

Instructions



**DSA82UP
Option MU2**

**DSA8200 Instruments
Memory Upgrade Kit**

071-2583-00

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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- In North America, call 1-800-833-9200.
- Worldwide, visit www.tektronix.com to find contacts in your area.

General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid potential hazards, use this product only as specified.

Only qualified personnel should perform service procedures.

While using this product, you may need to access other parts of the system. Read the *General Safety Summary* in other system manuals for warnings and cautions related to operating the system.

To Avoid Fire or Personal Injury

Use Proper Power Cord. Use only the power cord specified for this product and certified for the country of use. Power cord needed only in the mainframe, not modules.

Connect and Disconnect Properly. Do not connect or disconnect probes or test leads while they are connected to a voltage source.

Ground the Product. The mainframe is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Ground the Product. The modules are indirectly grounded through the grounding conductor of the mainframe power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Observe All Terminal Ratings. To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.

Do not apply a potential to any terminal, including the common terminal, that exceeds the maximum rating of that terminal.

Do Not Operate Without Covers. Do not operate this product with covers or panels removed.

Use Proper Fuse. Use only the fuse type and rating specified for this product.

Avoid Exposed Circuitry. Do not touch exposed connections and components when power is present.

Wear Eye Protection. Wear eye protection if exposure to high-intensity rays or laser radiation exists.

Do Not Operate With Suspected Failures. If you suspect there is damage to this product, have it inspected by qualified service personnel.

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in an Explosive Atmosphere.

Keep Product Surfaces Clean and Dry.

Provide Proper Ventilation. Refer to the manual's installation instructions for details on installing the product so it has proper ventilation.

Symbols and Terms

Terms in this Manual. These terms may appear in this manual:



WARNING. *Warning statements identify conditions or practices that could result in injury or loss of life.*



CAUTION. *Caution statements identify conditions or practices that could result in damage to this product or other property.*

Terms on the Product. These terms may appear on the product:

DANGER indicates an injury hazard immediately accessible as you read the marking.

WARNING indicates an injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

Symbols on the Product. The following symbols may appear on the product:



CAUTION
Refer to Manual



WARNING
High Voltage



Protective Ground
(Earth) Terminal



Mains Disconnected
OFF (Power)



Mains Connected
ON (Power)



Standby

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* before performing any service procedures.

Do Not Service Alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power. To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power.

Use Care When Servicing With Power On. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

Kit Description

This kit option supports adding a single 1 GB memory module to the CPU board in the DSA82000 instruments, changing the amount of memory from 512 MB to 1 GB.

If installation service is desired, please contact the service center in your region to schedule installation.

This section contains instructions to check that the additional memory which you installed is functioning.

Before You Begin

You can install this kit option whether installing the product software provided by the main kit or not. If you are installing the product software, install it before installing this kit option (see main kit instructions 071-1385-XX).

You can check your current memory size of your instrument by performing the procedure *Verify Operation* on page 23. If the memory size is 512 MB, you can install Option MU2.

Products

DSA8200 Instruments with 512 MB of memory

Kit Parts List

Circuit/figure number	Quantity	Part number	Description
1	1 ea.	167-1048-00	IC, MEMORY; 128M X 64, 1GB DDR2 1.8V, 3-3-3, 667 MHZ; MT8HTF12864AY-667E1, DIMM240, DS1
1	1 ea.	071-2583-XX	MANUAL, TECH; INSTRUCTION, OPTION INSTALLATION; DSA82UP OPTION MU2

Installation Instructions

This section contains the procedures needed to install the memory module in the DSA8200 instruments.

These instructions are a service procedure and should be performed by qualified service personnel. If you need further details for disassembling or reassembling the product, refer to the DSA8200 Service manual. Contact your nearest Tektronix Service Center or Tektronix Factory Service for installation assistance.



CAUTION. *To prevent static discharge damage, service the product only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this kit.*

Preparation



WARNING. *Before doing this or any other procedure in this manual, read the Safety Summaries found at the beginning of these instructions.*

This subsection contains the following items:

- Preparatory information that you need to properly do the procedures that follow.
- A list of tools required.
- Procedures to disassembly the instrument and install the additional memory module.



WARNING. *Before doing any procedure in this subsection, disconnect the power cord from the line voltage source. Failure to do so could cause serious injury or death.*

Equipment Required. Most modules in this instrument can be removed with a screwdriver handle mounted with a size T-15, Torx® screwdriver tip. Use this tool whenever a procedure step instructs you to remove or install a screw unless a different size screwdriver is specified in that step.

Table 1: Tools required for module removal

Item No.	Name	Description	Part number
1	Screwdriver handle	Accepts Torx®-driver bits	General Tool: 620-440
2	T-15 Torx tip	Used for removing most the instrument's screws.	General Tool: 640-247
3	T-20 Torx tip	Used for removing the handle screws.	General Tool: 640-250
4	1/4 inch flat-bladed screwdriver	Screwdriver for unlocking side panels.	Standard tool
5	#0 Phillips screwdriver	Screwdriver for removing small phillips screws.	Standard tool

Follow the procedures in the order presented.

