

# Installation Note

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## 512 MB Memory Upgrade Kit

For ALL PNA Series Microwave Network Analyzers

Network Analyzer Model Number	Upgrade Kit Part Number	Memory Capacity after Upgrade
All Microwave PNA	E8362-60108	512 MByte



**Agilent Technologies**

Agilent Part Number: E8362-90009

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E8362-90009

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## About the Upgrade Kit

Products affected. . . . .	All microwave PNA; all options
Installation to be performed by . . . . .	Agilent service center, personnel qualified by Agilent, or customer
Estimated installation time . . . . .	15 minutes
Estimated verification time . . . . .	5 minutes

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## Description of the Upgrade

This upgrade replaces the existing two 128 MByte memory cards (256 MByte RAM) with two 256 MByte memory cards (512 MByte RAM).

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## Items Included in the Upgrade Kit

Check the contents of your kit against the following list. If any item is missing or damaged, contact Agilent Technologies. Refer to [“Getting Assistance from Agilent” on page 2](#).

**Table 1 Upgrade Kit to Increase RAM to 512 MB (E8362-60108)**

Description	Qty	Part Number
Installation note (this document)	1	E8362-90009
256 MByte memory card	2	1818-8825

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## Installation Procedure

The network analyzer must be in proper working condition prior to installing this option. Any necessary repairs must be made before proceeding with this installation.

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**WARNING**      **This installation requires the removal of the analyzer's protective outer covers. The analyzer must be powered down and disconnected from the mains supply before performing this procedure.**

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### Electrostatic Discharge Protection

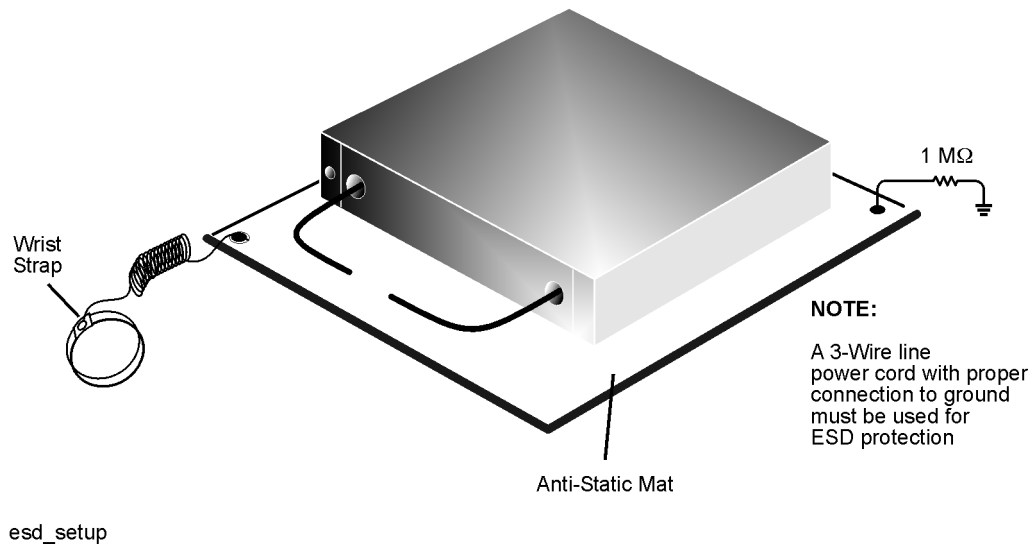
Protection against electrostatic discharge (ESD) is essential while removing or connecting cables or assemblies within the network analyzer.

Static electricity can build up on your body and can easily damage sensitive internal circuit elements when discharged. Static discharges too small to be felt can cause permanent damage. To prevent damage to the instrument:

- *always* wear a grounded wrist strap having a 1 M $\Omega$  resistor in series with it when handling components and assemblies.
- *always* use a grounded, conductive table mat while working on the instrument.
- *always* wear a heel strap when working in an area with a conductive floor. If you are uncertain about the conductivity of your floor, wear a heel strap.

