CTM80-STD

Rear Panel I/O

Board Rev. 1

kontron

QUICK REFERENCE

Document version 1.2

CONNECTORS

4HP		8HP	
J3-J5	CompactPCI	J1	Parallel Port
J6, J7	USB2, USB1	J2	PS/2 Mouse
J8	Mouse / Keyboard	J3, J7	IDE 1 (HDD 2.5")
J9	Parallel Port	J4, J8-J10	COM D, C, B, A
J10	Floppy Drive	J5	Floppy Drive
J11	Video (SVGA)	J6	IDE0 header
J12, J13	IDE 0, IDE 1	J11	Parallel Port header
J14	Hard Disk Power	J12	Floppy Drive header
J15	SCSI 3 LVD Int	J13, J14	IDE0, IDE1 headers
J16	SCSI 3 LVD Ext	J15	PS/2 Mouse & HD Power
J17	Ethernet 1 & 2	J16-J19	ComD, C, B, A headers
J18	COM D		
J20	COM C		
J21	COM B		
J22	Speaker & I2C		
J23	COM A		

Note:

4HP refers to the Rear I/O Board
8HP refers to the Mezzanine Board

JUMPER SETTINGS

Jmp	Description	Peripheral	System
W1	SDATA	1-2	2-3
W2	HSYNC	1-2	2-3
W3	RED	1-2	2-3
W4	GREEN	1-2	2-3
W5	BLUE	1-2	2-3
W6	VSYNC	1-2	2-3
W7	SCLK	1-2	2-3
W8	H110EN#	1-2	2-3

Jmp	Description	Peripheral	System
W10	LAN1-TXC	ON	ON
W12	LAN1-RXC	OFF	OFF
W13	LAN0-TXC	ON	ON
W14	LAN0-ETX+	1-2	2-3
W15	LAN0-ETX-	1-2	2-3
W16	LAN0-ERX-	1-2	2-3
W17	LAN0-ERX+	1-2	2-3
W18	LAN0-RXC	OFF	OFF

W9 • SCSI Mode (16-bit, 8-bit)

Wide-Ultra SCSI (16-bit)	ON
Fast-20 SCSI II (8-bit)	OFF

CPCI-MXS 8-Bit or 16-bit All other SBCs, always 16-bit

W1 W2 HDD Configuration on Mezzanine

	Master	Slave
W1	1-2	2-3
W2	2-3	1-2

First Level Debugging

HDD IDE is not detected or fails to boot
Check the configuration table (see next page)

Note 1
SCSI-3 LVDS supports Ultra 160

Note 2
External cable 1-4 D-Sub Standard available.

Note 3
RTM is compatible with cPCI-1023
cPCI-MXP/MXP64, cPCI-MXS/MXS64
cPCI-MXP64GX, cPCI-MXS64GX
cPCI-DMXP64GX, cPCI-DMXS64GX

