PCM-3430

Notice:

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

Safety   Precautions

Warning! *Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.*

Caution! *Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.*

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Specification

- LSI SYM53C895 PCI-to-Ultra 2 SCSI I/O Processor

- Performs SCSI data transfers up to 80 MB/s, synchronous operations on a wide LVD SCSI bus

- Allows total SCSI cable lengths up to 12 meters

- Allows up to 15 LVD SCSI devices on this wide bus

- Complete software solution with BIOS and drivers

- Drivers are available for DOS, Novell, Netware, Windows NT, UnixWare, Windows 95/98, OS/2 and SCO Opensaver

- Power requirement: +5V

- Dimentions: 3.55" (L) x 3.75" (W) (90mm x 96mm)

- Operating temperature: 32 to 140 $^{\circ}$F (0 to 60° C)

Quick Installation Guide

Introduction

The PCM-3430 is featured with the Symbios SYM53C895 Small Computer System Integrated chip, PC/104 and PC/104 Plus connection capability. Onboard offers a designated BIOS single-chip for customer modification.

SYM53C895 PCI/SCSI I/O is a high performance processor that will add signifcant improvement to your PCI system. SCSI Ultra 2 will support three different types of SCSI from Fast SCSI, to LVD Ultra 2 SCSI and also Ultra SCSI. The benefit of PCM-3430 is the SCSI chip can process data and coordinate up to 15 devices which are simultaneously connected to your mainframe. SCSI is able to carry out this task through the PCI bus.

SYM53C895 Ultra 2 SCSI implements the LVDlink transceivers, this technology allows for low voltage differential transfer. Less power is used allowing for less noise interference and the transfer of data becomes clearer which will lead to a longer cable.

PC/104 is a connection process where 104 signal pins are attached to 104 ports on two different buses. PC/104 no longer incorporates the ISA/PISA bus connection method. This new method of connection between PC boards or with compact boards has lead to smaller demensions in board manufacturing.

PC/104 Plus is a connection process where 120 signal pins are attached to 120 ports on one large bus.

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Before You Begin

Symbios the vendor of the SCSI single chip encourages saving all current data. In case of failure this will insure that precious information will still be stored elsewhere.

This manual assumes the user is familiar with basic O/S, DOS, IBM compatibility and proposed standards for SCSI and PCI. Prior to installing the SCSI driver we recommend connecting your system to the SCSI controller. Keep in mind you must also assign a ID code for each device used in your system.

SCSI ID Codes for attached Devices

PCM- 3430 allows up to 15 devices to be connected to your controller. With so many items running simultaneously SCSI must assign a ID code for each device. If however the system you are using is set in the **automatic mode (SCAM)** you will not have to do so. There are 16 ID numbers ranging from 0 to 15. ID number 7 is allocated to the SCSI card. The hard drive must be given the lowest ID number. Your other peripheral devices are either set with jumpers or a switch. Refer to the manufacturer's manual to assign a ID number for each device.   If you are able to use the **boot specification (BBS)** then the hard drive will not require the lowest ID number.

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Setting the SCSI Adapter

To readjust the setting on the SCSI adapter first you must enter the
SCSI BIOS. Once you have pulled up the SCSI BIOS srceen. You
will find a list of instructions at the bottom of your window. Your
options for setting the SCSI adapters are as follows: configure/view
host adapter setting/SCSI CD utilities.

SCSI Termination

In order to stabilize communication, initial termination of the SCSI
bus must be performed. Terminations must be installed at the
extreme ends of the SCSI cable, and only at the ends. Your system
should have no more than or less than two terminators connected
and active. The peripheral devices that are connected between the
two terminators must have their terminators disabled or removed.
To ensure accidental removel the terminators should be shocketed.

If connecting mutiple devices on the SCSI bus. Those devices that
are located between the two main terminators must have their
terminators deactivated. Located below are some guidelines for
your reference:

• Usually the CPU card itself is automatic in termination.

• Nearly all non-Ultra 2 SCSI devices are manufactured with their
  termination enabled.

• Internal Ultra 2 SCSI devices are manufactured with their
  termination enabled and can't be changed.

• External SCSI devices may have a switch located in the rear for
  termination. If not, they can be terminated by removing or
  installing a SCSI terminator.

• Internal SCSI devices can be terminated by simply setting a
  jumper or switch. They may also be terminated by installing or
  removing a resistor module.

