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# ACC/RTB-601

## Installation Guide

P / N 217085 Revision AA
May 2002

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# Product Error Report

# 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 |
|---|---|
| 57 | All numbers are decimal numbers except when used with the notations described below |
| $00000000_{16}$ | Typical notation for hexadecimal numbers (digits are 0 through F), e.g. used for addresses and offsets |
| $0000_2$ | Same for binary numbers (digits are 0 and 1) |
| *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

| Order No. | Revision | Date | Description |
|---|---|---|---|
| 215692 | AA | September 2001 | Preliminary Installation Guide |
| | AB | October 2001 | Revised translation of EMC safety note<br>Added standards to "Standard Compliance" page 5<br>Inserted Figure 2 "Location of Ethernet Connectors" page 1-3<br>Editorial changes |
| 215974 | AA | October 2001 | Added safety note on PSB variant in sections "Installation" page xii, "Installation" page xvi, and "Installing and Removing the Board" page 1-11 |

| Order No. | Revision | Date | Description |
|---|---|---|---|
| | AB | January 2002 | Revised safety note on RJ-45 connector in sections "Safety Notes" page xi, "Sicherheitshinweise" page xv, and "Ethernet Interfaces" page 17<br>Revised "Action Plan" page 6<br>Added Figure 1 "Location of J3 and J5" page 1-3<br>Added Figure 2 "Location of Ethernet Connectors" page 1-3<br>Added Figure 3 "Location of COM Connectors" page 1-3<br>Deleted figure "Board Overview"<br>Revised and renamedFigure 11 "Connecting RTB to Backplane" page 1-12<br>Editorial changes |
| 217085 | AA | May 2002 | Corrected Figure 9 "PMC I/O 1 and 2 Pinout" page 1-9 |

## Other Sources of Information

For further information refer to the *PPC/PowerCoreCPCI-680 Installation Guide* (PN 215425) and *Reference Guide* (215426).



# Safety Notes

This section provides safety precautions to follow when installing, operating, and maintaining the ACC/RTB-601.

We intend to provide all necessary information to install and handle the ACC/RTB-601 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 Force Computers representative.

**The ACC/RTB-601 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 Force Computers or persons qualified in electronics or electrical engineering are authorized to install, maintain, and operate the ACC/RTB-601. 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 Force Computers 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 uninstallation can damage circuits or shorten their life. Therefore:**

- **Before installing or uninstalling 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 RTB-601 with the PPC/PowerCoreCPCI-680 as CPU board. Otherwise, both the CPU board and the RTB may be destroyed.**
- **If a PPC/PowerCoreCPCI-680 PSB variant is used together with an RTB-601 non-PSB variant or a PPC/PowerCoreCPCI-680 non-PSB variant is used with an RTB-601 PSB variant, terminal communication will not be possible via COM 1 and networking on the PICMG 2.16 backplane will be disturbed and either one of the boards might be damaged. Therefore, only operate the RTB-601 PSB variant together with the PPC/PowerCoreCPCI-680 PSB variant.**
- **Always turn off system power before RTB installation or removal.**
- **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.**



## Replacement and Expansion

**Only replace or expand components or system parts with those recommended by Force Computers. 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).**

## 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.**





# Sicherheitshinweise

Dieser Abschnitt enthält Sicherheitshinweise, die bei Einbau, Betrieb und Wartung des ACC/RTB-601 zu beachten sind.

Wir sind darauf bedacht, alle notwendigen Informationen zum Einbau und zum Umgang mit dem ACC/RTB-601 in diesem Handbuch bereit zu stellen. Da es sich bei dem ACC/RTB-601 um ein komplexes Produkt mit vielfältigen Einsatzmöglichkeiten handelt, wird die Vollständigkeit der im Handbuch enthaltenen Informationen nicht garantiert. Falls Sie weitere Informationen benötigen sollten, wenden Sie sich bitte an die für Sie zuständige Geschäftsstelle von Force Computers.

