FRONT

PICTURE 1

October 31, 1990

This pamphlet is intended to be used with the IBM Personal System/2
Hardware Maintenance Reference manual (part number 15F2190, form number
S15F-2190-00) and the IBM Personal System/2 *Hardware Maintenance Service*
manual (part number 15F2200, form number S15F-2200-00).

Part Number 84F8525

Form Number S84F-8525-00

EDITION Edition Notice
Safety Information

Refer to the *Hardware Maintenance Reference General Information*
pamphlet in this manual for the following safety information:

    General Safety

    Electrical Safety.

First Edition (October 1990)

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     Personal System/2
     Micro Channel.

1.0 Product Description

The IBM* Personal System/2 (*) Model P75 486 is a compact and
transportable computer. It uses the IBM Micro Channel* architecture. The
features of Model P75 486 are:

    Security: Cover lock and power-on password
    Power supply:
    -   Supporting wide range of the input voltages
        -- 90 - 137 Vac (50 or 60 Hz)
        -- 180 - 264 Vac (50 or 60 Hz)
    -   120 Watts
    Processor card:
    -   33-MHz 80486 Microprocessor (Model P75 486)
    -   Read-only memory basic input/output system (ROM BIOS)
    System board:
    -   Four expansion slots:
        -- Two 32-bit slots (full size)
        -- Two 16-bit slots (half size)
    -   Diskette-drive controller
    -   External storage-device connector
    -   Parallel port
    -   Serial port
    -   SCSI (small computer system interface) port
    -   External display connector
    -   Keyboard connector and Pointing-device connector
    -   Minimum of 8MB (1MB = 1,048,576 bytes) random access memory (RAM)
    -   Real-time clock circuitry, configuration and status information
        storage provided by the real-time clock/complementary metal oxide
        semiconductor (RT/CMOS) RAM and CMOS RAM extension.
    XGA
    Plasma Display
    -   640 X 480 Picture Elements (PELs)
    -   16 shades of gray
    160MB or 400MB fixed-disk drive installed internally under control of
    the SCSI controller, depending on the model
    1.44MB 3.5-inch diskette drive
    101/102-key keyboard
    Speaker
    Battery (to keep real-time clock circuitry, configuration, and status
    information active when power is off)
    Optional keyboard extension cable.

 (*) IBM and Personal System/2 are trademarks of the
     International Business Machines Corporation.

Subtopics
1.1 Security
1.2 Functional Elements

1.1 Security

Subtopics
1.1.1 Cover Lock
1.1.2 Power-On Password

1.1.1 Cover Lock

The cover lock protects the system from access to its inside and can be
unlocked with the user's key.

1.1.2 Power-On Password

System access can be controlled by using a power-on password. When a
power-on password is active, the password prompt, which resembles a small
key, appears on the screen each time the system is powered on. At the
password prompt, type the password and press Enter.
The password does not appear on the screen.

>   ***To set a power-on password:***

>   Select the **Set features** option from the Main Menu of the Reference
>   Diskette.

>   ***To service a system with an active, unknown power-on password:***

>   1.   Short together the two pins1 on the system board as shown in
>   Figure 1.
>   2.   Power on the system and leave the two pins shorted together until
>   the POST is finished. This action deactivates the password.

Notes:

1.   Make sure to remove the short after the POST is completed.

2.   To reactivate the password, start the Reference Diskette, select **Set
     features** from the Main Menu, and follow the instructions on the
     screen.

PICTURE 2

Figure 1. Password Disabling Pins

1.2 Functional Elements

The major functional elements are:

    80486 Microprocessor
    CMOS RAM
    ROM BIOS
    Plasma display card
    Diskette-drive controller
    Serial port
    Parallel port
    SCSI port
    Keyboard connector and Pointing-device connector
    External storage-device connector
    External display connector.

