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CPCI3UX600 Backplane Module Edition 2DG

Publication No. CPCI3UX600-0HH/2DG

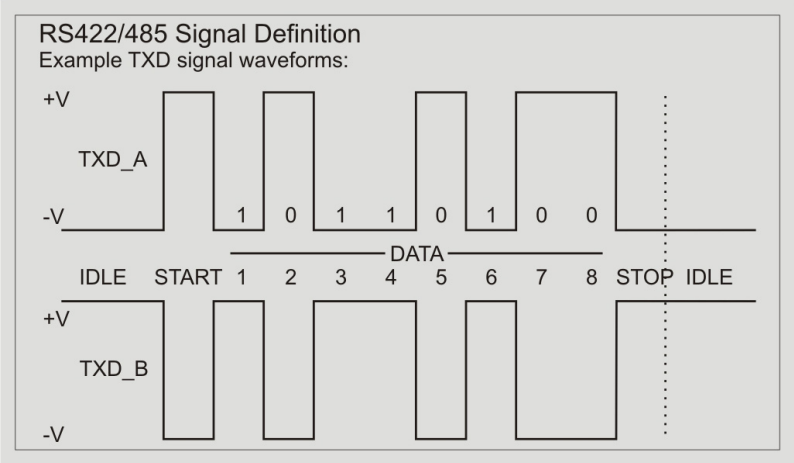
Description

LINK

The information contained in this document must be used in conjunction with the I/O Modules Manual, publication number RT5154.

The CPCI3UX600 module is a customized interface adapter compatible with 3U CompactPCI backplanes. It fits directly onto the rear P2 position of the backplane and is suitable for interconnection with the IMP1A and IMP2A host cards. See the I/O Modules Manual - Compatibility Tables for more information.

The CPCI3UX600 is suitable for fitting in rear guide-rails, according to IEEE1101.11, and can optionally be fitted with a front panel.



Breakout Panel Connectivity

CPCI3UX600 Header	Breakout Panel	Function
P3	SIOX600	RS232 (2 X 9-way D-type)
P3	SIO2X601	RS232 (2 X 25-way D-type)
P4, P5	SIO3X600	RS422/485
P8, P9	10BTX600	10/100BaseT