**Das ACC/RTB-601 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 Force Computers 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 Force Computers 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 Grenzewerte 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.**



## Installation

**Elektrostatische Entladung und unsachgemäße Installation und Ausbau des Boards kann Schaltkreise beschädigen oder ihre Lebensdauer verkürzen. Beachten Sie deshalb folgende 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 oder Modulen das jeweilige Benutzerhandbuch.**
- **Vergewissern Sie sich, dass das Board über alle Stecker an die CompactPCI Backplane angeschlossen ist und Strom an allen Spannungskontakten anliegt.**
- **Installieren und betreiben Sie das RTB-601 nur mit CPU Boards die ausdrücklich dafür hergestellt wurden. Anderenfalls können sowohl das CPU Board als auch das RTB zerstört werden.**
- **Wird ein PPC/PowerCoreCPCI-680 Board der PSB-Variante zusammen mit einem RTB-601 der Nicht-PSB-Variante oder ein PPC/PowerCoreCPCI-680 Board der Nicht-PSB-Variante zusammen mit einem RTB-601 der PSB-Variante benutzt, dann ist die Kommunikation über den COM 1 Stecker nicht möglich und es kann an der PICMG 2.16 Backplane zu Kommunikationsfehlern kommen und möglicherweise wird eines der beiden Boards beschädigt. Benutzen Sie deshalb die PSB-Variante des RTB-601 ausschließlich zusammen mit der PSB-Variante des PPC/PowerCoreCPCI-680 Boards.**
- **Schalten Sie erst das System aus und bauen Sie dann das Board ein oder aus.**
- **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.**

## Austausch und Erweiterung

**Verwenden Sie bei Austausch oder Erweiterung nur von Force Computers 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).**

## 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.**



# 1

# Installation

# Introduction

The rear transition board ACC/RTB-601 provides easy access to the I/O signals of the PPC/PowerCoreCPCI-680 via CompactPCI backplane. The backplane I/O signals are available at the connectors J3 and J5 of the board.

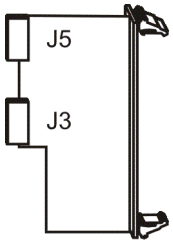



**Figure 1:** *Location of J3 and J5*

In comparison to its predecessor ACC/RTB-600, the ACC/RTB-601 now features one additional ethernet interface on the front panel.

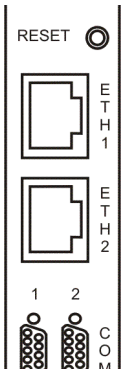



**Figure 2:** *Location of Ethernet Connectors*

Connectors COM 3 and 4 are now located on the board instead of on the front panel.

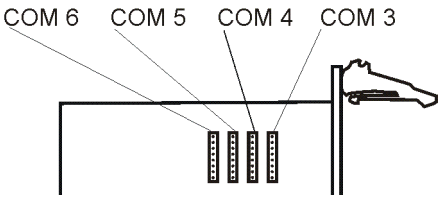



**Figure 3:** *Location of COM Connectors*

Check that the items listed below were shipped together with the Accessory Kit:

- ACC / RTB-601
- ACC / RTB-601 Installation Guide
- Two adapters for serial interfaces
- Two Ethernet cables

If delivered as part of a system design, the rear transition board is already installed in the system. For information on the system's connectors available for user-defined system configuration, refer to the System's Guide. The cabling of all other connectors of the rear transition board must remain as configured at system delivery.

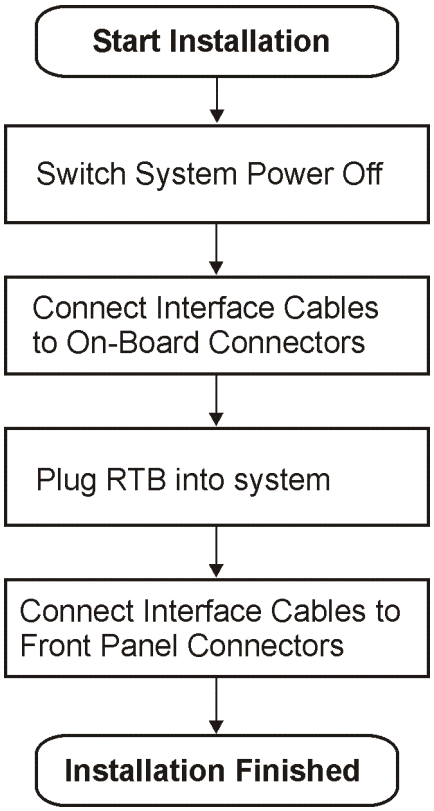
# Standard Compliance

The ACC/RTB-601 meets the following standards:

| Standard | Description |
|---|---|
| FCC Part 15 Class A<br>VCCI Class A<br>EN 55022 Class A<br>EN 55024 | EMC requirements |
| EN 60950<br>UL/cUL 60950 | Legal safety requirements |
| ANSI/IPC-A-610 Rev.C Class 2<br>ANSI/IPC-7711<br>ANSI/IPC-7721<br>ANSI-J-001...003 | Manufacturing standards |

# Action Plan

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



# On-Board Connectors

The ACC/RTB-601 provides the following on-board connectors:

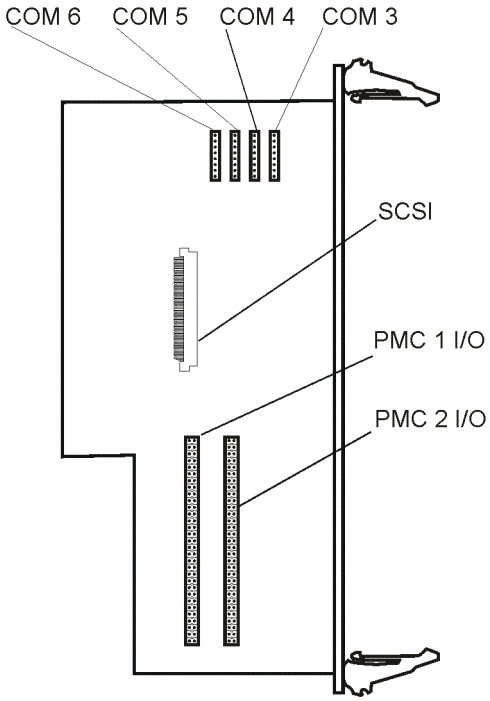



**Figure 4:** *On-Board Connectors*

## Serial Devices

Serial devices can be connected to one of the four 8-pin connectors on the RTB.

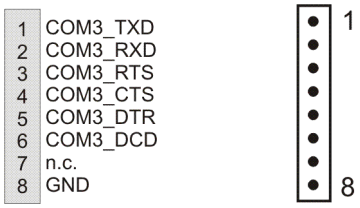



**Figure 5:** *COM 3 Pinout*

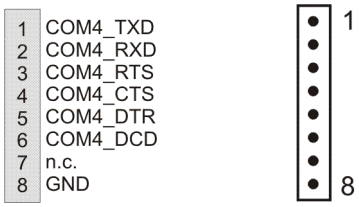



**Figure 6:** *COM 4 Pinout*

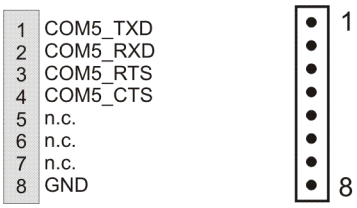



**Figure 7:** *COM 5 Pinout*

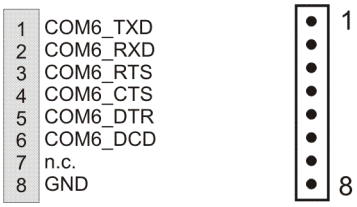



**Figure 8:** *COM 6 Pinout*

## PMC I/O Signals

The PMC I/O signals of the CPU board's PMC slots 1 and 2 are routed to two 64-pin connectors, one for each PMC slot.

