FRONT

PICTURE 1

Part Number 84F8548
Form Number S64F-3995-01

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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.

Second Edition (September 1990)

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1.0 Product Description

The IBM (*) Personal System/2 (*) Model 80 computers use the IBM Micro
Channel (*) architecture. The features of the various types of Model 80
are:

    Security: cover lock and power-on password
    System board:
    -   16-, 20-, or 25-MHz 80386 Microprocessor.
    -   80387 Math Coprocessor connector.
    -   1MB, 2MB, or 4MB (MB = 1,048,576 bytes) of random access memory
        (RAM). System-board memory can be expanded to 2MB, 4MB, or 8MB
        depending on the model. The total system memory capacity is 16MB.
    -   64 bytes of complementary metal-oxide semiconductor random access
        memory (CMOS RAM).
    -   Read-only memory basic input/output system (ROM BIOS).
    -   Video graphics array (VGA).
    -   Eight expansion slots:
        -   Three or four 32-bit slots, varies with model
        -   Four or Five 16-bit slots, varies with model. (One 16-bit
            slot with an auxiliary-video connector extension, and one slot
            normally occupied by the fixed-disk-drive adapter.)
    -   Serial port.
    -   Parallel port.
    -   Diskette-drive controller.
    -   Keyboard connector.
    -   Pointing-device connector.
    -   Display connector.
    -   Fixed-disk-drive connector.
    Power supply:
    -   Automatically switches to the 100-125 Vac or the 200-240 Vac range
    -   50 or 60 Hz
    -   225 or 242 watts.
    Battery (to keep CMOS RAM active when power is off)
    Speaker
    101/102-key keyboard
    Fixed disk drives supported (see "Fixed Disk Drives" in topic 2.2).

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     the International Business Machines Corporation.

Subtopics
1.1 Security
1.2 System-Board Features

1.1 Security

Subtopics
1.1.1 Cover Lock
1.1.2 Power-On Password

1.1.1 Cover Lock

The cover lock is on the left side of the system unit and can be unlocked
with the user's key.

If the keys for the cover lock are lost, a new cover-lock assembly can be
ordered (see the parts section in the *Hardware Maintenance Service*
pamphlet for the system you are servicing). The new assembly contains two
keys. Use one of the new keys, along with a pair of pliers to force the
old cover lock open.

1.1.2 Power-On Password

A power-on password denies access to the system when the system is
powered-on. To service a system with an active and *unknown* power-on
password, power-off the system and, do *one* of the following depending on
which battery and speaker assembly is installed:

> If the assembly has pins, short pins 2 and 3 together
> If the assembly has no pins, insert a meter lead into connector 1 and
> short the other end of the lead to frame ground.

With the assembly shorted, power-on the system. This deactivates the
power-on password. Remove the short after the POST is finished.

To reactivate the power-on password, the user must start the system with
the Reference Diskette in drive A, select the **Set features** option, and
follow the instructions.

PICTURE 2

To reactivate the power-on password, the user must start the system with

1.2 System-Board Features

The major features of the system board are:

    80386 Microprocessor
    CMOS RAM
    ROM BIOS
    VGA
    Serial port
    Parallel port
    Diskette-drive controller
    Keyboard connector
    Pointing-device connector.

Subtopics
1.2.1 Microprocessor
1.2.2 CMOS RAM and CMOS RAM Extension
1.2.3 ROM BIOS
1.2.4 VGA
1.2.5 Serial Port
1.2.6 Parallel Port
1.2.7 Diskette-Drive Controller
1.2.8 Keyboard Connector and Pointing-Device Connector

Subtopics

1.2.1 Microprocessor

The microprocessor interprets and carries out instructions. The 80386
Microprocessor is a 32-bit processor and operates in three modes:
real-address mode, virtual-address (protected) mode, or virtual 8086 mode.
The microprocessor speed is 16 MHz, 20 MHz, or 25 MHz depending on the
model.

1.2.2 CMOS RAM and CMOS RAM Extension

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

The data stored in the CMOS RAM and CMOS RAM extension is kept active by
the battery when the system is powered-off. If the stored data is lost
due to a depleted or removed battery, the data can be restored using one
of the following methods:

    If the user has a customized configuration that uses settings other
    than the default, run the restore configuration program on the user's
    backup copy of the Reference Diskette.

