

Technical Information – Overview & Connectors IOB33 Option Cards

(92-701500800000, 92-701500700000, 92-701500600000, 92-701500500000, 92-701500400000, 92-701500200000, and 92-701500000000)

IOB33 Overview

The IOB33 is an optional I/O expansion board designed for use with all Trenton PICMG[®] 1.3 system host boards. The IOB33 versions listed in the chart below offer slightly different I/O plate configurations based on specific SHB and IOB33 connector configurations. The IOB33 provides legacy I/O support and features a x4 PCIe edge connector along the bottom edge of the card. This x4 card edge connector routes either a x1 or x4 PCI Express[®] electrical link from the SHB down to the PCIe expansion slot on select PICMG 1.3 backplanes. The electrical width and the PCIe interface type of this expansion link is determined by the SHB design. The optional IOB33 also expands the I/O capabilities of the system. The IOB33 has the following interfaces available for use by the system designer:

- Two - RS232 communication ports
- One - Floppy drive interface*
- One - Parallel printer interface
- One – PS/2 Mini-DIN connector for PS/2 keyboard and mouse connections
 - May also include separate, on-board PS/2 keyboard and mouse headers for systems that require separate PS/2 connections

(*Note: Floppy port functionality on the IOB33 is not supported when using the IOB33 with later SBC designs.)

There are five versions of the Trenton IOB33 I/O expansion board. The chart below identifies the IOB33 version that is compatible with specific Trenton SHBs.

IOB33 Model	THD8141 (8141)	BXT7059, BXTS7059, JXT6966, JXTS6966, TSB7053 (7059, 6966, 7053)	T4L*, TML* (6483), (6490)	TQ9, MCG* and MCX Series* (6731, 6680, 6690, 6675, 6695, 6633, 6685, 6638, 6700)	NLI*, NLT*, SLT*, SLI* (6313, 6396, 6515, 6521)
IOB33THX (92-701500700000)	X				
IOB33THD (92-701500600000)	X				
IOB33HJX (92-701500500000)		X			
IOB33JX (92-701500400000)		X			
IOB33MC (92-701500200000)				X	
IOB33 (92-701500000000)			X		X

*Indicates a system host board that is End Of Life (EOL)

IOB33 Models

Model #	Model Name	Description
92-701500700000	IOB33THX	Includes the I/O Plate for use with the THD8141 board and has on-board serial port headers instead of I/O plate COMM ports plus the PS/2 MiniDIN is removed.
92-701500600000	IOB33THD	Includes the I/O Plate for use with the THD8141 board. This <u>IOB33 version is used in most THD8141 applications.</u>
92-701500500000	IOB33HJX	Includes the I/O Plate for use with the BXT/JXT/TSB boards and has on-board serial port headers instead of I/O plate COMM ports plus the PS/2 MiniDIN is removed.
92-701500400000	IOB33JX	Includes the I/O Plate for use with the BXT/JXT/TSB boards. <u>This IOB33 version is used in most BXT/JXT/TSB applications.</u>



IOB33 Models (continued)

Model #	Model Name	Description
92-701500200000	IOB33MC	Includes the I/O Plate for use with MCX*, MCG* and TQ9 system host boards.
92-701500000000	IOB33	Includes the I/O Plate for use with TML*, SLT*, SLI*, NLT*, NLI*, and T4L* system host boards.

IOB33 Features

IOB33 (92-701500800000, 92-701500700000, 92-701500600000, 92-701500500000, 92-701500400000, 92-701500200000, and 92-701500000000)

- I/O plate versions for a variety of Trenton system host boards
- Two serial ports and PS/2 mouse/keyboard mini DIN on the I/O bracket*
- PS/2 mouse, keyboard, parallel port and floppy** drive connectors
- PCI Express expansion capability for use with PCI Express backplanes
- Compatible with PCI Industrial Computer Manufacturers Group (PICMG®) PCI Express Specification

