ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *RadiSys ARTIC960* at our website: *Click HERE*

RadiSys ARTIC960 4-Port Selectable PMC

Guide to Operations

RadiSys Corporation
5445 NE Dawson Creek Drive
Hillsboro, OR 97124
(503) 615-1100
FAX: (503) 615-1150
www.radisys.com
August 1999

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Before using this information and the product it supports, be sure to read all the information in *Appendix A, Notices* .

Before installing or removing an adapter, be sure to study the Connect/Disconnect sequence diagram for cables in *Safety Information* on page 24.

EPC, INtime, and RadiSys are registered trademarks of RadiSys Corporation.

† All other trademarks, registered trademarks, service marks, and trade names are the property of their respective owners.

August 1999

© Radisys Corporation 1999. All rights reserved.
© Copyright International Business Machines Corporation 1998. All rights reserved.

Note to U.S. Government Users—Documentation related to restricted rights—Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with IBM Corp. All rights reserved.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

About this Guide

This book describes the RadiSys 4-Port Selectable PMC (hereafter referred to as the **selectable PMC card**) and provides step-by-step installation instructions. When you have finished reading this book, you should be able to:

- Install the selectable PMC card on a base adapter
- Download diagnostic and operating system support programs
- Locate optional cable connector pin numbers and assignments
- Obtain a list of replaceable parts
- Run a wrap test on connectors and cable ends

Guide contents

Chapter		Description
1	Product Description	Describes the features and function of the RadiSys ARTIC960 4-Port Selectable PMC, as well as the support programs, documentation, and specifications.
2	Installation Requirements and Instructions	Describes the hardware requirements, handling static-sensitive devices, component locations, installation, and downloading the diagnostics and operating system support programs.
3	Removing the Selectable PMC Card from a Base Adapter	Describes how to remove and reinstall the selectable PMC card.
4	Troubleshooting	Discusses how to identify possible problems with the selectable PMC card.
5	Cables and Connectors	Describes the cable assemblies that are available for the selectable PMC card and the connector pin numbers and assignments.

Appendices

The appendices provide additional information about the selectable PMC card.

Appendix		Description
A	Notices	Lists and describes safety information, telecommunication notices, and electronic emission and connectivity notices.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Who Should Read This Book

This book is written for an experienced computer user or a person who sets up the selectable PMC card in conjunction with any adapter that supports a PCI-mezzanine card (PMC) connection.

Notational Conventions

This manual uses the following conventions:

- Throughout this book, any adapter that supports a PMC connection will be referred to as a *base adapter.*
- All numbers are decimal unless otherwise stated.
- Bit 0 is the low-order bit. If a bit is set to 1, the associated description is true unless otherwise stated.
- `Data structures and syntax strings appear in this font..`


Notes indicate important information about the product.


Cautions indicate situations that may result in damage to data or the hardware.


Tips indicate alternate techniques or procedures that you can use to save time or better understand the product.


ESD cautions indicate situations that may cause damage to hardware via electro-static discharge.


The globe indicates a World Wide Web address.


Warnings indicate situations that may result in physical harm to you or the hardware.

Where to get more information

You can find out more about the 4-Port Selectable PMC from these sources:

- **World Wide Web:** RadiSys maintains an active site on the World Wide Web. The site contains current information about the company and locations of sales offices, new and existing products, contacts for sales, service, and technical support information. You can also send e-mail to RadiSys using the web site. .

  
  When sending e-mail for technical support, please include information about both the hardware and software, plus a detailed description of the problem, including how to reproduce it.

  
  To access the RadiSys web site, enter this URL in your web browser:
  `http://www.radisys.com`

  Requests for sales, service, and technical support information receive prompt response.

- **Other:** If you purchased your RadiSys product from a third-party vendor, you can contact that vendor for service and support.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Related Information

- Operating and installation documentation provided with any base adapter card you are using.
- Operating and installation documentation provided with your computer.
- Reference, service, and diagnostics documentation available for your computer.



Other related publications can be obtained from the Web at:
`http://ww.radisys.com/products/artic`

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Contents

Chapter 1: Product Description

RadiSys Order (FRU) Numbers 1
Features and Function 1
Optional Cables 2
Specifications 2
Dimensions 2
Environment 2
Electrical 3
Operating System Support Programs and Publications 3
Obtaining Publications when Web Support Is Unavailable 3

Chapter 2: Installation Requirements and Instructions

Hardware Requirements 5
Handling Static-Sensitive Devices 5
Installation 6
Step 1. Installing the Selectable PMC Card 6
Step 2. Installing the Base Adapter 7
Step 4. Downloading the Diagnostics and Operating System Support Programs 9
Downloading from the Web 9
Obtaining Operating System Support when the Web is Unavailable 10

Chapter 3: Removing the Selectable PMC Card from a Base Adapter 11

Chapter 4: Troubleshooting

Problem Determination 13
Diagnostic Wrap Plugs 13

Chapter 5: Cables and Connectors

Port Speeds 16
Connector Pin Numbers and Assignments 16
120-Pin Connector 17
EIA-232 Connector 17
EIA-530 Connector 18
V.35 DTE Connector 19
V.35 DCE Connector 20
RS-449 Connector 21
X.21 Connector 22

Appendix A: Notices

General Conditions 23
Safety Information 24
Required Electronic Emission and Connectivity Notices 24
Federal Communications Commission (FCC) Statement 24
Industry Canada Compliance Statement 25
European Union (EU) Electromagnetic Compatibility Directive 25

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Germany 26
Japanese Voluntary Control Council for Interference (VCCI) Statement 26
Index 27