Trim and Carrying Handle

1. *Locate module to be removed:* Locate the Trim to be removed. See Figure 1, page 10.
2. *Remove the top cover trim:* Use Figure 1, page 10 as a guide.
 - a. Remove the accessory pouch; it snaps off.
 - b. Remove the four T-15 Torxdrive screws that secure the top cover trim to the instrument. The T-15 Torxdrive screws also secure the snap studs to the top cover.
 - c. Remove the top cover trim from the instrument.
3. *Remove the front panel trim:* Use Figure 1, page 10, as a guide.
 - a. Slide the flat end of a soldering aid (or flat screwdriver) into the side slot on the trim ring to help detach the side snaps.
 - b. Swing the bottom of the ring upward and off the front panel.
4. *Remove the acquisition trim:* Use Figure 1, page 10 as a guide.
 - a. Remove the six T-15 Torxdrive screws that secure the acquisition trim to the instrument.
 - b. Remove the knobs from the electrical and optical ejector levers. Grasp the knobs with your fingers and pull straight out.
 - c. Remove the acquisition trim from the instrument.
5. *Remove the carrying handle and the right/left side trim panels:* Use Figure 1, page 10 as a guide.
 - a. Remove the two T-20 Torxdrive screws that secure the handle to the instrument. Remove the handle from the instrument.



CAUTION. *Over-tightening the handle screws may cause the handle to break off from the cabinet. When reinstalling the screws, use a torque wrench to tighten the screws to 8-10 in-lb.*

- b. Slide the side trim panels towards the rear of the instrument allowing the tabs to clear the cover openings, then pull out to remove the panels from the instrument.
6. *Reinstallation:* Do in reverse steps 2 through 5 to reinstall the appropriate trim.

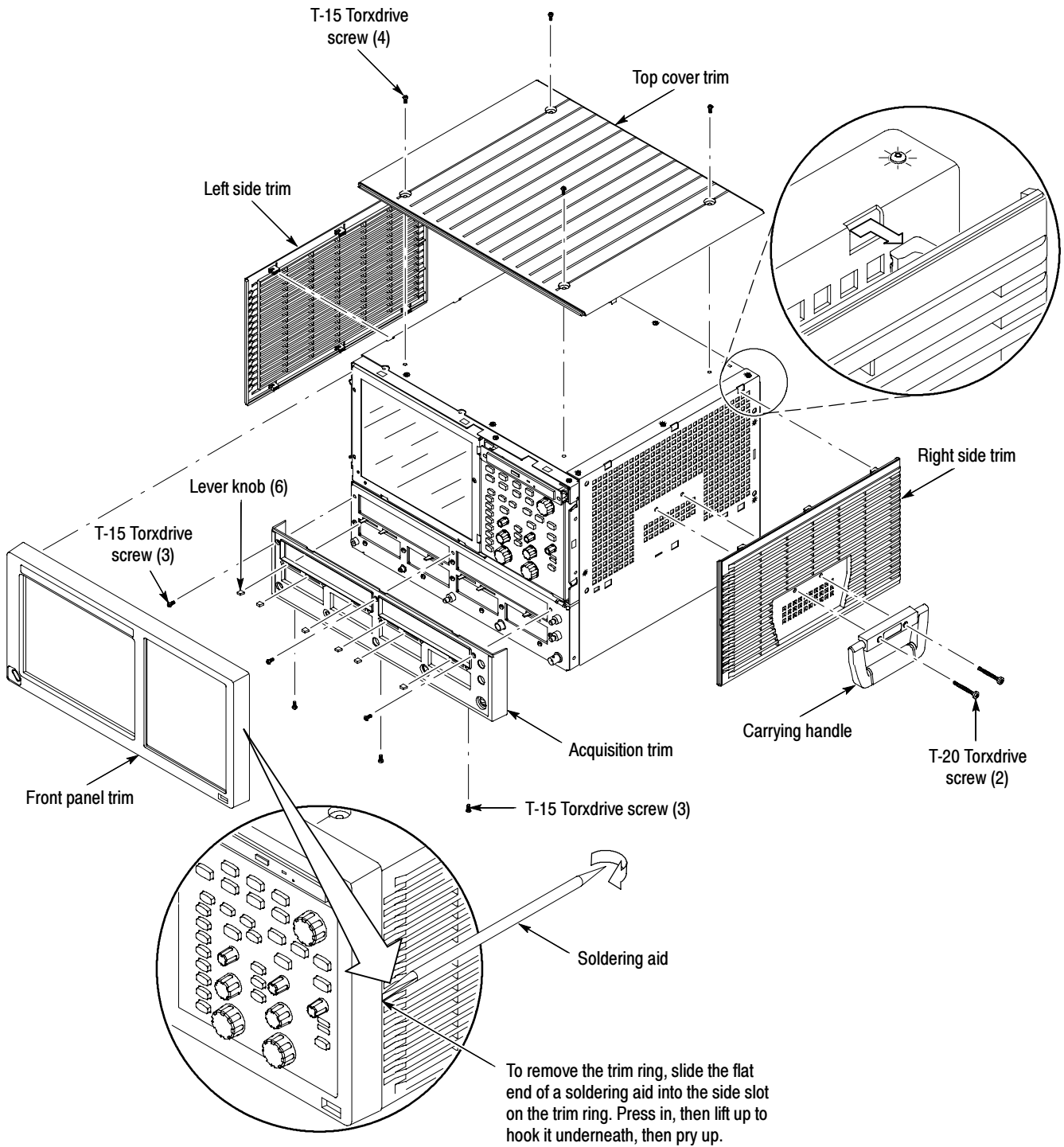
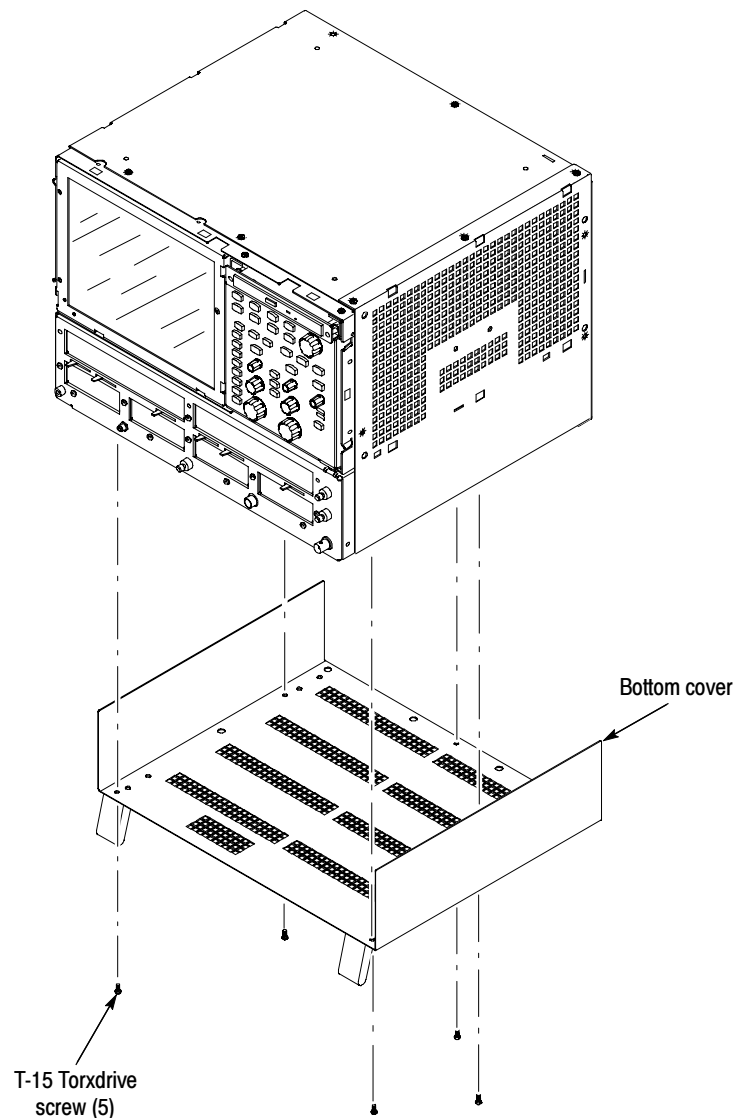