**Except on the 7015-005 and -007 versions of the IOB33*

*** The floppy port header on the IOB33 is not functional when using the IOB33 with the THD8141 SBC.*

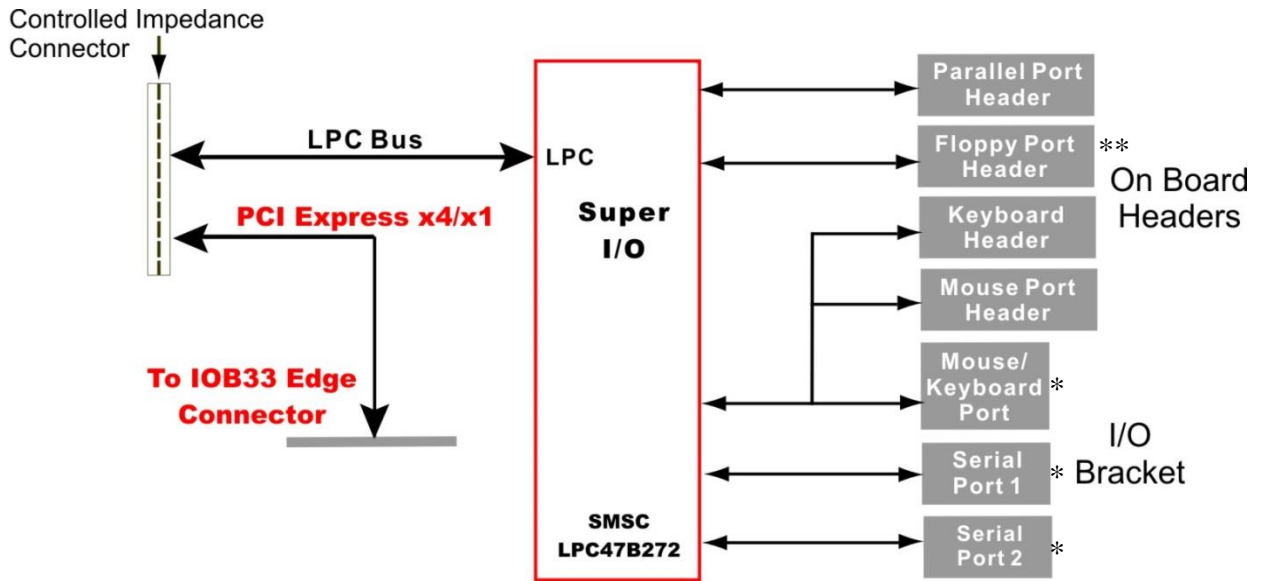
IOB33 Temperature/Environment

Operating Temperature: 0° C. to 60° C.

Storage Temperature: -40° C. to 70° C.

