Netra™ CP2300 cPSB Transition Card Installation and Technical Reference Manual

Adobe PostScript

Contents

Preface

The Netra™ CP2300 CompactPCI packet switched backplane (cPSB) transition card (Sun™ part no. XCP2300-TRN, 375-3134-*xx*) is a carrier-grade rear transition card designed for the Netra CP2300 cPSB board. This manual describes the functions of the Netra CP2300 transition card, its specifications, connectors, and installation procedure.

Who Should Use This Book

This manual is written for computer hardware engineers, system programmers, computer technicians, and others involved in the integration of the Netra CP2300 cPSB boards. For further details, refer to the references and related documentation listed in the next section.

Related References

This section provides a list of related references and documentation.

Specifications and Standards

- *CompactPCI Packet Switching Backplane Specification, PICMG 2.16 Revision 1.0, September 2001*, PCI Industrial Computers Manufacturers Group
- *CompactPCI Core Specification, Release Note for PICMG 2.0 Revision 3.0, October 1999*, PCI Industrial Computers Manufacturers Group
- *IEEE Standard 1101.11-1998, Standard For Mechanical Rear Plug-in Units Specifications for Microcomputers Using IEEE 1101.1 and IEEE 1101.10 Equipment Practice*
- *VITA 36, PMC I/O Module Draft Standard*
- *Ethernet IEEE 802.3 Standard*
- *Universal Serial Bus Specification Rev. 1.1*
- *I^2C-Bus Specification Version 2.1*

Related Netra CP2300 cPSB Board Documents

- *Netra CP2300 cPSB Board Installation and Technical Reference Manual* (816-7186-*xx*)
- *Netra CP2300 cPSB Board Product Note* (816-7185-*xx*)
- *Netra CP2300 cPSB Transition Card Installation and Technical Reference Manual* (816-7188-*xx*)
- *Netra CP2300 cPSB Transition Card Product Note* (816-7187-*xx*)
- *Netra CP2300 cPSB Board Programming Guide* (817-1331-*xx*)
- *Netra CP2300 cPSB Board Release Notes* (817-1741-xx)
- *Important Safety Information for Sun Hardware Systems* (816-7190-*xx*)

Using UNIX Commands

This document might not contain information on basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for this information:

- *Solaris Handbook for Sun Peripherals*
- AnswerBook2™ online documentation for the Solaris™ operating environment
- Other software documentation that you received with your system

Typographic Conventions

Typeface[1]	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your .login file. Use ls -a to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% **su** Password:
AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this. To delete a file, type rm *filename*.

1 The settings on your browser might differ from these settings.

Shell Prompts

Shell	Prompt
C shell	*machine-name*%
C shell superuser	*machine-name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#

Accessing Sun Documentation

You can view, print, or purchase a broad selection of Sun documentation, including localized versions, at:

`http://www.sun.com/documentation`

Contacting Sun Technical Support

If you have technical questions about this product that are not answered in this document, go to:

`http://www.sun.com/service/contacting`

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. You can submit your comments by going to:

`http://www.sun.com/hwdocs/feedback`

Please include the title and part number of your document with your feedback:

Netra CP2300 cPSB Transition Card Installation and Technical Reference Manual, part number 816-7188-10

Netra CP2300 cPSB Transition Card Overview and Installation

The Netra CP2300 cPSB transition card (Sun part no. XCP2300-TRN, 375-3134-*xx*) is designed to be used with the Netra CP2300 cPSB board and is fully compliant with the *CompactPCI Core Specification, Release Note for PICMG 2.0 Revision 3.0* (October 1999, PCI Industrial Computers Manufacturers Group).

The Netra CP2300 transition card is a fully compatible, carrier-grade cPSB I/O rear card for the Netra CP2300 board. However, Netra CP2300 transition card is *not* compatible with other CompactPCI or cPSB boards.

It is the responsibility of the system designer to integrate peripheral devices with the connectors on the backplane in a cPSB chassis configuration. A designer can either connect directly to the backplane signals or use a Netra CP2300 transition card. This document provides information only for the integration of the Netra CP2300 transition card in a supported cPSB chassis.

This chapter contains the following sections:

- "Features" on page 2
- "Determining Part Number, Serial Number, and Revision Number" on page 6
- "On-Board PIM Card Interfaces" on page 7
- "Installing the Transition Card in a cPSB Chassis" on page 10

Features

The Netra CP2300 transition card requires a chassis with a backplane that accommodates front and rear board installations. The primary purpose of this board is to provide the connection to Netra CP2300 board I/O devices. FIGURE 1-1 shows how the Netra CP2300 transition card and the Netra CP2300 board are connected through the backplane.
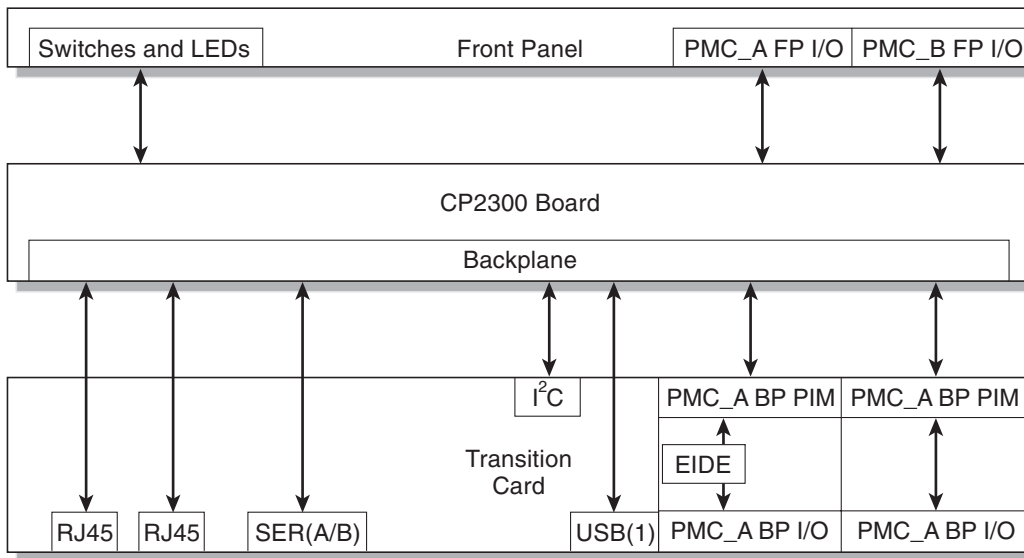
FIGURE 1-1   Netra CP2300 Transition Card and Netra CP2300 Board Backplane Connections

The 6U form factor, single-slot transition card supplies rear I/O connection to support additional peripherals with simplified system cabling for use with the compatible cPSB node boards. The rear I/O access also allows the Netra CP2300 boards to be replaced without disconnecting cables. Industry-standard connectors and pin assignments ensure ease of use and flexible design. The Netra CP2300 transition card permits the creation of high-density systems by allowing easy access to I/O.