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Figure 1-1 CPCI3UX600

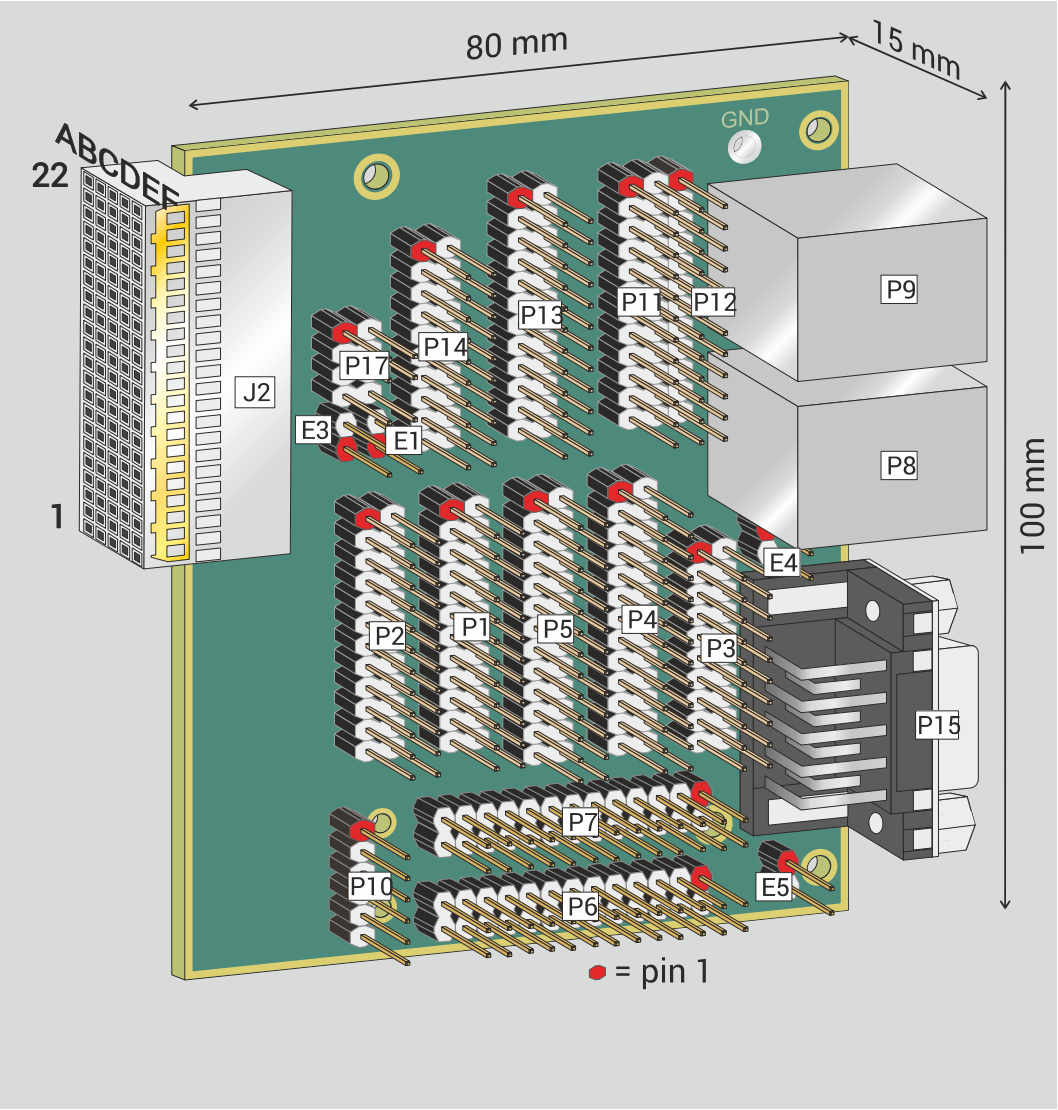
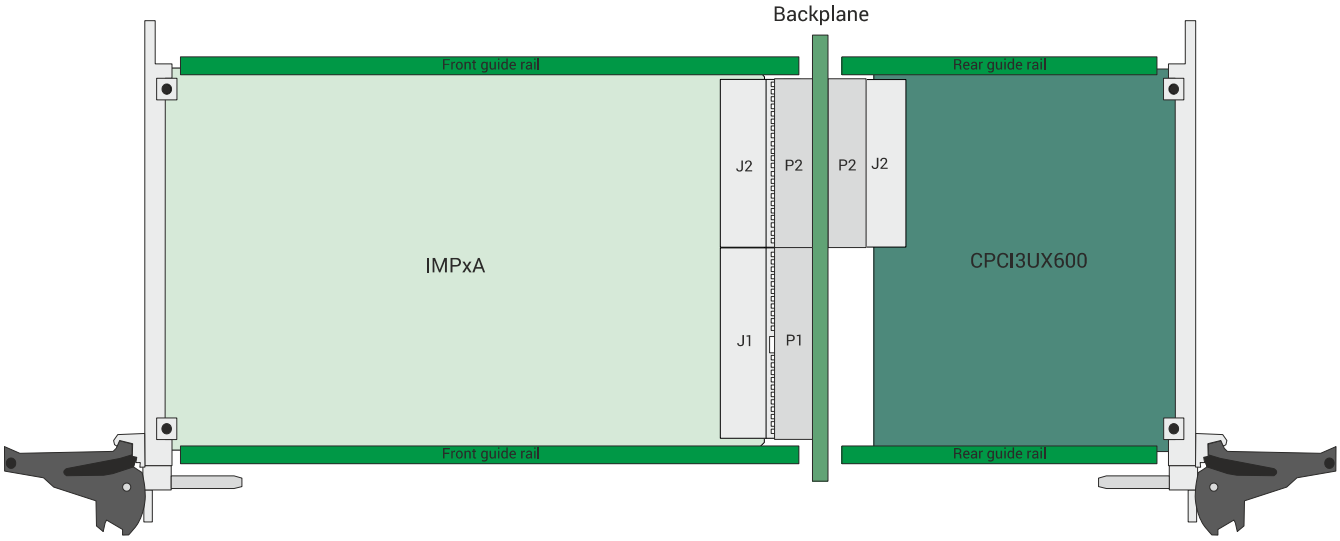


Figure 1-2 CPCI3UX600 in Rear Guide Rails (per IEEE 1101.11)



Connector/Header Designations

Connector	Function	Type
J2	IMP1A/IMP2A interface	132-way, 6-row
P1, P2	Alternative PMC I/O	24-pin male headers
P3	RS232 COM1/COM2	20-pin male header
P4	RS422 COM1	26-pin male header
P5	RS422 COM2	26-pin male header
P6, P7, P10	PMC I/O	2 x 26-pin, 1 x 6-pin male headers
P8	10/100/1000BaseT Ethernet Channel 0	RJ-45 jack
P9	10/100/1000BaseT Ethernet Channel 1	RJ-45 jack
P11, P12	COM/ETH tracking	1 x 24-pin, 1 x 12-pin male headers
P13	GPIO	24-pin male header
P14	JTAG	20-pin male header[a]
P15	RS232 COM1	9-way D-type
P17	COM1 options	8-pin male header
H1	GND connection	Stud
H2	CGND connection	Stud

a. Only fitted if J1 is fitted.