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Figures

Figure 1-1. The Selectable PMC Card 1
Figure 5-1. Optional Cables 15

Tables

Table 1-1. RadiSys ARTIC960 4-Port Selectable PMC RadiSys Order (FRU) Number 1
Table 1-2. RadiSys ARTIC960 selectable PMC card Dimensions 2
Table 1-3. RadiSys ARTIC960 selectable PMC card Environment 2
Table 4-1. Wrap Plugs for the RadiSys ARTIC960 4-Port Selectable PMC 13
Table 5-1. RadiSys Order (FRU) Numbers and Part Numbers for Optional Cables 16
Table 5-2. EIA-232 (ISO 2110) Connector Pin Assignments 17
Table 5-3. EIA-530 (ISO 2110) Connector Pin Assignmentss 18
Table 5-4. V.35 DTE Pin Assignments 19
Table 5-5. V.35 DCE (ISO 2593) Connector Pin Assignments 20
Table 5-6. RS-449 (ISO 4902) Connector Pin Assignments 21
Table 5-7. X.21 (ISO 4903) Connector Pin Assignments 22

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

1 Product Description

The RadiSys ARTIC960 4-Port Selectable PMC is an optional PCI mezzanine card that can be used with ARTIC960 base adapters that support a PMC connection. The selectable PMC card complies with the Draft Standard for a Common Mezzanine Card (CMC) and the Draft Standard for a PCI Mezzanine Card (PMC).

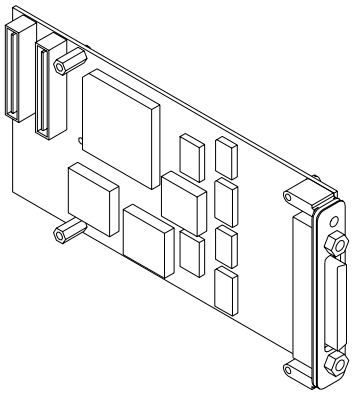


Figure 1-1. The Selectable PMC Card

RadiSys Order (FRU) Numbers

The following table lists the RadiSys order numbers (FRU numbers) associated with the selectable PMC card.

Table 1-1. RadiSys ARTIC960 4-Port Selectable PMC RadiSys Order (FRU) Number

Description	Order (FRU) No.
RadiSys ARTIC960 4-Port Selectable PMC	87H3413
Adapter Bracket Kit	87H3562

Features and Function

The selectable PMC card has the following features:

- One high-speed multi-channel DMA controller with PCI interface
- Two serial communication controllers
- One serial ROM for configuration data
- Four communication ports

The selectable PMC card connects to the base adapter by two 64-pin connectors. Interface signals exit the selectable PMC card through the 120-pin connector at the rear of the selectable PMC card. The base adapter and the attached selectable PMC card occupy a

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

single 32-bit expansion slot in personal computers that are peripheral component interconnect (PCI) compliant.

Optional Cables

Optional cable assemblies are available for the selectable PMC card. See *Cables and Connectors* on page 15 for information.

Specifications

The following describes the physical attributes, environment, and electrical requirements for the selectable PMC card.

Dimensions

Table 1-2. RadiSys ARTIC960 selectable PMC card Dimensions

Characteristic	Value
Length	149 mm overall (5.86 inches)
Depth	74 mm (2.91 inches)

Environment

Table 1-3. RadiSys ARTIC960 selectable PMC card Environment

Characteristic	State	Value
Air temperature	Operating	0 to 55°C (32 to 131°F)
	Non-operating	0 to 60°C (32 to 140°F)
Humidity	Operating	5% through 95%
	Wet bulb temperature	29.4°C (85°F)

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Electrical

No load on outputs, normal operating mode.

Power Requirements

- +3.3 V dc, 5 A (maximum)
- +5 V dc, .97 (maximum)
- +12 V dc, 67 mA (maximum)

Operating System Support Programs and Publications

To help programmers develop products for the ARTIC960Rx PCI Adapter or the ARTIC9690Hx PCI Adapter, a set of operating system packages containing the drivers and utilities to support a particular operating system is available on the World Wide Web (Web). To download these sample programs and utilities from the Web, see *Obtaining Operating System Support when the Web is Unavailable* on page 10.

Other related publications can be obtained from the Web at:

`http://www.radisys.com/products/artic`

Obtaining Publications when Web Support Is Unavailable

If you do not have access to the Web, you can obtain these publications from the no-fee Developer's Assistance Program (DAP).

By telephone, call (561) 454-3200.

By E-mail, send to artic@radisys.com.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Installation Requirements and Instructions

2

This chapter lists the contents of the RadiSys ARTIC960 4-Port Selectable PMC package and provides instructions for installing the selectable PMC card and attaching an optional cable. The package contains the following:

- The selectable PMC card
- This book
- An adapter bracket kit containing the bracket and five screws.



The RadiSys ARTIC960 4-Port Selectable PMC is a Class A device.

The Federal Communications Commission (FCC) classification for this product might differ from the FCC classification for your system unit. Use the classification that is highest. For example, if the FCC classification for your system unit is Class B and a card that you install is Class A, the classification of your system unit would change to Class A. For more information, see *Required Electronic Emission and Connectivity Notices* on page 24.

Hardware Requirements

The selectable PMC card requires an ARTIC960 base adapter or another base adapter that supports a PMC connection.

Handling Static-Sensitive Devices

Components for your selectable PMC card can be damaged by static discharge. To prevent this damage, the card is shipped in an anti-static bag. Observe the following precautions when handling any static-sensitive device:

- Keep the device in its anti-static bag until you are ready to install it.
- Make the least possible movement with your body to minimize the electrostatic charges created by contact with clothing fibers, carpet, and furniture.
- If possible, keep one hand on the computer chassis when you are inserting or removing an adapter. Always turn the computer off before removing an adapter from the system unit.
- *Do not touch the printed circuits, connector pins, or components.* Where possible, hold the circuit board by its edges or mounting hardware.
- Do not place the card on the system unit cover or on a metal table. The cover and metal table increase the risk of damage because they provide an electrical path from your body through the card.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

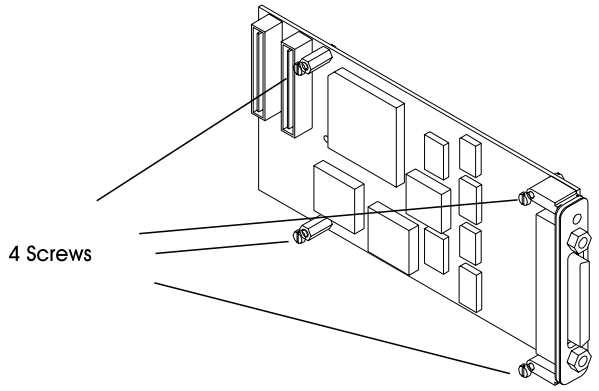
Installation

This section provides step-by-step instructions for installing the selectable PMC card on the base adapter. This section also describes how to connect an optional cable to the selectable PMC card and the base adapter.

