

USER MANUAL

MODEL 1268-001 PXI CONTROLLER

PUBLICATION NO. 980888

RACAL INSTRUMENTS

United States

(Corporate Headquarters and Service Center)
4 Goodyear Street, Irvine, CA 92618
Tel: (800) 722-2528, (949) 859-8999; Fax: (949) 859-7139
5730 Northwest Parkway Suite 700, San Antonio, TX 78249
Tel: (210) 699-6799; Fax: (210) 699-8857

Europe

(European Headquarters and Service Center)
18 Avenue Dutartre, 78150 LeChesnay, France
Tel: +33 (0)1 39 23 22 22; Fax: +33 (0)1 39 23 22 25
29-31 Cobham Road, Wimborne, Dorset BH21 7PF, United Kingdom
Tel: +44 (0) 1202 872800; Fax: +44 (0) 1202 870810
Via Milazzo 25, 20092 Cinisello B, Milan, Italy
Tel: +39 (0)2 6123 901; Fax: +39 (0)2 6129 3606
Technologie Park, Friedrich Ebert Strasse, 51429 Bergisch Gladbach, Germany
Tel: +49 (0) 2204 844200; Fax: +49 (0) 2204 844219

info@racalinstruments.com
sales@racalinstruments.com
helpdesk@racalinstruments.com
<http://www.racalinstruments.com/>



PUBLICATION DATE: December 19, 2003

Copyright 2003 by Racal Instruments, Inc. Printed in the United States of America. All rights reserved.
This book or parts thereof may not be reproduced in any form without written permission of the publisher.

THANK YOU FOR PURCHASING THIS RACAL INSTRUMENTS PRODUCT.

For this product, or any other Racal Instruments product that incorporates software drivers, you may access our web site to verify and/or download the latest driver versions. The web address for driver downloads is:

<http://www.racalinstruments.com/downloads>

If you have any questions about software driver downloads or our privacy policy, please contact us at

info@racalinstruments.com.

WARRANTY STATEMENT

All Racal Instruments, Inc. products are designed and manufactured to exacting standards and in full conformance to Racal's ISO 9001 procedures.

This warranty does not apply to defects resulting from any modification(s) of any product or part without Racal's express written consent, or misuse of any product or part. The warranty also does not apply to fuses, software, non-rechargeable batteries, damage from battery leakage, or problems arising from normal wear, such as mechanical relay life, or failure to follow instructions.

This warranty is in lieu of all other warranties, expressed or implied, including any implied warranty of merchantability or fitness for a particular use. The remedies provided herein are buyer's sole and exclusive remedies.

For the specific terms of your standard warranty, or optional extended warranty or service agreement, contact your Racal customer service advisor. Please have the following information available to facilitate service.

1. Product serial number
2. Product model number
3. Your company and contact information

You may contact your customer service advisor by:

E-Mail:	Helpdesk@racalinstruments.com	
Telephone:	+1 800 722 3262	(USA)
	+44(0) 8706 080134	(UK)
	+852 2405 5500	(Hong Kong)
Fax:	+1 949 859 7309	(USA)
	+44(0) 1628 662017	(UK)
	+852 2416 4335	(Hong Kong)

RETURN of PRODUCT

Authorization is required from Racal Instruments before you send us your product for service or calibration. Call your nearest Racal Instruments support facility. A list is located in the Product Support section of this manual. If you are unsure where to call, contact Racal Instruments, Inc. Customer Support Department in Irvine, California, USA at 1-800-722-3262 or 1-949-859-8999 or via fax at 1-949-859-7139. We can be reached at:

helpdesk@racalstruments.com.

PROPRIETARY NOTICE

This document and the technical data herein disclosed, are proprietary to Racal Instruments, and shall not, without express written permission of Racal Instruments, be used, in whole or in part to solicit quotations from a competitive source or used for manufacture by anyone other than Racal Instruments. The information herein has been developed at private expense, and may only be used for operation and maintenance reference purposes or for purposes of engineering evaluation and incorporation into technical specifications and other documents which specify procurement of products from Racal Instruments.

