

## Short description

Rev. 1.1

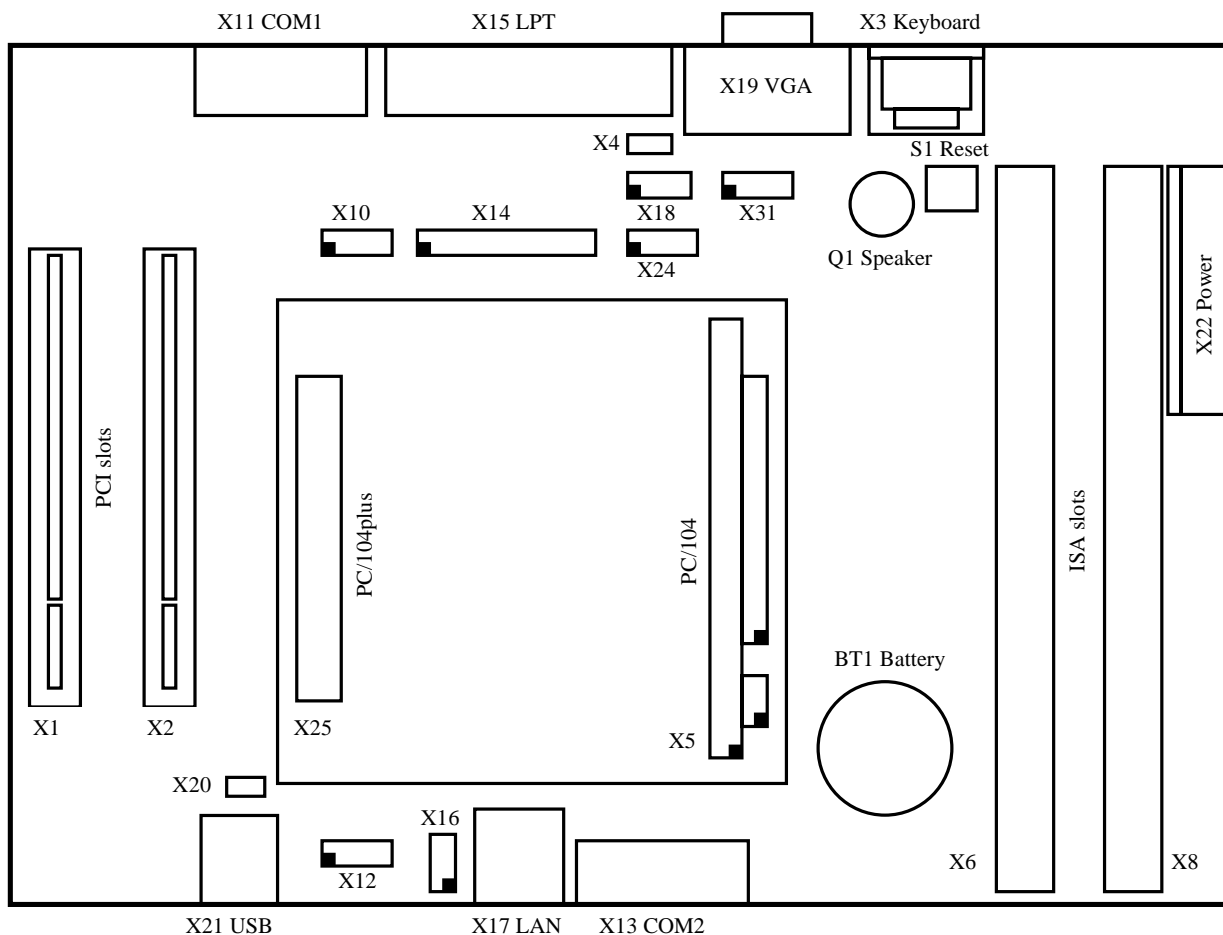
### 1. General Information

The following short description is intended to convey a brief overall view of the board. Installation alternatives are depicted herein.

