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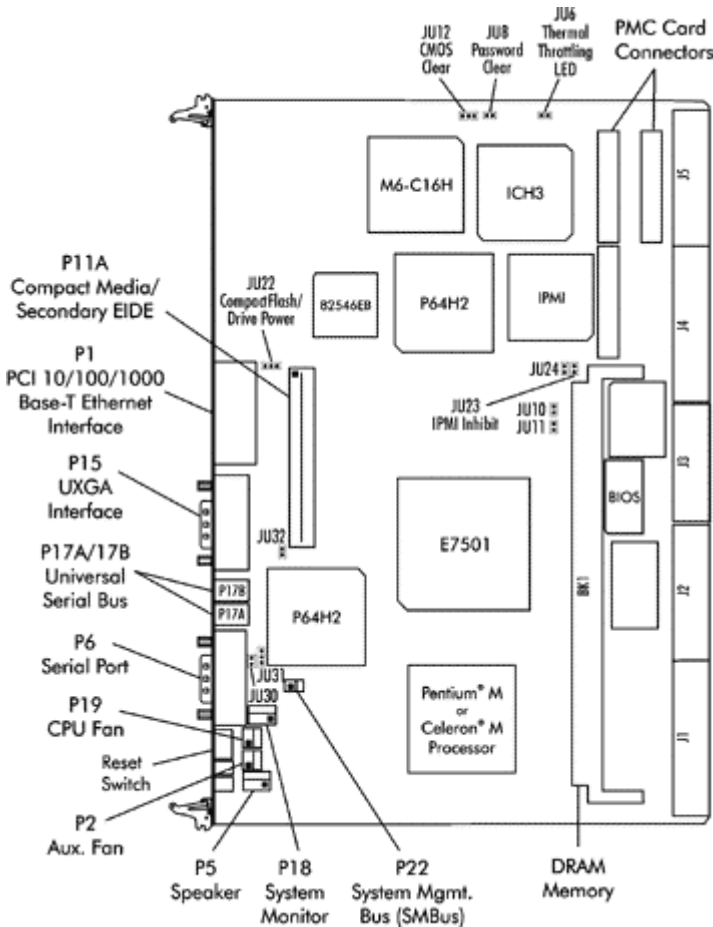Sales (800) 875-6031 • Phone (770) 287-3100 • Fax (770) 287-3150

Technical Information – Jumpers, Connectors and Memory
CP10 (6420-xxx) System Host Board

Layout Diagram

Jumpers & LEDs

The setup of the configuration jumpers on the SHB is described below. An asterisk (*) indicates the default value of each jumper.

NOTE: For two-position jumpers (3-post), "LEFT" and "RIGHT" are defined with the bracket end of the board to the left, the edge connectors to the right.

JU6   **Thermal Throttling Activity LED**
If the processor core gets to a critical temperature, it slows itself down to half its normal speed. This jumper sets the way in which the LED displays in response to this self-limiting mode.

Install for real-time activity. The LED lights only when the processor is operating in slow-power mode. *

Remove for latched activity. The LED lights and stays on once the processor has gone into slow-power mode.
NOTE: Critical temperature is determined by the processor and cannot be altered by the user.

JU8   **Password Clear**
Install for one power-up cycle to reset the password to the default (null password).
Remove for normal operation. *

JU10/11 SYSTEM FLASH ROM OPERATIONAL MODES

The Flash ROM has two programmable sections: the Boot Block for "flashing" in the BIOS and the Main Block for the executable BIOS and PnP parameters. Normally only the Main Block is updated when a new BIOS is flashed into the system.

	JU10	JU11
All Blocks Write Enabled	Remove *	Remove *
Boot Block Write Protected	Install	Remove
Block 2-16 Write Protected	Remove	Install

JU12 CMOS Clear

Install on the LEFT to operate. *
Install on the RIGHT to clear.

NOTE: The CMOS Clear jumper works on power-up. To clear the CMOS, power down the system, install the jumper, then turn the power back on. Wait for at least two seconds and turn the power off. Then remove the jumper and turn the power on. When AMIBIOS displays the "CMOS Settings Wrong" message, press F1 to go into the BIOS Setup Utility, where you may reenter your desired BIOS settings, load optimal defaults or load failsafe defaults.