I/O Interfaces

The Netra CP2300 transition card provides additional I/O features through the CompactPCI rJ3 (labeled as J1 on the transition card) and the rJ5 (J2) connector interfaces to the Netra CP2300 board. Many I/O functions are provided on the transition card's own faceplate (FIGURE 1-2), as well as from headers mounted on the card (FIGURE 1-3).
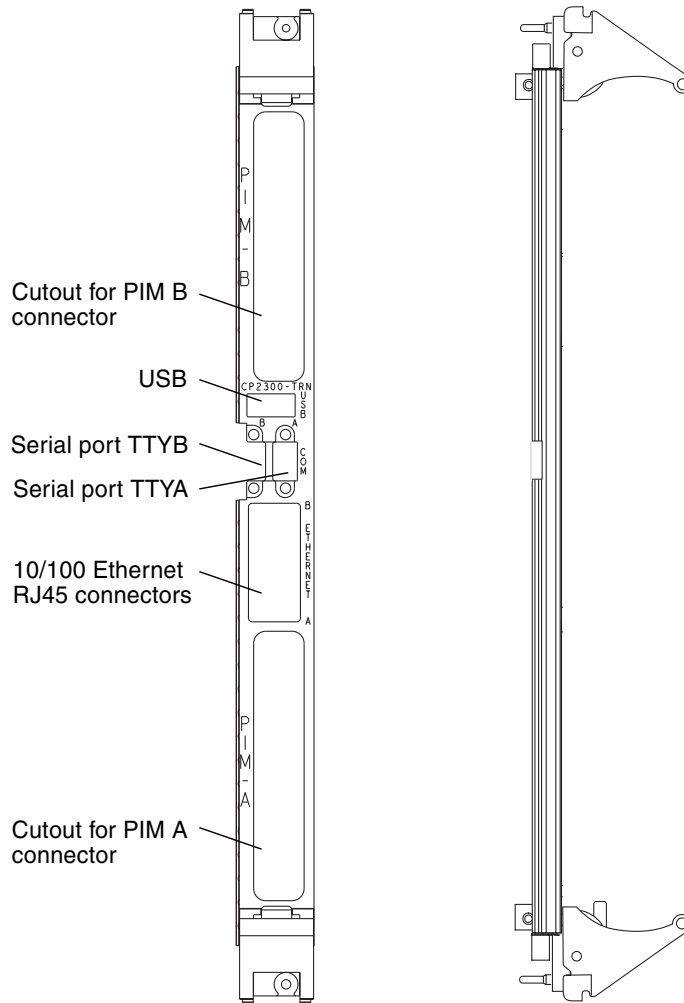
FIGURE 1-2 Netra CP2300 Transition Card Faceplate

These I/O functions include:

- Two PMC interface module (PIM) I/O connections (with user-defined I/O).
- Two 10/100 Fast Ethernet (RJ45) ports available (switch selectable between packet switch backplane and RJ45 ports) (channel A and channel B).
- Two serial (mini-DB9) ports, TTYA and TTYB. TTYA is the system console port.
- One Universal Serial Bus (USB) port accessible directly on the I/O panel.
- One 40-pin EIDE connector. (The EIDE connector is mutually exclusive with the PIM A slot Jn4 connector (labeled as J5 on the transition card) I/O pins 1-29. See FIGURE 1-5 for the location of this connector).

Note – Use shielded cables for the serial, USB, and Ethernet ports on the transition card.

On-Board Components

The Netra CP2300 transition card contains the following on-board components:

- I^2C serial EEPROM (FRU ID)—This component contains board identification and some manufacturing information, such as the part number and date code of the Netra CP2300 transition card. The SMC on the Netra CP2300 board monitors and identifies the I^2C interface. The serial EEPROM is accessed through the local Netra CP2300 I^2C bus on the CompactPCI rJ5 (labeled as J2) connector.
- I^2C bus access header—The 4-pin connector header provides access to the I^2C bus (see the Netra CP2300 board specifications for more information).
- The only active component on the Netra CP2300 transition card is the I^2C EEPROM. The board is fully passive, but some power is provided to PIM carriers A and B and to the I^2C EEPROM.

FIGURE 1-3 shows the location of these on-board components and other connectors.
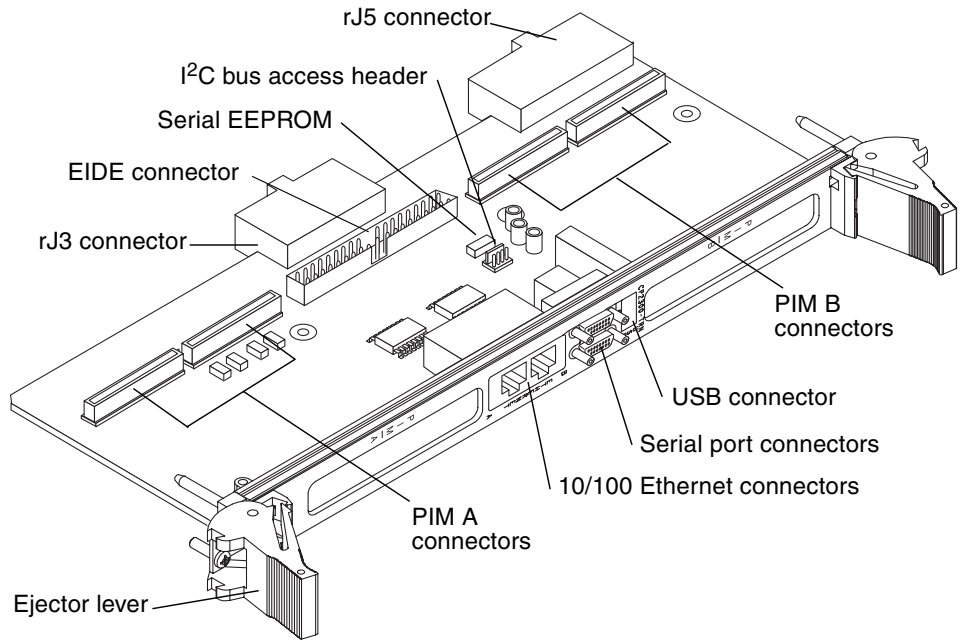
FIGURE 1-3   Netra CP2300 Transition Card On-Board Components

Software Support

The Netra CP2300 transition card supports the Netra CP2300 board, and therefore, supports the software supported by that board. Refer to the *Netra CP2300 cPSB Board Release Notes* (817-1741-xx) and the *Netra CP2300 cPSB Board Installation and Technical Reference Manual* (816-7186-xx) for the software support information.

Determining Part Number, Serial Number, and Revision Number

The Netra CP2300 cPSB transition card part number, serial number, and revision can be found on labels located on the card. For proper identification of the transition card, please find the Sun Microsystems barcode labels on the board. The barcode labels provide the following information:

- Board part number (for example, 3753134) which is the first seven digits on the barcode label. The next six digits are the board serial number (for example, 000316).
- Product part number including dash level (for example, 575-3134-03), and revision number (for example REV 50).
- Board date code (for example, 17/2003, which represents the seventeenth week of year 2003).
- Country of origin (for example, Assembled in Taiwan)

Manufacturing label

CV1A-000039

Revision number

Part number

575-3134-03 REV: 50 17/2003
ASSEMBLED IN TAIWAN

3753134000316

Board serial number

Board part number

Date code

Country of Origin
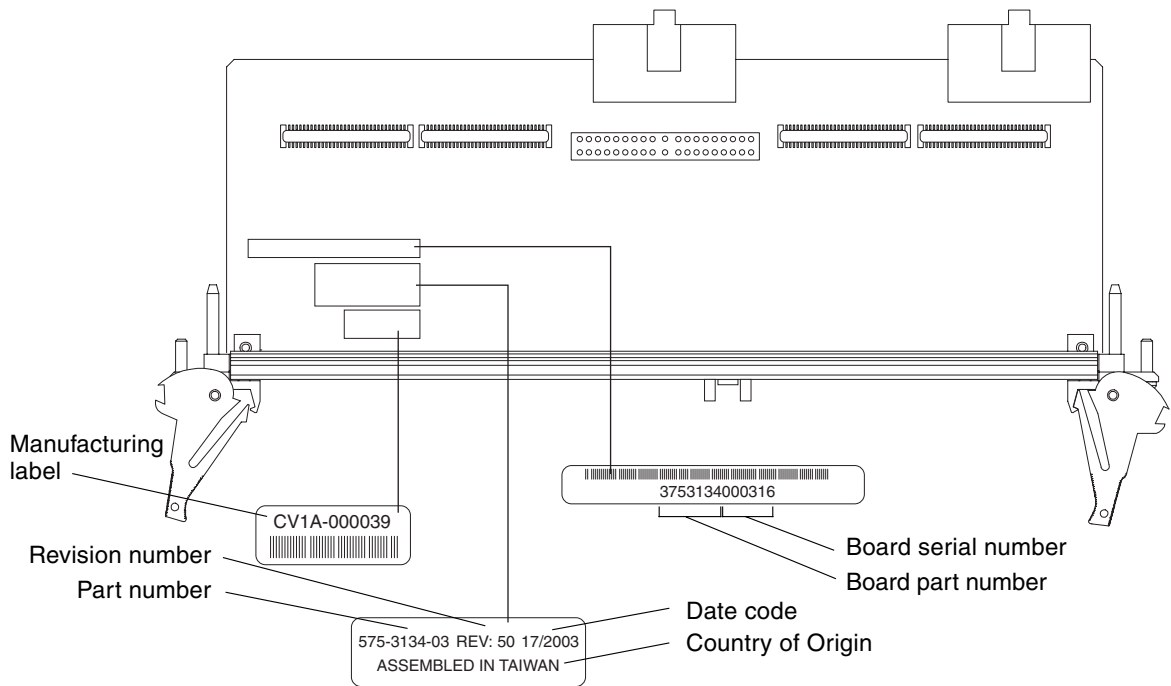
FIGURE 1-4   Netra CP2300 Transition Card Identification Labels