Figure 1 shows a typical ESD protection setup using a grounded mat and wrist strap. Refer to “Tools and ESD Equipment Required for the Installation” on page 5 for part numbers.

**Figure 1**    **ESD Protection Setup**



## Overview of the Installation Procedure

Step 1. Remove the Outer and Inner Covers from the Analyzer

Step 2. Remove the A15 CPU Board

Step 3. Replace the Memory Cards

Step 4. Reinstall the A15 CPU Board

Step 5. Verify the New Memory Cards

Step 6. Reinstall the Inner and Outer Covers

## Tools and ESD Equipment Required for the Installation

Description	Model/Part Number
T-10 TORX driver (set to 9 in-lbs)	N/A
T-20 TORX driver (set to 21 in-lbs)	N/A
ESD grounding wrist strap	9300-1367
5 ft grounding cord for wrist strap	9300-0980
2 x 4 ft conductive table mat and 15 ft grounding wire	9300-0797
ESD heel strap (for use with conductive floors)	9300-1308

## Step 1. Remove the Outer and Inner Covers from the Analyzer

Refer to [Figure 2](#) for this procedure.

### Remove the Outer Cover

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**CAUTION** This part of the procedure is best performed with the analyzer resting on its front handles in the vertical position. *Do not place the analyzer on its front panel without the handles.* This will damage the front panel assemblies.

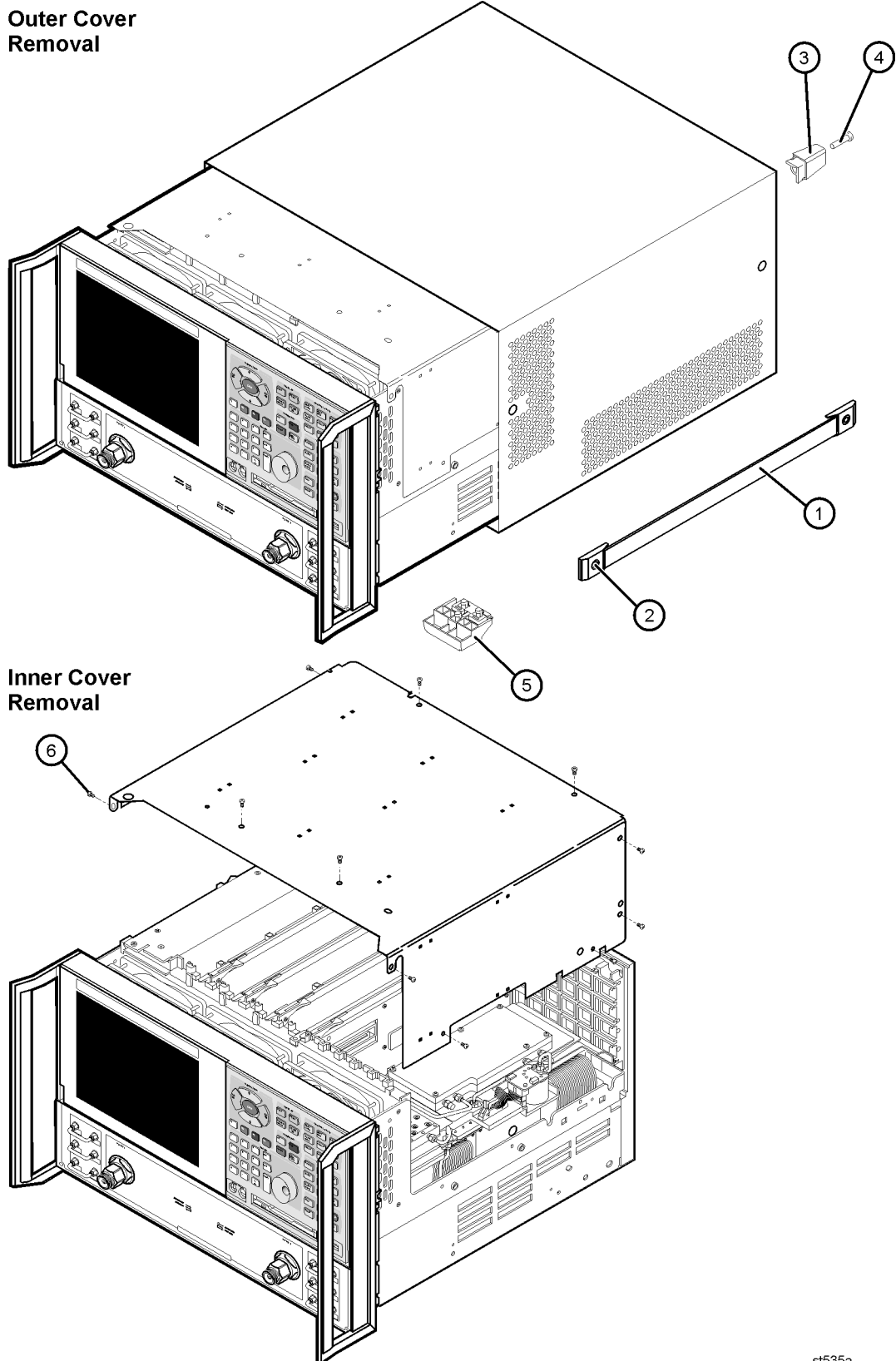
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1. Disconnect the power cord (if it has not already been disconnected).
2. With a T-20 TORX driver, remove the strap handles (item ①) by loosening the screws (item ②) on both ends until the handle is free of the analyzer.
3. With a T-20 TORX driver, remove the four rear panel feet (item ③) by removing the center screws (item ④).
4. Slide the four bottom feet (item ⑤) off the cover.
5. Slide the cover off of the frame.