The GND and CGND connection studs are identified on the PWB (H2 is between the P8 and P15 connectors).

PCB Male Header ID	Function	Pin	Signal
E1	Flash write enable	1	FLASH_WE#
		2	GND
E3	Reset switch	1	PRST#
		2	GND
E4	Vcc	1	Vcc (+5V)
		2	Vcc (+5V)
E5	Test only		

NOTES

E4 can be used to make a Vcc (+5V) connection to the board for use when RS422 termination is required.

Chassis GND must be connected either via the (optional) front panel or directly to the board via H2.

E3 is intended for use with a momentary-action toggle switch only. Fitting a link across E3 will hold the host board in reset.

Pinouts

P1 and P2 (Alternative PMC I/O)

P1 and P2 provide alternative PMC I/O headers to those of P6, P7 and P10.

P1			
Pin	Signal	Pin	Signal
1	PMC_J14_1	2	PMC_J14_2
3	PMC_J14_3	4	PMC_J14_4
5	PMC_J14_5	6	PMC_J14_6
7	PMC_J14_7	8	PMC_J14_8
9	PMC_J14_9	10	PMC_J14_10
11	PMC_J14_11	12	PMC_J14_12
13	PMC_J14_13	14	PMC_J14_14
15	PMC_J14_15	16	PMC_J14_16
17	PMC_J14_17	18	PMC_J14_18
19	PMC_J14_19	20	PMC_J14_20
21	PMC_J14_21	22	PMC_J14_22
23	PMC_J14_23	24	PMC_J14_24

P2			
Pin	Signal	Pin	Signal
1	PMC_J14_25	2	PMC_J14_26
3	PMC_J14_27	4	PMC_J14_28
5	PMC_J14_29	6	PMC_J14_30
7	PMC_J14_31	8	PMC_J14_32
9	PMC_J14_33	10	PMC_J14_34
11	PMC_J14_35	12	PMC_J14_36
13	PMC_J14_37	14	PMC_J14_38
15	PMC_J14_39	16	PMC_J14_40
17	PMC_J14_41	18	PMC_J14_42
19	PMC_J14_43	20	PMC_J14_44
21	PMC_J14_45	22	PMC_J14_46
23	PMC_J14_47[a]	24	PMC_J14_48[a]

a. PMC_J14_47 and PMC_J14_48 are only available on certain configurations of the IMP2A

P3 (COM1/COM2 RS232)

See also P11/P12.

Pin	Signal	Pin	Signal
1	No connection	2	No connection
3	No connection	4	No connection
5	COM1_TXD	6	COM1_RXD
7	COM1_RTS[a]	8	COM1_CTS[a]
9	No connection	10	No connection
11	No connection	12	No connection
13	COM2_TXD	14	No connection
15	No connection	16	COM2_RXD
17	COM2_RTS	18	COM2_CTS
19	GND	20	GND

a. Signal routed using P17.

P4 and P5 (RS422 COMx)

P4 (COM1)			
Pin	Signal	Pin	Signal
1	GND	2	GND
3	COM1_TT_A	4	COM1_TT_B
5	No connection	6	No connection
7	COM1_RT_A	8	COM1_RT_B
9	No connection	10	No connection
11	No connection	12	No connection
13	No connection	14	No connection
15	No connection	16	No connection
17	COM1_RX_A	18	COM1_RX_B
19	COM1_TX_A	20	COM1_TX_B
21	COM1_CTS_A	22	COM1_CTS_B
23	COM1_RTS_A	24	COM1_RTS_B
25	GND	26	GND

P5 (COM2)			
Pin	Signal	Pin	Signal
1	GND	2	GND
3	COM2_TT_A	4	COM2_TT_B
5	No connection	6	No connection
7	COM2_RT_A	8	COM2_RT_B
9	No connection	10	No connection
11	No connection	12	No connection
13	No connection	14	No connection
15	No connection	16	No connection
17	COM2_RX_A	18	COM2_RX_B
19	COM2_TX_A	20	COM2_TX_B
21	COM2_CTS_A	22	COM2_CTS_B
23	COM2_RTS_A	24	COM2_RTS_B
25	GND	26	GND

P6 and P7 (PMC I/O)

P1 and P2 provide alternative PMC I/O headers to those of P6, P7 and P10.