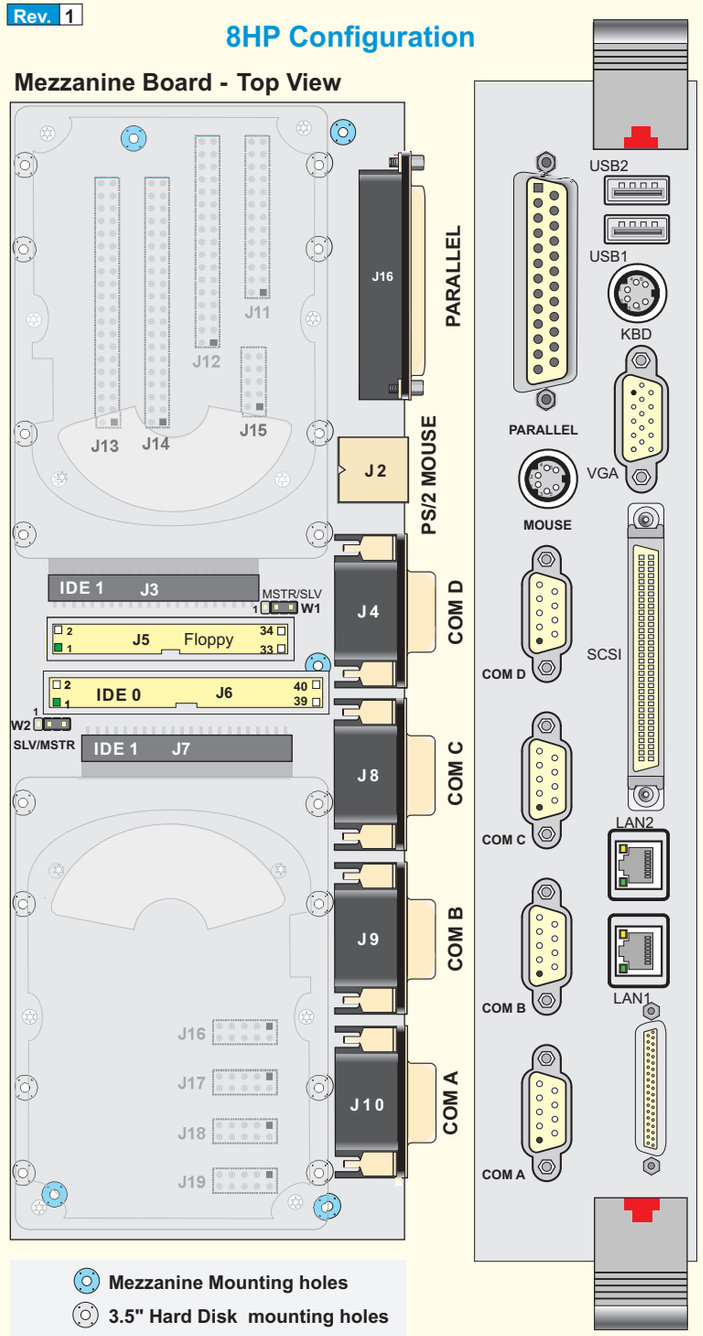
Note 4
When using the CTM80-STD with the cPCI-DMXP64GX :

- The primary channel is located on the SBC only.
- The secondary IDE channel is located on primary connector of the CTM80-STD.
- The secondary connector of the CTM80-STD is not connected

