UNIVERSAL RACK SYSTEM
AMS 4-AMS16-CFIP

Specification

- AMS4: rack for 4 cards up to 16 channels
- AMS16: rack for 16 cards up to 64 channels

Rack card for AMS4/16 rack

- PSTN/LL Modems
- SDSL and G.SHDSL modems
- Fiber Optic modem
- Interface converter G703 64k, G703, G704
- ISDN adapter
- Ethernet LAN access
- Hot swappable card
- Standard fixing for 19" shelf
- Power supply 230Vac or 48Vdc
- Redundant power supply for AMS16

CFIP, management card for the AMS16

- Integrated modem management
- Automated and assisted configuration, configuration backup
- Identification and integration in the customer application
- Loop test control
- Equipment and communication monitoring, dashboard
- Non intrusive management
- Event and alarm control, snmp trap
- Maintenance support
- Diagnostic information and quality of service monitoring
- Statistic information
- Integration in the network management system
- SNMPv1, v2. V3 under development.

MODULAR AND MANAGEABLE SOLUTIONS

AMS4 and **AMS16** are two professional rack systems aimed at hosting CXR transmission cards. This solution suits especially well the requirement of concentrating communication accesses of corporate infrastructures and telecom operators.

AMS4 and **AMS16** hosts the full CXR range of rack-mount cards : dial-up and leased line modems, ISDN adapters, fiber optic modems, TDM/PDH interface converters and CSU-DSU, xDSL modems, Ethernet LAN access cards. These cards offer on to four communication channels which give the chassis a capacity of up to 64 channels.

The **AMS4** provides four slots and is made for middle density requirements. The AMS16 is made for higher density applications with a 16 slots capacity, a redundant power supply capability and an optional CFIP management card.


All cards are hot-swappable, and can be extracted or inserted without any impact on on-going services of other part of the system.

The **AMS16** has two slots for power supply cards that can be a mix of mains AC or DC versions. The supply scheme ensures redundancy and load sharing for an optimized reliability and availability.

The CFIP management card supports FTP, Telnet and SNMP protocols for managing the communication system and remote equipments. A MIB file is offered for SNMP management. CFIP is compatible with SNMPv1, V2, SNMPv3 is under development.

The AMS system may be managed locally or remotely through the IP network, or even through a dial-up connection thanks to the embedded modem of the –M model.
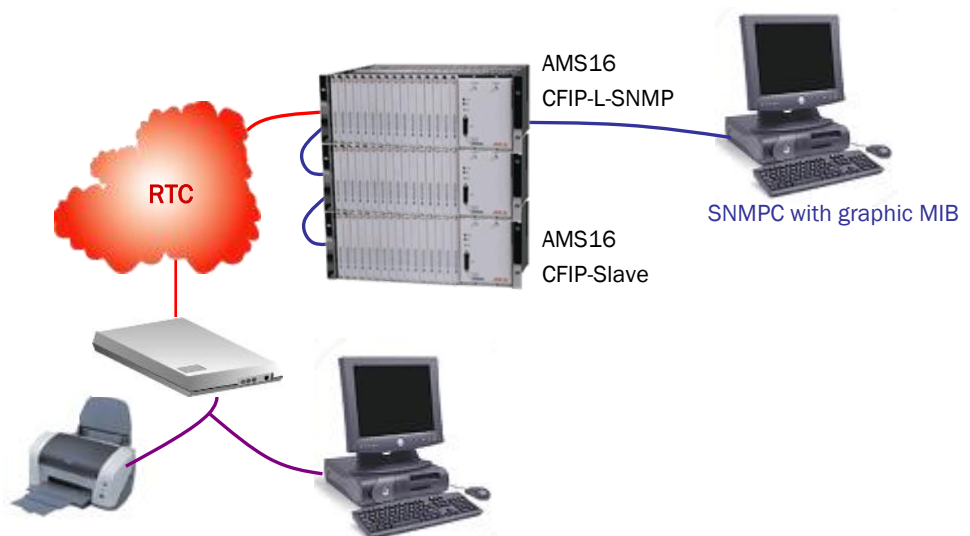
HELP SETTING UP THE NETWORK

The CFIP cards helps installing and managing the network.

The **CFIP** card provides a full set of features for managing transmission devices of the AMS16 chassis.

The **CFIP** card comes with an RS232 serial port for local control through VT100 intuitive menus. An Ethernet port is activated by the **–SNMP** model that adds TCP-IP, FTP, Telnet and SNMP protocols for controlling the system from a network management system.

The **CFIP-M** model embeds a modem for remote alarm notification and remote management of the system through the dial-up network from a PC or a serial console device.