Subtopics
1.2.1 Microprocessor
1.2.2 RT/CMOS RAM, CMOS RAM Extension, and Battery
1.2.3 ROM BIOS
1.2.4 Plasma Display Card
1.2.5 Diskette-Drive Controller
1.2.6 Serial Port
1.2.7 Parallel Port
1.2.8 SCSI Port
1.2.9 Keyboard Connector and Pointing-Device Connector
1.2.10 External Storage-Device Connector
1.2.11 External-Display Connector

1.2.1 Microprocessor

The microprocessor is located on the processor card, and interprets and
carries out instructions. The 80486 Microprocessor is a 32-bit processor
and operates in real-mode and virtual-mode.
The 80486 Microprocessor speed is 33-MHz.

1.2.1 - 1

1.2.2 RT/CMOS RAM, CMOS RAM Extension, and Battery

The RT/CMOS RAM provides 64 bytes of storage. The real-time clock uses 14
bytes of this storage to track the date, time, and battery level. The
remaining 50 bytes are assigned to store system configuration and security
information. A 2KB (KB = 1024 bytes) CMOS RAM extension contains
additional configuration and system status information.

The stored data in the RT/CMOS RAM and the CMOS RAM extension is kept
active by the battery when the system is not powered on. If the stored
data is lost due to a depleted or removed battery, start the Reference
Diskette to permit the **Automatic configuration** program to run. The data
also can be restored by using the **Restore configuration** program on the
customer's backup copy of the Reference Diskette.

1.2.3 ROM BIOS

ROM BIOS (Read Only Memory - Basic Input/Output System) contains the
instructions and routines that control the keyboard, diskette drive, fixed
disk drive, displays and other major I/O devices in the system. Some
adapters have their own ROM modules containing extended BIOS routines that
work with the system board ROM BIOS. The routines for performing the
power-on self-test (POST) are also contained in the ROM BIOS.

1.2.4 Plasma Display Card

The Plasma Display Card contains the Plasma Display Controller and the
XGA.

Plasma Display Controller can display a maximum 640 by 480 Picture
Elements (PELs) with 16 shades of gray on the Plasma Display.

XGA provides a maximum of 720 by 400 PELs in text mode, and a maximum
of 1024 by 768 PELs in graphics mode when a high-resolution CRT
display is used. The XGA supports color and monochrome analog
direct-drive displays in a variety of alphanumeric (A/N) text and
all-points-addressable (APA) graphics modes. The XGA can supplies 256
colors or 64 shades of gray at one time. Composite video is not
supported.

The XGA allows you to use a high-resolution CRT display externally
attached to the Model P75 486. To activate an external CRT display as
a XGA display, you need to select **Primary** on *Turned-on Display* option
using *Change configuration* utility.

When **Primary** is selected and an active external high-resolution CRT
display is connected, the external CRT display is automatically
selected and can be operated as a high-resolution display. However,
the plasma display cannot be used.

If **Plasma and External** is selected, you can use the plasma display and
an external CRT display at the same time. However, the external CRT
display does not work as a XGA display, but as a VGA even if it is a
high-resolution CRT display.

1.2.5 Diskette-Drive Controller

The controller connects to the diskette drives through a single 40-pin
connector on the system board. Signals and voltages are supplied through
the diskette-drive cable that plugs into the connector. These signals and
voltages can operate one IBM 3.5-inch diskette drive.

1.2.6 Serial Port

The serial port is fully programmable and supports asynchronous
communications. The 25-pin D-shell connector provides the signals to
drive a standard RS-232 device and is identified by the system
configuration as SERIAL 1 through SERIAL 8.

Note: Conflicts occur when two or more communication lines are addressed
the same. Use the **Set configuration** option on the Reference Diskette to
verify that no lines are addressed the same.

1.2.7 Parallel Port

The parallel port makes possible the attachment of devices that accept 8
bits of parallel data at standard transistor-transistor logic (TTL)
levels. The port can be used as a general input/output port for any
device or application that matches its input/output capabilities. It has
a 25-pin, D-shell connector and is primarily designed for printers. When
option adapters are installed with additional parallel ports, the system
can support three different devices, each addressed separately as PARALLEL
1, PARALLEL 2, PARALLEL 3, or
PARALLEL 4.

