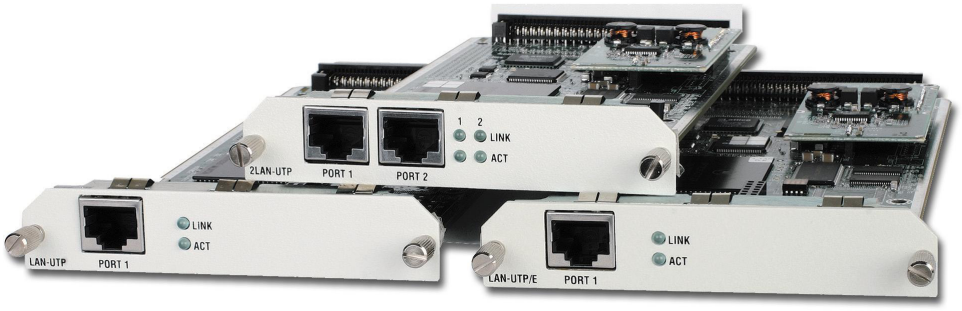
Data Sheet

ACE-2002/2002E/202

LAN

Ethernet/Fast Ethernet Modules



Enabling LAN connectivity, bridging and IP routing over ATM

- Bridging and IP routing over ATM according to RFC 1483, including static and dynamic routing (RIP I/II)
- Switching of LAN traffic between LAN port and ATM VCCs
- Layer 2 and 3 priority mapping to ATM QoS
- VLAN ID to ATM VCC mapping
- Up to 123 LAN to ATM connections per LAN port

The ACE-2002/2002E/202 LAN modules enable bridging and routing capabilities (dual LAN modules have bridging only). The Ethernet frames and IP packets are converted to ATM traffic according to RFC 1483.

In bridging mode, the LAN modules act as a Layer-2 switch between the LAN and the ATM virtual circuit connections (VCCs). The transparent bridging function performs automatic MAC address learning (up to 2048 addresses) and aging. In star topology applications (see *Figure 1*), the LAN modules switch between LANs located at remote sites.

The LAN modules map VLAN frames to ATM VCCs based on the VID, according to IEEE 802.1Q.

VLAN tagging based on IEEE 802.1p creates marking frames in the LAN environment with different priorities (up to eight levels). ACE-2002/2002E/202 maps frames with various priorities into different VCCs for distinguishing between QoS levels.

In routing mode, the LAN modules serve as IP routers, using ATM VCCs and the LAN port as interfaces. Full router functionality is available, including default gateway and ARP. The routing tables can be updated manually (statically) or automatically, using the RIP-I/II dynamic routing protocols.

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The LAN modules route traffic based on IP addresses and tagged Type of Service (ToS) bytes. Accordingly, when the LAN devices set the ToS bytes according to relevant standards, the LAN modules translate the information into ATM QoS.

Bridging mode is configurable on LAN modules on all slots, while routing mode is available only on one LAN module per chassis.

Specifications

Compliance
Ethernet standard IEEE 802.3, 802.1Q, 802.1p and 802.1d

Data Rate
Electrical: 10/100 Mbps, half/full-duplex, autonegotiation
Optical: 155 Mbps

VLAN MAC Learning Mode
Independent VLAN Learning (IVL) for the LAN modules

Shared VLAN Learning (SVL) for the ETH modules

Wavelength
1310 nm

Optical Output
Multimode: -19 to -14 dBm
Single mode: -15 to -8 dBm

Typical Distance*
Electrical: Up to 100m/328 ft using UTP Category 5 cables

Optical: 2 km (1.25 miles), multimode
15 km (9 miles), single mode

Note: *The typical optical distance is calculated using common peripheral equipment and environment conditions. It may therefore vary according to user-specific equipment and environment conditions.*

Connectors
Electrical: RJ-45
Optical: LC

Ordering

ACE-M/+

Legend

\+ LAN module type:

LAN-UTP	ETH/Fast ETH port, RJ-45
LAN-UTP/E	Enhanced performance ETH/Fast ETH port, RJ-45
LAN-LC13L	Fast ETH port, 1310 nm single mode, LC
LAN-LC13L/E	Enhanced performance Fast ETH port, 1310 nm single mode, LC
LAN-LC13M	Fast ETH port, 1310 nm multimode, LC
LAN-LC13M/E	Enhanced performance Fast ETH port, 1310 nm multimode, LC

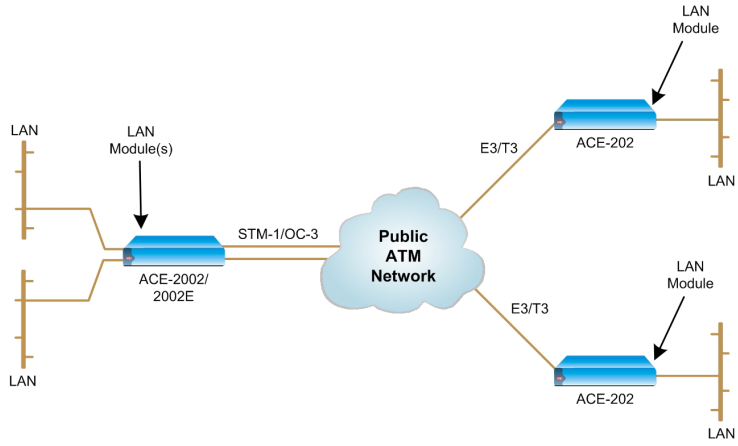

Figure 1. Multiple Branches in Star Topology

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