On-Board PIM Card Interfaces

The Netra CP2300 transition card supports two PMC I/O modules (PIMs). PIMs enable rear I/O access from the cPSB bus chassis. Custom PIMs can also provide additional I/O interfaces that do not fit on the transition card faceplate. (For more information on PIM slot mechanics, electrical and logical information, see *VITA 36 - PMC I/O Module Standard* available at `http://www.vita.com` and the *IEEE P1386 Standard*).

The PIM modules are available in two sizes (single-sized and double-sized). The Netra CP2300 transition card supports only single-sized PIMs, which measure 74 mm (2.92 inches) wide and 69 mm (2.72 inches) deep.

FIGURE 1-5 and FIGURE 1-6 show typical views of PIM cards when they are used with the Netra CP2300 transition card.

The CompactPCI connector I/O on the Netra CP2300 cPSB board provides matching I/O interfaces on the enclosure backpanel through the PIM cards installed on the Netra CP2300 transition card. The PMC A I/O signals are routed through the transition card's CompactPCI rJ3 connector (labeled J1 on the transition card). The PMC B I/O signals are routed through the transition card's CompactPCI rJ5 connector (J2). See FIGURE A-5 for the location of these connectors.

Note – Before installing a PIM card on the transition card, make sure that you set the DIP switches on the Netra CP2300 board correctly. See "PIM Connectors" on page 23 and the *Netra CP2300 cPSB Board Installation and Technical Reference Manual* (817-1741-xx) for more information.

An independent hardware vendor (IHV) supplied PMC card ship kit might include a PIM card hardware package. After installing the PIM card on the Netra CP2300 transition card, the PIM card provides rear I/O interfaces to the PMC card installed on the front Netra CP2300 cPSB board.

Caution – A PIM card must be used with its matching PMC card; any other card combination could lead to damaging the PIM and PMC card combination.

Note – Mount the PIM cards on the Netra CP2300 transition card *before* inserting the Netra CP2300 transition card in the cPSB system.

Refer to the PMC and PIM card documentation for complete hardware and software installation instructions.

Typical PIM card
(not included with
transition card)

PIM B connectors
PIM B Jn4 (J7), PIM B Jn0 (J6)

PIM A connectors
PIM A Jn4 (J5), PIM A Jn0 (J4)
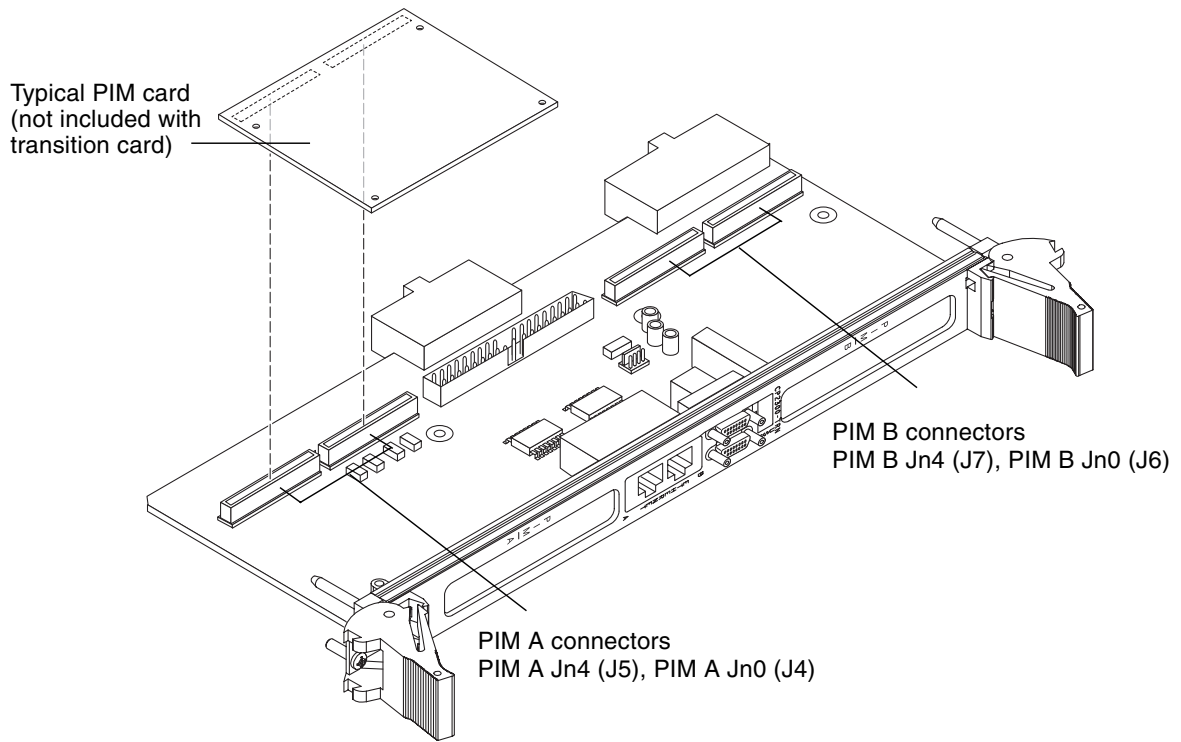
FIGURE 1-5 Typical View of a PIM Card and the PIM Connectors on the Netra CP2300 Transition Card
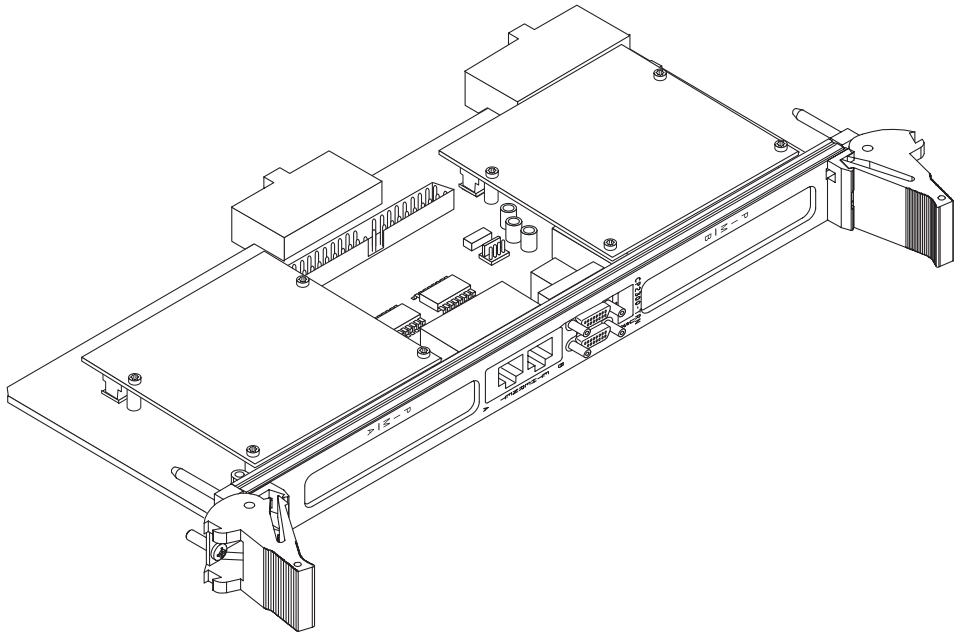
FIGURE 1-6 Typical View of PIM Cards When Installed on the Netra CP2300 Transition
Card

Note – The PIM cards shown in FIGURE 1-5 and FIGURE 1-6 are examples and are not
included with the Netra CP2300 transition card shipment.