Note: Conflicts occur when two or more devices are addressed the same.
Use the **Set configuration** option on the Reference Diskette. Select **View
configuration** to verify that no lines are addressed the same.

1.2.8 SCSI Port

Small Computer System Interface (SCSI) enables the Model P75 to connect up
to six external I/O devices such as a fixed disk drive, optical disk, tape
drive, or printer. Each I/O device is assigned and identified by its
physical address called SCSI ID.

A fixed disk installed in the system unit is internally connected to the
system board through the SCSI interface.

Notes:

1. External SCSI devices require one or more cables to connect the
    adapters to the devices. For each cable used, the last drive on the
    cable must have a terminator.

2. The location, quantity, and appearance of the terminator may vary from
    drive to drive. An identification label or tag (usually T-RES) is
    attached to the terminator for easy identification.

1.2.9 Keyboard Connector and Pointing-Device Connector

The keyboard connector and pointing device (mouse) connector are located
on the system board.

1.2.10 External Storage-Device Connector

An external storage device such as the IBM 5.25-inch 360KB or 1.2MB
External Diskette Drive, can be attached to this connector.

1.2.11 *External-Display Connector*
An external PS/2 display can be attached to this connector. For more
information, see "Plasma Display Card" in topic 1.2.4.

2.0 Option Compatibility

The Model P75 uses some option adapters designed for IBM Personal System/2
Micro Channel (*)Computers.

 (*) Micro Channel is a trademark of the International Business
     Machines Corporation.

Subtopics
2.1 Diskette Drive and Diskette
2.2 Fixed Disk Drive

2.1 Diskette Drive and Diskette

The Model P75 uses a 1.44MB diskette drive. (It has **1.44** on the eject
button.) Both 1.0MB and 2.0MB capacity diskettes can be used in this
drive.

2.2 Fixed Disk Drive

The Model P75 has a fixed disk drive that automatically positions the read/write heads in nondata areas when the system is powered off. No special precautions are required to park the heads when moving the computer.

The Model P75 computer is shipped with a 160MB or a 400MB fixed disk drive depending on the model. The fixed disk drive controller is integrated on these drive assemblies.

3.0 Operating Requirements

The following describes the operations that take place from power-on until
the minimum operating requirements are met.

Subtopics
3.1 Power Supply
3.2 Power-On Self-Test (POST)
3.3 System Memory

3.1 Power Supply

The power supply allows the input voltage between 90 Vac and 264 Vac. The
ac input is converted to dc outputs that supply the system with proper
operating voltages.

Whenever the power supply is powered off for a minimum of 10 seconds and
then powered on, the power supply generates a 'power good' signal. The
'power good' signal resets system logic, indicates proper operation of the
power supply, and gives the system board advance warning of voltage loss
when the system is powered off. Once the minimum under-voltage sense
levels are established and the 'power good' signal has risen to its active
level, all system board power requirements have been met and the green
power-good light on the front of the system is turned on.

```
+------------------------+
¦ Output  ¦ Minimum      ¦
¦ (Vdc)   ¦ Under-Voltage ¦
¦         ¦ Sense Level   ¦
¦         ¦ (Vdc)        ¦
+---------+---------------¦
¦ + 5.0   ¦ + 4.5        ¦
+---------+---------------¦
¦ +12.0   ¦ +10.8        ¦
+---------+---------------¦
¦ -12.0   ¦ -10.2        ¦
¦         ¦              ¦
+------------------------+
```

3.2 Power-On Self-Test (POST)

The POST is initiated automatically each time the system power is turned on.

The POST is a series of system checks and initializations that verify the correct operation of the system unit. The POST checks only those areas that permit the system to be operational enough to run advanced diagnostics. The POST can detect two types of errors: critical and noncritical.

Critical errors either prevent the system from operating or cause incorrect results that are apparent to the user. Examples of critical errors include microprocessor or interrupt controller errors. If the POST detects a critical error, the microprocessor attempts to display the error and all testing stops.