Step 1. Installing the Selectable PMC Card

The following instructions assume that you have the base adapter out of the system unit and are ready to install the selectable PMC card.

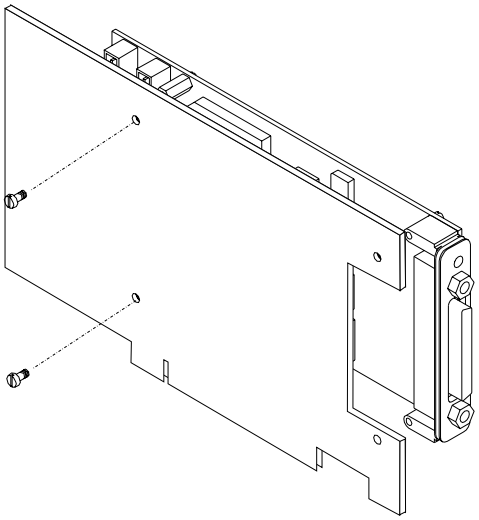
1. Place the base adapter on a clean, static-free surface with the component side up.
2. Hold the selectable PMC card (still wrapped in the anti-static bag) in one hand and touch a metal part of your system unit with the other hand. This places your body, the selectable PMC card, and the system unit at the same ground potential, preventing an accidental static discharge.
3. Remove the selectable PMC card from the anti-static bag. Be sure to hold the circuit board by the edges only. Do not touch the component pins, solder joints, or connector contacts. Take care not to damage the rubber gasket around the connector on the back of the selectable PMC card.
4. The selectable PMC card attaches to the base adapter with four screws. Locate the screws in the adapter bracket kit. The four screws will be positioned as shown.



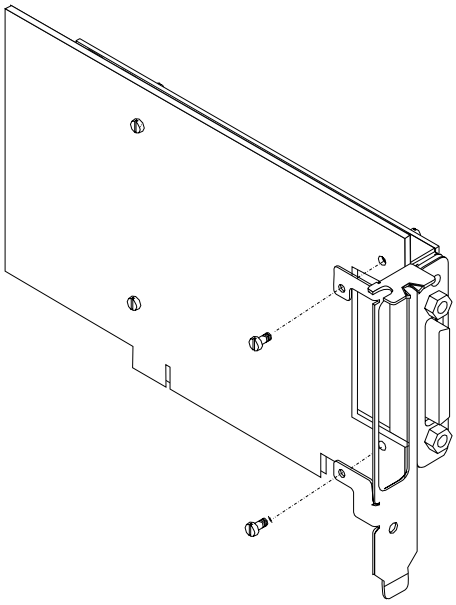
5. Position the selectable PMC card over the base adapter with the component sides of both the selectable PMC card and the base adapter facing each other.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

6. Align the PMC connectors on the selectable PMC card with the PMC connectors on the base adapter, and then press them together. Turn the assembled pair over so that the base adapter is on top. Install two of the screws as shown.



7. Taking care not to damage the rubber gasket around the connector on the selectable PMC card, align the adapter bracket as shown and install the remaining two screws.

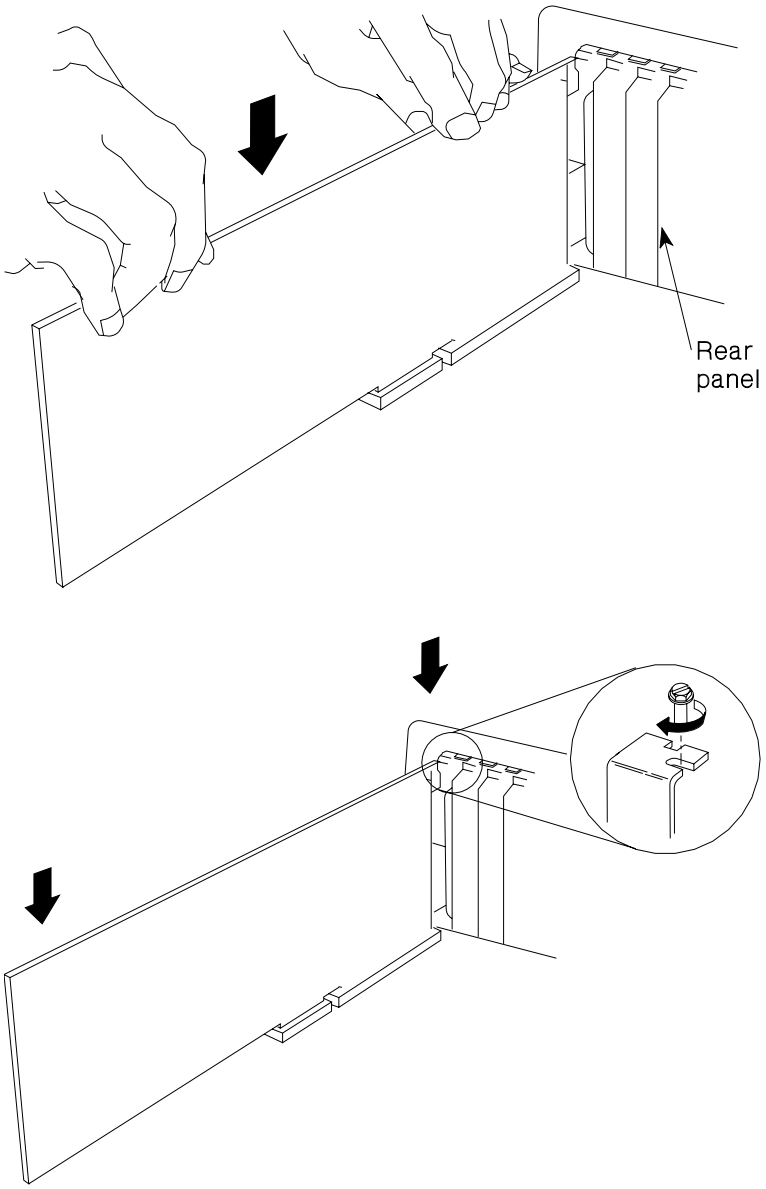


Step 2. Installing the Base Adapter

The following describes how to install the base adapter, with the selectable PMC card, into the system unit. For more information, refer to the documentation that came with the computer or the installation documentation that came with the base adapter.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

1. Grasping the base adapter by the top edge, firmly press the base adapter into the connector at the rear panel of the system unit. Then, secure the adapter bracket to the slot using the screw provided.



