Allied Telesis™

MCF2000 Series

Multi-channel Modular Media Converters

The Allied Telesis MCF2000 Series is an end-to-end managed media conversion system. The 1RU chassis can hold either one or two multichannel blades, providing a maximum of 24 independent channels. An optional management module provides control of the chassis, while dual hot swappable power modules ensure maximum system uptime.

Overview

The Allied Telesis MCF2000 Series multi-channel modular media converters are high performance, highly available, high channel density media devices. Designed for maximum reliability, the fan modules, power supplies and the management module can all be hot removed and inserted without any interruption to traffic flow on any of the blades. Up to two media blades can be inserted into the Allied Telesis MCF2000 chassis and up to four media blades into the Allied Telesis MCF2300 chassis, providing a scalable "pay-as-you-grow" architecture. This is further extended by stacking multiple chassis, with one management module controlling a complete stack, or with two management modules, with the second providing redundant management*.

Extend the distance of Ethernet

The primary function of the MCF2000 multi-channel modular media chassis is to extend the distance of Fast Ethernet and Gigabit Ethernet* networks. Standard Twisted Pair Cat 5/6 copper cabled Ethernet networks have a maximum operating distance of 100 meters (328 feet). Depending on the media blade model, the blades operate over both multi-mode or single-mode fiber at distances up to 15km in either half- or full-duplex operation.

Flexible management

Cost conscious and security conscious network administrators may choose to implement an unmanaged network using the MCF2000. With no management module installed in the chassis, each port on a blade can be locally configured using a "jog" button located on the front panel of the blade. This allows each port to be independently configured to operate in Link, MissingLinkTM, or Smart MissingLinkTM modes.

Installing a management module into the chassis allows the chassis to be configured and monitored via a local RS232 port, or through the 10/100/1000T interface for Telnet or SNMP. For security reasons, each management mode can be individually disabled. In Telnet mode, up to ten user password-protected accounts can be configured, each with multiple management privileges ranging from read only to supervisor access.

The installation of a management module allows the network administrator to configure all the ports on each media blade, without having to use the "jog" button.

Network resilience

Each chassis can be configured with either one, or two power supply modules (AC) to provide resilience against a power supply failure. The management module monitors the state of each power supply, and that of the cooling fans, and will generate an alarm should any parameter fall outside of normal operating conditions. With redundant power supplies installed, a power supply can be removed or re-inserted into the chassis without interruption to the media blade traffic. The management module can also be hot removed and inserted without disruption to the media blade traffic. A media blade can be removed or inserted into the chassis without disruption to other media blade traffic.

Key Features

▶ 2 and 4 slots modular media converter chassis

▶ High-density media blades

▶ AT-MCF2000 supports up to 24 channels in 1RU rack space

▶ AT-MCF2300 supports up to 48 channels in 3RU rack space

▶ Managed and unmanaged operation

▶ SNMP, Telnet and RS232 management

▶ Hot-swappable blades, power supplies and management modules

▶ Stackable architecture allows one management module to control multiple chassis

▶ Multiple user-level management privileges

▶ Management module replacement without channel traffic interruption

▶ Simple field maintenance

▶ Blades support MissingLink and Smart MissingLink

▶ Blades support auto MDI/MDI-X

▶ Support for both single- and multi-mode fiber

▶ Designed to support Fast Ethernet and Gigabit Ethernet blades

▶ Designed for IEEE 802.3ah (EFM) support on selected media blades

* Stacking module required in each chassis that does not have a management module

The management module can also be hot removed and inserted without disruption to the media blade traffic. A media blade can be removed or inserted into the chassis without disruption to other media blade traffic.

Expandability

Multiple MCF2xxx chassis can be stacked together, and all managed by a single MCF2000M management module. Slave chassis need to have an Allied Telesis MCF2000S slave module installed. Stacked chassis can consist of any mix of MCF2000 and MCF2300 chassis, with a maximum of 16 blade slots, supported in a single stack.