Noncritical errors cause incorrect results that may not be apparent to the user. An example of a noncritical error is a serial communications failure. For a noncritical error the microprocessor displays an error code and the testing stops; pressing the F1 key allows testing to continue.

When the Reference Diskette is in drive A and a noncritical error is detected, the system displays the POST error message along with a message generated from the Reference Diskette. The Reference Diskette message instructs the user to take a specific action to correct the error.

After a successful POST, a single short beep is generated. Control is then given to the BIOS routine called the system bootstrap loader. The bootstrap loader attempts to load an operating system or program from either a diskette or the fixed disk drive. If neither is present in the system, the Insert Diskette icon is displayed. This icon indicates that a diskette should be inserted into drive A to resume operation. If the F1 key is pressed, the IBM Cassette BASIC screen appears.

3.3 System Memory

Subtopics
3.3.1 System-Board Memory
3.3.2 Memory-Expansion Adapters
3.3.3 Memory Requirements and Limitations
3.3.4 Memory Errors

3.3.1 *System-Board Memory*

The Model P75 has two 4MB memory-module kits installed at the time of
shipment. Additional memory-module kits can be installed on the system
board.

3.3.1 - 1

3.3.1 *System-Board Memory*

The Model P75 has two 4MB memory-module kits installed at the time of
shipment. Additional memory-module kits can be installed on the system
board.

3.3.2 Memory-Expansion Adapters

Memory-expansion adapters can be installed in the 32-bit expansion slot
even though the system board is not fully populated. The system can
support up to 16MB of memory.

Note: Whenever memory is added or removed from the system, run the **Set
configuration** program on the Reference Diskette.

3.3.3 Memory Requirements and Limitations

The system board *does not* have to be fully populated before a
memory-expansion adapter can be installed.

Note: The memory-expansion adapter can be installed only in
SLOT 2.

3.3.4 Memory Errors

The Model P75 allocates memory in 2MB blocks, except for the first 2MB of system-board memory. For this block, the following occurs:

If the POST detects an error in the first 512KB of system-board memory, the first 2MB block of system-board memory is deactivated and the following occurs:

-   If an additional 2MB block of system-board memory is installed, the addresses assigned to the deactivated block are reassigned to the second block of system-board memory. This is only true for the first two 2MB blocks of system-board memory. After the first two blocks, an error code is displayed.

-   If additional system-board memory is not installed, no address reassignment occurs and an error code is displayed.

-   The first 512KB of memory address space cannot be assigned to adapter memory.

If the POST detects a memory error in any memory after the first 512KB of system-board memory, the 2MB block of memory is not deactivated and an error code is displayed. In this event, the customer-level diagnostics program can be run to deactivate the 2MB block and reassign the addresses. This program is on the Reference Diskette supplied with the system.

After the addresses are reassigned, the defective block is ignored by POST during subsequent power-ons.

PICTURE 3

Figure 2. Memory Error Address Reassignment

If errors occur one at a time, the system deactivates 2MB blocks of memory. However, if two errors occur at the same time on the same Memory-Expansion Kit, the programs on the Reference Diskette cannot be loaded and an error message is displayed.

4.0 Specifications

Size
<u>   </u>

    Depth: 15.6 cm (6.1 in.)
    Height: 30.6 cm (12.1 in.)
    Width: 46.5 cm (18.3 in.).

Weight

    10.0 kg (22 lb.).

Environment

    Air Temperature:
    -   System On: 10.0° to 40.0° C (50° to 104° F)
    -   System Off: 10.0° to 50.0° C (50° to 125° F)
    Humidity: 8% to 80%
    Maximum altitude: 2133.6 m (7000 ft.).

Heat Output

    751 British Thermal Units (BTUs) per hour.

Electrical

    Low Range
    -   Minimum: 90 Vac
    -   Maximum: 137 Vac
    High Range
    -   Minimum: 180 Vac
    -   Maximum: 265 Vac.

5.0 Special Tools

The following special tools are required to service the Model P75.