2. Reinstall the system unit cover and reconnect all cables to their appropriate connectors (refer to the documentation that came with your computer).
3. If you plan to connect an optional cable, skip the next step and go directly to *Step 3. Connecting an Optional Cable.* on page 9.
4. Plug all power cords into electrical outlets.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Step 3. Connecting an Optional Cable.



Lightning protection. Do not connect or handle the cable during a lightning storm.

The following instructions assume that you have the assembled base adapter in the system unit and are ready to attach an optional cable to the PMC card.

1. Ensure that all power cords are unplugged.
2. Align the 120-pin connector of the PMC cable with the 120-pin connector at the rear of the PMC card.
3. Firmly press the cable connector into the PMC card connector.
4. Tighten the thumbscrews on both sides of the cable connector.
5. Connect each of the four ports of the optional cable to the other device (for example, a modem). Each connector is marked with its port number.
6. Tighten the thumbscrew on each side of the cable connector.



Moving the system unit with a cable attached can result in dislodging the base adapter or the selectable PMC card. Should these (or any other adapters or cards) become dislodged while power is applied, proceed as follows:

1. Turn the computer off.
2. Remove the system unit cover.
3. Loosen the expansion-slot screw of the dislodged adapter. Press down on the top edge of the adapter to reseat it. Then, re-tighten the expansion-slot screw.
4. Reinstall the system unit cover.
5. Turn the computer on.

Step 4. Downloading the Diagnostics and Operating System Support Programs

Diagnostics are included in the operating system support programs available with the purchase of this selectable PMC card. Specific operating system support programs can be obtained through the World Wide Web.

Downloading from the Web

Do the following:

1. Using a Web browser of your choice, type:

   `http://www.radisys.com/products/artic`

2. Select the operating system support you want.
3. Download the **Program** file.
4. Download the **Installation/file creation instructions** file, and follow the steps for installing and configuring the product support.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Obtaining Operating System Support when the Web is Unavailable

For those who are unable to retrieve the files from the Web, support is provided by telephone or E-mail.

For telephone assistance, call (561) 454-3200.

For E-mail assistance, send to artic@radisys.com.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

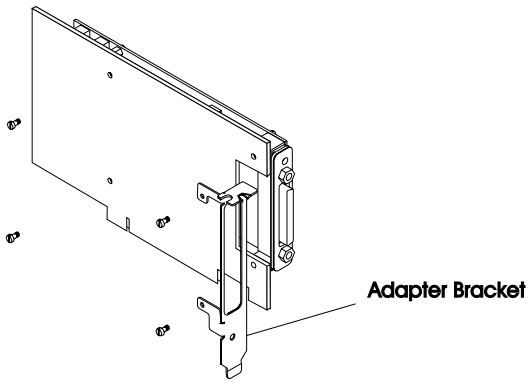
Removing the Selectable PMC Card from a Base Adapter

3

To remove the selectable PMC card from a base adapter:

1. Turn the computer off.
2. Unplug the power cords from the electrical outlets.
3. Disconnect all cables from the rear of the system unit.
4. Remove the system unit cover.
5. Locate the assembled base adapter containing the selectable PMC card and record its slot number.
6. Remove the expansion-slot screw that locks the assembled base adapter in place.
7. Remove the assembled base adapter by grasping the top edge and pulling upward.

   Be sure to hold the assembled base adapter by the edges only; do not touch the component pins or solder joints.
8. Remove the four screws on the assembled base adapter, and then remove the adapter bracket. Take care not to damage the rubber gasket around the connector on the selectable PMC card. The two devices should still be held together by the PMC connector.



9. Carefully separate the connector on the selectable PMC card from the connector on the base adapter using a gentle rocking motion.
10. Reinstall just the base adapter into the same slot recorded in Step 5 of this procedure.
11. Reinstall the system unit cover.
12. Reconnect all cables previously removed from the system unit.
13. Plug all power cords into electrical outlets.
14. Turn the computer on.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

15. Run diagnostics if necessary.

To test the selectable PMC card attached to the base adapter, refer to the operating system support programs you downloaded from the Web in *Step 4. Downloading the Diagnostics and Operating System Support Programs* on page 9. If no problems are found, have the system unit serviced.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

4 Troubleshooting

This chapter discusses how to identify possible problems with the selectable PMC card. This chapter also describes how to:

- Run a wrap test on connectors and cable ends
- Obtain a list of wrap plug part numbers

Problem Determination

For system testing information, refer to the documentation supplied with your computer.

If you performed the diagnostic tests because of a suspected communications problem and have successfully completed the tests without an error message, additional testing may be required on the following:

- The host computer, industrial computer, or device with which you are trying to communicate (such as a printer)
- The base adapter to which the selectable PMC card is attached
- An attached communications device, such as a modem
- The communications cable

To test the selectable PMC card attached to the base adapter, refer to the operating system support programs you downloaded from the Web in *Step 4. Downloading the Diagnostics and Operating System Support Programs* on page 9. If no problems are found, have the system unit serviced.

Diagnostic Wrap Plugs

Diagnostic wrap tests can be performed at the PMC connector or at a selected port of the optional cable. Use the menu prompts to select either location for wrap testing. Table 4-1 lists the wrap plug part numbers to use during wrap testing.

