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Find the *National Instruments AT-MXI-2* at our website: *Click HERE*

# AT-MXI-2 Configuration and Installation

Chapter 2

This chapter contains the instructions to configure and install the AT-MXI-2 module.

**Warning:** ***Electrostatic discharge can damage several components on your AT-MXI-2 module. To avoid such damage in handling the module, touch the antistatic plastic package to a metal part of your computer chassis before removing the AT-MXI-2 from the package.***

## Configure the AT-MXI-2

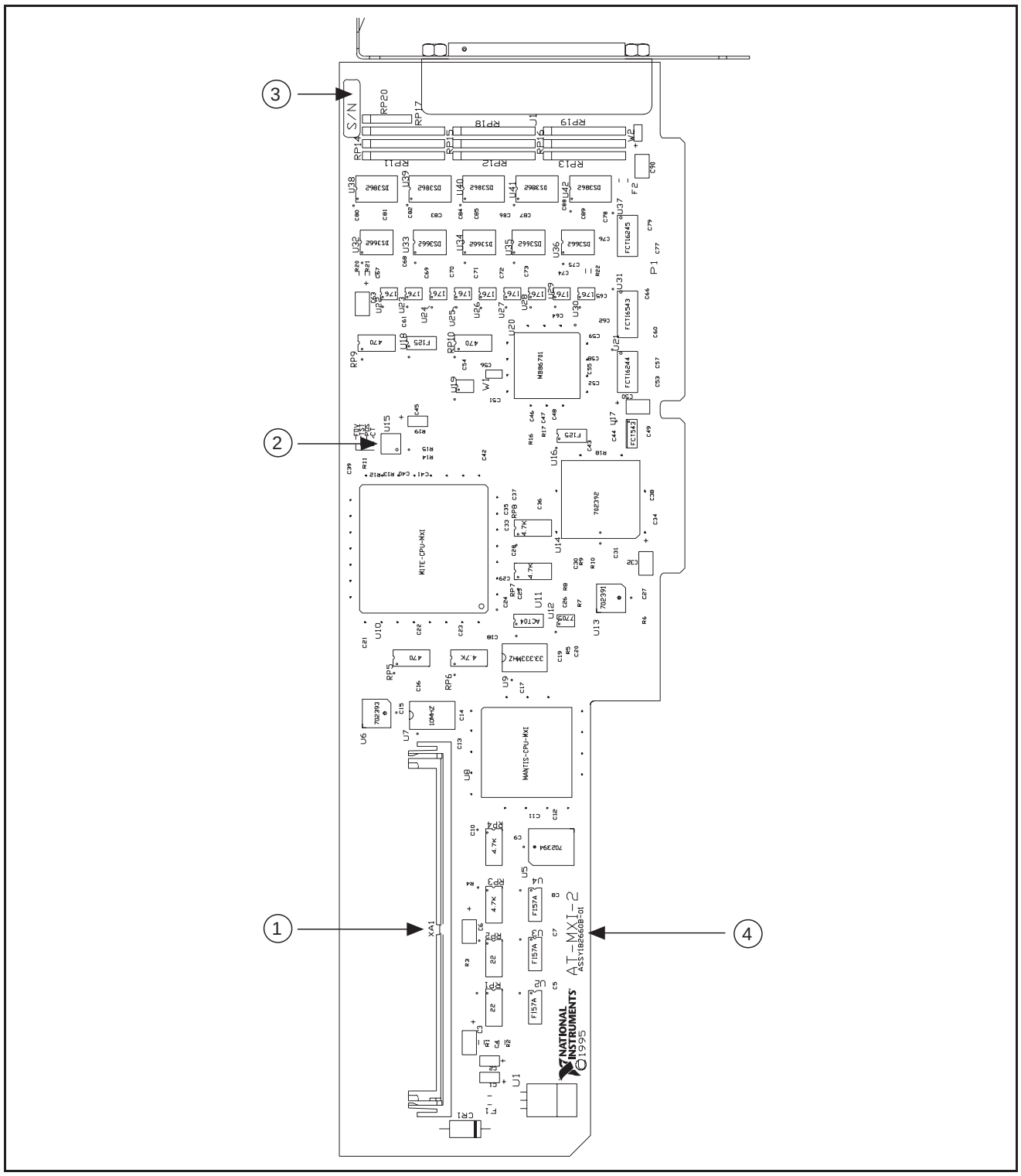
This section describes how to configure the following options on the AT-MXI-2:

- AT Bus configuration
- Onboard DRAM

Figure 2-1 shows the AT-MXI-2. The drawing shows the location and factory-default settings on the module.



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| | | | |
|---|---|---|---|
| 1 | DRAM | 3 | Serial Number |
| 2 | Switch U15 | 4 | Product Name and Assembly Number |

**Figure 2-1.** AT-MXI-2 Parts Locator Diagram



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## AT Bus Configuration

Due to the Plug and Play functionality of the board, the AT-MXI-2 is completely software configurable. Two types of configuration must be performed on the AT-MXI-2: AT Bus configuration and VXI/VME configuration. AT Bus-related configuration includes setting the I/O address, DMA channel, interrupt channel, and memory base address and size.

The AT-MXI-2 board works in either a Plug and Play mode or a switchless mode. The modes dictate how the I/O address, memory base address and size, DMA channel, and interrupt channel are determined and assigned to the board.

The AT-MXI-2 board is fully compatible with the industry-standard Intel/Microsoft Plug and Play specification version 1.0a. A Plug and Play system arbitrates and assigns resources through software, freeing you from manually setting switches and jumpers. These resources include the I/O address, memory base address and size, DMA channel, and interrupt channel. Each AT-MXI-2 is factory configured to request these resources from the Plug and Play Configuration Manager.

The Configuration Manager receives all of the resource requests at startup, compares the available resources to those requested, and assigns the available resources as efficiently as possible to the Plug and Play boards. Application software can query the Configuration Manager to determine the resources assigned to each board without your involvement. The Plug and Play software is installed as a device driver or as an integral component of the computer BIOS.

You can use the AT-MXI-2 board in a non-Plug and Play system as a switchless board. A non-Plug and Play system is a system in which the Configuration Manager has not been installed and which does not contain any non-National Instruments Plug and Play products. You use `VXIedit`, an NI-VXI software configuration utility, to enter the I/O base address, memory base address and size, DMA and interrupt selections, and the application software assigns them to the board.

☞ **Note:** ***Avoid resource conflicts with other boards. For example, do not configure two boards for the same I/O base address.***

Use the **Bus Configuration Editor** in `VXIedit` to configure the AT bus configuration for the AT-MXI-2. `VXIedit` is described in Chapter 6, *NI-VXI Configuration Utility*.



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## Configuration EEPROM

The AT-MXI-2 has an onboard EEPROM, which stores default register values that are loaded at power-on. The EEPROM is divided into two halves—a factory-configuration half, and a user-configuration half—so you can modify the user-configurable half, while the factory-configured half stores a back-up of the default user settings. The factory configuration is a minimal configuration that allows you to boot your AT-MXI-2 regardless of the changes made to the user configuration.

For information on configuring the onboard EEPROM, refer to Appendix C, *EEPROM Configuration.*

## Onboard DRAM

The AT-MXI-2 can accommodate one DRAM SIMM. Table 2-1 lists the SIMMs you can use. You can use 32-bit or 36-bit SIMMs since DRAM parity is not required. The AT-MXI-2 can hold up to 16 MB of onboard memory. The AT-MXI-2 supports DRAM speeds of 80 ns or faster.

**Table 2-1.** AT-MXI-2 DRAM Configurations

| SIMMs | Total DRAM | National Instruments Option? |
|---|---|---|
| — | 0 | — |
| 256 K x 32 or<br>256 K x 36 | 1 MB | — |
| 1 M x 32 or<br>1 M x 36 | 4 MB | YES |
| 4 M x 32 or<br>4 M x 36 | 16 MB | YES |



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# Install the AT-MXI-2

This section contains general installation instructions for the AT-MXI-2. Consult your computer user manual or technical reference manual for specific instructions and warnings.

1. Plug in your PC AT or compatible computer before installing the AT-MXI-2. The power cord grounds the computer and protects it from electrical damage while you are installing the module.

**Warning:** ***To protect both yourself and the computer from electrical hazards, the computer should remain off until you are finished installing the AT-MXI-2 module.***

2. Remove the top cover or access port to the AT bus.
3. Select any available PC AT expansion slot.
4. Locate the metal bracket that covers the cut-out in the back panel of the chassis for the slot you have selected. Remove and save the bracket-retaining screw and the bracket cover.
5. Touch the metal part of the power supply case inside the computer to discharge any static electricity that might be on your clothes or body.
6. Line up the AT-MXI-2 with the MXI-2 connector near the cut-out on the back panel. Slowly push down on the top of the AT-MXI-2 until its card-edge connector is resting on the expansion slot receptacle. Using slow, evenly distributed pressure, press the AT-MXI-2 straight down until it seats in the expansion slot.
7. Reinstall the bracket-retaining screw to secure the AT-MXI-2 to the back panel rail.
8. Check the installation.
9. Replace the computer cover.



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Figure 2-2 shows how to install the AT-MXI-2.

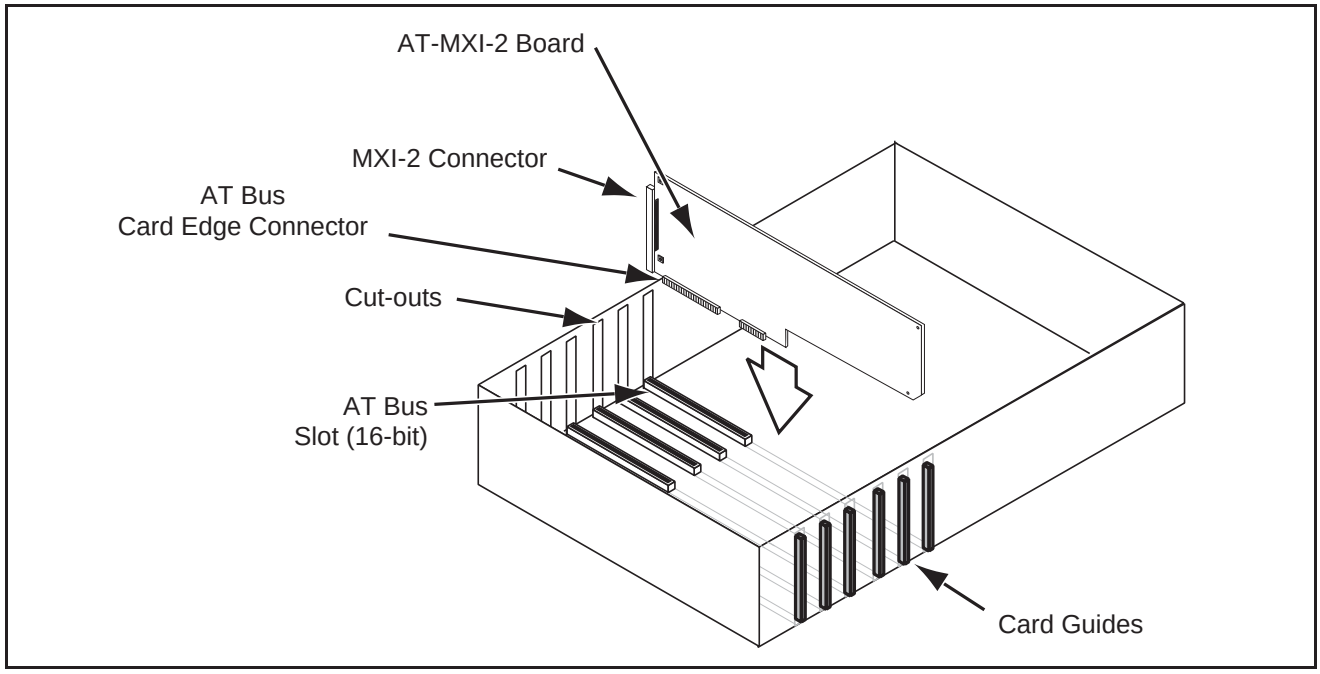



**Figure 2-2.** AT-MXI-2 Installed in a Computer



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