Installing the Transition Card in a cPSB Chassis

The Netra CP2300 transition card can be installed into a cPSB chassis with a backplane made for front and rear board installation (FIGURE 1-7). It must be installed in the slot directly behind the Netra CP2300 board for proper operation. These back-to-back slots have common pins to enable passing of signals.

Note – Before installing the transition card, the card's part number must be verified to ensure that the correct transition card is being installed into the cPSB system. For information on identifying the transition card, see "Determining Part Number, Serial Number, and Revision Number" on page 6.
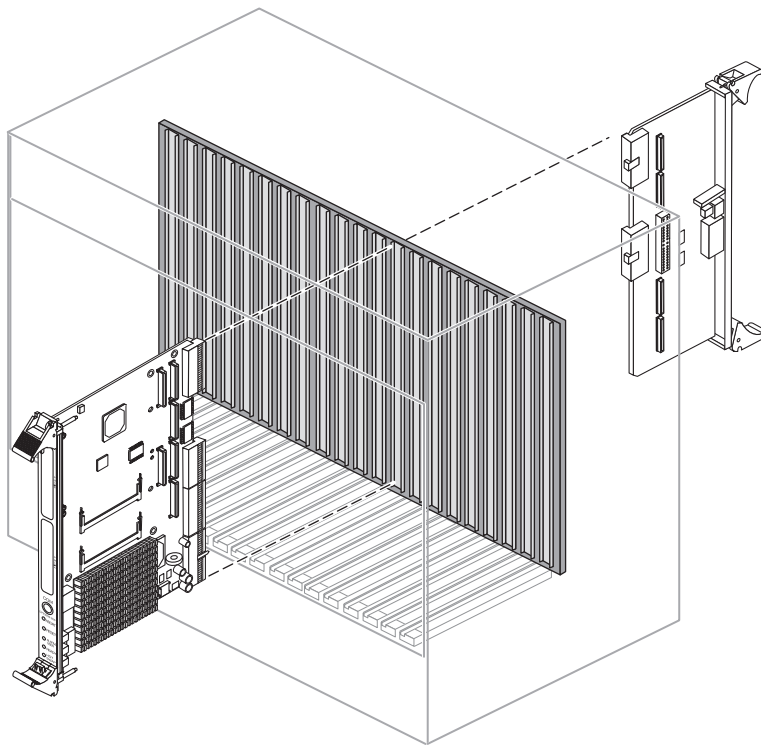
FIGURE 1-7   Installing the Netra CP2300 board and RTM in a cPSB Chassis

▼ To Install the Transition Card in a cPSB Chassis

Note – The following procedure lists the general steps required for installing the Netra CP2300 transition card into a generic cPSB chassis. *Always* refer to the cPSB chassis documentation for chassis-specific cPSB card installation instructions.

1. **Install the PIM cards on the Netra CP2300 transition card before installing the Netra CP2300 transition card into the cPSB chassis.**

   Refer to the PMC and PIM card documentation for complete hardware and software installation instructions.

2. **Ensure that power is disconnected from the cPSB chassis.**

   When the cPSB system is off, the Netra CP2300 transition card can be inserted either before or after installing the mating Netra CP2300 board.

   Caution – When a cPSB system is on and running, the Netra CP2300 transition card should be inserted first, followed by the mating CPU board. If the CPU board is already inserted and the system is on, the transition card *must not* be inserted into the cPSB system.

   Note – The Netra CP2300 transition card and the corresponding Netra board *can* be installed while the chassis is powered—however *only start with a powered chassis if you must do so*.

   Caution – Ensure that no Netra CP2300 cPSB board is installed in front of the rear backplane slot. This precaution is very important if you are installing into a powered backplane.

   The Netra CP2300 transition card is not hot-swappable. The transition card's entire power comes from the mating Netra CP2300 board (see also "Power Requirements" on page 16 and "Electrical Requirements" on page 16).

3. **Check the positioning of the Netra CP2300 transition card extraction levers.**

   Ensure that the Netra CP2300 transition card extraction levers are aligned perpendicular to the card flange.

4. **Install the Netra CP2300 transition card into the chassis rear connector slot that lines up directly with the Netra CP2300 board (**FIGURE 1-7**).**

   a. **Position the card with its CompactPCI rJ5 connector (labeled as J2 on the transition card) on top.**

   b. **Engage the board edges with the chassis card guides and slide it into the chassis (**FIGURE 1-8**).**

   c. **Using the ejector handles, gently maneuver the card into registration with the keying hardware and the shoulders surrounding the backplane pins, without the card socket contacts engaging these pins.**

      At this point, the card rear flange should project approximately 6 mm (1/4 inch) back from the "fully home" position.

   d. **Apply pressure to engage the pins and seat the board.**

cPSB chassis backplane

CompactPCI rJ5 connector
(labeled as J2 on the card)

Netra CP2300
transition card
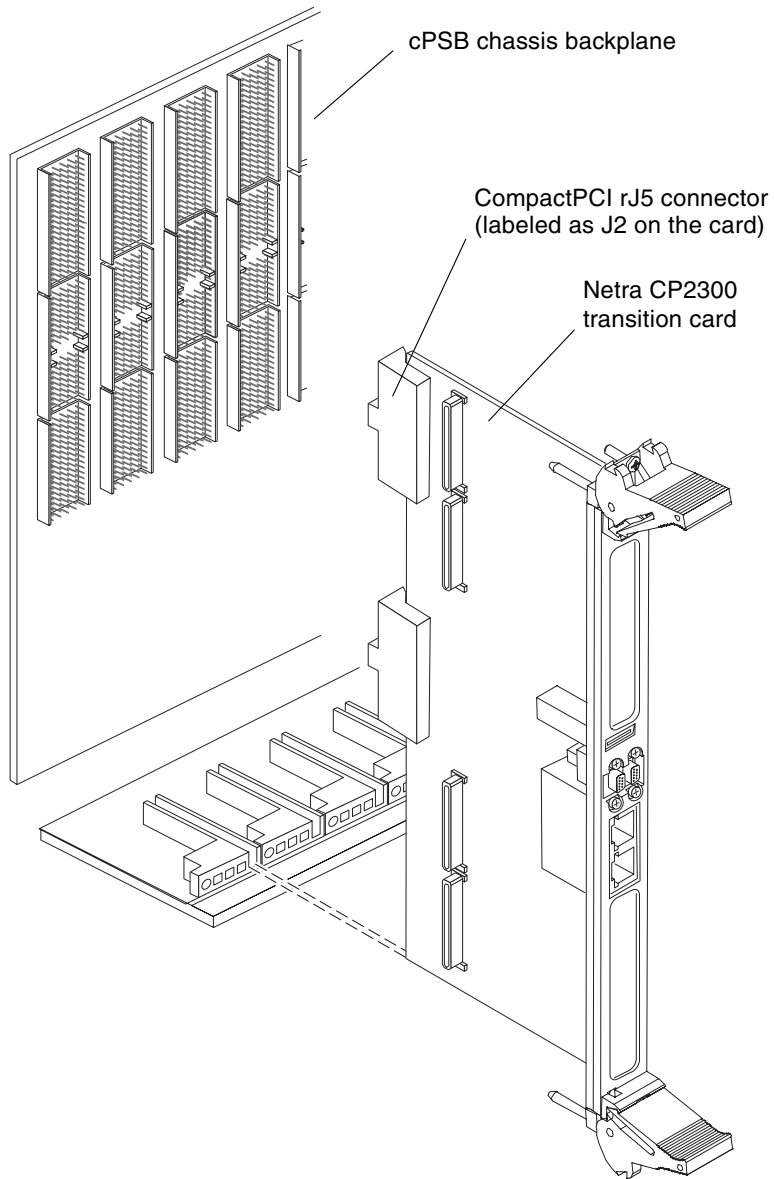
FIGURE 1-8   Align Transition Card During Installation in Backplane

> ⚠ **Caution –** During the above step, take care to ensure that the transition card is perpendicular to the backplane when it connects with the backplane pins. Careless vertical or angular positioning during board insertion can result in damage to the backplane, and in subsequent electrical destruction of the transition card and the corresponding Netra CP2300 board.

