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ACC/RTB-504

Installation Guide

P / N 226835 Revision AA
July 2005

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Contents

1 Installation

Introduction 3

Standard Compliance 5

Action Plan 6

On-Board Connectors 7

Connecting SCSI Devices 8
To SCSI Bus 1 8
To SCSI Bus 0 9
Connecting to ICMB 10

Switch Settings 11

Plugging In the Board 13

Installation Procedure 13
Removal Procedure 15

CompactPCI Backplane Connectors 16

J3 16
J4 17
J5 18

Front Panel Controls and Connectors 20
Connecting the Ethernet Interfaces 22
Ethernet 2 and 4 22
Ethernet 5 22
Connecting SCSI Port 1 22
Connecting the USB Ports 23
Connecting Serial Interfaces C and D 23
Connecting a SUN Keyboard/Mouse 24
Resetting the Board/System 24

Using This Manual

This Installation Guide is intended for users qualified in electronics or electrical engineering. Users must have a working understanding of Peripheral Component Interconnect (PCI), Compact Peripheral Component Interconnect (CPCI), and telecommunications.

Conventions

Notation	Description
Bold	Character format used to emphasize a word
Italics	Character format for references, table, and figure descriptions
Note:	No danger encountered. Pay attention to important information marked using this layout
Caution 	Possibly dangerous situation: slight injuries to people or damage to objects possible

Revision History

SAP No.	Revision	Date	Description
214842	AA	May 2001	Preliminary Installation Guide
214842	AB	June 2001	Changed SCSI 2 to SCSI 0 throughout the document; Editorial changes
214842	AC	October 2001	Revised english Safety Notes chapter; added chapter “Sicherheitshinweise”; added Reference Guide of the CPCI-550 to “Other Sources of Information” page vii; added “Standard Compliance” page 1-5; modified “Introduction” page 1-3; added Table 1 “Variants” page 1-4; modified “Action Plan” page 1-6; changed position of Ethernet interface 2 and 4 in Figure 13 “Front Panels” page 1-21; added Figure 2 “On-Board Connectors” page 1-7; UltraSCSI160 changed to UltraSCSI80 throughout the document; modified section “Connecting SCSI Devices” page 1-8; revised and renamed sections “Serial I/Os” and “Reset”; modified note on ICMB connector page 1-10, added information on default switch settings page 1-12; added Figure 8 “CompactPCI Connectors” page 1-16; changed J3 connector pinout at pins C1 and C7 page 1-17; changed J5 connector pinout at pins A14, A19-22, B14, B19-22, C1, C2, C6, C7, C15, C16 and C19-22 page 1-17; changed J5 connector pinout at pins D15, D17, D19-22 and E15-E18 page 1-19; added front panel of PSB variant in Figure 13 “Front Panels” page 1-21
217746	AA	November 2002	Corrected serial ports A and B to C and D on page 1-12.
226835	AA	July 2005	Changed logo and copyright from Force Computers to Motorola

Other Sources of Information

For further information refer to the SPARC / CPCI-550 Reference Guide.

Comments and Suggestions

We welcome and appreciate your comments on our documentation. We want to know what you think about our manuals and how we can make them better.

Mail comments to:

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In all your correspondence, please list your name, position, and company. Be sure to include the title, part number, and revision of the manual and tell how you used it.



Safety Notes

This section provides safety precautions to follow when installing, operating, and maintaining the ACC/RTB-504.

We intend to provide all necessary information to install and handle the ACC/RTB-504 in this Installation Guide. However, as the product is complex and its usage manifold, we do not guarantee that the given information is complete. If you need additional information, ask your Motorola representative.

The ACC/RTB-504 has been designed to meet the standard industrial safety requirements. It must not be used except in its specific area of office telecommunication industry and industrial control.

Only personnel trained by Motorola or persons qualified in electronics or electrical engineering are authorized to install, maintain, and operate the ACC/RTB-504. The information given in this manual is meant to complete the knowledge of a specialist and must not be taken as replacement for qualified personnel.

EMC

The board has been tested in a Standard Motorola system and found to comply with the limits for a Class A digital device in this system, pursuant to part 15 of the FCC Rules respectively EN 55022 Class A. These limits are designed to provide reasonable protection against harmful interference when the system is operated in a commercial, business or industrial environment.

The board generates and uses radio frequency energy and, if not installed properly and used in accordance with this Installation Guide, may cause harmful interference to radio communications. Operating the system 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.

If boards are integrated into open systems, always cover empty slots.



Installation

Electrostatic discharge and incorrect board installation and removal can damage circuits or shorten their life. Therefore:

- **Before installing or removing the board, read the "Action Plan" section on page 1-6.**
- **Before touching boards or electronic components, make sure that you are working in an ESD-safe environment.**
- **When plugging the board in or removing it, do not press on the front panel but use the handles.**
- **Before installing or removing an additional device, read the respective documentation.**
- **For installation and removal of the ACC/RTB-504, system power must always be turned off.**
- **Make sure that the board is connected to the CompactPCI backplane via all assembled connectors and that power is available on all power pins.**
- **Only install and use the ACC/RTB-504 with the CPU board of the CPCI-550 board family. Otherwise, both the CPU board and the RTB may be destroyed.**
- **Only use the RTB-504/PSB variant in conjunction with the PSB variant of the CPU board. When installing the standard RTB variant, the Ethernet communication through the backplane is disturbed.**

Operation

When operating the board in areas of electromagnetic radiation ensure that the board is bolted on the CompactPCI system and the system is shielded by enclosure.

Make sure that contacts and cables of the board cannot be touched while the board is operating.

The switch settings have to be checked and changed before RTB installation. Do not set/reset the switches during operation.