Figure 1: Trim removal

Bottom Cover

1. *Locate the module to be removed:* Locate the bottom cover. See Figure 2, page 11.
2. *Orient the instrument:* Set the instrument so its top is down on the work surface and its bottom is facing you.
3. *Remove the bottom cover:* Use Figure 2 on page 11 as a guide.
 - a. Remove the five T-15 Torxdrive screws that secure the bottom cover to the instrument.
 - b. Remove the bottom cover from the instrument.
4. *Reinstallation:* Do in reverse steps a and b to reinstall the cabinet feet.

**Figure 2: Bottom cover removal**

Left and Right Covers

1. *Locate the module to be removed:* Locate the left and right covers. See Figures 3 and 4, pages 13 and 14
2. *Orient the instrument:* Set the instrument so its rear is on the work surface and the front of the instrument facing the technician.

NOTE. *All mounting screw holes are indicated by a star etched around the mounting hole.*

3. *Remove the left and right covers:* Use Figures 3 and 4 on pages 13 and 14 as a guide.
 - a. Remove the thirteen T-15 Torxdrive screws that secure the covers to the top and both sides of the chassis.
 - b. Remove the nine T-15 Torxdrive screws that secure the covers to the bottom of the chassis.
 - c. Pull the bottom-right cover down and slide to the right to remove from the instrument. Pull the top-left cover upward and slide to the left to remove from the instrument.



CAUTION. *Take care not to bind or snag the covers on the instrument's internal cabling as you remove or install.*

4. *Reinstallation:* Do in reverse steps a through c to reinstall the cabinet.

