FRONT

PICTURE 1

November 1991

This supplement contains instructions for using the IBM Personal System/2
Service Aid Diskette.

The systems supported are listed on the diskette.

Insert this supplement in the IBM Personal System/2 *Hardware Maintenance
Service* manual (part number 15F2220, form number SBOF-3988-00).

Part Number 10G6618

Form Number S10G-6311-01

FRONT_1 Safety Information

Refer to the *Hardware Maintenance Service General Information* pamphlet for
the following information:

   General Safety

   Electrical Safety

   Safety Inspection Guide.

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IBM
OS/2
Personal System/2.
PS/2

1.0 Service Aid Diskette Version 2.0

The IBM (*) PS/2 (*) Service Aid Diskette Version 2.0 is screen driven and
provides TRAP 0002 and nonmaskable interrupt error information. This
information will help you resolve TRAP 0002 and nonmaskable interrupt
errors on supported PS/2 systems. This pamphlet contains the procedures
to support the diskette.

Systems Supported

    8535
    8540
    8543 L40SX
    8555
    8565
    8570
    8573 P70 and 8573 P75
    8580.

Note: The **View the NMI error log** utility program does not support the
        8535, 8540, 8543 L40SX, and 8555 SX systems.

Main Menu

The main menu on this diskette contains a list of utilities and a
nonmaskable interrupt (NMI) Error Log Menu. These utilities and the NMI
Error Log Menu are designed to:

    Read the nonmaskable interrupt error log (see "View the NMI error log"
    in topic 6.1)
    Install and remove a TRAP 0002 device driver (see "Install the TRAP
    0002 device driver for OS/2 V1.3" in topic 6.2 and "Remove the TRAP
    0002 device driver for OS/2 V1.3." in topic 6.3)

    Note: Obtain the customers consent prior to installing the Trap 0002
            device driver.

    Identify the type of memory installed on the system board (see "View
    the type of memory installed on the system board" in topic 6.4)
    Convert hex addresses associated with system-board parity errors to
    system board memory-connector locations (see "Convert hex addresses
    associated with system board parity errors to memory connectors" in
    topic 6.5).

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2.0 Starting the Diskette

1.   Power-off the system.
2.   Insert the service aid diskette in drive A.
3.   Power-on the system and follow the instructions on the screen.

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1.   Power-off the system.
2.   Insert the service aid diskette in drive A.
3.   Power-on the system and follow the instructions on the screen.

3.0 Installing the TRAP 0002 Device Driver

Use this procedure to install the device driver with OS/2 (*) Version 1.3
and customer service diskette (CSD) level WR05000 or higher installed as
the primary operating system. For additional information about the device
driver, see "Install the TRAP 0002 device driver for OS/2 V1.3" in
topic 6.2.

1.   Start the system with OS/2 Version 1.3.
2.   After OS/2 is loaded, insert the service aid diskette in drive A.
3.   Open an OS/2 window (see "Opening an OS/2 Window" in topic 5.0).
4.   At the command prompt (1) type

        copy config.sys + a:\line.txt

     then press **Enter**. This will cause a carriage return at the end of the
     last line of text in the config.sys file.
5.   Type

        ddinstal

     then press **Enter** and follow the instructions on the screen.

The TRAP 0002 device driver installation procedure has been completed.

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 (1) A displayed symbol, such as C:\, where a user enters
     commands.

4.0 Removing the TRAP 0002 Device Driver

Use this procedure to remove the device driver from the system and the
statement added to the CONFIG.SYS file during the device driver
installation procedure. For additional information about removing the
device driver, see "Remove the TRAP 0002 device driver for OS/2 V1.3." in
topic 6.3.

1. Start the system with OS/2 Version 1.3.
2. After OS/2 is loaded, insert the service aid diskette in drive A.
3. Open an OS/2 window (see "Opening an OS/2 Window" in topic 5.0).
4. At the command prompt type

      a:

    then press **Enter**.
5. Type

      nmiremov

    then press **Enter** and follow the instructions on the screen.

The device driver removal procedure has been completed. To implement the
changes, press **Ctrl+Alt+Del** to restart the system.

5.0 Opening an OS/2 Window

From an OS/2 window, you can type information at the command prompt. Use
this procedure to open a window.

1. After OS/2 is loaded in the system, press **Ctrl+Esc** to display the Task
    List.
2. Use the arrow keys to highlight **Group - Main**, then press **Enter**.
3. Use the arrow keys to highlight **OS/2 Window**, then press **Enter**.

An OS/2 window is now ready for you to enter OS/2 commands.