Volt-Ohm Meter

A meter similar to the Triplet Model 310 (1).

Wrap Plug

The Tri-Connector wrap plug (IBM part 72X8546) is used during advanced
diagnostic tests of:

    Parallel Ports
    Serial Ports.

                        PICTURE 4

Note: Remove the rear cover to connect the Tri-Connector wrap plug to the
above ports.

 (1) Manufactured by Triplett Corporation, Bluffton, Ohio 45817,
    U.S.A.

6.0 Repair Information

This section contains information about removals and replacements, locations, and safety grounds.

The arrows in the removals and replacements section show the direction of movement to remove a FRU or to turn a screw to release the FRU. The arrows are marked in numeric order to show the correct sequence of removal.

When other FRUs must be removed prior to removing the failing FRU, they are listed at the top of the page. Go to the removal procedure for each FRU listed, remove the FRU, and then continue with the removal of the failing FRU.

To replace a FRU, reverse the removal procedure and follow any notes that pertain to replacement. See "Locations" for internal cable connection and arrangement information.

CAUTION:
Before removing any field replaceable unit (FRU), power-off the system, unplug all power cords from electrical outlets, and disconnect any interconnecting cables.

Warning: The system board, adapters, memory modules, and the processor card are sensitive to, and can be damaged by, electrostatic discharge. Establish personal grounding by touching a ground point with one hand before touching these units.

7.0 Removals and Replacements

Subtopics
7.1 1005 Rear Cover
7.2 1010 Battery
7.3 1015 Speaker Assembly
7.4 1020 Option Connector Assembly
7.5 1025 Option Adapters
7.6 1030 Fixed Disk Drive
7.7 1035 Power Supply
7.8 1040 System Board and Plasma Display Card
7.9 1045 Plasma Display Assembly
7.10 1050 Diskette Drive
7.11 1060 Processor Card
7.12 1065 Memory Module Kits

7.1 1005 Rear Cover

CAUTION:
Before removing any FRU, power off the system, unplug all power cords from
their electrical outlets, and disconnect any interconnecting cables.

Note: Disconnect all cables attached to the system unit.

1. Turn the security key 3 fully clockwise.

2. Open the cover 1 and fully loosen the three screws 2.

    PICTURE 5

1005 Rear Cover (continued)

3. Lift the lower right side of the rear cover while firmly pushing
    part 4 to release the first latch. Then sequentially push parts from
    5 through 8 to release other latches while lifting the rear cover to
    remove.

PICTURE 6

7.2 1010 Battery

Rear Cover **(1005)**

CAUTION:
The lithium battery presents a fire, explosion, or severe burn risk. Do
not recharge it, remove its polarized connector, disassemble it, heat it
above 100°C (212°F), incinerate it, or expose its cell contents to water.
Dispose of the battery as required by local ordinances or regulations.
When replacing the battery, use only Part No. 64F9987. Use of another
battery could result in ignition or explosion of the battery. Replacement
batteries can be ordered from IBM or IBM Authorized Dealers.

PICTURE 7

7.3 1015 Speaker Assembly

    Rear Cover **(1005)**
    Battery **(1010)**
    Processor Card **(1060)**

PICTURE 8

7.3 1015 Speaker Assembly

    Rear Cover **(1005)**
    Battery **(1010)**
    Processor Card **(1060)**

PICTURE 8

7.4 1020   Option Connector Assembly

Removal

> Rear Cover **(1005)**
> Option Adapters **(1025)**

1. Disconnect the connector 1.

2. Fully loosen the screw 2.

3. Remove all other screws shown in the figure below to remove the option
    connector assembly.

> **Note:** Remove carefully because some of these screws have a washer.

PICTURE 9

Subtopics
7.4.1 1020   Option Connector Assembly (Continued)

7.4.1 1020 *Option Connector Assembly (Continued)*

Replacement

1. Put the system unit upright and open the plasma display.

2. While supporting the base plate 2 located behind the plasma display 1,
    reconnect the option connector assembly to the system board.