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Locating Jumpers and Connectors
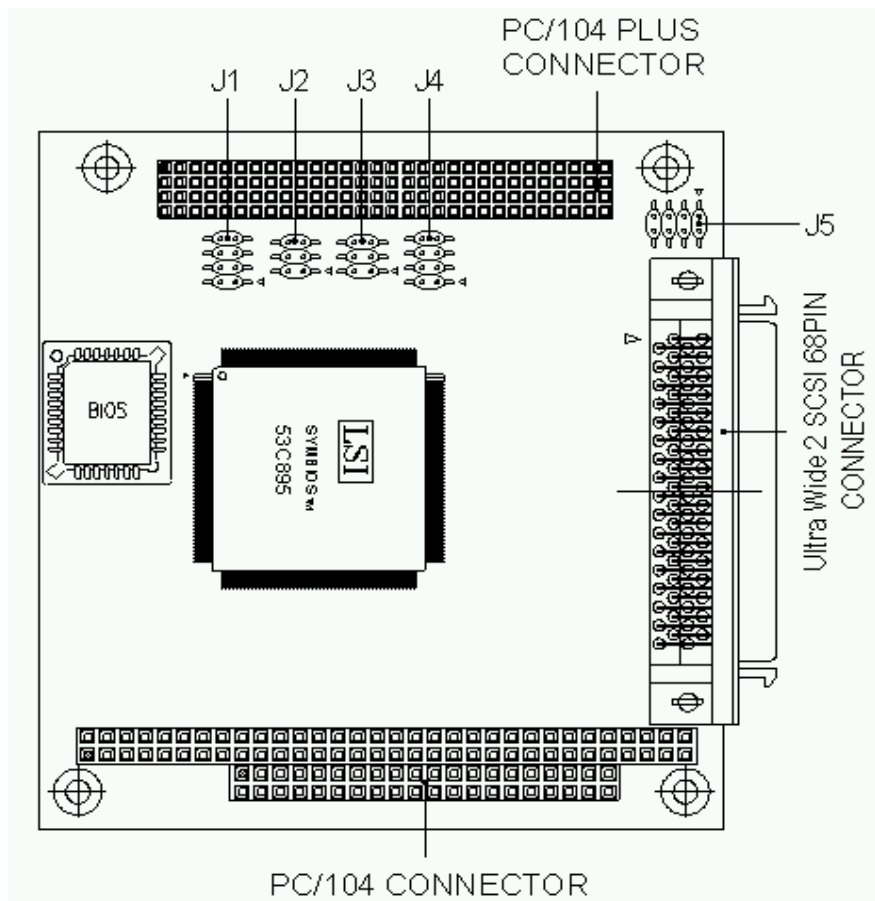
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Jumpers and Connectors

Name	Function
Ultra Wide 2 SCSI	68 Pin connector
PC/104 Plus	120 Pin connector
PC/104	104 Pin connector
J1	SCSI ID Select (JP1)
J2	Request Signal Select (JP2)
J3	Grant Signal Select (JP3)
J4	PCI Clock Select (JP4)
J5	Interrupt Request Select (JP5)

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SCSI-2   68-PinConnector

PCM-3430 has a 68 pin connector for the Ultra 2 SCSI connection. Please pay attention when connecting the SCSI device, because you must determine the last device on the SCSI chain.

PIN	FUNCTION	PIN	FUNCTION
1	SD+12	35	SD-12
2	SD+13	36	SD-13
3	SD+14	37	SD-14
4	SD+15	38	SD-15
5	SDP+1	39	SDP-1
6	SD+0	40	SD-0
7	SD+1	41	SD-1
8	SD+2	42	SD-2
9	SD+3	43	SD-3
10	SD+4	44	SD-4
11	SD+5	45	SD-5
12	SD+6	46	SD-6
13	SD+7	47	SD-7
14	SDP + 0	48	SDP - 0
15	GND	49	GND
16	DIFS	50	SENIN
17	TPWEX	51	TPWEX
18	TPWEX	52	TPWEX
19	NC	53	NC
20	GND	54	GND
21	SATN+	55	SATN-
22	GND	56	GND
23	SBSY+	57	SBSY-
24	SACK+	58	SACK-
25	SRST+	59	SRST-
26	SMSG+	60	SMSG-
27	SSEL+	61	SSEL-
28	SCD +	62	SCD-
29	SREQ+	63	SREQ-
30	SIO+	64	SIO-
31	SD+8	65	SD-8
32	SD+9	66	SD-9
33	SD+10	67	SD-10
34	SD+11	68	SD-11

SCSI ID Select (JP1)

(JP 1)

PIN	SIGNAL	PIN	SIGNAL
1	IDSEL O	2	SCS ID
3	IDSEL 1	4	SCS ID
5	IDSEL 2	6	SCS ID
7	IDSEL 3	8	SCS ID

Request Signal Select (JP2)

(JP2)

PIN	SIGNAL	PIN	SIGNAL
1	PREQ#0	2	PREQ#
3	PREQ#1	4	PREQ#
5	PREQ#2	6	PREQ#

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Grant Signal Select (JP3)

(JP3)

PIN	SIGNAL	PIN	SIGNAL
1	PGNT#0	2	PGNT#
3	PGNT#1	4	PGNT#
5	PGNT#2	6	PGNT#

PCI Clock Select (JP4)

(JP4)

PIN	SIGNAL	PIN	SIGNAL
1	PCICLK 0	2	PCI Clock Select
3	PCICLK 1	4	PCI Clock Select
5	PCICLK 2	6	PCI Clock Select

Interrupt Request Select (JP5)

(JP5)

PIN	SIGNAL	PIN	SIGNAL
1	PIRQ#0	2	#PIRQ
3	PIRQ#1	4	#PIRQ
5	PIRQ#2	6	#PIRQ
7	PIRQ#3	8	#PIRQ

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