5. **Install the Netra CP2300 board into the front of the chassis (**FIGURE 1-7**) and push the board towards the backplane to make sure it is seated properly and that the connectors make good contact with the Netra CP2300 transition card.**

6. **Install the supported peripheral devices at the transition card connector ports as required.**

   Use shielded cables for the ports on the transition card; the shield should be grounded at both ends. For further details on installation of the board, refer to the *Netra CP2300 cPSB Board Installation and Technical Reference Manual* (816-7186-xx).

7. **Power on the system.**

   Refer to your system manual for instructions on correctly powering on the system.

Specification and Connectors

This appendix provides the specifications and connector pin-outs for the Netra CP2300 transition card.

Specifications

This section provides mechanical, electrical, environmental, and other relevant specifications for the Netra CP2300 transition card.

Physical Dimensions

TABLE A-1 shows the physical dimensions for the Netra CP2300 transition card.

TABLE A-1 Physical Dimensions

Board Specifications	Dimensions
Form Factor	6U
Length	233.20 mm (9.18 inches)
Width	79.85 mm (3.14 inches)
Height	20.02 mm (0.79 inches)

Power Requirements

The Netra CP2300 transition card has mainly passive components. However, some power from the backplane is provided to PIM carriers A and B and to the I^{2}C EEPROM.

For information on PIM allowable dissipation and limits on PIM power consumption, refer to the *VITA 36, PMC I/O Module Standard.*

Electrical Requirements

The Netra CP2300 transition card is powered through the Netra CP2300 cPSB board. The Netra CP2300 cPSB board provides the following voltages: 3.3V/5V/12V/-12V (total combined maximum voltage: 2.5 W).

The Netra CP2300 transition card has mainly passive components. However, some power is provided from the chassis backplane to the I^{2}C EEPROM and PIM carriers. For more information, see the *Netra CP2300 cPSB Board Installation and Technical Reference Manual* (816-7186-xx).

Environmental Specification and Compliance

For details on the environmental specifications and compliance, please refer to the *Important Safety Information for Sun Hardware Systems* (816-7190-10) and the *Netra CP2300 cPSB Board Installation and Technical Reference Manual* (816-7186-xx) documents.

You can download and view these documents from the following web site:

`http://www.sun.com/documentation`

Connectors

Transition Card I/O Face Plate Connectors

This section lists the pins and signal names of the I/O faceplate connectors on the transition card.

USB Port

USB connector port A is available on the Netra CP2300 transition card I/O panel.
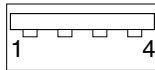
FIGURE A-1   USB Connector Port A Pins

TABLE A-2   Universal Serial Bus Port A

Pin	Signal
1	+5V POWER
2	POS
3	NEG
4	GND

Serial Ports

Two serial ports from the Netra CP2300 transition card are available through the rear panel with single-stacked, 9-pin connectors. One connector is assigned to Port A and the other connector to Port B (FIGURE A-2).
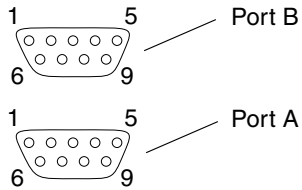
FIGURE A-2   Serial Port Connector Pins

The signal interface of the connectors are described in the following two tables.

TABLE A-3   Serial Port A

Pin	Signal
1	SER_A_DCD
2	SER_A_RXD
3	SER_A_TXD
4	SER_A_DTR
5	GND_A
6	SER_A_DSR
7	SER_A_RTS
8	SER_A_CTS
9	SER_A_RI

TABLE A-4   Serial Port B

Pin	Signal
1	SER_B_DCD
2	SER_B_RXD
3	SER_B_TXD
4	SER_B_DTR
5	GND_B
6	SER_B_DSR
7	SER_B_RTS
8	SER_B_CTS
9	SER_B_RI

Fast Ethernet Connectors

The dual-jack RJ45 AMP1116353-8 Ethernet connectors, located on the transition card's back panel, provide two 10/100 Mbps fast Ethernet ports.
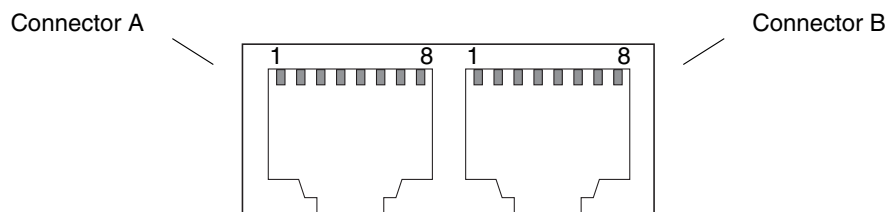
FIGURE A-3   Fast Ethernet Connector Pins

By default, these Ethernet ports are not available if the Netra CP2300 cPSB board is set to use the chassis's packet-switched backplane (PSB) Ethernet network. In order to use the transition card's Ethernet connectors, you must set the 0 position of the Netra CP2300 board SW503 DIP switch on (see FIGURE A-4). After setting this DIP switch to on, the PSB Ethernet network will not be available, but you will be able to use the transition card's two RJ45 connectors.
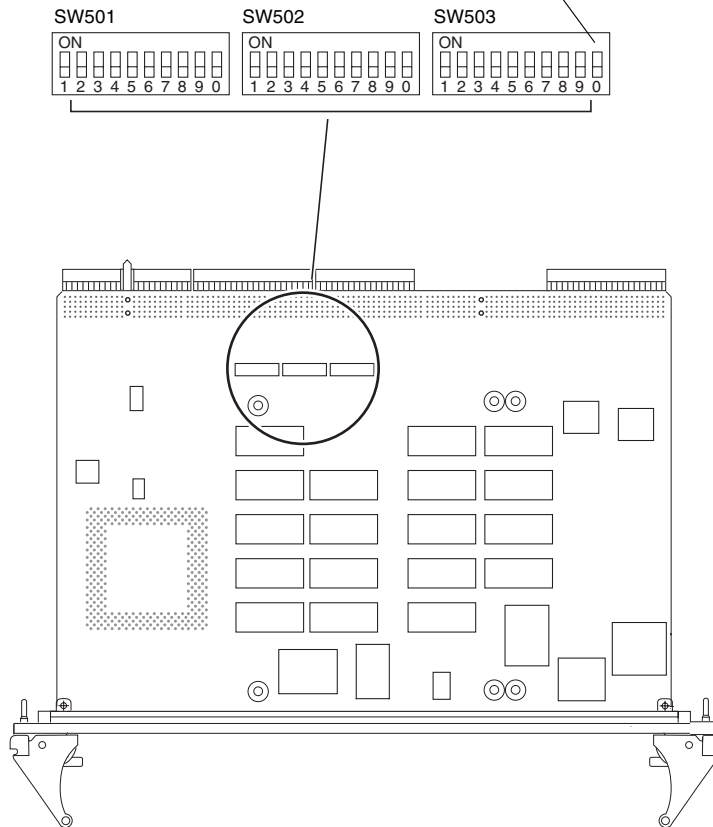
FIGURE A-4 Setting the SW503 DIP Switch on the Netra CP2300 cPSB Board

TABLE A-5 lists the pin assignments for the dual-jack RJ45 AMP1116353-8 Fast Ethernet connectors.

