

PCM-5820 Series Pentium® SBC with CPU, VGA/LCD, Ethernet & Audio Interface

Startup Manual

Packing List

Before you begin installing your board, please make sure that the following materials have been shipped:

- 1 PCM-5820 Series all-in-one single board computer
- 1 startup manual
- 1 utility disk/CD driver, and manual (in PDF format)
- 1 2.5" IDE flat cable, 44-pin to 44-pin (part no. 1701440351)
- 1 keyboard / PS2 mouse cable (part no. 1700060201)
- 1 secondary serial port cable (part no. 1701140201)
- 1 parallel cable (part no. 1700260250)
- 1 floppy cable, for 3.5" FDD only (part no. 1701340602)
- 1 audio cable (part no. 1700160160)
- 1 USB cable (part no. 1703100260)

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Note 1: For detailed contents of the PCM-5820 Series please refer to the enclosed CD-ROM or disk (in PDF format).

Note 2: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: www.adobe.com/Prodindex/acrobat/readstep.html (Acrobat is a trademark of Adobe.)

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>
<http://www.advantech.com/epc>

For technical support and service, please visit our support website at:

<http://support.advantech.com>

This manual is for the PCM-5820L Rev. A103 or higher, the PCM-5820E Rev. A101 or higher, or the PCM-5822 Rev. A101.

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Specifications

Standard SBC Functions

- **CPU:**
Embedded NS GXM-233 processor (PCM-5820/5820L)
Embedded NS GXM-200 processor (PCM-5820E/5822)
- **BIOS:** AWARD 256 KB Flash memory
- **System memory:** One 144-pin SODIMM socket accepts up to 128 MB SDRAM
- **Enhanced IDE interface:** Supports up to two EIDE devices. BIOS auto-detect, PIO Mode 3 or Mode 4 transfer, Ultra DMA33 mode (ATA-4) up to 33 MB/sec
- **FDD interface:** Supports up to two FDDs
- **Serial ports:** One serial RS-232 port, one serial RS-232/422/485 port
- **Parallel port:** One parallel port, supports SPP/EPP/ECP mode
- **Infrared port:** Shared with COM2. Transfer rate up to 115 kbps
- **Keyboard/mouse connector:** Mini-DIN connector supports standard PC/AT keyboard and PS/2 mouse
- **USB interface:** Two USB ports, USB 1.0 compliant
- **Power management:** Supports power saving modes including Normal/Standby/Suspend. APM 1.1 compliant
- **Watchdog timer:** 1.6 sec. intervals

Local-bus Flat Panel/VGA Interface

- **Chipset:** NS CX5530
- **Display memory:** 1 ~ 4 MB share memory, set in BIOS
- **Display type:** Supports CRT and TFT LCDs. Able to display both CRT and flat panel simultaneously
- **Flat-panel display mode:** Panel resolution supports up to 1024 x 768 @ 16 bpp. Supports 18-bit TFT LCD panel
- **CRT display mode:** Non-interlaced CRT monitor resolutions up to 1280 x 1024 @ 256 colors or 1024 x 768 @ 16 bpp

LVDS (Low Voltage Differential Signal) Interface (PCM-5820, PCM-5820L, PCM-5820E only)

- **Chipset:** TI SN75LVDS84 or compatible chipset
- **Performance:** 18 low-voltage TTL data channels ANSI/EIA/TIA-644

TV-out (PCM-5822 only)

- **Chipset:** CHRONTEL CH7003C
- Supports NTSC, NTSC-EIA (Japan) and PAL TV formats
- Provides Composite, S-video, and SCART (optional) outputs via RCA (composite) connector and S-video connector
- Supports 640 x 480 and 800 x 600 input resolutions
- Supports Windows 95/98 and Windows NT driver
- Over-scan, under-scan, and position adjustable
- Auto-detection of TV presence

Audio Function

- **Chipset:** NS CX5530
- **Audio controller:** AC97 version 2.0 compliant interface
- **Audio interface:** Microphone in, Line in, CD audio in, Line out, Speaker L, Speaker R
- **Power:** Accepts +12 V source for improved audio quality

Ethernet Interface (PCM-5820/5820E/5822 only)

- **Chipset:** RTL 8139
- **Ethernet interface:** PCI 10/100 Mbps Ethernet. IEEE 802.3 U protocol compatible
- **Connection:** On-board RJ-45 connector
- **I/O address switchless setting**
- **Built-in boot ROM**

Solid State Disk

- Supports one 50-pin socket for CompactFlash™ card

Mechanical and Environmental

- **Dimensions (L x W):** 145 mm x 102 mm (5.9" x 4.2")
- **Power supply voltage:** +5 V (4.75 V ~ 5.25 V)
- **Power requirements:**
+5 V @ 3 A (typical) (for PCM-5820/5820L)
+5 V @ 1.5 A (typical) (for PCM-5820E/5822)
- **Operating temperature:** 0 ~ 60° C (32 ~ 140° F)
- **Weight:** 0.77 kg (weight of total package)

Jumpers and Connectors

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

The tables below lists the function of each of the board's jumpers and connectors:

Table 2-1: Jumpers

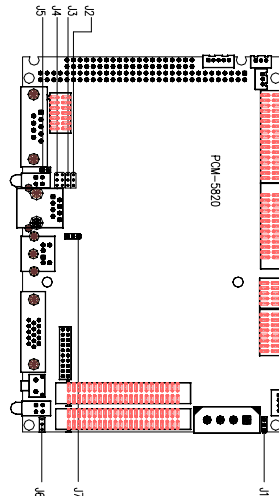
Label	Function
J1	Audio power source setting
J2	Clear CMOS

J3	Watchdog timer action
J4	COM2 setting
J5	Buzzer setting
J6	LCD power selector
J7	Ethernet power select (PCM-5822)

Table 2-2: Connectors

Label	Function
CN1	CD audio input connector
CN2	Floppy disk connector
CN3	Parallel port connector
CN4	USB connector
CN5	Audio connector
CN6	CPU fan power connector (5820/L/E)
CN7	IR connector (infrared)
CN8	PC/104 connector
CN9	Main power connector (+5 V, +12 V)
CN10	Auxiliary power connector (-5 V, -12 V)
CN11	IDE hard disk connector
CN12	LCD connector
CN13	Ethernet connector
CN14	COM2 connector
CN15	LVDS connector (5820/L/E)
CN16	COM1 connector
CN17	PS/2 keyboard + PS/2 mouse
CN18	CRT display connector
CN19	CompactFlash socket
CN20	SODIMM socket
CN21	RCA composite connector (PCM-5822 only)
CN22	S-Video connector (PCM-5822 only)
CN23	ATX feature connector (PCM-5822)
CN24	ATX power button & power LED connector
LED1	Ethernet LED (PCM-5820/E, PCM-5822)
LED2	Power & HDD LED (PCM-5820/L/E)
SW1	Reset button (PCM-5820/L/E)

Locating Jumpers

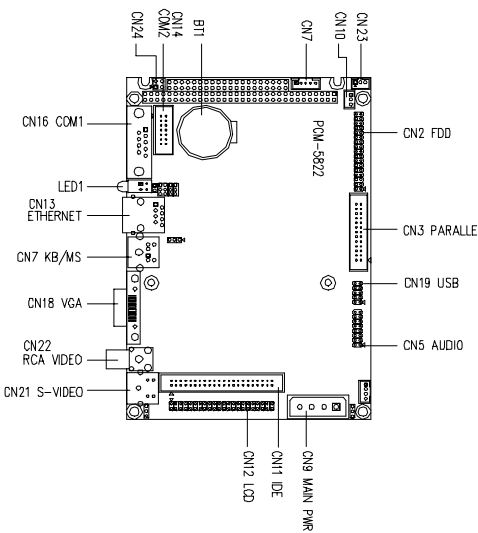


PCM-5820 Locating jumpers (component side)

J1:	Audio power source
Closed Pins	Voltage
*1 - 2	5 V
2 - 3	12 V
J2:	Clear CMOS
Closed Pins	Result
*1 - 2	3 V battery on
2 - 3	Clear CMOS
J3:	Watchdog timer
Closed Pins	Result
*1 - 2	Reset
2 - 3	IRQ11
J4:	COM2 selector
Closed pins	Result
*1 - 2	RS-232
3 - 4	RS-422
5 - 6	RS-485
J5:	Buzzer
Pins	Result
*closed	Enabled
open	Disabled
J6:	LCD power
Closed pins	Voltage
*1 - 2	5 V
2 - 3	3.3 V

J7:	Ethernet power select
Closed pins	Result
*1 - 2	5 V
2 - 3	Standby 5 V

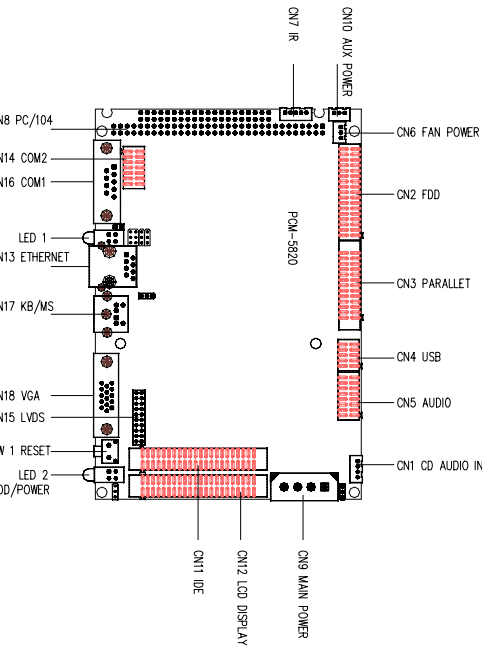
* default setting



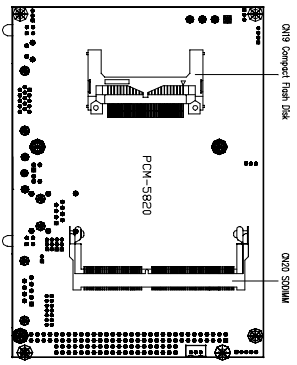
Locating connectors component side (PCM-5822 only)

Locating Connectors

Warning: Be sure to use the correct component side. Improper installation can cause serious damage.



Locating connectors component side (PCM-5820L, PCM-5820E only)



Locating connectors solder side (PCM-5820 Series)