DISCLAIMER

Buyer acknowledges and agrees that it is responsible for the operation of the goods purchased and should ensure that they are used properly and in accordance with this handbook and any other instructions provided by Seller. RII products are not specifically designed, manufactured or intended to be used as parts, assemblies or components in planning, construction, maintenance or operation of a nuclear facility, or in life support or safety critical applications in which the failure of the RII product could create a situation where personal injury or death could occur. Should Buyer purchase RII product for such unintended application, Buyer shall indemnify and hold RII, its officers, employees, subsidiaries, affiliates and distributors harmless against all claims arising out of a claim for personal injury or death associated with such unintended use.

FOR YOUR SAFETY

Before undertaking any troubleshooting, maintenance or exploratory procedure, read carefully the **WARNINGS** and **CAUTION** notices.



CAUTION
RISK OF ELECTRICAL SHOCK
DO NOT OPEN



This equipment contains voltage hazardous to human life and safety, and is capable of inflicting personal injury.



If this instrument is to be powered from the AC line (mains) through an autotransformer, ensure the common connector is connected to the neutral (earth pole) of the power supply.



Before operating the unit, ensure the conductor (green wire) is connected to the ground (earth) conductor of the power outlet. Do not use a two-conductor extension cord or a three-prong/two-prong adapter. This will defeat the protective feature of the third conductor in the power cord.



Maintenance and calibration procedures sometimes call for operation of the unit with power applied and protective covers removed. Read the procedures and heed warnings to avoid "live" circuit points.

Before operating this instrument:

1. Ensure the proper fuse is in place for the power source to operate.
2. Ensure all other devices connected to or in proximity to this instrument are properly grounded or connected to the protective third-wire earth ground.

If the instrument:

- fails to operate satisfactorily
- shows visible damage
- has been stored under unfavorable conditions
- has sustained stress

Do not operate until performance is checked by qualified personnel.

Table of Contents

Chapter 1

OVERVIEW

What's in This Chapter.....	1-1
Introduction	1-1
Conventions Used in this Manual.....	1-2
1268-001 Series Feature Highlights.....	1-2
Included Items	1-3
Specifications	1-4
Front-Panel Indicators, Controls and Connectors	1-3
Operating Instructions.....	1-6

Chapter 2

INSTALLATION

Installation Overview	2-1
Unpacking and Initial Inspection	2-1
Safety Precautions.....	2-1
Operating Environment	2-2
Power Requirements.....	2-2
Grounding Requirements	2-2
Calibration	2-2
Abnormal Conditions.....	2-3
Preparation for Use.....	2-4
Removing the Instrument From the Bag.....	2-4
Installation.....	2-4

Chapter 3

PRODUCT SUPPORT

Product Support	3-1
Reshipment Instructions.....	3-1
Support Offices	3-2
Repair and Calibration Request Form.....	3-3

Appendix A

SPECIFICATIONS.....A-1

List of Figures

Figure 1-1 1268-001 1-1
Figure 1-2 Front-Panel Indicators, Controls, and Connectors 1-4

Chapter 1

OVERVIEW

What's in this Chapter

This chapter contains general and functional descriptions of the Model 1268-001 PXI Controller. It also describes the front panel connectors, operation, and features.

Introduction

Model 1268-001, shown in Figure 1-1, is a 3U dual-slot, PXI Controller. Based on the industry-proven PIII-500 MHz ETX-SOM CPU, the 1268-001 provides flexible, upgradeable control for PXI-based systems. Model 1268-001 combines with a PXI chassis, such as Model 1461-14, to provide a modular, expandable system for any test environment.

With its unique, modular structure, Model 1268-001 is easy to upgrade and service. The 1268-001 contains an interface card for external connections, a carrier card to host the ETX-format CPU, and a mass-storage card for the laptop computer-style hard disk.



Figure 1-1: Model 1268-001

Conventions Used in this Manual

The following conventions may appear in this manual:



NOTE

A Note contains information relating to the use of this product



CAUTION

A Caution contains information that should be followed to avoid personal damage to the instrument or the equipment connected to it.



WARNING

A Warning alerts you to a potential hazard. Failure to adhere to the statement in a WARNING message could result in personal injury.

The following symbol may appear on the product:



CAUTION:

Refer to Accompanying Documents

This refers you to additional information contained in this manual. The corresponding information in the manual is similarly denoted.

