System of concentration

Version 1.6– August 2006

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 ,
- MSDSL and GSHDSL modems
- Fiber Optic modem
- Interface converter G703 64k, G703, G704
- ISDN adapter

- Card hot swappable
- Standard fixing for 19" shelf
- Power supply 220Vcc or 48Vca
- Redundancy power supply for AMS16

CFIP, management card for the AMS16

- Daisy chain from CFIP-L/M master to 15 CFIP-S slaves.
- Administration of 16 rack or 256 device from one CFIP-L
- VT100 consol port
- Administration over modem for the CFIP-M
- CFIP-SNMP: administration over Telnet cession or SNMP
- Graphic MIB for SNMPC

MODULAR AND MANAGEABLE SOLUTONS

The **AMS4** and **AMS16** rack systems are two professional solutions of concentration for the transmission CXR devices. This system intended for the interconnections in corporate infrastructures as well for the local loop of telecom's operators.

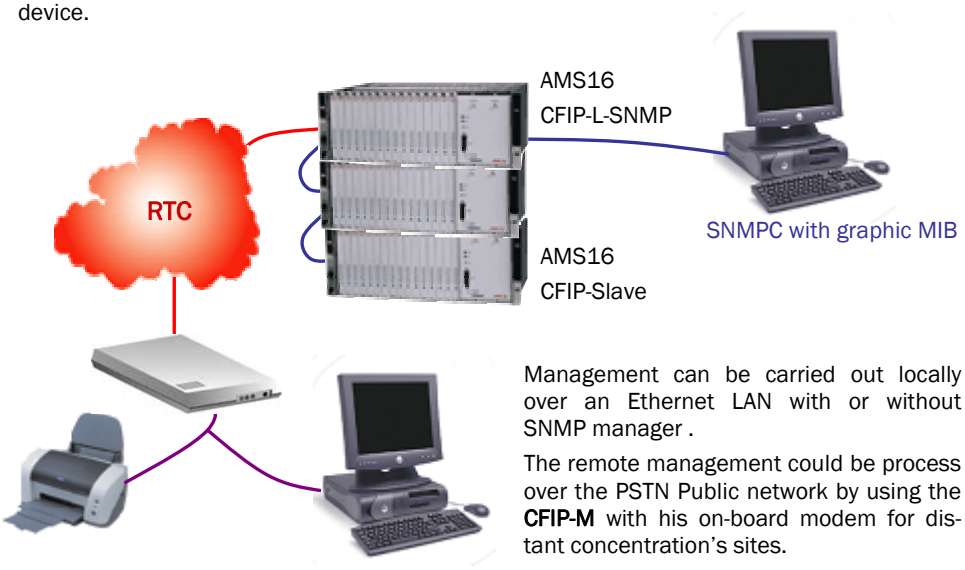
The **AMS4/16** accept the whole range of CXR rack card device: PSTN/Leased line modem, fiber optic modem, xDSL modem, ISDN adapter, interface converter CSU/DSU. The card could include 1, 2 or 4 channels up then up to 64per rack and without limitation of position.

The **AMS4** intended for the small configurations accepts 4 cards. The **AMS16** accepts up to 16 cards plus two redundant power supply and the management board CFIP.

All device card are plug-in hot swappable without interruption of service of the other card.

The **AMS16** is deliverable with redundant AC or DC or mixed power supply witch ensure the load sharing for a better reliability and safety.

The **AMS16-PS**16 with the **CFIP-L-SNMP** allows the administration over a Telnet cession or SNMP of all modems of the shelf and a certain number of distant modems. More **AMS16-PS16** with **CFIP-S** slave card could be link to the master and manage over only one SNMP device.



Management can be carried out locally over an Ethernet LAN with or without SNMP manager .

The remote management could be process over the PSTN Public network by using the **CFIP-M** with his on-board modem for distant concentration's sites.

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AN HELP TO SETUP YOUR TRANSMISSION

The CFIP is a help for the installation of your links.

The **CFIP** is the administration card for the CXR transmission devices. This card manage all the board inside the rack but also could control up to 15 other slaves racks for a total of 256 device channel, for their installation, the administration and the monitoring.

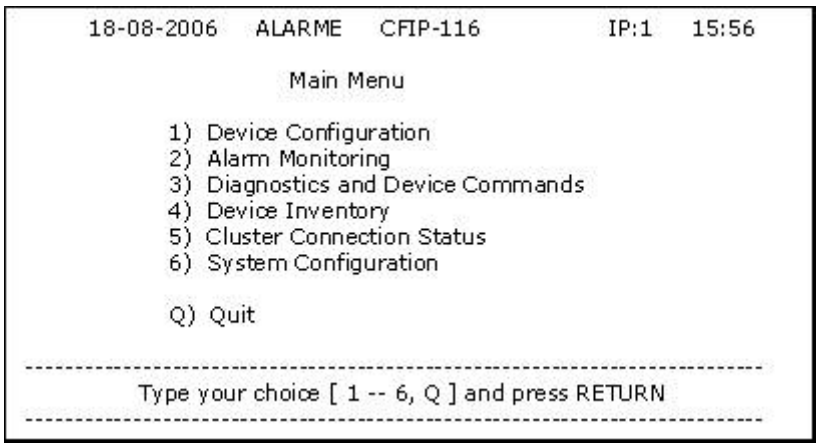
The **CFIP-L** card is delivered with an asynchronous control port. The **CFIP-L-SNMP** add an Ethernet port with the capability of management over a Telnet cession or SNMP control.

The **CFIP-M** card add an in-board PSTN modem which will give the access made safe to a distant administrator in order to set-up equipment with a VT100 session.

The card **CFIP-S** slave of other rack are chained to the card CFIP-L or CFIP-M Master over a interface bus.