    If the configuration uses the default settings, run the automatic
    configuration program on the Reference Diskette.

1.2.3 ROM BIOS

ROM BIOS contains the instructions and routines that control the keyboard,
diskette drives, fixed disk drive, displays, and other major input/output
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 VGA

The VGA is a graphics controller on the system board. The VGA supports
color and monochrome analog direct-drive displays in a variety of modes,
including alphanumeric text mode, and all-points-addressable (APA)
graphics mode.

The VGA supports a maximum of 720-by-400 picture elements (PELs) in the
text mode and 640-by-480 PELs in the graphics mode. The VGA can support
256 colors or 64 shades of gray at one time. Composite video is not
supported.

Model 80 systems can have either one or two 16-bit extended expansion
slots on the system board. These slots extend farther to the rear of the
system board than the others. The extended expansion slots accommodate
video adapters that are designed to interface with the system-board VGA.
Some of these adapters provide a display connector of their own. The
extended expansion slots also support all adapters designed to be
installed in the shorter slots.

Warning: Some non-IBM graphics adapters drive rather than receive VGA
signals. If more than one adapter that drives a VGA signal is installed
in a system, both adapters will be damaged.

1.2.5 Serial Port

The serial port is fully programmable and supports asynchronous
communications. The 25-pin, D-shell connector provides the signals to
drive a device with a standard 25-contact, RS-232 connector. The
connected device is identified by the system configuration as either
SERIAL 1 or SERIAL 2.

If adapters with serial ports are installed in the system, they can be
configured from SERIAL 1 to SERIAL 8. The port on the system board can be
only SERIAL 1 or SERIAL 2.

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

1.2.6 Parallel Port

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

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

1.2.7 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 two IBM 3.5-inch diskette drives.

1.2.8 Keyboard Connector and Pointing-Device Connector

The two 6-pin connectors at the rear of the system board are for a
keyboard and a pointing device (mouse). The keyboard connector is marked
with a small keyboard figure molded into the back panel; the unmarked
connector is for the pointing device. The interface logic is the same for
both.

2.0 Option Compatibility

The Model 80 uses only those adapters that are specifically designed for
it. All supported 16-bit adapters operate in any system-board expansion
slot. For supported options, see the parts section in the *Hardware
Maintenance Service* pamphlet for the system you are servicing.

Subtopics
2.1 Drive and Diskette Compatibility
2.2 Fixed Disk Drives
2.3 Terminators

2.1 Drive and Diskette Compatibility

The following provides information concerning the identification of
diskette drives.

```
+----------------------------------------------------------------------+
¦ Diskette Drive                    ¦ Identifying Mark                  ¦
+-----------------------------------+----------------------------------¦
+-----------------------------------+----------------------------------¦
¦ 3.5 Inch - 720KB                  ¦ None                              ¦
+-----------------------------------+----------------------------------¦
¦ 3.5 Inch - 1.44MB                 ¦ 1.44 on the Eject Button          ¦
+-----------------------------------+----------------------------------¦
¦                                   ¦                                   ¦
+----------------------------------------------------------------------+
```

The following addresses the compatibility of diskettes to diskette drives.

```
+----------------------------------------------------------------------+
¦ Diskette         ¦ 720KB              ¦ 1.44MB                        ¦
¦ Capacity         ¦ Drive              ¦ Drive                         ¦
+------------------+--------------------+-----------------------------¦
¦ 1.0MB            ¦ Read/Write         ¦ Read/Write                    ¦
+------------------+--------------------+-----------------------------¦
¦ 2.0MB            ¦ Not Compatible     ¦ Read/Write                    ¦
+------------------+--------------------+-----------------------------¦
¦                  ¦                    ¦                               ¦
+----------------------------------------------------------------------+
```

Note: For additional information, see "Diskette Drives and Diskettes" in
        the *IBM Personal System/2 Hardware Maintenance Reference General
        Information* pamphlet in this manual.

2.2 Fixed Disk Drives

Several fixed disk drives are available for PS/2 systems. The fixed disk
drive and fixed-disk-drive interface must be the same. For example, an
enhanced small device interface (ESDI) adapter must be used with an ESDI
drive. For supported fixed disk drives, see the parts section in the
Hardware Maintenance Service pamphlet for the model you are servicing.

