Series MP Rackmounted Servers
Model MR604-112-2 and Model MR601-75-2

Thumbnail of a system. A photograph of the system in GIF (136K) or JPEG (25K).

The PowerPC™ Family

The Motorola® PowerPC family of servers offers a full range of multi-user, multitasking open architecture computers based on the Motorola PowerPC RISC architecture. Models of the PowerPC computer family will support a range of server requirements from the smallest servers to servers supporting entire enterprises.

Servers based on the PowerPC family are available from Motorola with AIX®, the most scalable and robust UNIX® operating system for commercial environments. AIX provides you access to over 10,000 applications. Software and application investments are fully protected through binary compatibility within the PowerPC family--from desktop to enterprise servers. As other widely accepted operating systems are ported to the PowerPC, they will be available from their respective vendors for use on Motorola PowerPC servers.

Series MP Rackmounted Servers

The Series MP is a highly scalable, high performance Symmetric Multi-Processing (SMP) server. The Series MP is the first Motorola SMP system based on the PowerPC providing industry leading price/performance and expansion capabilities. The flexibility, power and configurability inherent in the Series MP afford a choice from among a variety of application servers. The Series MP can be configured as a transaction server, combining powerful on-line transaction processing and migration solutions. As a database server, Series MP can be configured with high availability options and database solutions. This provides real time access to large amounts of business-critical data. Configured as a systems management server, the Series MP provides a global view of the IT infrastructure with full administration of heterogeneous systems and networks, in a distributed environment, while maximizing productivity and performance.

The Series MP is a perfect system for companies in manufacturing, retail, wholesale, banking and across many other industries requiring a flexible, scalable, multi-user commercial server.

All Series MP servers are built for tomorrow--ready to evolve with future generations of the PowerPC technology. Protect your current investment through easy, in-field upgrades. Either replace existing processors with higher performance processors or simply increase the number of processors in your system.

Compliance with major available standards ensures investment protection and portability of applications to and from other open systems.

The Series MP Rackmounted models are the high end range of the Motorola PowerPC servers.

Features

Architecture

Design ensures coherency and data integrity for business critical computing as well as investment protection today and into the future.

- Built in support for PowerPC 601®, PowerPC 604™, and PowerPC 620™ generations
- SMP-based architecture transparent to applications
- Improved efficiency and performance between I/O, memory and processors
- Design ready for 64-bit microprocessors

Scalability and Upgradeability

Clear path forward with full performance range

- From two to eight processors
- Easy, in-field microprocessor upgrades
- Large internal memory and disk expansion capabilities
- Up to six storage expansion racks
- MR604-112-2 has 16 MCA I/O slots
- MR601-75-2 has 16 MCA I/O slots

RAS (Reliability, Availability, Serviceability)

Reliable, available and timely information improving business efficiency

- Clustering for highly available server solutions
- Disk Array Subsystems - Raid cabinets for high reliability storage
- AIX's enhanced RAS features including C2 security level and B1 optional
- Intelligent power outage management via software and Uninterruptible Power Systems (UPS) solutions
- High Serviceability features: CRU concepts (hot pluggable Customer Replaceable Units)
- Service maintenance processor designed to protect business critical operations:
  - Error checking and correction (ECC) for memory tolerance, dynamic reconfiguration, software and system monitoring, routine service operations - power on/off, diagnostics
  - Remote Service Facility (RSF) - hardware and software remote maintenance services
- Redundant power supply and fan
- Hot Pluggable redundant power supply (604)

Investment Protection

Standards compliance and system compatibility, portability of applications across platforms

- Binary compatible with other Motorola PowerPC Systems; same AIX application catalog
- X/ Open XPG4, POSIX™, FIPS, "Unified Unix", COSE CDE

Connectivity and Interoperability

Manage and connect multiple sites and workgroups assuring homogeneity throughout the enterprise

- Communications adapters: 8, 16, 128 ports asynchronous, X.25, Token Ring, Ethernet (10BaseT, 10Base5), FDDI
- RS232 (three) serial ports, parallel ports, SCSI-2 Fast/Wide SE/DE (20MB/sec) drives

- OSI, SNA, TCP/IP
- Internet ready

Operating System

Full binary compatibility across entire PowerPC family and providing high scalability