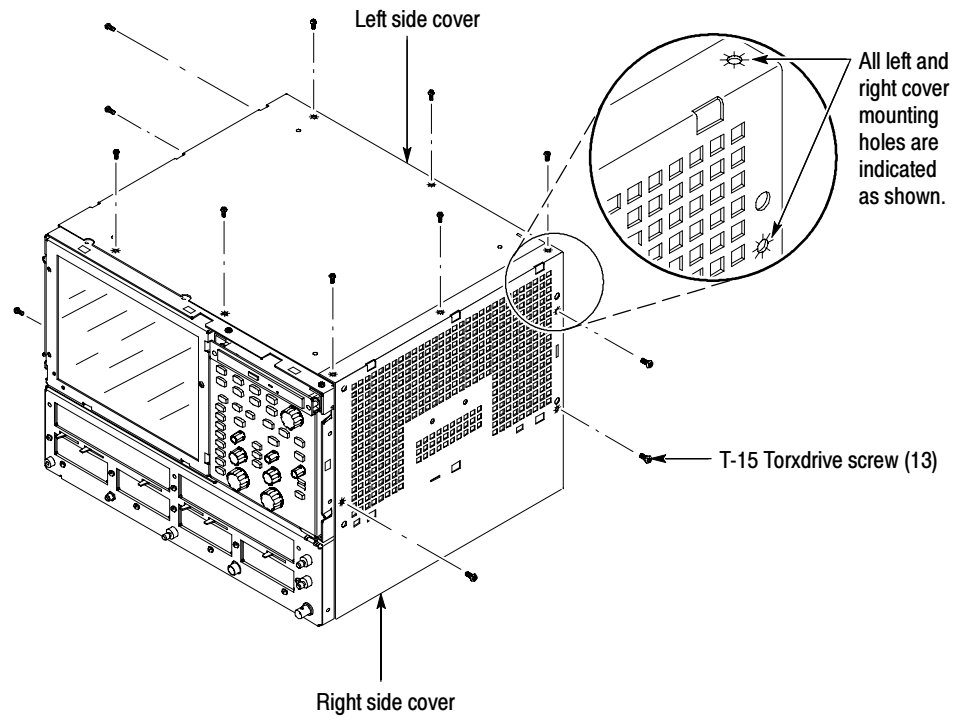


Figure 3: Cover removal

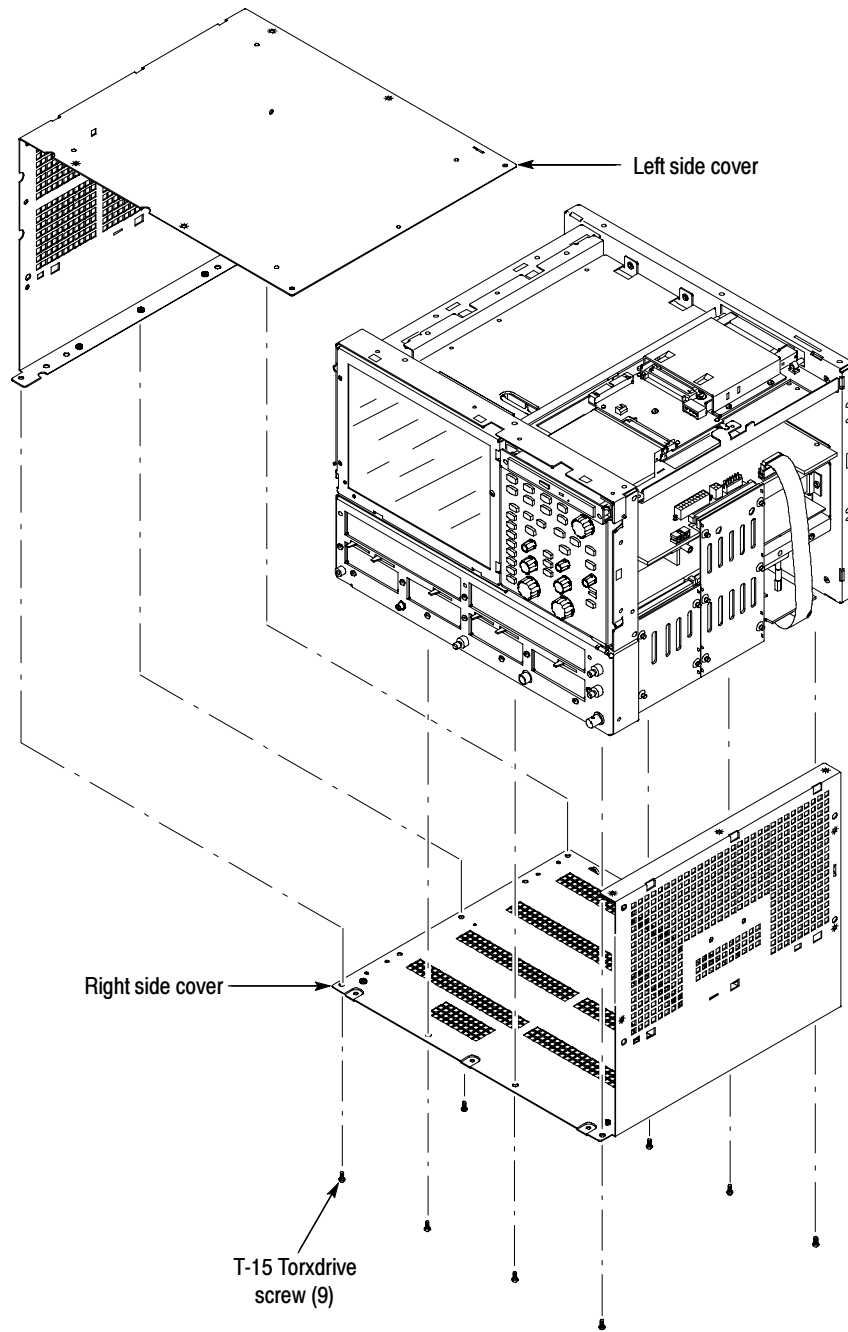


Figure 4: Cover removal

Hard Disk Drive

1. *Locate module to be removed:* Locate the Hard Disk Drive in the locator diagram *Internal Modules*, Figure 5, page 16.



CAUTION. *Do not remove the replaceable hard disk drive when the mainframe is powered on.*

The replaceable hard disk drive may be permanently damaged if it is removed while the mainframe is powered on.

Always power down the mainframe before removing the replaceable hard disk drive.

2. *Orient the instrument:* Set the instrument so its bottom is down on the work surface and its rear panel is facing you.
3. *Remove the hard disk drive:* See Figure 6, page 17.
 - a. Verify that the chassis is powered down.
 - b. Remove the two thumbscrews from the front of the hard disk drive assembly.
 - c. Grasp the hard disk drive assembly and slide it out of the instrument.
4. *Reinstallation:* Do step a. Then, in reverse, do steps b and c to reinstall the hard disk drive assembly.

