CTC union

ISO 9001 Quality System Certified

Quick Install Guide

Ethernet Demarcation Device
FRM220A-MSW-202
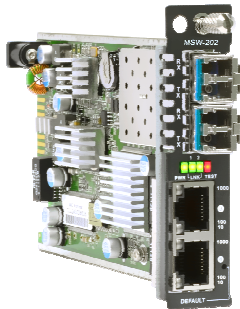
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Introduction

The **FRM220A-MSW-202** is a two fiber port (100/1000) plus two copper port (10/100/1000) gigabit Ethernet switch based on OSI Layer 2 switch technologies that includes 802.1Q Tagged VLAN, 802.3ad link aggregation, 802.1D/W Spanning Tree Protocol, 802.3x Flow Control and is compliant with MEF 9 &14. Additionally the MSW-202 supports 802.1ag and Y.1731. With its own embedded processor, the **MSW-202** supports stand-alone management via IP (Telnet/SSH, SNMP & HTTP/HTTPS) or in-band management via 802.3ah-OAM protocol when connected to another **MSW-202** in point to point or as a CPE device to an **MSW-202** mounted in the **FRM220** or **FRM220A** managed platform converter racks.

Features

1. Four port L2 switch
2. Full Tag and Port based VLAN support
3. Port Trunking (Link Aggregation)
4. Bandwidth control
5. Spanning Tree
6. 32bit embedded CPU for stand-alone management
7. 802.3ah-OAM in-band management and 802.1ag end-to-end
8. Firmware upgrade via HTTP
9. Telnet/SSH, HTTPS, SNMP and OAM management
10. Dying gasp
11. Auto Laser Shutdown
12. RMON counters
13. NTP client
14. Performance per Y.1731
15. Complies with MEF 9, MEF 14

Specifications

Optical Interfaces: 2 x dual-speed (100/1000) SFP ports
Electrical Interfaces: 2 x 10/100/1000 RJ-45 Ethernet ports
  Auto-negotiation or forced
  Auto-MDIX
Standards: IEEE802.3, 802.3u, 802.3z, 802.3ab, 802.1Q, 802.1ad, 802.3x, 802.1D, 802.1W, 802.3ah, 802.1ag
Supports MEF9, MEF 14; EPL EVPL
Supports 8K MAC address table
Supports 256 active VLAN groups
Supports IGMP snooping
Supports DHCP snooping
Supports SNMP V1,2,3
Supports MAC/Port/802.1p/Diffserv QoS
Supports Ethernet MTU to 9600 bytes
Supports IPv6
LEDs for: Power, FX-1/2 Link, UTP-1/2 link/speed 100/1000, Test
Power: 12VDC
Power Consumption: <12W
Temperature: 0~50°C (working), 0~70°C (storage)
Humidity: 20~80% non-condensing
Dimensions: 155 x 88 x 23mm (D x W x H)
Weight: ~180g

Management features

This device has an embedded processor to support stand-alone management features. This model has no on-board DIP Switch which can be used to configure the device for stand-alone operation. All configuration must be done through a stand-alone chassis with DB9 serial console port or via TCP/IP from Telnet/SSH, HTTP(S) or SNMP.

Panel and LEDs

▪ Figure 1. Front Panel of FRM220A-MSW-202
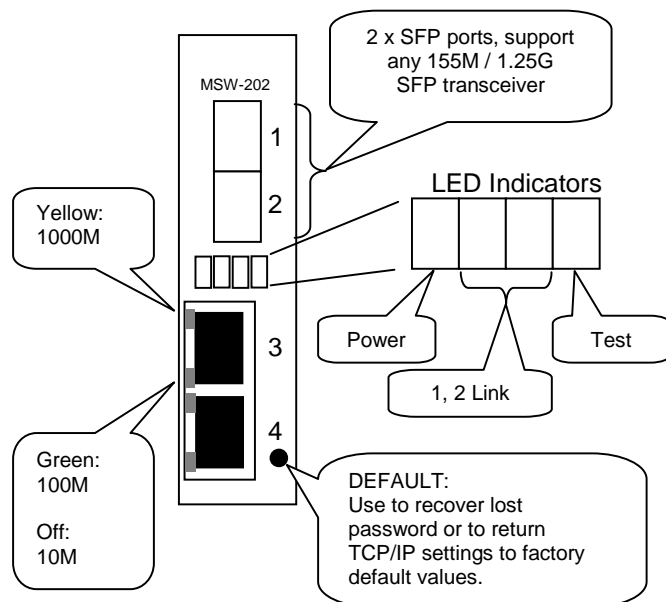
Factory reset procedure:

Apply power to the MSW-202 and allow 30 seconds to fully boot. Using a pencil or ball-point pen, press the 'DEFAULT' recessed push-button switch (located on the face plate) for 6 seconds. **DO NOT POWER OFF**. Allow the unit to again fully reboot. The defaults are: IP=10.1.1.1
netmask=255.255.255.0
GW=0.0.0.0
TFTP server=0.0.0.0
username 'admin' password is cleared to none

Console connection

Connect a serial cable between PC or laptop's COM port and the DB9 female connector on CH01M 1-slot chassis. Configure a terminal emulation program, such as PuTTY or TeraTerm Pro for 115,200bps, 8 bits, no parity, 1 stop bit and no flow control. Open the terminal and power on the MSW-202.

```
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GNU General Public License. You are welcome to change it and/or distribute
copies of it under certain conditions. Under the license terms, RedBoot's
source code and full license terms must have been made available to you.
Redboot comes with ABSOLUTELY NO WARRANTY.

fi lo -d managed
go

Username:
```

Login

```
Username: admin
Password:
Login in progress...
Welcome to CTC Union Command Line Interface (v1.0).
Type 'help' or '?' to get help.

>
```

The default username is 'admin' and the password is blank.

Using the CLI

The command line interface should be familiar to network engineers that configure devices via such Cisco® like commands. Use "?" (question mark) for help. For help with commands, enter the command a space and "?". CTRL-h is the universal backspace key if you make a mistake typing. Previous commands are buffered and can be selected by using the 'up arrow' key.

The CLI also uses a hierarchy to move down levels into the command structure. Use the 'up' command to move up in the command structure or use the '/' (forward slash) to go all the way back to root level. If a command is keyed in error, a syntax message will help in understanding the correct command format.

Setting device IP address

```
>ip setup ?
Description:
------------
Set or show the IP setup.

Syntax:
-------
IP Setup [<ip_addr>] [<ip_mask>] [<ip_router>] [<vid>]

Parameters:
-----------
<ip_addr>  : IP address (a.b.c.d), default: Show IP address
<ip_mask>  : IPv4 subnet mask (a.b.c.d), default: Show IPv4 mask
<ip_router>: IPv4 router (a.b.c.d), default: Show IPv4 router
<vid>      : VLAN ID (1-4095), default: Show VLAN ID
>ip setup 192.168.0.250 255.255.255.0 192.168.0.10 1
>
```

The example shows the use of help. The actual command is in bold text.

Check network connection

```
>ip ping 192.168.0.254
PING server 192.168.0.254, 56 bytes of data.
64 bytes from 192.168.0.254: icmp_seq=0, time=0ms
64 bytes from 192.168.0.254: icmp_seq=1, time=0ms
64 bytes from 192.168.0.254: icmp_seq=2, time=0ms
64 bytes from 192.168.0.254: icmp_seq=3, time=0ms
64 bytes from 192.168.0.254: icmp_seq=4, time=0ms
Sent 5 packets, received 5 OK, 0 bad>
```

Set access password

```
>security switch users add admin admin 15
>
```

(changes the 'admin' user password to 'admin')

Logout

```
>logout
>Username:
```

Now that the IP address has been set and a password configured, use any web browser to connect and configure the device through the easy to use GUI. Refer to the MSW-202 User Manual for more details about using the MSW-202, Ethernet Demarcation Device.