- AIX 4.1 MP

Middleware and Solutions

- Oracle™, Informix™, Sybase™
- Communications products, development tools, office products
- AIX catalog of over 10,000 applications

Disks and Media

Reuse of highly valued peripherals, modular design allows maximum accessibility and flexibility

- SCSI-2 3.5" disk drives 2.1, 4.2GB
- Internal 3.5" diskette 1.44MB
- Streamer tape drive, QIC 1/4" cartridge 2.5/5GB
- 8mm VDAT tape drive - 7/14GB
- 4mm DAT tape drive - 4/8GB
- High speed CD-ROM drive - standard
- External Disk Array Subsystems (RAID) drawer

Other Peripherals

An extensive line of Terminal Servers, X Terminals, Character Terminals and Uninterruptible Power Systems are available from Motorola.

Warranty

Series MP Rack-Mounted Servers are backed by a five year limited warranty from Motorola.

System Configurations

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MODELS                          MR601-75-2          MR604-112-2

Architecture

Processor                       PowerPC 601         PowerPC 604
Number of processors
  (std/max)                     2/8                 2/8
Clock rate                      75 MHz              112 MHz
Level-2 cache (standard)        1MB                 1MB
MCA Bus (up to 2)               2x160MB/s           2x160MB/s
Free CPU slots                  3                   3
```

Expandability

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MCA expansion slots
  (max/open)                    16/15                   16/15
Media/Disk bays in Main Rack    3                       3
Raid drawers                    3                       3
Multi CPU drawers               option                  option
Expansion Racks                 option                  option
SCSI-2/Ethernet                 standard                standard
Upgrade to PowerPC 604/620      option                  option
```

System Memory

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Internal ECC memory (std/max)   64/2048MB               64/2048MB
Memory slots (max/open)         4/3                     4/3
```

Disks and Media

```
Internal Disk standard          2.1 GB                  2.1 GB
Maximum disk per CPU drawer     8.4 GB                  8.4 GB
Maximum disk per rack w/ RAID   2.3 TB                  2.3 TB
One open disk/media bay         standard                standard
Internal 3.5" 1.44MB
  diskette                      standard                standard
Internal Hi-Speed 4X CD-ROM     standard                standard
Tape back-up                    option                  option
```

Performance*

```
SPECrate_int'92 (2/4/8 CPU)     8430/16287              12500/25000
SPECint_rate'95 (4/8 CPU)       83/162                  143/281
Transactions per minute
  (2/4/8 CPU)                   1100/2050/3500          1550/3000/4500

*Performance Estimates
```

General Specifications
Series MP Rack-Mounted Server

Base Configuration

In the specifications which follow, a base configuration is considered to consist of:
> One basic rack with one CPU drawer containing:
> One dual CPU module
> 64MB memory
> Floppy disk drive
> CD-ROM drive
> One 2.1GB hard disk drive

Operating Environment
Electrical Service Requirements

AC input voltage ranges:
> 90 to 132 VAC
> 180 to 264 VAC
AC input frequency range:

49 to 62 Hz

AC Power Ratings

Power factor of 0.98 (use for derating UPS)

Power source loading with typical configuration as listed:
    1200 VA
Enclosure Rating:
    12 amps @ 100 VAC, 50/60 Hz
    6 amps @ 200 VAC, 50/60 Hz

DC Output Power Rating

Power supply maximum continuous output:
    780 watts
Power supply load with typical configuration as listed:
    375 watts

Temperature/Humidity/Altitude

Temperature:
    Operating 10° C to 40° C, 50° F to 104° F
Relative humidity:
    Operating 20% to 80% (noncondensing)
    Non-operating 5% to 95% (noncondensing)
Thermal output of typical configuration as listed:
    1032 Kcal/hr
Altitude:
    Operating: 8,500 feet ASL

Mechanical Specifications

One standard Rackmounted system for all configurations. Basic rack and expansion racks:

Physical dimensions:
    Height: 69.8 in. (1775 mm)
    Width: 22.8 in. (580 mm)
    Depth: 42.5 in. (1080 mm)
    Weight: 400-1089 lbs (180-490 Kg)

Safety Specifications

Safety:
    Meets UL 1950
    Meets CSA 950
    Meets VDE Safety EN 60 950
    Meets IEC 950
Emissions:
    Meets FCC, Class A

FTZ, Class A

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