### Remove the Inner Cover

6. With a T-10 TORX driver, remove the 11 screws (item ⑥).
7. Lift off the cover.

**Figure 2 Outer and Inner Cover Removal**



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## Step 2. Remove the A15 CPU Board

Refer to [Figure 3](#) for this procedure.

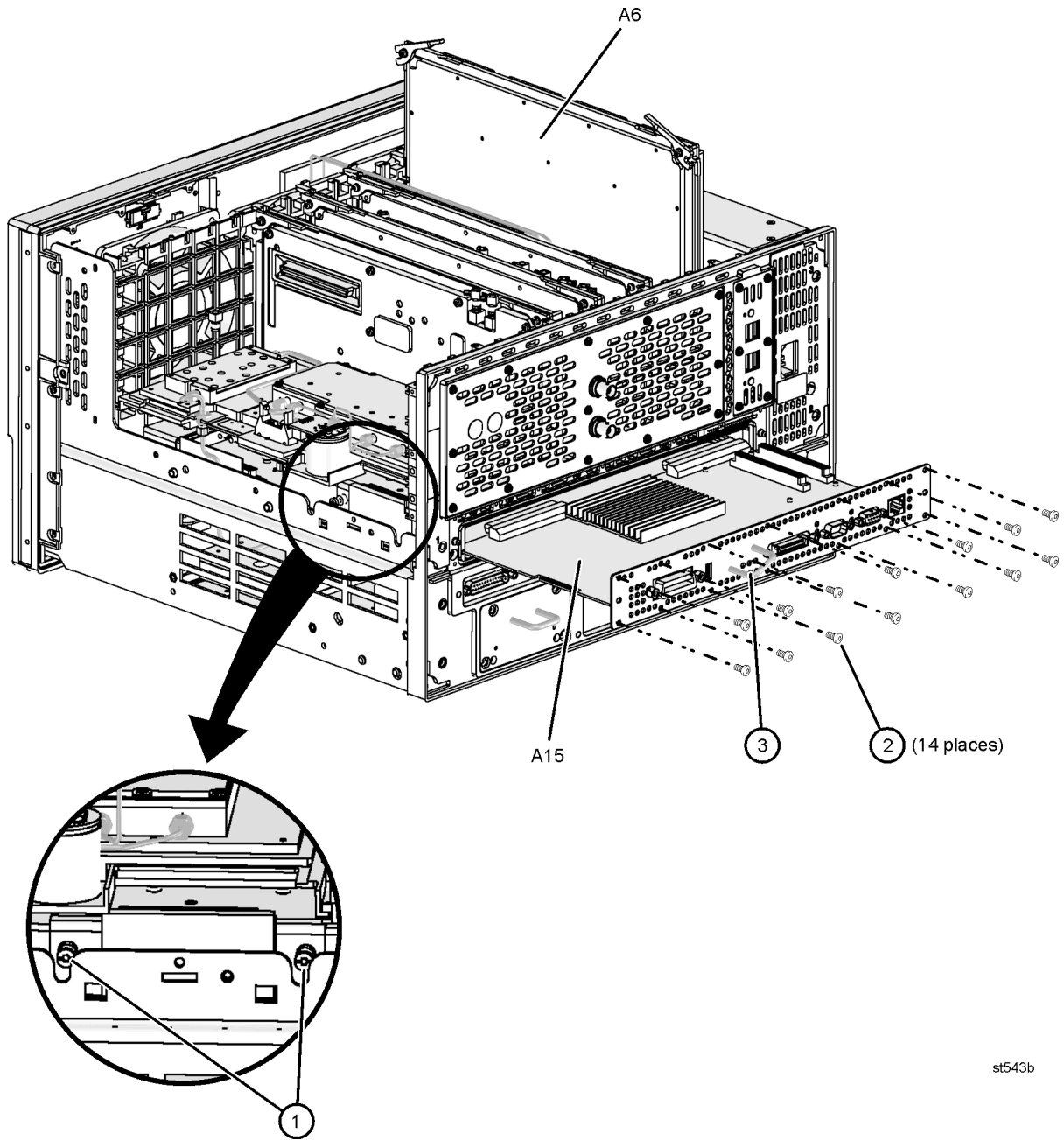
1. Disconnect the hard disk drive assembly (HDDA) ribbon cable and interface board from the A15 CPU board by removing the two screws (item ①).
2. Disengage the A6 SPAM board from the A15 CPU board by performing the following steps.
  - a. Lift the two extractors located at each end of the board.
  - b. While holding onto the extractors, lift the board halfway out of the slot.
  - c. Let the extractors drop to their normal position.
  - d. Lower the board into the slot.

The board should now rest above its normal seated position.

3. With a T-10 TORX driver, remove the 14 screws (item ②) from the rear panel of the A15 CPU board assembly.
4. Gently pull on the finger grip (item ③) to disengage the A15 CPU board from the analyzer.
5. Slide the A15 CPU board out of the analyzer.



