Technical Data

9100A/AF

RAM Upgrade and Software Update

SECTION 1
OVERVIEW

1-1 PURPOSE

1-1-1 The purpose of this upgrade is to expand the 9100A/AF system RAM memory to 4 megabytes and to install updated master user software V4.1 on the hard disk.

CAUTION

MATERIALS CONTAINED IN THE UPGRADE KIT AND IN THE 9100A/AF MAIN FRAME ARE STATIC SENSITIVE. ANTI-STATIC PROCEDURES MUST BE FOLLOWED IN HANDLING THESE MATERIALS AND WHILE WORK IS BEING PERFORMED INSIDE THE 9100A/AF MAIN FRAME.

1-1-2 This upgrade will involve:

1. Removing the top cover of 9100A/AF.
2. Installing the SIMM RAM circuits.
3. Setting DIP switches to enable the additional RAM.
4. Run a system configuration program.
5. Re-assembly of the 9100A/AF.
6. Software upgrade

1-2 MATERIALS INCLUDED

1-2-1 Materials included in this upgrade include:

1. Upgrade instructions (This document)
2. An anti-static package containing two (2) 1 megabyte SIMM RAM circuit cards
3. A Service\Utility diskette (1 - 3.5 inch disk)
4. V4.1 Master User software disks (2 - 3.5 inch disks)
5. Test procedure for Fluke 8505A DMM (3.5 inch disk and documentation)

1-3 REQUIRED TOOLS

1-3-1 You will need the following tools:

1. An anti-static work area including a wrist strap.
2. A #2 phillips screwdriver.
3. A #1 common screwdriver.

1-4 REQUIRED PERSONNEL

1-4-1 The person performing this upgrade should be a skilled technician familiar with basic computer hardware and anti-static procedures.

SECTION II
PROCEDURE

2-1 PRELIMINARY PROCEDURES

CAUTION

MATERIALS CONTAINED IN THE UPGRADE KIT AND IN THE 9100A/AF MAIN FRAME ARE STATIC SENSITIVE. ANTI-STATIC PROCEDURES MUST BE FOLLOWED IN HANDLING THESE MATERIALS AND WHILE WORK IS BEING PERFORMED INSIDE THE 9100A/AF MAIN FRAME.

WARNING

TO REDUCE THE RISK OF ELECTRICAL SHOCK TURN OFF THE 9100A/AF AND DISCONNECT THE POWER CORD BEFORE ACCESSING THE MAINFRAME.

2-1-1 Disconnect all other connectors (Pods, Probe, Etc.) from the 9100A/AF mainframe.

2-2 DISASSEMBLY

2-2-1 With the instrument positioned bottom side up, remove the five screws securing the top. There are two screws on each of the side lips and one screw located at the bottom front.

2-2-2 Holding top and bottom cases together, rotate the entire instrument to the top up position.

2-2-3 Working from the front of the instrument, remove the top cover by gently lifting at midpoint on both sides.

NOTE

Once the cover is free of the mainframe, notice the various cables attached between it and the mainframe. Protect these cables by proceeding cautiously with the following steps

2-2-4 Rotate the top cover 90 degrees clockwise

2-2-5 Tilt the top cover 90 degrees to the left, placing it on a flat surface next to the mainframe. In this position, the floppy disk drive is on edge, facing forward. (See figure 2-1)

CAUTION

The floppy disk drive must be positioned as described to function reliably. Do not position the removed cover so that the floppy drive is on top, facing up. Also, the hard disk drive may fail if operated in other than the described position.

Figure 2-1 Position of top cover

2-2-6 The RAM SIMMS and configuration DIP switch are now accessible.

2-3 INSTALLATION OF SIMMS

2-3-1 Refer to figure 2-2 for location of the RAM SIMMS. Note that SIMMS are installed in the two front most locations (U15 and U16). The SIMMS provided in the upgrade kit will be installed in the two vacant locations (U13 and U14).

2-3-2 Locate the anti-static bag containing the two SIMMS.

CAUTION

You must be anti-static protected while handling and installing the RAM SIMMS. Insure that you are wearing an anti-static wrist strap during this procedure.

2-3-3 Refer to figure 2-3. The SIMMS are installed in the socket with the component side towards the front of the instrument. Install the SIMM in location U14 first.

2-3-4 Place the edge connector of the SIMM into the socket while leaning the SIMM towards the rear of the instrument at an approximate 15 degree angle.

2-3-4 While gently pressing downward on the SIMM, rotate it forward into the vertical position. Inspect to insure the locking fingers of the socket engaged the SIMM.