Table 4-1. Wrap Plugs for the RadiSys ARTIC960 4-Port Selectable PMC

Description of the Wrap Plug	RadiSys Order (FRU) Number
120-pin connector	87H3311
25-pin wrap plug (EIA-232 (ISO 2110) or EIA-530 (ISO 2110))	87H3439
34-pin wrap plug (V.35 DTE (ISO 2593) 34-pin male block)	87H3442
34-pin wrap plug (V.35 DCE (ISO 2593) 34-pin female block)	87H3458
37-pin wrap plug (RS-449 (ISO 4902))	87H3440
15-pin wrap plug (X.21 (ISO 4903))	53G0638

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

During diagnostic testing of the selectable PMC card, the diagnostic program initially prompts you to make a wrap test selection, either at the 120-pin connector of the card, or at one of the ports of an optional cable.

If you want to wrap test the selectable PMC card without a cable, you must connect the 120-pin wrap plug (part number 87H3311) to the 120-pin connector of the selectable PMC card. After making this wrap plug connection, respond **Yes** to the test prompt for this interface, and the testing will proceed automatically.

If you want to wrap test one port on any of the optional cables on this &card., you must connect the appropriate wrap plug to the desired port (0, 1, 2, or 3) of the cable. After making this wrap plug connection, respond **Yes** to the test prompt for this interface, and the testing will proceed automatically.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

5 Cables and Connectors

This product has the optional connectors listed in the table below.

Connector	Page
120-Pin Connector	17
EIA-232 Connector	17
V.35 DTE Connector	19
EIA-232 Connector	17
EIA-530 Connector	18
V.35 DCE Connector	20
RS-449 Connector	21
X.21 Connector	22

Optional cable assemblies are available for the selectable PMC card. Each assembly consists of four lengths of cable with a standard connector at the end and are designed to provide four ports of one electrical interface as follows:

- EIA-232 cable (ISO 2110)
- EIA-530 cable (ISO 2110)
- V.35 (V.36 compatible) DTE or DCE (ISO 2593) cable
- RS 449 (ISO 4902) cable
- X.21 (ISO 4903) cable

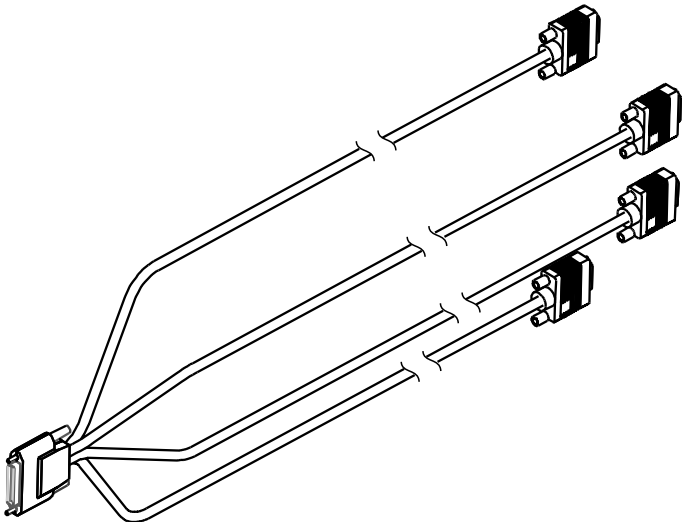


Figure 5-1. Optional Cables

Each cable has a single 120-pin, male, D-shell connector that branches into four individual cables, each of which provides access to one of four independent ports.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

The following table lists the RadiSys order number and part number for each optional cable and the electrical interface it supports.

Table 5-1. RadiSys Order (FRU) Numbers and Part Numbers for Optional Cables

Electrical Interface	Connector Type	Order (FRU) Number	Part Number
EIA-232 (ISO 2110)	25-pin male D-shell	87H3405	87H3406
EIA-530 (ISO 2110)	25-pin male D-shell	87H3402	87H3403
V.35 DTE (ISO 2593)	34-pin male block	87H3399	87h3400
v.35 DCE (ISO 2593)	34-pin female block	87h3456	87h3457
RS-449 (ISO 4902)	37-pin male D-shell	87H3396	87h3397
X.21 (ISO 4903)	15-pin male D-shell	87BH3408	87H3409

Port Speeds

When clocks are supplied by an external device (all interfaces except EIA-232), the selectable PMC card supports four ports running simultaneously at a maximum data rate of 2.048M bits per second (bps), duplex, and synchronous. The following table shows the maximum speed supported for each electrical interface.

Electrical Interface	Maximum Speed (per port)
EIA-232 (ISO 2110)	38.4K bps (U.S. only) 19.2K bps (EMEA only)
EIA-530 (ISO 2110)	2.048M bps
V.35 DTE (ISO 2593)	2.048K bps (US only)
V.35 DCE (ISO 2593)	2.048K bps (US only)
RS 449 (ISO 4902)	2.048M bps
X.21 (ISO 4903)	2.048M bps

Clocks supplied by a Dual Universal Serial Communications Controller (DUSCC) on the selectable PMC card provide synchronous data rates up to 230.4K bps, duplex. In addition, an on-card clock generator can provide data rates of either 1.544M bps or 2.048M bps for each port. Selection of the clock frequency is programmable.

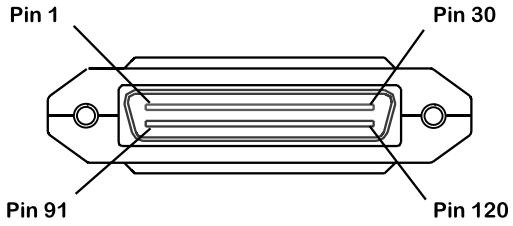
Connector Pin Numbers and Assignments

This section provides pin numbering and signal assignments for each of the six optional cables. For each cable, a table shows the pin assignments for the 120-pin connector and the correlation to the four port connectors. Each signal is identified as input (I) or output (O), as viewed from the PMC card.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

120-Pin Connector

The individual signals for all ports connect to the selectable PMC card through the 120-pin connector at the rear of the card. The following shows a 120-pin connector.