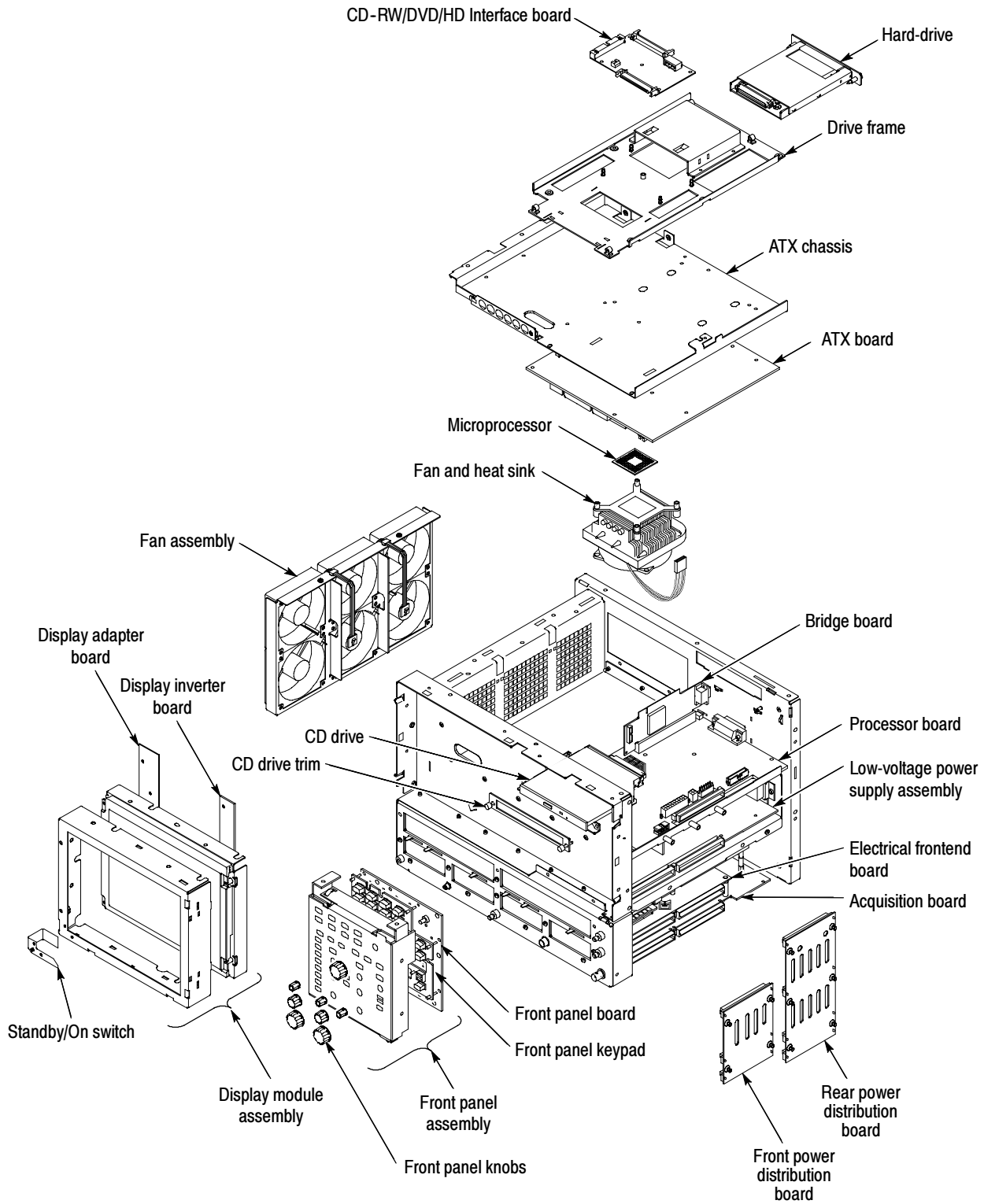


Figure 5: Internal modules

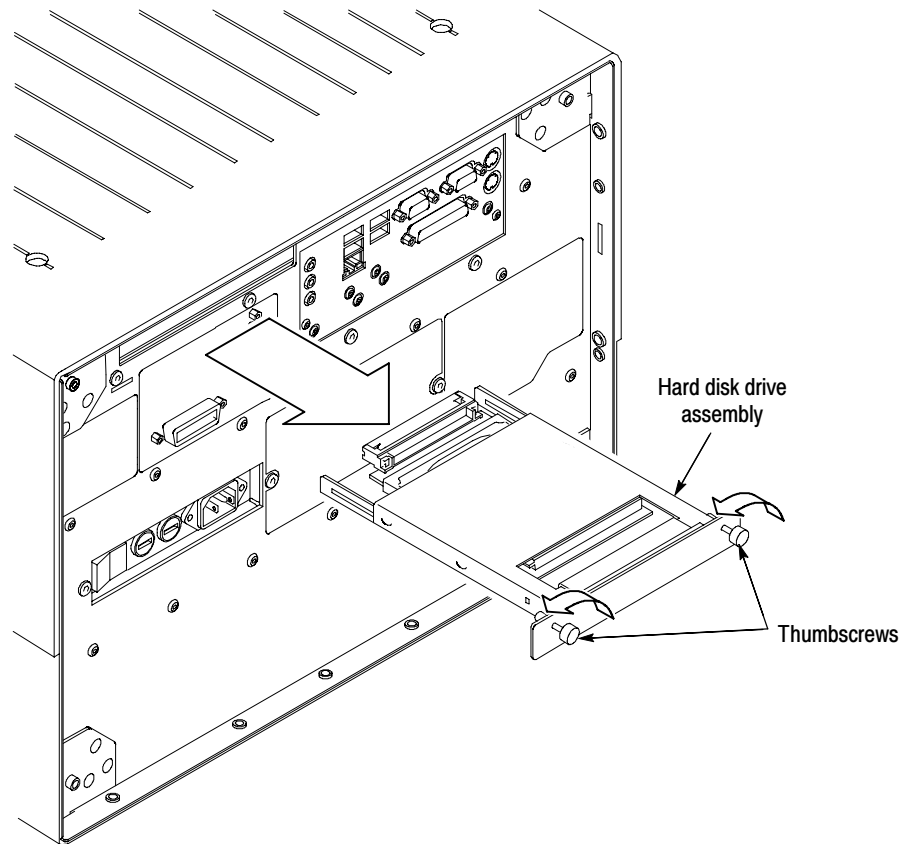


Figure 6: Hard drive disk removal

CD-RW/DVD Drive

1. *Locate module to be removed:* Locate the CD-RW/DVD drive in the locator diagram *Internal Modules*, Figure 5, page 16.
2. *Orient the instrument:* Set the instrument so its bottom is down on the work surface and its front panel is facing you.
3. *Remove the CD-RW/DVD drive trim.* See Figure 7, page 18. Remove the two Phillips screws that hold the trim to the mounting frame and remove the trim.
4. *Remove the CD-RW/DVD drive.* See Figure 7, page 18.
 - a. Place one thumb on each side of the front of the CD-RW/DVD drive and your forefingers on the back of the drive.
 - b. Pull the drive straight toward you until the drive detaches from the CD/HD interface board.
5. *Reinstallation:* Do in reverse steps 3 and 4 to reinstall the CD-RW/DVD drive.

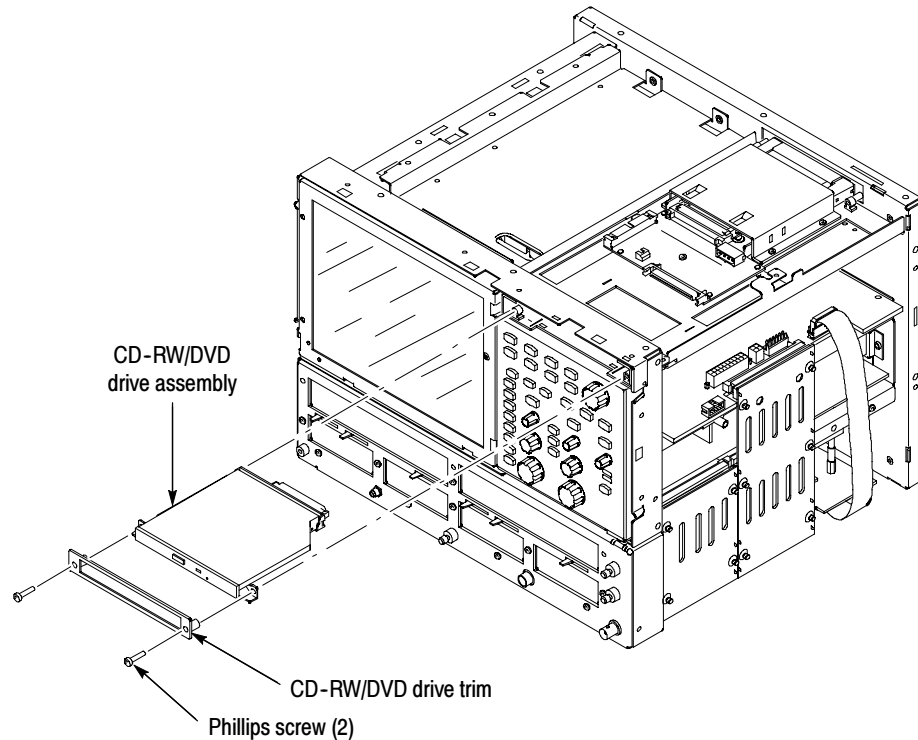


Figure 7: CD-RW/DVD disk drive removal

**CD-RW/DVD and Hard
Disk Drive Mounting
Frame**

1. *Locate module to be removed:* Locate the CD-RW/DVD and hard drive mounting frame in the locator diagram *Internal Modules*, Figure 5, page 16.
2. *Orient the instrument:* Set the instrument so its bottom is down on the work surface and the side with the mounting drive side is facing you.
3. *Remove the mounting frame.* See Figure 8, page 19.
 - a. Remove the six T-15 Torxdrive screws that secure the mounting frame to the ATX chassis.
 - b. Remove the CDD/HDD drive tape cable and the P1 cable from the CDD/HDD interface board.
 - c. Grasp both far side corners of the drive frame.
 - d. Lift up and toward the rear of the instrument simultaneously.
 - e. Gently shift the frame from side to side as you pull it the rear until you can remove it completely.
4. *Reinstallation:* Do in reverse the substeps of step 3 to reinstall the CD-RW/DVD and hard drive mounting frame.