2-3-5 Install the SIMM at location U13 in the same manner.

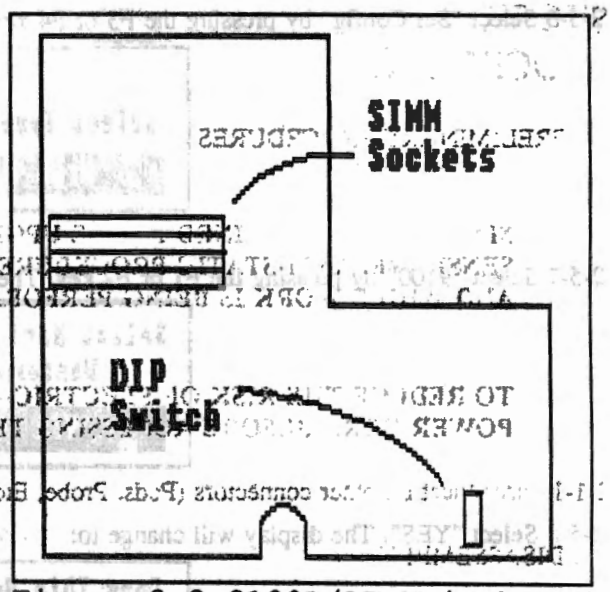


Figure 2-2 9100A/AF Main board viewed from the top.

2-4 SETTING OF CONFIGURATION SWITCHES

2-4-1 Refer to figure 2-2 to locate the configuration DIP switch. Place the switches into the following positions to enable the additional RAM SIMMS:

1	OFF
2	OFF
3	ON
4	ON
5	OFF
6	OFF
7	OFF
8	ON

2-5 SETUP OF BIOS

2-5-1 The system BIOS must be changed to enable the additional RAM. This is accomplished through a software setup.

2-5-2 Locate the 3.5 inch disk labeled Service Utility Disk. Place this disk into the Floppy drive.

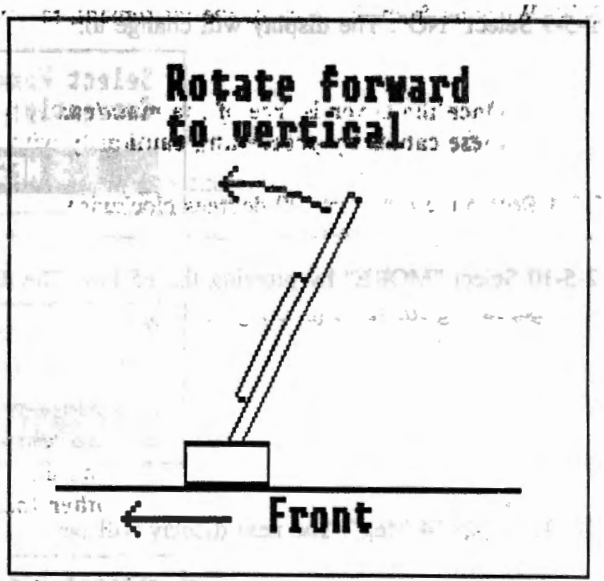


Figure 2-3 SIMM Installation

CAUTION

The Service Utility disk allows modification of all system settings. The procedure given below must be followed to avoid changes which may disable the 9100A/AF system.

2-5-3 Connect the power cord to the rear panel power connector.

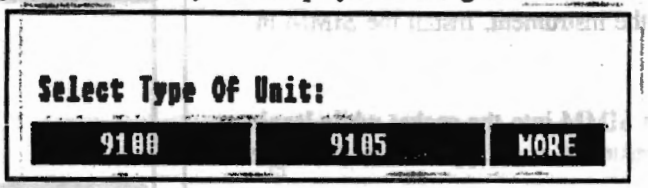
CAUTION

Do not contact any of the internal components of the 9100A/AF mainframe while power is applied. Only front panel controls should be used during this procedure.

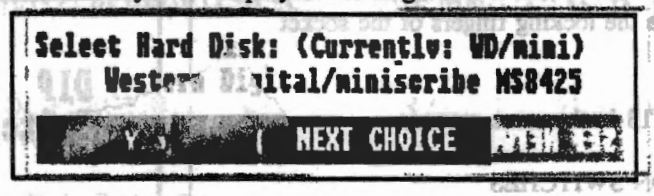
2-5-4 Locate the following keys on the fold down keyboard. SOFT KEYS, F2 and F4. While holding down these three keys, turn the power switch on the rear panel to the ON (I) position. (This will force the 9100A/AF to boot off of the floppy disk.)