TABLE A-5 Fast Ethernet Ports A and B

Ethernet Port A		Ethernet Port B	
Pin	Signal	Pin	Signal
1	NET2_TX_P through magnetics	1	NET2_TX_P through magnetics
2	NET2_TX_N through magnetics	2	NET2_TX_N through magnetics
3	NET2_RX_P through magnetics	3	NET2_RX_P through magnetics
4		4	
5		5	
6	NET2_RX_N through magnetics	6	NET2_RX_N through magnetics
7		7	
8		8	

On-Board Interfaces and Connectors on the Netra CP2300 Transition Card

FIGURE A-5 shows the on-board interfaces and connectors on the transition card. The numbers in parentheses display how the interfaces are labeled on the transition card.
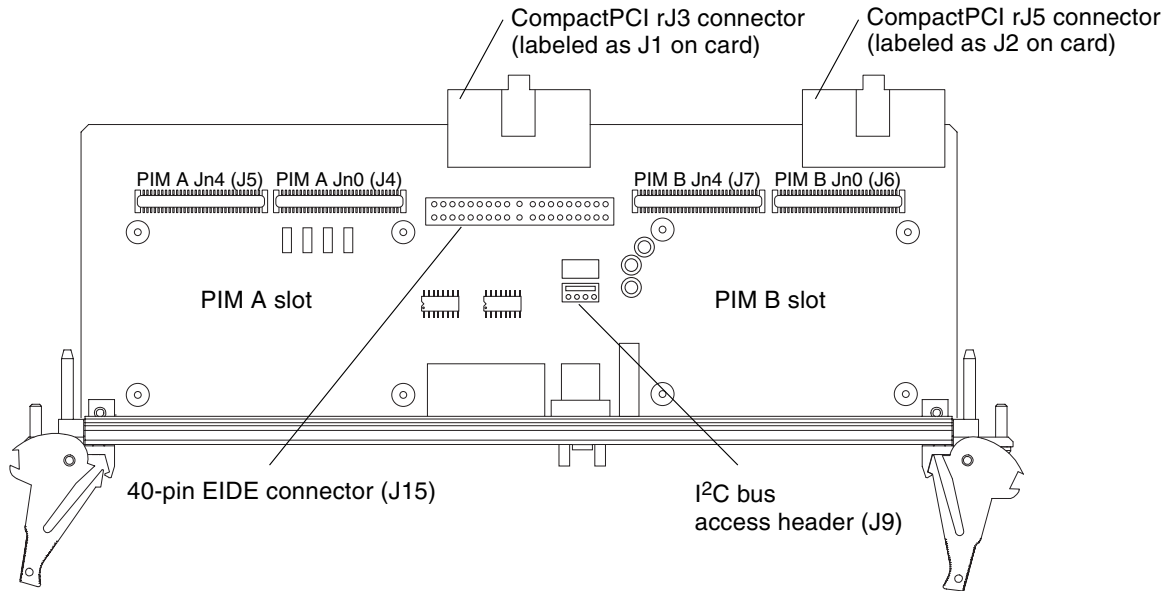
FIGURE A-5   Netra CP2300 Transition Card On-Board Connectors and Interfaces

I^{2}C Serial Bus Access Header

The I^{2}C serial bus is routed onto the Netra CP2300 RTM through the rJ5 backplane connector (which is labeled as J2 on the transition card). The Netra CP2300 transition card I^{2}C bus supports one I^{2}C function—provide information about itself through nonvolatile memory. FIGURE A-6 shows the I^{2}C serial bus access header and TABLE A-6 lists the pin assignments.

FIGURE A-6 I^{2}C Serial Bus Access Header Pins

TABLE A-6 I^{2}C Serial Bus Access Header Pin Assignments

Pin	Signal
1	I2C_PWR
2	TXN_I2C_SDA (Data/Address)
3	TXN_I2C_SCL (Clock)
4	GND

PIM Connectors

The PIM A slot has two 64-pin connectors: PIM A Jn4 (labeled J5 on the transition card) and PIM A Jn0 (J4). The PIM B slot has two 64-pin connectors: PIM B Jn4 (J7) and PIM B Jn0 (J6). See FIGURE A-7 for the connector pin numbering, and see FIGURE A-5 for the location of these connectors on the transition card.
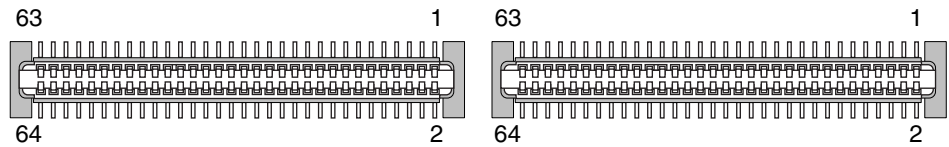
FIGURE A-7 PIM Connector Pins

PIM A Connector Pin Assignments

The PIM A connector is switch-selectable with the EIDE connector. On the back of the Netra CP2300 cPSB board, there are three DIP switches: SW501, SW502, and SW503 (see FIGURE A-4 for the location of these switches). When all of the positions on SW501 and SW502, and positions 1 through 9 on SW503 are set to OFF, the EIDE connector is disabled and all of the PIM A connector pins are available. When these switch positions are set to ON, the EIDE connector is active and PIM A Jn4 (labeled as J5) connector I/0 pins 1 to 29 (signals PMC_A_IO_1 through PMC_A_IO_29) are disabled and *must* be disconnected.

Refer to the *Netra CP2300 cPSB Board Installation and Technical Reference Manual* (816-7186-xx) for more information about DIP switch settings.

TABLE A-7 lists the pin assignments for the PIM A Jn0 (J4) connector, and TABLE A-8 lists the pin assignments for the PIM A Jn4 (J5) connector.

TABLE A-7   PIM A Jn0 Connector (J4)

Signal Name	Pin	Pin	Signal Name
SMC_TX	1	2	+12V
SMC_RX	3	4	
+5V	5	6	
TXN_I2C_SDA	7	8	
TXN_I2C_SCL	9	10	+3.3V
I2C_PWR	11	12	
GND	13	14	
	15	16	
	17	18	GND
RSV(PCI_RST#)	19	20	
+5V	21	22	
RSV	23	24	
RSV	25	26	+3.3V
	27	28	
GND	29	30	
	31	32	
	33	34	GND
	35	36	

TABLE A-7   PIM A Jn0 Connector (J4) *(Continued)*

Signal Name	Pin	Pin	Signal Name
+5V	37	38	
	39	40	
	41	42	+3.3V
	43	44	
GND	45	46	
	47	48	
	49	50	GND
	51	52	
+5V	53	54	
	55	56	
	57	58	+3.3V
	59	60	
-12V	61	62	
	63	64	

TABLE A-8   PIM A Jn4 Connector (J5)

Signal Name	Pin	Pin	Signal Name
PMC_A_IO_1	1	2	PMC_A_IO_2
PMC_A_IO_3	3	4	PMC_A_IO_4
PMC_A_IO_5	5	6	PMC_A_IO_6
PMC_A_IO_7	7	8	PMC_A_IO_8
PMC_A_IO_9	9	10	PMC_A_IO_10
PMC_A_IO_11	11	12	PMC_A_IO_12
PMC_A_IO_13	13	14	PMC_A_IO_14
PMC_A_IO_15	15	16	PMC_A_IO_16
PMC_A_IO_17	17	18	PMC_A_IO_18
PMC_A_IO_19	19	20	PMC_A_IO_20
PMC_A_IO_21	21	22	PMC_A_IO_22
PMC_A_IO_23	23	24	PMC_A_IO_24

