



CHAPTER 5

Multilayer Switch Module

This chapter describes the Multilayer Switch Module (MSM) (WS-X6302-MSM).

The Multilayer Switch Module provides multiprotocol routing for the switch Ethernet interfaces. Cisco IOS features available for the MSM are listed in [Table 5-1](#).

Table 5-1 Cisco IOS Features for the Multilayer Switch Module

Feature	Description
Layer 3 forwarding	<ul style="list-style-type: none">• Wire speed IP, IP multicast, and IPX routing between VLANs• Support for up to 64K entries for IP network prefixes, IP unicast and multicast addresses, IPX network numbers, and MAC addresses• IP precedence-based IP forwarding• Forwarding information base (FIB) and adjacency database support as defined in other Cisco routers• Destination or destination/source-based load sharing among equal cost paths
Layer 3 routing protocols	<ul style="list-style-type: none">• Static IP routing• IP routing protocols such as Internet Group Management Protocol (IGRP), Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Routing Information Protocol (RIP), and RIP-2• IP multicast routing protocols such as Protocol Independent Multicast (PIM) (sparse and dense mode) and Distance Vector Multicast Routing Protocol (DVMRP)• IPX routing protocols such as RIP and EIGRP

Table 5-1 Cisco IOS Features for the Multilayer Switch Module (continued)

Feature	Description
Layer 3-related protocols	<ul style="list-style-type: none"> IGMP v1 and v2 IGMP snooping Cisco Group Multicast Protocol (CGMP) server support Full ICMP support Gateway Discovery Protocol (GDP) Internet Control Message Protocol (ICMP) Router Discovery Protocol (IRDP)
Enhanced services	<ul style="list-style-type: none"> Integrated routing and bridging (IRB) Standard Domain Naming System (DNS) support Dynamic Host Configuration Protocol (DHCP) and Boot Protocol (BOOTP) relay

The MSM front panel features are shown in [Figure 5-1](#) and are described in [Table 5-2](#).

Figure 5-1 Multilayer Switch Module (WS-X6302-MSM)

The STATUS LED shows the results of the initialization and its dialog with the supervisor engine. [Table 5-2](#) describes the LED operation.

Table 5-2 Multilayer Switch Module STATUS LED

Color/State	Description
Green	All diagnostics pass; the module is operational.
Orange	The module is booting or running diagnostics. An overtemperature condition has occurred. (A minor temperature threshold has been exceeded during environmental monitoring.)
Red	A diagnostic test has failed; the module is not operational. An overtemperature condition has occurred. (A major temperature threshold has been exceeded during environmental monitoring.)

The CONSOLE PORT MODE switch allows you to connect a terminal to the MSM using the console cable and adapters provided with the router. You also can connect a modem to the console port using the cable and adapter provided with the router.

**Note**

Use a paper clip or a small, pointed object to access the CONSOLE PORT MODE switch.

Use the CONSOLE PORT MODE switch as follows:

- Mode 1—Place the switch in the *in* position (factory default position) to connect a terminal to the console port using the console cable and DTE adapter (labeled “Terminal”) that shipped with the router.

You can also use this mode to connect a modem to the console port using the console cable and DCE adapter (labeled “Modem”) that shipped with the switch.
- Mode 2—Not supported.

