Perle MCR-MGT

Management Module

Installation Guide

Introduction

This document contains instructions for the installation of the Perle MCR-MGT Management Module. The module is used in conjunction with a Perle MCR Chassis. It provides the ability to manage the MCR chassis. The management features are fully explained in the MCR-MGT Module User's Guide which was shipped on the CD-ROM included with your MCR-MGT Management module.

Key Features

Chassis based Media Converter management via powerful management module.

- Management access through AAA security such as RADIUS, TACACS, LDAP, Kerberos and NIS.
- IPV4 and IPV6 network environments.
- Central management and configuration through SNMPV3 as well as SNMPV1/2.
- Management module access via Browser, Telnet or SSH over 10/100/1000 Mbps Ethernet.
- Cisco pin compatible RJ45 console port on Management module for easy cabling connections.
- Chassis-based Intelligent Alarm relay for monitoring conditions.
- Chassis temperature and fan monitoring
- Local Event logging and SYSLOG
- Quickly restore manufacturing configuration settings.

Unpacking The MCR-MGT Management Module

What's Included

- MCR-MGT Management Module.
- MCR-MGT Management Module Installation Guide (this guide).
- CD-ROM containing MCR-MGT User's Guide, SNMP Mibs, System Firmware and a soft copy of this guide.

Orderable Parts   Order

- 3ft RJ45 straight through cable (Ethernet)   04005120
- RJ-45 to DB9F-DTE (console adapter)   04007040

MCR-MGT Management Module

The major components of the MCR-MGT module are;

- A **Captive retainer screw** that secures the management module to the MCR chassis.
- **ALM** (Alarm), **PWR** (power), **LKC** (copper link status) and **100/1000 LEDs**.
- A **RJ45 Console Port** through which the management module communicates using the serial port on your computer.
- A **RJ-45 Ethernet Port** through which the management module connects to the Ethernet network.
- Front air **Vents** to allow proper circulation through the MCR chassis.
- **Reset Switch** (located behind the vents), which resets ONLY the management module (not the chassis in which it is installed).
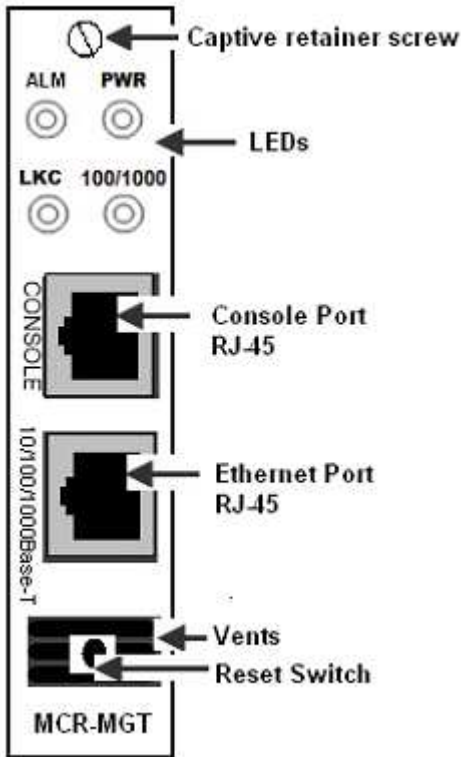
Installing/Removing the MCR-MGT Module

Caution: Observe electrostatic discharge precautions when installing the MCR-MGT Module into the Chassis. Failure to observe this caution could result in damage to the MCR-MGT Module..

The Perle MCR-MGT Module is hot swappable and can be removed or installed while the Chassis is powered on.

Installing The MCR-MGT Module

1. Remove the MCR-MGT Module from its packaging.

2. Using a cross-head screwdriver, remove the screw holding the face plate to the Chassis to reveal the slot opening.

3. Locate the top and bottom alignment guides inside the MCR Chassis.

4. Using the module alignment guides gently slide the module into the slot until it becomes flush with the front of the Chassis. Light pressure may be needed to seat the module. Do not force the module as you might damage the card. If there is resistance, remove the module and check the module's backplane connector for damage to the pins. If the module's backplane connector is not damaged, retry to insert the module.

5. Tighten the captive retainer screw to ensure the MCR-MGT Module is locked in place.

Removing MCR-MGT Module

1. Loosen the Captive retainer screw on the front of the MCR-MGT Module and gently pull the module towards you using the captive retainer screw.

2. If not inserting a replacement Module in this slot, then cover the opening with a face plate and secure the screw.

Making Connections

Connecting To The LAN

- Depending on the speed at which you plan to operate your Ethernet connection, locate compliant copper cables with male, RJ-45 connectors installed at both ends.