TABLE A-8   PIM A Jn4 Connector (J5) *(Continued)*

Signal Name	Pin	Pin	Signal Name
PMC_A_IO_25	25	26	PMC_A_IO_26
PMC_A_IO_27	27	28	PMC_A_IO_28
PMC_A_IO_29	29	30	PMC_A_IO_30
PMC_A_IO_31	31	32	PMC_A_IO_32
PMC_A_IO_33	33	34	PMC_A_IO_34
PMC_A_IO_35	35	36	PMC_A_IO_36
PMC_A_IO_37	37	38	PMC_A_IO_38
PMC_A_IO_39	39	40	PMC_A_IO_40
PMC_A_IO_41	41	42	PMC_A_IO_42
PMC_A_IO_43	43	44	PMC_A_IO_44
PMC_A_IO_45	45	46	PMC_A_IO_46
PMC_A_IO_47	47	48	PMC_A_IO_48
PMC_A_IO_49	49	50	PMC_A_IO_50
PMC_A_IO_51	51	52	PMC_A_IO_52
PMC_A_IO_53	53	54	PMC_A_IO_54
PMC_A_IO_55	55	56	PMC_A_IO_56
PMC_A_IO_57	57	58	PMC_A_IO_58
PMC_A_IO_59	59	60	PMC_A_IO_60
PMC_A_IO_61	61	62	PMC_A_IO_62
PMC_A_IO_63	63	64	PMC_A_IO_64

PIM B Connector Pin Assignments

TABLE A-9 lists the pin assignments for the PIM B Jn0 (J6) connector, and TABLE A-10 lists the pin assignments for the PIM B Jn4 (J7) connector.

TABLE A-9   PIM B Jn0 Connector (J6)

Signal Name	Pin	Pin	Signal Name
SMC_TX	1	2	+12V
SMC_RX	3	4	
+5V	5	6	

TABLE A-9   PIM B Jn0 Connector (J6) *(Continued)*

Signal Name	Pin	Pin	Signal Name
TXN_I2C_SDA	7	8	
TXN_I2C_SCL	9	10	+3.3V
I2C_PWR	11	12	
GND	13	14	
	15	16	
	17	18	GND
RSV(PCI_RST#)	19	20	
+5V	21	22	
RSV	23	24	
RSV	25	26	+3.3V
	27	28	
GND	29	30	
	31	32	
	33	34	GND
	35	36	
+5V	37	38	
	39	40	
	41	42	+3.3V
	43	44	
GND	45	46	
	47	48	
	49	50	GND
	51	52	
+5V	53	54	
	55	56	
	57	58	+3.3V
	59	60	
-12V	61	62	
	63	64	

TABLE A-10   PIM B Jn4 Connector (J7)

Signal Name	Pin	Pin	Signal Name
PMC_B_IO_1	1	2	PMC_B_IO_2
PMC_B_IO_3	3	4	PMC_B_IO_4
PMC_B_IO_5	5	6	PMC_B_IO_6
PMC_B_IO_7	7	8	PMC_B_IO_8
PMC_B_IO_9	9	10	PMC_B_IO_10
PMC_B_IO_11	11	12	PMC_B_IO_12
PMC_B_IO_13	13	14	PMC_B_IO_14
PMC_B_IO_15	15	16	PMC_B_IO_16
PMC_B_IO_17	17	18	PMC_B_IO_18
PMC_B_IO_19	19	20	PMC_B_IO_20
PMC_B_IO_21	21	22	PMC_B_IO_22
PMC_B_IO_23	23	24	PMC_B_IO_24
PMC_B_IO_25	25	26	PMC_B_IO_26
PMC_B_IO_27	27	28	PMC_B_IO_28
PMC_B_IO_29	29	30	PMC_B_IO_30
PMC_B_IO_31	31	32	PMC_B_IO_32
PMC_B_IO_33	33	34	PMC_B_IO_34
PMC_B_IO_35	35	36	PMC_B_IO_36
PMC_B_IO_37	37	38	PMC_B_IO_38
PMC_B_IO_39	39	40	PMC_B_IO_40
PMC_B_IO_41	41	42	PMC_B_IO_42
PMC_B_IO_43	43	44	PMC_B_IO_44
PMC_B_IO_45	45	46	PMC_B_IO_46
PMC_B_IO_47	47	48	PMC_B_IO_48
PMC_B_IO_49	49	50	PMC_B_IO_50
PMC_B_IO_51	51	52	PMC_B_IO_52
PMC_B_IO_53	53	54	PMC_B_IO_54
PMC_B_IO_55	55	56	PMC_B_IO_56
PMC_B_IO_57	57	58	PMC_B_IO_58

TABLE A-10   PIM B Jn4 Connector (J7) *(Continued)*

Signal Name	Pin	Pin	Signal Name
PMC_B_IO_59	59	60	PMC_B_IO_60
PMC_B_IO_61	61	62	PMC_B_IO_62
PMC_B_IO_63	63	64	PMC_B_IO_64

EIDE Connector

The single EIDE bus is brought onto the transition card from the Netra CP2300 board through the rJ3 backplane connector (which is labeled as J1 on the transition card). The EIDE bus is routed to a 40-pin EIDE connector header.
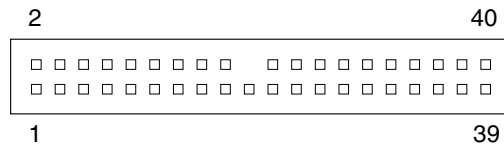

FIGURE A-8   EIDE Connector Pins

The EIDE bus is mutually exclusive with the PIM A Jn4 (J5) connector I/O pins 1-29. By setting DIP switches on the Netra CP2300 board, you can select the EIDE bus or the PIM A Jn4 (J5) connector signals PIM_A_IO_1 through PIM_A_IO_29.

On the solder-side of the Netra CP2300 cPSB board, there are three DIP switches: SW501, SW502, and SW503 (see FIGURE A-4 for the location of these switches). When all of the positions on SW501 and SW502, and positions 1 through 9 on SW503 are set to OFF, the EIDE connector is disabled and all of the PIM A connector pins are available. When these switch positions are set to ON, the EIDE connector is active and PIM A Jn4 (J5) connector I/0 pins 1 to 29 (signals PMC_A_IO_1 through PMC_A_IO_29) are disabled and *must* be disconnected (see TABLE A-8).

Refer to the *Netra CP2300 cPSB Board Installation and Technical Reference Manual* (816-7186-xx) for more information about switch settings.

TABLE A-11 lists the mutually exclusive 40-pin EIDE connector and the Netra CP2300 board CompactPCI rJ3 (J1) PIM A I/O pin assignments.

TABLE A-11 EIDE Connector Pin Assignments

rJ3 Signal	Header Signal	PIN	PIN	Header Signal	rJ3 Signal
PMC_A_IO_17	IDE_RST#	1	2	GND	
PMC_A_IO_8	IDE_D7	3	4	IDE_D8	PMC_A_IO_9
PMC_A_IO_7	IDE_D6	5	6	IDE_D9	PMC_A_IO_10
PMC_A_IO_6	IDE_D5	7	8	IDE_D10	PMC_A_IO_11
PMC_A_IO_5	IDE_D4	9	10	IDE_D11	PMC_A_IO_12
PMC_A_IO_4	IDE_D3	11	12	IDE_D12	PMC_A_IO_13
PMC_A_IO_3	IDE_D2	13	14	IDE_D13	PMC_A_IO_14
PMC_A_IO_2	IDE_D1	15	16	IDE_D14	PMC_A_IO_15
PMC_A_IO_1	IDE_D0	17	18	IDE_D15	PMC_A_IO_16
	GND	19	20	NC	
PMC_A_IO_26	IDE_DRQ	21	22	GND	
PMC_A_IO_18	IDE_IOW	23	24	GND	
PMC_A_IO_19	IDE_IOR	25	26	GND	
PMC_A_IO_28	IDE_IORDY	27	28	RES to GND	
PMC_A_IO_25	IDE_ACK	29	30	GND	
PMC_A_IO_27	IDE_IRQ	31	32	NC	
PMC_A_IO_20	IDE_A1	33	34	C0_CBLID	PMC_A_IO_29
PMC_A_IO_21	IDE_A0	35	36	IDE_A2	PMC_A_IO_22
PMC_A_IO_23	IDE_CS1#	37	38	IDE_CS3#	PMC_A_IO_24
	NC	39	40	GND	

Backplane Interfaces

The Netra CP2300 transition card interfaces to the cPSB bus through the CompactPCI rJ3 (labeled as J1 on the transition card) and rJ5 (J2) backplane connectors. The pin assignments for these two sets of connectors are provided in this section.

