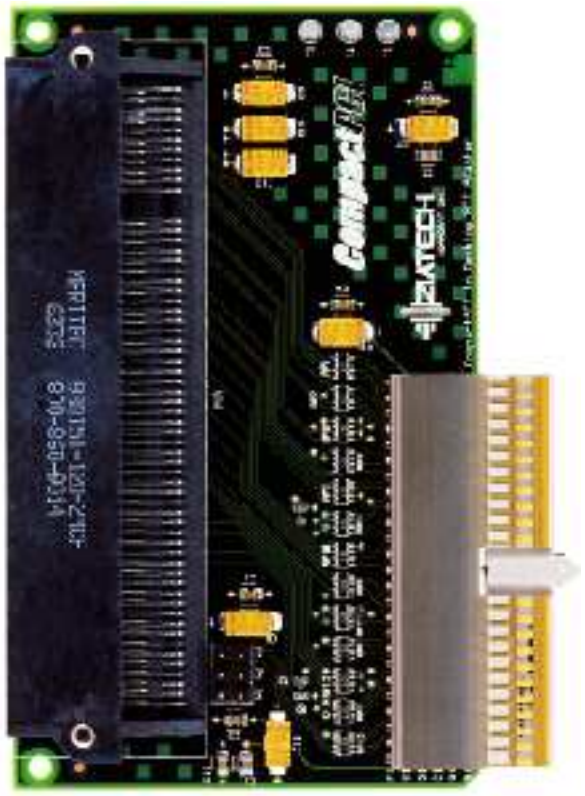
CompactPCI®

ZT 6983

CompactPCI® to Desktop PCI Adapter Card

Hardware User Manual



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CONTENTS

MANUAL SUMMARY

This manual describes the operation and use of the ZT 6983 CompactPCI® to Desktop PCI Adapter. The following outline summarizes the focus of each chapter in this manual.

Chapter 1, "Introduction," offers an introduction to the ZT 6983 CompactPCI to Desktop PCI Adapter. It includes a product definition and a list of product features.

Chapter 2, "Getting Started," summarizes the information you need to get your ZT 6983 operational. This includes system requirements, hardware installation, and recommendations. You should read this chapter in its entirety before you use the adapter.

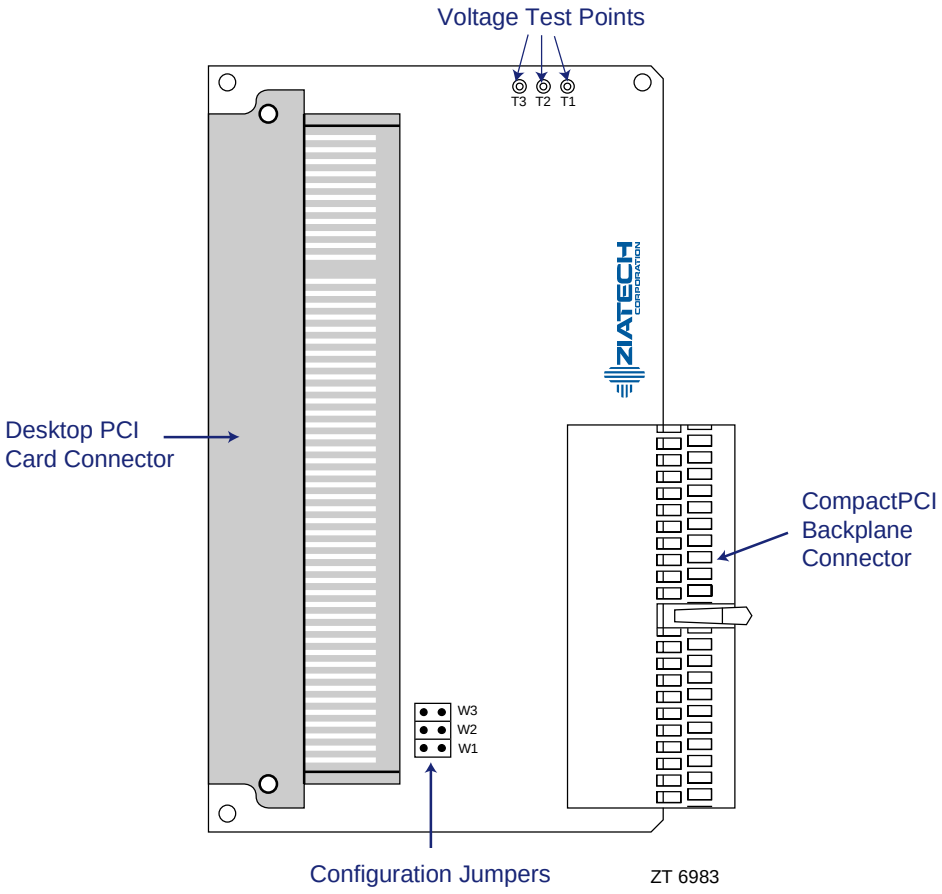
Appendix A, "Jumper Configurations," describes user-configurable jumpers that tailor the operation of the ZT 6983 to specific application requirements.