Rev. 1

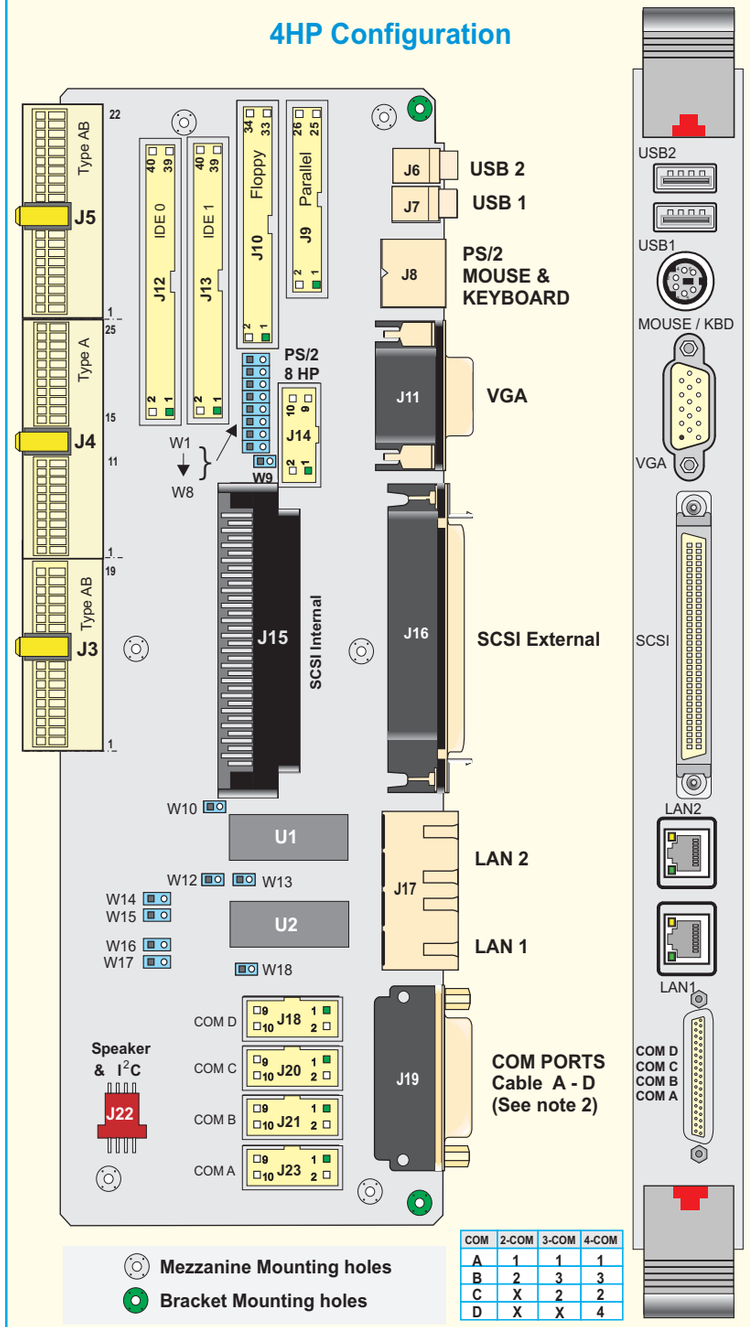
8HP Configuration

Mezzanine Board - Top View



Mezzanine Mounting holes
3.5" Hard Disk mounting holes

4HP Configuration



Mezzanine Mounting holes
Bracket Mounting holes

COM	2-COM	3-COM	4-COM
A	1	1	1
B	2	3	3
C	X	2	2
D	X	X	4

Connector Pinouts

INTERNAL

J3 - CompactPCI I/O

	ROW A	ROW B	ROW C	ROW D	ROW E
1	N.C.	SCSI LVD:D11	SCSI LVD:I/O	N.C,	GND
2	GND	NC	GND	N.C.	GND
3	LAN0:ETX-	VCC	SCSI LVD:D9	SCSI:DIFFSENS	N.C.
4	N.C.	SCSI LVD:D10	LAN0:ERX-	SCSI LVD:C/D	N.C.
5	LAN0:ETX+	GND	LANO:ERX+	GND	SCSI LVD:SEL
6	N.C.	LAN0:LINK	LAN0:ACT	LAN1:LINK	N.C.
7	LAN1:ACT	NC	NC	N.C.	N.C.
8	GND	VCC	VCC	N.C.	N.C.
9	LAN1:ETX+	LAN1:ETX-	LAN1:ERX+	LAN1:ERX-	GND
10	GND	NC	NC	N.C.	N.C.
11	COMD:DCD	GND	COMD:RXD#	COMD:DSR	COMD:TXD#
12	COMD:RTS	COMD:CTS	COMD:RI	VCC	COMD:DTR
13	COMC:DCD	VCC	COMC:RXD#	COMC:DSR	COMC:TXD#
14	COMC:RTS	COMC:CTS	COMC:RI	SCSI LVD:D8	COMC:DTR
15	NC	NC	NC	NC	N.C.
16	NC	NC	NC	NC	SCSI LVD:REQ
17	NC	NC	NC	NC	N.C.
18	NC	IDE1:ACT#	IDE0:ACT#	NC	N.C.
19	NC	NC	NC	NC	N.C.

