Appendix for PC/104-*plus* modules

1 Introduction

1.1 Introduction of PC/104-*plus*

PC/104-*plus* is a special bus architecture designed for embedded systems. A third connector opposite the PC/104 connectors supports the PCI bus. Basically the electrical specifications of the PC/104-*plus* bus are compliant with the PCI signals, except 64-bit extensions, JTAG, PRSNT or CLKRUN signals. The mechanical specifications are changed to "module stack", please refer to the figure 1 shown below. According to the specifications of PC/104-*plus*, PC/104-*plus* modules are installed and configured by switching CLK, IDSEL, INT, REQ and GNT signals through multiplexers to the appropriate connections.

PC/104+ Module Slot 4

PC/104+ Module Slot 3

PC/104+ Module Slot 2

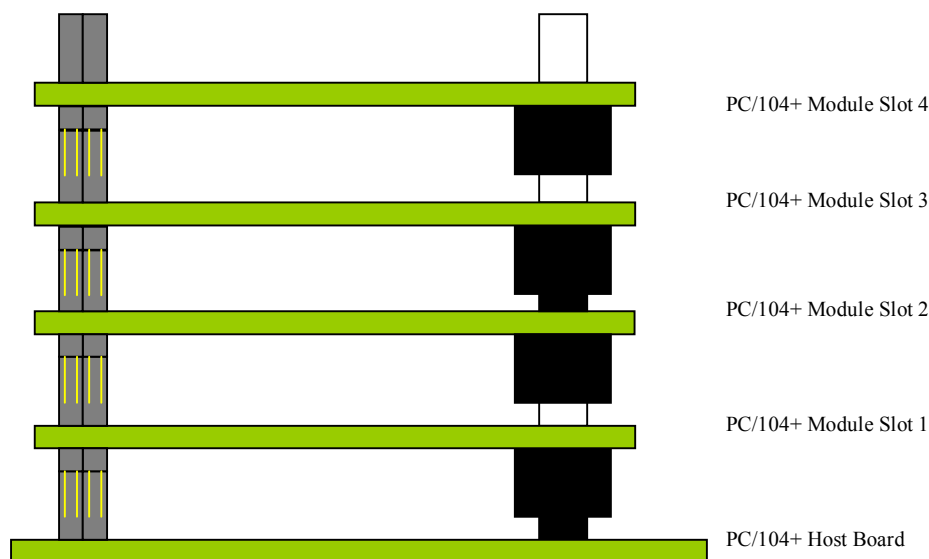PC/104+ Module Slot 1

PC/104+ Host Board

Figure 1 PC/104-*plus* module stack

Rotary switch on PCM-7250+ is used for these signals switching, please refer to section 2.4 for details in this appendix

1.2 Specifications for PCM-7250+

The specifications of the PCM-7250+ are exactly the same as the PCI-7250. Please refer to section 1.3 of the PCI-7250 manual for detailed information.

2 Installation procedures for PC/104-*plus* DAQ modules:

2.1 What you have

In addition to this appendix, the package includes the following items:

- ♦ PCM-7250+ DAQ modules
- ♦ Manual & Software Utility CD-ROM

If any of these items is missing or damaged, contact the dealer from whom you purchased the product. Save the shipping materials and carton in case you want to ship or store the product in the future

2.2 Unpacking

Your PCM-7250+ card contains sensitive electronic components that can be easily damaged by static electricity