The PC/104-ISAPCI-1 is a base board for getting started with JUMPtec® AG PC/104 CPU boards. It is meant as a starter kit and not as a base board to be used in customer applications. The design and connector layout may be changed without notice. Furthermore not all connectors and features described herein may be mounted on the delivered standard board.

**NOTE :** The PCI slots will not following the PCI 2.1 Specification for pci clock length and signal length. It's not possible to do this correctly and following the PC/104plus specification on the module.

### 2. Connector location



**Pin1 is marked with a quadratic pad!**

## 3. Features

Connector	Type	Purpose
X1, X2	PCI extension slots	For standard PCI extension cards
X3	5 pin diode	For AT keyboard
X4	6 pin small inline	For VGA connection between PC/104 CPU board and starter kit
X5	PC/104 and power	For PC/104 boards
X6,X8	ISA extension slots	For standard ISA extension cards
X10, X12	10 pin headers	For COM1 and COM2 connection between PC/104 CPU board and starter kit
X11, X13	DSUB9 male	For serial port devices
X14	26 pin header	For LPT connection between PC/104 board and starter kit
X15	DSUB25 female	For parallel port device
X16	8 pin 2mm header	For Ethernet connection between PC/104 board and starter kit
X17	RJ45 western	For 10/100baseT Ethernet
X18	10 pin header	For VGA connection between PC/104 CPU board and starter kit
X19	DSUB15 female	For VGA CRT monitor
X20	4 pin small inline	For USB connection between PC/104 board and starter kit
X21	USB	For USB devices
X22	12 pin power	For standard AT power supply
X24	10 pin header	For keyboard/reset/battery/speaker connection from PC/104 CPU board to starter kit
X25	PC/104plus	For PC/104plus boards
X31	10 pin header	Undocumented feature connector

Component	Function
S1	Reset button
Q1	Piezo-electronic speaker
BT1	3V Lithium battery

## 4. Specifications

### 4.1. Mechanical dimensions:

Length: 221mm  
Width: 154mm

### 4.2. Technical data:

Surface temperature operating: 0 to +70°C  
storage: -10 to +85°C  
Relative humidity operating: 10% to 90% non condensing  
non operating: 5% to 95% non condensing  
Supply Voltages +5V,-5V,+12V,-12V (no +3.3V, PCI-slots and PC/104plus bus is 5V type)

## Connector Pinout

	KEYBOARD	ETHERNET	COM1	COM2	LPT	KEYBOARD CONNECTION	ETHERNET CONNECTION	COM1 CONNECTION	COM2 CONNECTION	LPT CONNECTION
PIN	X3	X17	X11	X13	X15	X24	X16	X10	X12	X14
0										
1	KB-CLK	TXD+	RLSD1	RLSD2	STB	SPK	TXD+	RLSD1	RLSD2	STB
2	KB-DAT	TXD-	SIN1	SIN2	PD0	GND	TXD-	DSR1	DSR2	AFD
3	NC	RXD+	SOUT1	SOUT2	PD1	POWERGOOD	RXD+	SIN1	SIN2	PD0
4	KEY-GND	NC	DTR1	DTR2	PD2	/KBLOCK	NC	RTS1	RTS2	ERR
5	KEYVCC	NC	GND	GND	PD3	KBDAT	NC	SOUT1	SOUT2	PD1
6	SHIELDGND	RXD-	DSR1	DSR2	PD4	KBCLK	RXD-	CTS1	CTS1	PINIT
7	SHIELDGND	NC	RTS1	RTS2	PD5	KEYGND	NC	DTR1	DTR1	PD2
8	SHIELDGND	NC	CTS1	CTS2	PD6	KEYVCC	NC	RI1	RI1	SLIN
9	SHIELDGND		RI1	RI2	PD7	BATT		GND	GND	PD3
10					ACK	POWERGOOD		NC	NC	GND
11					BUSY					PD4
12					PE					GND
13					SLCT					PD5
14					AFD					GND
15					ERR					PD6
16					INIT					GND
17					SLIN					PD7
18					GND					GND
19					GND					ACK
20					GND					GND
21					GND					BUSY
22					GND					GND
23					GND					PE
24					GND					GND
25					GND					SLCT
26										NC