Adding communication cards in the system is easy with the CFIP card which provides a standard and centralised user interface for configuring and monitoring devices. Each communication channel and device can be identified by a literal identification string related to the user application which is used throughout the management and alarm monitoring process.

Configuring and monitoring cards are performed through intuitive and documented menus. A device configuration can be duplicated to several cards, and even stored on a server through an FTP file transfer.

```
18-08-2006    ALARME    CFIP-116        IP:1    15:56


                        Main Menu

            1) Device Configuration
            2) Alarm Monitoring
            3) Diagnostics and Device Commands
            4) Device Inventory
            5) Cluster Connection Status
            6) System Configuration

            Q) Quit

        ----------------------------------------------------
            Type your choice [ 1 -- 6, Q ] and press RETURN
        ----------------------------------------------------
```

The CFIP helps monitoring the network.

The **CFIP** card provides all features required for managing communication equipment and network. It lists the system inventory and supports a logical identification of devices and trunks. This logical link to the user application makes easier configuration, monitoring and diagnostic.

The **CFIP** card helps configuring a device, but also makes it possible to duplicate automatically the configuration to several devices. Configurations can be extracted and stored on a server through an FTP file transfer. The user interface is based on intuitive and documented menus which makes an easy learning of the system. Device configuration files extracted from FTP are text formatted and they can be edited and modified from any text editor software.

The **CFIP** card collects all cards events and performs according user defined actions such as major or minor alarm relay activation, sending an SNMP Trap, or recording the event. Severity and actions are defined for each single event (power supply management, system events and violation, communication events, terminal interface events, etc.) Alarms can be acknowledged and saved for future analysis

Easy and efficient event diagnostic and communication link monitoring are performed thanks to diagnostic and statistic menus of the CFIP card. Information provides all details for monitoring the communication link quality and availability.

 The **CFIP** card is a multiple tcp-ip session server so that several users (supervisor and operators) can access the management system at the same time.

The standard **CFIP** version is aimed at managing dial-up and leased line modems and ISDSN adapters. The CFIP–V2 version is designed for the other communications cards – SDSL/SHDSL, fiber optic, TDM/PDH E1/T1/E2/E3/T3 converters, Ethernet LAN interconnection.

System of concentration

```
18-08-2006    ALARM    CFIP-116              IP:1    16:04
                    Alarm Monitor

   1) Manage Active Alarms       2) Manage Retired Alarms
   P) Previous menu page
       Type your choice [ 1, 2, P ] and press RETURN

    DATE      TIME   SHELF   SLOT PORT   Circuit ID     Alarm type
 > 27/07/2006 12:10:12  1      7    1   ---------------  LL failed
   27/07/2006 12:08:12  1      7    1   ---------------  Newly powered
   27/07/2006 12:08:08  1      2    1   ABONDANT         Newly powered
   27/07/2006 12:07:59  1      4    1   ---------------  Newly powered
   27/07/2006 12:00:43  1      2    1   ABONDANT         INACTIVE
   27/07/2006 12:00:32  1      7    1   ---------------  INACTIVE
   27/07/2006 11:59:36  1      7    1   ---------------  LL failed
   27/07/2006 11:57:38  1      7    1   ---------------  Newly powered
   27/07/2006 11:57:34  1      2    1   ABONDANT         Newly powered
   27/07/2006 11:57:33  1      4    1   ---------------  Newly powered
   27/07/2006 11:50:46  1      7    1   ---------------  INACTIVE
   27/07/2006 11:50:39  1      2    1   ABONDANT         INACTIVE
   27/07/2006 11:48:49  1      7    1   ---------------  LL failed
 Alarm summary: Active = 1572 Retired = 1   Available = 65
```
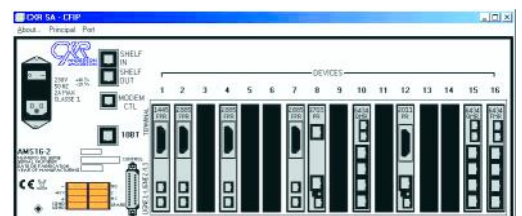
```
18-08-2006    ALARM    CFIP-116              IP:1    16:06

   Shelf 1 Slot 2 Port 1 - Circuit Id : ---------------

   +-------------------------------------------+
   |              DIAL LINE STATISTICS         |
   +-------------------------------------------+
   | Elapsed time:            22 days, 03:58:54 |
   +-------------------------------------------+
   | Dial line utilization:           0.0 % |
   +-------------------------------------------+
   | Dial line active time:    0 days, 00:00:00 |
   | Dial line idle time:     22 days, 03:58:54 |
   +-------------------------------------------+
   | Number of originate connections:       0 |
   | Number of answer connections:          0 |
   | Number of originate failures:          0 |
   | Number of answer failures:             0 |
   +-------------------------------------------+

   P) Previous menu page

       Type your choice [ P ] and press RETURN
```

CXR DEVICES MANAGEMENT INTEGRATION INTO THE ENTERPRISE NETWORK

CXR communication devices are integrated in the enterprise management system thanks to the CFIP card. Its SNMP agent operates with any SNMP managers such as HP-OV, What's up Gold or SGRWin.

