BLACK BOX®
NETWORK SERVICES

# Managed PoE L2 Switch

## Key Features

- (24) 10/100Mbps Ports with PoE + (2) MiniGbics (SFPs)
- Auto-Negotiation and Auto-MDIX
- Backpressure flow control for half duplex.
- 802.3x flow control for full duplex.
- Non Blocking Switching
- 8K MAC addresses
- 256k + 128k Buffer Memory
- Virtual Stacking Management
- Supports SVL/IVL, port based and IEEE802.1q tag-based VLANs
- Quality of Service
- Broadcast Storm
- Port Mirroring
- Isolated and Restricted Groups
- Bandwith Controll
- Supports LACP protocoll,
- 802.1q with GVRP and Multicasting
- 802.1d/1w/1s STP / RSTP
- 802.1x network Security
- SNMP Netowrk Management

The Managed PoE L2 Switch (LPB201A) supports 24 10/100Mbps Auto-negotiation, Auto-MDIX Ethernet ports and Power over Ethernet to IEEE 802.3af compliant devices. The Switch is an ideal solution for wireless AP, VoIP phones, security video cameras. It's fully compliant with the standards of IEEE 802.3/u/x/z/ab/af. It is equipped with 24 UTP (RJ-45) ports and 2 of which are dual media ports that accommodate optional 10/100/1000 MiniGbics (SFP) modules. In addition, the switch implements a number of useful features like QoS, VLAN and full L2 protocol. The overall network management is enhanced and the network efficiency allows bandwidth applications with security.

PoE (Power over Ethernet)
24-PoE ports allow power (185W) to be supplied to end devices, such as Wireless Access Points or VoIP Phones, directly through the existing LAN cables, eliminating costs for additional AC wiring. It frees your devices from restriction due to power outlet location. By supplying the power end-span, you can centralize power distribution and backup without the need to increase infrastructure.

QoS (Quality Of Service)
The QoS(Quality Of Service) feature provides four internal queues to support four different classifications of traffic. It classifis the packet as one of the four priorities according to vip port, 802.1p priority tag, DiffServ and/or IP TOS operating at full wire speed.

Bandwidth Control
With this important feature you may assign a certain bandwith amount to one or more ports.

Port Mirroring
This mechanism allows ingress traffic to be monitored by a single port that is defined as mirror capture port. The mirror capture port can be any 10/100 port, 10/100/1000 port. Mirroring multiple ports is possible but can create congestion at the mirror capture port.

Isolated / Restricted Group
This feature allows certain ports to be designated as protected. All other ports are non-isolated. Traffic between isolated group members is blocked. Traffic can only be sent from isolated group to non-isolated group.

Mac-based 802.ad LACP with Automatic Link Fail-over
Dynamic fail-over means packets will not get assigned to any trunk member port that has failed. If one of the ports were to fail, traffic will automatically get distributed to the remaining active ports.

802.1x Access Control
802.1x enables user authentication for each network access attempt. Port security limits the number of MAC addresses per port in order to control the number of stations for each port. Static MAC addresses can be defined for each port to ensure only registered machines are allowed to access. By enabling both of these features, you can establish an access mechanism based on user and machine identities, as well as control the number of access stations.

802.1d & 802.1w Rapid Spanning Tree
For mission critical environments with multiple switches supporting STP, you can configure the switches with a redundant backup bridge path, so Transmission and reception of packets can be guaranteed in event of any fail-over switch on the network.

Broadcast/Multicast/Unknown-unicast Storm Control
These features are useful for restricting excess traffic. Threshold values are available to control the rate limit for each port. Packets are discarded if the count exceeds the configured upper threshold.

## Specifications

**Standards —** IEEE 802.3 10Base-T; IEEE 802.3u 100Base-T; IEEE 802.3ab 1000Base-T; IEEE 802.3z 1000Base-SX/LX; IEEE 802.3x flow control; ANSI/IEEE 802.3 auto-negotiation; IEEE 802.1q VLAN

**Buffer —** 256k packet + 128K control

**MAC address —** 8 K

**Speed —**
Ingress rate limit:
(24) 10/100: 1K up to 100Mbps
(2) SFPs: 1K up to 1000Mbps
Egress rate limit:
(24) 10/1001K up to 100Mbps
(2) SFPs: 1K up to 1000Mbps

**Connectors —**
(24) RJ45 UTP 10/100Mbps with PoE,
(2) MiniGbic (SFP) Slots

**Indicators —** LEDs (active, FDX, Speed, Power, Link, PoE)

**Power over Ethernet (PoE) —**
(24) IEEE802.3af PoE PSE ports;
Endpoint with 48VDC power through RJ45 pin 1, 2, 3, 6;
PoE-PSE activity LED indicator;
185W of total power (up to 15.4W for 12 ports, or up to 7.7W for 24 ports);
Auto detect powered device and consumption levels;
Supports per port power consumption monitoring;
Smart feature for PD on/off, PD detec tion, power level, PD status and power feeding priority;
Circuit protection to prevent power interference between ports;
Per port PoE State setting;
Per port power priority setting

**Management—**
SNMPv1,v2c Network Management;
RFC 1213 MIB (MIB-II):
Interface, Address Translation, IP, ICMP, TCP, UDP and SNMP MIB;
RFC 1757 RMON MIB:
Statistics Group 1, History Group 2, Alarm Group 3, Event Group 9;
RFC 1493 Bridge MIB;
RFC 1643 Ethernet MIB;
Enterprise MIB

**Security—**
802.1x access control;
Isolated group; Restricted group Management Access Policy Control;
Static mac, to limit which mac addresses can pass through or not;
Mac addresses learning limit, to set up the maximum amount of mac that each port can learn

**Protocolls—** LACP ((2) Fast Ethernet + (1) Gigabit Ethernet group, max 4 members per group, DA, SA and DA+SA Mac- based trunking with automatic link fail-over;
802.1q with GVRP/ GARP;
Multicasting (IGMP snooping including active and passive mode;
802.1d/1w/1s STP

**Power —** 100-240VAC or -48VDC, 50-60Hz for AC Power, power requirement: 210W

**Size —** 1U 19"
45 x 442 x 366 mm (HxLxW)

**Temperature —** 0-50° C

**Humidity —** 5-90% non condensed

**Safety —** comply with FCC Part 15 ClassA, CE

### Contact us worldwide:

### www.blackbox.com

or

http://www.blackbox.com/world_offices/worldoffices_index.html

### Ordering information

| ITEM | CODE |
|---|---|
| Managed PoE L2 Ethernet switch | LPB201A |

## Black Box Network Services - The world's largest network services company

We are, with 25 years of experience, the world leader in network infrastructure services.

**On the Phone —** no charge, answer calls in less than 20 seconds, find the right product with our technical experts.

**On-site —** superior design and engineering, Certified installations, end-to-end service.

**On-line —** receive technical knowledge on-line, including technology overviews, Black Box Explains and the Knowledge Box.

**Most comprehensive TECHNICAL SUPPORT —** our best Product! Free hotline TECH SUPPORT!

**The world's best customer service —** Custom design services and products, the best warranties, money-saving discount programs.

**BLACK BOX exclusives —** Certification Plus. Guaranteed-for-life products and services.