CompactPCI rJ3 Connector (J1)

TABLE A-12 shows the pin assignments for the CompactPCI rJ3 connector. This connector is labeled J1 on the transition card (see FIGURE A-5 for the location).
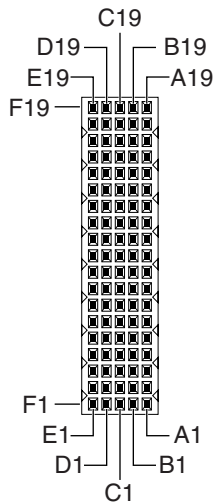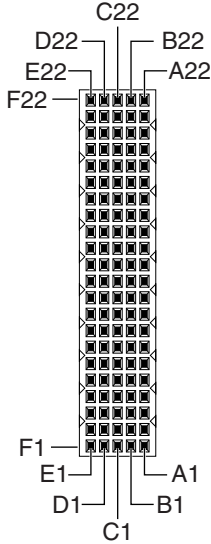

FIGURE A-9   CompactPCI rJ3 Connector (J1) Pins

TABLE A-12 CompactPCI rJ3 Connector (J1) Pin Assignments

Pin #	Row A	Row B	Row C	Row D	Row E
19	RESERVE	RESERVE	RESERVE	RESERVE	GND
18	PSB_A_TX_POS	PSB_A_TX_NEG	GND	NC	NC
17	PSB_A_RX_POS	PSB_A_RX_NEG	GND	NC	NC
16	PSB_B_TX_POS	PSB_B_TX_NEG	GND	NC	NC
15	PSB_B_RX_POS	PSB_B_RX_NEG	GND	NC	NC
14	+3.3V	+3.3V	+3.3V	+5V	+5V
13	PMC_A_IO_5	PMC_A_IO_4	PMC_A_IO_3	PMC_A_IO_2	PMC_A_IO_1
12	PMC_A_IO_10	PMC_A_IO_9	PMC_A_IO_8	PMC_A_IO_7	PMC_A_IO_6
11	PMC_A_IO_15	PMC_A_IO_14	PMC_A_IO_13	PMC_A_IO_12	PMC_A_IO_11
10	PMC_A_IO_20	PMC_A_IO_19	PMC_A_IO_18	PMC_A_IO_17	PMC_A_IO_16
9	PMC_A_IO_25	PMC_A_IO_24	PMC_A_IO_23	PMC_A_IO_22	PMC_A_IO_21
8	PMC_A_IO_30	PMC_A_IO_29	PMC_A_IO_28	PMC_A_IO_27	PMC_A_IO_26
7	PMC_A_IO_35	PMC_A_IO_34	PMC_A_IO_33	PMC_A_IO_32	PMC_A_IO_31
6	PMC_A_IO_40	PMC_A_IO_39	PMC_A_IO_38	PMC_A_IO_37	PMC_A_IO_36
5	PMC_A_IO_45	PMC_A_IO_44	PMC_A_IO_43	PMC_A_IO_42	PMC_A_IO_41
4	PMC_A_IO_50	PMC_A_IO_49	PMC_A_IO_48	PMC_A_IO_47	PMC_A_IO_46
3	PMC_A_IO_55	PMC_A_IO_54	PMC_A_IO_53	PMC_A_IO_52	PMC_A_IO_51
2	PMC_A_IO_60	PMC_A_IO_59	PMC_A_IO_58	PMC_A_IO_57	PMC_A_IO_56
1	+5V	PMC_A_IO_64	PMC_A_IO_63	PMC_A_IO_62	PMC_A_IO_61

Note – The pin assignments for every pin in rows F and Z are ground.

CompactPCI rJ5 Connector (J2)

TABLE A-13 shows the pin assignments for the CompactPCI rJ5 connector. This connector is labeled J2 on the transition card (see FIGURE A-5 for the location).

FIGURE A-10 CompactPCI rJ5 Connector (J2) Pins

TABLE A-13 CompactPCI rJ5 Connector (J2) Pin Assignments

Pin #	Row A	Row B	Row C	Row D	Row E
22	PMC_B_IO_5	PMC_B_IO_4	PMC_B_IO_3	PMC_B_IO_2	PMC_B_IO_1
21	PMC_B_IO_10	PMC_B_IO_9	PMC_B_IO_8	PMC_B_IO_7	PMC_B_IO_6
20	PMC_B_IO_15	PMC_B_IO_14	PMC_B_IO_13	PMC_B_IO_12	PMC_B_IO_11
19	PMC_B_IO_20	PMC_B_IO_19	PMC_B_IO_18	PMC_B_IO_17	PMC_B_IO_16
18	PMC_B_IO_25	PMC_B_IO_24	PMC_B_IO_23	PMC_B_IO_22	PMC_B_IO_21
17	PMC_B_IO_30	PMC_B_IO_29	PMC_B_IO_28	PMC_B_IO_27	PMC_B_IO_26
16	PMC_B_IO_35	PMC_B_IO_34	PMC_B_IO_33	PMC_B_IO_32	PMC_B_IO_31
15	PMC_B_IO_40	PMC_B_IO_39	PMC_B_IO_38	PMC_B_IO_37	PMC_B_IO_36
14	PMC_B_IO_45	PMC_B_IO_44	PMC_B_IO_43	PMC_B_IO_42	PMC_B_IO_41
13	PMC_B_IO_50	PMC_B_IO_49	PMC_B_IO_48	PMC_B_IO_47	PMC_B_IO_46
12	PMC_B_IO_55	PMC_B_IO_54	PMC_B_IO_53	PMC_B_IO_52	PMC_B_IO_51
11	PMC_B_IO_60	PMC_B_IO_59	PMC_B_IO_58	PMC_B_IO_57	PMC_B_IO_56
10	RESERVE	PMC_B_IO_64	PMC_B_IO_63	PMC_B_IO_62	PMC_B_IO_61
9	SER_A_RTS	SER_A_DTR	SER_A_RI	GND	SER_A_CTS
8	SER_A_DCD	SER_A_TXD	SER_A_RXD	SER_A_DSR	+5V
7	SER_B_RTS	SER_B_DTR	SER_B_RI	SER_B_DSR	SER_B_CTS
6	SER_B_DCD	SER_B_TXD	SER_B_RXD	GND	GND
5	TXN_I2C_CLK	RESERVE	-12V	*(NET2_RX_P)*	*(NET2_RX_N)*
4	TXN_I2C_SDA	I2C_PWR	GND	*(NET2_TX_P)*	*(NET2_TX_N)*
3	*(USB_B_POS)*	*(USB_B_NEG)*	GND	GND	GND
2	USB_A_POS	USB_A_NEG	GND	*(NET1_RX_P)*	*(NET1_RX_N)*
1	GND	+3.3V	+12V	*(NET1_TX_P)*	*(NET1_TX_N)*

Note – The pin assignments for every pin in rows F and Z are ground.

Index