

1RU MetroStar

Carrier Class Access Platform



- Carrier Class Access Platform
- Multi different channel Access Concentrator
- Demarcation point between Service Providers' and Users' Networks
- Versatile Carrier Ethernet Services
- Multi-protocol (Ethernet, SONET/SDH,FC,CPRI)
- Loopback and Redundancy testing capabilities
- Fault Propagation and SLE to enhance network resilience
- Extensive diagnostics

Product Overview

The 1RU *Metrostar* System is a compact Multi -Service Media Access Concentrator. This Carrier Class 19" Rack-mountable platform is a modular multi-channel (10/100/155/622/1000/2500 4500 Mbps, 1GE and 10GE) Access Concentrator providing up to 2-4 access channels housed in a 1U chassis.

It provides 3 slots and 2 power supply, 1 slot for management module and 2 slots for line-interface modules

DS2110R0515

The 1RU **MetroStar** provides a comprehensive range of services for access, demarcation, aggregation, transmission and extension of IP traffic (10/100/1000/2500, 4500Mbps/1-10Gbps range).

All modules, connectors and indicators are located on the front panel for easy and space saving installation.

Lightweight and small size allow installation by a single technician

The **MetroStar** is normally equipped with one power supply (AC or DC), and an additional slot allows a second redundant power supply, increasing MTBF.

All modules are hot swappable. Even the cooling fans-integrated in the modular PS rather than fixed in the chassis, are hot swappable.

Most of the modules are equipped with FibroLAN's MA™ technology, which allows low cost OAM of the link partners. The management module provides full management of tens of users by a single SNMP agent.

Modular system: different plug-in modules may be inserted at any time.

Module flexibility: no modules dependency within the **MetroStar** chassis

Most modules support **Fault Propagation** which allow real time notification of any link failure

The **SLE** (Subscriber Link Emulation) feature is also supported in most of the modules, further enhancing the network resilience

The **MetroStar** is housed in a highly compact, 1RU chassis and has an integrated internal, wide range AC or DC dual power supply.

Desktop or Rack mountable in any standard 19" rack

All these features make 1RU **MetroStar** the industry's most efficient Access Platform for various applications, as well as for miscellaneous transmission scenarios

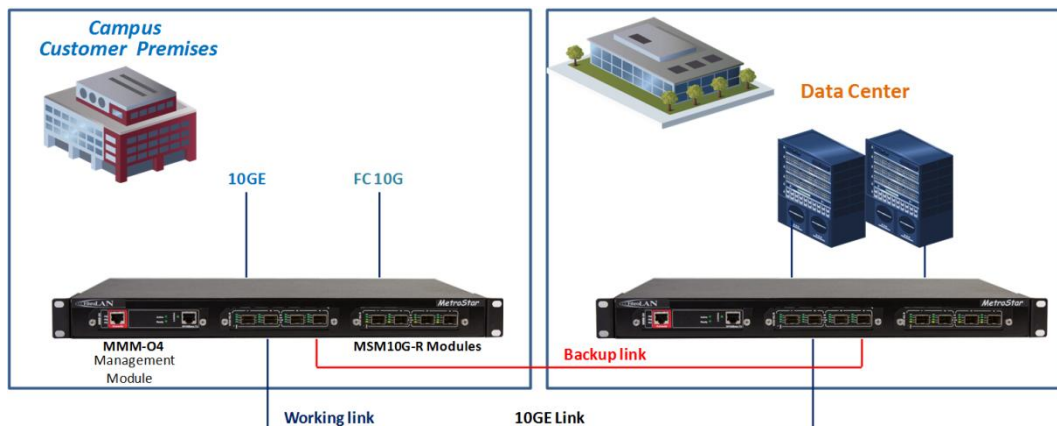
Key Features

- Versatile Carrier Ethernet Services
- Demarcation point between Service Providers' and Users' Networks
- Ethernet Service OAM to guarantee SLAs
- Supported protocols: Ethernet, Fast Ethernet, ATM, Gigabit Ethernet, SAN (Fibre Channel), SONET/SDH
- Carrier Class – redundant PS:48VDC PS/100-240AC PS
- All modules are hot-swappable. All modules and indicators are -front loaded, (no active components
- Supported SFP/SFP+:MM, SM, SFS, and, Copper
- 1 x RS232 (RJ45) Console port
- Single-Fiber-Strand (SFS) modules allow doubling of fiber bandwidth in existing Installations
- Up to 2 or 4 managed-F/O interfaces
- Largest variety of modules: (10/100/155/622/1000/2500/4000Mbps, 1-12GE)
- Performance: wire-speed, on all ports, all frame sizes
- Covered distances: up to 150Km (for 200Mbps rate), 120Km (GBE)
- SFP diagnostics (per SFF-8472)
- SFP inventory (model, SN, Range,WL, etc)
- Most modules support Fault propagation feature which allow real time notification of any link failure
- To further enhance the network resilience, most modules deploy the SLE (Subscriber Link Emulation)
- Redundant link module for critical applications where maximum up time is required. In the event of the main optical link failure, these modules switch the broken connection to a back-up F/O link
- Most of the modules are equipped with FibroLAN's MA™ technology, which allows low cost OAM of the link partners. The management module provides full management of tens of users by a single SNMP agent.
- Continuous link testing via MA and off-line loop-back MA capability for point-to-point link testing (i.e. between devices, MetroStar™ and remote attached device)
- Firmware update for most of the modules can be downloaded using the TFTP routine
- Modules contain on their front panel various LEDs to show activity and status
- Advanced Management module MMM-04 for a single MetroStar™ chassis
- Managed by MetroView Device Manager and by any standard SNMP platform
- SNMP Management, CLI (via Serial connection) or Telnet