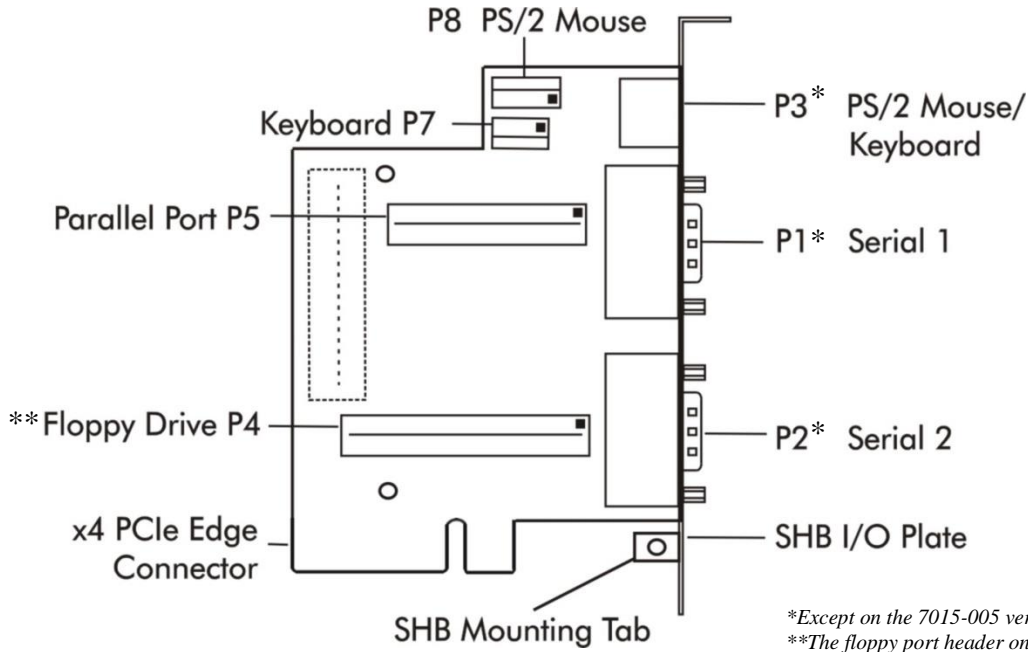
Humidity: 5% to 90% non-condensing

IOB33 Block Diagram (92-701500800000, 92-701500500000, 92-701500400000, 92-701500200000, and 92-701500000000)



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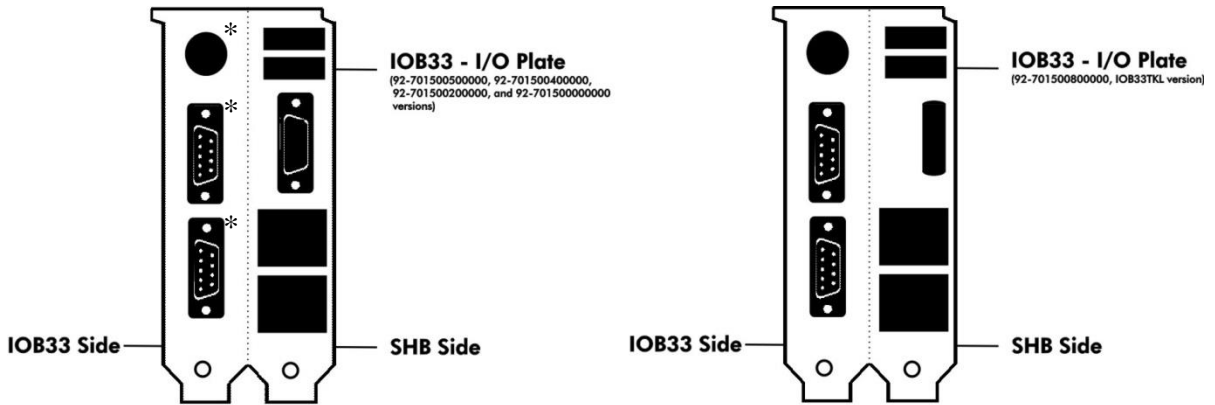
IOB33 Layout Diagram (92-701500800000, 92-701500500000, 92-701500400000, 92-701500200000, and 92-701500000000)



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IOB33 I/O Plate Diagram

(92-701500800000, 92-701500500000, 92-701500400000, 92-701500200000, and 92-701500000000)



IOB33 Connectors

NOTE: Pin 1 on the connectors is indicated by the square pad on the PCB.

P1 - Serial Port Connector*

9 position "D" right angle, Spectrum #56-402-001 (*Replaced with header on tabs -007 and -005)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Carrier Detect	6	Data Set Ready-I
2	Receive Data-I	7	Request to Send-O
3	Transmit Data-O	8	Clear to Send-
4	Data Terminal Ready-O	9	Ring Indicator-I
5	Signal Gnd		

P2 - Serial Port Connector*

9 position "D" right angle, Spectrum #56-402-001 (*Replaced with header on tabs -007 and -005)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Carrier Detect	6	Data Set Ready-I
2	Receive Data-I	7	Request to Send-O
3	Transmit Data-O	8	Clear to Send-
4	Data Terminal Ready-O	9	Ring Indicator-I
5	Signal Gnd		

P3 - PS/2 Mouse and Keyboard Connector*

6 pin mini DIN, Kycon #KMDG-6S-B4T (*Removed on tab -007 and -005 versions)

<u>Pin</u>	<u>Signal</u>
1	Ms Data
2	Kbd Data
3	Gnd
4	Power (+5V fused) with self-resetting fuse
5	Ms Clock
6	Kbd Clock

P1A, P2A - Serial Port Headers*

10 pin vertical connector, Amp #1761602-3 (*IOB33 tab -007 and -005 versions only)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Carrier Detect	2	Data Set Ready-I
3	Receive Data-I	4	Request to Send-O
5	Transmit Data-O	6	Clear to Send-
7	Data Terminal Ready-O	8	Ring Indicator-I
9	Signal Gnd	10	NC