PICTURE 10

7.5 1025 Option Adapters

   Rear Cover **(1005)**

Before removing an adapter, note the location of the adapter and cables.
When replacing an adapter, install the replacement adapter in the same
slot as the adapter that was removed.

Stored configuration information depends on the location of the adapter.
If the replacement adapter is installed in a different location, run the
Set configuration program on the user's Reference Diskette to reset the
configuration information.

                      PICTURE 11

7.6 1030 Fixed Disk Drive

Rear Cover **(1005)**

Warning: Improper shipping and handling can result in permanent loss of
all data and formatting on the fixed disk drive. Have the customer back
up all information on the fixed disk drive.

PICTURE 12

Subtopics
7.6.1 1030 Fixed Disk Drive (Continued)
7.6.2 1030 Fixed Disk Drive (Continued)

7.6.1 1030 Fixed Disk Drive (Continued)

If your machine has a **160MB** fixed-disk drive installed:

1. Disconnect the connector 4 from the fixed disk drive 1.
2. Remove the two screws 5 and the switch assembly 6.
3. Remove the four screws 2.
4. Remove the fixed disk drive 1 from the bracket 3.

PICTURE 13

7.6.2 1030 Fixed Disk Drive (Continued)

If your machine has a **400MB** fixed-disk drive installed:

1. Disconnect the connector 6 from the fixed disk drive 1.
2. Remove the two screws 4 and the switch assembly 5.
3. Remove the four screws 2.
4. Remove the fixed disk drive 1 from the bracket 3.

PICTURE 14

7.6.2 1030 Fixed Disk Drive (Continued)

If your machine has a **400MB** fixed-disk drive installed:

1. Disconnect the connector 6 from the fixed disk drive 1.
2. Remove the two screws 4 and the switch assembly 5.
3. Remove the four screws 2.
4. Remove the fixed disk drive 1 from the bracket 3.

7.7 1035 Power Supply

    Rear Cover **(1005)**
    Front cover (keyboard).

Note: Remove all ground wires connected to the frame of the power supply
assembly.

PICTURE 15

Subtopics
7.7.1 1035 Power Supply (Continued)

7.7.1 1035 *Power Supply (Continued)*

PICTURE 16

7.8 1040   System Board and Plasma Display Card

      Rear Cover **(1005)**
      Option Connector Assembly **(1020)**
      Processor Card **(1060)**
      Memory module kits **(1065)**

1. Remove all cable connectors from the system board and the plasma
    display card.

2. Remove all screws 1 shown in the following figure.

3. Remove the system board 2 together with the plasma display card.

4. Remove the plasma display card from the system board 3.

Note: When a new system board is installed, run **Restore configuration**,
using the user's Reference Diskette to restore the time, date, and any
unique configuration data.

PICTURE 17

Subtopics
7.8.1 1040   System Board and Plasma Display Card (Continued)

7.8.1 1040   *System Board and Plasma Display Card (Continued)*

PICTURE 18

7.9 1045 Plasma Display Assembly

Front Cover (Keyboard)

1. Open the plasma display panel 1.

2. Remove the two screws 3.

3. Lift the plasma-display assembly to free it from the hanger 2 , then
    move the plasma display assembly toward front.

4. Carefully locate the system unit horizontally.

5. Remove the three screws 4 that hold the connector cover 5.

6. Disconnect the two cables6 from the plasma display assembly.

    Note: Cut any cable ties if they interfere with the removal of the
    FRU.

7. Remove the four screws 7.

8. Remove the two screws 8 that hold the ground wires.

PICTURE 19

Subtopics
7.9.1 1045 Plasma Display Assembly (Continued)

7.9.1 1045 Plasma Display Assembly (Continued)

PICTURE 20

PICTURE 21

Note: The plasma display panel contains a small amount of mercury, cadmium, and lead. Follow local ordinances or regulations for its disposal.

7.10 1050 Diskette Drive

Front Cover (Keyboard)

1. Raise the plasma display.

2. Pull the left edge of the diskette-drive cover to disengage the pin 7
    from the cup 2. This permits the diskette drive to swing fully
    forward on its lower pivots.