The pinout for PMC I/O connectors 1 and 2 is identical. The x in the signal names below stands for these two numbers.

| | | | |
|---|---|---|---|
| 1 | PMCxIO<1> | PMCxIO<2> | 2 |
| 3 | PMCxIO<3> | PMCxIO<4> | 4 |
| 5 | PMCxIO<5> | PMCxIO<6> | 6 |
| 7 | PMCxIO<7> | PMCxIO<8> | 8 |
| 9 | PMCxIO<9> | PMCxIO<10> | 10 |
| 11 | PMCxIO<11> | PMCxIO<12> | 12 |
| 13 | PMCxIO<13> | PMCxIO<14> | 14 |
| 15 | PMCxIO<15> | PMCxIO<16> | 16 |
| 17 | PMCxIO<17> | PMCxIO<18> | 18 |
| 19 | PMCxIO<19> | PMCxIO<20> | 20 |
| 21 | PMCxIO<21> | PMCxIO<22> | 22 |
| 23 | PMCxIO<23> | PMCxIO<24> | 24 |
| 25 | PMCxIO<25> | PMCxIO<26> | 26 |
| 27 | PMCxIO<27> | PMCxIO<28> | 28 |
| 29 | PMCxIO<29> | PMCxIO<30> | 30 |
| 31 | PMCxIO<31> | PMCxIO<32> | 32 |
| 33 | PMCxIO<33> | PMCxIO<34> | 34 |
| 35 | PMCxIO<35> | PMCxIO<36> | 36 |
| 37 | PMCxIO<37> | PMCxIO<38> | 38 |
| 39 | PMCxIO<39> | PMCxIO<40> | 40 |
| 41 | PMCxIO<41> | PMCxIO<42> | 42 |
| 43 | PMCxIO<43> | PMCxIO<44> | 44 |
| 45 | PMCxIO<45> | PMCxIO<46> | 46 |
| 47 | PMCxIO<47> | PMCxIO<48> | 48 |
| 49 | PMCxIO<49> | PMCxIO<50> | 50 |
| 51 | PMCxIO<51> | PMCxIO<52> | 52 |
| 53 | PMCxIO<53> | PMCxIO<54> | 54 |
| 55 | PMCxIO<55> | PMCxIO<56> | 56 |
| 57 | PMCxIO<57> | PMCxIO<58> | 58 |
| 59 | PMCxIO<59> | PMCxIO<60> | 60 |
| 61 | PMCxIO<61> | PMCxIO<62> | 62 |
| 63 | PMCxIO<63> | PMCxIO<64> | 64 |

**Figure 9:** *PMC I/O 1 and 2 Pinout*

## SCSI Devices

The SCSI connectors are only to be used with the SSIO variant of the CPCI-680 which is equipped with the SSIO PMC module.

| | | | |
|---|---|---|---|
| 1 | GND | PMCAIO<25> | 35 |
| 2 | GND | PMCAIO<27> | 36 |
| 3 | n.c. | PMCAIO<29> | 37 |
| 4 | GND | PMCAIO<31> | 38 |
| 5 | GND | PMCAIO<15> | 39 |
| 6 | GND | PMCAIO<2> | 40 |
| 7 | GND | PMCAIO<4> | 41 |
| 8 | GND | PMCAIO<6> | 42 |
| 9 | GND | PMCAIO<8> | 43 |
| 10 | GND | PMCAIO<10> | 44 |
| 11 | GND | PMCAIO<12> | 45 |
| 12 | GND | PMCAIO<14> | 46 |
| 13 | GND | PMCAIO<16> | 47 |
| 14 | GND | PMCAIO<18> | 48 |
| 15 | GND | GND | 49 |
| 16 | GND | n.c. | 50 |
| 17 | PMCAIO<33> | PMCAIO<33> | 51 |
| 18 | PMCAIO<33> | PMCAIO<33> | 52 |
| 19 | n.c. | n.c. | 53 |
| 20 | GND | GND | 54 |
| 21 | GND | PMCAIO<20> | 55 |
| 22 | GND | GND | 56 |
| 23 | GND | PMCAIO<22> | 57 |
| 24 | GND | PMCAIO<24> | 58 |
| 25 | GND | PMCAIO<26> | 59 |
| 26 | GND | PMCAIO<28> | 60 |
| 27 | GND | PMCAIO<30> | 61 |
| 28 | GND | PMCAIO<32> | 62 |
| 29 | GND | PMCAIO<34> | 63 |
| 30 | GND | PMCAIO<36> | 64 |
| 31 | GND | PMCAIO<17> | 65 |
| 32 | GND | PMCAIO<19> | 66 |
| 33 | GND | PMCAIO<21> | 67 |
| 34 | GND | PMCAIO<23> | 68 |