J4 - CompactPCI I/O

	ROW A	ROW B	ROW C	ROW D	ROW E
1	I2C:CLK	I2C:DATA	N.C.	EXT_FAN0_FAIL#	EXT_FAN1_FAIL#
2	SM_BYPASS	SCSI SE: D11#	SCSI SE: D10#	SCSI SE: D9#	SCSI SE: D8#
3	SCSI SE:I/O#	SCSI SE: REQ#	SCSI SE: C/D#	SCSI SE: SEL#	SCSI SE: MSG#
4	SCSI SE:RST#	SCSI SE: ACK#	SCSI SE: BSY#	SCSI LVD: BSY	SCSI SE: ATN#
5	SCSI LVD:ACK	SCSI : WIDEPS#	SCSI: TERMPWR	SCSI: TERMPWR	SCSI LVD: DPL#
6	SCSI LVD:ATN	SCSI SE: DPL#	SCSI SE: D7#	SCSI SE: D6#	SCSI SE: D5#
7	SCSI SE:D4#	SCSI SE: D3#	SCSI SE: D2#	SCSI SE: D1#	SCSI SE: D0#
8	SCSI SE:DPH#	SCSI SE: D15#	SCSI SE: D14#	SCSI SE: D13#	SCSI SE: D12#
9	SCSI LVD:RST	SCSI LVD: MSG	NC	VGA:SDA	NC
10	VGA:SCL	VGA:HSYNC	VGA:VSYNC	VGA:RED	VGA:GREEN
11	VGA:BLUE	SCSI LVD: D3	NC	SCSI LVD: D5	SCSI LVD: D6
12					
13	Key Area				
14					
15	SCSI LVD:D0	NC	NC	NC	NC
16	LAN0-:ETX+	LAN0:ETX-	LAN0:ERX+	LAN0:ERX-	SCSI LVD: D7
17	IDE1:RESET#	SCSI LVD: D15	IDE1:D7	IDE1:D8	IDE1:D6
18	IDE1:D9	IDE1:D5	IDE1:D10	IDE1:D4	IDE1:D11
19	IDE1:D3	IDE1:D12	IDE1:D2	IDE1:D13	IDE1:D1
20	IDE1:D14	IDE1:D0	IDE1:D15	SCSI LVD:D4	NC
21	IDE1:REQ	SCSI LVD: D13	IDE1:IOW#	SCSI LVD: DPH#	IDE1:IOR#
22	SCSI LVD:D12	IDE1:IORDY	NC	IDE1:DACK#	IDE1:IRQ15
23	IDE1:IOCS16#	IDE1:A1	SCSI LVD: D2	IDE1:A0	IDE1:A2
24	IDE1:CS1	IDE1:CS3	SCSI LVD: D14	SCSI LVD: D1	NC
25	N.C.	NC	NC	NC	NC

J5 - CompactPCI I/O

	ROW A	ROW B	ROW C	ROW D	ROW E
1	NC	IDE0: RESET#	IDE0:D7	IDE0:D8	IDE0:D6
2	IDE0:D 9	IDE0:D5	IDE0:D10	IDE0:D4	IDE0:D11
3	IDE0:D3	IDE0:D12	IDE0:D2	IDE0:D13	IDE0:D1
4	IDE0:D14	IDE0:D0	GND	IDE0:D15	IDE0: IRQ14
5	IDE0: DREQ	IDE0: IORDY	IDE0: IOW#	IDE0: DACK#	IDE0: IOR#
6	IDE0:IOCS16#	VGA:VCYNC	IDE0: PDIAG#	IDE0: A0	IDE0: A2
7	IDE0: CS1#	IDE0: CS3#	IDE0: A1	IDE1: SDIAG#	FD: DRVENO#
8	FD: DRVEN1#	FD: INDEX#	FD: MTR0#	FD: DS1#	FD: DS0#
9	FD: MTR1#	FD: DIR#	FD: STEP#	FD: WDATA#	FD: WGATE#
10	FD: TRK0#	FD: WRTPRT#	FD: RDATA#	FD: HDSEL#	FD: DSKCHG#
11	COMB: DCD	VGA:BLUE	COMB: RXD#	COMB: DSR	COMB: TXD#
12	COMB: RTS	COMB: CTS	COMB: RI	VGA: H110EN	COMB: DTR
13	COMA: DCD	NC	COMA: RXD#	COMA: DSR	COMA: TXD#
14	COMA: RTS	COMA: CTS	COMA: RI	VGA: HSYNC	COMA: DTR
15	LPT: SELECT	LPT: PE	LPT: BUSY	LPT: ACK#	LPT: D7
16	LPT: D6	LPT: D5	LPT: D4	LPT: D3	LPT: SLCTIN#
17	LPT: D2	LPT: INIT#	LPT: D1	LPT: ERROR#	LPT: D0
18	LPT: AUTOFEED#	USB1: D+	USB1:D-	USB0: GND	USB0: VCC
19	LPT: STROBE#	USB1: GND	USB1: VCC	USB0: D+	USB0: D-
20	VGA:I2CCLK	NC	NC	VGA: RED	NC
21	KBD: DATA	KBD:CLK	KBD: VCC	MDATA	MCLK
22	NC	VGA:GREEN	NC	VGA:I2CDATA	SPK_OUT

