

1.1 Introductions

The PC-488VL is a full-function PC/104 CPU Module which integrates the VGA/TFT LCD panel, IDE CF, Ethernet, GPIO and other enhanced I/O interfaces on a PC/104 CPU Module. This Module uses an embedded SGS-THOMSON STPC ATLAS Pentium performance 5x86DX2-133MHz low power CPU and embedded 32MB SDRAM on board

1.2 Specifications

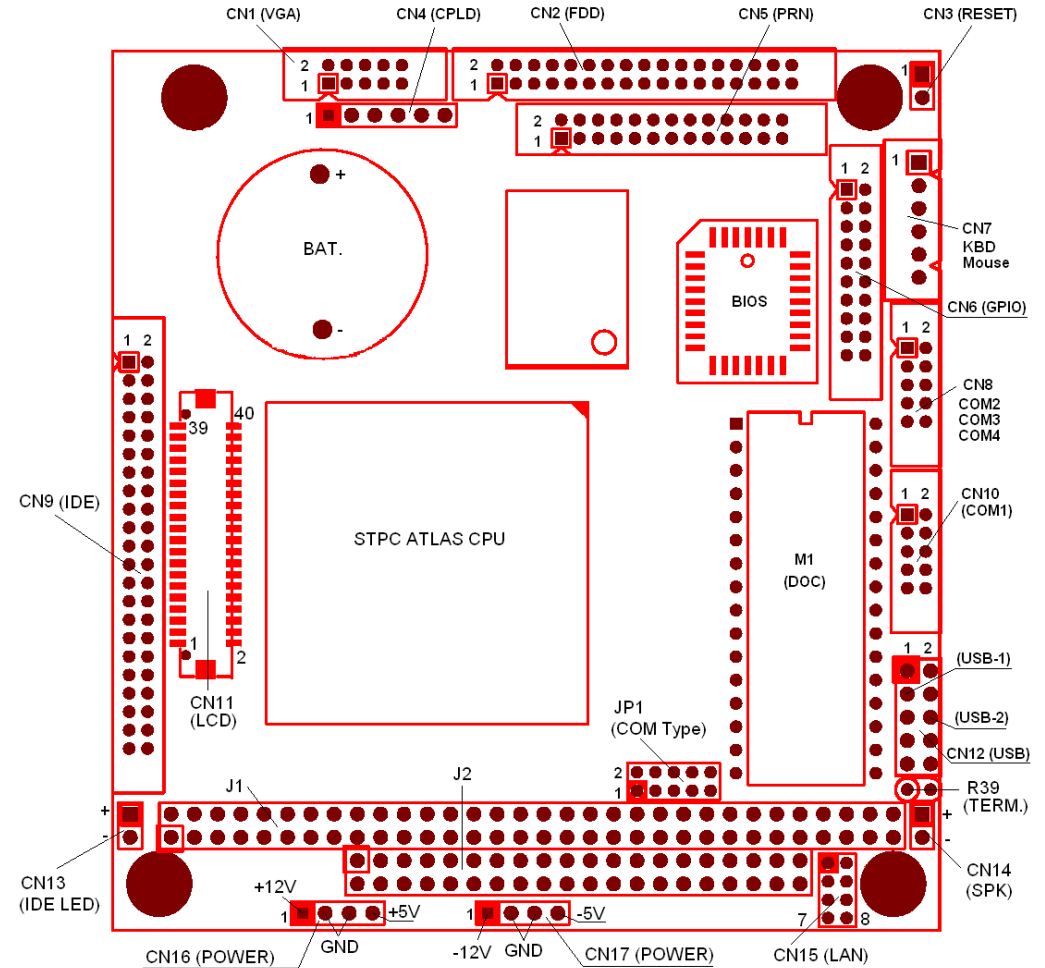
- PC/104 ISA-BUS Embedded CPU Module
- CPU: STPC ATLAS 5x86DX2-133Mhz low power CPU (Fanless)
- System Memory: On-board 32MB SDRAM (up to 64MB)
- Bus interface: PC/104 ISA bus
- Display: SVGA CRT& TFT LCD interface.
- LAN: RTL8139C PCI controller (PC-482VN only)
- CompactFlash Slot: One IDE CompactFlash Slot
- Serial Ports:
 - ◆ Three RS-232C(COM2) and One RS-232/422/485 serial Ports(COM1)
 - ◆ Overvoltage protection for RS-422/485 up to 25kV
- Solid state disk: One expended 32-pin Sockets for M-Systems DiskOnChip
- EEPROM : Provide 256 words(16 bit) EEPROM register for user
- General Purpose I/O interface:
 - ◆ Provide 16 channels TTL level General Purpose I/O interface
 - ◆ Each channel can be software programmed to be input or output
 - ◆ Individual software programmable interrupt mask.
- Watch Dog timer: The watch dog timer range from 0 to 254 second
- Power Supply Voltage: + 5VDC
- Power Consumption: +5VDC/1.6A (max)
- Dimensions: 96(L) x 90(W)mm