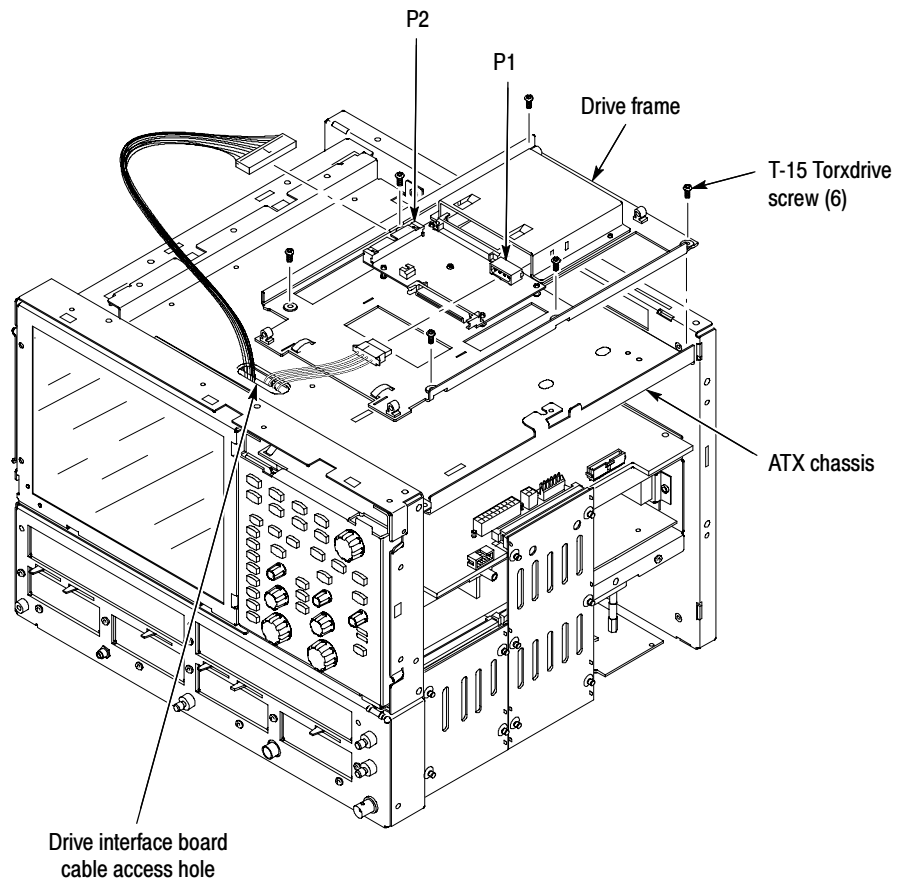


Figure 8: Hard drive and CD-RW/DVD drive mounting frame removal

ATX Board Assembly

- 1.** *Locate module to be removed:* Locate the ATX board assembly in the locator diagram *Internal Modules*, Figure 5, page 16.
- 2.** *Remove the ATX Board Assembly:* See Figure 9, page 21.
- 3.** *Orient the instrument:* Set the instrument so its bottom is down on the work surface and its side panel is facing you.
 - a.** Remove the three T-15 Torxdrive screws that secure ATX board assembly to the chassis.
 - b.** Remove the four T-15 Torxdrive screws that secure ATX board assembly to the rear chassis.
 - c.** Grasp the front edge of the ATX board assembly and pull up on the assembly to disconnect the Riser Adapter from the edge connector of the PC Processor board.
 - d.** Detach the following connections from the microprocessor board: J410, J8H1 (FP USB 1), and J300.
 - e.** Remove the ATX board assembly from the instrument.
 - f.** *Reinstallation:* Do in reverse steps 3a through 3e.