EIA-232 Connector

The following illustration shows a 25-pin, male, D-shell connector. Table 5-2 lists the pin assignments for the EIA-232 (ISO 2110) electrical interface. The "*x*" in the signal name is the number of the port. The ID for the EIA-232 cable is 02h.

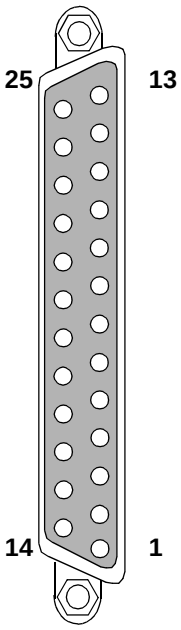


Table 5-2. EIA-232 (ISO 2110) Connector Pin Assignments

Signal Name	I/O	120-Pin Connector				25-Pin Connector
		0	1	2	3	
TXD*x*	O	105	45	17	77	02
RXD*x*	I	104	44	16	76	03
RTS*x*	O	114	54	06	66	04
CTS*x*	I	120	60	15	75	05
CD*x*	I	094	34	26	86	08
DTR*x*	O	112	52	08	68	20
DSR*x*	I	098	38	22	82	06
TXCLKO*x*	O	111	51	11	71	24
TXCLKI*x*	I	091	31	30	90	15
RXCLK*x*	I	106	46	01	61	17
GND	---	110	50	10	70	07
Shield	---	Housing				01/Housing

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

EIA-530 Connector

The following illustration shows a 25-pin, male, D-shell connector.

Table 5-3 lists the pin assignments for the EIA-530 (ISO 2110) electrical interface. The "*x*" in the signal name is the number of the port. The ID for the EIA-530 cable is F7h.

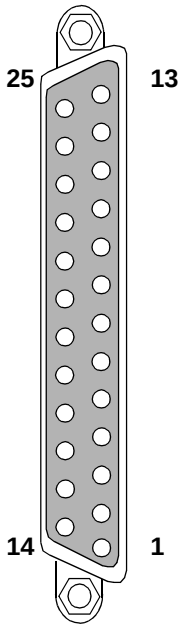


Table 5-3. EIA-530 (ISO 2110) Connector Pin Assignmentss

Signal Name	I/O	120-Pin Connector 0	1	2	3	25-Pin Connector
TXD*x*A	O	118	58	02	62	02
TXD*x*B	O	119	59	03	63	14
RTS*x*A	O	114	54	06	66	04
RTS*x*B	O	115	55	07	67	19
RXD*x*A	I	096	36	24	84	03
RXD*x*B	I	097	37	25	85	16
CTS*x*A	I	100	40	20	80	05
CTS*x*B	I	101	41	21	81	13
CD*x*A	I	094	34	26	86	08
CD*x*B	I	095	35	27	87	10
RCLKI*x*A	I	108	48	12	72	17
RCLKI*x*B	I	109	49	13	73	09
TCLKO*x*A	O	116	56	04	64	24
TCLKO*x*B	O	117	57	05	65	11
TCLKI*x*A	I	102	42	18	78	15
TCLKI*x*B	I	103	43	19	79	12
DSR*x*A	I	098	38	22	82	06
DSR*x*B	I	099	39	23	83	22
DTR*x*A	O	112	52	08	68	20
DTR*x*B	O	113	53	09	69	23
GND	---	110	50	10	70	07
Shield	---	Housing				01/Housing

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

V.35 DTE Connector

The following shows a 34-pin male connector.

Table 5-4 lists pin assignments for the V.35 DTE (ISO 2593) electrical interface. The "*x*" in the signal name is the number of the port. The ID for the V.35 DTE cable is FBh.

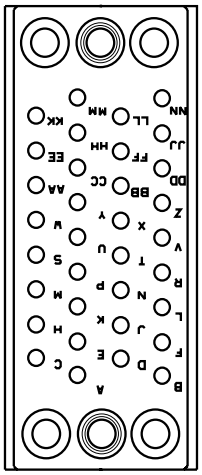


Table 5-4. V.35 DTE Pin Assignments

Signal Name	I/O	120-Pin Connector				34-Pin Connector
		0	1	2	3	
TXD*x*A	O	118	58	02	62	P
TXD*x*B	O	119	59	03	63	S
RTS*x*	O	114	54	06	66	C
RXD*x*A	I	096	36	24	84	R
RXD*x*B	I	097	37	25	85	T
CTS*x*	I	120	60	15	75	D
DSR*x*	I	098	38	22	82	E
DTR*x*	O	112	52	08	68	H
CD*x*	I	094	34	26	86	F
RCLKI*x*A	I	108	48	12	72	V
RCLKI*x*B	I	109	49	13	73	X
TCLKO*x*A	O	116	56	04	64	U
TCLKO*x*B	O	117	57	05	65	W
TCLKI*x*A	I	102	42	18	78	Y
TCLKI*x*B	I	103	43	19	79	AA
GND	---	110	50	10	70	B
Shield	---	A				

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

V.35 DCE Connector

The following illustration shows a 34-pin female connector. Table 5-5 lists the pin assignments for the V.35 DCE (ISO 2593) electrical interface. The "*x*" in the signal name is the number of the port. The ID for the V.35 DCE cable is BFh.