P6			
Pin	Signal	Pin	Signal
1	GND	2	GND
3	PMC_J14_40	4	PMC_J14_42
5	PMC_J14_38	6	PMC_J14_41
7	PMC_J14_44	8	PMC_J14_46
9	VCC	10	VCC
11	PMC_J14_34	12	PMC_J14_36
13	PMC_J14_37	14	PMC_J14_39
15	PMC_J14_32	16	PMC_J14_35
17	PMC_J14_20	18	PMC_J14_23
19	PMC_J14_14	20	PMC_J14_17
21	PMC_J14_26	22	PMC_J14_29
23	PMC_J14_31	24	PMC_J14_33
25	GND	26	GND

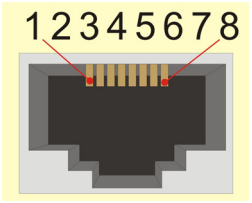
P7			
Pin	Signal	Pin	Signal
1	GND	2	GND
3	PMC_J14_22	4	PMC_J14_24
5	PMC_J14_25	6	PMC_J14_27
7	PMC_J14_28	8	PMC_J14_30
9	VCC	10	VCC
11	PMC_J14_13	12	PMC_J14_15
13	PMC_J14_19	14	PMC_J14_21
15	PMC_J14_16	16	PMC_J14_18
17	PMC_J14_4	18	PMC_J14_6
19	PMC_J14_1	20	PMC_J14_3
21	PMC_J14_10	22	PMC_J14_12
23	PMC_J14_7	24	PMC_J14_9
25	GND	26	GND

P8 and P9 (10/100/1000BaseT Ethernet)

See P11/P12.

P8 (Channel 0)			
Pin	Signal	Pin	Signal
1	ETH0_0+	2	ETH0_0-
3	ETH0_1+	4	ETH0_2+
5	ETH0_2-	6	ETH0_1-
7	ETH0_3+	8	ETH0_3-

P9 (Channel 1)			
Pin	Signal	Pin	Signal
1	ETH1_0+	2	ETH1_0-
3	ETH1_1+	4	ETH1_2+
5	ETH1_2-	6	ETH1_1-
7	ETH1_3+	8	ETH1_3-



P10 (PMC I/O)

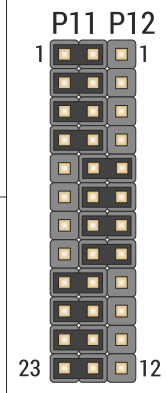
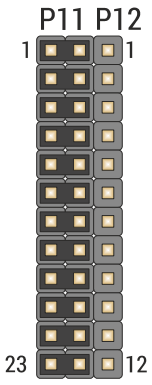
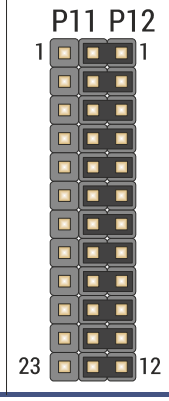
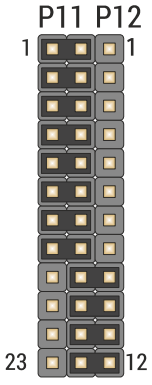
P1 and P2 provide alternative PMC I/O headers to those of P6, P7 and P10.

Pin	Signal
1	PMC_J14_2
2	PMC_J14_5
3	PMC_J14_8
4	PMC_J14_11
5	PMC_J14_43
6	PMC_J14_45

P11/P12 (COM/ETH Tracking)

CAUTION

If an IMP2A is configured for Gigabit Ethernet and is connected to another Gigabit Ethernet capable device, the CPCI3UX600 must be configured to allow the port to be fully connected. Failure to do so will prevent the Ethernet port from functioning correctly.