The Model 80 uses fixed disk drives that automatically position the
read/write heads in nondata areas when the system is powered-off. No
special precautions are required regarding parking the heads when moving
the computer.

2.3 Terminators

Diskette Drives: do not use or require terminators.

Fixed Disk Drives: one or more cables are used to connect the fixed-disk
adapters to the fixed disk drives. For each cable used, the last drive on
the cable must have a terminator.

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.

Note: For additional information, see "SCSI Devices" in the "Options and
        Adapters (Micro Channel)" section of this manual.

3.0 Operating Requirements

This section describes the operations that occur from the time the system
is powered-on until the minimum operating requirements have been met.

Subtopics
3.1 Power Supply

3.1 Power Supply

The power supply automatically switches to either the 100-125 Vac or the
200-240 Vac range. The ac input is converted to dc outputs that supply
the system with proper operating voltages.

When the system is powered-off for 10 seconds or more and then powered-on,
the power supply generates a 'power good' signal that resets system logic.
The presence of the 'power good' signal indicates that the power supply is
operating properly and that the minimum under-voltage sense levels have
been established. This means that all system-board power requirements
have been met.

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

The 'power good' signal turns on the green power-good light on the front
of the system. If the green light is not on, the power supply is not
functioning properly.

4.0 Diagnostic Programs

For information on POST, system utility programs, customer and advanced
diagnostics, see the *Diagnostic Information for Micro Channel Computers*
pamphlet.

Subtopics
4.1 System Memory

4.1 System Memory

Subtopics

4.1.1 System-Board Memory

The Model 80 system-board memory varies from model to model. The system
board has at least 1MB of memory installed at the time of shipment.
Additional memory can be installed by adding memory-expansion adapters.
The system can support 16MB of memory. The 80386 System Board Memory
Expansion Kit has a 3-by-32-pin connector that plugs directly into the
system board.

4.1.2 Memory-Expansion Adapters

An optional memory adapter, the 80386 Memory Expansion Adapter, is
available to extend the memory capabilities of the Model 80. The 80386
Memory Expansion Adapter is shipped with one 80386 Memory Expansion Kit.
Three 80386 Memory Expansion Adapters can be installed in the system.
Each adapter can have three 80386 Memory Expansion Kits installed. The
adapters can be installed in any of the 32-bit expansion slots on the
system board. The amount of memory available can be constrained by
hardware and the operating system in use. For other supported options,
see the parts section in the *Hardware Maintenance Service* pamphlet for the
system you are servicing.

4.1.3 Memory Requirements and Limitations

The system board *does not* have to be fully populated before you add 80386
Memory Expansion Adapters, and each memory-expansion adapter *does not* have
to be filled to capacity before you add another memory-expansion adapter.
Whenever memory is added or removed from the system, the set configuration
program must be run.

4.1.4 Memory Errors

The Model 80 activates and deactivates memory in 1MB blocks, except for
the first 1MB 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 1MB block of system-board memory is deactivated and
    the following occurs:

    -    If an additional 1MB 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 1MB 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 1MB of memory address space cannot be assigned to
         adapter memory.

After the first 1MB of memory has been tested, it is assigned addresses.
If the POST detects a memory error in any memory after the first 1MB, the
1MB 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 1MB 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

If errors occur one at a time, the system deactivates 1MB blocks of
memory. However, if two errors occur at the same time on the same 80386
Memory Expansion Kit, the programs on the Reference Diskette cannot be
loaded and an error message is displayed.

5.0 Specifications

Size

    Depth: 483 mm (19 in.)
    Height: 597 mm (23.5 in.)
    Width: 165 mm (6.5 in.)
    Width (feet extended): 318 mm (12.5 in.).

Weight

    Minimum configuration: 21 kg (46 lb)
    Maximum configuration: 26 kg (58 lb).

Environment

    Temperature:
    -   Power on: 16° to 32°C (60° to 90°F)
    -   Power off: 10° to 43°C (50° to 110 °F).
    Humidity:
    -   Power on: 8% to 80%
    -   Power off: 5% to 80%.
    Maximum altitude: 2134 m (7000 ft).