Technical Specification

- Internal power supply
- AC/DC: 100-240VAC, 50/60Hz or 125VDC
- DC: 20-60VDC, ST connector
- Power consumption:
 - Maximum: <40W
 - Typical: <20W
- Dimensions (HxWxD): 45x445x303mm (1.771x 17.51x 11.92inch)
- Mounting:
 - Desktop, Rack (19", 23")
- Safety:
 - ICE EN 60950-1:2001
- EMC: EN 300 386 V1.3.3:05
FCC CFR 47 part 15 subpart B, Class A
- OAM : Remote devices monitored via MA™ technology or 1EEE 802,3ah
- Passive cooling (fan-less design)
- Cooling: forced air fans integrated in Power Supply
- Operating temperature:
 - Standard: 0°C ÷ +45°C (32°F ÷ 113°F)
- Storage temperature: -20°C ÷ +80°C (-68°F ÷ 176°F)
- Humidity: 10-90%, non-condensing
- Accessories:
 - Power cable
 - Console cable
- Weight ((fully loaded): 3.840 Kg (lb 8.465)

Typical application



The MSM10G-R module is equipped with 4 Small form factor Pluggable slots for optical SFP or SFP+ modules. Dual Channel mode with dual sided protection

Management Module

- The MMM-04 monitors, controls and manages all line modules and the remote MA devices
- Single slot hot swappable, 2xRJ-45 for network connection and Console
- Powerful Processor, diagnostic LEDs.
- The module reports alerts and traps to the Management System
- Linux Operating System, Web management Alarm, programmable filtering and comprehensive Statistics
- SNMP v1, V2c, MIB II, 9rfc1213/1215
- IPv4, SSHv1/2, Telnet, FTP/TFTP. Radius, Syslog, NTP V4



Ordering Information

Model	Part #	Description
MS-CH1/A	2133	MetroStar chassis, 1U, 3 slots, including 1 AC power supply (FPS5033A), 1*BP-01, 19" rack-mount bracket set
MS-CH1/D/ST	2114	MetroStar chassis, 1U, 3 slots, including 1 DC power supply), 1*BP-01, 19" rack-mount bracket set
MS-CH1/00	2115	MetroStar chassis, 1U, 3 slots, 1*BP-01, 19" rack-mount bracket set
MMM-04	2124	Advanced Management Module for one MetroStar System
FPS5033A	2106	Redundant power supply, 100 to 240VAC, 50 to 60Hz
FPS5033D	2107	Redundant power supply, D-type connector, -36 to -72 VDC
FPS5033D/ST	2111	Redundant power supply, screw terminal connector , -36 to -72 VDC
FPS5033D/STE	2112	Redundant power supply, screw terminal connector, -20 to -60 VDC
MCM100-01XX	22XX	Single Channel 100-TX to FX converter module SC, ST, MTRJ, MM, SM, SFS, 1310/1550nm, up to 150Km, Dual SC connectors, MA management
MCM100-02XX	22XX	Dual Channel 10/100TX-FX converter module, SC, ST, MTRJ, MM, SM, SFS, 1310/1550nm, up to 150km, MA
MCM110-01XX	23XX	10/100TX-FX converter module, SC, ST, MTRJ, MM, SM, SFS, 1310/1550nm, up to 150Km, MA
MCM110-02XX	23XX	Dual Channel 10/100TX-FX converter module, SC, ST, MTRJ, MM, SM, SFS, 1310/1550nm, up to 150km, MA
MCM100-RL	225X	100Base-TX to 100Base-FX Redundant Links Module
MCM1000X	2650	Flexible Gigabit Ethernet conversion module for MetroStar with 2 SFP modular ports, each may accept any FibroLAN copper or fiber SFP transceiver, MA/ IEEE802.3ah (Refer to Sections 409, 803 and 804 for SFP usage
MCM1000X-RL	2651	Any to Any link protection Gigabit Ethernet conversion module for MetroStar with 4 SFP modular ports, each may accept any FibroLAN copper or fiber SFP transceiver, MA (Refer to Sections 409, 803 and 804 for SFP usage
MSM2500U	2519	Universal Extender module, 100Mbps to 2.5Gbps, includes 24XX2 SFP slots, use SFP transceivers (SFxG series)
MSM4000U	2521	Universal Extender module, 100Mbps to 4.0Gbps, includes 2 SFP slots, use SFP transceiver (SFxG series) -
MSM10G-U	2555	Multi-rate, Universal (protocol transparent) extender/transponder MetroStar module, 1Gbps to 10Gbps, 2 SFP+ slot
MSM10G-R	2556	Multi-rate, Multi-protocol extender/transponder MetroStar module, 1Gbps to 11.3Gbps, 4 SFP+ slots, 3R w/ protection
MSM12G-R	2557	Multi-rate, Multi-protocol extender/transponder MetroStar module, 1Gbps to 12.5Gbps, 4 SFP+ slots, 3R w/ protection

Specifications are subject to change w/o prior notice

For a complete list of Metrostar modules, please contact FibroLAN

FibroLAN Ltd. (International)
Hacarmel 2, Yoqneam-Illit, 2066724, Israel
Tel: +972 (4) 959 1717
Fax: +972 (4) 959 1718
info@fibrolan.com

FibroLAN Inc. (North America)
350 W Passaic St., Rochelle Park, NJ 07662
Toll Free: (800) 406 6088
Tel: (201) 843 1626
Fax: (201) 843 1628
us-info@fibrolan.com
www.fibrolan.com

FibroLAN CEE GmbH. (Central/East Europe)
Prof.Dr.Stephan Koren Straße 10
A-2700 Wiener Neustadt Austria
Tel: +43 2622 90 990 0
Fax: +43 2622 90 990-99
office@fibrolan.at