- Connect the RJ-45 cable between the MCR-MGT Ethernet port and the hub or switch port which will connect the module to your Ethernet LAN.

Note: The MCR-MGT module supports Auto MDI/MDIX detection which allows for the use of a straight-through or cross-over Ethernet cable.

Connecting To The Console Port

- This is a serial connection. It will allow you to connect a terminal or PC with terminal emulation software to the console port of the MCR-MGT module.

- The following is the pinout required to connect the console port to a DB-9 port on the PC.

PC DB-9 serial port	MCR-MGT RJ-45 Console port
8 (CTS) ---------------------	1 (RTS)
6 (DSR) ---------------------	2 (DTR)
2 (RxD) ----------------------	3 (TxD)
5 (GND) ---------------------	5 (GND)
3 (TxD) ----------------------	6 (RxD)
4 (DTR) ---------------------	7 (DSR)
7 (RTS) ---------------------	8 (CTS)

- Alternately, you can purchase the following two parts from Perle System Limited.

    - 3ft RJ45 straight through cable.
        - Part #:04005120
    - RJ-45 to DB9F-DTE (console adapter).
        - Part #:04007040

LED Status

The MCR-MGT module has four status LEDs, which are used to monitor the operational status of the MCR-MGT Module in the network and the status of the MCR Chassis.

```
ALM   PWR
 ◎     ◎

 ◎     ◎
LKC   100/
      1000
```
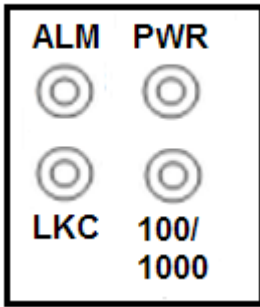
ALM- Alarm
- **Off -** No faults detected.
- **Red -** The MCR-MGT firmware has identified a severe or critical level fault in the system.

PWR - Power
- **Green -** Power is on and the module is in normal operation mode.
- **Green blinking -** The MCR-MGT Module is initializing. The bootup should complete within 1 minute, at which time the PWR LED should go solid green.
- **Off -** The MCR-MGT module has no power.
- **Red -** Unrecoverable hardware error on MCR-MGT module.

LKC – Copper –Link/Activity
- **On -** Copper link is up.
- **Off -** Copper link is down.
- **Blinking (*quickly*) -** Copper link is up and is sending or receiving data.

100/1000
- **Green -** The Ethernet speed on the management module is detected at 1000 Mbps. (Gigabit)
- **Yellow -** The Ethernet speed on the management module is detected at 100 Mbps.
- **OFF -** The Ethernet speed on the management module is detected at 10 Mbps

Configuring The MCR-MGT Module

There are a number of methods which may be used to configure the MCR-MGT module. They are;

- Command Line or Menu interface via a direct serial connection to the console port
- Command Line or Manu interface via Telnet or SSH to module
- SNMP
- HTTP or HTTPS to Module

All of the above (except for the serial connection on the console port) require IP access to the MCR-MGT Module. The module is pre-configured with an IP address of 10.0.0.10 with a subnet mask of 255.0.0.0. If the PC that you are using does not reside on this subnet, you will need to modify the IP address of the MCR-MGT module.

This document will discuss two methods for setting the MCR-MGT module's IP address. For detailed information on how to configure all the features of the MCR-MGT Module, please see the MCR-MGT Management Module User's Guide.

IP Address Setup Using The "Perle SetIP" Utility

On the CD provided with the MCR-MGT module, you will find an executable called "Perle SetIP". You can run it directly from the CD or copy it to your local PC drive and execute it from there.

When the program runs, you can do the following;

1. From the list of devices displayed, click on the MCR-MGT module you wish to set the IP address on and then click on the "Assign IP" button at the top of the screen. Please note that this operation will only be valid on MCR-MGT modules which are in a "**factory default**" state.
2. To manually assign the IP address, click on "Assign IP manually", key in the desired IP address and press the "Assign IP" button. If a DHCP server is available on this subnet, you can choose to have the module obtain its IP address via your DHCP server by clicking on the "Assign IP using DHCP" button and then pressing the "Assign IP" button.
3. For modules which have been assigned IP address, you can click on the "manage" button on the top of the screen to launch a browser session with the selected MCR-MGT module. You can achieve the same result by manually launching your browser and entering the IP address of the module in the browsers address field.