**Figure 10:** *On-Board SCSI Pinout*

# Installing and Removing the Board

**Caution**



- **Only install and use the RTB-601 with the PPC/PowerCoreCPCI-680 as CPU board. Otherwise, both the CPU board and the RTB may be destroyed.**
- **If a PPC/PowerCoreCPCI-680 PSB variant is used together with an RTB-601 non-PSB variant or a PPC/PowerCoreCPCI-680 non-PSB variant is used with an RTB-601 PSB variant, terminal communication will not be possible via COM 1 and networking on the PICMG 2.16 backplane will be disturbed and either one of the boards might be damaged. Therefore, only operate the RTB-601 PSB variant together with the PPC/PowerCoreCPCI-680 PSB variant.**
- **Always turn off system power before RTB installation or removal.**
- **Make sure to use the backplane's rear slot position only.**
- **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.**

## Installation Procedure

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

The ACC / RTB-601 must be installed into the rear of the slot the CPCI-680 is installed into.

1. Take all steps necessary for turning off system power
2. Turn off power
3. Unfasten blind panel screws
4. Remove blind panel

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

5. Insert ACC/RTB-601 carefully from rear into same slot as CPU board

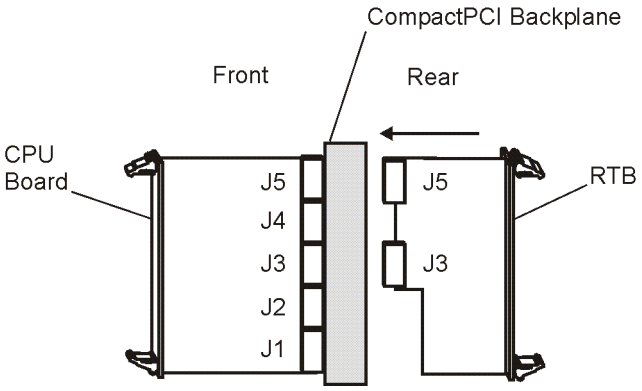



**Figure 11:** *Connecting RTB to Backplane*

6. Press handles
   so that board is completely installed in CompactPCI connectors
7. Fasten two screws of front panel
   to fix ACC/RTB-601 at rack frame
8. Turn on system power

## Removal Procedure

The ACC/RTB-601 is located in the rear of the slot the CPCI-680 is installed into.

1. Take all steps necessary before turning off system power
2. Turn off power
3. Loosen two screws of front panel
   until rear transition board is detached from rack frame
4. Disconnect rear transition board from backplane
   by opening front panel handles
5. Remove ACC/RTB-601 from rails of slot position

6. Insert blind panel
7. Fasten blind panel screws
8. Turn on system power

# CompactPCI Connectors

The ACC/RTB-601 provides the CompactPCI connectors J3 and J5.

| | Z | A | B | C |
|---|---|---|---|---|
| 19 | GND | Reserved/GND* | Reserved/GND* | Reserved/GND* |
| 18 | GND | COM1_DTR/ETH1_TX+* | COM1_RI/ETH1_TX-* | COM2_DTR/GND* |
| 17 | GND | COM1_DSR/ETH2_RX+* | COM1_DCD/ETH1_RX-* | COM2_DSR/GND* |
| 16 | GND | COM1_CTS/ETH2_TX+* | COM1_TXD/ETH2_TX-* | COM2_CTS/GND* |
| 15 | GND | COM1_RTS/ETH2_RX+* | COM1_RXD/ETH2_RX-* | COM2_RTS/GND* |
| 14 | GND | 3.3V | 3.3V | 3.3V |
| 13 | GND | PMC1_IO[5] | PMC1_IO[4] | PMC1_IO[3] |
| 12 | GND | PMC1_IO[10] | PMC1_IO[9] | PMC1_IO[8] |
| 11 | GND | PMC1_IO[15] | PMC1_IO[14] | PMC1_IO[13] |
| 10 | GND | PMC1_IO[20] | PMC1_IO[19] | PMC1_IO[18] |
| 9 | GND | PMC1_IO[25] | PMC1_IO[24] | PMC1_IO[23] |
| 8 | GND | PMC1_IO[30] | PMC1_IO[29] | PMC1_IO[28] |
| 7 | GND | PMC1_IO[35] | PMC1_IO[34] | PMC1_IO[33] |
| 6 | GND | PMC1_IO[40] | PMC1_IO[39] | PMC1_IO[38] |
| 5 | GND | PMC1_IO[45] | PMC1_IO[44] | PMC1_IO[43] |
| 4 | GND | PMC1_IO[50] | PMC1_IO[49] | PMC1_IO[48] |
| 3 | GND | PMC1_IO[55] | PMC1_IO[54] | PMC1_IO[53] |
| 2 | GND | PMC1_IO[60] | PMC1_IO[59] | PMC1_IO[58] |
| 1 | GND | GND | PMC1_IO[64] | PMC1_IO[63] |