3. Disconnect the connector 5 from the diskette drive.

4. Remove the diskette drive from the diskette-drive cover 6 as shown in
    Detail PICTURE 22.

    a. Remove the two screws 4.
    b. Slide the diskette drive in the direction of the arrow to remove.

        Note: Pull one of the sides of the diskette-drive cover outside
        to permit easy removal of the diskette drive.

5. Remove the four screws 3 and the two brackets 1 from both sides of the
    diskette drive.

                            PICTURE 23

                           (Front View)

                            PICTURE 24

                           (Front View)

+---+
¦   ¦
¦   ¦
¦   ¦
¦   ¦
¦   PICTURE 25   ¦
¦   ¦
¦   ¦
¦   ¦
¦ Detail PICTURE 26   ¦
¦   ¦
¦   ¦
+---+

7.11 1060 Processor Card

Rear Cover **(1005)**

PICTURE 27

7.11 - 1

7.12 1065 Memory Module Kits

    Rear Cover **(1005)**
    Option Adapters **(1025)**, if necessary.

Note: When servicing the two side-by-side memory module kits, remove the
kit in connector of the next higher position (position 4, for example)
before attempting to remove the kit in connector of the lower position
(position 3, for example).

See "System Board" in topic 8.1.4 for connector positions.

PICTURE 28

8.0 Locations

Subtopics
8.1 System Unit

8.1 System Unit

Subtopics
8.1.1 Front View
8.1.2 Rear View
8.1.3 Interior View
8.1.4 System Board
8.1.5 Plasma Display Card

8.1.1 Front View

```
1    Handle
2    Eject Button
3    Diskette Drive
4    Diskette Drive In-Use Light
5    Fixed Disk In-Use Light
6    Power-Good Light
7    Power Switch
8    Brightness Control
9    Plasma Display
10   Keyboard (Front Cover)
```

PICTURE 29

8.1.1 Front View

```
1    Handle
2    Eject Button
3    Diskette Drive
4    Diskette Drive In-Use Light
5    Fixed Disk In-Use Light
6    Power-Good Light
7    Power Switch
8    Brightness Control
9    Plasma Display
10   Keyboard (Front Cover)
```

8.1.2 Rear View

```
    1    External Display Connector
    2    External Storage Device Connector
    3    Pointing Device Connector
    4    Serial Port
    5    Parallel Port
    6    SCSI Port
    7    Adapter Connectors (if adapter is installed)
    8    Adapter Connectors (if adapter is installed)
    9    Power Cord Connector
    10   Rear Cover
```

PICTURE 30

8.1.3 Interior View

    1   Battery
    2   Processor Card
    3   Speaker Assembly
    4   MPU
    5   Expansion Slots (32-bit)
    6   Plasma Display Card
    7   Fixed Disk Drive
    8   Power Supply (with fan)
    9   Expansion Slots (16-bit)
    10   System Board

PICTURE 31

8.1.4 System Board

```
 1   Pointing Device Port Connector
 2   Serial Port Connector
 3   Parallel port connector
 4   SCSI Port Connector
 5   Fixed Disk Drive Connector
 6   Power Supply Connector
 7   Jumper (password disable)
 8   Indicator Connector
 9   Diskette Drive Connector
10   Memory module kit, Connector Position 4 (SIMM 4)
11   Memory module kit, Connector Position 3 (SIMM 3)
12   Memory module kit, Connector Position 2 (SIMM 2)
13   Memory module kit, Connector Position 1 (SIMM 1)
14   Speaker Connector
15   Battery Connector
16   Processor Card Connector
17   Expansion Connector, Small
18   Plasma Display Card Connector
19   Expansion Connector, Large
20   External Storage Device Connector
21   Keyboard connector
```

PICTURE 32

8.1.5 Plasma Display Card

    1   Plasma Display Connector
    2   External Display Connector

PICTURE 33

9.0 Safety Grounds

PICTURE 34

1 Screw Connection

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