

**Sensoray Model 623
PC/104+ to PCI Adapter**

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Limited Warranty

Sensoray Company, Incorporated (Sensoray) warrants the Model 623 hardware to be free from defects in material and workmanship and perform to applicable published Sensoray specifications for two years from the date of shipment to purchaser. Sensoray will, at its option, repair or replace equipment that proves to be defective during the warranty period. This warranty includes parts and labor.

The warranty provided herein does not cover equipment subjected to abuse, misuse, accident, alteration, neglect, or unauthorized repair or installation. Sensoray shall have the right of final determination as to the existence and cause of defect.

As for items repaired or replaced under warranty, the warranty shall continue in effect for the remainder of the original warranty period, or for ninety days following date of shipment by Sensoray of the repaired or replaced part, whichever period is longer.

A Return Material Authorization (RMA) number must be obtained from the factory and clearly marked on the outside of the package before any equipment will be accepted for warranty work. Sensoray will pay the shipping costs of returning to the owner parts that are covered by warranty. A restocking charge of 25% of the product purchase price will be charged for returning a product to stock.

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Special Handling Instructions

The Model 623 circuit board contains CMOS circuitry that is sensitive to Electrostatic Discharge (ESD).

Special care should be taken in handling, transporting, and installing the 623 to prevent ESD damage to the board. In particular:

- Do not remove the circuit board from its protective anti-static bag until you are ready to install the board into the enclosure.
- Handle the circuit board only at grounded, ESD protected stations.
- Remove power from the PCI bus before installing or removing the circuit board.

1. Introduction

The Model 623 PC/104+ to PCI Hot Swappable Bus Adapter allows testing PC/104+ boards using the desktop PC. It offers significant cost and time savings: there is no need for a PC/104+ enclosure and processor, and the boards under test could be replaced without having to power the system down (with the help of *HotSwap* software utility that comes with the adapter).

2. System Requirements

The Model 623 adapter requires one PCI, 32-bit, 33 MHz slot. *HotSwap* utility requires Windows 95/98/2000/XP or Windows NT, and about 4 MB of hard drive space.

3. Specifications

| Parameter | Specification |
|------------------------|--|
| Bus | PCI, 32-bit, 33 MHz |
| Control | Single pushbutton illuminated switch |
| Mounting | Standard PC bracket |
| PC/104+ board mounting | Guide pins and custom ejector handle |
| Dimensions | 6½ x 4¾ x ¾ inches (not including the PC/104+ bracket) |
| Operating temperature | 0°C to 70°C |

4. Software

The Model 623 adapter comes with the *HotSwap* software utility that allows replacing the boards without having to reboot the PC.

4.1. Installation

Run *setup.exe* from the first disk of the set that comes with the adapter. Follow the on-line instructions of the installation program.

If both Windows 95/98 **and** NT are installed on the PC, the installation has to be run separately under each OS. It is recommended to select the same installation directory for the program files during both installations, to avoid unnecessary duplication.

4.2. Operation

After the PC is powered up with the board under test in the adapter, start the *HotSwap* utility. Click on the “Autodetect” button, until the board’s parameters are displayed in VendorID and DeviceID fields. Click on the “Save config” button. (To view the board’s PCI configuration space, select “View” from the menu bar). After the board’s configuration space is saved, the adapter power can be turned off.

When the board is replaced, and the adapter power is back on, click on “Reload config”, and the board is ready for operation.

The **HotSwap** utility stores the configuration data only for one board at a time, but it is possible to run several instances of this program, if necessary.

5. Adapter board

5.1. Installation

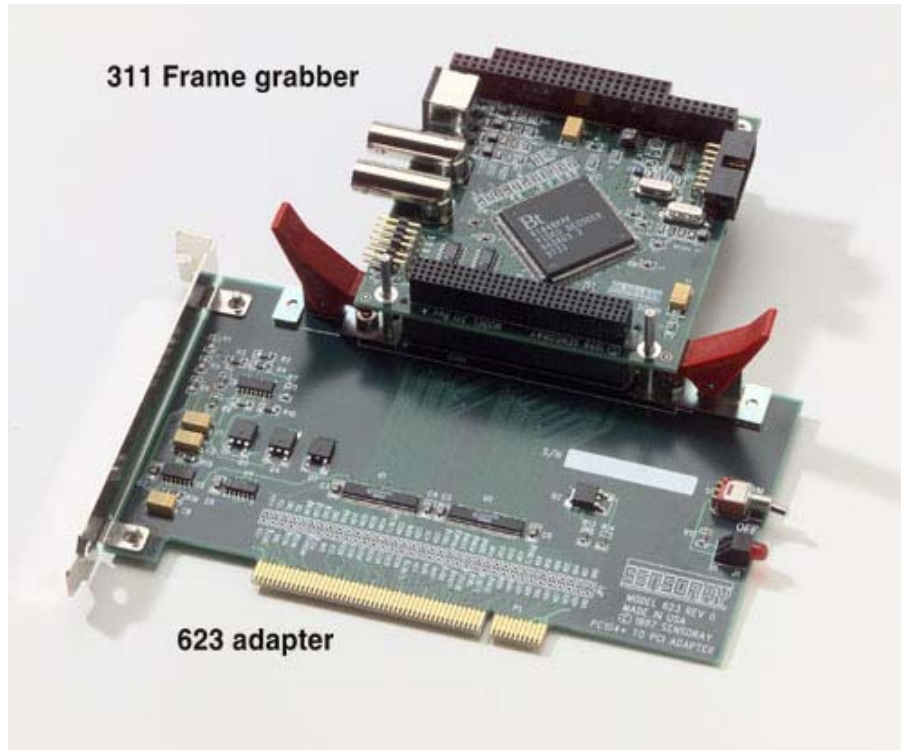
Power down the PC. Plug the Model 623 adapter into a PCI slot and secure the PC bracket with the screw. Plug in the board under test into the Model 623 adapter. Make sure the Model 623 power switch is on (depressed). Power up the PC.

5.2. Operation

PCI boards, unlike ISA boards, do not have any hardwired configuration information (addresses, interrupts, etc.). Each PCI board is configured at the boot-up, and the configuration information is stored in the PCI interface. Once the board is removed from the PC (even if the bus isolation adapter is used to keep the PC running), the information stored on the board is lost, so it would not respond to any PCI bus accesses after it is placed back into the adapter. Hence, the use of special software is required, that restores the configuration information after the board is powered back up. The **HotSwap** utility that comes with the Model 623 adapter saves and restores the configuration space of the PCI board. However, to be able to store this information initially, it requires the presence of the board (preferably known good) in the system at the boot-up.

5.3. PCI Header JP1

| | |
|---------|--------|
| -12V | +12V |
| TRST# | TCK |
| TDO | TMS |
| INTA# | TDI |
| INTD# | INTB# |
| PRSNT2# | INTC# |
| RST# | GNT# |
| GND | GND |
| CLK | REQ# |
| AD30 | AD31 |
| AD27 | AD29 |
| AD25 | AD28 |
| AD26 | AD24 |
| AD22 | C/BE3# |
| IDSEL | AD23 |
| AD20 | AD19 |
| C/BE2# | AD21 |
| +3V | +5V |
| AD16 | AD17 |
| AD18 | TRDY# |
| IRDY# | FRAME# |
| LOCK# | STOP# |
| DEVSEL# | PERR# |
| SBO# | SDONE |
| C/BE1# | PAR |
| SERR# | AD13 |
| AD14 | AD15 |
| AD10 | AD11 |
| AD12 | C/BE0# |
| AD8 | AD9 |
| GND | GND |
| AD5 | AD6 |
| AD7 | AD2 |
| AD3 | AD4 |
| AD0 | AD1 |
| GND | GND |



6. Technical Support

For technical support contact Sensoray Company Inc.

Tel: (503) 684-8075

Fax: (503) 684-8164

E-mail: support@sensoray.com

WWW: www.sensoray.com