PIN	POWER	VGA	VGA CONNECTION	PC/104-BUS				PC/104 POWER	ISA-BUS			
	X22	X19	X18	A(X5)	B(X5)	C(X5)	D(X5)		A	B	C	D
0						GND	GND					
1	PWRGD	RED	RED	/IOCHCK	GND	/SBHE	/MEMCS16	GND	/IOCHK	GND	/SBHE	/MEMCS16
2	VCC	GREEN	GND	SD7	RESETDRV	LA23	/IOCS16	VCC	SD7	RSTDRV	LA23	/IOCS16
3	+12V	BLUE	GREEN	SD6	VCC	LA22	IRQ10	BATT	SD6	VCC	LA22	IRQ10
4	-12V	NC	GND	SD5	IRQ9	LA21	IRQ11	+12V	SD5	IRQ9	LA21	IRQ11
5	GND	GND	BLUE	SD4	-5V	LA20	IRQ12	-5V	SD4	-5V	LA20	IRQ12
6	GND	GND	GND	SD3	DRQ2	LA19	IRQ15	-12V	SD3	DRQ2	LA19	IRQ15
7	GND	GND	VSYNC	SD2	-12V	LA18	IRQ14	GND	SD2	-12V	LA18	IRQ14
8	GND	GND	GND	SD1	/OWS	LA17	/DACK0	VCC	SD1	/OWS	LA17	/DACK0
9	-5V	NC	HSYNC	SD0	+12V	/MEMR	DRQ0		SD0	+12V	/MEMR	DRQ0
10	VCC	GND	GND	IOCHRDY	GND	/MEMW	/DACK5		IOCHRDY	GND	/MEMW	/DACK5
11	VCC	NC		AEN	/SMEMW	SD8	DRQ5		AEN	/SMEMW	SD8	DRQ5
12	VCC	NC		SA19	/SMEMR	SD9	/DACK6		SA19	/SMEMR	SD9	/DACK6
13		HSYNC		SA18	/IOW	SD10	DRQ6		SA18	/IOW	SD10	DRQ6
14		VSYNC		SA17	/IOR	SD11	/DACK7		SA17	/IOR	SD11	/DACK7
15		NC		SA16	/DACK3	SD12	DRQ7		SA16	/DACK3	SD12	DRQ7
16				SA15	DRQ3	SD13	VCC		SA15	DRQ3	SD13	VCC
17				SA14	/DACK1	SD14	/MASTER		SA14	/DACK1	SD14	/MASTER
18				SA13	DRQ1	SD15	GND		SA13	DRQ1	SD15	GND
19				SA12	/REFRESH	GND	GND		SA12	/REFRESH		
20				SA11	SYSCLK				SA11	SYSCLK		
21				SA10	IRQ7				SA10	IRQ7		
22				SA9	IRQ6				SA9	IRQ6		
23				SA8	IRQ5				SA8	IRQ5		
24				SA7	IRQ4				SA7	IRQ4		
25				SA6	IRQ3				SA6	IRQ3		
26				SA5	/DACK2				SA5	/DACK2		
27				SA4	T/C				SA4	T/C		
28				SA3	BALE				SA3	BALE		
29				SA2	VCC				SA2	VCC		
30				SA1	OSC				SA1	OSC		
31				SA0	GND				SA0	GND		
32				GND	GND							