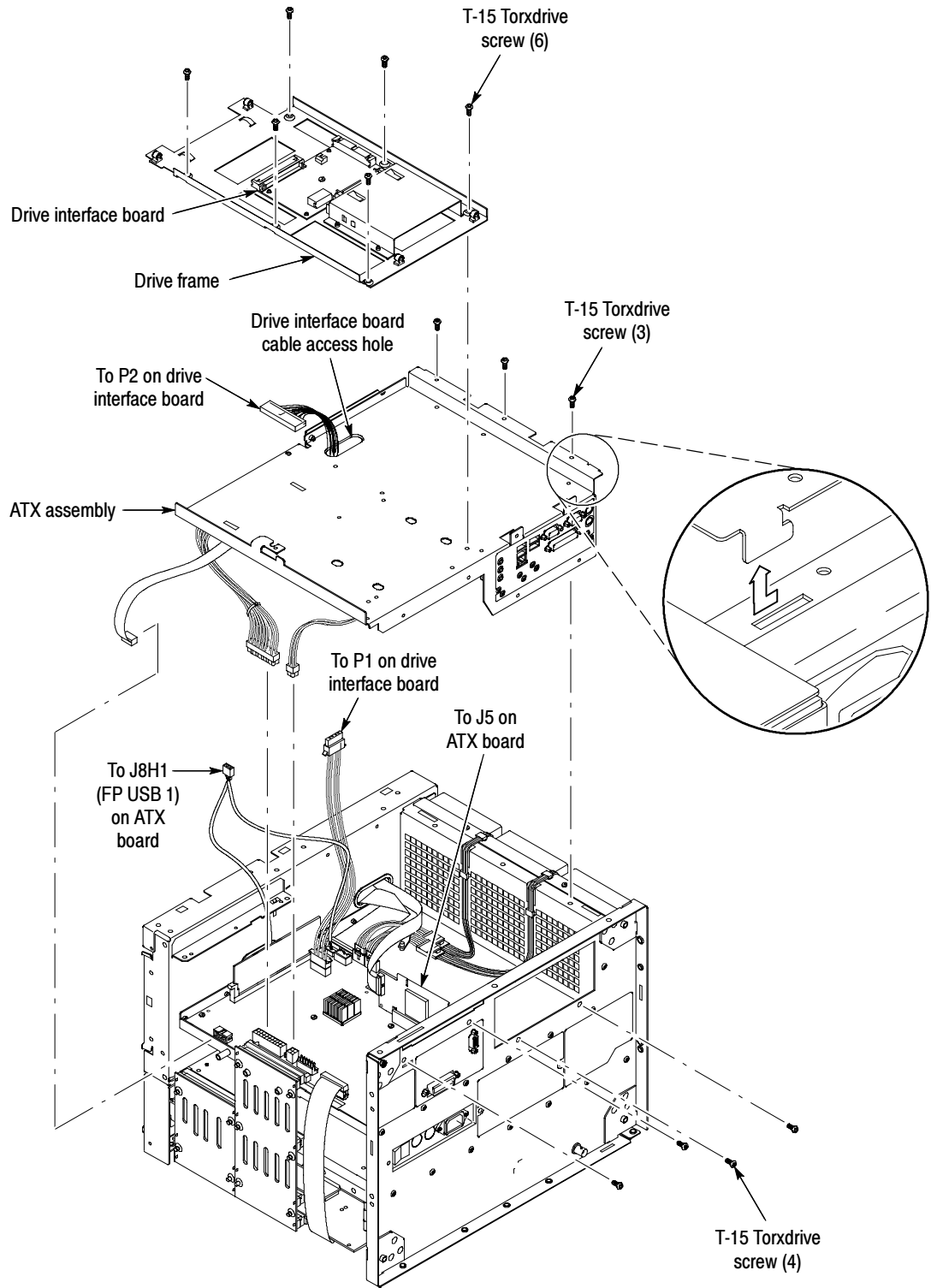


Figure 9: ATX assembly removal

Install Memory and Reassemble

1. *Locate the memory module slot.* See Figure 10 for the location of the memory slots.
2. Remove the existing memory from the circuit board.



CAUTION. *Due to compatibility issues, do not leave the existing memory installed in the instrument.*

3. Install the 1 GB memory module from the kit into the memory slot on the circuit board.
4. Verify that the memory module is fully seated into the slot and that it is secured in place by the the tabs at each end of the memory module.
5. Reassemble the instrument by performing the steps in reverse order.

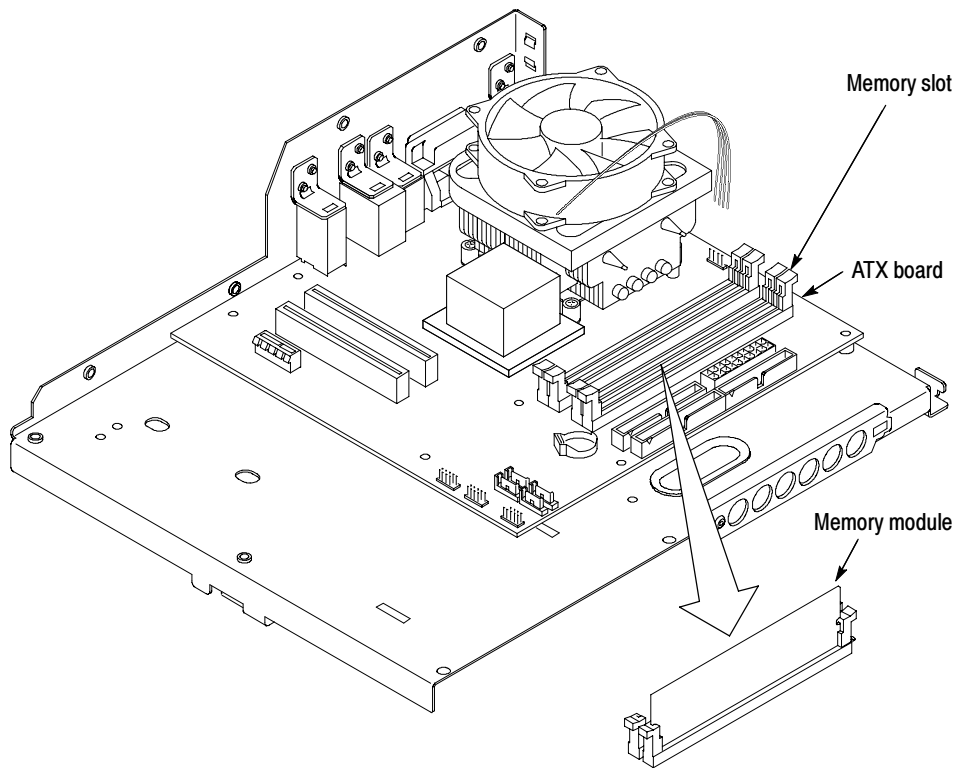


Figure 10: Memory slot location

Verify Operation

This section contains instructions to check that the additional memory which you installed is functioning.

1. Connect the power cord to the rear panel of the instrument and to the mains power.
 2. Switch the power switch on the rear panel to the on position.
 3. Push the Standby/On button to power on the instrument.
 4. After the instrument application opens, select Minimize from the File menu to minimize the application.
 5. Right click on the My Computer icon.
 6. Select Properties from the pop-up menu.
 7. Select the Performance tab in the Properties dialog box.
 8. Check that Memory lists the correct amount of RAM.
- End of document ■