Floppy Disk J10 - 4HP J5, J12 - 8HP

Odd Pin Number							
1-15, 19-25, 31	GND			8	INDEX #	22	WRITE DATA #
4,6, 17, 27	Not Conn.			10	MOTOR ON 0#	24	WRITE GATE#
29	N.C.			12	DRIVE SEL. 1#	26	TRACK 0 #
Even Pin Number				14	DRIVE SEL. 0#	28	WRITE PROTECT#
2	DRV DENS.SEL.0 #			16	MOTOR ON 1#	30	READ DATA#
6	DRV DENS.SEL.1 #			18	DIR CONTRO #	32	HEAD SELECT#
				20	STEP #	34	DSKCHG#

J12 - Primary IDE - J13 - Secondary IDE (4HP)
J6, J13 - Primary IDE - J3, J7, J14 - Secondary IDE (8HP)

Odd Pin Number							
1	RESET#	25	IOR #	39	ACTLED	30	GND
3-17	D7-D0	27	IOCHRDY	**Even Pin Number**		32	IOCS#16
19	GND	29	DMACK#	2,22-26	GND	34	PDIAG#
21	DMA_REQ	31	J12-IRQ14,J13- IRQ15	4-18	D8-D15	36	A2
23	IOW #	33, 35	A1, A0	20	N.C.	38	CS 3 #
		37	CS1#	28	CSEL[1]	40	GND

[1] 470 ohm pull-down

COM A - D
J23 / 21 / 20 / 18 - (4HP)
J19 / 18 / 17 / 16 (8HP)

1	DCD#	2	RXD#
3	TXD#	4	DTR#
5	GND	6	DSR#
7	RTS #	8	CTS#
9	RI#		

Hard Disk Power
J14 - (4HP) J15 - (8HP)

1	VCC_KBD	6	GND
2	PS2_MDATA	7	GND
3	PS2_MCLK	8	VCC
4	VCC	9	VCC
5	VCC	10	GND

J22 - Speaker and I2C (4HP)

1	VCC_KBD
2	SPEAKER
3	I2C DATA
4	I2C CLK

J22

Parallel Port /Standard
J9 (4HP) J11 (8HP)

Odd		Even	
1	STROBE#	2	AUTOFD#
3-17	[PD0-PD7]	4	ERROR#
19	ACK#	6	INIT#
21	BUSY	8	SELECTIN#
23	PE	10-26	GND
25	SELECT		

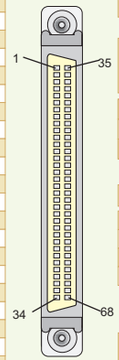
For Technical Support please contact:

1. Internet: www.kontron.com
2. E-Mail: support@ca.kontron.com
3. Fax: (450) 437-8053
4. Tel: (800) 354-4223

EXTERNAL

J15, J16 - SCSI 3 LVD (4HP)
J15 - Internal J16 - External

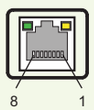
1	SD12+	35	SD12-
2	SD13+	36	SD13-
3	SD14+	37	SD14-
4	SD15+	38	SD15-
5	SDPH+	39	SDPH-
6	SD0+	40	SD0-
7	SD1+	41	SD1-
8	SD2+	42	SD2-
9	SD3+	43	SD3-
10	SD4+	44	SD4-
11	SD5+	45	SD5-
12	SD6+	46	SD6-
13	SD7+	47	SD7-
14	SDPL+	48	SDPL-
15	GND	49	GND
16	DIFFSENS	50	DIFFSENS
17	TERMPWR	51	TERMPWR
18	TERMPWR	52	TERMPWR
19	N.C.	53	N.C.
20	GND	54	GND
21	SATN+	55	SATN-
22	GND	56	GND
23	SBSY+	57	SBSY-
24	SACK+	58	SACK-
25	SRESET+	59	SRESET-
26	SMSG+	60	SMSG-
27	SSEL+	61	SSEL-
28	SCD+	62	SCD-
29	SREQ+	63	SREQ-
30	SIO+	64	SIO-
31	SD8+	65	SD8-
32	SD9+	66	SD9-
33	SD10+	67	SD10-
34	SD11+	68	SD11-