Field maintenance

The need to simplify field maintenance was a key criteria in the design of the MCF2x00. Each management module is fitted with a memory card slot, allowing network administrators to keep an exact copy of the configuration information of the chassis. The configuration information of the chassis is stored not only in the management module, but also on each blade. If a management module fails, a replacement blade can be hot installed into the chassis, and it can assume all the configuration parameters of the failed unit. Similarly, if a media blade fails, this can be hot swapped with a replacement, and the replacement will adopt the parameters of the failed unit. These features ensure that an engineer sent to site can quickly and easily get a faulty chassis back to an operational mode.

Flexible management

Cost conscious and security conscious network administrators may choose to implement an unmanaged network using the MCF2x00. With no management module installed in the chassis, each port on a blade can be locally configured using a "jog" button located on the front panel of the blade. This allows each port to be independently configured to operate in Link, MissingLink or Smart MissingLink modes.

Installing a management module into the chassis allows the chassis to be configured and monitored via a local RS232 port, or through the 10/100/1000T interface for Telnet or

SNMP. For security reasons, each management mode can be individually disabled. In Telnet mode, up to ten user password-protected accounts can be configured, each with multiple management privileges ranging from read only to supervisor access.

The installation of a management module allows the network administrator to configure all the ports on each media blade, without having to use the "jog" button.

Software Management Features

Active Controls

- Enable/disable RS232
- Enable/disable Telnet
- Enable/disable SNMP
- Configure/delete user accounts (up to ten)
- Configure/delete user passwords
- Reset management card
- Reset chassis
- Download/upload firmware via TFTP
- Download/upload config via TFTP
- Download/upload firmware via Xmodem
- Download/upload config via Xmodem
- Download/upload firmware via memory card
- Download/upload firmware via memory card
- Download config to media blades
- Upload config from media blades
- IP address
- Subnet mask
- Gateway
- Set SNMP management addresses
- Chassis name
- Chassis location
- Set temperature threshold
- Set media blade name
- Set media blade port name
- Enable/disable port link
- Enable/disable port MissingLink
- Enable/disable port Smart MissingLink
- Enable/disable port auto-negotiation
- Enable/disable port full-duplex
- Enable/disable port auto MDI/MDI-X
- Enable primary management master

Chassis Information

- Part number
- Serial number
- Revision
- User-defined identifier
- User-defined location

Blade/Port Module Information

- Media blade type
- Slot occupied

- Part number
- Serial number
- Configuration
- Revision
- Ports on module
- User-defined identifier
- User-defined port identifier

Blade/Port Module Status

- Diagnostic status
- Port link status
- Port link / MissingLink / Smart MissingLink Status
- Port activity
- Port auto-negotiation status
- Port duplex status
- Port auto MDI/MDI-X status

Events/Alarms/Traps

- Cold start
- Warm start
- Link up/down
- Blade insertion/removal
- Fan module insertion/removal
- Power supply module insertion/removal
- Stacking link up/down
- Authenication failure
- Chassis reset
- Module reset
- Temperature threshold crossed
- Power supply failure
- Fan speed failure
- TFTP session open/close
- Xmodem session open/close
- Telnet session open/close

Technical Specifications

Physical Characteristics
MCF2000 Chassis

Dimensions (W x D x H)	44 cm x 46 cm x 4.4 cm (17.3 in x 18 in x 1.7 in)
Weight (no modules):	7 kg (15.4 lb)
Mounting:	19 inch rack-mountable or desktop hardware included

MCF2000AC AC Power Module

Interfaces:	1 x On/Off switch
	1 x IEC power inlet
Features/Functionality:	2 x exhaust fans

Electrical Characteristics
Input power: 100~250V AC 50/60Hz

One power supply:
MCF2000 with MCF2000M and 2 x MCF2032SP = 82W

AT-MCF2000 with MCF2000M and 2 x MCF2012LC = 48W

Two power supplies:
MCF2000 with MCF2000M and 2 x MCF2032SP = 35W

MCF2000 with MCF2000M and 2 x MCF2012LC = 23W

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MCF2300AC AC Power Module

Interfaces:	1 x On/Off switch
	1 x IEC power inlet
Features/Functionality:	2 x exhaust fans