A standard MIB file is provided for any SNMP manager, and a MIB is offered for a graphical management of the system on the SNMP manager.

Some card functions are controlled through SNMP SET messages and diagnostic and statistics information can be read through SNMP GET messages. Events can be transferred to the SNMP manager by SNMP Traps alert messages .

TECHNICAL SPECIFICATION

	AMS4	AMS16
Number of slots	4	16
Hot swappable card	Yes	Yes
Choice of power supply	110/230 Vac or 48 Vdc	110/230 Vac or 48 Vdc Or 2 x 230 Vac Or 2 x 48 Vdc Load sharing
Administration	Per card (RS232)	Per card (RS232) With CFIP VT100 With CFIP + CFIP Telnet With CFIP + CFIP –SNMP
Dimensions	1U: 440 x 315 x 44,5 mm	4U: 482 x 342,9 x 177,8 mm
Temperature and humidity	Temperature: 0 to 50°C Humidity: 95 %	Temperature: 0 to 50°C Humidity: 95 %
Extended condition	Option	Option

Characteristics CFIP:
- Local console port: DB25 – RS232 DCE, 19200 bps, VT100 menus
- Ethernet port, 10BT, RJ45
- 2xNO/NC relays
- Protocols: tcp-ip, telnet, ftp, http, snmp v1,v2. SNMPv3 under dev.

DEVICE CARD FOR AMS4/16

Type	Reference	Function	Interfaces	# Ch
Dial up modem	2885P FPRF	Dial-up and 2/4W leased line Modem	V24/V28/V11, RS232, X21	1
IDSN Adapter	6434 FMRF	PPP, V14, V110, V120, V22-V34 modem	V24/V28, RS232	2
SHDSL TDM and Ethernet modem	MD-4000 MD-4xET MD-4x30 MD-4xFT MD-4xEX SpeederLan Speeder Bis	2/4W SHDSL modem 192 to 2,3 (SHDSL) or 4,6 Mbps (SDSL) per pair. SHDSL Bis /8 pairs/44 Mb modem	E1/T1–G704 RS530/X21/V35 Ethernet 10/100 E1/T1 and Ethernet 2x Ethernet 10/100 2x Ethernet 10/100	1 1 1 1 2 2
TDM / PDH interface converter, CSU-DSU	CV-20BT CV-2011 CV-E3T3	G703/G704 2 Mbps converter G703/G704 2 Mbps converter G703 34 Mbps converter	Ethernet 10 RS530/X21/V35 E3/T3 – G703	1 1 1
Fiber Optic modem, TDM/PDH and Ethernet	FO-SE11 FO-E1E2 FO-E1T1 FO-4BRI FO-4E1T1 FO-E3T3 FO-2TT-FX	8 Mbps SM/MM fiber modem 2 ou 8 Mbps MM/SM fiber modem 2 Mbps M/SM fiber modem 2 Mbps MM/SMf iber modem 4 x 2Mbps & Ethernet MM/SM, 1+1f iber modem E3/34 Mbps MM/SM fiber modem 2 x 100Mbps Ethernet MM/SM fiber modem	RS530/X21/V35 E1 / E2 – G703 E1 / T1 – G704 4x BRI / So RNIS 4x E1 – 1 x Eth 1 x E3 / T3 2 x Eth 100	1 1 1 4 5 1 2

REFERENCES

AMS 4-2	Rack 1U, 4 slots, Power supply 90-264VAC, 47—60 hz
AMS 4-2-48	Rack 1U, 4 slots, 48V
AMS 4-2-24	Rack 1U, 4 slots, 24V
AMS16-PS16	Rack 4U, 16 slots, 1 power 230VAC
AMS16-PS3E	Rack 4U, 16 slots, 1 power 48V
PS16	Additional power 230V (2 maxi)
PS3E	Additional power 48V (2 maxi)
CFIP-L	Controller card with RS232, disabled Ethernet port, for modems and ISDN adapters
CFIP-M	Controller card with RS232, embedded modem, disabled Ethernet port, for modems &

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