The card should be done on a grounded anti-static mat. The operator should be wearing an anti-static wristband, grounded at the same point as the anti-static mat.
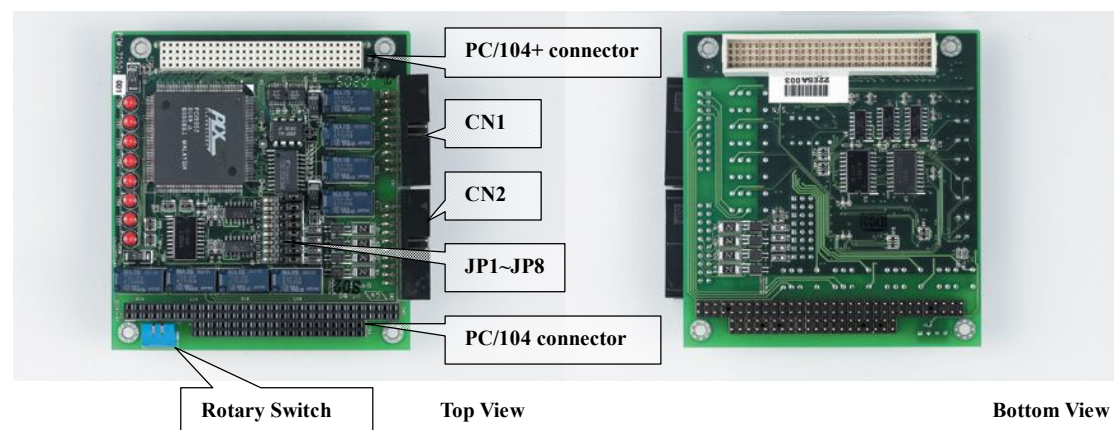
2.3 Layout of modules

Figure 2 PCM-7250+ module layout

2.4 PC/104-*plus* configuration

A rotary switch on PCM-7250+ is used to switch the appropriate CLK, IDSEL, INT, REQ and GNT signals from PCI bus. For signals correct connection, please switch the rotary switch to the appropriate position with respect to the module slot. The module stack order is shown in Figure 1 and the switch order is list in Table 1 shown below. For example, when PCM-7250+ card is plugged as the closest position (slot 1) into PC/104-*plus* motherboard, the switch must be set to 0 or 4. In addition, according to the PC/104-*plus* specification, module slots 3 and 4 share REQ2/GNT2, they cannot both be bus master devices. In other words, module 3 and 4 can only be occupied by one master card.

Rotary Switch Position	Module Slot	CLK	IDSEL	INT	REQ	GNT
0 or 4	1	CLK0	IDSEL0	INTA	REQ0*	GNT0*
1 or 5	2	CLK1	IDSEL1	INTB	REQ1*	GNT1*
2 or 6	3	CLK2	IDSEL2	INTC	REQ2*	GNT2*
3 or 7	4	CLK3	IDSEL3	INTD	REQ2*	GNT2*

Table 1 Rotary switch setting   * only for Bus Masters card

2.5 Input Signal Setting

Jumper Setting	Signal Connection	Non-AC-filter	AC-Filter
JP1	*DI0*	*1-2*	*2-3*
JP2	*DI1*	*1-2*	*2-3*
JP3	*DI2*	*1-2*	*2-3*
JP4	*DI3*	*1-2*	*2-3*
JP5	*DI4*	*1-2*	*2-3*
JP6	*DI5*	*1-2*	*2-3*
JP7	*DI6*	*1-2*	*2-3*
JP8	*DI7*	*1-2*	*2-3*

Table 2 Input signal jumper setting

Jumper setting in this appendix is different from that in PCI-7250 manual. Compare Table 2 shown above with Table 2.2 in PCI-7250 manual for details.

2.6 Connector Pin Assignment

Connector pin assignment comparison between PCI-7250 and PCM-7250+

CN1 (PCI-7250, left connector)

NO0	1				
COM0	2		20	NO3	
NC0	3		21	COM3	
NO1	4		22	NC3	
COM1	5		23	NO4	
NC1	6		24	COM4	
NO2	7		25	NO5	
COM2	8		26	COM5	
NC2	9		27	NO6	
NO7	10		28	COM6	
COM7	11		29	NC	
DI0H	12		30	DI0L	
DI1H	13		31	DI1L	
DI2H	14		32	DI2L	
DI3H	15		33	DI3L	
DI4H	16		34	DI4L	
DI5H	17		35	DI5L	
DI6H	18		36	DI6L	
DI7H	19		37	DI7L	