RJ-45 Connector

An RJ-45 connector is used for both telephone and twisted-pair Ethernet (TPE) connectors. Mismatching the two connectors may destroy your telephone as well as your ACC/RTB-504. Therefore:

- **TPE connectors have to be clearly marked as network connectors.**
- **TPE bushing of the system has to be connected only to safety extra low voltages (SELV) circuits.**
- **The total length of the electric cable connected to a TPE bushing must not exceed 100 m.**

Environment

Always dispose of old boards according to your country's legislation, if possible in an environmentally acceptable way.



Sicherheitshinweise

Dieser Abschnitt enthält Sicherheitshinweise, die bei Einbau, Betrieb und Wartung des ACC/RTB-504 zu beachten sind.

Wir sind darauf bedacht, alle notwendigen Informationen zum Einbau und zum Umgang mit dem ACC/RTB-504 in diesem Handbuch bereit zu stellen. Da es sich jedoch bei dem ACC/RTB-504 um ein komplexes Produkt mit vielfältigen Einsatzmöglichkeiten handelt, können wir die Vollständigkeit der im Handbuch enthaltenen Informationen nicht garantieren. Falls Ihnen Informationen fehlen sollten, wenden Sie sich bitte an Ihren Vertreter von Motorola.

Das ACC/RTB-504 erfüllt die für die Industrie geforderten Sicherheitsvorschriften und darf ausschließlich für Anwendungen in der Telekommunikationsindustrie und im Zusammenhang mit Industriesteuerungen verwendet werden.

Einbau, Wartung und Betrieb dürfen nur von durch Motorola ausgebildetem oder im Bereich Elektronik oder Elektrotechnik qualifiziertem Personal durchgeführt werden. Die in diesem Handbuch enthaltenen Informationen dienen ausschließlich dazu, das Wissen von Fachpersonal zu ergänzen, können dieses jedoch nicht ersetzen.

EMV

Das Board wurde in einem Motorola Standardsystem getestet. Es erfüllt die für digitale Geräte der Klasse A gültigen Grenzwerte in einem solchen System gemäß den FCC-Richtlinien Abschnitt 15 bzw. EN 55022 Klasse A. Diese Grenzwerte sollen einen angemessenen Schutz vor Störstrahlung beim Betrieb des Boards in Geschäfts-, Gewerbe- sowie Industriebereichen gewährleisten.

Das Board arbeitet im Hochfrequenzbereich und erzeugt Störstrahlung. Bei unsachgemäßem Einbau und anderem als in diesem Handbuch beschriebenen Betrieb können Störungen im Hochfrequenzbereich auftreten.

Warnung! 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.

Wenn Sie Boards in Systeme einbauen, schirmen Sie freie Steckplätze mit einer Blende ab.



Installation

Elektrostatische Entladung und unsachgemäßer Ein- und Ausbau des Boards kann Schaltkreise beschädigen oder ihre Lebensdauer verkürzen. Beachten Sie deshalb die folgenden Punkte:

- **Lesen Sie vor Ein- oder Ausbau des Boards den Abschnitt “Action Plan” auf Seite 1-6.**
- **Bevor Sie Boards oder elektronische Komponenten berühren, vergewissern Sie sich, dass Sie in einem ESD-geschützten Bereich arbeiten.**
- **Drücken Sie bei Ein- oder Ausbau des Boards nicht auf die Frontplatte, sondern benutzen Sie die Griffe.**
- **Lesen Sie vor dem Ein- oder Ausbau von zusätzlichen Geräten das dazugehörige Benutzerhandbuch.**
- **Vergewissern Sie sich, dass das Board vollständig in den Steckplatz der CompactPCI Backplane eingeschoben ist.**
- **Schalten Sie das System vor dem Ein-/Ausbau des ACC/RTB-504 aus.**
- **Installieren und benutzen Sie das ACC/RTB-504 nur zusammen mit dem CPU Board der CPCI-550 Boardfamilie, da sonst das CPU Board und das RTB beschädigt werden können.**
- **Benutzen Sie die RTB-504/PSB Variante nur zusammen mit der PSB Variante des CPU Boards. Benutzen Sie die Standardvariante des RTBs, kann es zu Störungen bei der Ethernet-Kommunikation über die Backplane kommen.**

Betrieb

Wenn Sie das Board in Gebieten mit elektromagnetischer Strahlung betreiben, stellen Sie sicher, dass das Board mit dem CompactPCI System verschraubt ist und das System durch ein Gehäuse abgeschirmt wird.

Stellen Sie sicher, dass Anschlüsse und Kabel des Boards während des Betriebs nicht berührt werden können.

Prüfen Sie die Einstellungen der Schalter vor der Installation des Boards. Ändern oder setzen Sie die Einstellungen während des Betriebs zurück, wird das Board beschädigt.



RJ-45 Stecker

Das CPU Board ist mit RJ-45 Steckern ausgestattet. Dieser Stecker wird sowohl für Telefonanschlüsse als auch für Netzwerkkabel (Twisted Pair Ethernet - TPE) verwendet. Die Verwechslung dieser Anschlüsse kann sowohl das Telefon als auch das Board zerstören. Beachten Sie deshalb die folgenden Punkte:

- **Vergewissern Sie sich, dass Anschlüsse deutlich als Netzwerkanschlüsse gekennzeichnet sind.**
- **Schließen Sie TPE-Stecker Ihres Systems nur an Sicherheits-Kleinspannungskreise (SELV) an.**
- **Vergewissern Sie sich, dass die an einem TPE-Anschluss angeschlossene Leitung eine Gesamtlänge von 100 Metern nicht überschreitet.**
- **Falls Sie Fragen haben, wenden Sie sich an Ihren Systemadministrator.**

Umweltschutz

Entsorgen Sie alte Boards gemäß der in Ihrem Land gültigen Gesetzgebung, wenn möglich umweltfreundlich.