During the installation of new modem cards, the system CFIP-L will recognize automatically the card and will be immediately be ready to be setup and monitored. In case of connection to a SNMP manager the card will be show on the screen.

All settling would be done from the VT100/Telnet screen. It would be possible to duplicate the parameter of one board on other boards. All configurations would be store and could be modified.



The CFIP is a monitoring tool for your transmission links.

In order to help the user to diagnose, the supervision system makes it possible to visualize in dynamic mode, for each module of rack: the state of the signals in the junction, the status of a modem connected with the quality of the signal on line, the level of reception, the time of connection, statistics of operation and, over a switched network or leased line the CFIP will provide the information of correction of errors and compression of the data.

It is also possible for the CFIP to initialize and read the tests of local and distant loop.

In addition, the alarms menu makes it possible to visualize certain events that we setup and considered as an alarm. Each event is dated and give information of the device channel and the type of alarm.

The events which could generate by the following alarms: modem in back-up mode over switched network, modem in loop test, no ring, fault on the supervisory channels, power supply failure, attempt of password violation.

An alarm must be cleared by the user before to erase it from the list. All these alarms could activate an audio or luminous signal by means of a relay.

Up to 5 simultaneous users could access to protected functionalities and could be able to setup, or monitor only, the devices of the rack.

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```
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
```

INSTALL THE ADMINISTRATION OF CXR DEVICES IN YOUR STANDARD ADMINISTRATION ORGANIZATION

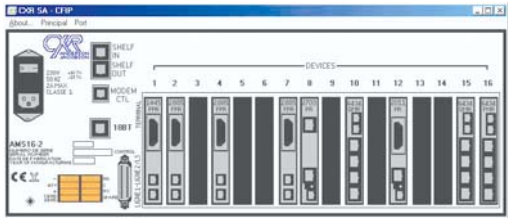
CFIP-L-SNMP integrates the administration of equipment CXR in a standards LAN.

The CFIP-L-SNMP or CFIP-M-SNMP communicates with the standard manager HP OpenView or SNMPC.

CXR provide standard MIB for integration in management software and a particular graphic MIB for the manager SNMPC from CastleRock.

It will be possible over SNMP to parameterize (SET) a certain number of functions from the card or to switch to a Telnet cession. The managing software based on SNMP protocol will pool automatically or on demand (GET) and will get the instantaneous status of the modems and converter.

The CFIP-L-SNMP will generate requests (TRAP) at the time of incident which is meeting the conditions setup by the administrator.



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TECHNICAL SPECIFICATION

	AMS4	AMS16
Number of slots	4	16
Hot swappable card	oui	oui
Choice of power supply	220 Vca or 48 Vcc	220 Vca or 48Vcc Or 2 x 220 Vca Or 2 x 48 Vcc Lead 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
Temperature and humidity	Temperature : 0 to 50°C Humidity : 95 %	Temperature : 0 to 50°C Humidity : 95 %
Extended condition	Option	Option

DEVICE CARD FOR AMS4/16

Type	Référence	Function	Interfaces	Number of channel
Analogue modem	2885P FPRF 2890 FPRF	RTC, LS 2/4 fils RTC	RS232 ou V11 RS232	1 2
ISDN terminal adapter	6434 FMRF 6490-QMRF	PPP/RNIS, V14, V110, V120, V22 à V34+ PPP/RNIS, V14, V120, V22 à V34+, V90 server	RS232 RS232	2 4
Base Band modem	MD1028 MD1064	Transmission 128k à 13 km Transmission up to 13 km–codirectionnal	RS232/V24 G703/64k	1 1
MSDSL modem	MD2011 MD2035 MD2703 MD20BT MD2HUB	Transmission at 4,6 Mbps Transmission at 4,6 Mbps Transmission at 2 Mbps Modem pont Ethernet at 4,6 Mbps Modem HUB at 4,6 Mbps	X21/V11/RS232 V35/V36 G703/G704 Ethernet 10BT 8 Ethernet	1 1 1 1 1
CSU/DSU Interface converter short distance modem	CV2011 CV2028 CV2035 CV20BT CV24BR	CSU/DSU interface converter G703/G704 CSU/DSU interface converter G703/G704 CSU/DSU interface converter G703/G704 CSU/DSU interface converter G703/G704 CSU/DSU interface converter G703/G704	X21/V11 RS232 V35/V36 Ethernet 10BT 4 BRI	1 1 1 1 1
Fiber optic modem	F08011 F08035 F080E1 F084E1 F080BT F082BR F084BR	Fiber optic Modem 8 Mbps Fiber optic Modem 8 Mbps Fiber optic Modem 2 Mbps Fiber optic Modem 8 Mbps Fiber optic Modem 10Mbps Fiber optic Modem 8 Mbps Fiber optic Modem 8 Mbps	X21/V11/RS232 V35/V36 E1 G703/G704 4 E1 G703 Ethernet 10BT 2 BRI(S0/T0) 4 BRI(S0/T0)	1 1 1 1 1 1 1

REFERENCES

AMS 4-2	Rack 1U, 4 slots, 230V
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 230V
AMS16-PS3E	Rack 4U, 16 slots, 1 power 48V
PS16	Additional power 230V (2 maxi)
PS3E	Additional power 48V (2 maxi)
CFIP-L-SNMP	Control board with RS232, Ethernet, Telnet and SNMP
CFIP-L	Control board for AMS16 with RS232
CFIP-M	Control board for AMS16 with RS232, modem, Ethernet not activated
CFIP-S	Slave board for AMS16
CFIP-SNMP	Firmware upgrade for activation of Ethernet, Telnet and SNMP
CFIP-TERM	Firmware upgrade for activation of terminal server port instead of bus-inter rack
AMS-PAN	Cover slot

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