Electrical Characteristics

Input power:	100~250V AC 50/60Hz

One power supply:
MCF2000 with MCF2000M and
2 x MCF2032SP = 160W

MCF2000 with MCF2000M and
2 x MCF2012LC = 100W

Two power supplies
MCF2000 with MCF2000M and
2 x AT- MC=F2032SP = 77W

MCF2000 with MCF2000M and
2 x MCF2012LC = 46W

System Operating Parameters

Operating temperature	0ºC to 40ºC (32°F to 104°F)
Storage temperature	-25ºC to 70ºC (-13°F to 158°F)
Operating humidity	5% to 95% (non-condensing)
Storage humidity	5% to 95% (non-condensing)
Operating altitude	4,000 meters (10,000 feet)
Storage altitude	4,000 meters (10,000 feet)

Standards and Conformance

EN55024
UL60950-1
CSA22.2 No.950
TUV (EN60950)
CE
FCC Class A
EN55022 Class A
EN55024 Class A
VCCI. Class A
C-TICK

FEATURES		AT-MCF2012LC	AT-MCF2012LC/1	AT-MCF2032SP
MODULES FOR AT-MCF2x00 CHASSIS				
PORTS	Port 1	12 × 10/100TX	12 × 10/100TX	12 × 10/100/1000T
	Port 2	12 × 100FX (LC)	12 × 100FX (LC)	12 × SFP
	Fiber type	MMF	SMF	Depends on SFP
IEEE STANDARD		100FX	100FX	100/1000X
Tx WAVELENGTH		1310 nm	1310 nm	Depends on SFP
Rx WAVELENGTH		1310 nm	1310 nm	Depends on SFP
MAX FIBER DISTANCE		2 km	15 km	Depends on SFP
FUNCTIONALITY	Media type	■	■	■
	Rate and speed	■	■	■
	MissingLink support	■	■	■
	Smart MissingLink support	■	■	■
	Max frame size	1632 bytes	1632 bytes	10KB
	Diagnostic LEDs	■	■	■

Ordering Information

AT-MCF2000-00
Multi-channel media chassis, comprised of
1 x AT-MCF2000 chassis
1 x AT-MCF2000FAN Fan module for second power
       supply slot
1 x AT-MCF2KPNL2 PSU slot blanking panel
2 x AT-MCF2KPNL1 media slot blanking panels
1 x AT-MCF2KPNL3 management slot blanking
       panel 1 x Rack-mount kit

AT-MCF2000AC
AC power module for AT-MCF2000 chassis
including 4 x power cords (US, EU, UK, AU)

AT-MCF2300-00
Multi-channel media chassis, comprised of
1 x AT-MCF2300 chassis
1 x AT-MCF2300FAN rear fan module
2 x AT-MCF2KPNL2 PSU slot blanking panels
4 x AT-MCF2KPNL1 media slot blanking panels
1 x AT-MCF2KPNL3 management slot blanking
       panel 1 x Rack-mount kit

AT-MCF2300AC
AC power module for AT-MCF2300 chassis
including 4 x power cords (US, EU, UK, AU)

AT-MCF2000M
Management module

AT-MCF2000S
Stacking module

AT-MCF2012LC
12 channel Fast Ethernet media blade
12 x 100TX to 100FX (LC) 2km multi-mode fiber

AT-MCF2012LC/1
12 channel Fast Ethernet media blade
12 x 100TX to 100FX (LC) 15km single-mode fiber

AT-MCF2032SP
12 channel 10/100/1000T Gigabit Ethernet to SFP
line card

Associated Products

AT-MCF2000FAN
Spare fan module, for use in single PSU-powered
AT-MCF2000 chassis

AT-MCF2300FAN
Spare fan module, for use in single PSU-powered
AT-MCF2300 chassis

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NETWORK SMARTER