ideal for long range PTP systems.
- 2400 to 2483 MHz ISM Band.
- IEEE 802.11b/g, Wireless LAN.
- WiFi Systems & Long-range Directional.
- Wireless Bridges, Backhaul & Wireless Video Systems.

Parabolic Antenna 30 dBi 2.4 GHz Band Antennas.



### How to order

■ LP-PAR2430 2.4 GHz 30 dBi Parabolic Welded Steel Reflector Grid Type Antenna.

### LP-PAR2433

# Antennas

### Parabolic Antenna 33 dBi 2.4 GHz Band Antennas.

The LP-PAR2433 is a directional antenna system with 33 dBi gain and 4.8° of beam-width for highly directional and long distance applications.

It is rugged and weatherproof and almost invisible to the bare eye. It incorporates a single piece UV powder coated steel parabolic grid type antenna reflector for strength and low wind-loading, comes with the PMPF, a patented 50-Ohm passive feed dipole and can be installed for horizontal or vertical polarization applications.

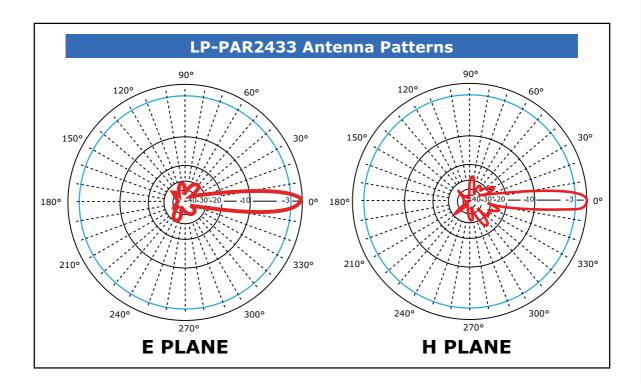
External interference is lowered due to its excellent F/B ratio. Installation is simple with the LanPro adjustable "Heavy Duty" bracket that comes standard and lets the installer to adjust tilt and swivel angles of up to 60 degrees. The bracket accommodates poles from 50 up to 75mm OD. Brackets are 100% stainless steel for extreme corrosion protection and each reflector comes complete with stainless steel hardware and assembly instructions. Comes with a 0.45m (18") pigtail terminated in a N-female connector.



- Small Size/Reduced Shipping Cost.
- 100 W Passive Feed Dipole.
- Aperture 4.8°.
- Type N-Female Connector 18" pigtail.
- 33 dBi Antenna Gain.
- Horizontal or Vertical Polarity.
- Rugged, and Waterproof.

- Heavy Duty Adjustable Tilt Bracket.
- 2-Piece Powder Coat Painted Galvanized Steel.
- Ideal for long range PTP systems.
- 2400 to 2483 MHz ISM Band.
- IEEE 802.11b/g, Wireless LAN.
- WiFi Systems & Long-range Directional.
- Wireless Bridges, Backhaul & Wireless Video Systems.

Parabolic Antenna 33 dBi 2.4 GHz Band Antennas.



### How to order

LP-PAR2433 2.4 GHz 33 dBi Parabolic Welded Reflector Grid Type Antenna.

## Antennas

### Sector Antenna, 12 dBi, 180° 2.4 GHz Band Antennas.

The LP-SEC2412180 Sector Antenna System features an integrated 50 Ohm passive feed that comes standard with a type N female connector.

These antennas are widely used in WISP (Wireless Internet Service Providers) in order to setup tower cells (similar to cellphone cells) and distribute the signal to a broad area or campus. You can use as many as you need in order to provide the necessary coverage to a sector.

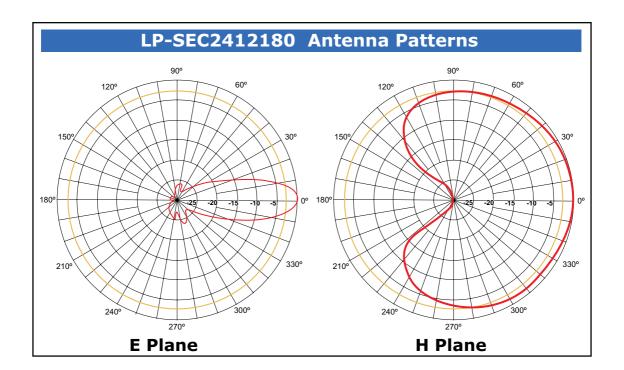
Able to handle up to 100 W of input power, scalable downtilt mechanism for better coverage. They are robust and dependable.



- 2400 to 2483.5 MHz Band applications.
- 12 dBi Gain.
- Aperture 180°.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 30 degrees vertical downtilt adjustment.
- Stainless steel pole mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- IEEE 802.11 b/g, bluetooth.
- Ideal for Wisp and Hotspot.

Sector Antenna, 12 dBi, 180° 2.4 GHz Band Antennas.



### How to order

LP-SEC2412180 2.4 GHz 12 dBi 180° Sector Antenna.

# Antennas

### Sector Antenna, 13 dBi, 120° 2.4 GHz Band Antennas.

The LP-SEC2413120 Sector Antenna System features an integrated 50 Ohm passive feed that comes standard with a type N female connector.

These antennas are widely used in WISP (Wireless Internet Service Providers) in order to setup tower cells (similar to cellphone cells) and distribute the signal to a broad area or campus. You can use as many as you need in order to provide the necessary coverage to a sector.

Able to handle up to 200 W of input power, scalable downtilt mechanism for better coverage. They are robust and dependable.

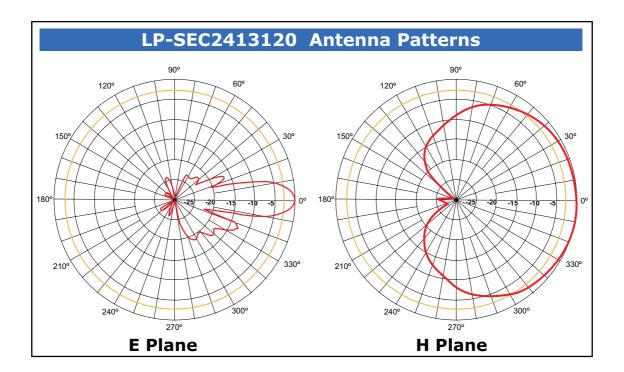




- 2400 to 2483.5 MHz Band applications.
- 13 dBi Gain.
- Aperture 120°.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 20 degrees vertical downtilt adjustment.
- Stainless steel pole mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- IEEE 802.11 b/g, bluetooth.
- Ideal for Wisp and Hotspot.

Sector Antenna, 13 dBi, 120° 2.4 GHz Band Antennas.



### How to order

LP-SEC2413120 2.4 GHz 13 dBi 120° Sector Antenna.

## Antennas

### Sector Antenna, 14 dBi, 90° 2.4 GHz Band Antennas.

The LP-SEC241490 Sector Antenna System features an integrated 50 Ohm passive feed that comes standard with a type N female connector.

These antennas are widely used in WISP (Wireless Internet Service Providers) in order to setup tower cells (similar to cellphone cells) and distribute the signal to a broad area or campus. You can use as many as you need in order to provide the necessary coverage to a sector.

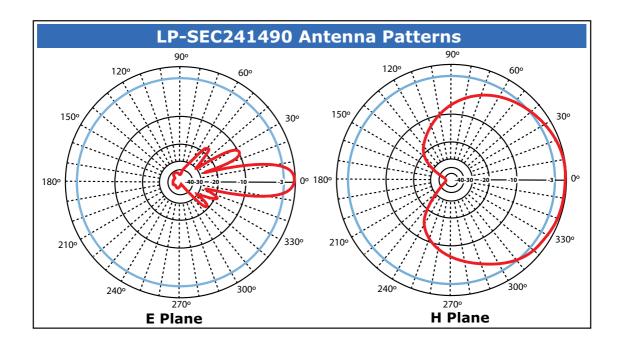
Able to handle up to 200 W of input power, scalable downtilt mechanism for better coverage. They are robust and dependable.



- 2400 to 2500 MHz Band applications.
- 14 dBi Gain.
- Aperture 90°.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 20 degrees vertical downtilt adjustment.
- Stainless steel pole mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- IEEE 802.11 b/g, bluetooth.
- Ideal for Wisp and Hotspot.

Sector Antenna, 14 dBi, 90° 2.4 GHz Band Antennas.



### How to order

■ LP-SEC241490 2.4 to 2.5 GHz 14 dBi 90° Sector Antenna.

# Antennas

### Sector Antenna, 15 dBi, 180° 2.4 GHz Band Antennas.

The LP-SEC2415180 Sector Antenna System features an integrated 50 Ohm passive feed that comes standard with a type N female connector.

These antennas are widely used in WISP (Wireless Internet Service Providers) in order to setup tower cells (similar to cellphone cells) and distribute the signal to a broad area or campus. You can use as many as you need in order to provide the necessary coverage to a sector.

Able to handle up to 200 W of input power, scalable downtilt mechanism for better coverage. They are robust and dependable.

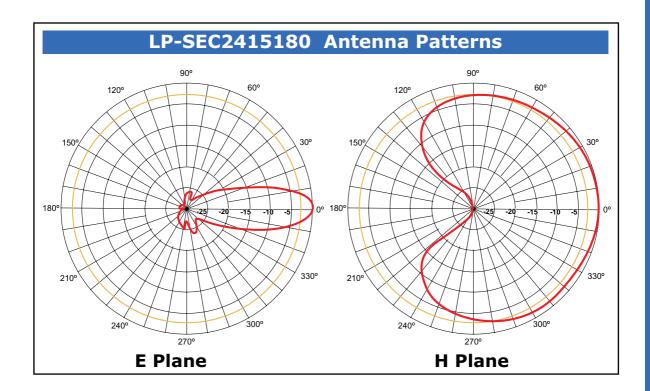




- 2400 to 2500 MHz Band applications.
- 15 dBi Gain.
- Aperture 180°.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 30 degrees vertical downtilt adjustment.
- Zinc alloy pole mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- IEEE 802.11 b/g, bluetooth.
- Ideal for Wisp and Hotspot.

Sector Antenna, 15 dBi, 180° 2.4 GHz Band Antennas.



### How to order

■ LP-SEC2415180 2.4 GHz to 2.5 GHz 15 dBi 180° Sector Antenna.

# Antennas

### Sector Antenna, 16 dBi, 120° 2.4 GHz Band Antennas.

The LP-SEC2416120 Sector Antenna System features an integrated 50 Ohm passive feed that comes standard with a type N female connector.

These antennas are widely used in WISP (Wireless Internet Service Providers) in order to setup tower cells (similar to cellphone cells) and distribute the signal to a broad area or campus. You can use as many as you need in order to provide the necessary coverage to a sector.

Able to handle up to 200 W of input power, scalable downtilt mechanism for better coverage. They are robust and dependable.

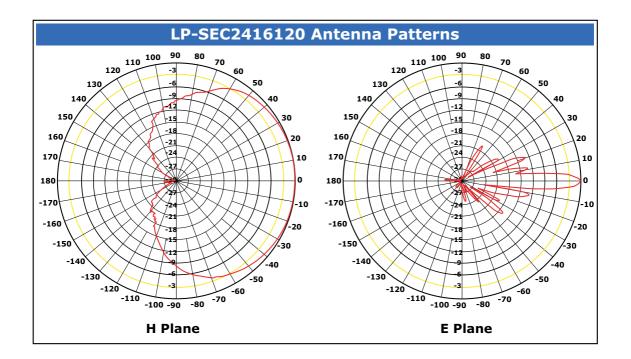




- 2300 to 2500 MHz Band applications.
- 16 dBi Gain.
- Aperture 120°.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 30 degrees vertical downtilt adjustment.
- Zinc alloy pole mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- IEEE 802.11 b/g, bluetooth.
- Ideal for Wisp and Hotspot.

Sector Antenna, 16 dBi, 120° 2.4 GHz Band Antennas.



### How to order

■ LP-SEC2416120 2.3 GHz to 2.5 GHz 16 dBi 120° Sector Antenna.

## Antennas

## Sector Antenna, 17 dBi, 90° 2.4 GHz Band Antennas.

The LP-SEC241790 Sector Antenna System features an integrated 50 Ohm passive feed that comes standard with a type N female connector.