Appendix B, "Specifications," contains the electrical, mechanical, and environmental specifications for the ZT 6983.

Appendix C, "Customer Support," offers a product revision history, technical support information, and instructions for returning the ZT 6983 if service is necessary.

1. INTRODUCTION

This chapter provides a brief introduction to the ZT 6983 CompactPCI Adapter. It includes a product definition, a list of product features, and a diagram showing the major components of the board. Unpacking information and installation instructions can be found in Chapter 2, "Getting Started".



Major Components

PRODUCT DEFINITION

The ZT 6983 is a passive adapter that enables a desktop PCI card to be plugged into a CompactPCI backplane for evaluation.

Note: CompactPCI enclosures interfere with desktop PCI cards. Therefore, the backplane needs to be free standing. This configuration should be used only in lightly loaded systems because it violates CompactPCI bus-loading requirements.

FEATURES

- One CompactPCI backplane connector
- One 5 V PCI card connector
- Adapts CompactPCI backplanes to desktop PCI cards
- Three voltage test points
- Burned in at 55º C and tested to guarantee reliability
- Five year warranty

2. GETTING STARTED

This chapter summarizes the steps required to get the ZT 6983 running. Read this chapter in its entirety before you use the ZT 6983.

UNPACKING

Please check the shipping carton for damage. If the shipping carton and contents are damaged, notify the carrier and Ziatech for an insurance settlement. Retain the shipping carton and packing material for inspection by the carrier. Do not return any product to Ziatech without a Return Material Authorization (RMA) number. The topic "Returning For Service" in Appendix C explains the procedure you should follow to obtain an RMA number from Ziatech.

Caution: Like all equipment utilizing MOS devices, the ZT 6983 must be protected from static discharge. Never remove any of the socketed parts except at a static-free workstation. Use the anti-static bag shipped with the ZT 6983 to handle the board.

SYSTEM REQUIREMENTS

The ZT 6983 CompactPCI to Desktop PCI Adapter is designed to work with the ZT 6500, ZT 5500, ZT 5510, and ZT 5520 Single Board computers and other CPUs that adhere to the CompactPCI specification.

The ZT 6983 is a passive card and does not require any voltage to operate. Resistors and capacitors are loaded on the adapter to minimize signal noise and regulate power supply.

The ambient temperature must be maintained between 0º and +65º Celsius to avoid improper operation and possible damage. The relative humidity should be less than 95%, non-condensing.

See Appendix B, "Specifications," for more detailed information.

