



Ethernet Local Node, ELN220

Ethernet Local Node 220 is a 2nd level optical aggregation switch used in the EDA solution for fiber aggregation of the 8-port Ethernet switch ESN108. This provides a cost-efficient and carrier class broadband access solution for the residential small office/home office (SOHO) and small to medium enterprise (SME) end-user, as well as for Multi-tenant housing, small remote sites, and hot spots. Used as ATM overlay to an existing ATM network, the EDA solution provides extra ADSL capacity to the network.

Description

The ELN220 is a flexible and scalable Ethernet switch that supports optical fiber for uplink and downlink. ELN220 provides a robust, reliable and secure access to applications such as Voice over IP with guaranteed QoS, high speed Internet, video and TV distribution, transparent LAN interconnect services and other multimedia services. The core of ELN220 is a powerful network processor based on Fast Ethernet and Gigabit Ethernet switch facilitating feature upgrades. The upgrade can be handled remotely and all ELN220 switches within a network can be handled simultaneously.

ELN220 gives the possibility to install new software versions in parallel with the old version to allow a rollback if needed and it is also possible to do hot insert and software upgrade of ELN220 units during operation, providing stability according to carrier class equipment.

ELN220 offers 24 optical Fast Ethernet downlink ports. When used for aggregating the 8-port ESN108 switch up to 24 ESN108 switches can be connected. Using EDA 12-line IP DSLAMs, a local node can be formed with up to 2304 ADSL ports.

Class and Quality of Service

ELN220 offers Class and Quality of Service tools such as VLAN, traffic prioritization, selective filtering, and bandwidth provisioning and link redundancy, ensuring a connection-oriented network environment with high security and end-user integrity.

Security and Virtual LAN (VLAN)

ELN220 ensures a secure network by offering forced forwarding to a default gateway, by enabling virtual MAC, and by use of filtering functions. By use of the VLAN technology it is possible to create separate logical networks within the Ethernet LAN. In the EDA solution, VLAN is used to separate traffic types or different services and to improve security. By configuration, a dedicated VLAN can be used for management signaling. A default VLAN number is configured for management.

Management

ELN220 is managed by the Public Ethernet Manager (PEM), which is based on HP OpenView and SNMPv2c. The northbound interfaces (CORBA, SNMP, XML) enables use of the same provisioning and management system already employed in the operator's network.

Technical data

THIS DOCUMENT IS VALID FOR RELEASES

- EDA 2.0, EDA 2.1, and EDA 2.2

SWITCH MODULE BASIC CONFIGURATION

- 2 x 1000Base-T Gigabit Ethernet uplink ports
- 24 x 100Base-LX Fast Ethernet downlink ports

GENERAL

In its basic configuration ELN220 is compatible with the following standards:

- IEEE 802.3-2000 Ethernet
(with .3u Fast Ethernet and .3z Gigabit Ethernet)
- IEEE 802.1D-1998 Bridged Ethernet
- IEEE 802.1Q VLAN Tagging
 - 4096 possible values for VLAN-tags,
200 simultaneous VLAN
 - Trunking of VLAN on up-link interfaces
 - Classification and prioritization on port number and VLAN
- IEEE 802.1w Rapid Spanning Tree Protocol
- IGMP snooping (IETF RFC 2236 IGMPv2) with L2 multicast support
- Bi-directional bandwidth limitation on per port or VLAN basis
- Software controlled redundancy on Gigabit ports
- Other standards and functionalities supported by SW upgrade

TRANSMISSION INTERFACES

Uplink:

- 1 or 2 Gigabit transceivers (GBIC):
1000Base-X (SMF, MMF, HSSDC)

Downlink*:

- 24 Fast Ethernet ports 100Base-LX (SMF dual fiber)
< 10 km: LC connectors

MANAGEMENT AND ALARM INTERFACES

Support interfaces:

- SNMP versions 1-3
- RS-232 Serial Interface for local maintenance of all functions
- **Alarms:** Supporting standard SNMP traps
- **Indicators:** one LED indicating unit status + configurable LEDs on each transmission interface

POWER CONSUMPTION

- Power consumption: 50 W
- Current rating: 4 A

VOLTAGE INPUT

- Supply Voltage: -48 V DC

DIMENSIONS

- HxWxD: 45 x 482 x 370 mm (19" mountable)
- Weight: 4.0 kg

ELECTROMAGNETIC COMPATIBILITY

- EMC/EMI compatibility class A: EN 55 022/FCC part 15
- CE, UL and FCC certified

PERFORMANCE AND RELIABILITY

- MTBF 58 years

ENVIRONMENTAL

- Operational temperature range: +0 to +45°C (normal operation, humidity 5 – 90%, non condensing)

**Besides the 24 Fast Ethernet ports 100Base-X (SMF dual fiber) downlink interface, three other variants of ELN220 exist, available upon request:*

- 24 Fast Ethernet ports 100Base-FX (MMF)
< 2 km: MT-RJ connectors
- 24 Fast Ethernet ports 100Base-BX (SMF single fiber)
< 10 km: SC connectors
- 24 Fast Ethernet ports 100Base-TX (Cat5)
< 100 m: RJ-45 connectors