J17 - Ethernet 1 & 2 (4HP)

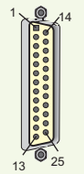
1	TX+	5	RJ1[1]
2	TX-	6	RX-
3	RX+	7	RJ2 [1]
4	RJ1[1]	8	RJ2 [1]

[1] Lines terminated with 75 ohm resistors



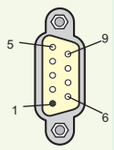
Parallel Port (Standard)
J1 (8HP)

1	STROBE#	14	AUTOFD#
2-9	D0-PD7	15	ERROR#
10	ACK#	16	INIT#
11	BUSY	17	SELECTIN#
12	PE	18-25	GND
13	SELECT		



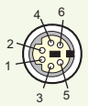
COM A, B, C, D
J10, J9, J8, J4 (8HP)

1	DCD#	2	RXD#
3	TXD#	4	DTR#
5	GND	6	DSR#
7	RTS#	8	CTS#
9	RI#		



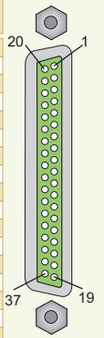
J2 -PS/2 Mouse (4HP)
J2 -PS/2 Mouse (8HP)

1	DATA	4	VCC
2	N.C.	5	CLOCK
3	GND	6	N.C.



J19 - Serial Ports (4HP)
(MicroD connector)

1	GND	20	COMD: DTR
2	COMD: RI	21	COMD: TXD#
3	COMD: RXD#	22	COMD: CTS
4	COMD: DCD	23	COMD: RTS
5	COMC: DTR	24	COMD: DSR
6	COMC: TXD#	25	COMC: RI
7	COMC: RXD#	26	COMC: CTS
8	COMC: DCD	27	COMC: RTS
9	COMC: DSR	28	GND
10	GND	29	COMB: DTR
11	COMB: RI	30	COMB: TXD#
12	COMB: CTS	31	COMB: RXD#
13	COMB: RTS	32	COMB: DCD
14	COMB: DSR	33	COMA: DTR
15	COMA : RI	34	COMA: TXD#
16	COMA: CTS	35	COMA: RTS
17	COMA: DSR	36	COMA: RXD#
18	COMA: DCD	37	GND
19	GND		



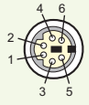
J6. J7 - USB2, USB1 (4HP)

USB0_VCC	1	1	USB1_VCC
USB0_D-	2	2	USB1_D-
USB0_D0+	3	3	USB1_D0+
USB0_GND	4	4	USB1_GND



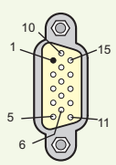
J8 -PS/2 Keyb. & Mouse (4HP)

1	KBDATA	4	VCC
2	MDATA	5	KBCLOCK
3	GND	6	MCLOCK



J11 - Video SVGA (4HP)

Row One (1-5)		9	VCC
1	RED	10	GND
2	GREEN	**Row 3 (11-15)**	
3	BLUE	11	Not Conn.
4	Not Conn.	12	SDATA
5	Gnd	13	HSYNC
Row 2 (6-10)		14	VSYNC
6-8	A_GND	15	SCLK



HDD Configuration Table

Primary Channel					Secondary Channel				
RTM	**HDD on SBC**	**40-pin connect # Cable Wires**	**Maximum Speed**	**Notes**	**RTM**	**HDD on SBC**	**40-pin connect # Cable Wires**	**Maximum Speed**	**Notes**
4HP-8HP	None	40 Wires	PI0 Mode 4		4HP	Not Used	40 Wires	UDMA-33	
4HP-8HP	None	80 Wires	UDMA-33		4HP	Not Used	80 Wires	UDMA-66	
4HP-8HP	Yes	40 Wires	PIO Mode 4		8HP	Not Used	Mezzanine (Disks 2.5")	UDMA-66	BIOS Option for DMA66
4HP-8HP	Yes	80 Wires	Not Used	PDIAGS open on cable					
4HP-8HP	Yes	No Disk	DMA-66						

M1072_QR

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