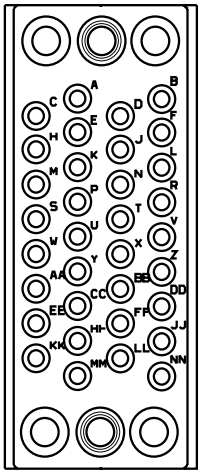


Table 5-5. V.35 DCE (ISO 2593) Connector Pin Assignments

Signal Name	I/O	120-Pin Connector				34-Pin Connector
		0	1	2	3	
TXD*x*A	I	096	36	24	84	P
TXD*x*B	I	097	37	25	85	S
RXD*x*A	O	118	58	02	62	R
TXD*x*B	O	119	59	03	63	T
TCK*x*A	O	116	56	04	64	Y
TCK*x*B	O	117	57	05	65	AA
TTE*x*A	I	108	48	12	72	U
TTE*x*B	I	109	49	13	73	W
RCK*x*A	O	116	56	04	64	V
RCK*x*B	O	117	57	05	65	X
RTS*x*	I	120	60	15	75	C
CTS*x*	O	114	54	06	66	D
DCD*x*	O	112	52	08	68	F
DSR*x*	O	112	52	08	68	E
DTR*x*	I	098	38	22	82	H
	I	94	34	26	86	H
Ground	---	110	50	10	70	B
Shield	---					A

- TXCLKO is source for TCK and RCK.
- DTR is source for DSR and DCD.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

RS-449 Connector

The following illustration shows a 37-pin, D-shell connector. Table 5-6 lists pin assignments for the RS-449 (ISO 4902) electrical interface. The "*x*" in the signal name is the number of the port. The ID for the RS-449 cable is FDh.

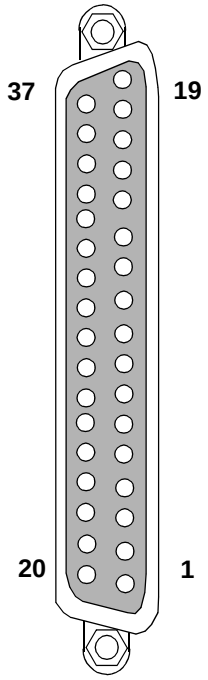


Table 5-6. RS-449 (ISO 4902) Connector Pin Assignments

Signal Name	I/O	120-Pin Connector				37-Pin Connector
		0	1	2	3	
TXD*x*A	O	118	58	02	62	04
TXD*x*B	O	119	59	03	63	22
RXD*x*A	I	096	36	24	84	6
RXD*x*B	I	097	37	25	85	24
RTS*x*A	O	114	54	06	66	07
RTS*x*B	O	115	55	07	67	25
CTS*x*A	I	100	40	20	80	09
CTS*x*B	I	101	41	21	81	27
DSR*x*A	I	098	38	22	82	11
DSR*x*B	I	099	39	23	83	29
DTR*x*A	O	112	52	08	68	12
DTR*x*B	O	113	53	09	69	30
CD*x*A	I	094	34	26	86	13
CD*x*B	I	095	35	27	87	31
RCLKI*x*A	I	108	48	12	72	08
RCLKI*x*B	I	109	49	13	73	26
TCLKO*x*A	O	116	56	04	64	17
TCLKO*x*B	O	117	57	05	65	35
TCLKI*x*A	I	102	42	18	78	05
TCLKI*x*B	I	103	43	19	79	23
GND	---	100	50	10	70	19,20,37

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

X.21 Connector

The following illustration shows a 15-pin, male, D-shell connector.

Table 5-7 lists the pin assignments for the X.21 (ISO 4903) electrical interface. The "*x*" in the signal name is the number of the port. The ID for the X.21 cable is DFh.

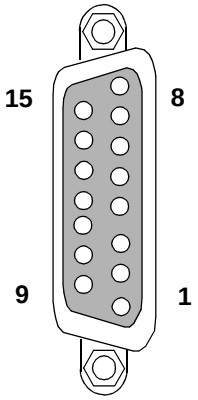


Table 5-7. X.21 (ISO 4903) Connector Pin Assignments

Signal Name	I/O	120-Pin Connector				15-Pin Connector
		0	1	2	3	
TXD*x*A	O	118	58	02	62	02
TXD*x*B	O	119	59	03	63	09
RTS*x*A	O	114	54	06	66	03
RTS*x*B	O	115	55	07	67	10
RXD*x*A	I	096	36	24	84	04
RXD*x*B	I	097	37	25	85	11
CTS*x*A	I	100	40	20	80	05
CTS*x*B	I	101	41	21	81	12
RCLKI*x*A	I	108	48	12	72	06
RCLKI*x*B	I	109	49	13	73	13
TCLKO*x*A	O	116	56	04	64	07
TCLKO*x*B	O	117	57	05	65	14
GND	---	110	50	10	70	08
Shield	---		Housing			01/Housing

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Notices



This appendix includes the notices listed in the table below.

When reading this file online, you can immediately view any notice by placing the mouse cursor over a notice name and clicking.

Notice	Page
General Conditions	23
Safety Information	24
Required Electronic Emission and Connectivity Notices	24
Federal Communications Commission (FCC) Statement	24
Industry Canada Compliance Statement	25
European Union (EU) Electromagnetic Compatibility Directive	25
Germany	26
Japanese Voluntary Control Council for Interference (VCCI) Statement	26

General Conditions

References in this publication to RadiSys Corporation products, programs, or services do not imply that RadiSys intends to make these available in all countries in which RadiSys operates.

Any reference to a RadiSys licensed program or other RadiSys product in this publication is not intended to state or imply that only RadiSys Corporation's program or other product can be used. Any functionally equivalent product, program, or service that does not infringe on any of RadiSys Corporation's intellectual property rights or other legally protectible rights can be used instead of the RadiSys product, program, or service. Evaluation and verification of operation in conjunction with other products, programs, or services, except those expressly designated by RadiSys, are the user's responsibility.