Z A B C D E F

* Assembly option for PICMG 2.16-compliant ethernet routing

**Figure 12:** *J3 Rows Z-C Pinout*

| | D | E | F |
|---|---|---|---|
| 19 | Reserved/GND* | Reserved/GND* | GND |
| 18 | COM2_RI | Reserved | GND |
| 17 | COM2_DCD | Reserved | GND |
| 16 | COM2_TXD | Reserved | GND |
| 15 | COM2_RXD | Reserved | GND |
| 14 | 5V | 5V | GND |
| 13 | PMC1_IO[2] | PMC1_IO[1] | GND |
| 12 | PMC1_IO[7] | PMC1_IO[6] | GND |
| 11 | PMC1_IO[12] | PMC1_IO[11] | GND |
| 10 | PMC1_IO[17] | PMC1_IO[16] | GND |
| 9 | PMC1_IO[22] | PMC1_IO[21] | GND |
| 8 | PMC1_IO[27] | PMC1_IO[26] | GND |
| 7 | PMC1_IO[32] | PMC1_IO[31] | GND |
| 6 | PMC1_IO[37] | PMC1_IO[36] | GND |
| 5 | PMC1_IO[42] | PMC1_IO[41] | GND |
| 4 | PMC1_IO[47] | PMC1_IO[46] | GND |
| 3 | PMC1_IO[52] | PMC1_IO[51] | GND |
| 2 | PMC1_IO[57] | PMC1_IO[56] | GND |
| 1 | PMC1_IO[62] | PMC1_IO[61] | GND |

Z A B C D E F

* Assembly option for PICMG 2.16-compliant ethernet routing

**Figure 13:** *J3 Rows D-F Pinout*

| | Z | A | Z A B C D E F | B | C | |
|---|---|---|---|---|---|---|
| 22 | GND | ETH1_TX+ | | ETH1_RX+ | | 22 |
| 21 | GND | ETH1_TX- | | ETH1_RX- | | 21 |
| 20 | GND | GND | | Reserved | RESET_IN | 20 |
| 19 | GND | Reserved | | Reserved | Reserved | 19 |
| 18 | GND | Reserved | | Reserved | Reserved | 18 |
| 17 | GND | GND | | Reserved | Reserved | 17 |
| 16 | GND | Reserved | | Reserved | Reserved | 16 |
| 15 | GND | Reserved | | Reserved | Reserved | 15 |
| 14 | GND | Reserved | | Reserved | Reserved | 14 |
| 13 | GND | PMC2_IO[5] | | PMC2_IO[4] | PMC2_IO[3] | 13 |
| 12 | GND | PMC2_IO[10] | | PMC2_IO[9] | PMC2_IO[8] | 12 |
| 11 | GND | PMC2_IO[15] | | PMC2_IO[14] | PMC2_IO[13] | 11 |
| 10 | GND | PMC2_IO[20] | | PMC2_IO[19] | PMC2_IO[18] | 10 |
| 9 | GND | PMC2_IO[25] | | PMC2_IO[24] | PMC2_IO[23] | 9 |
| 8 | GND | PMC2_IO[30] | | PMC2_IO[29] | PMC2_IO[28] | 8 |
| 7 | GND | PMC2_IO[35] | | PMC2_IO[34] | PMC2_IO[33] | 7 |
| 6 | GND | PMC2_IO[40] | | PMC2_IO[39] | PMC2_IO[38] | 6 |
| 5 | GND | PMC2_IO[45] | | PMC2_IO[44] | PMC2_IO[43] | 5 |
| 4 | GND | PMC2_IO[50] | | PMC2_IO[49] | PMC2_IO[48] | 4 |
| 3 | GND | PMC2_IO[55] | | PMC2_IO[54] | PMC2_IO[53] | 3 |
| 2 | GND | PMC2_IO[60] | | PMC2_IO[59] | PMC2_IO[58] | 2 |
| 1 | GND | TM_PRSNT | | PMC2_IO[64] | PMC2_IO[63] | 1 |