JU22 CompactFlash T /Drive Power

JU22 determines the voltage supplied to the device connected to connector P11A. The device may be a Compact Media Daughter Card (CMDC), a Hard Drive Adapter Kit (HDAK) or a conventional IDE drive. The CMDC supports either a CompactFlash T or Microdrive® storage device. The HDAK supports a laptop IDE hard drive.

Install on the LEFT to supply +5 volts to the CMDC or HDAK. *
Install on the RIGHT to supply +3.3 volts to the CMDC.

Remove to use a conventional IDE drive.

JU23 IPMI Inhibit

Install to inhibit IPMI functionality.
Remove to enable IPMI functionality. *

NOTE: On SBCs with revision J-03 and later, the JU23 2-pin header is not populated on non-IPMI versions of the processor board. On IPMI versions of the SBC with revision J-03 and later, the 2-pin header is populated but the jumper shunt *must* remain uninstalled.

On revisions of the CP16 prior to J-03, this 2-pin header was populated on both IPMI and non-IPMI SBCs; the default was **Installed** (IPMI functionality inhibited). If you have one of these earlier SBC models which has JU23 and does support IPMI, remove the jumper to enable IPMI functionality.

JU24 Maximum PCI-X Speed to PMC

This jumper sets the maximum PCI-X speed for the on-board PCI/PCI-X Bus to the optional PMC card. Other speeds and modes for PMC are determined dynamically by the PMC card.

This jumper should remain at the factory setting of 133MHz, i.e., removed.

Remove for a maximum PCI-X speed of 133MHz. *
Install for a maximum PCI-X speed of 100MHz.

NOTE: The JU24 jumper is included on SBCs with revision J-03 and later.

JU30/31 CompactPCI® Bus Mode to Backplane

These jumpers set the mode for the on-board CompactPCI Bus to the backplane.

The jumpers should remain at the factory setting as follows:

	JU30	JU31
PCI 66MHz	Install *	Right *

NOTE: The JU30 and JU31 jumpers are included on SBCs with revision J-03 and later.

JU32   Front Side Bus (FSB) Speed
This jumper *must* be installed for the 400MHz Front Side Bus (FSB).

NOTE: The JU32 jumper is included on SBCs with revision J-03 and later.

ETHERNET LEDS AND CONNECTORS

The Ethernet interface has two LEDs for status indication and an RJ-45 network connector.

LED/Connector	Description
Activity LED	Green LED which indicates network activity. This is the lower LED on the LAN connector (i.e., Toward the edge connectors).
Off =	Indicates there is not a valid connection. Transmit and receive are not possible.
On = (solid)	Indicates a link has successfully been established.
On = (flashing)	Indicates network transmit or receive activity.
Speed LED	Yellow LED which identifies the connection speed. This is the upper LED on the LAN connector (i.e., toward the memory sockets).
Off =	Indicates a 10Mb/s connection.
On (solid) =	Indicates a 1000Mb/s connection.
On (flashing) =	Indicates a 100Mb/s connection. The LED blinks Twice per second.
RJ-45 Network Connector	The RJ-45 network connector requires a category 5 (CAT5) unshielded twisted-pair (UTP) 2-pair cable for a 100-Mb/s network connection or a category 3 (CAT3) or higher UTP 2-pair cable for a 10-Mb/s network connection. A category 5e (CAT5e) or higher UTP 2-pair cable is recommended for a 1000-Mb/s (Gigabit) network connection.

Connectors

NOTE:

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

P1 - 10/100/1000Base-T Ethernet Connectors - LAN1/LAN2

Dual RJ-45 connector, Amp/Tyco #1116353-4
Each individual RJ-45 connector is defined as follows:

PIN	SIGNAL	PIN	SIGNAL
1	TRP1+	5	TRP3-
2	TRP1-	6	TRP2-
3	TRP2+	7	TRP4+
4	TRP3+	8	TRP4-

P2 - Auxiliary Fan

3 pin single row header, Molex #22-23-2031

PIN	SIGNAL
1	Gnd
2	+12V
3	FanTach

P5 - SPEAKER PORT CONNECTOR

4 pin single row header, Amp #640456-4

PIN	SIGNAL
1	Speaker Data
2	Key
3	Gnd
4	+5V

P6 - SERIAL PORT CONNECTOR

9 position "D" right angle, Spectrum #56-402-001

PIN	SIGNAL	PIN	SIGNAL
1	Carrier Detect	6	Data Set Ready-I
2	Receive Data-I	7	Request to Send-O
3	Transmit Data-0	8	Clear to Send-I
4	Data Terminal Ready-0	9	Ring Indicator-I
5	Signal Gnd		