Heat Output

    1245 British thermal units (BTUs) per hour (365.1 watts per hour).

Electrical

    Input voltage (Sinewave input is required)
    -   Low Range:
        -   Minimum: 90 Vac
        -   Maximum: 137 Vac.
    -   High Range:
        -   Minimum: 180 Vac
        -   Maximum: 265 Vac.
    Input kilovolt-amperes (kVA)
    -   Minimum Configuration (as shipped from IBM): Approximately .11
        kVA
    -   Maximum Configuration: Approximately .53 kVA.

6.0 Special Tools

The following special tools are required to service the Model 80.

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 serial and parallel ports.

The Tri-Connector wrap plug replaces the following:

      (IBM part 8529228) Printer Adapter wrap plug
      (IBM part 8286126) Serial Port wrap plug
      (IBM part 8529280) Communications Adapter wrap plug
      (IBM part 62X1083) Communications wrap plug 25-pin
      (IBM part 62X1084) Communications wrap plug 9-pin.

        PICTURE 4

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

7.0 Service Position

The Model 80 should be upright when being serviced. If necessary, the
unit can be placed on the side without the cover after the feet have been
folded.

CAUTION:
The system unit with options may weigh as much as 26 kilograms
(58 pounds). Be careful when moving or changing the position of the unit.
To ensure general safety, do not attempt to lift any object that you think
is too heavy for you.

8.0 Removals and Replacements

The arrows in the removals and replacements section show the direction of
movement to remove a FRU, to turn a screw, or to press a tab 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 math
coprocessor 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.

Note: An electrostatic discharge (ESD) strap may be used to establish
         personal grounding.

Subtopics
8.1 1005 Cover
8.2 1010 Cover Lock
8.3 1015 80386 System-Board Memory-Expansion Kit
8.4 1020 Adapters
8.5 1025 80386 Memory Expansion Kit
8.6 1030 Math Coprocessor
8.7 1035 Battery and Speaker Assembly
8.8 1040 Feet
8.9 1045 Front Bezel
8.10 1050 Carrying Handle
8.11 1055 Power Supply
8.12 1060 Diskette Drive
8.13 1065 Diskette-Drive Cable Retainer
8.14 1070 Diskette-Drive Support Structure
8.15 1075 Fixed Disk Drive (Front Bay)
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8.17 1085 Fixed-Disk-Drive Bracket (SCSI Drives)
8.18 1090 Fixed-Disk-Drive Support Structure (SCSI Drives)
8.19 1095 System Board
8.20 1100 Fixed-Disk-Drive Support-Structure Bracket

8.1 1005 Cover

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

PICTURE 5

8.2 1010 Cover Lock

Cover **(1005)**

PICTURE 6

8.3 1015 80386 System-Board Memory-Expansion Kit

Cover **(1005)**

Note: Not all models have memory-expansion-kit latches 1.

PICTURE 7

8.3 1015 80386 System-Board Memory-Expansion Kit

Cover **(1005)**

Note: Not all models have memory-expansion-kit latches 1.

PICTURE 7

8.4 1020 Adapters

Cover **(1005)**
Disconnect any cables attached to the adapter.

Note: Before replacing an adapter, note the locations 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 system-configuration information.

PICTURE 8

8.5 1025 80386 Memory Expansion Kit

     Cover **(1005)**
     80386 Memory Expansion Adapter **(1020).**

Note: The 80386 Memory Expansion Kits can be installed in any order.

PICTURE 9

8.6 1030 Math Coprocessor

Cover **(1005)**
Remove any adapters **(1020)** that are in the way.

Warning: Remove the math coprocessor carefully. Do not bend the pins
when removing the math coprocessor. The math coprocessor can be damaged
by electrostatic discharge, prying between the module and connector, or
prying between the connector and the system board. Establish personal
grounding by touching a ground point with one hand before touching the
math coprocessor.

Note: The position of the coprocessor will vary with the type of system
board. See "Locations" for system-board layout.

On Model 80 (041, 071), the beveled corner must face the bottom and
rear of the system.
On Model 80 (081, 111, 121, 161, 311, 321), the beveled corner must
face the bottom and front of the system.
On Model 80 (A21, A31, A16), the beveled corner must face the top and
rear of the system.

