

LAN Extension on a single DSL

COPPERLAN COPPERLAN-SW

MSDSL AND G.SHDSL, 10/100BT BRIDGE

Characteristics

- **CopperLAN** compact metallic enclosure
- **CopperLAN-SW** with Ethernet Switch 4 ports 10/100BaseT MDI/MDI-X
- G.SHDSL mode : 64 KBPS to 2,320 MBPS
- CAP-SDSL mode : 64 K à 4,640 MBPS
- Automatic rate / reach adaptation up to 4,640 Mbps or 13 km
- Full duplex transmission on a single twisted copper pair
- Transparent Ethernet bridge : 802.1D 10/100 BaseT
- Filtering bridge with automatic discovery of MAC addresses
- Transparent to VLAN and special protocols frames
- Compatible with MD20BT, MD2HUB and MD20E1 units
- User's Choice for the transmission mode : MSDSL CAP at 4,6Mbps or G.SHDSL at 2.320 Mb
- Manageable from the LAN or from the console port
- Administration : Telnet, html (*) and SNMP

Advantages

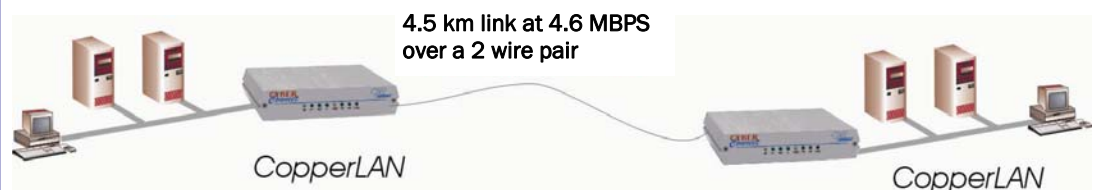
- Reach : 4,5km at 4,6Mbps
- Reach: 13,3km at 128kbps
- Fast and easy installation : plug and play.
- Rate optimization VS line length and quality
- Rate : automatic or user selectable
- Pingable unit.



FAR FROM THE LAN ETHERNET LINKS

CopperLAN is a new Ethernet bridge over a single twisted pair that comes from the Proven technology of the MD2000 of CXR. **CopperLAN** relies on the last SDSL and G.SHDSL techniques for multi-rate data transmission over the subscriber or private pair line.

CopperLAN can connect on existing telephone lines and provides an adaptation to the maximum rate that the line can accept from 128 K to 4.640 MBPS, without voice alteration nor configuration of either PBX or LAN.



CopperLAN is a powerful 10/100 BaseT Ethernet bridge that can carry 802.1q frames and facilitate VLAN installation.

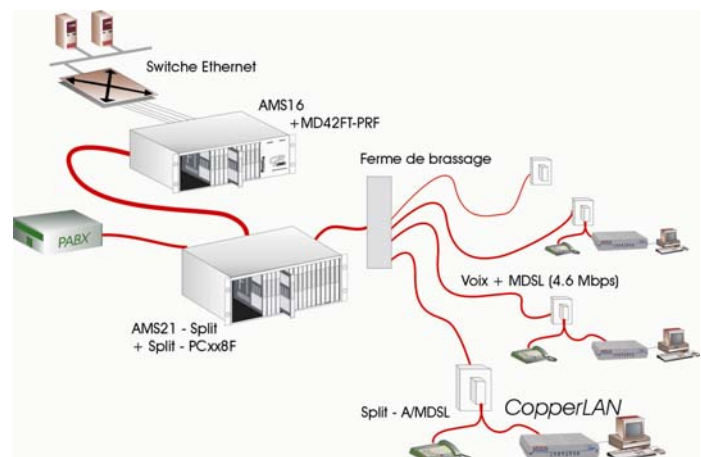
CopperLAN's operation is automatic since it defines the best rates depending on the line length and quality. The transmission rate is set automatically or defined by the user from 64KB to 4.640 MB.

Both local and remote units can always be controlled from their console port, from the LAN, or from the line.

CopperLAN is compatible with the existing MD2000 range of modems. It can connect to MD2703 as to extend the local loop from the PDH / G703 network, and provide LAN to LAN links.

CopperLAN's line coding is either CAP—MSDSL for rates up to 4.640 MBPS that is compatible with classical ADSL splitters for sharing data and voice on standard phone line, or TC.PAM G.SHDSL for rates up to 2.320 MBPS that provides an higher reach and is compatible with classical SHDSL repeater for even longer length lines.

In CAP—MSDSL mode, **CopperLAN** provides data transmission up to 4.640 MBPS, on a classical phone line, and share the line with voice services through classical ADSL splitters.



LAN Extension on a single DSL pair

Only one product for :

**CAP-SDSL at 4.6 MBPS
and
G.SHDSL at 2.320 MBPS**



RJ11 Splitter

**Fast and reliable
Ethernet transmission
On a single copper pair
Even on noisy lines !**



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TECHNICAL SPECIFICATIONS

Transmission Technique MSDSL or G.SHDSL

User can select MSDSL or G.SHDSL line code from a companion software.

MSDSL Mode :

- Line : one metallic twisted pair
- Line coding : CAP/QAM
- Line rate : 144kbps to 4 640kbps
- Transmit signal power : 13 dB
- Reach on 26 AWG at 144 KBPS : 7 km
- Port : RJ11
- Standards : UIT-T G.991.1 and ETSI ETS.101135
- Compatible with the MD2000 range of MSDSL modems

G.SHDSL Mode

- Line : one metallic twisted pair
- Line coding : TC PAM
- Line rate : 144kbps to 2 312kbps
- Reach on 26 AWG at 144 KBPS : 7,6km
- Port : RJ11
- Standards : ITU-G991.2 (A, B, B-ANFP), G.994-1 and ETSI ETS.101524
- Compatible with most non ATM G.SHDSL concentrators

Indicative reach on 26 AWG / 0.4 mm line gauge

CAP-SDSL rate	144	272	384	528	784	1040	1552	2060	2320	4640
Reach km	7	6.4	5.8	5.2	5	4.6	4	3.7	3.4	2.2
G.SHDSL rate	144	272	400	528	784	1040	1552	2128	2320	-
Reach Km	8	7.2	6.4	6.1	5.4	4.9	4.2	3.8	3.5	-

CopperLAN - CopperLan-SW

LAN interface CopperLan

- Ethernet 10/100BaseT: auto sense
- Socket : RJ45
- IEEE 802-3 compliant
- Transparent to IEEE 802.1q VLAN frames
- Filtering of up to 10,000 MAC addresses
- Frame buffer: 400
- Max frame size: 1548 bytes

CopperLAN-SW

- 4 * Ethernet 10/100BaseT auto-sense, MDI/MDI-X with LED act and 100 BaseT

Management

- Console port: V24/V28 - 8 bits no parity, 19.2 Kbps; VT100 emulation, AT commands and user friendly menus.
- From the LAN: Telnet session, user friendly

menus, http browser (*)

- Remotely from the DSL line: Telnet, user friendly menus, http browser (*)
- Remote control does not interrupt the user traffic. The remote unit can be controlled from a host anywhere or from the local unit.
- SNMP trap for alarm notification
- Flash memories for code upgrades from the console port or and FTP session
- Plug and play

CopperLAN Front panel

- LED: Power, CD, LAN 10/100, RX, TX and link

Power supply

- 110 / 230 Vac through external mains adapter ; Power 4 W

Physical

- Metallic enclosure: D x W x H
14,7 cm x 14,4 cm x 3 cm

TRANSMISSION OVER VOICE LINE

CAP-MSDSL code of the **CopperLAN** can connect on a phone line without altering the voice link from the PBX to the subscriber. Small stand alone or rack mount cards of splitters adapts and filters the voice (low pass filter) and MSDSL (high pass filter) signals on both ends of the line.

No change is required on the PBX or CopperLan

Products references :

CopperLAN

CopperLAN-SW

CopperLAN-SPLIT-R (1)

CopperLAN-SW-SPLIT-R (1)

(1) Delivery in MSDSL + RJ11 Splitter

SWM24GW : 24 ports G.SHDSL Concentrator, Level 2 switch + VLAN + QOs for CPE CopperLan and CopperLan-SW in G.SHDSL 2.3Mbps mode.

DIN-CPE : Rail DIN kit integration

WALL-CPE : Wall kit

RACK-DUAL-CPE : Rack mount 19 inch, 1U, for 2 CopperLan

(*) Ask CXR for detail

Specifications are subject to change without notice