**Figure 14:** *J5 Rows Z-C Pinout*

| | D | Z A B C D E F | E | F | |
|---|---|---|---|---|---|
| 22 | ETH2_TX+ | | ETH2_RX+ | GND | 22 |
| 21 | ETH2_TX- | | ETH2_RX- | GND | 21 |
| 20 | Reserved | | Reserved | GND | 20 |
| 19 | Reserved | | Reserved | GND | 19 |
| 18 | Reserved | | Reserved | GND | 18 |
| 17 | Reserved | | Reserved | GND | 17 |
| 16 | Reserved | | Reserved | GND | 16 |
| 15 | Reserved | | Reserved | GND | 15 |
| 14 | Reserved | | Reserved | GND | 14 |
| 13 | PMC2_IO[2] | | PMC2_IO[1] | GND | 13 |
| 12 | PMC2_IO[7] | | PMC2_IO[6] | GND | 12 |
| 11 | PMC2_IO[12] | | PMC2_IO[11] | GND | 11 |
| 10 | PMC2_IO[17] | | PMC2_IO[16] | GND | 10 |
| 9 | PMC2_IO[22] | | PMC2_IO[21] | GND | 9 |
| 8 | PMC2_IO[27] | | PMC2_IO[26] | GND | 8 |
| 7 | PMC2_IO[32] | | PMC2_IO[31] | GND | 7 |
| 6 | PMC2_IO[37] | | PMC2_IO[36] | GND | 6 |
| 5 | PMC2_IO[42] | | PMC2_IO[41] | GND | 5 |
| 4 | PMC2_IO[47] | | PMC2_IO[46] | GND | 4 |
| 3 | PMC2_IO[52] | | PMC2_IO[51] | GND | 3 |
| 2 | PMC2_IO[57] | | PMC2_IO[56] | GND | 2 |
| 1 | PMC2_IO[62] | | PMC2_IO[61] | GND | 1 |

**Figure 15:** *J5 Rows D-F Pinout*

# Front-Panel Controls and Connectors

The ACC/RTB-601 front panel provides the following connectors:

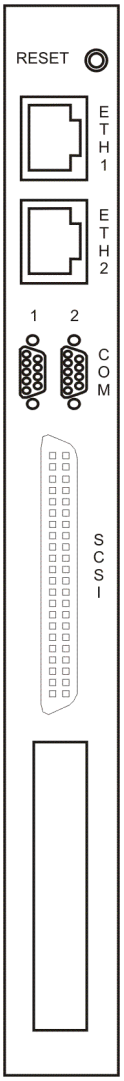



**Figure 16:** *Front-Panel Connectors*

## Ethernet Interfaces

**Note: The RJ-45 connectors are only to be used with 10/100 Base T/TX Ethernet.**

**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.**

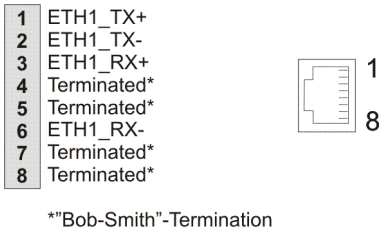



**Figure 17:** *Ethernet 1 Pinout*

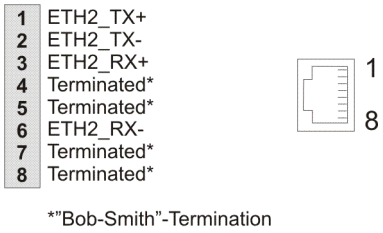



**Figure 18:** *Ethernet 2 Pinout*

## Serial Devices

**Note: Only RS-232C-compatible serial devices can be connected to the serial connectors.**

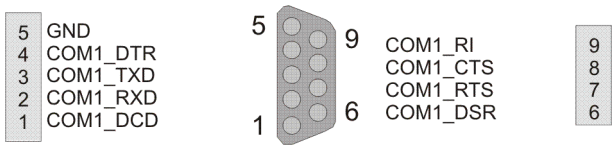



**Figure 19:** *COM 1 Pinout*

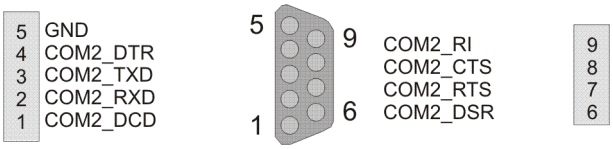



**Figure 20:** *COM 2 Pinout*

## SCSI Devices

The SCSI connectors are to be used only with the SSIO variant of the CPCI-680 which is equipped with the SSIO-PMC module.

| | | | |
|---|---|---|---|
| 1 | GND | PMCAIO<25> | 35 |
| 2 | GND | PMCAIO<27> | 36 |
| 3 | n.c. | PMCAIO<29> | 37 |
| 4 | GND | PMCAIO<31> | 38 |
| 5 | GND | PMCAIO<15> | 39 |
| 6 | GND | PMCAIO<2> | 40 |
| 7 | GND | PMCAIO<4> | 41 |
| 8 | GND | PMCAIO<6> | 42 |
| 9 | GND | PMCAIO<8> | 43 |
| 10 | GND | PMCAIO<10> | 44 |
| 11 | GND | PMCAIO<12> | 45 |
| 12 | GND | PMCAIO<14> | 46 |
| 13 | GND | PMCAIO<16> | 47 |
| 14 | GND | PMCAIO<18> | 48 |
| 15 | GND | GND | 49 |
| 16 | GND | n.c. | 50 |
| 17 | PMCAIO<33> | PMCAIO<33> | 51 |
| 18 | PMCAIO<33> | PMCAIO<33> | 52 |
| 19 | n.c. | n.c. | 53 |
| 20 | GND | GND | 54 |
| 21 | GND | PMCAIO<20> | 55 |
| 22 | GND | GND | 56 |
| 23 | GND | PMCAIO<22> | 57 |
| 24 | GND | PMCAIO<24> | 58 |
| 25 | GND | PMCAIO<26> | 59 |
| 26 | GND | PMCAIO<28> | 60 |
| 27 | GND | PMCAIO<30> | 61 |
| 28 | GND | PMCAIO<32> | 62 |
| 29 | GND | PMCAIO<34> | 63 |
| 30 | GND | PMCAIO<36> | 64 |
| 31 | GND | PMCAIO<17> | 65 |
| 32 | GND | PMCAIO<19> | 66 |
| 33 | GND | PMCAIO<21> | 67 |
| 34 | GND | PMCAIO<23> | 68 |

**Figure 21:** *Front-Panel SCSI Pinout*

## Reset Key

The ACC / RTB-601 provides a reset key on the front panel to execute a reset on the CPCI-680 board. 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 *PPC/PowerCoreCPCI-680 Reference Guide*).

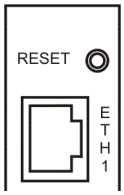



**Figure 22:** *Reset Key*

# Product Error Report

| | |
|---|---|
| Product: | Serial No.: |
| Date Of Purchase: | Originator: |
| Company: | Point Of Contact: |
| Tel.: | Ext.: |
| Address: | |
| Present Date: | |
| Affected Product:<br>❑ Hardware ❑ Software ❑ Systems | Affected Documentation:<br>❑ Hardware ❑ Software ❑ Systems |
| Error Description: | |

This Area to Be Completed by Force Computers:

Date:

PR#:

Responsible Dept.: ❑ Marketing ❑ Production

Engineering ➠ ❑ Board ❑ Systems

☞ Send this report to the nearest Force Computers headquarter listed on the address page.

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