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MOTOROLA

ACC/RTB-735R2/736R2

Installation Guide

P / N 6806800B23A
July 2006

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Using This Guide

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
75	All numbers are decimal numbers
x	Generic use of a letter
n	Generic use of numbers
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: injuries to people or damage to objects possible

Abbreviations

Abbreviation	Description
CPU	Central Processing Unit
EMI	Electromagnetic Interference
GPO	General Purpose
ICMB	Intelligent Chassis Management Bus
IPMB	Intelligent Peripheral Management Bus
RTB	Rear Transistion Board
SCSI	Small Computer System Interface
SELV	Safety Extra Low Voltages

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Revision History

SAP No.	Revision	Date	Description
215948	AA	October 2001	Preliminary Installation Guide
215948	AB	May 2002	Added the “Abbreviations” section on page vii Rephrased several safety notes in the “Safety Notes” chapter and the “Sicherheitshinweise” chapter Added safety note on high humidity and condensation in “Operation” section on page xii and “Betrieb” section on page xvi Deleted information that splitter cable is part of accessory kit in “Introduction” section on page 1-3 and “PS/2 Keyboard or Mouse” section on page 1-23 Changed information on PENT/CPCI-735R2/736R2 Family board communication from P4 to P3 in “Introduction” section on page 1-3 Removed figure “Board Overview” in “Introduction” section on page 1-3 Added Figure 1 “Location of IPMB1 and ICMB Connectors” page 1-3 Deleted EN 50081-2 and EN 50082-2 from and added EN 55022, EN 55024, and EN 61000-6-2 to the “Standard Compliances” section on page 1-5 Revised “Action Plan” section on page 1-6 Revised Figure 2 “On-Board Connectors” page 1-7 Corrected switch settings in “Secondary EIDE Interface” section on page 1-7, “Flash Disk” section on page 1-8, and “Switch Settings” section on page 1-14 Replaced “CompactPCI Flash” with “CompactFlash” in Figure 4 “Location of CompactFlash Slot” page 1-9 Added information on connector type in “Intelligent Peripheral Management Bus” section on page 1-11 Revised Figure 12 “Connecting RTB to Backplane” page 1-16 Added RTB-736R2 front panel to Figure 19 “Front Panel Connectors and Controls” page 1-21

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SAP No.	Revision	Date	Description
215948	AB	May 2002	Added information on cable in the “ICMB Connector” section on page 1-22 Added information on cable accessory kit in the “PS/2 Keyboard or Mouse” section on page 1-23 Added note in the “Serial Connectors” section on page 1-23
217490	AA	August 2002	Corrected figures in “CompactPCI Connectors” page 1-18
227191	AA	September 2005	Changed manual to Motorola-style
6806800B23	A	July 2006	Changed e-mail address for reader comments Modified “Standard Compliances” section on page 1-5

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Other Sources of Information

For further information refer to the *PENT/CPCI-735R2/736R2 Family Installation Guide*

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Safety Notes

This section provides safety precautions to follow when installing, operating, and maintaining the ACC / RTB-735R2 / 736R2.

We intend to provide all necessary information to install and handle the ACC / RTB-735R2 / 736R2 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-735R2/736R2 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-735R2/736R2. 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.

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Switch Settings

The RTB provides the configuration switch SW3 which functions are reserved. The switches have to be set to OFF to avoid damage to attached PMC modules. Therefore, never change the settings of SW3.

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 or module, read the respective documentation.**
- **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-735R2/736R2 with CPU boards especially designed for it. Otherwise, both the CPU board and the RTB may be destroyed.**
- **Make sure to use the backplane's rear slot position only.**

Operation

While operating the board ensure that the environmental and power requirements are met.

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.

Do not operate the product outside the specified environmental limits. High humidity and condensation may cause short circuits. Make sure the product is completely dry and there is no moisture on any surface before applying power. Do not operate the product below 0°C.

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Replacement and Expansion

Only replace or expand components or system parts with those recommended by Motorola. Otherwise, you are fully responsible for the impact on EMC and the possibly changed functionality of the product.

Check the total power consumption of all components installed (see the technical specification of the respective components). Ensure that any individual output current of any source stays within its acceptable limits (see the technical specification of the respective source).

If more than two IDE devices are connected to the IDE bus, the bus is not able to recognize all of the devices and the RTB might not start correctly. Therefore, only connect up to two devices to the secondary EIDE interface on the RTB.

If the secondary EIDE interface on the RTB is connected to an external device the PENT/CPCI-735R2/736R2 is hot-swappable but data may get lost. Therefore, always save data on disk before installing or removing the base board under hot-swap conditions.

RJ-45 Connector

The RTB provides several RJ-45 connectors which commonly serve as different interfaces (RS-485, twisted pair Ethernet and telephone). Connecting different interfaces (e.g. Ethernet and RS-485) may damage the board. Therefore, make sure that you only connect matching interfaces. Furthermore, take note of the following:

- **Clearly mark TPE connectors near your working area as network connectors.**
- **Connect TPE bushing of the system to safety extra low voltages (SELV) circuits only.**
- **Make sure that the length of the electric cable connected to a TPE bushing does not exceed 100 meter.**

Environment

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

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Sicherheitshinweise

Dieser Abschnitt enthält Sicherheitshinweise, die bei Einbau, Betrieb und Wartung des ACC / RTB-735R2 / 736R2 zu beachten sind.

Wir sind darauf bedacht, alle notwendigen Informationen zum Einbau und zum Umgang mit dem ACC / RTB-735R2 / 736R2 in diesem Handbuch bereit zu stellen. Da es sich bei dem ACC / RTB-735R2 / 736R2 um ein komplexes Produkt mit vielfältigen Einsatzmöglichkeiten handelt, wird die Vollständigkeit der im Handbuch enthaltenen Informationen nicht garantiert. Falls Ihnen Informationen fehlen sollten, wenden Sie sich bitte an Ihren Vertreter von Motorola.

Das ACC/RTB-735R2/736R2 erfüllt die von der Industrie geforderten Sicherheitsvorschriften und darf ausschließlich für Anwendungen in der Telekommunikationsindustrie und in 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 dienen dazu, einen angemessenen Schutz vor Störstrahlung beim Betrieb des Boards in Geschäfts-, Gewerbe- sowie Industriebereichen zu 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 offene Systeme einbauen, schirmen Sie freie Steckplätze mit einer Blende ab.

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Schaltereinstellungen

Auf dem RTB befindet sich der Schalter SW3, dessen Funktionen reserviert sind. Schalter SW3 darf nicht auf ON gestellt werden, damit installierte PMC Module nicht beschädigt werden. Ändern Sie deshalb niemals die Standardeinstellung von SW3.

Installation

Elektrostatische Entladung und unsachgemäßer Ein- und Ausbau des Boards kann Schaltkreise beschädigen oder ihre Lebensdauer verkürzen. Deswegen sind folgende Punkte vor der Installation zu überprüfen:

- **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 oder Modulen das jeweilige Benutzerhandbuch.**
- **Vergewissern Sie sich, dass das Board über alle Stecker an die CompactPCI Backplane angeschlossen ist und Spannung an allen Versorgungskontakten anliegt.**
- **Installieren und betreiben Sie das ACC/RTB-735R2/736R2 nur mit CPU Boards die ausdrücklich dafür hergestellt wurden. Anderenfalls können sowohl das CPU Board als auch das RTB zerstört werden.**
- **Benutzen sie nur rückseitige Steckplätze.**

Betrieb

Achten Sie darauf, dass die Umgebungs- und die Leistungsanforderungen während des Betriebs eingehalten werden.

Wenn Sie das Board in einer Umgebung 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.

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Nehmen Sie das Produkt nicht in Betrieb, wenn die Umgebungsgrenzwerte nicht eingehalten werden können. Hohe Luftfeuchtigkeit und Kondensation können zu Kurzschlüssen führen. Stellen vor der Stromzufuhr Sie sicher, dass das Produkt vollkommen trocken ist und sich keine Feuchtigkeit auf der Oberfläche befindet. Betreiben Sie das Produkt nicht bei Temperaturen unter 0°C.

Austausch und Erweiterung

Verwenden Sie bei Austausch oder Erweiterung nur von Motorola empfohlene Komponenten und Systemteile. Andernfalls sind Sie für mögliche Auswirkungen auf EMV und geänderte Funktionalität des Produktes voll verantwortlich.

Überprüfen Sie die gesamte aufgenomme Leistung aller eingebauten Komponenten (siehe die technischen Daten der entsprechenden Komponente). Stellen Sie sicher, dass die Ausgangsströme jedes Verbrauchers innerhalb der zulässigen Grenzwerte liegen (siehe die technischen Daten des entsprechenden Verbrauchers).

Werden mehr als zwei IDE Komponenten and den IDE Bus angeschlossen, kann der Bus nicht alle Komponenten erkennen und das RTB wird möglicherweise nicht korrekt hochgefahren. Schließen Sie deshalb ausschließlich bis zu zwei Komponenten and die zweite EIDE Schnittstelle auf dem RTB an.

Ist die zweite EIDE Schnittstelle auf dem RTB mit einer externen Komponente verbunden, so ist das PENT/CPCI-735R2/736R2 zwar Hot-Swap fähig, es können jedoch Daten verloren gehen. Speichern Sie deshalb immer alle Daten ab, bevor Sie das CPU Board im laufenden System ein- oder ausbauen.

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RJ-45 Stecker

Das RTB stellt einige RJ-45 Stecker zur Verfügung, die für verschiedene Schnittstellen verwendet werden können. Werden unterschiedliche Schnittstellen miteinander verbunden (z.B. Ethernet und RS-485), kann das Board beschädigt werden. Verbinden Sie deswegen ausschließlich übereinstimmende Schnittstellen. Beachten Sie darüber hinaus:

- **Kennzeichnen Sie TPE-Anschlüsse in der Nähe Ihres Arbeitsplatzes deutlich als Netzwerkanschlüsse.**
- **Schließen Sie an TPE-Buchsen ausschließlich SELV-Kreise (Sicherheitskleinspannungsstromkreise) an.**
- **Stellen Sie sicher, dass die Länge der an einer TPE-Buchse angeschlossenen Leitung nicht mehr als 100 Meter beträgt.**

Umweltschutz

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

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1

Installation

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Introduction

The ACC / RTB-735R2 / 736R2 is a rear transition board (RTB) which provides easy access to I / O signals of the PENT / CPCI-735R2 / 736R2 Family boards via the CompactPCI backplane.

The backplane I / O signals are available at connectors J3, J4 and J5. In order to connect the system management bus 1 and the chassis management bus to the PENT / CPCI-735R2 / 736R2, the ACC / RTB-735R2 / 736R2 provides the Intelligent Platform Management Bus 1 (IPMB1) and Intelligent Chassis Management Bus (ICMB) connectors.

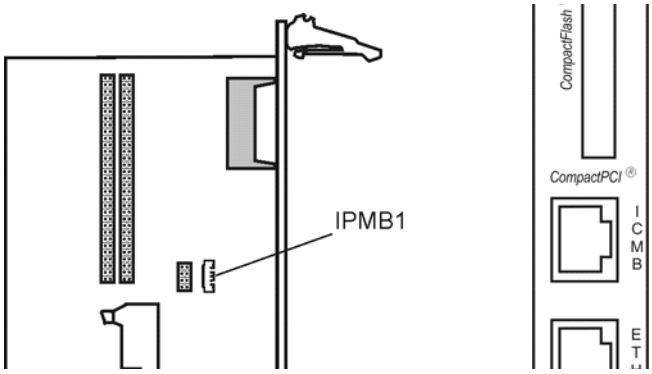


Figure 1: *Location of IPMB1 and ICMB Connectors*

The two variants RTB-735R2 and RTB-736R2 differ in the Ethernet routing. On the RTB-735R2, the Ethernet signals are routed to the front panel. On the RTB-736R2, the Ethernet signals are routed to the backplane. The RTB-735R2 can be used with base board variant CPCI-735, the RTB-736R2 can be used with base board variants CPCI-735A and CPCI-736.

Note: If you use other CPU board and RTB combinations than the ones listed above, the Ethernet interfaces will not work.

The RTB may be delivered as part of an accessory kit compiled for CPU boards or as part of a system design.

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

- Rear transition board ACC / RTB-735R2 / 736R2
- Installation Guide

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If delivered as part of a system design, the RTB 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 RTB must remain as configured at system delivery.

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:

- Motorola GmbH
  Embedded Communications Computing
  Lilienthalstrasse 15
  85579 Neubiberg
  Germany
- ECCRC@motorola.com

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.

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Standard Compliances

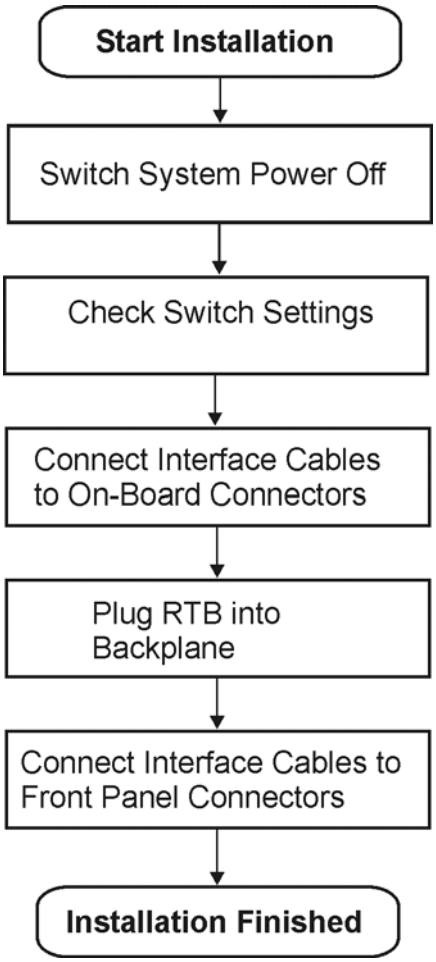
The ACC / RTB-735R2 / 736R2 meets the following standards:

Standard	Description
EN 60950-1 IEC 60950-1 CSA 60950-1 UL / cUL 60950-1 (predefined Motorola system)	Legal safety requirements
EN 55022 EN 55024 EN 61000-6-2 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 standards

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Action Plan

To install the RTB, the steps shown in the flow chart are necessary.



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On-Board Connectors

The ACC / RTB-735R2 / 736R2 provides the following on-board connectors:

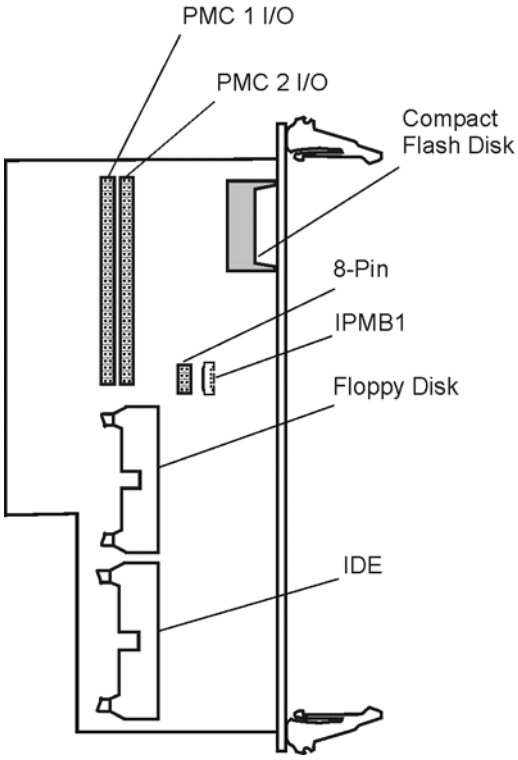


Figure 2: *On-Board Connectors*

Secondary EIDE Interface

The RTB provides the secondary EIDE interface of the PENT / CPCI-735R2 / 736R2 via CompactPCI connector J5. The secondary EIDE interface can be used for:

- one EIDE device
- two EIDE devices
- one EIDE device and one flash disk

The flash disk is the slave per default. To use the flash disk as master set SW4-2 to ON.

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Caution

- **If more than two IDE devices are connected to the IDE bus, the bus is not able to recognize all of the devices and the base board might not start correctly. Therefore, only connect up to two devices to the secondary EIDE interface on the RTB.**
- **If the secondary EIDE interface on the RTB is connected to an external device the PENT/CPCI-735R2/736R2 is hot-swappable but data may get lost. Therefore, always save data on disk before installing or removing the base board under hot-swap conditions.**

Hard Disk Drives

Hard disk drives are connected to the secondary EIDE interface via an EIDE connector. It is implemented with a 40-pin 2.54-mm pin-pitch connector with eject levers. The following connector pinout shows how the pins are assigned.

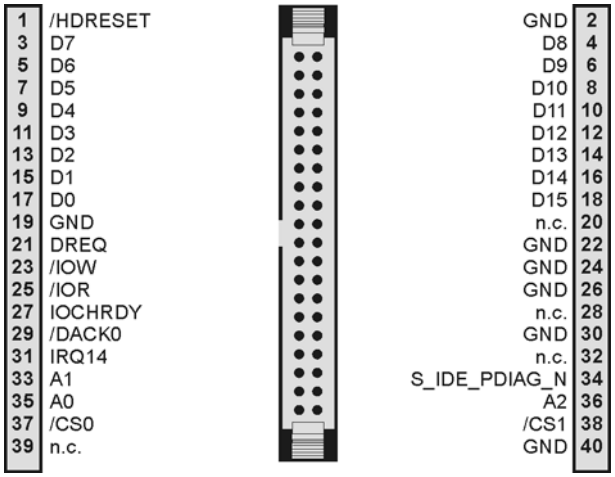


Figure 3: *EIDE Connector Pinout*

Flash Disk

If a flash disk is connected, it is the slave per default. To use the flash disk as master set SW4-2 to ON.

The flash disk is connected to the secondary EIDE interface via a flash disk holder with an ejector at the front panel.

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The CompactFlash slot is integrated into the front panel to allow the installation and / or removal of a CompactFlash card without having to remove the board from the system.

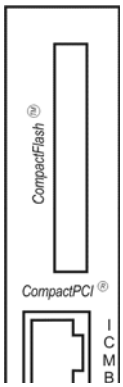


Figure 4: *Location of CompactFlash Slot*

Note: CompactFlash disks of types I and II are supported.

Installation Procedure

1. Check system documentation for all steps required before turning off CPU board's power
2. Take those steps
3. Turn off CPU board's power
4. Check that disk's connectors face CompactFlash socket

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Note: In order to configure the card to the supported true-IDE mode, the card must already be inserted when the board's power is turned on. Inserting the CompactFlash while the board's power is still on will configure the CompactFlash disk to PC Card ATA mode which is not supported by the CPU board. If you have accidentally inserted the card while the board's power has been turned on, you need to remove the card again and reinsert it with the board's power turned off.

5. Plug CompactFlash disk into socket
   The CompactFlash disk is connected to the socket if the ejector pin on the front panel is pushed out of the recess.

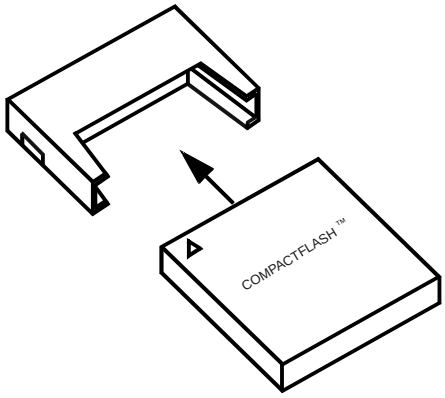


Figure 5: *Inserting a CompactFlash Disk into Socket*

6. Turn on CPU board's power

Removal Procedure

1. Turn off CPU board's power
2. Press ejector pin
   The ejector pin loosens the CompactFlash disk from the socket.
3. Remove CompactFlash disk from RTB
4. Turn on CPU board's power

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Floppy Disk Drive

Note: The PENT/CPCI-735R2/736R2 Family boards are not hot-swappable if a floppy disk drive is connected to the RTB.

The floppy disk drive connector is a 34-pin 2.54-mm pin-pitch connector with eject levers. The following connector pinout shows how the pins are assigned.

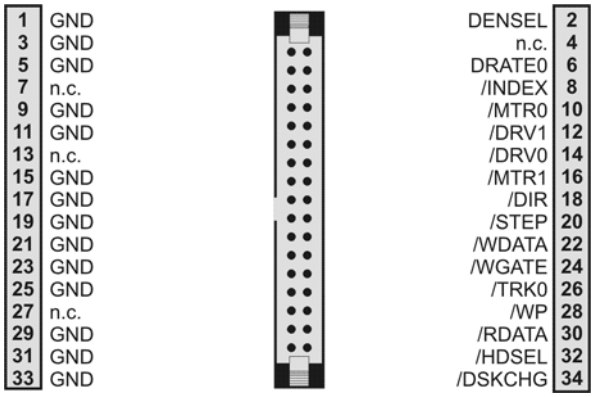


Figure 6: *Floppy Connector Pinout*

Intelligent Peripheral Management Bus

The intelligent peripheral management bus (IPMB1) can be used to connect, control and monitor critical components such as power supply units, fans etc. It provides information on e.g. the system inventory, temperature, or the voltage level.

The IPMB1 of the PENT / CPCI-735R2 / 736R2 is routed to the CompactPCI connector J5. In addition, the RTB provides the IPMB1 connector to attach the system management bus to the PENT / CPCI-735R2 / 736R2 via J4. According to PICMG specification 2.9, the 53398-0590 connector from Molex is used on the RTB.

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The following connector pinout shows how the pins are assigned.

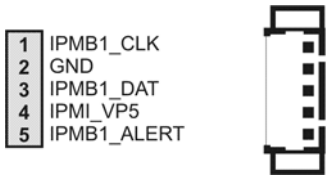


Figure 7: *IPMB1 Connector Pinout*

PMC I/O Signals

The PMC I/O signals of the PMC slots 1 and 2 of the CPU board are routed to two 64-pin connectors which pinouts are shown in the figures below.

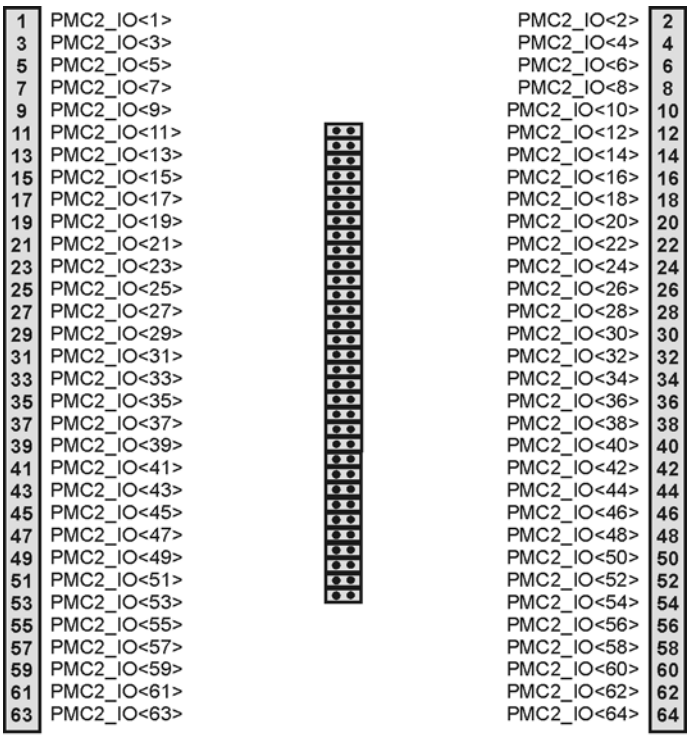


Figure 8: *PMC 1 Connector Pinout*

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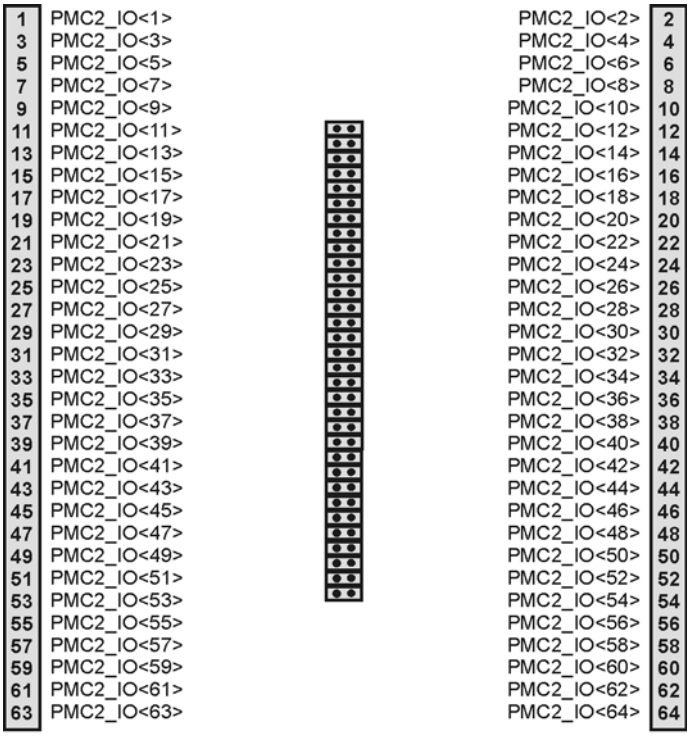


Figure 9: *PMC 2 Connector Pinout*

SPEAKER, GPO and EXTSMI Signals

The General Purpose (GPO), Speaker and EXTSMI_N signals are accessible via an 8-pin 2.54-mm pin-pitch header. The following connector pinout shows how the pins are assigned.



Figure 10: *8-Pin Header Pinout*

Note: The speaker signals are only accessible on base boards with connector P4 assembled.

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Switch Settings

Caution



The RTB provides the configuration switch SW3 which functions are reserved. The switches have to be set to OFF to avoid damage to attached PMC modules. Therefore, never change the settings of SW3.

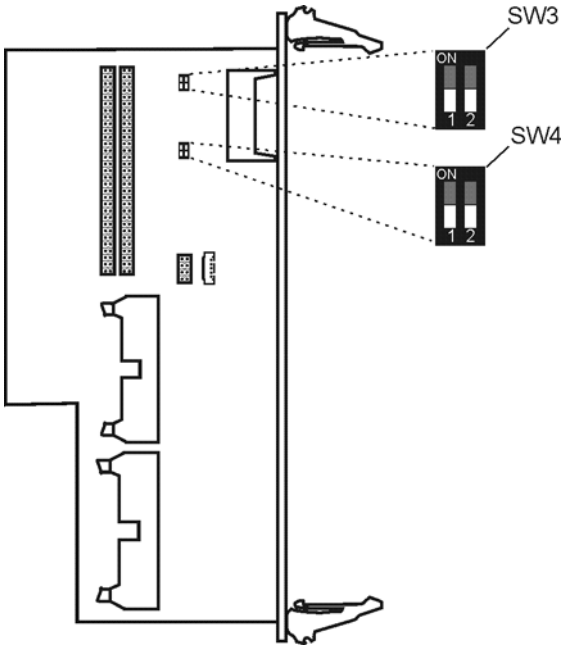


Figure 11: *Location of Switches*

Table 1: *Switch Settings*

Switch	No.	Description
SW3		
	1	Reserved, must be OFF (default)
	2	Reserved, must be OFF (default)
SW4		
	1	Reserved, must be OFF (default)
	2	ON: Flash disk is master OFF: Flash disk is slave (default)

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Installing and Removing the Board

Caution



- **Only install and use the ACC/RTB-735R2/736R2 with CPU boards especially designed for it. Otherwise, both the CPU board and the RTB may be destroyed.**
- **Always turn off system power before RTB installation or removal.**
- **Make sure to use the backplane's rear slot position only.**
- **Before touching integrated circuits, 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.**

Installation Procedure

Connect interface cables to the on-board connectors first since it may be difficult to reach them when the RTB is already installed into the CompactPCI backplane. Connect interface cables to the front panel connectors after the RTB installation.

1. Check all installed boards for steps to be taken before turning off system power
2. Take those steps
3. Turn off system power
4. Check system documentation for switch settings

Caution



The RTB provides the configuration switch SW3 which functions are reserved. The switches have to be set to OFF to avoid damage to attached PMC modules. Therefore, never change the settings of SW3.

5. Make sure that switches are set to OFF (default position)
6. Connect interface cables to on-board connectors

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

7. Insert RTB carefully from rear into same slot as the CPU board

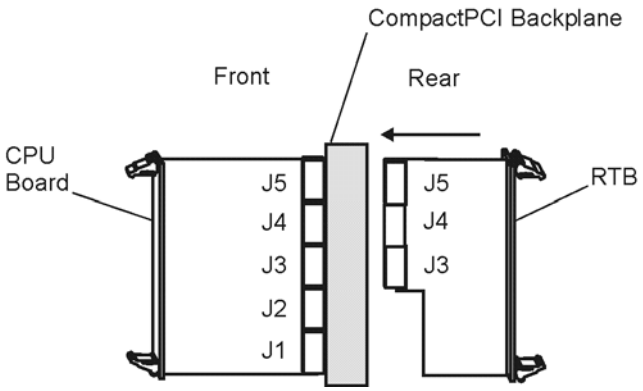


Figure 12: *Connecting RTB to Backplane*

8. Press handles inwards to lock RTB on CompactPCI rack
9. Fasten RTB with screws
10. Plug in interface cables into front panel connectors, if applicable (see “Front Panel Connectors and Controls” page 1-21)
11. Turn on system power

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Removal Procedure

1. Check all installed boards for steps to be taken before turning off power
2. Take those steps
3. Turn off system power
4. Unfasten screws of front panel until RTB is detached from rack frame
5. Unlock handles by pressing on red handle buttons
6. Press handles outwards to disconnect RTB from backplane
7. Carefully remove RTB from slot without bending any pins
8. Turn on system power

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CompactPCI Connectors

The RTB provides the CompactPCI connectors J3, J4 and J5. The following connector pinouts show how the pins are assigned.

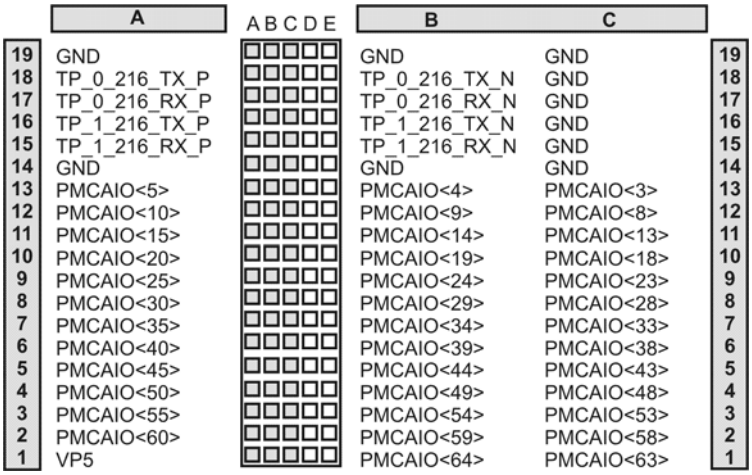


Figure 13: *J3 Connector Pinout (Rows A-C)*

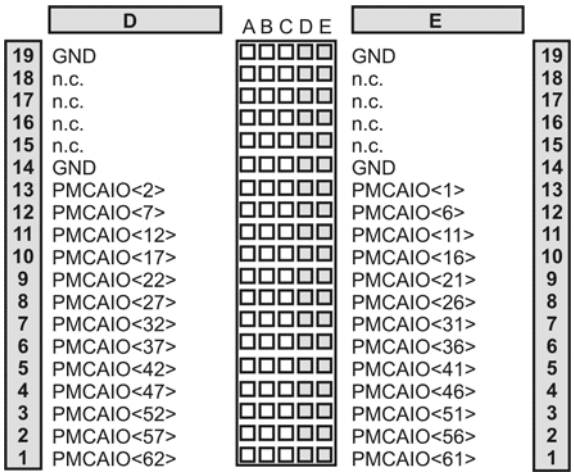


Figure 14: *J3 Connector Pinout (Rows D and E)*

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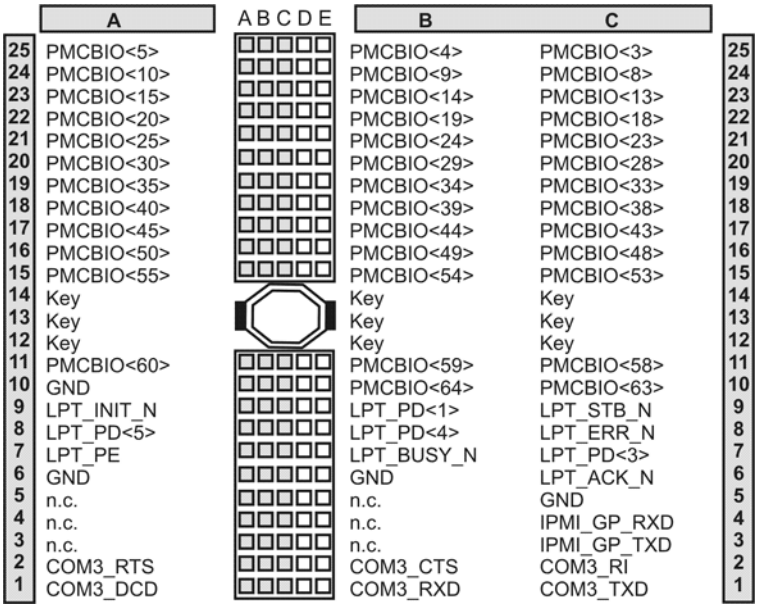


Figure 15: *J4 Connector Pinout (Rows A-C)*

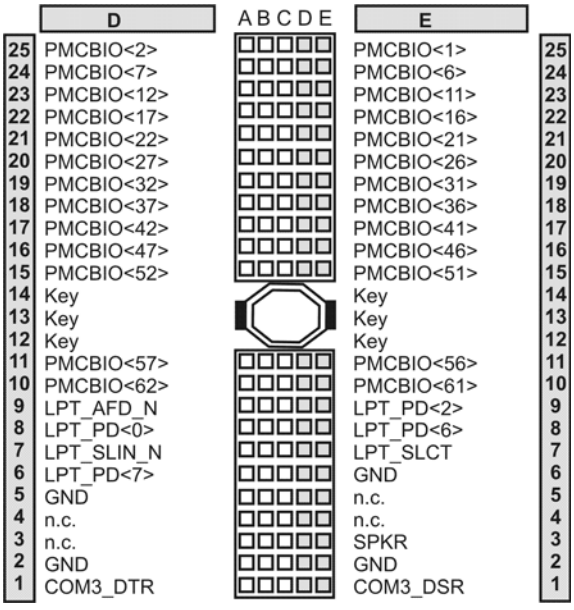


Figure 16: *J4 Connector Pinout (Rows D and E)*

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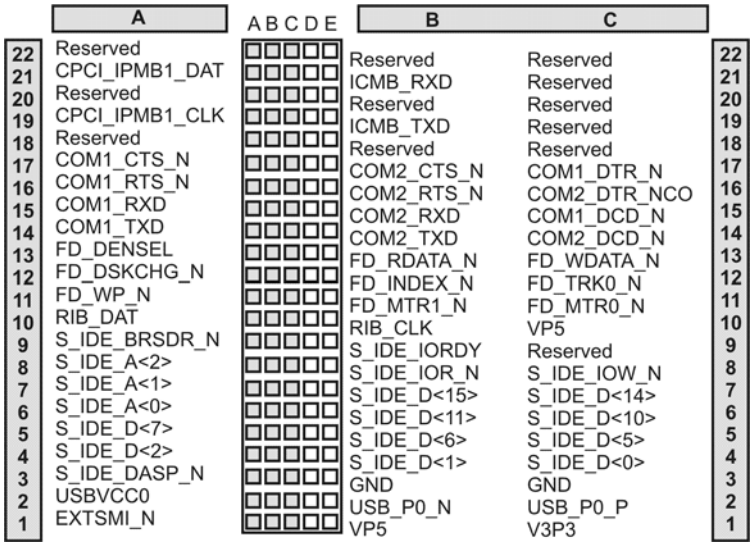


Figure 17: *J5 Connector Pinout (Rows A-C)*

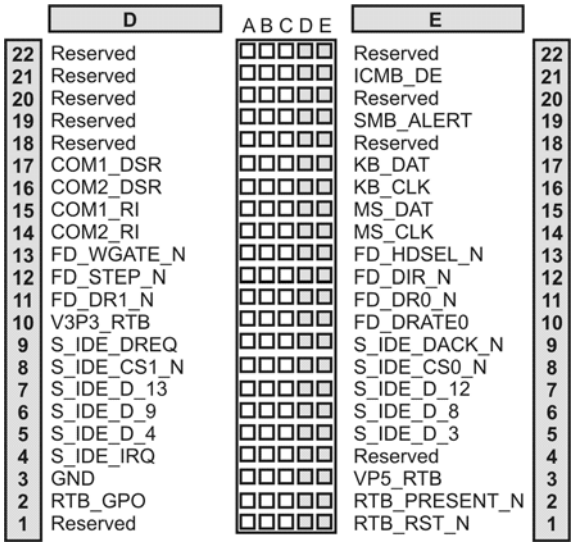
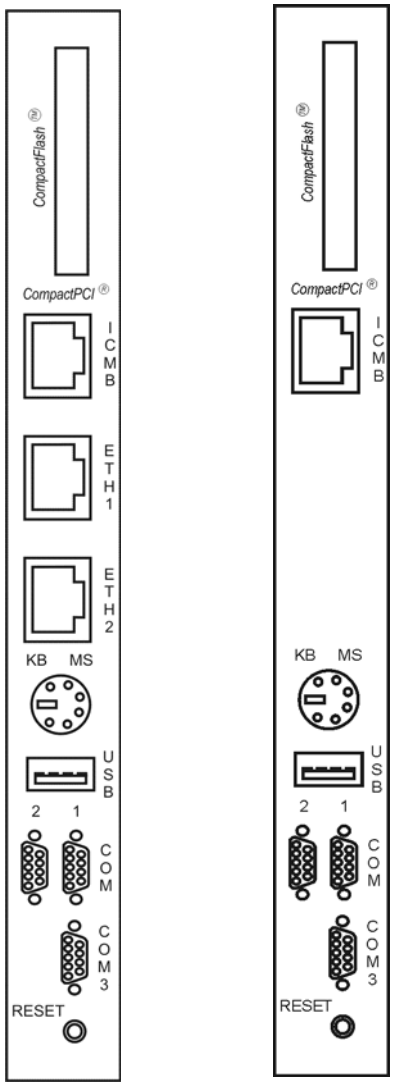


Figure 18: *J5 Connector Pinout (Rows D and E)*

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Front Panel Connectors and Controls

The ACC / RTB-735R2 / 736R2 front panels provide the following connectors and controls:



RTB-735R2 RTB-736R2

Figure 19: *Front Panel Connectors and Controls*

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Caution



The RTB provides several RJ-45 connectors which commonly serve as different interfaces (RS-485, twisted pair Ethernet and telephone). Connecting different interfaces (e.g. Ethernet and RS-485) may damage the board. Therefore, make sure that you only connect matching interfaces. Furthermore, take note of the following:

- **Clearly mark TPE connectors near your working area as network connectors.**
- **Connect TPE bushing of the system to safety extra low voltages (SELV) circuits only.**
- **Make sure that the length of the electric cable connected to a TPE bushing does not exceed 100 meter.**

ICMB Connector

The ICMB connector can be used to attach the PENT / CPCI-735R2 / 736R2 via the RTB to other systems based on the Intelligent Platform Management Interface (IPMI). In order to monitor the overall system, the chassis can be connected via the CPU board's RTBs. The IPMI signals are routed from the CPU board via the backplane to the RTB and are then available on the ICMB connector.

The ICMB bus needs to be connected via a multi-drop cable or via star topology.

The following figure shows how the pins are assigned.

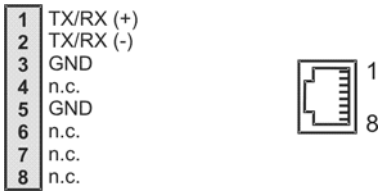


Figure 20: *ICMB Connector Pinout*

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Ethernet Interfaces

Note: The two Ethernet interfaces on the front panel of the RTB-735R2 are only available if the base board variant CPCI-735 is used.

The following connector pinout applies to both Ethernet interfaces.



Figure 21: *Ethernet Connector Pinout*

PS/2 Keyboard or Mouse

By using a keyboard / mouse splitter cable you can use a PS / 2 keyboard and a PS / 2 mouse at the same time. The cable is included in the PENT / CPCI-7xx / CABLE-AccKit (P / N 110130).

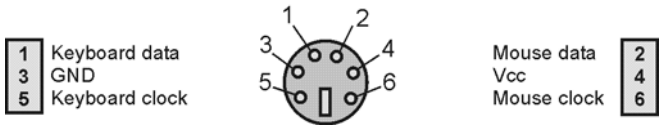


Figure 22: *PS/2 Keyboard/Mouse Connector Pinout*

Serial Connectors

Via the three COM connectors three serial devices and via the USB connector one USB device (e.g. USB keyboard, USB mouse) can be connected.

Note: The three COM ports are only available if the RTB-735R2/736R2 is used together with the CPCI-735R3/736R2.

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The following figures show how the pins are assigned.



Figure 23: *USB Connector Pinout*

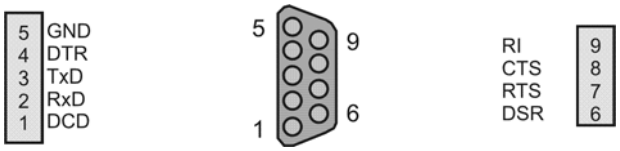


Figure 24: *COM Connector Pinout*

Reset Key

The ACC / RTB-735R2 / 736R2 provides a reset key on the front panel to execute a reset on the PENT / CPCI-735R2 / 736R2 Family boards in systems where the system's back can be accessed easier than the front. The way the reset is performed can be determined by adapting the settings in the Reset Control registers of the CPU board or by changing the settings of the switches on the CPU board (see the *PENT/CPCI-735R2/736R2 Installation Guide*). A reset on the CPU board has no consequences for the RTB.

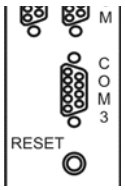


Figure 25: *Reset Key*

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