1.3 List of Connectors

The On-module connectors link the PC-488VL to external devices such as hard disk drives, a keyboard, or floppy drives. The table below lists the function of each of the board's connectors

Label	Function
JP1	COM1 RS-232/422 /485 Selection (<u>ALL CLOSED</u> for RS-422/485 and <u>ALL OPEN</u> for RS-232)
CN1	CRT Display connector
CN2	FDD connector
CN3	Reset connector
CN4	CPLD connector
CN5	Parallel port connector
CN6	General Purpose I/O connector
CN7	Keyboard & PS/2 mouse connector
CN8	COM2,COM3,COM4 connector
CN9	Hard disk connector
CN10	COM1 connector
CN11	Flat panel display Connector
CN12	USB connector
CN13	Hard disk LED
CN14	Speaker connector
CN15	Ethernet connector
CN16	External +12V/+5VDC Power Input connector
CN17	External -12V/-5VDC Power Input connector
CN18	CompactFlash Slot
R39	RS-422/485 Terminator RES.

1.4 Locating Connectors & Jumper



- **Please refer CD-ROM for manual (in PDF format), drivers and utility**
- **The manual, drivers and utility can be down load from website**

<http://www.nagasaki.com.tw/>

1.5 Connectors Summary

1.5.1 Keyboard & mouse conn. (CN7)

pin	Signal
1	KBD_CLK
2	KBD_Data
3	MS_CLK
4	GND
5	+5V/DC
6	MS_Data

1.5.2 General Purpose I/O Conn. (CN6)

Pin NO.	Function	Pin NO.	Function
1	GND	2	+5VDC
3	GPIO_0	4	GPIO_8
5	GPIO_1	6	GPIO_9
7	GPIO_2	8	GPIO_10
9	GPIO_3	10	GPIO_11
11	GPIO_4	12	GPIO_12
13	GPIO_5	14	GPIO_13
15	GPIO_6	16	GPIO_14
17	GPIO_7	18	GPIO_15
19	+5VDC	20	GND

1.5.3 Flat panel display connector (CN11)

Pin	Signal	Pin	Signal
1	+12VDC	2	+12VDC
3	GND	4	GND
5	+5VDC	6	+5VDC
7	ENAVEE	8	ENAVDD
9	+3VDC	10	N/C
11	B0	12	B1
13	B2	14	B3
15	B4	16	B5
17	GND	18	N/C
19	G0	20	G1
21	G2	22	G3
23	G4	24	G5
25	GND	26	N/C
27	R0	28	R1
29	R2	30	R3
31	R4	32	R5
33	GND	34	DCLK
35	GND	36	FRAME (VSYNC)
37	FPLINE (HSYNC)	38	TFT_PWM
39	DE	40	+3VDC

1.5.4 Serial port connectors (CN10, CN8)

Serial Port-1(COM1) RS-232/422/485 Connector (CN10)

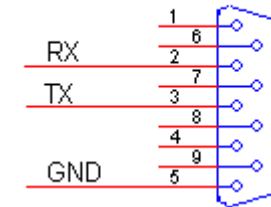
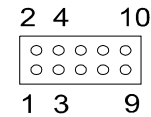
Pin No	RS-232	RS-422	RS-485	Pin No	RS-232	RS-422	RS-485
1	DCD	TX -	DATA -	2	DSR	RX -	
3	RX	TX +	DATA +	4	RTS		
5	TX			6	CTS	RX +	
7	DTR			8	RI		
9	GND			10	NC		

- Terminator Resistor (R39) for RS-422/485
- JP1 All Short for RS-422/RS-485 otherwise All OPEN

Serial Port-2/3/4(COM2/3/4) RS-232 Connector (CN8)

- Serial Port-2,3,4 line shared with CN8 (For PC-488VL)
- Ext. Cable to 3 D-type Connector for COM2/COM3/COM4 (For PC-488VL)
- For PC-488V "CN8" pinssgment please Ref. "CN10" RS-232 (2 Serial port for PC-488V and 4 Serial Port for PC-488VL)

D-Type 9-pin Connector for COM



Pin	Name	Pin	Name
1		2	RX (COM3)
3	RX (COM2)	4	TX (COM3)
5	TX (COM2)	6	RX (COM4)
7		8	TX (COM4)
9	GND	10	