These antennas are widely used in WISP (Wireless Internet Service Providers) in order to setup tower cells (similar to cellphone cells) and distribute the signal to a broad area or campus. You can use as many as you need in order to provide the necessary coverage to a sector.

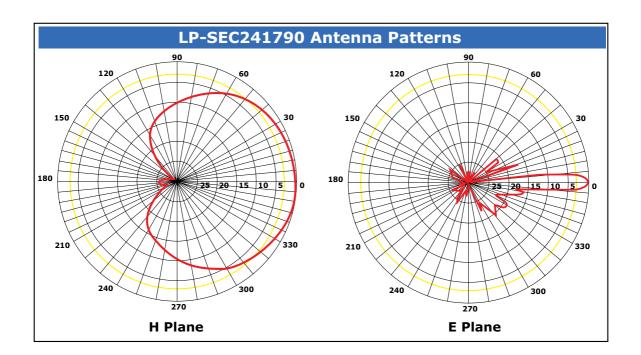
Able to handle up to 200 W of input power, scalable downtilt mechanism for better coverage. They are robust and dependable.



- 2300 to 2500 MHz Band applications.
- 17 dBi Gain.
- Aperture 90°.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 30 degrees vertical downtilt adjustment.
- Zinc alloy pole mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- IEEE 802.11 b/g, bluetooth.
- Ideal for Wisp and Hotspot.

Sector Antenna, 17 dBi, 90° 2.4 GHz Band Antennas.



### How to order

■ LP-SEC241790 2.3 GHz to 2.5 GHz 17 dBi 90° Sector Antenna.

# Antennas

### Sector Antenna, 18 dBi, 60° 2.4 GHz Band Antennas.

The LP-SEC241860 Sector Antenna System features an integrated 50 Ohm passive feed that comes standard with a type N female connector.

These antennas are widely used in WISP (Wireless Internet Service Providers) in order to setup tower cells (similar to cellphone cells) and distribute the signal to a broad area or campus. You can use as many as you need in order to provide the necessary coverage to a sector.

Able to handle up to 200 W of input power, scalable downtilt mechanism for better coverage. They are robust and dependable.

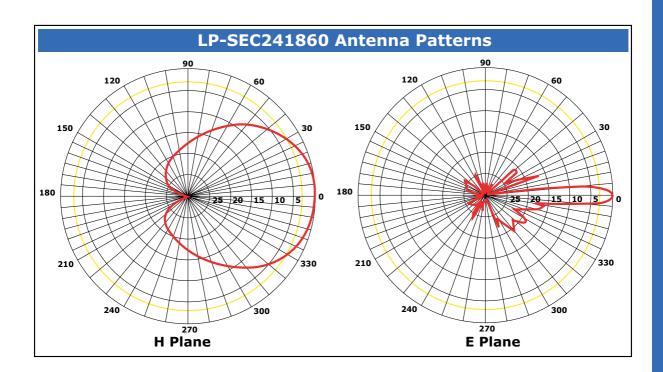




- 2300 to 2500 MHz Band applications.
- 18 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum and ABS.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 30 degrees vertical downtilt adjustment.
- Zinc alloy pole mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- IEEE 802.11 b/g, bluetooth.
- Ideal for Wisp and Hotspot.

Sector Antenna, 18 dBi, 60° 2.4 GHz Band Antennas.



### How to order

■ LP-SEC241860 2.3 GHz to 2.5 MHz 18 dBi 60° Sector Antenna.

### LP-OMNIXXXX05AHD

# Antennas

### Heavy Duty Omni Type Antennas, 5 dBi 375 - 512 MHz UHF Band Antennas.

These Heavy Duty Omni Type Antennas for the 375 to 512 MHz UHF Band supplied by LanPro are built with a strong construction design, with the radiating elements made of copper & copper alloy. They are encased in a fiberglass radome for total environmental protection

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time. The pole mounting hardware is made with stainless steel.

These antenna systems can be used in diverse high performance applications in the 375 to 512 MHz UHF band.



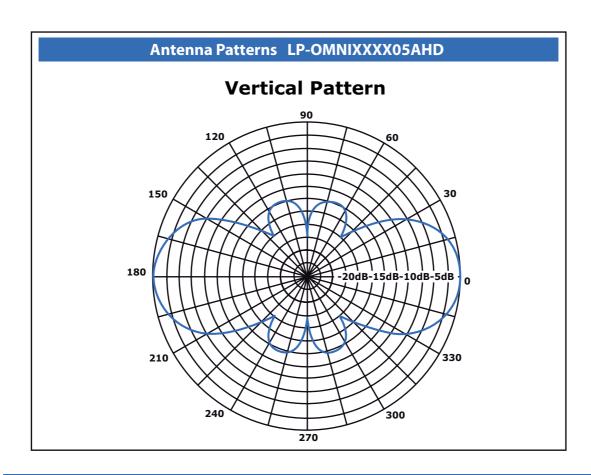


- 375 to 512 MHz UHF Band applications.
- Heavy Duty.
- 5 dBi Gain.
- 40° of vertical beamwidth.
- High stability of physical parameters.
- Strong construction with radiating elements constructed of copper & copper alloy. They are encased in a fiberglass radome for total environmental protection.

- All weather use fiberglass radome is ultraviolet inhibited.
   The heavy wall aluminum mounting sleeve is epoxy coated for superior weather protection.
- The feed system is completely enclosed.
- Lightweight and durable.
- Stainless Steel mounting hardware.
- Grounding for lightning protection.
- Direct Female N type Connector.
- Simple to install.

### LP-OMNIXXXXO5AHD

Heavy Duty Omni Type Antennas, 5 dBi 375 - 512 MHz UHF Band Antennas.



### How to order

```
■ LP-OMNI037505AHD 375 to 400 MHz 5 dBi Heavy Duty Omni type Antenna.
■ LP-OMNI040605AHD 406 to 430 MHz 5 dBi Heavy Duty Omni type Antenna.
■ LP-OMNI043005AHD 430 to 450 MHz 5 dBi Heavy Duty Omni type Antenna.
■ LP-OMNI044505AHD 445 to 465 MHz 5 dBi Heavy Duty Omni type Antenna.
■ LP-OMNI045005AHD 450 to 470 MHz 5 dBi Heavy Duty Omni type Antenna.
■ LP-OMNI046005AHD 460 to 480 MHz 5 dBi Heavy Duty Omni type Antenna.
■ LP-OMNI047005AHD 470 to 490 MHz 5 dBi Heavy Duty Omni type Antenna.
■ LP-OMNI048005AHD 480 to 500 MHz 5 dBi Heavy Duty Omni type Antenna.
■ LP-OMNI049005AHD 490 to 512 MHz 5 dBi Heavy Duty Omni type Antenna.
```

### LP-OMNIMOBILE0406



### 450 TO 470 MHz 6 dBi

Heavy Duty Flexible Mobile OMNI type Antenna.

These Heavy Duty Omni Mobile Antennas with Magnetic bases for the 450 to 470 MHz UHF Band supplied by LanPro are built with a strong construction design, with the radiating elements made of copper & copper alloy.

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time.

These antenna systems can be used in diverse high performance applications in the 450 to 470 MHz UHF band.

It features a powerful magnetic base with a protective mylar to prevent damage to any mounting surface. Comes supplied with 12 feet of RG58U coax and PL259 connector.



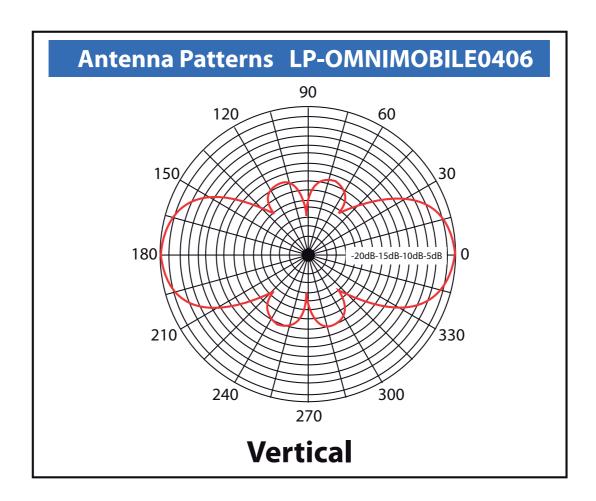


- 450 to 470 MHz UHF Band applications.
- 6 dBi gain in a wideband design.
- Heavy duty service.
- Power handling capacity of 200 watts.
- Stylish and Durable: These antennas are manufactured using the finest corrosion resistant materials and finishes available. They are available in triple plated chrome and black finishes.

- Heavy duty Magnetic Mount with Mylar protective film.
- High stability of physical parameters.
- Lightweight and durable.
- 12 feet of RG58U coax and PL259 connector.
- Simple to install.

## LP-OMNIMOBILE0406

450 TO 470 MHz 6 dBi Heavy Duty Flexible Mobile OMNI type Antenna.



### How to order

LP-OMNIMOBILE0406 450 TO 470 MHz 6 dBi Heavy Duty Flexible Mobile OMNI type Antenna.

### LP-OMNIMOBILE0906

# Antennas

### 900 TO 930 MHz 6 dBi

### Heavy Duty Flexible Mobile OMNI type Antenna.

These Heavy Duty Omni Mobile Antennas with Magnetic bases for the 900 to 930 MHz UHF Band supplied by LanPro are built with a strong construction design, with the radiating elements made of copper & copper alloy.

Manufacturing is performed with high precision CNC machinery equipment, giving parameter stability to the antennas in time.

These antenna systems can be used in diverse high performance applications in the 900 to 930 MHz UHF band.

It features a powerful magnetic base with a protective mylar to prevent damage to any mounting surface. Comes supplied with 12 feet of RG58U coax and PL259 connector.



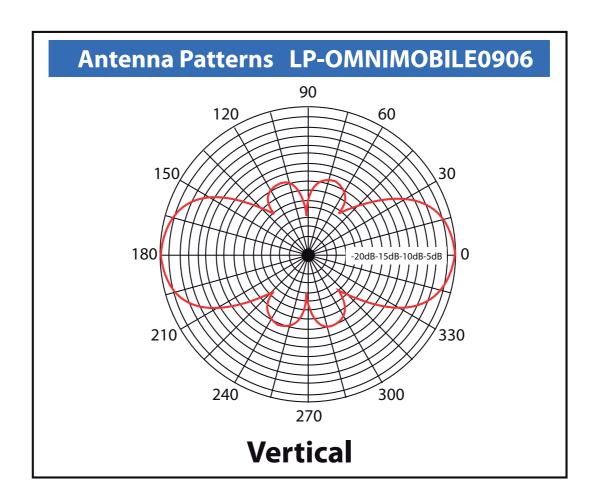


- 900 to 930 MHz UHF Band applications.
- 6 dBi gain in a wideband design.
- Heavy duty service.
- Power handling capacity of 200 watts.
- Stylish and Durable: These antennas are manufactured using the finest corrosion resistant materials and finishes available. They are available in triple plated chrome and black finishes.

- Heavy duty Magnetic Mount with Mylar protective film.
- High stability of physical parameters.
- Lightweight and durable.
- 12 feet of RG58U coax and N-Female connector.
- Simple to install.

### LP-OMNIMOBILE0906

900 TO 930 MHz 6 dBi Heavy Duty Flexible Mobile OMNI type Antenna.



#### How to order

LP-OMNIMOBILE0906 900 to 930 MHz 6 dBi Heavy Duty Flexible Mobile OMNI type Antenna.

### LP-0mni2406



Omni Antenna, 6 dBi 2.4 GHz Band Antennas.

The LanPro LP-OMNI2406 Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNI2406 antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN). The LP-OMNI2406 antenna is a 6 dBi omni-directional antenna, giving you 360° of wireless signal range. This 6 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI2406.

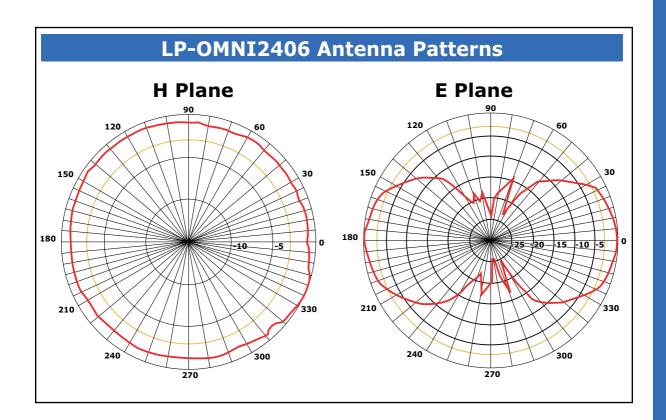




- 2400 to 2483.5 Frequency Range.
- 6 dBi Antenna Gain.
- 100 W Maximum Power.
- Omni Directional.

- Type N Female Integrated Connector.
- All weather.
- Works with 802.11b and 802.11g Compliant Devices.
- E-plane= 55°.

Omni Antenna, 6 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNI2406 2.4 GHz 6 dBi Omni Antenna.

## **LP-0mni2407**

# Antennas

Omni Antenna, 7 dBi 2.4 GHz Band Antennas.

The LanPro LP-OMNI2407 Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNI2407 antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN). The LP-OMNI2407 antenna is a 7 dBi omni-directional antenna, giving you 360° of wireless signal range. This 7 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI2407.



#### **Features**

■ 2400 to 2483.5 MHz Frequency Range.

■ Type N Female Integrated Connector.

7 dBi Antenna Gain.

All weather.

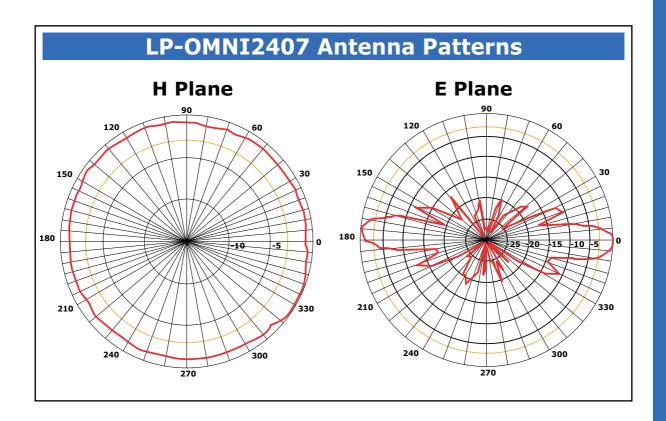
■ 100 W Maximum Power.

 $\hfill \blacksquare$  Works with 802.11b and 802.11g Compliant Devices.

Omni Directional.

■ E-plane= 11°.

Omni Antenna, 7 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNI2407 2.4 GHz 7 dBi Omni Antenna.

### LP-0mni2408



#### Omni Antenna, 8 dBi 2.4 GHz Band Antennas.

The LanPro LP-OMNI2408 Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNI2408 antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN). The LP-OMNI2408 antenna is a 8 dBi omni-directional antenna, giving you 360° of wireless signal range. This 8 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI2408.



#### **Features**

■ 2400 to 2483.5 MHz Frequency Range.

■ Type N Female Integrated Connector.

■ 8 dBi Antenna Gain.

All weather.

■ 100 W Maximum Power.

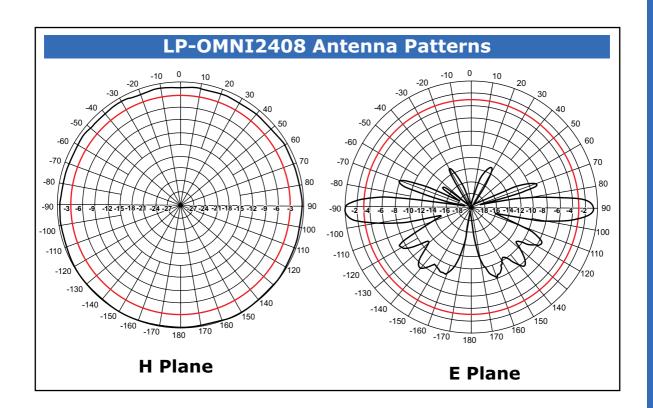
 $\hfill \blacksquare$  Works with 802.11b and 802.11g Compliant Devices.

Omni Directional.

■ E-plane= 10°.

# LP-0mni2408

Omni Antenna, 8 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNI2408 2.4 GHz 8 dBi Omni Antenna.

### LP-Omni2408HD



#### Omni Antenna, 8 dBi 2.4 GHz Band Antennas, Heavy Duty.

The LanPro LP-OMNI2408HD Heavy Duty Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNI2408HD antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN). The LP-OMNI2408HD antenna is an 8 dBi omni-directional antenna, giving you 360° of wireless signal range. This 8 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI2408HD.



#### Features

■ 2400 to 2500 MHz Frequency Range.

■ Type N Female Integrated Connector.

8 dBi Antenna Gain.

All weather.

■ 150 W Maximum Power.

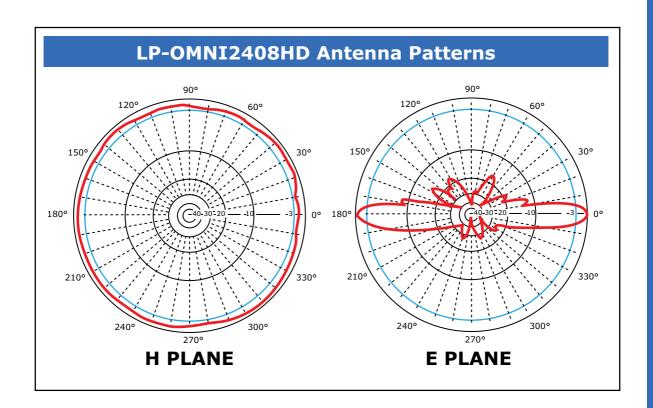
 $\hfill \blacksquare$  Works with 802.11b and 802.11g Compliant Devices.

Omni Directional.

■ E-plane= 12°.

## LP-Omni2408HD

Omni Antenna, 8 dBi 2.4 GHz Band Antennas, Heavy Duty.



#### How to order

■ LP-OMNI2408HD 2.4 GHz to 2.5 GHz 8 dBi Heavy Duty Omni Antenna.

### LP-0mni2410



#### Omni Antenna, 10 dBi 2.4 GHz Band Antennas.

The LanPro LP-OMNI2410 Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNI2410 antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN). The LP-OMNI2410 antenna is a 10 dBi omni-directional antenna, giving you 360° of wireless signal range. This 10 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI2410.





#### **Features**

■ 2400 to 2483.5 MHz Frequency Range.

■ Type N Female Integrated Connector.

■ 10 dBi Antenna Gain.

All weather.

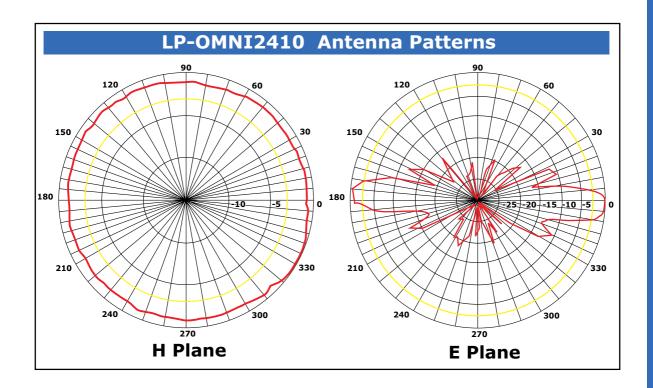
■ 100 W Maximum Power.

■ Works with 802.11b and 802.11g Compliant Devices.

Omni Directional.

■ E-plane= 15°.

Omni Antenna, 10 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNI2410 2.4 GHz 10 dBi Omni Antenna.

### **LP-0mni2412**

# Antennas

Omni Antenna, 12 dBi 2.4 GHz Band Antennas.

The LanPro LP-OMNI2412 Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNI2412 antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN). The LP-OMNI2412 antenna is a 12 dBi omni-directional antenna, giving you 360° of wireless signal range. This 12 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI2412.

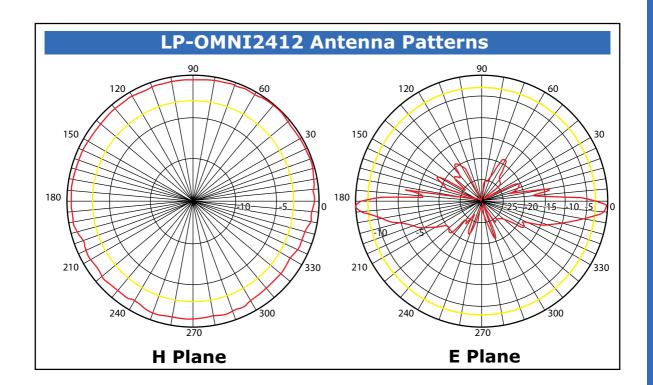




- 2400 to 2483.5 MHz Frequency Range.
- 12 dBi Antenna Gain.
- 100 W Maximum Power.
- Omni Directional.

- $\hfill \blacksquare$  Type N Female Integrated Connector.
- All weather.
- Works with 802.11b and 802.11g Compliant Devices.
- E-plane= 8°.

Omni Antenna, 12 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNI2412 2.4 GHz 12 dBi Omni Antenna.

### LP-Omni2412HD

# Antennas

#### Omni Antenna, 12 dBi 2.4 GHz Band Antennas, Heavy Duty.

The LanPro LP-OMNI2412HD Heavy Duty Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNI2412HD antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN). The LP-OMNI2412HD antenna is an 12 dBi omni-directional antenna, giving you 360° of wireless signal range. This 12 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI2412HD.

The HD (Heavy Duty) series are made of machined aluminum, Fiberglass and Stainless Steel and can withstand temperature from -40  $^{\circ}$ C to 60  $^{\circ}$ C and hurricane force winds. Mounting brackets are also professional grade.





#### **Features**

■ 2400 to 2500 MHz Frequency Range.

■ Type N Female Integrated Connector.

■ 12 dBi Antenna Gain.

All weather.

■ 150 W Maximum Power.

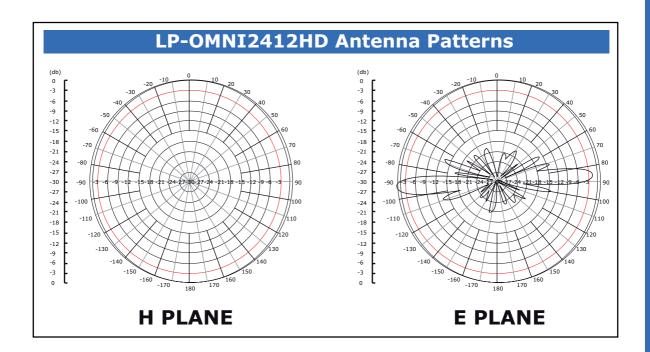
■ Works with 802.11b and 802.11g Compliant Devices.

Omni Directional.

■ E-plane= 8°.

### LP-Omni2412HD

Omni Antenna, 12 dBi 2.4 GHz Band Antennas, Heavy Duty.



#### How to order

LP-OMNI2412HD 2.4 GHz to 2.5 GHz 12 dBi Heavy Duty Omni Antenna.

### **LP-0mni2415**



#### Omni Antenna, 15 dBi 2.4 GHz Band Antennas.

The LanPro LP-OMNI2415 Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNI2415 antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN). The LP-OMNI2415 is a 15 dBi omnidirectional antenna, giving you 360° of wireless signal range. This 15 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI2415.





#### **Features**

■ 2400 to 2483.5 Frequency Range.

■ Type N Female Integrated Connector.

■ 15 dBi Antenna Gain.

All weather.

■ 100 W Maximum Power.

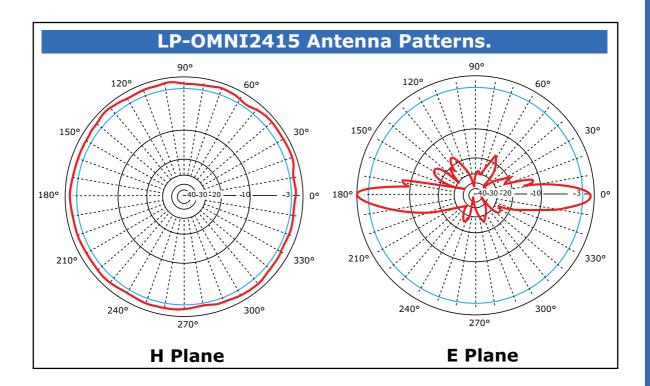
■ Works with 802.11b and 802.11g Compliant Devices.

Omni Directional.

■ E-plane= 6°.

## **LP-Omni2415**

Omni Antenna, 15 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNI2415 2.4 GHz 15 dBi Omni Antenna.

## LP-OmniMobile2407



#### Omni Mobile Antenna, 7 dBi 2.4 GHz Band Antennas.

Designed for 2.4 GHz Spread Spectrum automobile terminal communication system.

Uses stainless spring material, and features high Gain, fine VSWR, good flexibility and long lasting performance.



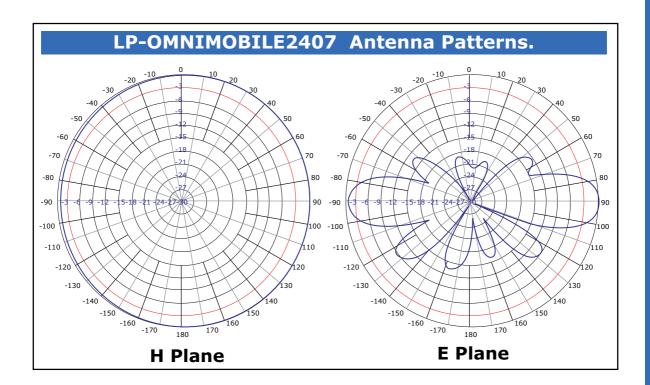


- 2400 to 2484 Frequency Range.
- 7 dBi Antenna Gain.
- 50 W Maximum Power.
- Omni Directional.

- SMA Male Connector.
- Magnetic Base.
- Rugged, Lightweight and Waterproof.
- E-plane= 24°.

# LP-OmniMobile2407

Omni Mobile Antenna, 7 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNIMOBILE2407 2.4 GHz 7 dBi Omni Mobile flexible antenna with magnetic base.

### LP-OmniNav2407



Omni Antenna, 7 dBi 2.4 GHz Band Antennas.

The LanPro LP-OMNINAV2407 Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points.

The LanPro LP-OMNINAV2407 antenna provides increased coverage for an existing 802.11b/g wireless local area network (WLAN).

The LP-OMNINAV2407 antenna is a 7 dBi omni-directional antenna, giving you 360° of wireless signal range. This 7 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNINAV2407.





#### **Features**

| 2400 to 2483.5 Freq | Juency Range |
|---------------------|--------------|
|---------------------|--------------|

■ Type N Female Integrated Connector.

■ 7 dBi Antenna Gain.

All weather.

■ 100 W Maximum Power.

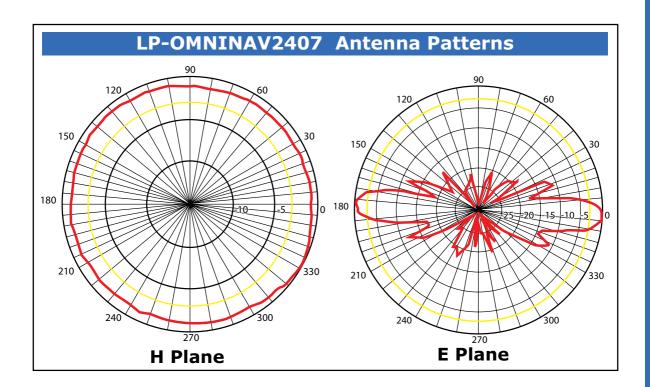
■ Works with 802.11b and 802.11g Compliant Devices.

Omni Directional.

■ E-plane= 15°.

## LP-OmniNav2407

Omni Antenna, 7 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNINAV2407 2.4 GHz 7 dBi Omni Naval Antenna.

### LP-PANELO908HDSM

# Antennas

#### 8 dBi Heavy Duty Flat Panel Antenna 900 - 930 MHz Band.

The LP-PANEL0908HD by LanPro, is a heavy Duty Swivel Mounted Directional flat panel array antenna with a solid 8 dBi gain for the 900 thru 930 MHz band, ideal for point to point links (PtP), point-to-multipoint (PtmP) or for reaching distant clients, even if they are several kilometers away from the servers.

These antennas are unobstructive, good-looking, reasonable priced and easy to install. Can be used in outdoor or indoor environments.

Can be painted with non-conductive oil paints. Able to perform correctly with 900-930 MHz radios.

Is a good substitute for parabolic antennas when distance and performance is not that critical or when you plan to have some coverage area to serve. Easy to hide.

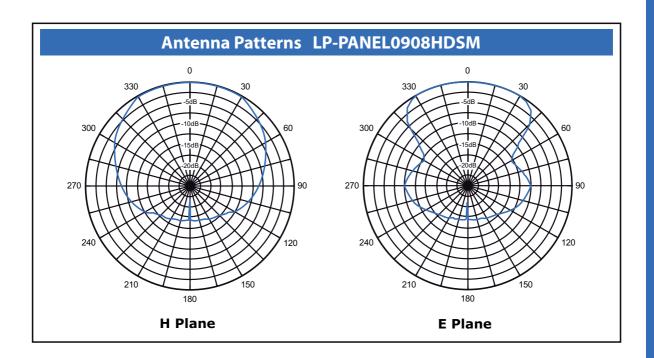


- 8 dBi Gain.
- Vertical Polarization.
- Low Profile.
- Dimensions: 18.5" x 8.8" (216 x 216mm).
- Low Wind Loading.
- Stylish but Rugged Outdoor Construction made of molded UV inhibited ABS plastic for years of service.

- Swivel base mounting to provide downward tilt for better coverage.
- Unobtrusive and ideal for indoor or outdoor use.
- Very Light Weight, 2.2lib (1kg).
- Ideal for 900-930 MHz band.
- E plane (at -3db) 65°, H plane (at -3db) 65°.
- Connector: 12" (305mm) N Female terminated pigtail.
- Impedance: 50 Ohms.

## LP-PANEL0908HDSM

8 dBi Heavy Duty Flat Panel Antenna 900 - 930 MHz Band.



#### How to order

LP-PANEL0908HDSM 8 dBi 900-930MHz Heavy Duty Flat Panel Antenna with Swivel Mount and a 12" (305mm) pigtail terminated with a N-Female connector.

# Antennas

#### Miniature Panel, 8 dBi 2.4 GHz Band Antennas.

The LP-PANEL2408, is a miniature flat panel antenna, with 8 dBi gain, ideal for use on point to multipoint (PmP) implementations, for small to medium premises.

In places where traditional 3 dBi antennas are not powerful enough, like big houses, sportbars or cyber places. It comes with a 6 meters SMA connector pigtail, saving a lot of money at the moment of implementation. Also avoids connectors that jeopardize the quality and output power of the radios.

These antennas are unobtrusive, good looking, reasonable priced and easy to connect. Basically for indoor applications.

Can be painted with non conductive oil paints. Able to perform correctly on 2.4 GHz, CCK or DSSS radios.

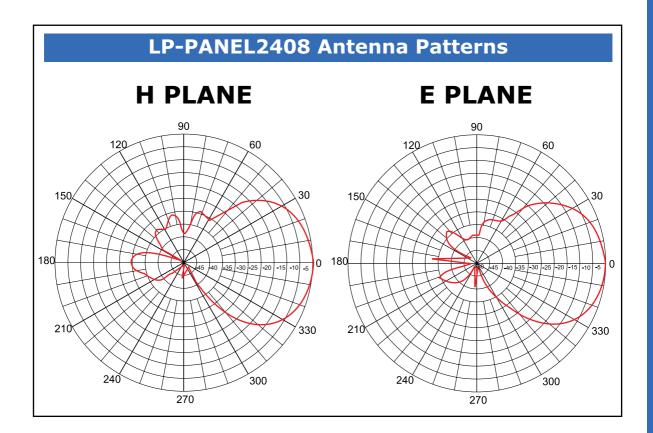
Is a good substitute for those antennas included with most radios.



- 2400-2500 MHz Frequency Range.
- Horizontal or Vertical Polarization.
- Low Profile.
- Dimensions: 104 x 83,5 x 32mm.
- Low Wind Loading.
- Rugged Construction made of ABS plastic.

- Unobtrusive and ideal for indoor.
- Very Light Weight, 0.25Kg.
- Ideal for 2.4 GHz Systems CCK or DSSS.
- Reasonable Priced.
- E plane (at -3db) 50°, H plane (at -3db) 60°.
- Connector: Integral 6m SMA pigtail.
- Impedance: 50 Ohms.

Miniature Panel, 8 dBi 2.4 GHz Band Antennas.



#### How to order

LP-OMNINAV2407 2.4 GHz 7 dBi Omni Naval Antenna.

### LP-2412C

# Antennas

#### Outdoor Panel Antenna, 12 dBi 2.4 GHz Band Antennas.

The LP-2412C is a powerful and compact WIFI antenna that provides a real 12 dBi gain with a wide coverage in a very compact enclosure.

It is the middle choice between the small and versatile LP-PANEL2408 and the LP-PANEL2418.

Can be installed in outdoors and indoors and is tuned to the 2.4 GHz ISM band, able to sustain the IEEE 802.11b, 802.11q, and Bluetooth.

An unobtrusive design, in conjunction with an UV radiation stable plastic material and low weight, make the LP-2412C the ideal choice for premises (Client) applications in WIFI & WISP. Can be painted with water or oil based paints without metal content. Designed for all weather operation, the LP-2412C includes a radome with drain holes to prevent water accumulation inside the antenna. Specially suited for tropical countries and in fisheries.

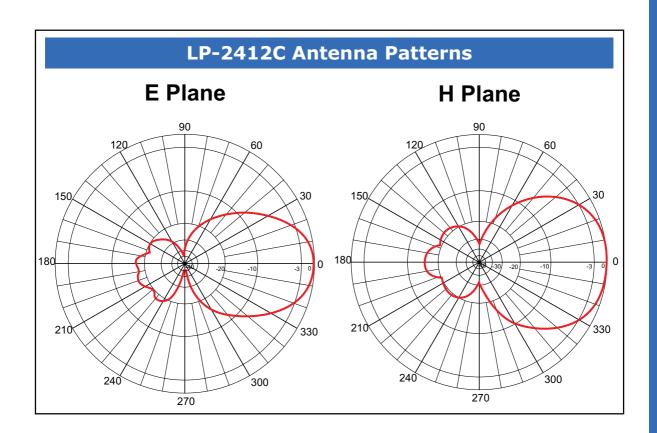
Costly Stainless steel mounting hardware that enables up to  $30^{\circ}$  deegrees of tilt angle adjustment in 0.5 increments for an optimal alignment.



- IEEE 802.11b/g, bluetooth® support.
- 12 dBi Gain.
- For WISP client applications.
- E Plane (at 3dB) 36°, H Plane (at 2dB) 60°.
- High performance and low cost.

- Small size: 4" x 4" x 4".
- Durable UV stable ABS Radome.
- All weather operation.
- DC ground for lightning protection.
- Integral Six (6) meter pigtail with SMA type connector.
- Pole mounting Kit with 360°. Horizontal and 30° vertical tilt orientation.

Outdoor Panel Antenna, 12 dBi 2.4 GHz Band Antennas.



#### How to order

■ LP-2412C 12 dBi 2.4 GHz ISM Band WiFi Antenna "Cube".

# Antennas

#### Outdoor Panel Antenna, 14 dBi 2.4 GHz Band Antennas.

The LP-PANEL2414 by LanPro, is a flat panel antenna with a solid 14 dBi gain, ideal for point to point links (P-P), point-to-multipoint (PmP) or for reaching distant clients, even if they are several kilometers away from the servers.

These antennas are unobtrusive, good-looking, reasonable priced and easy to install. Can be used in outdoor or indoor environments.

Can be painted with non-conductive oil paints. Able to perform correctly with 2.4 GHz CCK or DSSS radios.

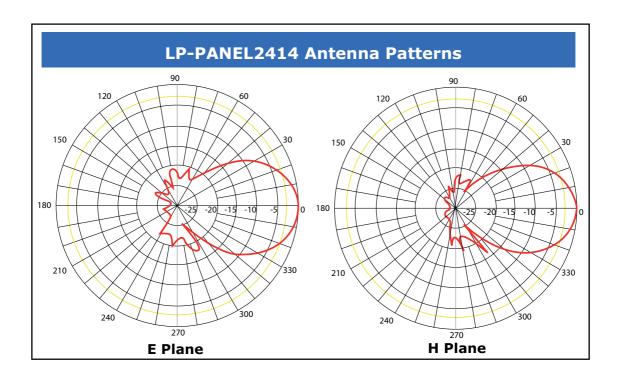
Is a good substitute for parabolic antennas when distance and performance is not that critical. Easy to hide.



- 2400 to 2483.5 MHz Frequency Range.
- Horizontal or Vertical Polarization.
- Low Profile.
- Dimensions: 190x190x30mm.
- Low Wind Loading.
- Rugged Outdoor Construction made of ABS plastic.

- Unobtrusive and ideal for indoor or outdoor use.
- Very Light Weight, 1kg.
- Ideal for 2.4 GHz Systems CCK or DSSS.
- Reasonable Priced.
- E plane (at -3db) 30°, H plane (at -3db) 30°.
- Connector: N Female.
- Impedance: 50 Ohms.

Outdoor Panel Antenna, 14 dBi 2.4 GHz Band Antennas.



#### How to order

■ LP-PANEL2414 2.4 GHz 14 dBi Flat Panel Antenna.

# Antennas

#### Outdoor Panel Antenna, 18 dBi 2.4 GHz Band Antennas.

LP-PANEL2418 LanPro, is a heavy duty flat panel antenna, with a honest 18 dbi gain, ideal for use in point to point links (PtP), point-multipoint (PtmP) or with distant clients, even if they are several kilometers away from the servers.

These antennas are un obstructive, good looking, reasonable priced and easy to connect. Can be used outdoors and indoors.

Can be painted with non conductive oil paints. Able to perform correctly on 2.4 GHz CCK or DSSS radios.

Is a good substitute for parabolic antennas when distance and performance is not that critical. Easy to hide. Ideal for small hotspots and public WiFi. Very simple to align.

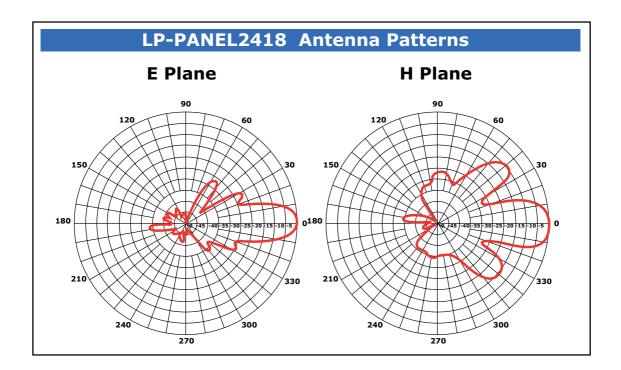




- Horizontal and Vertical Polarization.
- 18 dBi Gain.
- Low Profile.
- Dimensions: 370mm x 252mm x 42mm (model).
- Low Wind Loading.
- Rugged Outdoor Construction ABS.
- Unobtrusive and ideal for indoor or outdoor use.

- 100% stainless steel base with tilt down capability for optimal angle positioning. A hotspot must.
- Ideal for 2.4 GHz Systems CCK or DSSS.
- Reasonable Priced.
- E plane (at -3dB) 15 degree, H plane (at -3dB) 22 degrees.
- Connector N Female or SMA.
- Weight: 1 Kg.
- Impedance 50 Ohm.

Outdoor Panel Antenna, 18 dBi 2.4 GHz Band Antennas.



#### How to order

- LP-PANEL2418 N Female 2.4 GHz band 18 dBi Gain Flat Panel Antenna.
- LP-PANEL2418SMA 2.4 GHz band 18 dBi Gain Flat Panel Antenna.

### InWave Series

# Antennas

Indoor Omni Antenna, 2.4 GHz Band and 2.4/5.8 GHz Dual Band.

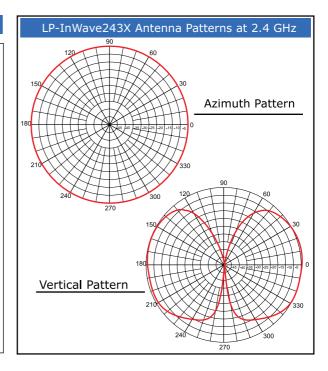
The InWave Series of indoor omnidirectional antenna systems offered by LanPro are constructed of UL94-V0 white ABS plastic.

The low profi le attractive styling blends well in almost any office or home environment. Mounting is simplifi ed with a single hole mount design to easily mount to drop ceilings or fixed ceilings.

The antenna comes with an 11 inch (28cm) pigtail and an N Female connector standard.



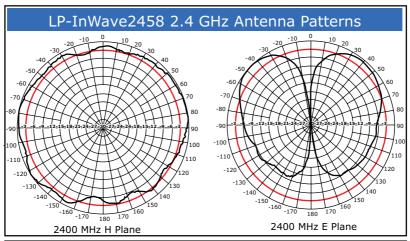
- Omnidirectional Indoor antenna.
- 3 dBi Antenna Gain.
- Choice of 3 attractive housing types.
- UL Listed materials and cable.
- Surface mount in Drop.
- Ceiling or Solid Ceiling.
- Vertical Polarization.
- Type N Female Connector.

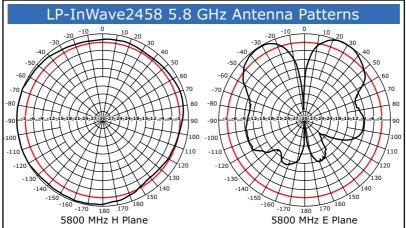


# Antennas

### InWave Series

Indoor Omni Antenna, 2.4 GHz Band and 2.4/5.8 GHz Dual Band.





#### How to order

- LP-Inwaye243A 2.4 GHZ 3 dBi Flat Cone Antenna.
- LP-Inwave243C 2.4 GHZ 3 dBi Cone Antenna.
- LP-Inwave243R 2.4 GHZ 3 dBi Rounded Antenna.
- \*LP-Inwave2458 2.4/5.8 GHz Dual Band Ceiling Antenna.

# LP-YAGI5815

# Antennas

#### Yagi Antenna, 15 dBi 5.8 GHz Band Antennas.

The Yagi Type Antenna systems for the 5725 to 5850 MHz Band supplied by LanPro are made with aluminum and U/V resistant ABS with the goal of delivering a superb service in extreme environmental conditions.

Yagi antennas are an excellent option when medium to large gain, low profile and rugged construction is required.

Our antennas are very stable, lightweight, small in size, and excellent performers.

Thousands of them are installed worldwide; from icy fields to Caribbean beaches and without any registered issue. It is by far, one of our "Best Seller" antennas.

Ideal for CPE applications, due to its low cost. Available with N or SMA connector.

Heavy duty ABS radome. Ideal for temporary and portatile applications.

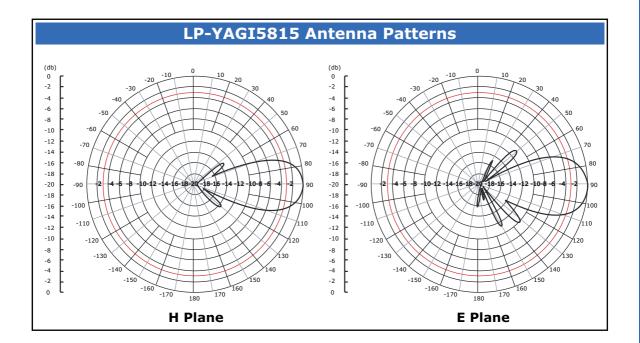




- 5725 to 5850 MHz Band applications.
- 15 dBi Gain.
- High stability of physical parameters.
- Strong construction made with aluminum and a rugged U/V stable ABS radome.
- All weather use.

- Long lasting life.
- 360 degrees horizontal adjustment.
- Stainless Steel mounting hardware.
- Grounding for lightning protection.
- Female N type Connector.
- E-plane= 35°; H-plane= 27°.

Yagi Antenna, 15 dBi 5.8 GHz Band Antennas.



#### How to order

LP-YAGI5815 5.8 GHz 15 dBi Yagi type Antenna.

### LP-SEC5815120

# Antennas

#### Sectorial Antenna, 15 dBi 5 to 6 GHz Band Antennas.

The 5.150 to 5.850 GHz band Sector Antennas by LanPro are made with a 50 Ohm passive feeder which comes with a N Female type connector as a standard. These antennas can be vertically or horizontally polarized, in order to offer our end users the possibility of rejecting signals that are orthogonally polarized compared to the ones the user plans to use. These antennas are widely used in WiFi systems in the ISM and UNII bands, with the goal of constructing cells similar to those employed in Cellular telephony and distribute internet service for Campus and wide areas. As many of these antennas as needed can be deployed in order to provide sufficient coverage.

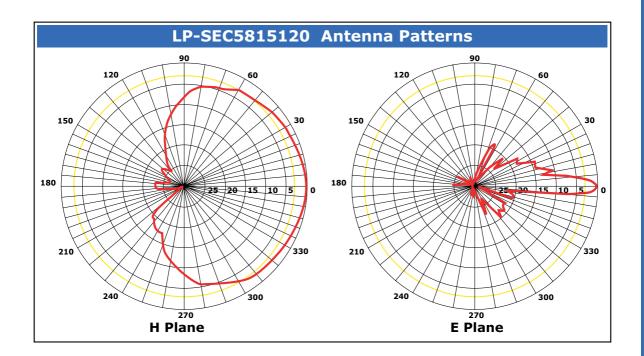




- Ample working range, from 5150 to 5850 MHz. Superior to the limited range of traditional antennas. More channels are able to pass without losses on band limits.
- Solid gain of 15 dBi and 120° of horizontal coverage.
- High stability of physical parameters.
- Robust aluminum and ABS plastic construction for a long service life in extreme eweather conditions -40° C to 85° C (-40° F to 185° F), ideal choice for ISP's and Hot Spots.
- Easy alignment, 360° Horizontal rotation and 20° of downtilt.
- Stainless steel mast mounting hardware, diameter 2" (50.8 mm).

- DC Grounding for lightning protection.
- Female type N connector.
- UV resistant Plastic Polymer radome.
- $\blacksquare$  Able to handle power of up to 100 W.
- Wind Loading factors: frontal 10 Kg (22 lb), Lateral 3.6 Kg (8 lb).
- Vertical Polarization standard.
- E-plane= 7°; H-plane= 120°.

Sectorial Antenna, 15 dBi 5 to 6 GHz Band Antennas.



### How to order

■ LP-SEC5815120 5.15 GHz to 5.85 GHz 15 dBi 120° Sector Antenna.

# Antennas

## Sectorial Antenna, 17 dBi 5 to 6 GHz Band Antennas.

The 5.15 to 5.85 GHz band Sector Antennas by LanPro are made with a 50 Ohm passive feeder which comes with a N Female type connector as a standard. These antennas can be vertically or horizontally polarized, in order to offer our end users the possibility of rejecting signals that are orthogonally polarized compared to the selected by the user. These antennas are widely used in WiFi systems in the ISM and UNII bands, with the goal of constructing cells similar to those employed in Cellular telephony and distribute internet service for Campus and wide areas. As many of these antennas as needed can be deployed in order to provide sufficient coverage.

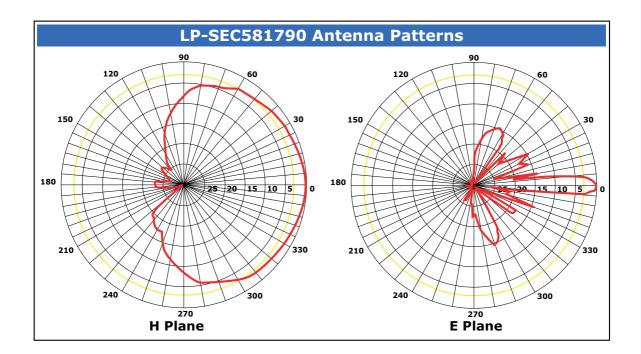




- Ample working range, from 5150 MHz to 5850 MHz. Superior to the limited range of traditional antennas. More channels are able to pass without losses on band limits.
- Solid gain of 17 dBi and 90° of horizontal coverage.
- High stability of physical parameters.
- Robust aluminum and ABS plastic construction for a long service life in extreme eweather conditions -40° C to 85° C (-40° F to 185° F), ideal choice for ISP's and Hot Spots.
- Easy alignment, 360° Horizontal rotation and 20° of downtilt.
- Stainless steel mast mounting hardware, diameter 2" (50.8 mm).

- DC Grounding for lightning protection.
- Female type N connector.
- UV resistant Plastic Polymer radome.
- Able to handle power of up to 100 W.
- Wind Loading factors: frontal 10 Kg (22 lb), Lateral 3.6 Kg (8 lb).
- Vertical Polarization standard.
- E-plane= 9°.

Sectorial Antenna, 17 dBi 5 to 6 GHz Band Antennas.



### How to order

■ LP-SEC581790 5.15 GHz to 5.85 GHz 17 dBi 90° Sector Antenna.

# Antennas

## Sectorial Antenna, 18 dBi 5.1 to 5.8 GHz Band Antennas.

The 5.1 to 5.8 GHz band Sector Antennas by LanPro are made with a 50 ohm passive feeder which comes with a N Female type connector as a standard. These antennas can be vertically or horizontally polarized, in order to offer our end users the possibility of rejecting signals that are orthogonally polarized compared to the selected by the user. These antennas are widely used in WiFi systems in the ISM and UNII bands, with the goal of constructing cells similar to those employed in Cellular telephony and distribute internet service for Campus and wide areas. As many of these antennas as needed can be deployed in order to provide sufficient coverage.

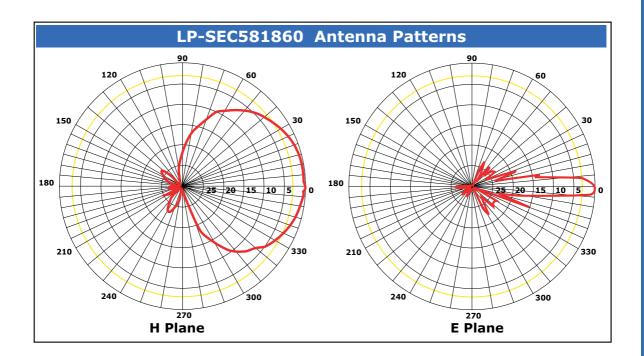




- Ample working range, from 5150 MHz to 5850 MHz. Superior to the limited range of traditional antennas. More channels are able to pass without losses on band limits.
- Solid gain of 18 dBi and 60° of horizontal coverage.
- High stability of physical parameters.
- Robust aluminum and ABS plastic construction for a long service life in extreme eweather conditions -40° C to 85° C (-40° F to 185° F), ideal choice for ISP's and Hot Spots.
- Easy alignment, 360° Horizontal rotation and 20° of downtilt.
- Stainless steel mast mounting hardware, diameter 2" (50.8 mm).

- DC Grounding for lightning protection.
- Female type N connector.
- UV resistant Plastic Polymer radome.
- Able to handle power of up to 50 W.
- Wind Loading factors: frontal 10 Kg (22 lb), Lateral 3.6 Kg (8 lb).
- Vertical Polarization standard.
- E-plane= 9°.

Sectorial Antenna, 15 dBi 5.1 to 5.8 GHz Band Antennas.



### How to order

■ LP-SEC581860 5.15 GHz to 5.85 GHz 18 dBi 60° GHz Sector Antenna.

# Antennas

## Parabolic Antenna, 28 dBi 5.8 GHz Band Antennas.

The parabolic Dish type antenna systems supplied by LanPro are built with aluminum alloy and powder painted, with the goal of delivering a superb service in extreme environmental conditions.

Manufacturing is performed by mold and press which gives parameter stability to the antennas in time and a long life. The pole mounting hardware is made with a high quality stainless steel which tells a lot about the quality that LanPro puts in its products.

These antenna systems can be used in diverse high performance applications in the 5.8 GHz band. An optional fiberglass radome is available in order to provide additional protection against environmental conditions.

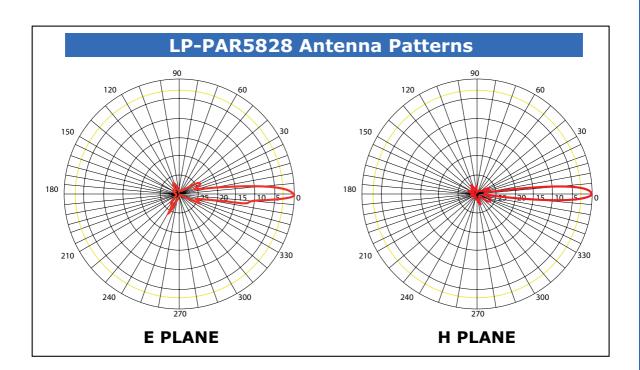




- 5150 to 5850 MHz band applications.
- 28 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum alloy and powder painted.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 20 degrees vertical tilt adjustment.
- Stainless steel pole mounting hardware for longer durability.
- Grounding for lightning protection.
- Optional fiberglass Radome.
- Female N type Connector.
- 60 centimeter diameter.

Parabolic Antenna, 28 dBi 5.8 GHz Band Antennas.



### How to order

■ LP-PAR5828 5.8 GHz 28 dBi Parabolic Dish type Antenna.

# Antennas

## Parabolic Antenna, 29 dBi 5.8 GHz Band Antennas.

The parabolic dish type antenna systems supplied by LanPro are built with aluminum alloy and powder painted, with the goal of delivering a superb service in extreme environmental conditions.

Manufacturing is performed by mold and press which gives parameter stability to the antennas in time and a long life. The pole mounting hardware is made with a high quality stainless steel which tells a lot about the quality that LanPro puts in its products.

These antenna systems can be used in diverse high performance applications in the 5.8 GHz band. An optional fiberglass radome is available in order to provide additional protection against environmental conditions.

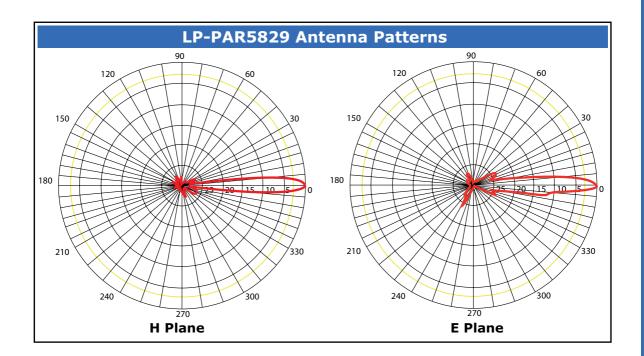




- 5150 to 5850 MHz band applications.
- 29 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum alloy and powder painted.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 30 degrees vertical tilt adjustment.
- Stainless steel pole mounting hardware for longer durability.
- Grounding for lightning protection.
- Fiberglass Radome.
- Female N type Connector.
- 60 centimeter diameter.

Parabolic Antenna, 29 dBi 5.8 GHz Band Antennas.



### How to order

LP-PAR5829 5.8 GHz 29 dBi Parabolic Antenna.

# Antennas

## Parabolic Antenna, 30 dBi 5.8 GHz Band Antennas.

The parabolic Dish type antenna systems supplied by LanPro are built with aluminum alloy and powder painted, with the goal of delivering a superb service in extreme environmental conditions.

Manufacturing is performed by mold and press which gives parameter stability to the antennas in time and a long life. The pole mounting hardware is made with a high quality stainless steel which tells a lot about the quality that LanPro puts in its products.

These antenna systems can be used in diverse high performance applications in the 5.8 GHz band. An optional fiberglass radome is available in order to provide additional protection against environmental conditions.

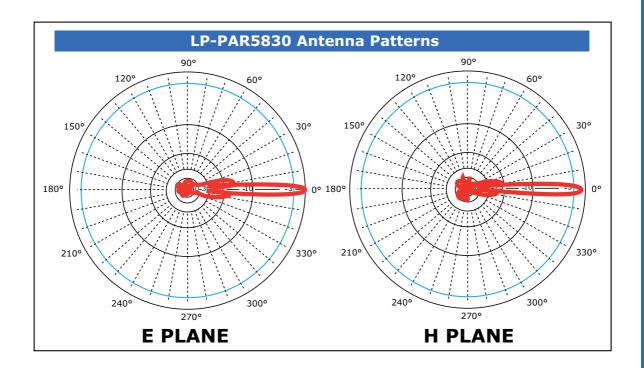




- 5150 to 5850 MHz band applications.
- 30 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum alloy and powder painted.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 20 degrees vertical tilt adjustment.
- Stainless steel pole mounting hardware for longer durability.
- Grounding for lightning protection.
- Fiberglass Radome.
- Female N type Connector.
- 60 centimeter diameter.

Parabolic Antenna, 30 dBi 5.8 GHz Band Antennas.



### How to order

■ LP-PAR5830 5.8 GHz 30 dBi Parabolic Dish type Antenna.

# Antennas

## Parabolic Antenna, 32 dBi 5.8 GHz Band Antennas.

The parabolic dish type antenna systems supplied by LanPro are built with aluminum alloy and powder painted, with the goal of delivering a superb service in extreme environmental conditions.

Manufacturing is performed by mold and press which gives parameter stability to the antennas in time and a long life. The pole mounting hardware is made with a high quality stainless steel which tells a lot about the quality that LanPro puts in its products.

These antenna systems can be used in diverse high performance applications in the 5.8 GHz band. An optional fiberglass radome is available in order to provide additional protection against environmental conditions.

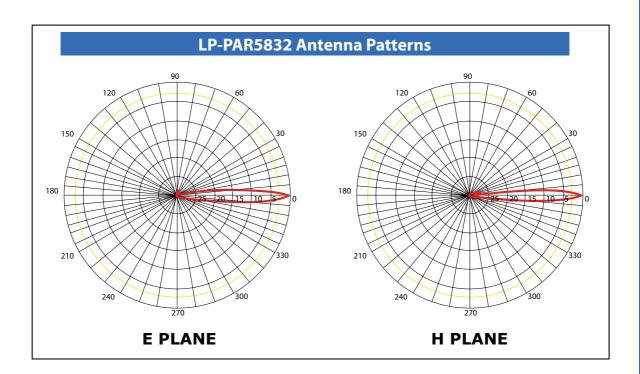




- 5150 to 5850 MHz band applications.
- 32 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum alloy and powder painted.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 30 degrees vertical tilt adjustment.
- Stainless steel pole mounting hardware for longer durability.
- Grounding for lightning protection.
- Fiberglass Radome.
- Female N type Connector.
- 60 centimeter diameter.

Parabolic Antenna, 32 dBi 5.8 GHz Band Antennas.



### How to order

LP-PAR5832 5.8 GHz 32 dBi Parabolic Antenna.

# Antennas

## Parabolic Antenna, 35 dBi 5.8 GHz Band Antennas.

The parabolic dish type antenna systems supplied by LanPro are built with aluminum alloy and powder painted, with the goal of delivering a superb service in extreme environmental conditions.

Manufacturing is performed by mold and press which gives parameter stability to the antennas in time and a long life. The pole mounting hardware is made with a high quality stainless steel which tells a lot about the quality that LanPro puts in its products.

These antenna systems can be used in diverse high performance applications in the 5.8 GHz band. An optional fiberglass radome is available in order to provide additional protection against environmental conditions.

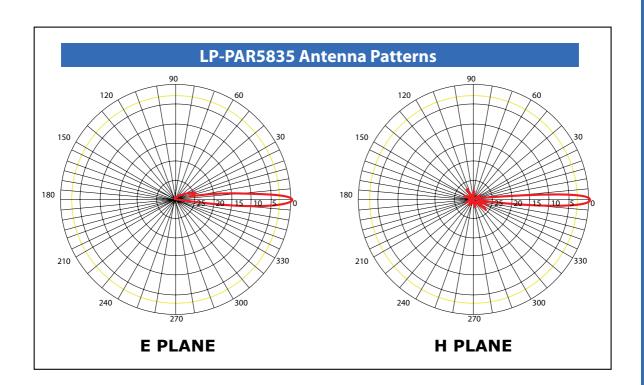




- 5.8 GHz band applications.
- 35 dBi Gain.
- High stability of physical parameters.
- Strong construction made of aluminum alloy and powder painted.
- All weather use.
- Long lasting life.

- 360 degrees horizontal and 30 degrees vertical tilt adjustment.
- Stainless steel pole mounting hardware for longer durability.
- Grounding for lightning protection.
- Fiberglass Radome.
- Female N type Connector.
- 120 centimeter diameter.

Parabolic Antenna, 35 dBi 5.8 GHz Band Antennas.



### How to order

LP-PAR5835 5.8 GHz 35 dBi Parabolic Antenna.

## LP-PAR5W31

# Antennas

## Offset Parabolic Antenna, 31 dBi 5.15 to 5.85 GHz Band Antennas.

The LP-PAR5W31 is a high performance broadband solid dish offset antenna designed to operate from 5.150 MHz to 5.850 MHz. The wide band design of this antenna eliminates the need to purchase different antennas for each frequency. This simplifies installations since the same antenna can be used for a wide array of wireless applications. This antenna features up to 31 dBi of gain with a horizontal 4.5° beam-width. It can be oriented for either vertical or horizontal polarization.

The reflector dish of these antennas is rugged and weatherproof made from high quality steel giving them superior strength. The dish is coated with a UV stable electrostatic painted Light Gray Powder Coat Finish for durability and professional looks. It is supplied with a til and swivel mast mount kit and corresponding hardware. This allows installation at various tilt angles, from 0° to 24° (up or down) for easy alignment.



### **Features**

■ 5150 to 5850 MHz Wideband Coverage.

Offset Feed.

■ High gain up to 31 dBi.

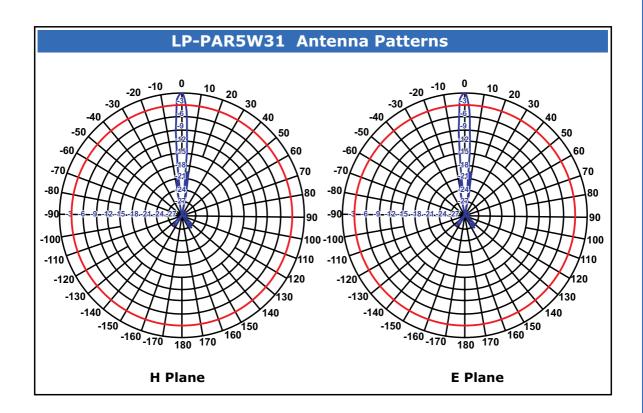
■ UV Stable light Gray Powder Coat Finish.

■ Vertical or Horizontal Operation.

■ Mechanical Down-tilt is up-down Adjustable.

# LP-PAR5W31

Offset Parabolic Antenna, 31 dBi 5.15 to 5.85 GHz Band Antennas.



### How to order

■ LP-PAR5W31 5.15 GHz to 5.85 GHz 31 dBi Offset Parabolic Antenna.

## RADOMES

# Antennas

Radomes for Parabolic Antennas 0.6 m, 0.9 m and 1.2 m diameters.

The fiberglass Radomes are robust, high quality and easy to install on Parabolic Dish Type antenna Systems made by Lanpro. They protect them from harsh environment phenomena like Snow, Rain, Wind, Sand Storms, blizzards, corrosion, birds, etc.





### **Features**

- Installs easily directly on the parabolic dish antenna.
- Includes stainless installation screws.
- Made with Ultra-Lightweight Fiberglass.
- Anti-UV finish treatment.
- Drain Holes.

- LP-RAD600, used in 0.6 m diameter Parabolic dish type antennas. LP-RAD900, used in 0.9 m diameter and LP-RAD1200, used in 1.2 m diameter parabolic dish type antennas.
- All weather usage.
- Long life.
- LP-RAD600: for use on the LP-PAR5829 Parabolic Dish Type Antenna.

LP-RAD900: for use on the LP-PAR5832 Parabolic Dish Type Antenna.

LP-RAD1200: for use on the LP-PAR5835 Parabolic Dish Type Antenna.

# **RADOMES**

Radomes for Parabolic Antenna 0.6 m, 0.9 m and 1.2 m diameters.



### How to order

- LP-RAD600 0.6 m Diameter Radome for Parabolic Dish Type Antenna.
- LP-RAD900 0.9 m Diameter Radome for Parabolic Dish Type Antenna.
- LP-RAD1200 1.2 m Diameter Radome for Parabolic Dish Type Antenna.

## LP-0MN15808

# Antennas

## Omnidirectional Antenna, 8 dBi 5.8 GHz Band Antenna.

The LanPro LP-OMNI5808 Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers, and Access Points.

The LanPro LP-OMNI5808 antenna provides increased coverage for an existing 802.11a wireless local area network (WLAN). The LP-OMNI5808 antenna is an 8 dBi omni-directional antenna, giving you 360° of wireless signal range. This 8 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

The LP-OMNI5808's, 8 dBi signal strength and omnidirectional design gives you increased wireless signal range in all directions. Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI5808.

\* Works with any 802.11a compliant devices.



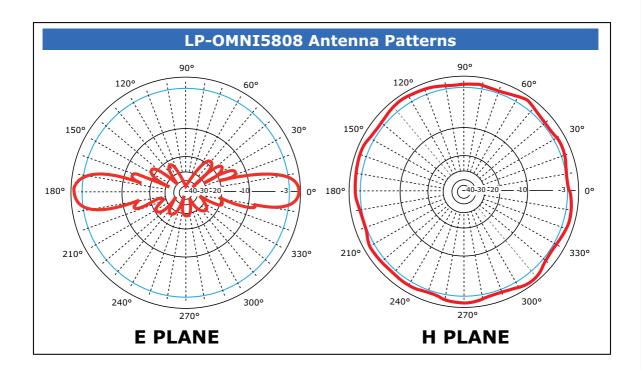


- 5725 to 5850 MHz ISM Band Applications.
- 8 dBi Gain.
- Omni Directional.
- All weather.
- Includes Cable connector N-Female.

- Base Station Antennas.
- Works with 802.11a Compliant Devices.
- Point to Multi-point Systems.
- Wireless Broadband Systems.
- WiFi Access Points.
- E-plane= 16°.

# LP-0MN15808

Omnidirectional Antenna, 8 dBi 5.8 GHz Band Antenna.



### How to order

LP-OMNI5808 5.8 GHz 8 dBi Omni Antenna.

# LP-OMNI5808HD



## Omnidirectional Antenna, 8 dBi 5.8 GHz Band Antenna, Heavy Duty.

The LanPro LP-OMNI5808HD Heavy Duty Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers, and Access Points.

The LanPro LP-OMNI5808HD Heavy Duty antenna provides increased coverage for an existing 802.11a wireless local area network (WLAN). The LP-OMNI5808HD Heavy Duty antenna is an 8 dBi omni-directional antenna, giving you 360° of wireless signal range. This 8 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

The LP-OMNI5808HD's 8 dbi signal strength and omnidirectional design gives you increased wireless signal range in all directions. Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI5808HD.

\* Works with any 802.11a compliant devices.

### **Applications**

- 5725 5850 MHz UNII/ISM Band, WLAN.
- Base Station Antennas.
- Works with 802.11a Compliant Devices.
- Point to Multi-point Systems.
- Wireless Bridge.
- Wireless Broadband Systems.
- WiFi Access Points.
- Omni Directional.



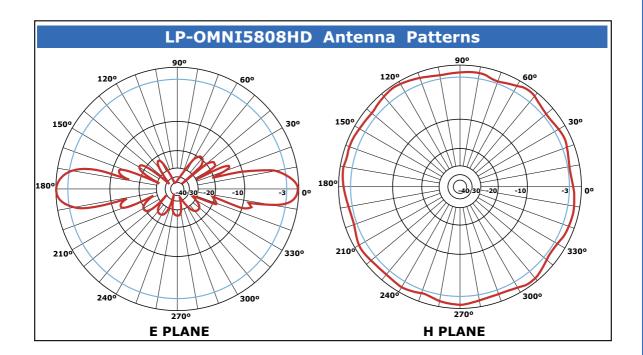


- Superior All Weather Performance.
- Heavy Duty Industrial Grade Design.
- Integral N-Female connector.

- DC Ground Lightning Protection.
- Supplied with Heavy Duty Mast Mounting Hardware Kit.
- E-plane= 15º

# LP-OMNI5808HD

Omnidirectional Antenna, 8 dBi 5.8 GHz Band Antenna, Heavy Duty.



### How to order

■ LP-OMNI5808HD 5.8 GHz 8 dBi Heavy Duty Omni Antenna.

## **LP-0MNI5812**

# Antennas

## Omnidirectional Antenna, 12 dBi 5.8 GHz Band Antenna.

The LanPro LP-OMNI5812 Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers, and Access Points.

The LanPro LP-OMNI5812 antenna provides increased coverage for an existing 802.11a wireless local area network (WLAN). The LP-OMNI5812 antenna is an 12 dBi omni-directional antenna, giving you 360° of wireless signal range. This 12 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

The LP-OMNI5812's 12 dBi signal strength and omni-directional design gives you increased wireless signal range in all directions. Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI5812.

\* Works with any 802.11a compliant devices.

### **Applications**

- 5.8 GHz ISM Band Applications.
- Base Station Antennas.
- 802.11a Wireless Systems.
- Point to Multi-point Systems.
- Wireless Broadband Systems.
- WiFi Access Points.

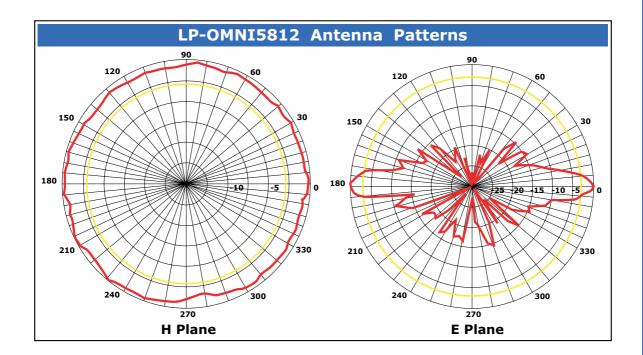




- 5725 to 5850 MHz Frequency Range.
- 12 dBi gain.
- Omni Directional.

- All weather.
- Includes an N-Female Connector.
- Works with 802.11a Compliant Devices.

Omnidirectional Antenna, 12 dBi 5.8 GHz Band Antenna.



### How to order

LP-OMNI5812 5.8 GHz 12 dBi Omni Antenna.

## LP-OMNI5812HD

# Antennas

## Omnidirectional Antenna, 12 dBi 5.8 GHz Band Antenna.

The LanPro LP-OMNI5812HD Heavy Duty Indoor/Outdoor Omni-Directional Antenna connects to a variety of LanPro Wireless PCI Adapters, Routers and Access Points. Using the reverse SMA cable provided the LanPro easily connects to other wireless networking devices.

The LanPro LP-OMNI5812HD antenna provides increased coverage for an existing 802.11a wireless local area network (WLAN). The LP-OMNI5812HD antenna is an 12 dBi omnidirectional antenna, giving you 360° of wireless signal range. This 12 dBi antenna also improves signal quality, reducing dead spots in your wireless coverage.

The LP-OMNI5812HD's 12 dBi signal strength and omnidirectional design gives you increased wireless signal range in all directions. Avoid the cost of adding additional access points or wireless repeaters when you can easily use the LP-OMNI5812HD.

\* Works with any 802.11a compliant devices with a reverse SMA connector only.





### Features

■ 5470 to 5725 MHz Frequency Range.

Heavy Duty.

■ 12 dBi gain.

N-Female connector.

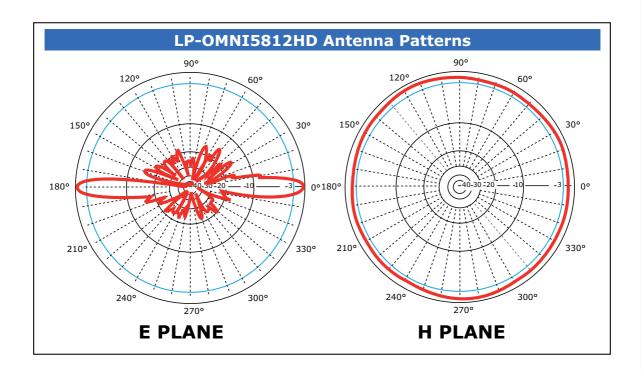
Omni Directional.

■ Works with 802.11a Compliant Devices.

All weather.

# LP-OMNI5812HD

Omnidirectional Antenna, 12 dBi 5.8 GHz Band Antenna.



### How to order

■ LP-OMNI5812HD 5.8 GHz 12 dBi Heavy Duty Omni Antenna.



# Accessories



LanPro supplies a broad line of accessories that enable the system integrator to install a complete application. From RF connectors, RF cables, enclosures, surge arresters, signal splitters and membrane vents for moisture protection of radios.