2-5-5 When the system boots, the following prompt will appear:

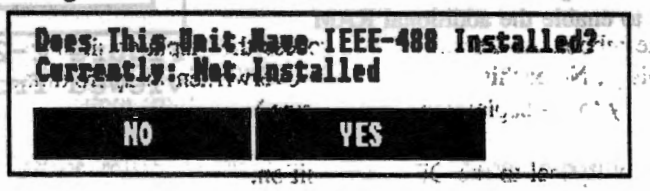
2-5-6 Select "Set Config" by pressing the F3 or F4 key. The display will change to:



2-5-7 Select "9100" by pressing the F1 or F2 key. The display will change to:

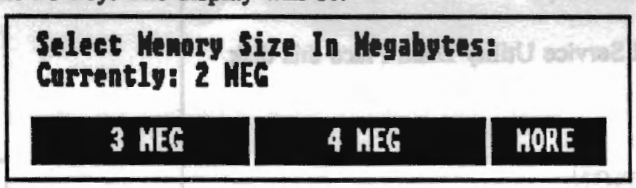


2-5-8 Select "YES". The display will change to:



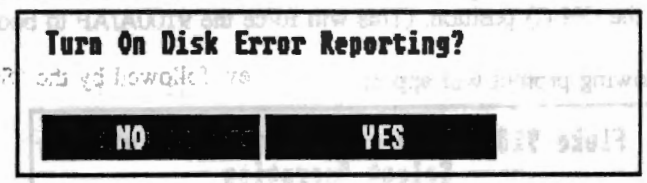
2-5-9 Select "NO". The display will change to:

2-5-10 Select "MORE" by pressing the F5 key. The display will be:

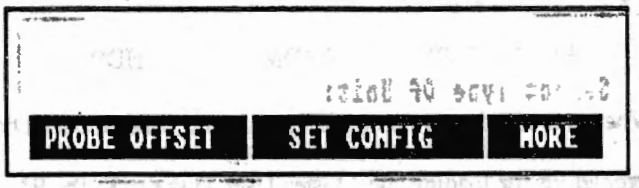


2-5-11 Select "4 Meg". The next display will be:

2-5-12 Observe the display line "Currently:" and select the same type of drive by pressing the matching function key. The prompt will change to:



2-5-14 Select "NO". This will end the "Set Config" routine and the display will change to:



2-5-15 Press the "MORE" key until the display is:

2-5-16 Select "REBOOT". The system will reboot and the setting will be saved.

2-5-17 Observe the display during the reboot. At the end of the process the display will show the amount of memory found and tested. This display should read "4 Meg". Note: this display will be overwritten in approximately 2 seconds with "NO POD CONNECTED. (Press the "RESET" key to re-display the memory size.)

2-5-18 Turn the power switch on the rear panel to the OFF (O) position.

2-6 ASSEMBLY

CAUTION
Disconnect the power cord before proceeding.

2-6-1 Reassembly of the 9100A/AF mainframe is essentially a reversal of the disassembly procedure.

2-6-2 Rotate the top cover up and into position over the lower chassis. Align the front corners to the front panel and the slot in the rear upper cover to the rear panel. While gently sliding the upper cover down, observe that none of the internal cables are pinched between the top cover and the lower chassis.

2-6-3 Holding the case top and bottom together, rotate the entire instrument to the bottom side up position. Install the five (5) screws to secure the top.

2-6-4 Turn the instrument top side up. Connect the power cord to the rear panel power connector.

SECTION III
SOFTWARE UPGRADE

3-1 INSTALLATION OF MASTER USER DISKS V4.1

3-1-1 Locate the two disks labeled Master User Disks 1 and 2

3-1-2 Turn the power switch on the rear panel to the ON (I) position.

3-1-3 Place the Master User Disk 1 in the micro floppy disk drive.

3-1-4 When the system has finished booting, press the "MAIN MENU" key, followed by the "SOFT KEYS" key to select:

MAIN: COPY DISK FROM DR1 TO HDR

3-1-4 Press the "ENTER/YES" key. When the copying is complete remove the Master User Disk 1 from the 9100A/AF disk drive and insert Master User Disk 2.

3-1-5 Press the "MAIN MENU" key again. The Display will read:

MAIN: COPY DISK FROM DR1 TO HDR

3-1-5 Press the "ENTER/YES" key. When the copying is complete remove the Master User Disk 2 from the 9100A/AF disk drive.

3-1-7 This completes the installation procedure for loading the Master User Disks onto the 9100A/AF.

If any difficulties are encountered during this installation or if the hardware configuration is not as stated in this upgrade please write:

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