PIN	VGA Connection 2	USB	USB Connection	PC/104-PLUS BUS				PCI-SLOT 2		PCI-SLOT 1	
	X4	X21	X20	A(X25)	B(X25)	C(X25)	D(X25)	Side B (X2)	Side A (X2)	Side B (X1)	Side A(X1)
0											
1	RED	USB1VCC	USB1VCC	KEY5V	RSVD	VCC	AD00	-12V	NC	-12V	NC
2	GREEN	USB1-	USB1-	VCC	AD02	AD01	VCC	NC	+12V	NC	+12V
3	BLUE	USB1+	USB1+	AD05	GND	AD04	AD03	GND	NC	GND	NC
4	GND	USB1GND	USB1GND	C/BE0	AD07	GND	AD06	NC	NC	NC	NC
5	VSYNC			GND	AD09	AD08	GND	VCC	VCC	VCC	VCC
6	HSYNC			AD11	VCC	AD10	NC	VCC	/INTB	VCC	/INTA
7				AD14	AD13	GND	AD12	/INTC	/INTD	/INTB	/INTC
8				NC	C/BE1	AD15	NC	/INTA	VCC	/INTD	VCC
9				/SERR	GND	NC	PAR	NC	NC	NC	NC
10				GND	/PERR	NC	NC	NC	VCC	NC	VCC
11				/STOP	NC	/LOCK	GND	NC	NC	NC	NC
12				NC	/TRDY	GND	/DEVSEL	GND	GND	GND	GND
13				/FRAME	GND	/IRDY	NC	GND	GND	GND	GND
14				GND	AD16	NC	C/BE2	NC	NC	NC	NC
15				AD18	NC	AD17	GND	GND	/RST	GND	/RST
16				AD21	AD20	GND	AD19	CLK	VCC	CLK	VCC
17				NC	AD23	AD22	NC	GND	/GNT	GND	/GNT
18				IDSEL0	GND	IDSEL1	IDSEL2	/REQ	GND	/REQ	GND
19				AD24	C/BE3	VCC	NC	VCC	NC	VCC	NC
20				GND	AD26	AD25	GND	AD31	AD30	AD31	AD30
21				AD29	VCC	AD28	AD27	AD29	NC	AD29	NC
22				VCC	AD30	GND	AD31	GND	AD28	GND	AD28
23				/REQ1	GND	/REQ2	VCC	AD27	AD26	AD27	AD26
24				GND	/REQ3	VCC	/GNT1	AD25	GND	AD25	GND
25				/GNT2	VCC	/GNT3	GND	NC	AD24	NC	AD24
26				VCC	PCICLK1	GND	PCICLK2	C/BE3	IDSEL	C/BE3	IDSEL
27				PCICLK3	VCC	NC	GND	AD23	NC	AD23	NC
28				GND	/INTD	VCC	/PCIRST	GND	AD22	GND	AD22
29				+12V	/INTA	/INTB	/INTC	AD21	AD20	AD21	AD20
30				-12V	RSVD	RSVD	GND	AD19	GND	AD19	GND
31								NC	AD18	NC	AD18
32								AD17	AD16	AD17	AD16
33								C/BE2	NC	C/BE2	NC
34								GND	/FRAME	GND	/FRAME
35								/IRDY	GND	/IRDY	GND
36								NC	/TRDY	NC	/TRDY
37								/DEVSEL	GND	/DEVSEL	GND
38								GND	/STOP	GND	/STOP
39								/LOCK	NC	/LOCK	NC
40								/PERR	NC	/PERR	NC
41								NC	NC	NC	NC
42								/SERR	GND	/SERR	GND
43								NC	PAR	NC	PAR
44								C/BE1	AD15	C/BE1	AD15
45								AD14	NC	AD14	NC
46								GND	AD13	GND	AD13
47								AD12	AD11	AD12	AD11
48								AD10	GND	AD10	GND
49								GND	AD09	GND	AD09
50								KEY	KEY	KEY	KEY
51								KEY	KEY	KEY	KEY
52								AD08	C/BE0	AD08	C/BE0
53								AD07	NC	AD07	NC
54								NC	AD06	NC	AD06
55								AD05	AD04	AD05	AD04
56								AD03	GND	AD03	GND
57								GND	AD02	GND	AD02
58								AD01	AD00	AD01	AD00
59								VCC	VCC	VCC	VCC
60								/ACK64	/REQ64	/ACK64	/REQ64
61								VCC	VCC	VCC	VCC
62								VCC	VCC	VCC	VCC

### 4.3. Document history:

date	doc. Name	doc. rev.	author	action
11.08.00	PKIT1K110	1.0	B.Schmidt	description created
28.01.02	PKITK111	1.1	H.Bruhn	Totally reworked and corrected