- RF Connectors & Adapters.
- RF Cables.
- All Weather Enclosures.
- Universal Mounting System.
- Surge Arresters.
- Signal Splitters.
- LanPro Pigtails.

## **RF Connectors & Adapters**

# Accessories

## **RF Coaxial Connectors**

### LP-61636

LP-61630 N female crimp connector for LP-C400 cable was developed to satisfy the need for a durable, weatherproof, mediumsize RF connector with consistent performance.

#### How to order

■ LP-61636 N female crimp connector for LP-C400 cable.





LP-61636

### ■ LP-52128

LP-52128 N male crimp connector for LP-C400 cable was developed to satisfy the need for a durable, weatherproof, mediumsize RF connector with consistent performance.

#### How to order

■ LP-52128 N male crimp connector for LP-C400.



LP-52128

### ■ LP-4718

The LP-4718 is ideal adaptor to interface between a SMA LanPro router or AP to an already existent Cisco Antenna.

#### How to order

■ LP-4718 SMA to TNC adaptor.





LP-4718

## LP-4610

LP-4610 is used to connect a N male pigtail to a LanPro SMA router or AP.

### How to order

■ LP-4610 N female to SMA adaptor.

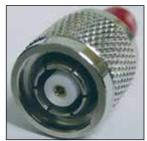




LP-4610

# Accessories

# RF Connectors & Adapters





LP-4710

### ■ LP-4710

LP-4710 is useful to connect a Cisco/Dlink/Lynksys radio or router to a LanPro SMA Antenna pigtail.

### How to order

■ LP-4710 SMA adaptor to CISCO Router.





LP-4110

### - LP-4110

This type of RF, 50 Ohm adaptor, is mainly used to change gender of an RF N-Female port or to solve RF connectivity problems in the field.

### How to order

■ LP-4110 Adaptor N-Male/N-Male Straight (Gender Changer).





LP-4614

### ■ LP-4614

LP-4614 is used to attach a TNC Cisco/Dlink/Lynksys AP or router to a LanPro N antenna pigtail.

#### How to order

■ LP-4614 TNC AP to N Female adaptor.

## LP-C400

# Accessories

## **RF** Cable

This is an ultra-low-loss 50 ohm coaxial cable ideal for RF deployment. This 400-Series cable offers equivalent or better characteristics and performance than other existing industry cables such as Commscope WBC-400\*, Times Microwave LMR-400\*, Andrew CNT-400\*, etc. This cable size is the most demanded and widely used coaxial cable in the wireless industry.

The LP-C400 is our superior Lower Loss-per-meter 400-Series coaxial cable offered. It is manufactured with a polyethylene (PE) jacket which is UV resistant, and is built to withstand harsh temperatures, grease, oil, chemicals, salt water and abrasion, offering a 15 year plus lifespan. The LP-C400 with a tough PE jacket is especially suited for long life outdoor use.

If your application is direct burial, our LP-C400 is also the best choice with its polyethylene jacket (PE). Other jacket materials, such as polyvinyl chloride (PVC), TPE, etc. are not well suited for direct burial. While PE jackets do not offer the same flexibility as other materials, this is the only material that any experienced engineer will recommend for a direct burial application for long term survivability underground. We recommend the use of metallic conduits for a more professional and long lasting application, but the LP-C400 can take lots of stress without damage. We have the right size connectors to match our 400 cable. We recommend crimp style only as it performs better than other tool-less variants.



#### \*Registered Trademarks by other manufacturers.

#### Features

- Antenna Cable Runs to Base Stations, Access Points (AP), Bridges or CPE.
- Cabling between any WiFi or WiMax antenna and the associated equipment.
- Indoor or Outdoor Use.
- Direct Bury or Tower Use.
- Land Mobile Radio (LMR).
- Local Multi-Point Distribution System (LMDS).

- Multi-Channel Multi-Point Distribution Service (MMDS).
- Wireless Local Loop (WLL).
- Personal Communication Systems (PCS).
- GPS.
- SCADA.
- Ham Radio.

### How to order

■ LP-C400 400 Series 50 Ohm Ultra Low losses Coaxial.

## Accessories

## **Universal Mounting System**



### LP-PAW

The LP-PAW Universal Mounting System for Antennas consists of a universal wall or roof mounting base and an angled tube used for fixing the antenna. The tilt angle can be adjusted to a full 90 degrees to suit the varied coverage and aiming requirements of the link, ideal for the most demanding needs of the installer.

The LP-PAW's low profile and attractive design style is ideal for the most demanding uses in buildings and/or neighborhoods.

#### Features

- Used for customer premises equipment.
- For roof or wall mounting.
- For mounting under overhanging roof.
- For indoor or outdoor use.

#### How to order

■ LP-PAW Universal Mounting System for Antennas.

## **All Weather Enclosures**



### • Enclosures.

LanPro offers plastic and metallic enclosures, all of them designed for extremely long life in outdoor environments. The one shown here is an aluminum one, with pole mount hardware included, heavy galvanized pole clamps and stainless steel U bolts and attachment nuts. The die cast enclosure has extra heavy duty mounting flanges for reliable mounting to poles or surface mounting to walls. The most unique feature is the inclusion of 6 engineered hole knockouts which allow for many different configurations of connectors and feedthru's without the need for drilling holes. The knockouts are easily removed using a center punch and hammer. The enclosures have 4 threaded 1/4" tall standoffs in the base for mounting a user plate, which in turn can hold the users electronics. Also wall mounted ABS plastic boxes for low cost but reliable operations.

#### Features

- Die Cast Aluminum with White Epoxy Powder Coat Paint.
- Six Engineered Hole Knockouts for many possible configurations. No drilling required!.
- Four 0.25" tall threaded standoffs for mounting of electronics inside enclosure.
- Pole mount or Wall Mount.
- Nema 6 rated for long term weatherproofing.
- Fits common WiFi radio boards.
- Also ABS versions.

#### How to order

Call a sales representative to choose the best solution for your application.

# Surge Arrester

# Accessories

## LP-G10 and LP-G11

To keep the Wireless devices free from lightning induced surges that travel on the coaxial transmission lines, LanPro also supplies the arrester guarding the wireless equipment from damage that could cause your precious network resources to breakdown.

Available for the 2.4 GHz band as well as 5.8 GHz bands. Electrical features are basically the same for both, but the operation frequency differs. Both connector ports of this unit are equally protected. This provides protection no matter which way it is installed.

The most tipical model is the aerial one, that allows to install the surge arrester in any section of the Hi Frequency cable. It comes with a strong stainless steel bracket, in order to conveniently attach the arrester to any wall or flat surface.

This units features N-N connectors at both ends, for improved mechanical capability. Nominal impedance is 50 Ohm and has a minimum insertion loss.

LanPro arresters can take as much as 10.000 Amperes of surge current by using the 8x20uS industrial standard scheme.



### **Features**

- Impedance: 50 Ohm.
- Frequency Range: 2.4 and 5.8 GHz models.
- V.S.W.R MAX 1:1.4 Max.
- Insertion Loss: MAX 0.2 dB typically 0.1 dB.
- Impulse Breakdown Voltage: 1,000V 5KV/S Max.
- Insulation Resistance: 10,000 MOhm.
- Max. Power Rating: 200W PEP.

- Dimensions: 86m/m x 45m/m x 20m/m (typical).
- Pin Material: GOLD PLATED BRASS.
- Minimum insertion loss.
- Full metallic construction.
- Fast and reliable.
- All weather capable if properly installed.
- Low priced.

### How to order

- LP-G10 3GHZ High Power Surge Arrester N-N Female.
- LP-G11 6GHZ High Power Surge Arrester N-N Female.

# Signal Splitters









Allow the connection of multiple antennas to a single radio. The specific p/n depends on frequency, number of ports, indoor or outdoor final location.

LanPro provides 2:1, 3:1 and 4:1 splitters suitable for the 2.4 GHz band  $(802.11\ b/g)$  as well as for the 5.8 GHz band (802.11a).

Our splitters are hermetic and built with corrosion proof materials.

Nominal impedance is 50 Ohm, as expected on this kind of equipment. We provide both, the indoor models as well as the outdoor all weather model. In either case, the use of vulcanized 3M® electrical tape (also called rubber tape or friction tape) is a must to protect the unit against humidity, dust and small particles that could corrode the unit.

■ **Indoor Style:** Indoor splitter, aluminum construction, to connect 2,3 and 4 antennas to one single radio.

■ **Outdoor Style:** Ideal for pole installation, comes with complete hardware set, comes 2,3, and 4 ports to a single radio.

### How to order

- LP-SPL2825W 800 MHz 2500 MHz Outdoor Splitter 2:1 N Female.
- LP-SPL3825W 800 MHz 2500 MHz Outdoor Splitter 3:1 N Female.
- LP-SPL4825W 800 MHz 2500 MHz Outdoor Splitter 4:1 N Female.
- LP-SPL25058W 5.0-5.8 GHz Outdoor Splitter 2:1 N Female.
- LP-SPL35058W 5.0-5.8 GHz Outdoor Splitter 3:1 N Female.
- LP-SPL45058W 5.0-5.8 GHz Splitter 4:1 N Female.
- LP-SPL224 2.4 GHz Indoor Splitter 2:1 N Female.
- LP-SPL324 2.4 GHz Indoor Splitter 3:1 N Female.
- LP-SPL424 2.4 GHz Indoor Splitter 4:1 N Female.

# LanPro Pigtails

# Accessories

### N-TNC

LanPro N-TNC Pigtails are ideal to connect a Cisco/Dlink/Linksys radio to a LanPro N connector Antenna.

#### How to order

- LP-8871 pigtail N to TNC 1m RG316 (Pigtail N male to TNC radio).
- LP-8872 pigtail N to TNC 2m RG316 (Pigtail N male to TNC radio).
- LP-8873 pigtail N to TNC 4m RG316 (Pigtail N male to TNC radio).

### • N Male to SMA Pigtails

LanPro N male to SMA Pigtails are ideal to connect a LanPro SMA style router or AP to a N style Antenna.

#### How to order

- LP-82623 Pigtail N-SMA 1 m RG174 (Pigtail N male to SMA AP).
- LP-82624 pigtail N-SMA 2 m RG174 (Pigtail N male to SMA AP).
- LP-82625 pigtail N-SMA 3 m RG174 (Pigtail N male to SMA AP).
- LP-82626 pigtail N-SMA 5 m RG174 (Pigtail N male to SMA AP).

### N Female to SMA Pigtails

LanPro N female Pigtails used to connect to a SMA AP connector of a radio installed inside a weatherproof box.

#### How to order

LP-83088 pigtail N female Bulkhead to SMA AP 30 cm RG316.

### N male to N male Pigtails

LanPro N male to N male Pigtails are factory tested and made out of pure LP-C400 (LMR400 compatible) low looses cable. Good option for 2.4 GHz. A must at 5 GHz band.

#### How to order

- LP-81145 N-N male pigtail 1/2 m LP-C400.
- LP-81146 N-N male pigtail 1 m LP-C400.
- LP-81147 N-N male pigtail 2 m LP-C400.
- LP-81148 N-N male pigtail 6 m LP-C400.
- LP-81149 N-N male pigtail 10 m LP-C400.

## SMA to SMA Pigtails.

LanPro SMA – SMA Pigtails 50 cm long, Factory made, Robust RG174 low loss cable. Gold plated connectors. The right pigtail to patch Radio Boards, AP or routers to antennas provided of SMA connectors inside enclosures or protected boxes. Not suited for outdoor use. Works up to 7 GHz.

### How to order

■ LP-83087 pigtail SMA to SMA 0.5m RG174.















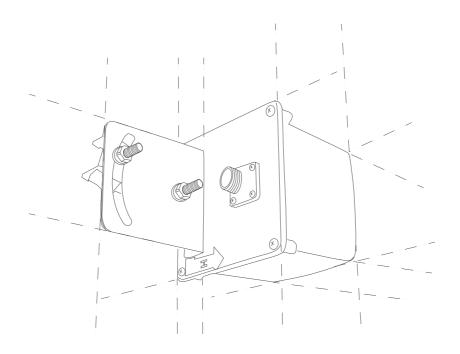
How Information Moves...













V.104W&AENG

LanPro Inc. 1880 NW 93rd Av, Doral, Florida 33172, USA. Phone: 305 640 0733

Sales: sales@lanpro.com
Support and Consumer Affairs: support@lanpro.com
Accounting: acc@lanpro.com