**Figure 3 A15 CPU Board Removal**



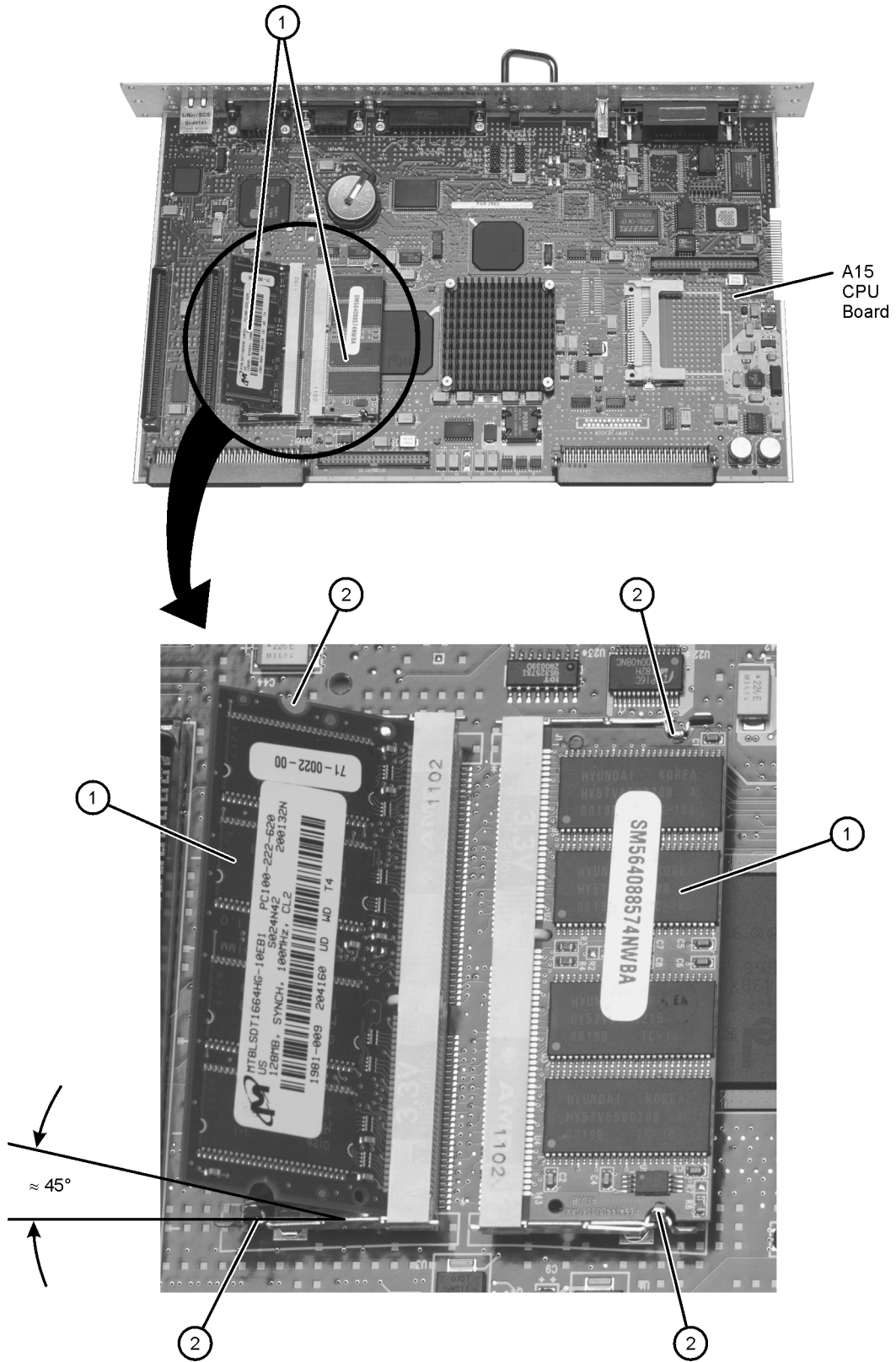
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### Step 3. Replace the Memory Cards

Refer to [Figure 4](#) for this procedure.

1. Locate the memory cards (item ①) on the A15 CPU board.
2. Pull the two retainers (item ②) away from each memory card (item ①) to release the card. The memory cards are under spring tension and should raise to a 45-degree angle to the A15 CPU board when the retainers are released. It may be necessary to pull upward lightly on the memory card. **DO NOT FORCE THE CARD. MAKE SURE THE RETAINERS ARE FULLY DISENGAGED.**
3. Remove the memory cards from their connectors.
4. Insert the new memory cards into their connectors at a 45 degree angle, making sure that they are firmly seated in their connectors. Each card must be inserted into its connector in the same relative position as the card that was removed (approximately 45 degrees from the A15 CPU board).
5. Push each memory card down toward the CPU board until both of the retainers latch. If the memory card is not properly installed in its connector, the retainers will not align with the notches in the sides of the memory card and will not engage the card.