**Except on the 7015-005 version of the IOB33*

IOB33 Connectors (continued)

P4 - Floppy Drive Connector**

34 pin dual row header, Amp #103308-7

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	2	N-RPM
3	Gnd	4	NC
5	Gnd	6	D-Rate0
7	Gnd	8	P-Index
9	Gnd	10	N-Motoron 1
11	Gnd	12	N-Drive Sel2
13	Gnd	14	N-Drive Sel1
15	Gnd	16	N-Motoron 2
17	Gnd	18	N-Dir
19	Gnd	20	N-Stop Step
21	Gnd	22	N-Write Data
23	Gnd	24	N-Write Gate
25	Gnd	26	P-Track 0
27	Gnd	28	P-Write Protect
29	Gnd	30	N-Read Data
31	Gnd	32	N-Side Select
33	Gnd	34	Disk Change

** The floppy port header on the IOB33 is not functional when using the IOB33 with the THD8141 SBC.

P5 - Parallel Port Connector

26 pin dual row header, Amp #103308-6

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Strobe	2	Auto Feed XT
3	Data Bit 0	4	Error
5	Data Bit 1	6	Init
7	Data Bit 2	8	Slct In
9	Data Bit 3	10	Gnd
11	Data Bit 4	12	Gnd
13	Data Bit 5	14	Gnd
15	Data Bit 6	16	Gnd
17	Data Bit 7	18	Gnd
19	ACK	20	Gnd
21	Busy	22	Gnd
23	Paper End	24	Gnd
25	Slct	26	NC

P7 - Keyboard Header

5 pin single row header, Amp #640456-5

<u>Pin</u>	<u>Signal</u>
1	Kbd Clock
2	Kbd Data
3	Key
4	Kbd Gnd
5	Kbd Power (+5V fused) with self resetting fuse



IOB33 Connectors (continued)

P8 - PS/2 Mouse Header
6 pin single row header, Amp #640456-6

<u>Pin</u>	<u>Signal</u>
1	Ms Data
2	Reserved
3	Gnd
4	Power (+5V fused) with self-resetting fuse
5	Ms Clock
6	Reserved

IOB33 Connectors (continued)

P6 - Impedance Connector
76 pin controlled impedance connector,
Samtec #MIS-038-01-FD-K

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+12	2	+5V_STANDBY
3	NC	4	+5V_STANDBY
5	NC	6	+5V_DUAL
7	NC	8	+5V_DUAL
9	NC	10	NC
11	NC	12	NC
13	ICH_SMI#	14	ICH_RCIN#
15	ICH_SIOPME#	16	ICH_A20GATE
17	Gnd	18	Gnd
19	L_FRAME#	20	L_AD3
21	L_DRQ1#	22	L_AD2
23	L_DRQ0#	24	L_AD1
25	SERIRQ	26	L_AD0
27	Gnd	28	Gnd
29	PCLK14SIO	30	PCLK33LPC
31	Gnd	32	Gnd
33	SMBDATA_RESUME	34	IPMB_DAT
35	SBMCLK_RESUME	36	IPMB_CLK
37	SALRT#_RESUME	38	IPMB_ALRT#
39	Gnd	40	Gnd
41	EXP_CLK100	42	EXP_RESET#
43	EXP_CLK100#	44	ICH_WAKE#
45	Gnd	46	Gnd
47	C_PE_TXP4	48	C_PE_RXP4
49	C_PE_TXN4	50	C_PE_RXN4
51	Gnd	52	Gnd
53	C_PE_TXP3	54	C_PE_RXP3
55	C_PE_TXN3	56	C_PE_RXN3
57	Gnd	58	Gnd
59	C_PE_TXP2	60	C_PE_RXP2
61	C_PE_TXN2	62	C_PE_RXN2
63	Gnd	64	Gnd
65	C_PE_TXP1	66	C_PE_RXP1
67	C_PE_TXN1	68	C_PE_RXN1
69	Gnd	70	Gnd
71	+3.3V	72	+5V
73	+3.3V	74	+5V
75	+3.3V	76	+5v