

The Motorola IPM 2000 extends full Layer 2, 3 and 4 switching functionality. With 128 MB of memory, the IPM 2000 provides high density, wire-speed 10/100/1000 Mbps switching and routing with throughput in excess of 6.0 million packets per second.

When combined as part of the CAS 2000, the Motorola IPM 2000 delivers a complete high availability CMTS router solution. The IP Module connects to the dual 100BaseT ports on the DCM 2000 or eDCM 2000. Traffic from these ports can be shared between 2 IPM 2000's providing a fully redundant, high availability router network. The IPM 2000 provides a cost-effective compact router platform which provides 16 built in 10/100BaseT ports and built in redundant power supplies. The IPM 2000 also provides two expansion slots which may be used to support a wide range of WAN connections. Alternatively, these expansion slots may be used to support additional 10/100BaseT interfaces bringing the total number of 10/100BaseT ports to 32. With the single port 1000BaseLX 70 km expansion module, the Motorola IPM 2000 can connect to your fiber optic backbone using high performance Gigabit Ethernet interfaces providing a very cost effective solution.

When combined as part of the CAS 2000, the Motorola IPM 2000 delivers a complete high availability CMTS solution. A single IPM 2000, when connected to the dual 100BaseT ports located on the DCM 2000 or eDCM 2000, provides a fully redundant, high availability router network.



► **Features**

- 128 MB system memory supports up to 100,000 routes
- Standards based Layer 2 switching
- Wire-speed standards based IP routing
- Layer 4 application switching

► **Industry Leading Performance**

- 8.0 Gbps switching fabric delivering 6.0 Mbps switching and routing throughput

► **Layer 4 Application Control**

- Packet forwarding based on Layer 4 application information

► **Extensive QoS Support**

- In conjunction with the DCM 2000, the IPM 2000 has the ability to allocate Quality of Service (QoS)

► **Flexible Expansion Modules**

- Expansion Module includes:
 - 2 port 1000BaseSX
 - 8 port 100BaseTX
 - Single port 1000BaseLX
 - Single port 1000BaseLX - 70km

► **Benefits**

- Full routing capability:
 - RIPv1, RIPv2, OSPF
 - Layer 2/3/4 switching
- Redundant power supplies
- Compact 2U form factor
- Provides multiple configurations to support all network architecture requirements
- Scalable, modular design
- Supports multiple DCM 2000 or eDCM 2000 clusters



IPM 2000 SPECIFICATIONS

GENERAL

Performance.....	8.0 Gbps non-blocking switching fabric 6.0 million packets per second routing throughput
Capacity.....	Up to 128,000 Layer 4 application flows Up to 180,000 Layer 2 MAC addresses 4,096 Virtual LAN's (VLAN's) 2,000 Layer 2 security and access control filters 3 MB input/output buffering per Gigabit port 1 MB input/output buffering per 10/100 port
Routing Protocols & Standards.....	IP Routing: RIPv1/v2, OSPF, BGP-4 IPX Routing: RIP, SAP Multicast Support: IGMP, DVMRP QoS: Application level - see below IEEE 802.1p IEEE 802.1q IEEE 802.1d Spanning Tree IEEE 802.3 IEEE 802.3u IEEE 802.3x IEEE 802.3z
Quality of Service (QoS).....	Layer 2 prioritization (802.1p) Layer 3 source destination flows Layer 4 source destination flows Layer 4 application flows
RMON.....	RMON v1/v2 for each port

ENVIRONMENTAL

Operating Temperatures.....	+5° C to 40° C (41° F to 104° F)
Non-Operating Temperature.....	-30° C to 73° C (-22° F to 164° F)
Operating Humidity.....	15% to 90% (non-condensing)
Power Consumption.....	100 - 125 VAC, 4A Max or 200 - 240 VAC, 2A Max
Safety.....	Meets the requirements of UL1950, CSA C22.2, No. 950, EN60950, IEC950 and 72/73/EEC
Electromagnetic Compatibility.....	Compliant with the requirements of FCC Part 15, Class A, ICES-003, Class A, CSA C108.8, EN55022, VCCI V-3/93.01, EN50082-1 and 89/336/EEC

PHYSICAL

Interfaces.....	16 port 10/100Base-TX as part of base configuration, 8 port 100Base-TX expansion module, 2 port 1000Base-SX or 1000Base-LX expansion module, 1 port 70 km expansion module
In-Band Management.....	Remote SNMP via Standard MIB Browser
Out-of-Band Management.....	RS-232 and Telnet
Dimensions.....	2.8" H x 17" W x 18.5" D (7.1 cm x 43.2 cm x 47 cm)
Weight.....	22 lbs.

CONCLUSION

Layer 3 switches are meeting market demands for delivering a complete QoS and DOCSIS 1.1 solution that offers wire-speed performance and Gigabit uplinks. Network environments, requirements and demands have evolved to wire-speed forwarding with Layer 2 and 3 switching functionality. The Motorola IPM 2000, with Layer 2, 3 and 4 switching capability, meets the demands of today's state-of-the-art cable networks. Combined with flexible expansion modules, including Gigabit Ethernet, the IPM 2000 delivers wire-speed connectivity to the backbone network. With Layer 4 switching, application level control can be extended allowing operators to apply QoS and Access Control Lists (ACL) to manage applications.