4. You could also use Telnet, SSH or SNMP to configure the module at this point.

IP Address Setup Using The Serial Console Port

1. Using the proper cable connector, connect the MCR-MGT module to the serial port on your PC. Perle Systems has available for purchase an RJ-45 to DB9F-DTE console adapter (part #04007040) which can be used in conjunction with an RJ45 patch cable (part #04005120) to connect your PC's serial port to the MCR-MGT module's console port.
2. Set the communication parameters on your PC's terminal emulation program to 9600,8,n,1.
3. Press [Enter]. The MCR-MGT prompt will appear.
4. Type *set server internet* <IPV4 address>*netmask* <mask>[Enter]
   Example;
   set server internet 196.12.10.9 netmask 255.255.255.0[Enter]
5. Type *save*[Enter]
6. When prompted "**Save config to flash ROM y/n**" – type *y or yes* [Enter]
7. Type *reboot*[Enter]
8. When prompted "**Confirm reboot unit y/n** – type *y or yes* [Enter]
9. When the MCR-MGT module reboots, the IP address you entered will be active. You can now use your favourite browser to configure the unit. Simply enter the IP address in the browsers address field and press enter.
10. You could also use Telnet, SSH or SNMP to configure the module at this point.

Resetting the MCR-MGT Management Module to factory default

If it becomes necessary to return the module to the factory default settings, press and hold the "RESET" button on the front of the module for 3 seconds (you can use a paper clip to do this). This will return the configuration to the factory default settings and will force the module to re-boot.

Troubleshooting

1. **MCR-MGT "PWR" LED is OFF**

- Ensure that the management module is inserted into the chassis correctly (see page 4 of this guide for the correct procedure).
- Ensure that the MCR Chassis is connected to an external power source.
- Ensure that the switch on the power supply is set to the "ON" position.

2. **MCR-MGT "PWR" LED is RED**

- The MCR-MGT module is defective. It will need to be replaced.

3. **MCR-MGT "PWR" LED is Blinking Green**

- The MCR-MGT module is in the process of booting up. If this state persists for longer then one minute, reset the module by momentarily pressing the reset switch on the front of the module (see page 3).

4. **Can not connect serially to MCR-MGT Module.**

- Make sure that the PWR LED is "Green"
- Ensure that you are using the right cable/adapter.
- If you see garbage characters, the baud rate of the serial port may have been changed from the original 9600 baud. Configure your terminal emulation to match configured speed.
- If you don't know what the speed is, you could reset the module to "factory default" by pressing and holding the reset switch on the front of the MCR-MGT module. **NOTE, this will erase all of the configuration back to a factory default state.**

5. **Can not connect to MCR-MGT Module using IP.**

- Make sure that the PWR LED is "Green"
- Make sure that the LCK LED is "Green". (Copper link connection is up).
- Make sure you are using the IP address which is configured on the MCR-MGT module.
- If you don't know what the IP address is, you can use the "SetIP" utility provided on the CD to display the IP address of all units on your LAN segment.

Technical Specifications

Power Input/Consumption	*12V DC / 3.0 W*
Operating Temperature	*0°C to 50°C (32°F to 122°F)*
Storage Temperature	*-25°C to 70°C (-13°F to 158°F)*
Operating Humidity	*5% to 90% non-condensing*
Storage Humidity	*5% to 95% non-condensing*
Operating Altitude	*Up to 3,048 meters (10,000 feet)*
Heat Output	*6.8 BTU/Hour*
MTBF	*521,510 hours*

Ethernet Copper Cabling Requirements:

- Category 5 UTP or STP
- 24-22 AWG
- Straight through or Ethernet crossover

Console Port Cabling Requirements:

Pin 1   Pin 8

Pinout	Console Port
1	**RTS (out)**
2	**DTR (out)**
3	**TxD (out)**
4	**GND**
5	**GND**
6	**RxD (in)**
7	**DSR (in)**
8	**CTS (in)**

Note: Please refer to the product page on the Perle website for the most up to date specifications.

http://www.perle.com/

Compliance Information

FCC

This product has been found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions in this Guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

EN 55022, Class A

WARNING This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

EN 55024, Class A

Warranty / Registration

Perle Systems Limited standard Lifetime Warranty provides customers with return to factory repairs for Perle products that fail under the conditions of the warranty coverage. Details can be found at:

http://www.perle.com/support_services/warranty.shtml

Contacting Technical Support

Contact information for the Perle Technical Assistance Center (PTAC) can be found at the link below. A Technical Support Query may be made via this web page.

www.perle.com/support_services/support_request.shtml

Copyright