I/O Option	Meaning	Link Setting	I/O Option	Meaning	Link Setting
0	2 x Ethernet, 1 x RS232, 1 x RS232/422/485 Async only, 12 bits GPIO		1	1 x Ethernet, 2 x RS232/422/485 Sync/Async, No GPIO	
3	2 x Ethernet, 2 x RS232/422/485 Async only, 8 bits GPIO		2	1 x Ethernet, 1 x RS232, 1 x RS232/422/485 Sync/Async, 8 bits GPIO	
4	2 x Gigabit Ethernet, 1 x RS232, 1 x RS232/422/485 Async only, 4 bits GPIO		5	1 x Gigabit Ethernet, 1 x RS232, 1 x RS232/422/485 Sync/Async, 4 bits GPIO	

P13 (GPIO)

NOTE
GPIO pins are out of sequence to maintain integrity of Ethernet tracking.

Pin	Signal	Pin	Signal
1	GPIO_2	2	GND
3	GPIO_1	4	GND
5	GPIO_0	6	GND
7	GPIO_3	8	GND
9	GPIO_6	10	GND
11	GPIO_9	12	GND
13	GPIO_10	14	GND
15	GPIO_11	16	GND
17	GPIO_5	18	GND
19	GPIO_4	20	GND
21	GPIO_8	22	GND
23	GPIO_7	24	GND

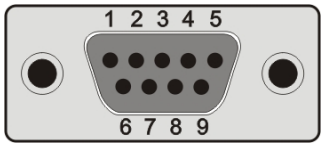
P14 (JTAG)

NOTE
P14 is only fitted if J1 is fitted.

Pin	Signal	Pin	Signal
1	TRST#	2	GND
3	TDO	4	GND
5	TDI	6	GND
7	TMS	8	GND
9	TCK	10	GND
11	No connection	12	GND
13	AUTOWR#	14	GND
15	No connection	16	GND
17	No connection	18	GND
19	No connection	20	No connection

P15 (COM1 RS232)

Pin	Signal	Pin	Signal
1	No connection	6	No connection
2	COM1_RXD	7	No connection
3	COM1_TXD	8	No connection
4	No connection	9	No connection
5	GND		



P17 (COM1 Options)

When connecting a host card with I/O option 0, 2, 3, 4 or 5 (see P11/P12) to a terminal or terminal emulator via a CPCI3UX600 and SIOX600, using standard off-the-shelf serial cable, RS232 voltage levels could potentially be fed to the 5VSTDBY line, causing damage to the RTC. This can be prevented by not linking pin 1 to pin 3 and pin 2 to pin 4 of P17 (note however, that in this case COM1 is TXD/RXD only). For I/O option 1 (where 5VSTDBY and BITFAIL are not available), pins 1 and 3 and pins 2 and 4 can be linked for TXD/RXD/CTS/RTS operation on COM1.

Pin	Signal	Pin	Signal
1	P3_8	2	P3_7
3	COM1_CTS/5VSTDBY	4	COM1_RTS/BITFAIL
5	Not fitted	6	Not fitted
7	GND	8	GND

Product Code Information

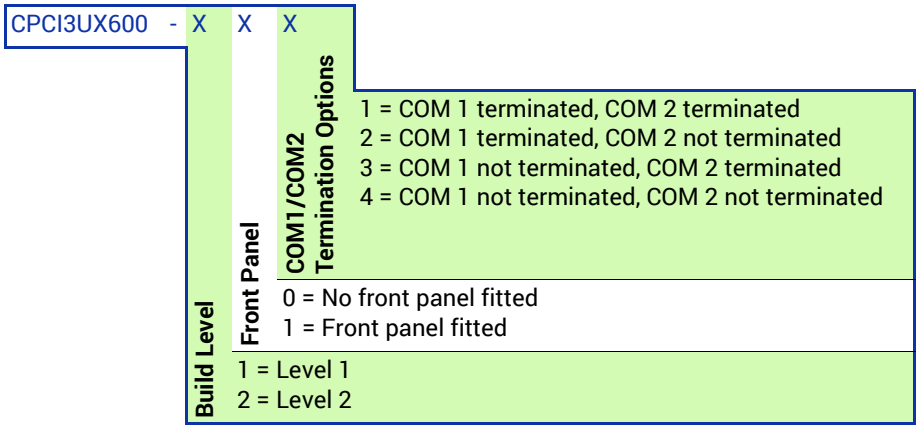
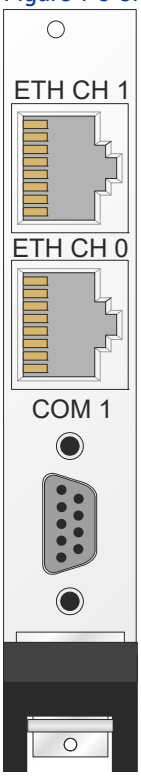


Figure 1-3 CPCI3UX600 Front Panel



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