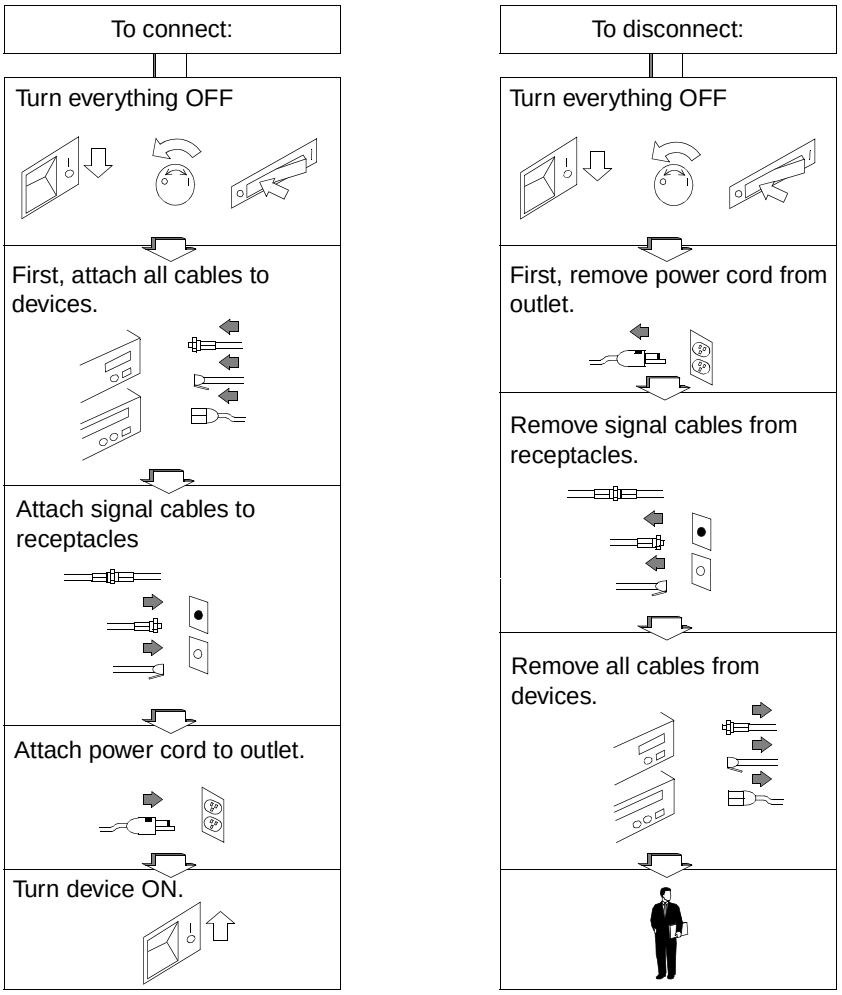
RadiSys may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquires, in writing, to:

RadiSys Corporation
5445 NE Dawson Creek Drive
Hillsboro, OR 97124
(561) 454-3200

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Safety Information

Electrical current from power, telephone, and communications cables is hazardous. To avoid shock hazard, connect and disconnect cables as shown below when installing, moving, or opening the covrs of this product or attached devices.



In the UK, by law, the telphone cable must be connected *after* the power cord.

In the UK, by law, the power cord must be disconnected *after* the telephone line cable.

Required Electronic Emission and Connectivity Notices

Federal Communications Commission (FCC) Statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. RadiSys is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance Statement

This Class A digital apparatus complies with the Canadian ICES-003.

Cet appareil numérque de la classe A conform à la norme NMB-003 du Canada.

European Union (EU) Electromagnetic Compatibility Directive

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

RadiSys cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-RadiSys option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Attention

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take adequate measures.

If the Ethernet port is connected, 100 ohm category 5 shielded twisted-pair Ethernet cable must be used to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment.

RadiSys cannot accept responsibility for any interference caused by other-than-recommended cables and connectors.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Germany

Zulassungsbescheinigung laut Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)
vom 30. August 1995

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Der Aussteller der Konformitätserklärung ist die:

ARTIC Hardware Development
5445 NE Dawson Creek Drive
Hillsboro, OR 97124

Informationen in Hinsicht EMVG Paragraph 3, Abs. 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und
EN 55022 Klasse A.

EN 55022 Klasse A Geräte bedürfen folgender Hinweise:

Nach dem EMVG:

“Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministeriums für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.” (Auszug aus dem EMVG, Paragraph 3, Abs. 4)

Dieses Genehmigungsverfahren ist nach Paragraph 9 EMVG in Verbindung mit der entsprechenden Kostenverordnung (Amtsblatt 14/93) kostenpflichtig.

Nach der EN 55022:
“Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.”

Anmerkung:
Um die Einhaltung des EMVG sicherzustellen, sind die Geräte wie in den Handbüchern angegeben zu installieren und zu betreiben.

Japanese Voluntary Control Council for Interference (VCCI) Statement

This product is a Class A Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Index

A

adapter bracket *13*
attaching an optional cable *14*

B

base adapter installing *13*
bracket, adapter *13*

C

cables, part numbers *21*
connecting an optional cable *14*
connector
- 120-pin *23*
- 15-pin D-shell *28*
- 25-pin CD-shell *24*
- 25-pin D-shell *23*
- 34-pin female *26*
- 34-pin male *25*
- 37-pin D-shell *27*

conventions, notational *4*

D

data rates *22*
description *7*
Developer's Assistance Program (DAP) *9*
diagnostics
- downloading from the Web *15*
- PMC card *15*
- wrap testing *19*

documentation, base adapter *9*
downloading diagnostics *15*

E

electronic emissions *30*
e-mail address, RadiSys *4*, *30*
E-mail assistance *9*, *16*

F

features and function, PMC card *7*
FRU numbers
- adapter bracket kit *7*
- optional cables *22*
- selectable PMC card *7*
- wrap plugs *19*

H

handling static-sensitive devices *11*

I

installation
- base adapter *13*
- instructions *12*
- requirements *12*
- selectable PMC card *12*

installing *12*
interface port speeds *22*

L

lightning protection *14*

N

notational conventions *4*
notices *29*

O

operating system support *9*

P

PMC card *12*
PMC card, removing *17*
port speeds *22*
problem determination *19*

R

RadiSys order numbers *7*
RadiSys, contacting *4*, *30*
removing a PMC card *17*

S

safety information *30*
selectable PMC card *8*
- data rates *22*

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

port speeds 22
removing 17
specifications 8
static-sensitive devices, handling 11
support 4

T

technical support 4
telephone assistance 9, 16
troubleshooting 4
diagnostic wrap plugs 19
problem determination 19
wrap plug part numbers 19, 19
wrap testing 19

U

URL, RadiSys 4, 5

W

Web address 9
Web address for diagnostics 15
World-Wide Web, accessing RadiSys 4, 5
wrap plug part numbers 19

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP