

## BroadSwitch™ ENV1600

16 + 2 GigE VDSL Switch

The ENV1600 series is an Ethernet over VDSL switch with sixteen VDSL ports and two Gigabit slide-in slots on the rear panel for optional fiber/copper Gigabit uplink modules. The switch is a DSLAM (Digital Subscriber Line Access Multiplexer) accommodating Ethernet and VDSL technologies to extend Ethernet over single-pair phone line by using a VDSL signal. Up to 15/17Mbps bandwidth and 5 selective transmission modes provides ultra-high performance to the pervasive telephone line network, and has the advantage of minimum installation time and expense by allowing voice and data to share the same telephone pair without interference. Moreover, the maximum 1500 meter distance provides wide deployment coverage for service providers. The 2 Gigabit slide-in slots on the rear panel provide fat pipes for connecting to the backbone or server network.



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### Stacking Architecture

The ENV1600 provides switch stacking functionality to manage up to 8 switches using a single IP address. The distance between stacked switches can be up to 800 meters. Management bus traffic is separated from the network ports ensuring appropriate bandwidth allocation. Up to 128 VDSL ports can be managed with a single IP address.

### Manageability

Contains advanced management that can be remotely accessed by Telnet, SNMP and Web browser. The standard IEEE 802.1Q with VLAN tagging feature makes logically separating nodes easier with up to 255 VLAN groups supported. Two priority queues with 802.1p support, IGMP snooping and rate control function are also provided to optimize network bandwidth.

### Key Features

- 5 selectable transmission modes using the management interface of the VC-1602
- QAM (Quadrature Amplitude Modulation) line code
- Designed based on Frequency Division Duplexing
- A telco-50 (RJ-21) connector for VDSL ports
- Provides 6k MAC address table and 384K bytes memory buffer
- Supports 802.1p QoS with two priority queues
- Supports 802.1Q tagged VLAN, up to 255 VLAN groups can be configured
- Console, telnet, web and SNMP manageable
- Supports IGMP snooping
- Port mirroring for dedicated port monitoring
- Rate control function to limit bandwidth to 10%, 20% or 100%

## Specifications

Models	ENV1600 16+2 port VDSL Switch ENV16SP 16 port Band Splitter ENVD1GT 10/100/1000Base-T Uplink Module (copper)
Network Ports	Telco-50 (RJ-21), provides 16 VDSL connections
Stack Ports	2 x RJ-45
Module slot	2 for 10/100/1000Base-T, 1000Base-SX and 1000Base-LX modules
Console	1 x RS-232 DB-9
Stack ID selection	Knob with 8 settings (0~7)
MAC address table size	6k
Transmission method	Store-and-forward
Packet Buffer Memory	384K Bytes
LEDs	System: PWR, Master, Status Per port: LNK, ACT Port Module: LNK/ACT Stack: LNK
Cables	10Base-T: 2-pair UTP Cat. 3,4,5 up to 100m 100Base-TX: 2-pair UTP Cat.5, up to 100m 1000Base-T: 4-pair UTP Cat 5, up to 100m 1000Base-SX: 50/125 and 62.5/125 fiber-optic cable, up to 550m 1000Base-LX: 9/125 fiber optic cable, up to 10km; 50/125 and 62.5/125 fiber-optic cable, up to 550m VDSL: twisted-pair telephone or ISDN wires (AWG24 or better) up to 5000ft (1.5km)
Mode/Distance(Based on AWG24 wires)	ANSI - 15/4Mbps asymmetrical rate up to 4100 feet (1.25km) ETSI - 11/4Mbps asymmetrical rate up to 4100 feet (1.25km) VE-5 - 5/5 Mbps symmetrical rate up to 5000 feet (1.5km) VE-10 - 11/11Mbps symmetrical rate up to 4100 feet (1.25km) VE-15 - 15/17Mbps asymmetrical rate up to 3500 feet (1.05km)
Rack Mount	19" rack mount, 1U height
Dimension	440 x 285 x 44 mm
Operating Environment	Temperature: 0~50 degree C (operating), -20~70 degree C (storage) Humidity: 0~90%, non-condensing
Power Supply	100~240VAC, 50~60Hz, auto-sensing
EMC/EMI	FCC, CE
Management Interface	Web, Console, Telnet and SNMP
Protocols and Standards	IEEE 802.3 (Ethernet) IEEE 802.3u (Fast Ethernet) IEEE 802.3z/802.3ab (Gigabit Ethernet) IEEE 802.3x (flow control) IEEE 802.1Q VLAN tag IEEE 802.1p QoS RFC 768 UDP RFC 783 TFT PRFC 791 IP RFC 792 ICM PRFC 826 ARP RFC 854 Telnet RFC 2068 HTTP RFC 2236 IGMPv2
Network Management	RFC 1157 SNMP v1/v2 RFC 1123 MIB-2 RFC 1493 Bridge MIB

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