The Model 80 uses various math coprocessors. Use of the wrong math
coprocessor could cause intermittent errors. For the proper part
number, see the parts section in the *Hardware Maintenance Service*
pamphlet for the system you are servicing.

PICTURE 10

8.7 1035 Battery and Speaker Assembly

CAUTION:
The lithium battery presents a fire, explosion, or severe burn risk. Do
not recharge it, remove the polarized connector from it, disassemble it,
heat it above 100°C (212°F), incinerate it, or expose the cell contents to
water. Dispose of the battery as required by local ordinances or
regulations. When replacing the battery, use only Part No. 72X8498. Use
of another battery could result in ignition or explosion of the battery.
Replacement batteries can be ordered from IBM or IBM Authorized Dealers.

Warning: To avoid accidentally discharging the battery, remove it before
disconnecting the battery and speaker assembly cable. Connect the cable
before replacing the battery.

    Cover **(1005)**

PICTURE 11

8.8 1040 Feet

    Cover **(1005)**
    Remove any adapters **(1020)** that are in the way.

PICTURE 12

8.9 1045 Front Bezel

PICTURE 13

8.10 1050 Carrying Handle

Front bezel **(1045)**

PICTURE 14

8.11 1055 Power Supply

Cover **(1005)**
Front bezel **(1045).**
Disconnect any cables necessary for removal.

PICTURE 15

8.12 1060 Diskette Drive

    Cover **(1005)**
    Front bezel **(1045).**

Note: Some models require that you unplug the diskette-drive cable before
      removing the drive.

PICTURE 16

8.13 1065 Diskette-Drive Cable Retainer

Cover **(1005)**
Front bezel **(1045)**
Diskette drives **(1060)**.
Disconnect any cables necessary for removal.

Notes:

1. Not all models have diskette-drive cable retainers.

2. See "Locations" for cable connection and arrangement information.

PICTURE 17

8.14 1070 Diskette-Drive Support Structure

    Cover **(1005)**
    Front bezel **(1045)**
    Diskette drive **(1060)**
    Diskette-drive cable retainer **(1065).**

PICTURE 18

8.15 1075 Fixed Disk Drive (Front Bay)

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

    Cover **(1005)**
    Front bezel **(1045).**
    Disconnect any cables necessary for removal.

Notes:

1. Remove the terminator on the fixed disk drive in the front bay.

2. See "Locations" for cable connection information.

3. When installing SCSI fixed disk drives, refer to "SCSI Devices" in the
    "Options and Adapters (Micro Channel)" section of this manual.

PICTURE 19

8.16 1080 Fixed Disk Drive (Rear Bay)

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

    Cover **(1005)**
    Disconnect any cables necessary for removal.

Notes:

1. Remove the fixed disk drive (front bay), if installed **(1075)**

2. The fixed disk drive in the rear bay must have the terminator
    installed. Some models might have two SCSI fixed disk drives in the
    rear bay. On those models, the terminator must be installed on the
    drive closest to the system board. For more information, refer to
    "SCSI Devices" in the "Options and Adapters (Micro Channel)" section
    of this manual.

3. See "Locations" for cable connection and arrangement information.

PICTURE 20

8.17 1085 Fixed-Disk-Drive Bracket (SCSI Drives)

    Remove two screws on each side (for a one-drive bracket) or remove
four screws on each side (for a two-drive bracket).
Disconnect any cables necessary for removal.

Note: Some models may have one or two fixed disk drives mounted in a
bracket.

PICTURE 21

8.18 1090   *Fixed-Disk-Drive Support Structure (SCSI Drives)*

Cover **(1005)**
Fixed disk drive (front bay), if installed **(1075)**
Fixed disk drive (rear bay) **(1080).**

PICTURE 22

8.19 1095 System Board

Warning: To avoid accidentally discharging the battery, remove it before
disconnecting the battery and speaker assembly cable. Connect the cable
before replacing the battery.

    Cover **(1005)**
    Adapters **(1020)**
    Math coprocessor, if installed **(1030)**
    Front or rear fixed disk drives **(1075)(1080)**
    Fixed-disk-drive support structure **(1090)**
    80386 System-Board Memory-Expansion Kits **(1015)**.
    Disconnect any cables necessary for removal.