1

Installation

Introduction

The ACC/RTB-504 is a rear transition board (RTB) which provides easy access to I/O signals of SPARC/CPCI-550 boards via the CompactPCI backplane. Furthermore, it offers additional interfaces to those of the CPCI-550: Two SCSI, two serial, two USB and optionally two additional Ethernet interfaces. The interfaces of the RTB can be seen in the figure below.

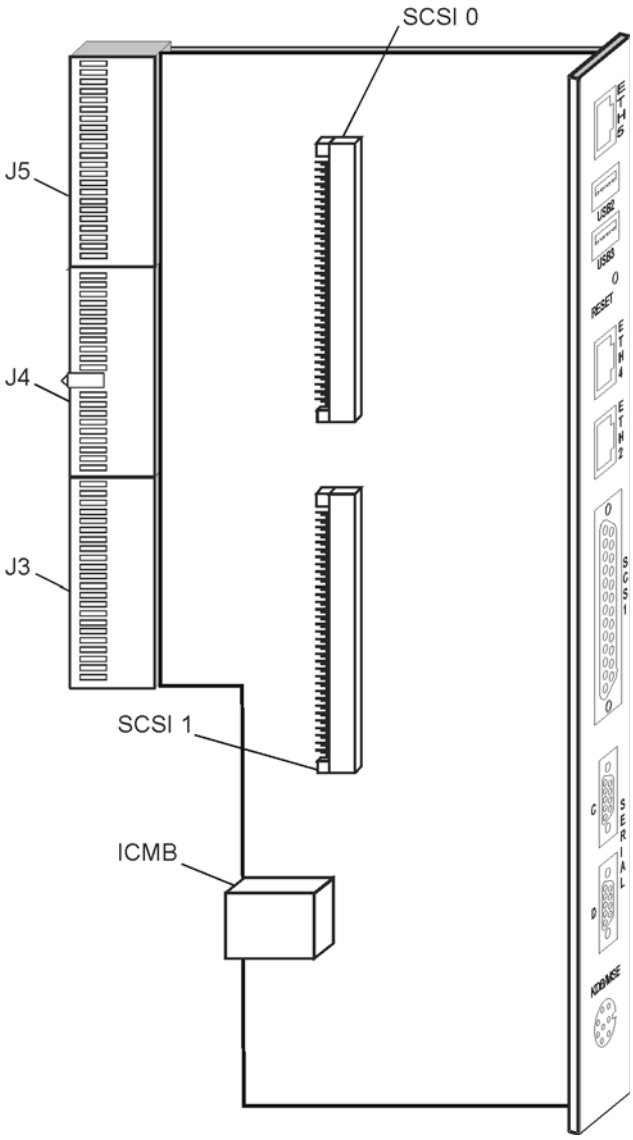


Figure 1: *Overview*

The ACC / RTB-504 comes in two variants whose interfaces can be seen in the table below.

Table 1: *Variants*

Variant	To be Used With	Interfaces
ACC / RTB-504	CPU boards of the SPARC / CPCI-550 family in a standard CompactPCI system	Two Ultra80 SCSI, three 10 / 100 Mbit Ethernet[1)], two USB, two serial[2)], one Inter-Chassis management bus (ICMB), and one SUN-style keyboard / mouse[3)]
ACC / RTB-504 / PSB (PICMG 2.16 compliant)	PSB variants of the SPARC / CPCI-550 family in a Packet-Switching Backplane (PSB) system	Two Ultra80 SCSI, one 10 / 100 Mbit Ethernet[1)], two USB, two serial[2)], one ICMB, and one SUN-style keyboard / mouse[3)]

1)Ethernet interface 5 is only available if Ethernet interface 1 on the front panel of the CPCI-550 is not used.
2) Only available if the keyboard / mouse interface is not used.
3) Only available if the two serial interfaces are not used.

The rear transition board ACC / RTB-504 may be delivered as part of a system design or as part of an accessory kit compiled for CPU boards.

- If delivered as part of a **system** (e.g. in Centellis 4550), the rear transition board is already installed in the system. For information on the system connectors available for user-defined system configuration, refer to the respective *System's Guide*. The cabling of all other connectors of the rear I / O panel must remain as configured at system delivery.
- The **Accessory Kit** for the ACC / RTB-504 contains:
  - Rear transition board RTB-504
  - This Installation Guide

Check that the items listed were shipped together with the accessory kit.

Standard Compliance

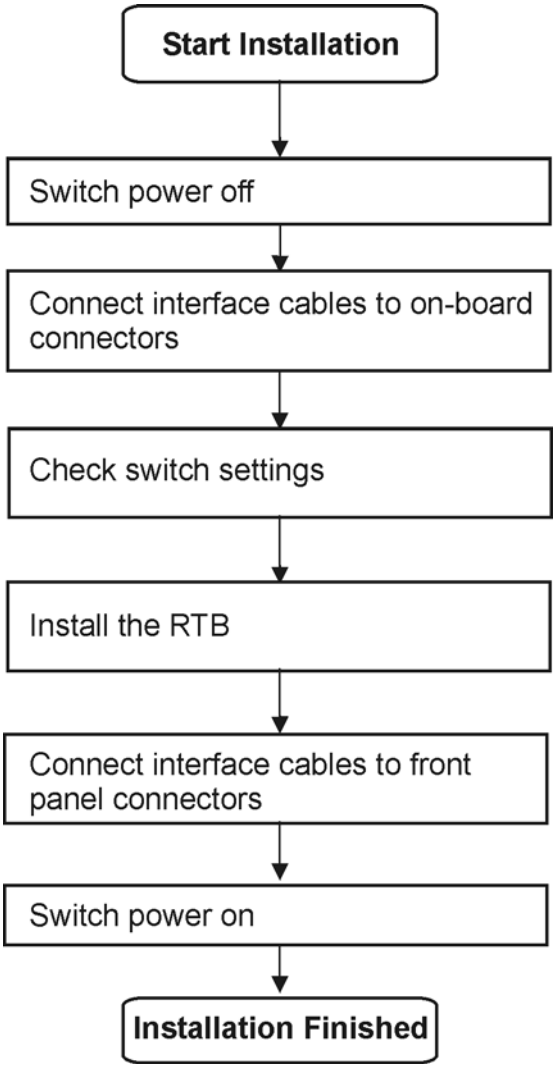
The RTB-504 was designed to comply with the standards listed below:

Table 2: *Standard Compliance*

Standard	Description
IEC 68-2-1 / 2 / 3 / 13 / 14	Climatic environmental requirements The ACC / RTB-504 can only be used in an restricted temperature range. See the "Environmental Requirements" section in the SPARC / CPCI-550 Installation Guide for details.
IEC 68-2-6 / 27 / 32	Mechanical environmental requirements
EN 609 50 / UL 1950 (predefined Motorola system)	Legal requirements
EN 55022 Class A, EN 55024, FCC Part 15 Class A	EMC requirements on system level
ANSI / IPC-A-610 Rev. C Class 2, ANSI / IPC-7711, ANSI IPC-7721, ANSI-J-001...003	Manufacturing Requirements
ISO 8601	Y2K compliance

Action Plan

To install the RTB, the following steps are necessary. The steps are described in detail in the sections of this chapter.



On-Board Connectors

The ACC/RTB-504 provides SCSI connectors 0 and 1 and an ICMB connector which should be connected before plugging the RTB in a system since they may not be accessible when the RTB is installed. The location of these connectors can be seen in the figure below.

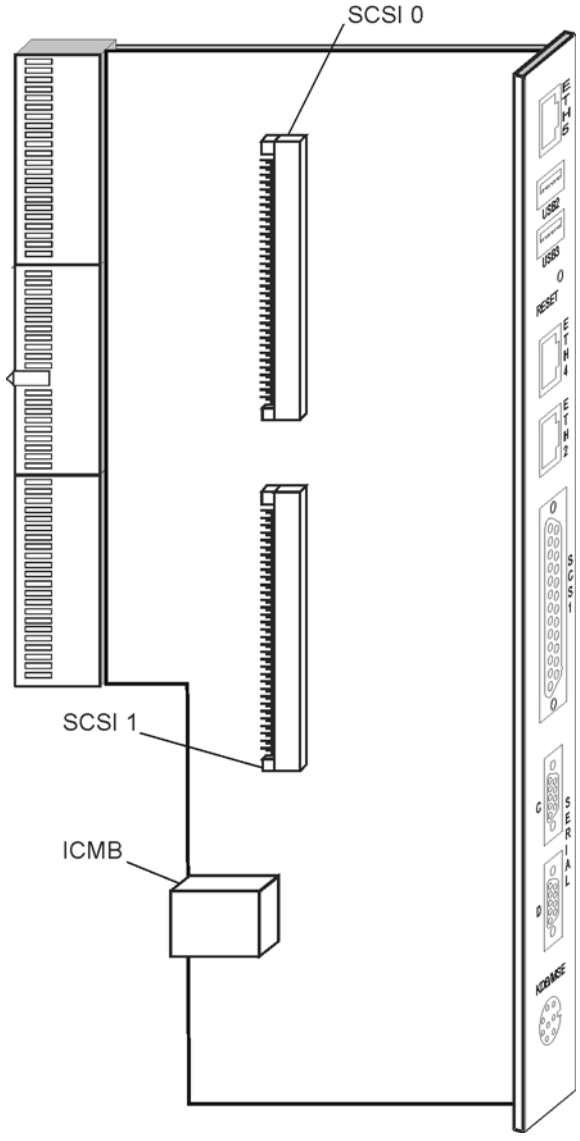


Figure 2: *On-Board Connectors*

Connecting SCSI Devices

The RTB-504 features two ULTRA80 SCSI interfaces: SCSI port 1 is available on the front panel and on-board and SCSI port 0 is available on-board only.

To SCSI Bus 1

A 68-pin connector is used for the on-board SCSI port 1 to connect external SCSI devices via a flat ribbon cable. To reduce system configuration errors, SCSI 1 supports auto-termination i.e. termination is switched on or off automatically according to the SCSI device's position on the SCSI bus.

Note: Auto-termination is not supported when connecting a cable in T-fashion to SCSI port 1. In this case termination must be turned off manually by switching SW1-1 to ON.

The following connector pinout shows how the pins are assigned.

1	SCSI1_D12+	SCSI1_D12-	35
2	SCSI1_D13+	SCSI1_D13-	36
3	SCSI1_D14+	SCSI1_D14-	37
4	SCSI1_D15+	SCSI1_D15-	38
5	SCSI1_DP1+	SCSI1_DP1-	39
6	SCSI1_D0+	SCSI1_D0-	40
7	SCSI1_D1+	SCSI1_D1-	41
8	SCSI1_D2+	SCSI1_D2-	42
9	SCSI1_D3+	SCSI1_D3-	43
10	SCSI1_D4+	SCSI1_D4-	44
11	SCSI1_D5+	SCSI1_D5-	45
12	SCSI1_D6+	SCSI1_D6-	46
13	SCSI1_D7+	SCSI1_D7-	47
14	SCSI1_DP0+	SCSI1_DP0-	48
15	GND (AUTOTRM)	GND	49
16	GND	SCSI1_AUTOTERM	50
17	SCSI1_TERMPWR	SCSI1_TERMPWR	51
18	SCSI1_TERMPWR	SCSI1_TERMPWR	52
19	n.c.	n.c.	53
20	GND	GND	54
21	SCSI1_ATN+	SCSI1_ATN-	55
22	GND	GND	56
23	SCSI1BSY+	SCSI1_BSY-	57
24	SCSI1_ACK+	SCSI1_ACK-	58
25	SCSI1_RST+	SCSI1_RST-	59
26	SCSI1_MSG+	SCSI1_MSG-	60
27	SCSI1_SEL+	SCSI1_SEL-	61
28	SCSI1_CD+	SCSI1_CD-	62
29	SCSI1_REQ+	SCSI1_REQ-	63
30	SCSI1_IO+	SCSI1_IO-	64
31	SCSI1_D8+	SCSI1_D8-	65
32	SCSI1_D9+	SCSI1_D9-	66
33	SCSI1_D10+	SCSI1_D10-	67
34	SCSI1_D11+	SCSI1_D11-	68



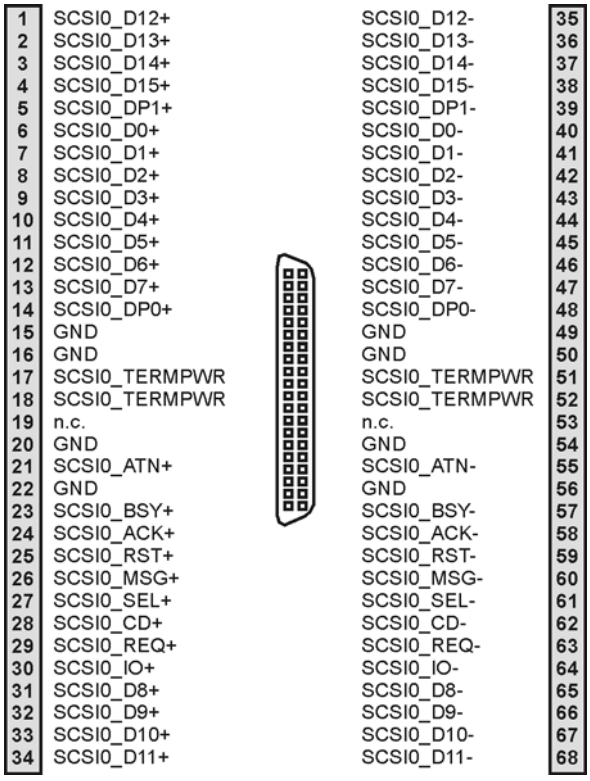
Figure 3: *SCSI Port 1 On-Board Connector Pinout*

To SCSI Bus 0

On-board SCSI port 0 connects external SCSI devices via a flat ribbon cable. By default, the termination on the CPCI-550 is on (switch 3-4 is OFF) and on the RTB-504 it is switched off (switch 1-2 is ON). If connecting a single SCSI device, proper termination is ensured with these settings.

Note: On SCSI port 0 termination is not done automatically. If connecting a ribbon cable in T-fashion, you have to switch SW3-4 on the CPCI-550 to ON.

The following connector pinout shows how the pins are assigned.



1	SCSI0_D12+	SCSI0_D12-	35
2	SCSI0_D13+	SCSI0_D13-	36
3	SCSI0_D14+	SCSI0_D14-	37
4	SCSI0_D15+	SCSI0_D15-	38
5	SCSI0_DP1+	SCSI0_DP1-	39
6	SCSI0_D0+	SCSI0_D0-	40
7	SCSI0_D1+	SCSI0_D1-	41
8	SCSI0_D2+	SCSI0_D2-	42
9	SCSI0_D3+	SCSI0_D3-	43
10	SCSI0_D4+	SCSI0_D4-	44
11	SCSI0_D5+	SCSI0_D5-	45
12	SCSI0_D6+	SCSI0_D6-	46
13	SCSI0_D7+	SCSI0_D7-	47
14	SCSI0_DP0+	SCSI0_DP0-	48
15	GND	GND	49
16	GND	GND	50
17	SCSI0_TERMPWR	SCSI0_TERMPWR	51
18	SCSI0_TERMPWR	SCSI0_TERMPWR	52
19	n.c.	n.c.	53
20	GND	GND	54
21	SCSI0_ATN+	SCSI0_ATN-	55
22	GND	GND	56
23	SCSI0_BSY+	SCSI0_BSY-	57
24	SCSI0_ACK+	SCSI0_ACK-	58
25	SCSI0_RST+	SCSI0_RST-	59
26	SCSI0_MSG+	SCSI0_MSG-	60
27	SCSI0_SEL+	SCSI0_SEL-	61
28	SCSI0_CD+	SCSI0_CD-	62
29	SCSI0_REQ+	SCSI0_REQ-	63
30	SCSI0_IO+	SCSI0_IO-	64
31	SCSI0_D8+	SCSI0_D8-	65
32	SCSI0_D9+	SCSI0_D9-	66
33	SCSI0_D10+	SCSI0_D10-	67
34	SCSI0_D11+	SCSI0_D11-	68

Figure 4: *SCSI Port 0 On-Board Connector Pinout*

Connecting to ICMB

An inter-chassis management bus (ICMB) type B connector is used to connect to the ICMB interface of the CPCI-550.

Note: For the ICMB inteface a connector of the RJ-45 type is used which is also used for the Ethernet interface. Do not mismatch these two interfaces, otherwise the ICMB and the Ethernet interface do not work.

The following connector pinout shows how the pins are assigned.

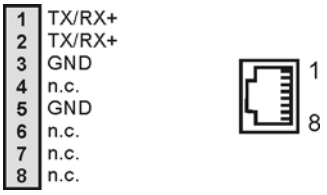


Figure 5: *ICMB Connector Pinout*

Switch Settings

The RTB provides the configuration switch SW1 whose location on the RTB is shown in the following figure.

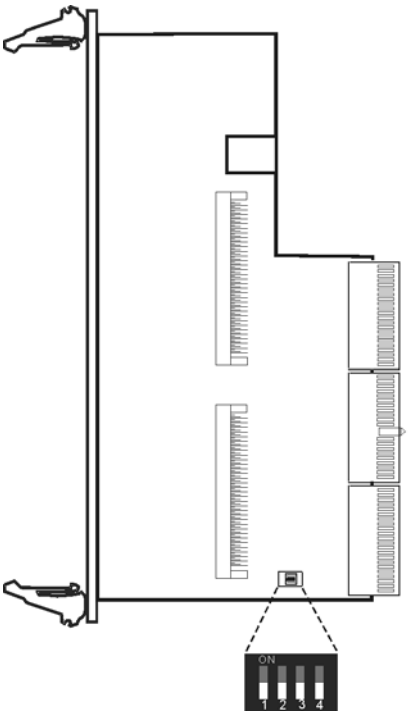


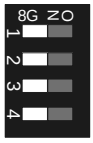
Figure 6: *Switch SW1*

Caution

The switch settings have to be checked and changed before RTB installation. Do not set/reset the switches during operation.

The following table lists the functions and the default settings of switch SW1.

Table 3: *Default Settings Switch SW1*

Switch	Number	Description
SW1 	1	Termination select SCSI 1 OFF = Autotermination is on (default) ON = Termination is off
	2	Termination select SCSI 0 OFF = Termination is on ON = Termination is off (default)
	3	Serial port select OFF = RS-232 ports C and D enabled (default) ON = Keyboard / mouse enabled
	4	**Reserved, must be OFF**

Plugging In the Board

Before installing the RTB observe the following:

Caution



- **Only install and use the ACC/RTB-504 with the CPU board of the CPCI-550 board family. Otherwise, both the CPU board and the RTB may be destroyed.**
- **Only use the RTB-504/PSB variant in conjunction with the PSB variant of the CPU board. When installing the standard RTB variant, the Ethernet communication through the backplane is disturbed.**
- **Before touching boards or electronic devices, make sure that you are working in an ESD-safe environment.**
- **For installation and removal of the ACC/RTB-504, system power must always be turned off.**
- **Make sure to use the rear slot position only.**

Installation Procedure

1. Check user's documentation of all installed boards for steps that have to be taken before turning off power
2. Take those steps
3. Finally turn off power
4. Check switch settings
5. Unlock handles by pressing red button on locks, if necessary

Note: When inserting the RTB make sure not to bend any pins.

6. Carefully insert RTB from rear into same slot as CPCI-550

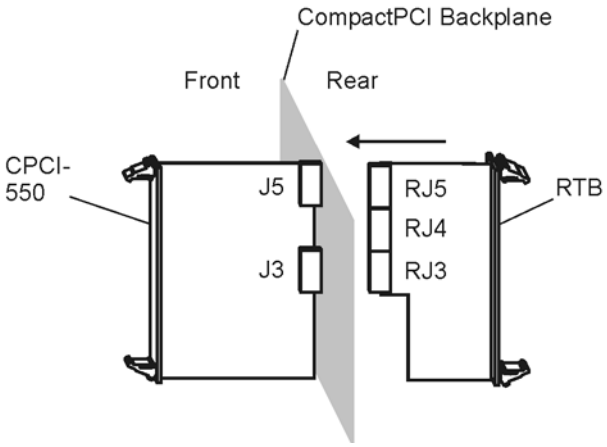


Figure 7: *Installing the RTB-504*

7. Press handles inwards to lock RTB on CPCI rack
8. Fasten two screws on front panel to fix RTB on rack frame

Removal Procedure

1. Check user's documentation of all installed boards for steps that have to be taken before turning off power
2. Take those steps
3. Finally turn off power
4. Unfasten two screws of front panel until RTB is detached from rack frame
5. Disconnect RTB from backplane by pressing on red button on both front panel handles
6. Open handles
7. Carefully remove RTB from slot without bending any pins
8. Turn on power

CompactPCI Backplane Connectors

The RTB provides the CPCI connectors J3, J4, and J5. The figure below shows the location of these connectors.

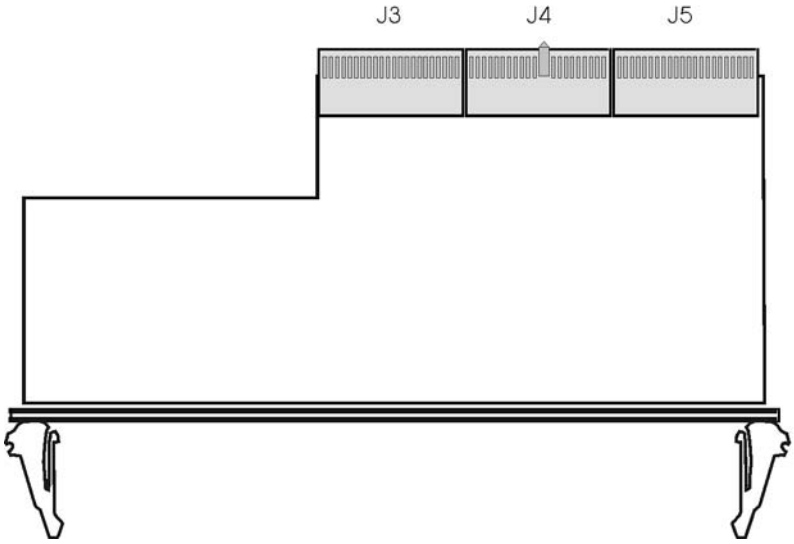


Figure 8: *CompactPCI Connectors*

J3

Backplane connector J3 contains the following signals:

- Ethernet signals (ETH2_*, ETH4_*)
- Reserved pins (RES)
- SCSI bus 1 (SCSI1_*)

The following connector pinouts show how the pins are assigned.

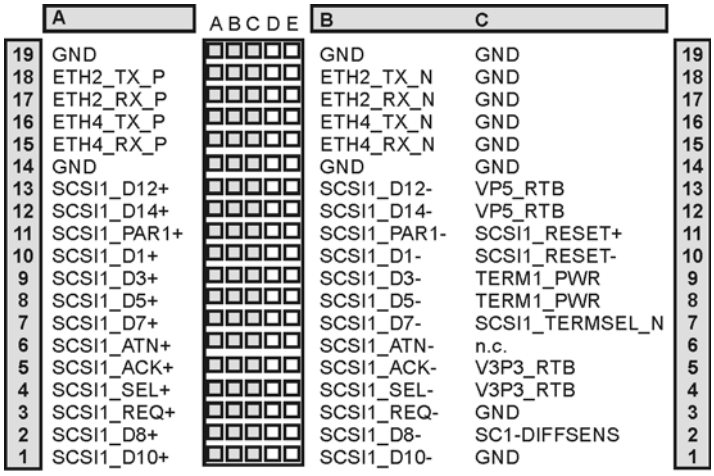


Figure 9: *J3 Connector Pinout Rows A to C*

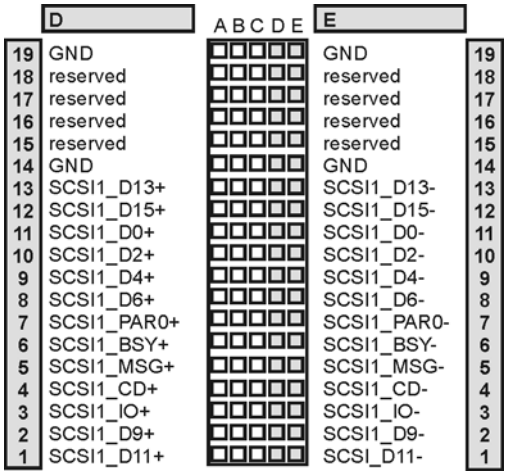


Figure 10: *J3 Connector Pinout Rows D to E*

J4

Backplane connector J4 is assembled to ensure correct installation but does not carry any signals to prevent interference with H110 backplanes.

J5

Backplane connector J5 contains the following signals:

- RS232 #3 (RS232_3_*)
- RS232 #4 (RS232_4_*)
- ETH #5 (ETH5_*)
- RTB Reset Switch (RTB_RST_N)
- USB #2 (USB2_*)
- USB #3 (USB3_*)
- ICMB (ICMB_*)
- SCSI bus 0 (SCSI0_*)

The following connector pinouts show how the pins are assigned.

	A	A B C D E	B	C	
22	RS232_3_CTS		RS232_4_CTS	RS232_3_DTR	22
21	RS232_3_RTS		RS232_4_RTS	RS232_4_DTR	21
20	RS232_3_RXD		RS232_4_RXD	RS232_3_DCD	20
19	RS232_3_TXD		RS232_4_TXD	RS232_4_DCD	19
18	GND		GND	GND	18
17	ETH5_TX_P		ETH5_TX_N	ETH5_CT	17
16	ETH5_RX_P		ETH5_RX_N	GND	16
15	GND		GND	ICMB_RXD	15
14	ICMB_Power		ICMB_DE	ICMB_TXD	14
13	SCSI0_D12+		SCSI0_D12-	VP5_RTB	13
12	SCSI0_D14+		SCSI0_D14-	VP5_RTB	12
11	SCSI0_PAR1+		SCSI0_PAR1-	SCSI0_RESET+	11
10	SCSI0_D1+		SCSI0_D1-	SCSI0_RESET-	10
9	SCSI0_D3+		SCSI0_D3-	TERM1_PWR	9
8	SCSI0_D5+		SCSI0_D5-	TERM1_PWR	8
7	SCSI0_D7+		SCSI0_D7-	SCSI0_TERMSEL	7
6	SCSI0_ATN+		SCSI0_ATN-	n.c.	6
5	SCSI0_ACK+		SCSI0_ACK-	V3P3_RTB	5
4	SCSI0_SEL+		SCSI0_SEL-	V3P3_RTB	4
3	SCSI0_REQ+		SCSI0_REQ-	GND	3
2	SCSI0_D8+		SCSI0_D8-	SCSI0-DIFFSENS	2
1	SCSI0_D10+		SCSI0_D10-	GND	1

Figure 11: *J5 Connector Pinout Rows A to C*

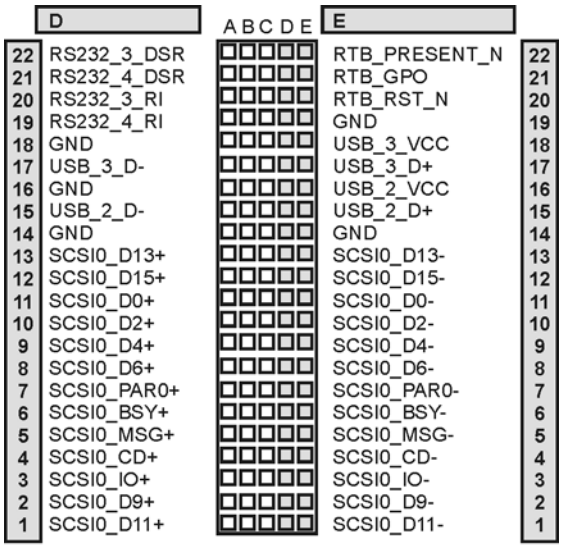


Figure 12: *J5 Connector Pinout Rows D to E*

Front Panel Controls and Connectors

The RTB-504 front panel provides the following:

- Ethernet 2, 4, and 5 connectors for 10 / 100Mbit (on the PSB variant only Ethernet 5 is available)
- USB 2 and USB 3 connectors
- SCSI 1 connector
- Serial C and D connector or alternatively Keyboard / mouse connector
- Reset key

The Figure 13 “Front Panels” on page 1-21 shows both front panel variants.

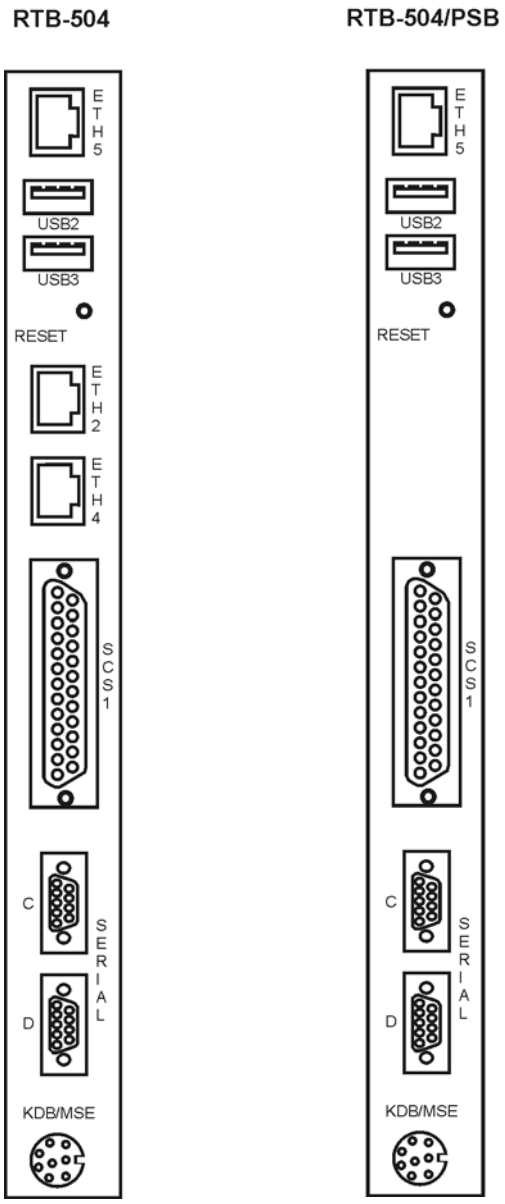


Figure 13: *Front Panels*

Connecting the Ethernet Interfaces

The RTB-504 features three optional Ethernet ports which support 10/100 Mbit operation.

Ethernet 2 and 4

Ethernet ports 2 and 4 are available via RJ-45 connectors at the front panel of the standard variant. The pinout can be seen in the following figure.

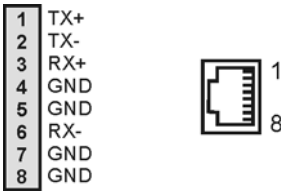


Figure 14: *Ethernet 2 and 4 Connector Pinout*

Ethernet 5

Ethernet port 5 is available via an RJ-45 connector at the front panel.

Note: If Ethernet port 5 on the RTB is used, it is not possible to use Ethernet port 1 on the CPCI-550 at the same time. The default switch settings on the CPCI-550 enable Ethernet 1 on the CPU board's front panel. In order to use Ethernet port 5 on the RTB's front panel, set switch SW3-2 of the CPCI-550 to ON.

The pinout for Ethernet port 5 can be seen in the following figure.

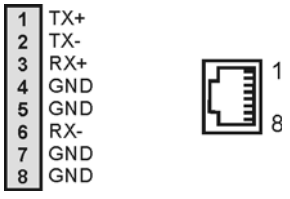


Figure 15: *Ethernet Port 5 Connector Pinout*

Connecting SCSI Port 1

For the pinout and information on the SCSI termination, refer to the "To SCSI Bus 1" section on page 1-8.

Connecting the USB Ports

The RTB-504 provides two USB ports 1 and 2 to connect USB devices (e.g. USB keyboard, USB mouse). Their pinout can be seen in the following figure.



Figure 16: *USB Port 1 Connector Pinout*

Connecting Serial Interfaces C and D

The RTB-504 provides two full-duplex channels for serial transmit / receive on the front panel which can be used in adddition to the serial interfaces A and B on the CPCI-550's front panel.

Note: If serial ports C and D are enabled via switch setting (i.e. switch SW 1-3 is OFF) the keyboard/mouse interface is not available for connecting a SUN compatible keyboard/mouse and vice versa.

The serial ports are available via a 9-pin D-Sub male connector. The pinout can be seen in the following figure.

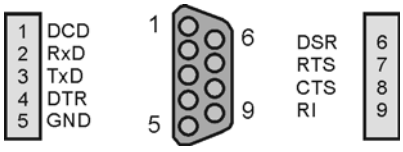


Figure 17: *Serial Port C and D Connector Pinout*

Connecting a SUN Keyboard/Mouse

The RTB-504 features a front panel connector to connect SUN compatible serial keyboards and mice. To use this interface, set switch 1-3 to ON.

Note: If the keyboard/mouse interface is enabled via switch setting (i.e. switch SW 1-3 is ON), interfaces C and D are not available and vice versa.

The SUN keyboard / mouse connector pinout can be seen in the following figure.

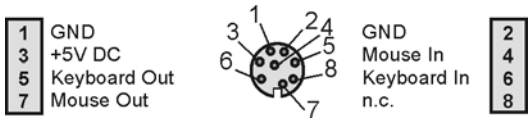


Figure 18: *SUN Keyboard/Mouse Connector Pinout*

Resetting the Board/System

The RTB-504 is equipped with a push-button reset button on the front panel. Pressing the reset button if the RTB is installed in the system slot, causes a reset of the whole CompactPCI system. Pressing the reset button if the RTB is installed in an I/O slot causes a reset of the CPU board.

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