HARDWARE INSTALLATION

The ZT 6983 is designed to plug into a CompactPCI backplane without the surrounding card cage. Steps for installing the ZT 6983 are as follows:

1. Turn off the power to the CompactPCI backplane.

2. Insert the ZT 6983 J1 connector into the CompactPCI slot only.

3. Push down on the ZT 6983 until the connectors seat.

4. Install the PCI peripheral card to be tested in connector P1.

5. Power up the system.

Jumpers

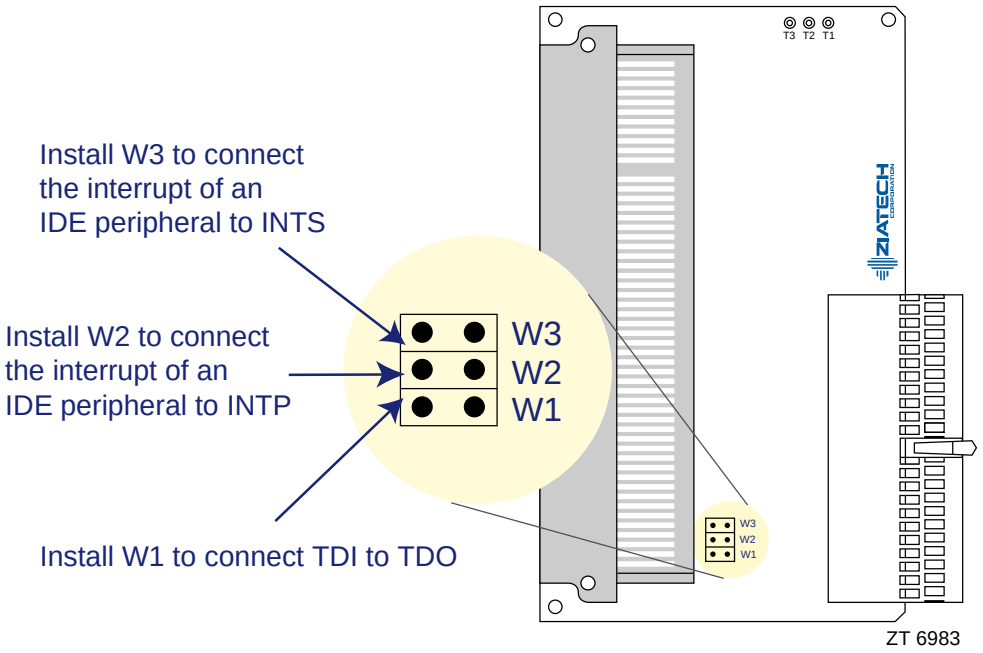
The ZT 6983 has three jumpers: W1, W2, and W3. W1 is used to connect TDI to TDO. W2 and W3 are used to connect INTP and INTS for interrupt routing on hard disk controllers if necessary.

See Appendix A, "Jumper Configurations," for more information about ZT 6983 jumpers.

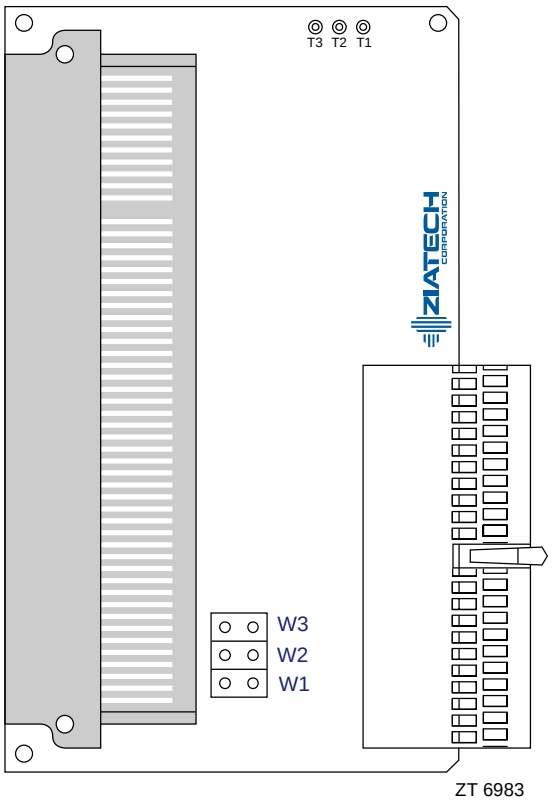
A. JUMPER CONFIGURATIONS

The ZT 6983 includes three jumper options (W1-W3) that tailor the operation of the adapter to specific application requirements. These options are described in this appendix, along with drawings that illustrate various jumper configurations.

We recommend you document your configuration in the "Customer Jumper Configuration" figure. This allows you to easily restore the configuration if you change it from the factory default configuration shown in the "Factory Default Configuration" figure below.



Factory Default Configuration



Customer Jumper Configuration

JUMPER DESCRIPTIONS

The ZT 6983 jumper options are summarized below. A dagger (†) indicates the factory default jumper configuration shown in the "Factory Default Configuration" figure.

Jumper	Description\
W1	Connects the JTAG Interface pins (TDI-TDO)
W2	Connects the IDE peripheral interrupt to INTP
W3	Connects the IDE peripheral interrupt to INTS

W1 (TDI -TDO Connect)

Install to connect the JTAG Interface pins (TDI-TDO).

W1	Function
†Out	Disconnects the JTAG Interface pins (TDI-TDO)
In	Connects the JTAG Interface pins (TDI-TDO)

W2 (Allows Connection for INTP on the ComapctPCI backplane)

Install to connect the interrupt of an IDE Peripheral to INTP on the CompactPCI backplane.

W2	Function
†Out	Disconnects the IDE peripheral interrupt to INTP
In	Connects the IDE peripheral interrupt to INTP

W3 (Allows Connection for INTS on the ComapctPCI backplane)

Install to connect the interrupt of an IDE Peripheral to INTS on the CompactPCI backplane.

W3	Function
†Out	Disconnects the IDE peripheral interrupt to INTS
In	Connects the IDE peripheral interrupt to INTS

† Factory default configuration

B. SPECIFICATIONS

This appendix presents the electrical, environmental, and mechanical specifications for the ZT 6983.

ELECTRICAL SPECIFICATIONS

The ZT 6983 is a passive adapter. Its power requirements and bus loading are based on the Desktop PCI card power and bus loading requirements.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: 0º to +65º Celsius

Storage Temperature: -40º to +85º Celsius

Relative Humidity: < 95% at 40º Celsius, non-condensing

MECHANICAL SPECIFICATIONS

The following topics provide specifications for ZT 6983 dimensions and weight, connector locations, connector descriptions, connector pinouts, and test points.

Board Dimensions and Weight

Dimensions: 2.362" x 3.937" (60 mm x 100 mm)

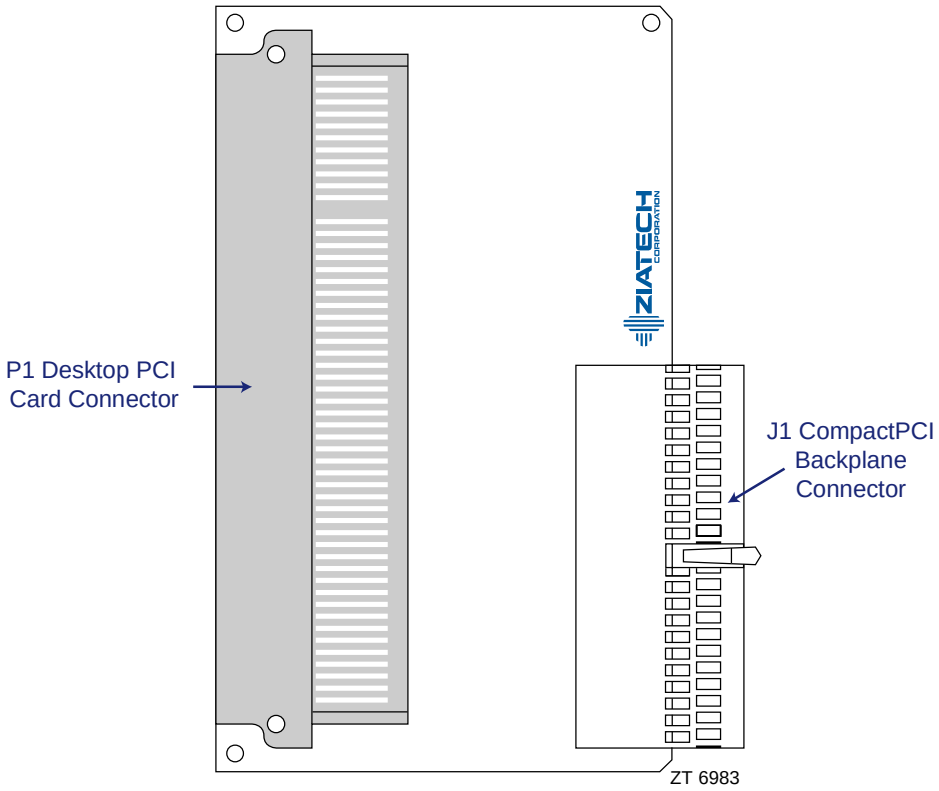
Height: Occupies one card slot

Weight: 0.129 lbs (0.058 kg)

Connectors

As shown in the "Connector Locations" illustration following, the ZT 6983 includes one connector to interface the PCI local bus and one connector to interface desktop PCI cards. The topics that follow provide descriptions of the individual connectors. Connector assignments are listed below.

Connector	Description
J1	CompactPCI backplane connector
P1	Desktop PCI card connector



Connector Locations

J1 (CompactPCI Backplane Connector)

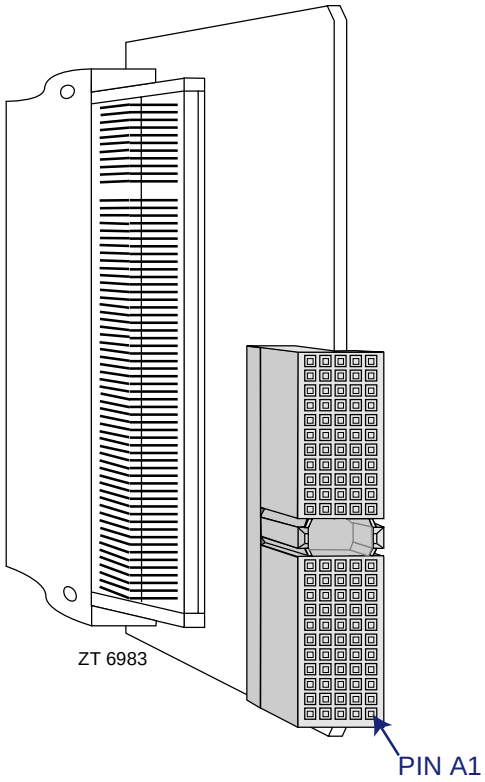
J1 is a 110-pin, 2 mm x 2 mm, right-angle, female connector providing the PCI local bus interface. J1 provides a complete 32-bit PCI interface. This connector is CompactPCI compatible. Refer to the CompactPCI Specification for details. Refer to the "J1 CompactPCI Connector Pinout" table following for the pin definitions and "CompactPCI Backplane Connector Pin Locations" for an illustration showing pin placement.

J1 CompactPCI Connector Pinout

Pin	Z	A	B	C	D	E	F
25	GND	5V	REQ64#	BRSV	3.3V	5V	GND
24	GND	AD[1]	5V	V(I/O)(1)	AD[0]	ACK64#	GND
23	GND	3.3V	AD[4]	AD[3]	5V	AD[2]	GND
22	GND	AD[7]	GND	3.3V	AD[6]	AD[5]	GND
21	GND	3.3V	AD[9]	AD[8]	M66EN(2	C/BE[0]#	GND
20	GND	AD[12]	GND	V(I/O))(1)	AD[11]	AD[10]	GND
19	GND	3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	3.3V	PAR	C/BE[1]#	GND
17	GND	3.3V	SDONE	SBO#	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O))(1),	STOP#	LOCK#	GND
15	GND	3.3V	FRAME#	IRDY#	GND	TRDY#	GND
14							
13				**KEY**			
12							
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	IDSEL	AD[23]	GND	AD[22]	GND
8	GND	AD[26]	GND	V(I/O)	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ#	GND	3.3V	CLK	AD[31]	GND
5	GND	BRSV	BRSV	RST#	GND	GNT#	GND
4	GND	BRSV	GND	V(I/O)	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	5V	INTD#	GND
2	GND	TCK	5V	TMS	TDO	TDI	GND
1	GND	5V	-12V	TRST#	+12V	5V	GND
Pin	**Z**	**A**	**B**	**C**	**D**	**E**	**F**