CN1 (PCM-7250+, right connector)

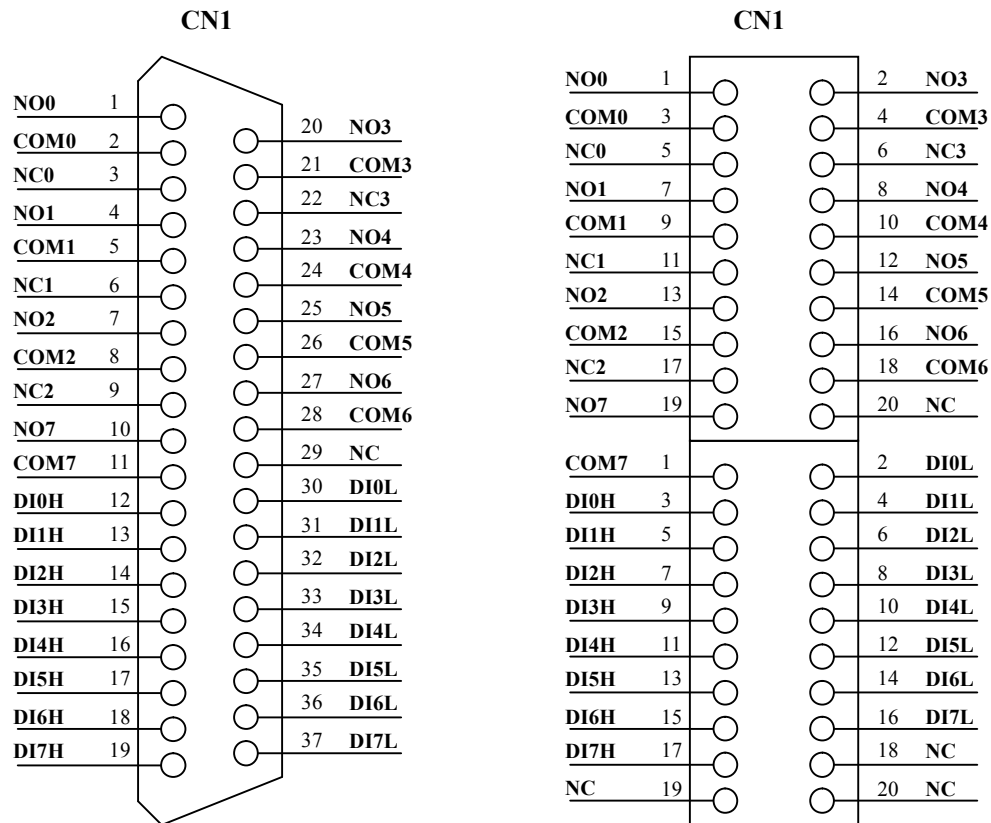|				
NO0	1	2	NO3	
COM0	3	4	COM3	
NC0	5	6	NC3	
NO1	7	8	NO4	
COM1	9	10	COM4	
NC1	11	12	NO5	
NO2	13	14	COM5	
COM2	15	16	NO6	
NC2	17	18	COM6	
NO7	19	20	NC	
COM7	1	2	DI0L	
DI0H	3	4	DI1L	
DI1H	5	6	DI2L	
DI2H	7	8	DI3L	
DI3H	9	10	DI4L	
DI4H	11	12	DI5L	
DI5H	13	14	DI6L	
DI6H	15	16	DI7L	
DI7H	17	18	NC	
NC	19	20	NC	

Figure 3 PCM-7250+ connector

Note: Register format, operation theorem and C/C++ Libraries of PCM-7250+ are the same as those of the PCI-7250, please refer to chapter 3~5 of the PCI-7250 manual for detailed information.