6.0 Utilities

From the main menu you can select the NMI Error Log menu or other utility
programs. To do this, enter the appropriate number (located in the left
column on the menu) you want to select and press enter, or use the
keyboard arrow keys to highlight the appropriate menu or other utility
program and then press enter. The Utility selections, followed by their
descriptions, are listed below.

Subtopics
6.1 View the NMI error log
6.2 Install the TRAP 0002 device driver for OS/2 V1.3
6.3 Remove the TRAP 0002 device driver for OS/2 V1.3.
6.4 View the type of memory installed on the system board
6.5 Convert hex addresses associated with system board parity errors to memory connectors

6.1 View the NMI error log

This utility displays the **Error Log menu**. From the **Error Log menu** you can
view the Trap 0002 information stored in the NMI error log. This utility
is compatible with OS/2 Version 1.2 or higher installed as the primary
operating system. The other utilities on the Error Log menu provide more
information about the particular errors that are stored in the error log.
These utilities are compatible on systems with nonvolatile memory (NVRAM)
only, and are not compatible with the 8535, 8540, 8543 L40SX and 8555 SX
systems. If errors are stored in the NMI error log, and OS/2 Version 1.3
is installed as the primary system, the TRAP 0002 device driver can be
installed on the system (with the consent of the customer).

6.2 Install the TRAP 0002 device driver for OS/2 V1.3

This utility provides the procedure for installing the TRAP 0002 device.

Notes:

1. Obtain the customers consent prior to installing the Trap 0002 device driver.

2. The device driver will occupy approximately 5KB (KB equals 1024) of space on the hard disk.

The TRAP 0002 device driver works only on systems with OS/2 Version 1.3 and corrective service diskette (CSD) level WR05000 or higher installed. The install procedure loads the device driver on the hard disk and automatically writes a statement in the CONFIG.SYS file to activate the device driver when OS/2 is started. It provides additional support in reporting TRAP 0002 errors. If a system-board parity error is detected, the device driver displays, on the screen, the connector location of the failing system board memory. The service aid diskette can then be used to view the type of memory installed on the system board. When no longer needed, the Trap 0002 device driver may be removed from the system.

Note: When the device driver is installed on the system, the TRAP error is displayed on the screen and is not stored in NVRAM.

6.3 Remove the TRAP 0002 device driver for OS/2 V1.3.

This utility provides the procedure for removing the TRAP 0002 device
driver. It removes the device driver from the hard disk and the device
driver statement from the CONFIG.SYS file.

6.3 Remove the TRAP 0002 device driver for OS/2 V1.3.

This utility provides the procedure for removing the TRAP 0002 device
driver. It removes the device driver from the hard disk and the device
driver statement from the CONFIG.SYS file.

6.4 View the type of memory installed on the system board

This utility identifies the type and location of the memory installed on
the system board. It is compatible with all systems supported by this
service aid diskette, regardless of the type of operating system
installed.

6.5 Convert hex addresses associated with system board parity errors to memory connectors

This utility changes hex addresses (associated with system board parity errors) to memory-connector locations. This utility is compatible with DOS and other operating systems that display the failing address on the screen when a system board parity error occurs.

7.0 OS/2 and the High Performance File System

If a TRAP 0002 error occurs on a system running OS/2 with the high
performance file system (HPFS) installed, the system will halt and display
a TRAP 0002 screen. When restarted, the system might display a TRAP D
error on the screen and halt all system operations. If this occurs, do
the following to recover the hard disk drive:

1. Insert the OS/2 Version 1.3 Installation Diskette in drive A.
2. Press **Ctrl+Alt+Del**.
3. At the logo screen, press **Esc** to display the OS/2 command prompt.
4. Replace the installation diskette with the OS/2 Version 1.3 Diskette
    1.

    Note: If OS/2 is installed on a drive other than **C**, replace the
            letter c in the next step with the letter of the drive that
            contains OS/2.

5. At the command prompt type

       chkdsk c: /f

    then press **Enter**.
6. When the check disk program has been completed, remove diskette 1 from
    drive A.
7. Press **Ctrl+Alt+Del** to restart the system.

To prevent the TRAP D error from appearing each time the customer starts
the system, tell the customer to use the shutdown utility on the Desktop
Manager menu before they power-off the system. To do this:

1. Press **Ctrl+Esc** to display the TasK List.
2. Use the arrow keys to highlight **Desktop Manager**, then press **Enter**.
3. Press **Alt+D** to select the Desktop action bar.
4. Use the arrow keys to select **Shutdown**, then press **Enter**.
5. Follow the instruction on the screen until the system is shut down.

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