Notes:

1. The V(I/O) signals are either 5 V or 3.3 V, depending on the system implementation.
2. Connector P1 pin D21 (M66EN) is defined as GND for 33 MHz backplanes. Use of this signal in future 66 MHz systems will be as a bused signal to all slots.
3. Connector P1 pin C16 (long, level 3) is used for early power to hot-swap capable boards for controlling the buffer logic.



CompactPCI Backplane Connector Pin Locations

P1 (Desktop PCI Card Connector)

P1 is the desktop PCI, 124-pin, 5 V, connector. Connector pinouts are shown in the "P1 Desktop PCI Card Connector Pinout" table below.

P1 Desktop PCI Card Connector Pinout

Pin	A	B	Pin No.	A	B
1	TRST#	-12V	32	S-AD[16]	S-AD[17]
2	+12V	TCK	33	3.3 V	S-C/BE[2]#
3	TMS	GND	34	S-	GND
4	TDI	TDO	35	GND	S-IRDY#
5	5 V	5 V	36	S-TRDY#	3.3 V
6	INTA#	5 V	37	GND	S-DEVSEL#
7	INTC#	INTB#	38	S-STOP#	GND
8	5 V	INTD#	39	3.3 V	S-LOCK#
9	RSVD	PRSNT1	40	S-	S-PERR#
10	5 V	RSVD	41	S-SBO#	3.3 V
11	RSVD	PRSNT2	42	GND	S-SERR#
12	GND	GND	43	S-PAR	3.3 V
13	GND	GND	44	S-AD[15]	S-C/BE[1]#
14	RSVD	RSVD	45	3.3 V	S-AD[14]
15	S-RST#	GND	46	S-AD[13]	GND
16	5 V	CLK	47	S-AD[11]	S-AD[12]
17	S-GNT0#	GND	48	GND	S-AD[10]
18	GND	S-	49	S-AD[9]	GND
19	RSVD	5 V	50	KEY	KEY AREA
20	S-AD[30]	S-AD[31]	51	KEY	KEY AREA
21	3.3 V	S-AD[29]	52	S-	S-AD[8]
22	S-AD[28]	GND	53	3.3 V	S-AD[7]
23	S-AD[26]	S-AD[27]	54	S-AD[6]	3.3 V
24	GND	S-AD[25]	55	S-AD[4]	S-AD[5]
25	S-AD[24]	3.3 V	56	GND	S-AD[3]
26	S-	S-	57	S-AD[2]	GND
27	3.3 V	S-AD[23]	58	S-AD[0]	S-AD[1]
28	S-AD[22]	GND	59	5 V	5 V
29	S-AD[20]	S-AD[21]	60	S-	S-ACK64#
30	GND	S-AD[19]	61	5 V	5 V
31	S-AD[18]	3.3 V	62	5 V	5 V

Test Points

There are three test points on the ZT 6983. The signals available at these test points are identified in the "Test Points" table below.

Test Points

Test Point	Signal Name
T1	GND
T2	GND
T3	VCC (5 V)

C. CUSTOMER SUPPORT

This appendix offers technical and sales assistance information for this product, warranty information, and necessary information for the return of a Ziatech product.

TECHNICAL/SALES ASSISTANCE

If you have a technical question, please call Ziatech's Customer Support Service at the number below, or e-mail our technical support team at tech_support@ziatech.com. Ziatech also maintains an FTP site located at ftp://ziatech.com/Tech_support.

If you have a sales question, please contact your local Ziatech Sales Representative or the Regional Sales Office for your area. Address, telephone and FAX numbers, and additional information are available at Ziatech's website, located at http://www.ziatech.com.

Corporate Headquarters

1050 Southwood Drive

San Luis Obispo, CA 93401 USA

Tel (805) 541-0488

FAX (805) 541-5088

RELIABILITY

Ziatech takes extra care in the design of the product in order to ensure reliability. The product was designed in top-down fashion, using the latest in hardware and software design techniques, so that unwanted side effects and unclean interactions between parts of the system are eliminated. Each product has an identification number. Ziatech maintains a lifetime data base on each board and the components used. Any negative trends in reliability are spotted and Ziatech's suppliers are informed and/or changed.

RETURNING FOR SERVICE

Before returning any of Ziatech's products, you must phone Ziatech at (805) 541-0488 and obtain a Return Material Authorization (RMA) number. Please supply the following information to Ziatech in order to receive an RMA number:

- Your company name and address for invoice
- Your shipping address and phone number
- The product I.D. number
- The name of a technically qualified individual at your company familiar with the mode of failure

Once you have an RMA number, follow these steps to return your product to Ziatech:

1. Contact Ziatech for pricing if the warranty expired.

2. Supply a purchase order number for invoicing the repair if the warranty expired.

3. Pack the board in **anti-static** material and ship in a sturdy cardboard box with enough packing material to adequately cushion it.

Note: Any product returned to Ziatech improperly packed will immediately void the warranty for that particular product!

4. Mark the RMA number clearly on the outside of the box.

ZIATECH WARRANTY

Ziatech provides a five-year limited warranty to its customers. If the unit is out of warranty, service is available at a predesignated service charge.

Ziatech also has an explicit policy regarding the use of Ziatech products in life support systems. The five-year warranty and the life support system topics are covered in the following sections.

Five-Year Limited Warranty

Products manufactured by Ziatech Corporation are covered from the date of purchase by a five-year warranty against defects in materials, workmanship, and published specifications applicable to the date of manufacture. During the warranty period, Ziatech will repair or replace, solely at its option, defective units provided they are returned at customer expense to an authorized Ziatech repair facility. Products which have been subjected to misuse, abuse, neglect, alteration, or unauthorized repair, determined at the sole discretion of Ziatech, whether by accident or otherwise, are excluded from warranty. The warranty on fans and disk drives is limited to two years and the warranty on flat panel displays is limited to nine months from date of purchase. Other products and accessories not manufactured by Ziatech are limited to the warranty provided by the original manufacturer. Consumable items (fuses, batteries, etc.) and software are not covered by this warranty.

Ziatech Corporation warrants that for a period of ninety (90) days from the date of purchase; the media on which software is furnished will be free of defects in materials and workmanship under normal use; and the software contains the features described in the Ziatech price list. Otherwise, the software is provided "AS IS". This limited warranty extends only to Customer as the original licensee. Customer's exclusive remedy and Ziatech's entire liability under this limited warranty will be, at Ziatech's option, to repair or replace the software, or refund the license fee paid therefore.

Ziatech may offer, where applicable and available, replacement products; otherwise, repairs requiring components, assemblies, and other purchased materials may be limited by market availability.

Ziatech assumes no liability resulting from changes to government regulations affecting use of materials, equipment, safety, and methods of repair. Ziatech may, at its discretion, offer replacement products.

THE ABOVE WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, WHETHER EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY FOR FITNESS OF PURPOSE, MERCHANTABILITY, OR FREEDOM FROM INFRINGEMENT OR THE LIKE, AND ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATIONS, OR SAMPLE.

Ziatech neither assumes nor authorizes any person to assume for it any other liability. The liability of Ziatech under this warranty agreement is limited to a refund of the purchase price. In no event shall Ziatech be liable for loss of profits, use, incidental, consequential, or other damage, under this agreement.

Life Support Policy

Ziatech products are not authorized for use as critical components in life support devices or systems without the express written approval of the president of Ziatech Corporation. As used herein:

1. Life support devices or systems are devices or systems which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.

2. A critical component is any component of a life support device or system whose failure to perform can be expected to cause the failure of the life support device or system, affect its safety, or limit its effectiveness.

TRADEMARKS

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