PCM-4896

All-in-One Single Board NS Geode GX1 computer with LCD, Ethernet, Audio, & 4 COMs

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.*

PCM-4896

Locating Jumpers and Connectors
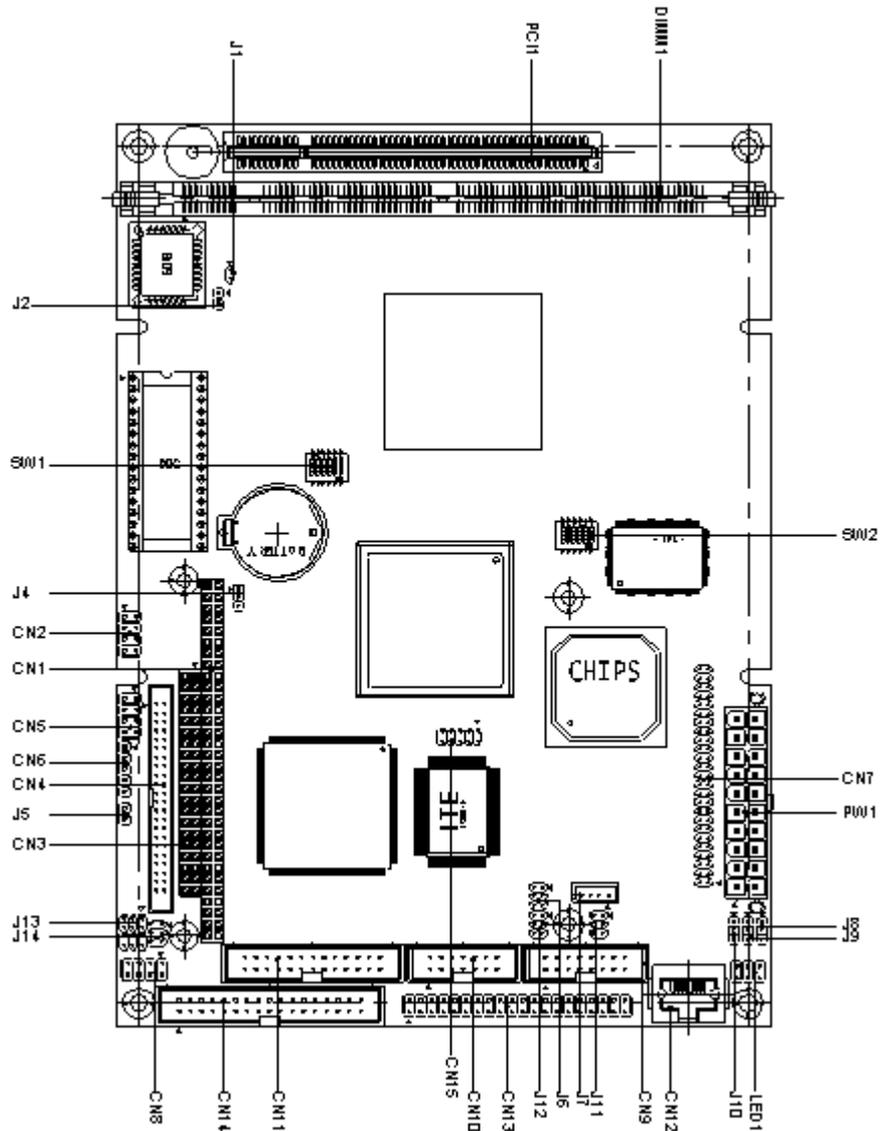
Quick Installation Guide

Mechanical Drawing
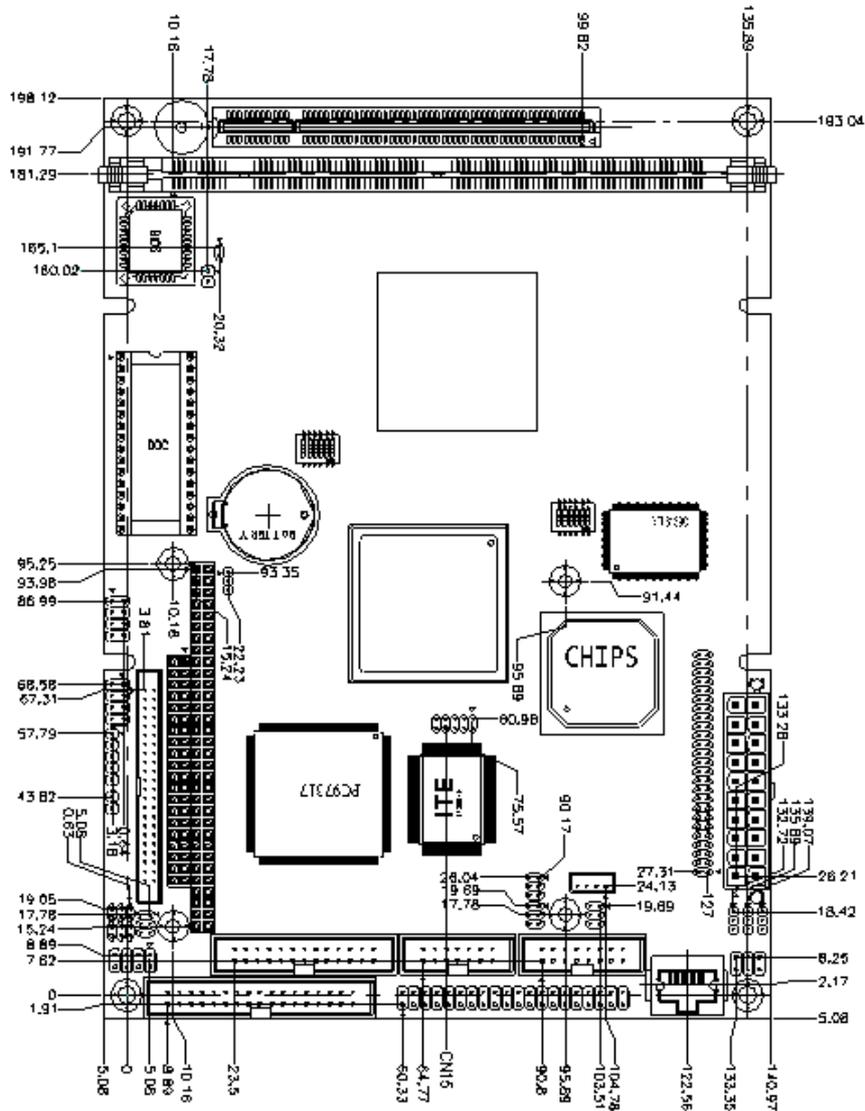
PCM-4896

Jumpers and Connectors

Connectors on the board link themselves to the external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

The following tables list the function of each jumper and connector on the board.

Jumpers

Label	Function
J1	Internal buzzer select
J4	Clear CMOS
J5	ATX soft-power switch connector
J6	Audio output select
J8	LCD driving voltage select
J9	LCD clock select
J10	Audio Power (default: 1-2 close)
J11	COM4 RI pin voltage select
J12	COM3 RI pin voltage select
J13	COM2 RS232/422/485 setting
J14	COM2 RS232/422/485 selection
SW1 (1~3)	CPU frequency ratio
SW1 (5, 6)	DOC address select
SW2 (1)	CPU clock select

Quick Installation Guide

Connectors	
Label	**Function**
CN1	PC/104 connector
CN2	USB ports connector
CN4	IDE drive connector
CN5	Front panel connector
CN6	IrDA connector
CN7	LCD display connector
CN8	Keyboard and PS/2 mouse connector
CN9	VGA display connector
CN10	Audio connector
CN11	Printer port connector
CN12	100Base-Tx Ethernet connector
CN13	Serial ports connector
CN14	Floppy dirve connector
CN15	Digital I/O connector
PW1	ATX power connector
J7	CD-ROM signal input connector
LED1	Ethernet Tx/Rx/Link LED connector
U4	DiskOnChip socket

Internal Buzzer Select (J1)

Internal Buzzer Select (J1)		
	Internal Buzzer	**External Speaker**
J1	●━● 1 2	○ ○ 1 2

Clear CMOS (J4)

You can use J4 to clear the CMOS data if necessary. To reset the CMOS data, set J4 to pin 2-3 closed for just a few seconds, and then move the jumper back to pin 1-2 closed.

Clear CMOS (J4)		
	Protect*	**Clear CMOS**
J4	1 ● 2 ● 3 ○	1 ○ 2 ● 3 ●

*default

ATX Soft-Power Switch Connector (J5)

The ATX Soft-Power switch connector is a 2-pin header. Please plug the power switch cable from your system to the Soft-Power switch connector marked J5.

Quick Installation Guide

Audio Output Select (J6)

You can select the output mode of onboard audio connector (CN10) by setting J6.

"Speaker out" is the output signal amplified by onboard amplifier

Audio Output Select (J6)

	Line out*	Speaker out
J6	2 ▮▮ 1 4 ▮▮ 3 6 ○○ 5	2 ○○ 1 4 ▮▮ 3 6 ▮▮ 5
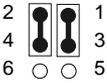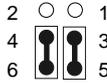
*default

CD Audio connector (J7)

This connector is used to connect to a CD audio cable.

CD Audio Connector (J7)

Pin	Signal
1	GND
2	CD_L
3	GND
4	CD_R

LCD Driving Voltage Select (J8)

You can select the LCD connector CN7 (pin 5 and pin 6) driving voltage by setting J8. The configurations are as follows:

LCD Driving Voltage Select (J8)

	5V	3.3V *
J8	●━● ○ 1 2 3	○ ●━● 1 2 3

*default

PCM-4896

LCD Clock Signal Select (J9)

You can select the LCD control signal by setting J9. The following chart shows the available option.

LCD Clock Signal Select (J9)		
	SHF CLK *	ASHF CLK
J9	○ ●━● 1 2 3	●━● ○ 1 2 3

*default

Audio Power Setting (J10)

The default setting is pin1 and pin 2 closed to offer audio power.

Audio Power Setting (J10)		
	Vcc *	No used
J10	●━● ○ 1 2 3	○ ●━● 1 2 3

*default

Quick Installation Guide

COM3/COM4 RI Pin Voltage Select (J12, J11)

The 9th pin of COM3 and COM4 (9-pin D-sub connector) can be selected as RI, +5V, or +12V by setting J12 & J11.

COM3 RI Pin Setting (J12)

	RI*	+5V	+12V
J12	1 3 5 / 2 4 6	1 3 5 / 2 4 6	1 3 5 / 2 4 6

COM4 RI Pin Setting (J11)

	RI *	+5V	+12V
J11	1 3 5 / 2 4 6	1 3 5 / 2 4 6	1 3 5 / 2 4 6

*default

COM2 RS-232/422/485 select (J13, J14)

The PCM-4896 COM2 serial port can be selected as RS-232, RS-422, or RS-485 by setting J13 & J14.

COM2 Select (J13, J14)

	RS-232*	RS-422	RS-485
J13	1 4 7 10 / 3 6 9 12	1 4 7 10 / 3 6 9 12	1 4 7 10 / 3 6 9 12
J14	1 3 5 / 2 4 6	1 3 5 / 2 4 6	1 3 5 / 2 4 6

*default

PCM-4896

SW1 (1~3)   CPU frequency ratio

The GX1 CPU core frequency = CPU frequency ratio (4~10X) * External CPU clock (33 or 30MHz). the following table shows the available cnfigurations.

SW1 Ratio	1	2	3
4X	ON	ON	ON
5X	ON	OFF	OFF
6X	OFF	ON	OFF
7X	OFF	OFF	ON
9X	ON	OFF	ON
10X	ON	ON	OFF

SW2 (1)   CPU clock select

You can configure the CPU external clock to 33MHz or 30MHz by setting SW2(1).

SW2 Freq.	1
33MHz	ON
30MHz	OFF

Any CPU setting change is strongly prohibited!!

Quick Installation Guide

GX1 CPU jumper setting examples

SW / CPU	SW1-1	SW1-2	SW1-3		SW2-1
180 MHz	OFF	ON	OFF		OFF
200 MHz	OFF	ON	OFF		ON
233 MHz	OFF	OFF	ON		ON
266 MHz	ON	OFF	ON		OFF
300 MHz	ON	ON	OFF		OFF

Any CPU setting change is strongly prohibited!!

DOC address select SW1 (5, 6)

The DiskOnChip 2000 occupies an 8 K byte window in the upper memory address range of D400 to E000. You should ensure this does not conflict with any other device's memory address.

The configuration are as follows:

SW1 / Address	5	6
Disable	ON	ON
D400	OFF	OFF
D800	ON	OFF
DC00	OFF	ON

These addresses might conflict with the ROM BIOS of other peripheral boards. Please select the appropriate memory address to avoid memory conflicts.

PCM-4896

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