1268-001 Series Feature Highlights

Primary features of Model 1268-001 include:

- Dual-Slot PXI Card
- Intel PIII-500 MHz ETX-SOM CPU
- 256 KB Level 2 Cache
- 256 MB RAM
- 20 GB hard drive
- Ethernet Interface: 10Base-T, 100Base-TX
- C&T 69030 Video Controller

Included Items

Each shipment of Model 1268-001 includes the following items:

- Model 1268-001 PXI Controller
- GPIB-to-MDSM25 cable, 6 ft
- DB9-to-MDSM9 adapter cable, 1 ft
- DB25-to-MDMS25 adapter cable, 1 ft
- Mouse/keyboard "Y" splitter adapter cable, 7 inch
- Microsoft Windows 2000 Professional® software CD-ROM
- 1268-001 PXI Controller CD-ROM

The hard disk of Model 1268-001 contains the following pre-installed software:

- Windows® 2000 Professional or Windows XP Pro
- Adobe Acrobat® Reader
- WinZip® Trial Version
- Agilent I/O Libraries
- Ines GPIB

Specifications

Appendix A lists the specifications.

Front-Panel Indicators, Controls, and Connectors

Figure 1-2 shows the front-panel connectors, controls, and indicators for Model 1268-001.

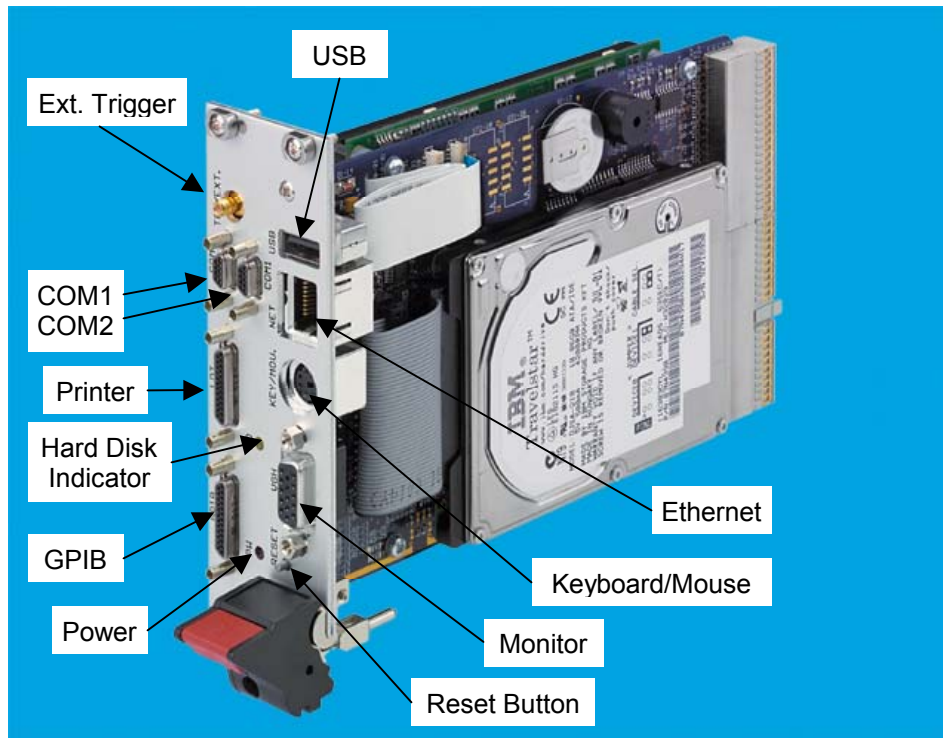


Figure 1-2, Front-Panel Indicators, Controls, and Connectors

Indicators

Power

The Power indicator illuminates whenever Model 1268-001 receives power from the PXI chassis. This will only occur while the PXI chassis power is on.

Hard Disk

The Hard Disk indicator illuminates when the controller is writing data to, or reading data from, the hard disk.

Controls

Reset Button

Pressing the Reset button causes the 1268-001 Controller to immediately stop processing and reboot. The Reset button can be useful in a situation where the operating system no longer responds. However, this control should be used only when absolutely necessary. Under normal circumstances, rebooting should only be done through the operating system, such as by commanding Windows to restart.

If it becomes necessary to use the Reset button, ensure that the controller is not writing to the hard disk. The Hard Disk indicator should not be flashing.

Connectors

The front panel contains the following connectors:

Monitor

Connect the monitor (not included) to this connector.

Printer

This is the parallel printer port.

COM 1 and COM 2

These are the RS-232 serial communications ports.

USB

This interface is for Universal Serial Bus (USB) devices.

GPIB

Connect GPIB (IEEE-488) instruments to this connector.

Ethernet

This standard RJ-45 connector is for connecting to an Ethernet network. Use a straight-through (pin-for-pin) cable to connect to an Ethernet hub, and a reversed cable for connecting directly to another Ethernet computer or instrument.

Keyboard/Mouse

Use the supplied mouse/keyboard "Y" splitter adapter cable to

connect to a PS/2-type keyboard and mouse to this connector.

Ext. Trigger

This connector is for external equipment that needs to trigger devices on the PXI bus. It accepts standard TTL signals.

Operating Instructions

When operating Model 1268-001 for the first time, the following procedure is recommended for proper operation:

1. Follow the installation instructions given in Chapter 2 of this manual.
2. Connect the monitor, keyboard, and mouse to the front-panel connectors.
3. Apply power to the PXI chassis.
4. Once the 1268-001 has completed the boot-up process, you may use it in the same manner as a PC-compatible computer.

Model 1268-001 requires a driver for each PXI module that it will control. These drivers are available from the manufacturers of the PXI modules. Refer to the user manuals for the PXI modules for further information.

Chapter 2

INSTALLATION

Installation Overview

This chapter contains information and instructions necessary for initial inspection, grounding, repackaging for storage or shipment, and installation.

Unpacking and Initial Inspection

Unpacking and handling requires normal precautions and procedures applicable to handling of sensitive electronic equipment. Contents of all shipping containers should be checked for included accessories, and certified against the packing slip to verify that the shipment is complete.

Safety Precautions

The following safety precautions should be observed before using this product and the associated computer. Although some instruments and accessories are normally used with non-hazardous voltages, there are situations where hazardous conditions may be present.

This product is intended for use by qualified persons who recognize shock hazards and are familiar with the safety precautions required to avoid possible injury. The following sections contain information and cautions that must be observed to keep the 1268-001 operating correctly and safely.



CAUTION

For maximum safety, do not touch the product, test cables, or any other instrument parts while power is applied to the circuit under test. ALWAYS remove power from the entire test system before connecting cables or jumpers, or installing or removing cards from the PXI chassis. Do not touch any object that could provide a current path to the common side of the circuit under test or power line (earth) ground. Always keep your hands dry while handling the instrument.

Operating Environment

Model 1268-001 is intended for operation within a PXI chassis as a plug-in module. Ensure that the PXI chassis being used to host the 1268-001 fully conforms to the latest PXI specifications.

Model 1268-001 is intended for indoor use and should be operated in a clean, dry environment with an ambient temperature within the range of 0 °C to 40 °C.



WARNING

The 1268-001 must not be operated in explosive, dusty, or wet atmospheres. Avoid installation of the module close to strong magnetic fields.

Power Requirements

Model 1268-001 operates within a PXI chassis, which provides DC power to the instrument.



CAUTION

Disconnect power to the PXI Chassis before installing or removing Model 1268-001.

Grounding Requirements

To conform to applicable safety and EMC requirements, ensure that the PXI chassis is “earth” grounded.

Calibration

Model 1268-001 requires no calibration.

Abnormal Conditions

Operate the 1268-001 only as intended by the manufacturer. If you suspect that the 1268-001 has been damaged, remove it from the PXI Chassis and secure it from unintended operation. Model 1268-001 protection is probably impaired if, for example, the instrument fails to perform the intended operation or shows visible damage.



WARNING

Any use of Model 1268-001 in a manner not specified by the manufacturer may impair the protection provided by the instrument.

Preparation For Use

Removing the Instrument from the Bag

Model 1268-001 is supplied in an anti-static bag. Check the seal on the bag to make sure the bag was not opened in a static-unsafe environment. Place the enveloped card on static-free surface and wear a grounding strap. Then break the seal on the bag and remove the instrument. Hold the 1268-001 at the metal panel end. Refrain from touching the instrument with your finger at all times.

Installation



CAUTION

Disconnect power to the PXI Chassis before installing or removing the 1268-001. An attempt to insert or remove the instrument while the power is connected to the chassis will result in severe damage to the instrument and will automatically revoke your warranty.

Slide the 1268-001 into slot 1 of your PXI chassis. As is the case with any PXI controller, Model 1268-001 will not function properly in any other slot. Push it firmly into place as you lift its extractor handle to the horizontal position. The metal panel should make contact with the metal edge of the PXI chassis. Using a suitable screwdriver, tighten the four retaining screws, top and bottom.



CAUTION

Once the 1268-001 has been installed in the chassis, cover all remaining open slots to ensure proper airflow. Using the 1268-001 without proper airflow will result in damage to the instrument.

Chapter 3

PRODUCT SUPPORT

Product Support

Racal Instruments has a complete Service and Parts Department. If you need technical assistance, or should it be necessary to return your product for repair or calibration, call 1-800-722-3262, or call 949-859-8999 and ask for Customer Support. You may also contact Customer Support via e-Mail:

helpdesk@racalstruments.com

If you require parts to repair the product at your facility, call 1-800-722-3262, or 949-859-8999 and ask for the Customer Service Department.

When sending your instrument in for repair, complete the form in the back of this manual. For worldwide support and a listing of offices closest to your facility, refer to the Support Offices section on the following page.

Reshipment Instructions

Use the original packing material when returning the instrument to Racal Instruments for servicing. The original shipping carton and the instrument's plastic foam will provide the necessary support for safe reshipment.

If the original packing material is unavailable, wrap the chassis in anti-static shielding material, and use foam to surround and protect the instrument.

Reship in either the original or a new shipping carton.

Support Offices

RACAL INSTRUMENTS

United States

(Corporate Headquarters and Service Center)
4 Goodyear Street, Irvine, CA 92618
Tel: (800) 722-2528, (949) 859-8999; Fax: (949) 859-7139

5730 Northwest Parkway Suite 700, San Antonio, TX 78249
Tel: (210) 699-6799; Fax: (210) 699-8857

Europe

(European Headquarters and Service Center)
18 Avenue Dutartre, 78150 LeChesnay, France
Tel: +33 (0)1 39 23 22 22; Fax: +33 (0)1 39 23 22 25

29-31 Cobham Road, Wimborne, Dorset BH21 7PF, United Kingdom
Tel: +44 (0) 1202 872800; Fax: +44 (0) 1202 870810

Via Milazzo 25, 20092 Cinisello B, Milan, Italy
Tel: +39 (0)2 6123 901; Fax: +39 (0)2 6129 3606

Technologie Park, Friedrich Ebert Strasse, 51429 Bergisch Gladbach,
Germany
Tel: +49 (0) 2204 844200; Fax: +49 (0) 2204 844219

REPAIR AND CALIBRATION REQUEST FORM

To allow us to better understand your repair requests, we suggest you use the following outline when calling and include a copy with your instrument to be sent to the Racal Repair Facility.

Model _____ Serial No. _____ Date _____

Company Name _____ Purchase Order # _____

Billing Address _____
City _____

State/Province _____ Zip/Postal Code _____ Country _____

Shipping Address _____
City _____

State/Province _____ Zip/Postal Code _____ Country _____

Technical Contact _____ Phone Number () _____

Purchasing Contact _____ Phone Number () _____

1. Describe, in detail, the problem and symptoms you are having. Please include all set up details, such as input/output levels, frequencies, waveform details, etc.

2. If problem is occurring when unit is in remote, please list the program strings used and the controller type.

3. Please give any additional information you feel would be beneficial in facilitating a faster repair time (i.e., modifications, etc.)

Call before shipping
Note: We do not accept
"collect" shipments.

Ship instruments to nearest
support office.

This page was left intentionally blank.

Appendix A

Model 1268-001 Specifications

CPU

Processor

Intel PIII-500 MHz ETX-SOM CPU

Cache

256 KB Level 2 cache

Memory

256 MB

MASS STORAGE

Hard Drive

20 GB

I/O

Input Devices

PS/2 Keyboard Interface

PS/2 Mouse Interface

Storage

Floppy disk controller

Ext. drive up to 2.88 MB

Communication Ports

Parallel port, ECP/EPP

Two USB ports

GPIB (IEEE-488)

Ethernet Interface

10Base-T

100Base-TX

Operable without keyboard,
mouse, or monitor

VIDEO

Controller

C&T 69030

Memory

4 MB

Resolution

4 VGA, VGA, SVGA, XGA,
SXGA, UXGA

Flat panel interface

TFT, STN, DSTN, EL, and
Plasma panels

OPERATING SYSTEM

Standard

Microsoft Windows® 2000
(installed)

Optional

Windows® NT/Embedded,
VxWorks®, QNX®, Linux

POWER

+5 VDC, from PXI chassis

This page was left intentionally blank