**Figure 4 Memory Card Replacement**



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## Step 4. Reinstall the A15 CPU Board

Refer to [Figure 3](#) for this procedure.

1. Slide the A15 CPU board into the analyzer slot while being sure that nothing is in its path that may obstruct it, such as the A6 SPAM board.
2. With a T-10 TORX driver, install the 14 screws (item ②) into the A15 CPU board.
3. Reinstall the A6 SPAM board into the A15 CPU board by aligning it with the connector on the A16 test set motherboard and pressing down on the board to firmly seat it into position. Make sure the board extractors are down in a horizontal position.
4. Reconnect the hard disk drive assembly (HDDA) ribbon cable and interface board to the A15 CPU board by reinstalling the two screws (item ①).

## Step 5. Verify the New Memory Cards

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<b>WARNING</b>	<b>This procedure is performed with power supplied to the analyzer while its protective covers are removed. Be extremely careful. Energy available at many points may, if contacted, result in personal injury.</b>
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1. Connect the power cord to the analyzer and turn on the power. Wait for the Windows® Desktop display to appear.
2. Verification of the new memory cards can be performed in two different ways:

### Using My Computer

- a. Double-click on the **My Computer** icon.
- b. Click **Help, About Windows**.
- c. Read the physical memory available number on the display. This number should be approximately 520,000 KB.

### Using Ctrl Alt, Del

- a. Key in **Ctrl Alt, Del** on the keyboard.
  - b. Click **Task Manager**.
  - c. Select the **Performance** index tab.
  - d. Read the Physical Memory (K), Total number on the display. This number should be approximately 520,000 KB.
3. If the physical memory available number is not correct:
    - a. Turn off the analyzer, remove the power cord, wait 30 seconds, then remove the A15 CPU board again. **Do not attempt to troubleshoot the problem with power supplied to the analyzer.** Check that the memory cards are properly installed in their connectors with the retainers fully engaged.
    - b. Reinstall the A15 CPU board, reconnect the power cord, turn on the power, and again read the physical memory number.

Windows® is a U.S. registered trademark of Microsoft Corporation.

- c. If the number is still not correct, turn off the analyzer, remove the power cord, wait 30 seconds, then remove the A15 CPU board again. Remove the newly installed memory cards and replace them with known good cards. The original memory cards can be used.
- d. Reinstall the A15 CPU board, reconnect the power cord, turn on the power, and again read the physical memory number.
- e. If the physical memory number is still not correct for the memory cards installed, contact Agilent for assistance. Refer to [“Getting Assistance from Agilent” on page 2](#).
- f. If the physical memory number is correct for the memory cards installed, one or more of the new memory cards are faulty. Contact Agilent for replacement. Refer to [“Getting Assistance from Agilent” on page 2](#).

## Step 6. Reinstall the Inner and Outer Covers

Refer to [Figure 2](#) for this procedure.

### Reinstall the Inner Cover

1. Place the inner cover on the analyzer. There are two alignment pins on the front frame that must be aligned with holes in the cover.
2. With a T-10 TORX driver, install the 11 screws (item ⑥).

### Reinstall the Outer Cover

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<b>CAUTION</b>	This part of the procedure is best performed with the analyzer resting on its front handles in the vertical position. <i>Do not place the analyzer on its front panel without the handles.</i> This will damage the front panel assemblies.
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3. Slide the cover onto the frame.
4. With a T-20 TORX driver, install the four rear panel feet (item ③) by installing the center screws (item ④).
5. Slide the four bottom feet (item ⑤) onto the cover.
6. With a T-20 TORX driver, install the strap handles (item ①) by tightening the screws (item ②) on both ends.