P15 - PCI VIDEO INTERFACE CONNECTOR

15 pin HD15 connector, Amp #1-1470250-3

PIN	SIGNAL	PIN	SIGNAL	PIN	SIGNAL
1	Red	6	Gnd	11	NC
2	Green	7	Gnd	12	EEDI
3	Blue	8	Gnd	13	HSYNC
4	NC	9	+5V	14	VSYNC
5	Gnd	10	Gnd	15	EECS

P17A - UNIVERSAL SERIAL BUS (USB) CONNECTOR

4 USB vertical connector, Molex #67-329-0000
(+5V fused with self-resetting fuse)

PIN	SIGNAL
1	+5V - USB1
2	USB1-
3	USB1+
4	Gnd - USB1

P17B - UNIVERSAL SERIAL BUS (USB) CONNECTOR

4 USB vertical connector, Molex #67-329-0000
(+5V fused with self-resetting fuse)

PIN	SIGNAL
1	+5V - USB0
2	USB0-
3	USB0+
4	Gnd - USB0

P18 - SYSTEM HARDWARE MONITOR CONNECTOR

4 pin single row header, Amp #640456-4

PIN	SIGNAL
1	Gnd
2	GPO (General Purpose Output)
3	CI (Chassis Intrusion Input)
4	OVT (Over Temperature)

P19 - CPU FAN

3 pin single row header, Molex #22-23-2031

Connectors (Continued)

P11A - SECONDARY IDE HARD DRIVE CONNECTOR

40 pin dual row header, 3M #30340-6002HB

PIN	SIGNAL	PIN	SIGNAL
1	Reset	2	Gnd
3	Data 7	4	Data 8
5	Data 6	6	Data 9
7	Data 5	8	Data 10
9	Data 4	10	Data 11
11	Data 3	12	Data 12
13	Data 2	14	Data 13
15	Data 1	16	Data 14
17	Data 0	18	Data 15
19	Gnd	20	NC
21	DRQ 1	22	Gnd
23	IOW	24	Gnd
25	IOR	26	Gnd
27	IORDY	28	SELPDS
29	DACK 1	30	Gnd
31	IRQ15	32	NC
33	Add 1	34	SCBL DET *
35	Add 0	36	Add 2
37	CS 1S	38	CS 3S
39	IDEACTS	40	Gnd

* For ATA/66 and ATA/100 drives, which should be set for Cable Select for proper speed operation. If other drives are detected, pin definition is Gnd.

PIN	SIGNAL
1	Gnd
2	+12V
3	FanTach

P22 - SYSTEM MANAGEMENT BUS CONNECTOR

2 pin single row header, Amp #640456-2

PIN	SIGNAL
1	SMB Clock
2	SMB Data

Memory

The Double Data Rate (DDR) memory interface consists of a single channel which terminates in a dual in-line memory module (DIMM) socket and supports auto detection of up to 2GB of memory. The System BIOS automatically detects memory type, size and speed.

The SBC uses industry standard 72-bit wide gold finger PC1600 or PC2100 memory modules in a 184-pin DIMM socket.

NOTE: Modules may be either PC1600 or PC2100; sizes can range from 128MB to 2GB. Because the memory interface consists of a single channel, the SBC has a maximum memory bandwidth of 1600MB/s. All memory modules must have gold contacts.

The SBC supports DIMMs which are PC1600/PC2100 compliant and have the following features:

- 184-pin with gold-plated contacts
- ECC (72-bit) DDR memory
- Registered configuration
- X4, x8 construction
- Non-stacked (NS)

NOTE: Trenton recommends using non-stacked DIMM modules in order to avoid potential physical interference on the SBC which may occur when using stacked memory.

DIMM Size	DIMM Type	ECC	Component Construction
128 MB	Registered	16M x 72	x4, x8, NS
256 MB	Registered	32M x 72	x4, x8, NS
512 MB	Registered	64M x 72	x4, x8, NS
1 GB	Registered	128M x 72	x4, x8, NS
2 GB	Registered	256M x 72	x4, x8, NS