Notes:

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

PICTURE 23

8.20 1100   Fixed-Disk-Drive Support-Structure Bracket

    Cover **(1005)**
    Adapters **(1020)**
    Front bezel **(1045)**
    Power supply **(1055)**
    Front or rear fixed disk drives **(1075)(1080)**
    Fixed-disk-drive support structure **(1090)**
    System board **(1095).**

Note: When you remove the four screws that hold the bracket, the labels
      on the outside of the system will be destroyed. Replace these
      labels with new labels after reassembly. See the parts section in
      the *Hardware Maintenance Service* pamphlet for the system you
      servicing.

PICTURE 24

9.0 Locations

Subtopics

9.1 Front View

```
 1  Carrying handle
 2  Cover lock
 3  Power-good light
 4  Fixed-disk-drive in-use light
 5  Power switch
 6  Diskette-drive in-use light
 7  Diskette drive A
 8  Diskette-eject button
 9  Diskette drive B (if installed)
10  Serial number.
```

PICTURE 25

9.2 *Rear View*

    1   Power-cord connector
    2   Keyboard connector
    3   Pointing-device connector
    4   Parallel port
    5   Serial port
    6   Display connector
    7   SCSI connector (some models)
    8   Expansion slots.

PICTURE 26

9.3 Interior View

```
     1  Power supply
     2  Diskette drive A
     3  Diskette drive B (if installed)
     4  Front-bay fixed disk drive (if installed)
     5  Battery and speaker assembly
     6  Expansion slots (numbered from bottom, 1 to 8)
     7  Rear-bay fixed disk drive
     8  80386 System-Board Memory-Expansion Kit.
```

PICTURE 27

9.3 Interior View

```
     1  Power supply
     2  Diskette drive A
     3  Diskette drive B (if installed)
     4  Front-bay fixed disk drive (if installed)
     5  Battery and speaker assembly
     6  Expansion slots (numbered from bottom, 1 to 8)
     7  Rear-bay fixed disk drive
     8  80386 System-Board Memory-Expansion Kit.
```

9.4 Internal Cables Model 80 (8580-041, 071, 111, 311)

This diagram shows the arrangement of the cables that connect the various
devices.

```
 1  Power supply
 2  Fixed disk drive (rear bay)
 3  Fixed disk drive (front bay)
 4  Diskette drive A
 5  Diskette drive B
 6  System board
 7  Speaker/battery
 8  Data cable
 9  Fixed-disk-drive adapter
10  Controller cable.
```


PICTURE 28

9.5 Internal Cables Model 80 (8580-081, 121, 161, 321, A21, A31, A16)

This diagram shows the arrangement of the cables that connect the various devices.

```
     1   Power supply
     2   Fixed disk drive (rear bay)
     3   Fixed disk drive (front bay)
     4   Diskette drive A
     5   Diskette drive B
     6   System board
     7   Speaker/battery
     8   SCSI Cable
     9   SCSI Adapter.
```

PICTURE 29

9.6 System Board Model 80 (8580-041, 071, 081, 111, 121, 161, 311, 321)

```
     1  Power-supply connector
     2  Diskette-drive connector
     3  80386 System-Board Memory-Expansion Kit connectors
     4  Math-coprocessor connector (081, 111, 121, 161, 311, 321)
     5  Battery and speaker assembly connector
     6  Math-coprocessor connector (041, 071)
     7  16-bit expansion slot
     8  32-bit expansion slot
     9  Video slot (slot 6)
    10  Display connector
    11  Serial connector
    12  Parallel connector
    13  Pointing-device connector
    14  Keyboard connector.
```

PICTURE 30

9.7 System Board Model 80 (8580-A21, A31, A16)

```
 1  Power-supply connector
 2  Diskette-drive connector
 3  80386 System-Board Memory-Expansion Kit connectors
 4  Math-coprocessor connector
 5  Battery and speaker assembly connector
 6  16-bit expansion slot
 7  32-bit expansion slot
 8  Video slot (slot 6)
 9  Display connector
10  Serial connector
11  Parallel connector
12  Pointing-device connector
13  Keyboard connector.
```


PICTURE 31

10.0 Safety Grounds

```
1   Power-cord connector
2   Primary ground
3   Chassis ground
4   Expansion slot screws
5   Screws.
```

PICTURE 32

Notes: