

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.

Visit our website - *Click HERE*

»Kontron User's Guide«

CP-RIO6-923



Document Revision 1.2

Document ID: CP-RIO6-923

Issue Date: April 2011

Revision History

Rev. Index	Brief Description of Changes	Date of Issue
1.0	Initial Issue	12 September 2007
1.1	Minor changes in chapter 1, 2 and 3	19 September 2007
1.2	Minor changes in chapter 1 and 3 related to the three variants available	27 April 2011

Customer Service

Contact Information:

Kontron Canada, Inc.
4555 Ambroise-Lafortune
Boisbriand, Québec, Canada
J7H 0A4
Tel: (450) 437-5682
(800) 354-4223
Fax: (450) 437-8053
E-mail: support@ca.kontron.com

Kontron Modular Computer GmbH
Sudetenstrasse 7
87600 Kaufbeuren
Germany
+49 (0) 8341 803 333
+49 (0) 8341 803 339
support-kom@kontron.com

Visit our site at:www.kontron.com

© 2011 Kontron, an International Corporation. All rights reserved.

The information in this user's guide is provided for reference only. Kontron does not assume any liability arising out of the application or use of the information or products described herein. This user's guide may contain or reference information and products protected by copyrights or patents and does not convey any license under the patent rights of Kontron, nor the rights of others.

Kontron is a registered trademark of Kontron. All trademarks, registered trademarks, and trade names used in this user's guide are the property of their respective owners. All rights reserved. Printed in Canada. This user's guide contains information proprietary to Kontron. Customers may reprint and use this user's guide in other publications. Customers may alter this user's guide and publish it only after they remove the Kontron name, cover, and logo.

Kontron reserves the right to make changes without notice in product or component design as warranted by evolution in user needs or progress in engineering or manufacturing technology. Changes that affect the operation of the unit will be documented in the next revision of this user's guide.

Table of Contents

Revision History ..... *ii*
Customer Service ..... *ii*
Proprietary Note ..... *vi*
Trademarks ..... *vi*
Environmental Protection Statement ..... *vi*
Before you Begin ..... *vii*
When Working Inside a Computer ..... *viii*
Advisory Conventions ..... *ix*
Safety Instructions ..... *x*
Special Handling and Unpacking Instructions ..... *xi*
General Instructions on Usage ..... *xii*
Regulatory Compliance Statements ..... *xiii*
Two Year Warranty ..... *xiv*

1 Introduction ***2***
1.1 Product Overview *2*
1.2 Technical Specification *3*

2 Installation ***5***
2.1 Safety Requirements *5*
2.2 Installation Procedure *6*
2.3 Removal Procedure *7*

3 Hardware Description ***9***
3.1 1000BASE-T Ports *9*
3.2 Serial RS232 Interface *11*
3.3 CompactPCI Bus Connectors *12*
3.4 Front Panel Elements *15*

A Getting Help ***A-2***
A.1 Returning Defective Merchandise *A-2*
A.2 When Returning a Unit *A-3*

List of Tables

Table 1-1: CP-RIO6-923 Main Specifications 3
Table 3-1: Ethernet Port Mapping 9
Table 3-2: RJ45 Pin Assignment 10
Table 3-3: RS232 Pin Assignment 11
Table 3-4: Serial console terminal cable interface: RJ45 Female to DB9 Female 11
Table 3-5: Connector J3 Pinout 12
Table 3-6: Connector J4 Pinout 13
Table 3-7: Connector J5 Pinout 14

List of Figures

Figure 3-1: Functional Block Diagram *9*
Figure 3-2: CP-RIO6-923 single-slot front panel *16*
Figure 3-3: CP-RIO6-923 dual-slot front panel *16*

Proprietary Note

This document contains information proprietary to Kontron AG. It may not be copied or transmitted by any means, disclosed to others, or stored in any retrieval system or media without the prior written consent of Kontron AG or one of its authorized agents.

The information contained in this document is, to the best of our knowledge, entirely correct. However, Kontron AG cannot accept liability for any inaccuracies or the consequences thereof, or for any liability arising from the use or application of any circuit, product, or example shown in this document.

Kontron AG reserves the right to change, modify, or improve this document or the product described herein, as seen fit by Kontron AG without further notice.

Trademarks

Kontron AG and the *Kontron* logo are trade marks owned by Kontron AG, Germany. In addition, this document may include names, company logos and trademarks, which are registered trademarks and, therefore, proprietary to their respective owners.

Environmental Protection Statement

This product has been manufactured to satisfy environmental protection requirements where possible. Many of the components used (structural parts, printed circuit boards, connectors, batteries, etc.) are capable of being recycled.

Final disposition of this product after its service life must be accomplished in accordance with applicable country, state, or local laws or regulations.

Before you Begin

Before handling the board, read the instructions and safety guidelines on the following pages to prevent damage to the product and to ensure your own personal safety. Refer to the "Advisory Conventions" section for advisory conventions used in this user's guide, including the distinction between Warnings, Cautions and Notes.

- Always use caution when handling/operating the computer. Only qualified, experienced, authorized electronics service personnel should access the interior of the computer. The power supplies produce high voltages and energy hazards, which can cause bodily harm.
- Use extreme caution when installing or removing components. Refer to the installation instructions in this user's guide for precautions and procedures. If you have any questions, please contact Kontron Technical Support

WARNING



High voltages are present inside the chassis when the unit's power cord is plugged into an electrical outlet. Turn off system power, turn off the power supply, and then disconnect the power cord from its source before removing the chassis cover. Turning off the system power switch does not remove power to components.



When Working Inside a Computer

Before taking covers off a computer, perform the following steps:

- Turn off the computer and any peripherals.
- Disconnect the computer and peripherals from power sources or subsystems to prevent electric shock or system board damage. This does not apply to when hot-swapping parts.
- Disconnect telephone or telecommunications lines from the computer.

In addition, take note of these safety guidelines when appropriate:

- To help avoid possible damage to system boards, wait five seconds after turning off the computer before removing a component, removing a system board, or disconnecting a peripheral device from the computer.

When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs. If you are disconnecting this type of cable, press in on the locking tabs before disconnecting the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before connecting a cable, make sure both connectors are correctly oriented and aligned.

CAUTION



Do not attempt to service the system yourself, except as explained in this user's guide. Follow installation and troubleshooting instructions closely.



Advisory Conventions

CAUTION

This symbol and title indicate potential damage to hardware and tells you how to avoid the problem.

CAUTION

Electric Shock

This symbol and title warn of hazards due to electrical shocks (> 60V) when touching products or parts of them. Failure to observe the precautions indicated and/or prescribed by the law may endanger your life/health and/or result in damage to your material.

WARNING

This symbol and title emphasize points which, if not fully understood and taken into consideration by the reader, may endanger your health and/or result in damage to your material.

ESD Sensitive Device

This symbol and title inform that electronic boards and their components are sensitive to static electricity. Therefore, care must be taken during all handling operations and inspections of this product, in order to ensure product integrity at all times.

Please read also the section “Special Handling and Unpacking Instructions”.

Note

This symbol and title emphasize aspects the reader should read through carefully for his or her own advantage.

CE Conformity

This symbol indicates that the product described in this manual is in compliance with all applied CE standards. Please refer also to the section „Regulatory cpmpliance Statements“ in this manual.

Safety Instructions

Your new Kontron product was developed and tested carefully to provide all features necessary to ensure its compliance with electrical safety requirements. It was also designed for a long fault-free life. However, the life expectancy of your product can be drastically reduced by improper treatment during unpacking and installation. Therefore, in the interest of your own safety and of the correct operation of your new Kontron product, you are requested to conform with the following guidelines.

WARNING



All operations on this device must be carried out by sufficiently skilled personnel only.



WARNING



Do not connect a switch port to a telephone line.



WARNING



For installation in a Hot-Plug system, observe the safety instructions specific to the system. Read the relevant documentation.



CAUTION



Electric Shock

High voltages are present inside the chassis when the unit's power cord is plugged into an electrical outlet. Turn off system power, turn off the power supply, and then disconnect the power cord from its source before removing the chassis cover. Turning off the system power switch does not remove power to components.



Special Handling and Unpacking Instructions

ESD Sensitive Device



This symbol and title inform that electronic boards and their components are sensitive to static electricity. Therefore, care must be taken during all handling operations and inspections of this product, in order to ensure product integrity at all times.

Unpacking

Follow these recommendations while unpacking:

- Remove all items from the box. If any items listed on the purchase order are missing, notify Kontron customer service immediately.
- Inspect the product for damage. If there is damage, notify Kontron customer service immediately.
- Keep all the original packaging material for future storage or warranty shipments. If it is necessary to store or ship the board please re-pack it as nearly as possible in the manner in which it was delivered.

Do not handle this product out of its protective enclosure while it is not used for operational purposes unless it is otherwise protected.

Whenever possible, unpack or pack this product only at EOS/ESD safe work stations. Where a safe work station is not guaranteed, it is important for the user to be electrically discharged before touching the product with his/her hands or tools. This is most easily done by touching a metal part of your system housing.

It is particularly important to observe standard anti-static precautions when changing mezzanines, ROM devices, jumper settings etc. If the product contains batteries for RTC or memory back-up, ensure that the board is not placed on conductive surfaces, including anti-static plastics or sponges. They can cause short circuits and damage the batteries or conductive circuits on the board.

Powering up the System

Before any installation or setup, ensure that the board is unplugged from power sources or subsystems.

If you encounter a problem, verify the following items:

- Make sure that all connectors are properly connected.
- Verify your boot devices.
- If the system does not start properly, try booting without any other I/O peripherals attached, including AMC adapters.

Make sure your system provides the minimum DC voltages required at the board's slot, especially if DC power is carried by cables.

If you are still not able to get your board running, contact our Technical Support for assistance.

Storing the Boards

Electronic boards are sensitive devices. Do not handle or store device near strong electrostatic, electromagnetic, magnetic or radioactive fields.

General Instructions on Usage

In order to maintain Kontron's product warranty, this product must not be altered or modified in any way. Changes or modifications to the device, which are not explicitly approved by Kontron AG and described in this manual or received from Kontron's Technical Support as a special handling instruction, will void your warranty.

This device should only be installed in or connected to systems that fulfill all necessary technical and specific environmental requirements. This applies also to the operational temperature range of the specific board version, which must not be exceeded. If batteries are present their temperature restrictions must be taken into account.

Regulatory Compliance Statements

FCC Compliance Statement for Class B Devices

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generated, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experience radio/TV technician for help.

WARNING



This is a Class B product. If not installed in a properly shielded enclosure and used in accordance with this User's Guide, this product may cause radio interference in which case users may need to take additional measures at their own expense.



Safety Certification

All Kontron equipment meets or exceeds safety requirements based on the IEC/EN/UL/CSA 60950-1 family of standards entitled, "Safety of information technology equipment." All components are chosen to reduce fire hazards and provide insulation and protection where necessary. Testing and reports when required are performed under the international IECEE CB Scheme. Please consult the "Kontron Safety Conformity Policy Guide" for more information.

CE Certification

The product described in this user's guide was tested in a representative system and is found to be compliant with the CE marking requirements. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques. Although Kontron offers accessories, the customer must ensure that these products are installed with proper shielding to maintain CE compliance. Kontron does not offer engineering services for designing cabling systems. In addition, Kontron will not retest or recertify systems or components that have been reconfigured by customers.

Two Year Warranty

Kontron AG grants the original purchaser of Kontron's products a *TWO YEAR LIMITED HARDWARE WARRANTY* as described in the following. However, no other warranties that may be granted or implied by anyone on behalf of Kontron are valid unless the consumer has the express written consent of Kontron AG.

Kontron AG warrants their own products, excluding software, to be free from manufacturing and material defects for a period of 24 consecutive months from the date of purchase. This warranty is not transferable nor extendible to cover any other users or long-term storage of the product. It does not cover products which have been modified, altered or repaired by any other party than Kontron Modular Computers GmbH or their authorized agents. Furthermore, any product which has been, or is suspected of being damaged as a result of negligence, improper use, incorrect handling, servicing or maintenance, or which has been damaged as a result of excessive current/voltage or temperature, or which has had its serial number(s), any other markings or parts thereof altered, defaced or removed will also be excluded from this warranty.

If the customer's eligibility for warranty has not been voided, in the event of any claim, he may return the product at the earliest possible convenience to the original place of purchase, together with a copy of the original document of purchase, a full description of the application the product is used on and a description of the defect. Pack the product in such a way as to ensure safe transportation (see our safety instructions).

Kontron provides for repair or replacement of any part, assembly or sub-assembly at their own discretion, or to refund the original cost of purchase, if appropriate. In the event of repair, refunding or replacement of any part, the ownership of the removed or replaced parts reverts to Kontron Modular Computers GmbH, and the remaining part of the original guarantee, or any new guarantee to cover the repaired or replaced items, will be transferred to cover the new or repaired items. Any extensions to the original guarantee are considered gestures of goodwill, and will be defined in the "Repair Report" issued by Kontron with the repaired or replaced item.

Kontron Modular Computers GmbH will not accept liability for any further claims resulting directly or indirectly from any warranty claim, other than the above specified repair, replacement or refunding. In particular, all claims for damage to any system or process in which the product was employed, or any loss incurred as a result of the product not functioning at any given time, are excluded. The extent of Kontron Modular Computers GmbH liability to the customer shall not exceed the original purchase price of the item for which the claim exists.

Kontron Modular Computers GmbH issues no warranty or representation, either explicit or implicit, with respect to its products' reliability, fitness, quality, marketability or ability to fulfil any particular application or purpose. As a result, the products are sold "as is," and the responsibility to ensure their suitability for any given task remains that of the purchaser. In no event will Kontron be liable for direct, indirect or consequential damages resulting from the use of our hardware or software products, or documentation, even if Kontron were advised of the possibility of such claims prior to the purchase of the product or during any period since the date of its purchase.

Please remember that no Kontron Modular Computers GmbH employee, dealer or agent is authorized to make any modification or addition to the above specified terms, either verbally or in any other form, written or electronically transmitted, without the company's consent.

Chapter 1

Introduction

1 Introduction

1.1 Product Overview

The CP-RIO6-923 is a PICMG 2.0 compliant 6U rear panel I/O board that can be used with PICMG 2.16 compliant switches like the CP6923 or the CP6930. It provides access to up to 24 of the switch ports that are connected to the backplane. The serial console management port (RS-232) of the CP6923 is also accessible with this RIO module.

This module is intended to access the backplane ports of a PICMG 2.16 compliant switch board directly. These are the ports located on connectors J3, J4 and J5. Any connections on the backplane on these connectors between the switch and any other board are not usable together with the RIO module. However, if no other boards connect to J3, J4 and J5, but the backplane provides slot interconnection and RIO support, the CP-RIO6-923 can be used without restrictions.

WARNING

If the CP-RIO6-923 is used with a backplane that supports slot interconnect on J3 to J5 as well as RIO support, make sure that no other board in the system connects to J3 to J5. Otherwise, unpredictable behaviour or even damage may occur.

The CP-RIO6-923 is a rugged design intended to be used in harsh environments and features

- Support of extended temperature range
- Optional conformal coating
- High shock & vibration capabilities

Three variants are available, providing different numbers of 1000Base-T ports:

- Single-slot (4HP) width, with 12 1000Base-T Ethernet ports and a serial console port
- Single-slot (4HP) width, with 9 1000Base-T Ethernet ports and a serial console port (CP-RIO6-923-9)
- Dual-slot (8HP) width, with 24 1000Base-T Ethernet ports and a serial console port

This board is compatible to the following standards:

- CompactPCI Core Specification PICMG 2.0 Rev3.0
- CompactPCI Packet Switching Backplane PICMG 2.16 R1.0

1.2 Technical Specification

Table 1-1: CP-RIO6-923 Main Specifications

CP-RIO6-923	SPECIFICATIONS
Mechanical	• 6U CompactPCI, Rear-panel I/O board • 233 mm x 80 mm • Weight Dual Slot Variant: 340g • Weight Single Slot Variant: 260g
Temperature	• Operating: -40°C to +85°C
Humidity	Designed to meet or exceed the following: • Bellcore GR63, Section 4.1 • Operating: 15%-90% (non-condensing) at 55°C (131°F) • Non-Operating: 5%-95% (non-condensing) at 40°C (104°F)
Altitude	Designed to meet or exceed the following: • Operating: 4000 m (13123ft) • Non-operating: 15000 m (49212 ft)
Vibration	Designed to meet or exceed the following: • Bellcore GR-63, Section 4.4 • Operating: 2gRMS, 1.0G, 5-500Hz each axis • Non-operating: 0.5G, 5-50Hz, 3.0G, 50-500Hz each axis
Shock	Designed to meet or exceed the following: • DIN/IEC 60068-2-27 • MIL-STD-810E, Method 516 • 30G, half-sine 11ms, each axis
Safety	Designed to meet or exceed the following: • UL 60950-1 • EN 60950
EMC	Designed to meet or exceed the following: • FCC 47 CFR Part 15, Subpart B • EN55022, EN55024 • EN 300 386

Reliability	• MTBF acc. to Bellcore Issue 6 (Ground Benign 30°C)
	  • Dual Slot Variant: > 3,567,000 hours
	  • Single Slot Variant: > 3,507,000 hours
	• MTBF acc. to MIL-HDBK-217 FN2 (Ground Benign 30°C)
	  • Dual Slot Variant: > 1,557,000 hours
	  • Single Slot Variant: >1,468,000 hours

Chapter 2

Installation

2 Installation

The CP-RIO6-923 has been designed for easy installation. However, the following standard precautions, installation procedures, and general information must be observed to ensure proper installation and to preclude damage to the board, other system components, or injury to personnel.

2.1 Safety Requirements

The following safety precautions must be observed when installing or operating the CP-RIO6-923. Kontron assumes no responsibility for any damage resulting from failure to comply with these requirements.



ESD Sensitive Device

This CompactPCI board contains electrostatically sensitive devices. Please observe the necessary precautions to avoid damage to your board:

- Discharge your clothing before touching the assembly. Tools must be discharged before use.
- When unpacking a static-sensitive component from its shipping carton, do not remove the component's antistatic packing material until you are ready to install the component in a computer. Just before unwrapping the antistatic packaging, be sure you are at an ESD workstation or grounded. This will discharge any static electricity that may have built up in your body.
- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components at an ESD workstation. If possible, use antistatic floor pads and workbench pads.
- Handle components and boards with care. Do not touch the components or contacts on a board. Hold a board by its edges or by its metal mounting bracket.
- Do not handle or store system boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.

2.2 Installation Procedure

For installing the CP-RIO6-923, it is not required that the system is powered down or the switch board in the corresponding front slot is removed or deactivated. To install the RIO module in a system proceed as follows:

1. Ensure that the safety requirements indicated in section 2.1 are observed.

WARNING

Failure to comply with the instruction below may cause damage to the board or result in improper system operation.

WARNING

Care must be taken when applying the procedures below to ensure that neither the CP-RIO6-923 nor other system boards are physically damaged by the application of these procedures.

2. Carefully insert the board into the slot designated by the application requirements for the board until it makes contact with the backplane connectors.

WARNING

DO NOT push the board into the backplane connectors. Use the ejector handles to seat the board into the backplane connectors.

3. Using both ejector handles, engage the board with the backplane. When the ejector handles are locked, the board is engaged.
4. Fasten the front panel retaining screws.
5. Connect all external interfacing cables to the board as required.
6. Ensure that the board and all required interfacing cables are properly secured.

2.3 Removal Procedure

For removing the CP-RIO6-923, it is not required that the system is powered down or the switch board in the corresponding front slot is removed or deactivated. To remove the RIO module proceed as follows:

1. Ensure that the safety requirements indicated in section 2.1. are observed.

WARNING

Care must be taken when applying the procedures below to ensure that neither the CP-RIO6-923 nor system boards are physically damaged by the application of these procedures.

2. Disconnect any interfacing cables that may be connected to the board.
3. Unscrew the front panel retaining screws.
4. Disengage the board from the backplane by first unlocking the board ejection handles and then by pressing the handles as required until the board is disengaged.
5. After disengaging the board from the backplane, pull the board out of the slot.
6. Dispose of the board as required.

Chapter 3

Hardware Description

3 Hardware Description

This chapter describes the board specific features of the CP-RIO6-923. The building blocks are:

- 12 or 24 1000Base-T ports
- Serial RS232 console connector
- CompactPCI bus connectors

The RIO module does not require a power supply. There are no active components on the board.

3.1 1000BASE-T Ports

Three Integrated Connector Modules (network magnetics + RJ45) are the physical interface for the 10/100/1000Base-T ports:

- three 2x4 modules for the dual-slot version
- three 1x4 modules for the single-slot version

The dual-slot version supports PICMG 2.16 backplane ports FL1 to FL23 and FLf (Fabric to Fabric Link Port). The single-slot version supports FC12 to FL23 and FL15 to FL23 on the CP-RIO6-923-9. The switch interfaces which are accessible via the CP-RIO6-923 are listed in the following table.

Table 3-1: Ethernet Port Mapping

PICMG 2.16 Backplane Port	CP-RIO6-923 Dual-Slot Port Label	CP-RIO6-923 Single-Slot Port Label	CP-RIO6-923-9 Single-Slot Port Label
FL_f	Fx	-	-
FL_01	1x	-	-
FL_02	2x	-	-
FL_03	3x	-	-
FL_04	4x	-	-
FL_05	5x	-	-
FL_06	6x	-	-
FL_07	7x	-	-
FL_08	8x	-	-
FL_09	9x	-	-
FL_10	10x	-	-
FL_11	11x	-	-
FL_12	12x	12x	(12x) -
FL_13	13x	13x	(13x) -
FL_14	14x	14x	(14x) -
FL_15	15x	15x	15x
FL_16	16x	16x	16x
FL_17	17x	17x	17x

Table 3-1: Ethernet Port Mapping (Continued)

PICMG 2.16 Backplane Port	CP-RIO6-923 Dual-Slot Port Label	CP-RIO6-923 Single-Slot Port Label	CP-RIO6-923-9 Single-Slot Port Label
FL_18	18x	18x	
FL_19	19x	19x	
FL_20	20x	20x	
FL_21	21x	21x	
FL_22	22x	22x	
FL_23	23x	23x	

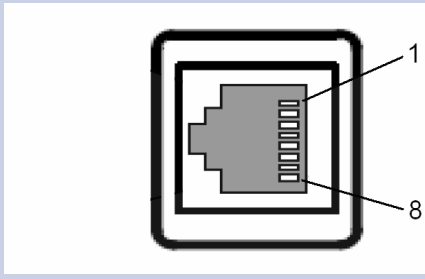
Note that ports marked with a '-' are not available on the RIO module.

On the CP-RIO6-923-9, backplane contacts of FL12 to FL14 are removed to increase signal quality in applications were these ports connect to other cPCI slots on the backplane. Covers are plugged into the corresponding non-functional RJ45 ports.

The RJ45 connectors are not equipped with LEDs for displaying the link status or activity. These are on the switch board front panel.

The following table shows the pin assignment of one 10/100/1000BASE-T RJ45 connector.

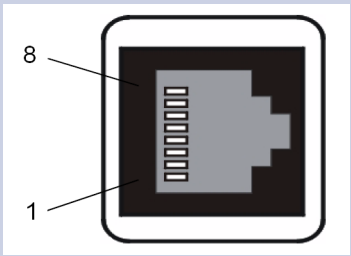
Table 3-2: RJ45 Pin Assignment

Signal	Pin	
BI_DB+	1	
BI_DB-	2	
BI_DA+	3	
BI_DD+	4	
BI_DD-	5	
BI_DA-	6	
BI_DC+	7	
BI_DC-	8	

3.2 Serial RS232 Interface

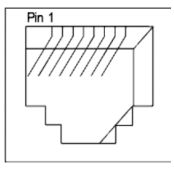
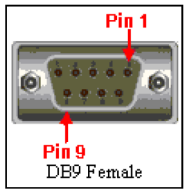
The CP-RIO6-923 provides a serial RS232 interface via an RJ45 connector. It is labelled "COM" on the front plate. This connector is provided on the dual-slot as well as on the single-slot variant. It has the following pinning:

Table 3-3: RS232 Pin Assignment

Signal	Pin	
N.C.	1	
N.C.	2	
TXD	3	
GND	4	
GND	5	
RXD	6	
N.C.	7	
N.C.	8	

External connection is established with a straight through Ethernet cable and a RJ45 (female) to SubD (female) adapter if required. The adapter is described in the following table.

Table 3-4: Serial console terminal cable interface: RJ45 Female to DB9 Female

RJ45 Female	RJ45 Pin Number	Signal	Connected	Description	DB9 Pin Number	DB9 Female
	1	RTS	Y	Request To Send	8	
	2	DTR	Y	Data Terminal Ready	76	
	3	TXD	Y	Transmit	2	
	4	GND	N	Ground	-	
	5	GND	Y	Ground	5	
	6	RXD	Y	Receive	3	
	7	DSR	Y	Data Set Ready	4	
	8	CTS	N	Clear To Send	7	
Front View	-	RI	N	Ring Indicator (Not Used)	9	Front View
	-	DCD	N	Carrier Detect (Not Used)	1	

3.3 CompactPCI Bus Connectors

Three daughter card connecters (rJ3, rJ4 and rJ5) are used for the connection between the CP-RIO6-923 and the backplane.

- rJ3 connects FL Port 1 to FL Port 8 and FL Port f
- rJ4 connects FL Port 20 to FL Port 23 and the RS232 Interface (RX/TX)
- rJ5 connects FL Port 9 to FL Port 19

Connector rJ3 is not installed on the single-slot variant of the CP-RIO6-923.

The cPCI connectors have the following pin assignment.

Table 3-5: Connector J3 Pinout

Pin	Row A	Row B	Row C	Row D	Row E	Row F
19	NC	NC	NC	NC	NC	GND
18	FL_DA24_f+	FL_DA24_f-	GND	FL_DC24_f+	FL_DC24_f-	GND
17	FL_DB24_f+	FL_DB24_f-	GND	FL_DD24_f+	FL_DD24_f-	GND
16	FL_DA8+	FL_DA8-	GND	FL_DC8+	FL_DC8-	GND
15	FL_DB8+	FL_DB8-	GND	FL_DD8+	FL_DD8-	GND
14	FL_DA7+	FL_DA7-	GND	FL_DC7+	FL_DC7-	GND
13	FL_DB7+	FL_DB7-	GND	FL_DD7+	FL_DD7-	GND
12	FL_DA6+	FL_DA6-	GND	FL_DC6+	FL_DC6-	GND
11	FL_DB6+	FL_DB6-	GND	FL_DD6+	FL_DD6-	GND
10	FL_DA5+	FL_DA5-	GND	FL_DC5+	FL_DC5-	GND
9	FL_DB5+	FL_DB5-	GND	FL_DD5+	FL_DD5-	GND
8	FL_DA4+	FL_DA4-	GND	FL_DC4+	FL_DC4-	GND
7	FL_DB4+	FL_DB4-	GND	FL_DD4+	FL_DD4-	GND
6	FL_DA3+	FL_DA3-	GND	FL_DC3+	FL_DC3-	GND
5	FL_DB3+	FL_DB3-	GND	FL_DD3+	FL_DD3-	GND
4	FL_DA2+	FL_DA2-	GND	FL_DC2+	FL_DC2-	GND
3	FL_DB2+	FL_DB2-	GND	FL_DD2+	FL_DD2-	GND
2	FL_DA1+	FL_DA1-	GND	FL_DC1+	FL_DC1-	GND
1	FL_DB1+	FL_DB1-	GND	FL_DD1+	FL_DD1-	GND

Table 3-6: Connector J4 Pinout

Pin	Row A	Row B	Row C	Row D	Row E	Row F
25	FL_DA20+	FL_DA20-	GND	FL_DC20+	FL_DC20-	GND
24	FL_DB20+	FL_DB20-	GND	FL_DD20+	FL_DD20-	GND
23	FL_DA21+	FL_DA21-	GND	FL_DC21+	FL_DC21-	GND
22	FL_DB21+	FL_DB21-	GND	FL_DD21+	FL_DD21-	GND
21	FL_DA22+	FL_DA22-	GND	FL_DC22+	FL_DC22-	GND
20	FL_DB22+	FL_DB22-	GND	FL_DD22+	FL_DD22-	GND
19	FL_DA23+	FL_DA23-	GND	FL_DC23+	FL_DC23-	GND
18	FL_DB23+	FL_DB23-	GND	FL_DD23+	FL_DD23-	GND
17	NC	NC	NC	NC	NC	GND
16	NC	NC	NC	NC	NC	GND
15	NC	NC	NC	NC	NC	GND
14	Key Area					
13						
12						
11	NC	NC	NC	NC	NC	GND
10	NC	NC	NC	NC	NC	GND
9	NC	NC	NC	RTM_TXD#	RTM_RXD#	GND
8	NC	NC	NC	NC	NC	GND
7	NC	NC	NC	NC	NC	GND
6	NC	NC	NC	NC	NC	GND
5	NC	NC	NC	NC	NC	GND
4	NC	NC	NC	NC	NC	GND
3	NC	NC	NC	NC	NC	GND
2	NC	NC	NC	NC	NC	GND
1	NC	NC	NC	NC	NC	GND

Note...

RTM_TXD# (driven by switch board) and RTM_RXD# (driven by RIO module) are the two-pin RS232 rear I/O interface.

Table 3-7: Connector J5 Pinout

Pin	Row A	Row B	Row C	Row D	Row E	Row F
22	FL_DA19+	FL_DA19-	GND	FL_DC19+	FL_DC19-	GND
21	FL_DB19+	FL_DB19-	GND	FL_DD19+	FL_DD19-	GND
20	FL_DA18+	FL_DA18-	GND	FL_DC18+	FL_DC18-	GND
19	FL_DB18+	FL_DB18-	GND	FL_DD18+	FL_DD18-	GND
18	FL_DA17+	FL_DA17-	GND	FL_DC17+	FL_DC17-	GND
17	FL_DB17+	FL_DB17-	GND	FL_DD17+	FL_DD17-	GND
16	FL_DA16+	FL_DA16-	GND	FL_DC16+	FL_DC16-	GND
15	FL_DB16+	FL_DB16-	GND	FL_DD16+	FL_DD16-	GND
14	FL_DA15+	FL_DA15-	GND	FL_DC15+	FL_DC15-	GND
13	FL_DB15+	FL_DB15-	GND	FL_DD15+	FL_DD15-	GND
12	FL_DA14+(*)	FL_DA14-(*)	GND	FL_DC14+(*)	FL_DC14-(*)	GND
11	FL_DB14+(*)	FL_DB14-(*)	GND	FL_DD14+(*)	FL_DD14-(*)	GND
10	FL_DA13+(*)	FL_DA13-(*)	GND	FL_DC13+(*)	FL_DC13-(*)	GND
9	FL_DB13+(*)	FL_DB13-(*)	GND	FL_DD13+(*)	FL_DD13-(*)	GND
8	FL_DA12+(*)	FL_DA12-(*)	GND	FL_DC12+(*)	FL_DC12-(*)	GND
7	FL_DB12+ (*)	FL_DB12-(*)	GND	FL_DD12+(*)	FL_DD12-(*)	GND
6	FL_DA11+	FL_DA11-	GND	FL_DC11+	FL_DC11-	GND
5	FL_DB11+	FL_DB11-	GND	FL_DD11+	FL_DD11-	GND
4	FL_DA10+	FL_DA10-	GND	FL_DC10+	FL_DC10-	GND
3	FL_DB10+	FL_DB10-	GND	FL_DD10+	FL_DD10-	GND
2	FL_DA9+	FL_DA9-	GND	FL_DC9+	FL_DC9-	GND
1	FL_DB9+	FL_DB9-	GND	FL_DD9+	FL_DD9-	GND

(*) FL12, FL13 and FL14 are not connected to the backplane on the CP-RIO6-923-9 variant.

3.4 Front Panel Elements

Figure 3-1: CP-RIO6-923 single-slot front panel

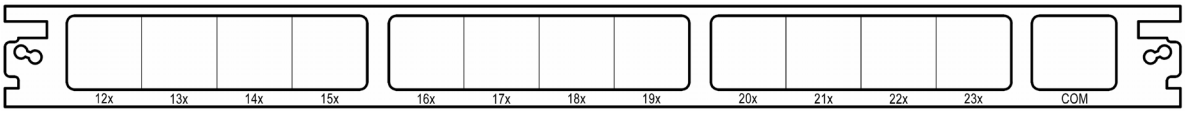
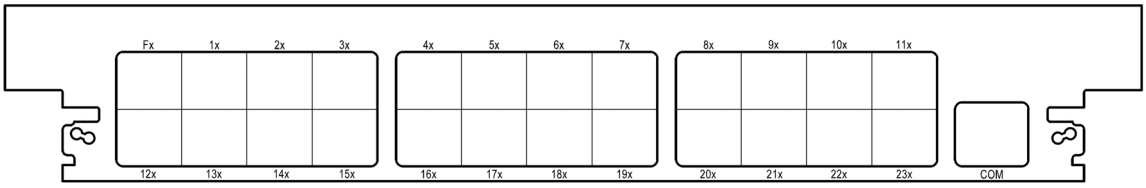


Figure 3-2: CP-RIO6-923 dual-slot front panel



Appendix A

Getting Help

A Getting Help

If, at any time, you encounter difficulties with your application or with any of our products, or if you simply need guidance on system setups and capabilities, contact our Technical Support at:

North America	EMEA
Tel.: (450) 437-5682	Tel.: +49 (0) 8341 803 333
Fax: (450) 437-8053	Fax: +49 (0) 8341 803 339

If you have any questions about Kontron, our products, or services, visit our Web site at: www.kontron.com

You also can contact us by E-mail at:

North America: support@ca.kontron.com

EMEA: support-kom@kontron.com

Or at the following address:

North America	EMEA
Kontron Canada, Inc.	Kontron Modular Computers GmbH
4555 Ambroise-Lafortune	Sudetenstrasse 7
Boisbriand, Québec	87600 Kaufbeuren
J7H 0A4 Canada	Germany

A.1 Returning Defective Merchandise

Before returning any merchandise please do one of the following:

- Call
  - Call our Technical Support department in North America at (450) 437-5682 or in EMEA at +49 (0) 8341 803 333. Make sure you have the following on hand: our Invoice #, your Purchase Order # and the Serial Number of the defective unit.
  - Provide the serial number found on the back of the unit and explain the nature of your problem to a service technician.
  - The technician will instruct you on the return procedure if the problem cannot be solved over the telephone.
  - Make sure you receive an RMA # from our Technical Support before returning any merchandise.

- Fax
  - Send us a fax at: North America (450) 437-0304, EMEA +49 (0) 8341 803 339. In the fax, you must include your name, your company name, your address, your city, your postal/zip code, your phone number and your e-mail. You must also include the serial number of the defective product and a description of the problem.

- E-mail
  - Send us an e-mail at: RMA@ca.kontron.com in North America or at: orderprocessing@kontron-modular.com in EMEA. In the e-mail, you must include your name, your company name, your address, your city, your postal/zip code, your phone number, and your e-mail. You must also include the serial number of the defective product and a description of the problem.

A.2 When Returning a Unit

- In the box, you must include the name and telephone number of a person, in case further explanations are required. **Where applicable, always include all duty papers and invoice(s) associated with the item(s) in question.**
- Ensure that the unit is properly packed. Pack it in a rigid cardboard box.
- Clearly write or mark the RMA number on the outside of the package you are returning.
- Ship prepaid. We take care of insuring incoming units.

North America	EMEA
Kontron Canada, Inc.	Kontron Modular Computers GmbH
4555 Ambroise-Lafortune	Sudetenstrasse 7
Boisbriand, Québec	87600 Kaufbeuren
J7H 0A4 Canada	Germany

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