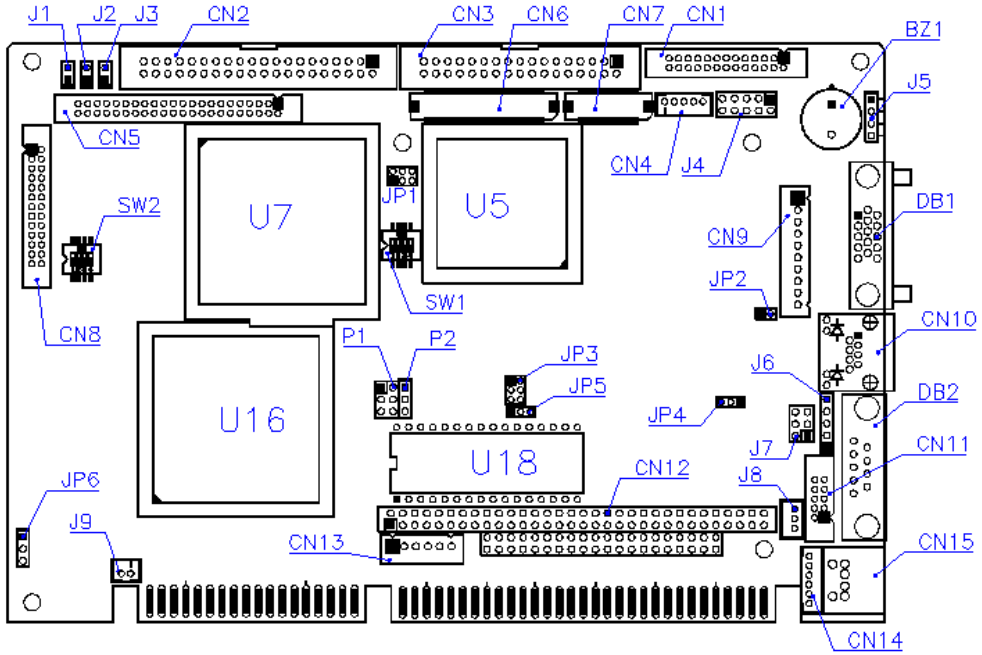
FB2500 Series User's Quick Setting

1. Brief

The FB2500 is an all-in-one, half size, NS Geode low power CPU card. This user's quick setting provides the jumper and switch settings, connector location, and their pin assignment.

2. Board Placement



3. Packing List

1 FB2500x all-in-one ISA CPU card.
1 40-pin hard disk drive interface cable.
1 34-pin floppy drive interface cable.
1 serial port adapter cable and 1 parallel port interface cable with bracket.
1 PS/2 mouse port adapter cable and 1 USB adapter cable with bracket. (Optional)
1 audio adapter cable with FB4612 transfer board. (Audio version only)
1 10-pin LAN adapter cable with FB4605A transfer board. (Dual LAN version only)
1 6-pin power adapter cable for standalone applications. (Optional)
1 compact disc includes software utility.
1 hard copies of this quick setup manual.

4. Features

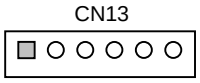
* Supports 200MHz (300 MHz maximum) NS Geode GX1 CPU.
* NS CS5530A chipset with UMA architecture.
* 32MB or 64MB SDRAM onboard. (128MB maximum)
* 1 or 2 100M/10M Ethernet with RJ-45 connector.
* Provides CRT and LCD with 1.5MB to 4MB shared memory.
* 1 parallel port, 1 floppy port and 2 PCI IDE interfaces.
* 1 RS-232C and 1 RS-232C/RS-422/RS-485 with infrared interface.
* PS/2 compatible keyboard and mouse interface.
* On-board buzzer and LED indicator.
* Flash BIOS with easy upgrade utility.
* 1 socket for up to 288MB DiskOnChip or 512KB SRAM disk.
* 2 SMD type SRAM space for up to 1.5MB SRAM disk. (Optional item)
* 2 USB ports and software programmable watchdog timer.
* Audio function supports Line-In, Line-Out, and Mic-In.
* +5V, 2.5A maximum and +12V, 0.5A maximum. (Based on 300MHz CPU and without LCD panel and LCD inverter)
* EMI Considered on every output signals.
* Half size, 185 mm x 122 mm (7.28" x 4.80")

5. Connectors, Headers and Their Relative Jumpers

A. Reset Header (J1)

J1 is a 2-pin header for connecting to system reset bottom. Close these 2 pins to hardware reset FB2500 and restart system booting.

B. Auxiliary Power Connector (CN13: 6-pin 2.5mm JST)

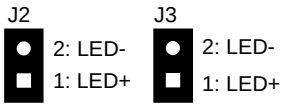


Pin 1: Ground
Pin 2: +5V
Pin 3: +5V
Pin 4: Ground
Pin 5: Ground
Pin 6: +12V

Note: This power connector is ideal for standalone applications.

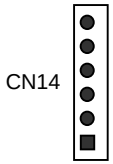
C. Power LED and HDD LED headers (LED1, J2 & J3)

LED1 is the on-board power/WD LED and J2 is used to connect an external power LED. When the watchdog is disabled, LED1 indicates the main power is ready (lights) or not (dark). When the watchdog is enabled, LED1 will be blinking in 1 cycle per second. J3 is the hard disk LED header.



D. Keyboard and Mouse Connector (CN15 and CN14)

CN15 is a standard PS/2 type keyboard connector, so any PS/2 type keyboard can plug into CN15 directly without extra adapter cable. CN14 provides PS/2 mouse interface, use the included mouse adapter cable to connect between CN14 and standard PS/2 mouse.

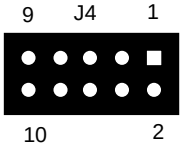


Pin 1: Mouse Data
Pin 2: Keyboard Data
Pin 3: Ground
Pin 4: VCC
Pin 5: Mouse Clock
Pin 6: Keyboard Clock

Note: In fact, CN15 and CN14 all support PS/2 keyboard and mouse signals and have to order 3-head cable from your supplier.

E. USB Connector (J4)

Use the USB adapter cable (optional), you can attach up to 2 USB devices.

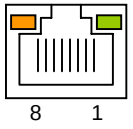


Pin 1: USBV0
Pin 2: Case Ground
Pin 3: USBD0-
Pin 4: USBG1
Pin 5: USBD0+
Pin 6: USBD1+
Pin 7: USBG0
Pin 8: USBD1-
Pin 9: Case Ground
Pin 10: USBV1

F. LAN Connector and LED Indicators (CN10: RJ45, CN9: 10-pin 2.5mm JST)

CN10 is a RJ45 connector with 2 LEDs for LAN port 1. The left side LED (orange) indicates data is accessing and the right side LED (green) indicates on-line status. (When lighted indicates on-line and off indicates off-line) CN9 provides twist-pair signals of LAN port 2 if you got dual LAN version and 1 additional adapter board (FB4605A) with cable. The following figure and table list the pin assignment of CN10 and RJ45 connector on the FB4605A LAN adapter board:

CN10 and RJ45 connector on FB4605A adapter board



(Front View)

CN10	Signal	CN10	Signal
1	TPTX1+	5	FBG11
2	TPTX 1-	6	TPRX 1-
3	TPRX1+	7	FBG21
4	FBG11	8	FBG21

FB4605A	Signal	FB4605A	Signal
1	TPTX2+	5	FBG12
2	TPTX 2-	6	TPRX 2-
3	TPRX2+	7	FBG22
4	FBG12	8	FBG22

G. Buzzer (BZ1) and External Speaker Header (J5, Optional)

Pin 1: Speaker+
Pin 2: Speaker-
Pin 3: Speaker-
Pin 4: Speaker-

H. Floppy Connector (CN3: 34-pin 2.54mm IDC)

Note that the included floppy cable supports only 720KB, 1.44MB, and 2.88MB floppy disk drives, not for 360KB and 1.2MB.

I. IDE Hard Disk Connector (CN2 & CN5)

CN2 and CN5 are 40-pin 2.54mm IDC and 44-pin 2.0mm IDC connectors respectively. CN2 named IDE #0 and CN5 named IDE #1. Use 40-pin and 44-pin hard disk cables, you can attach up to four 3.5"/2.5" hard disk drives. Note that CN5 also could piggyback a 90-degree DiskOnModule with fix hole.

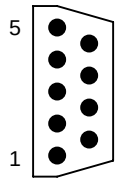
J. Parallel Port Connector (CN1: 26-pin 2.0mm IDC)

The included printer interface cable is used to transfer 26-pin connector into standard DB-25 connector.

K. Serial Port Connectors & Jumpers (DB2, CN11, JP2, JP3, J6, and J8)

(1) Serial Port 1 (DB2)

The DB2 connector is 9-pin D-type male connector and its pin definition is as follow:



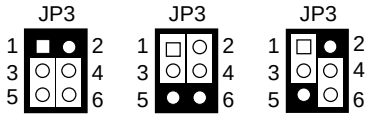
DB2 (Front View)

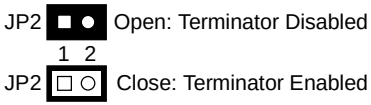
Pin 1: -DCD1
Pin 2: RXD1
Pin 3: TXD1
Pin 4: -DTR1
Pin 5: Ground1
Pin 6: -DSR1
Pin 7: -RTS1
Pin 8: -CTS1
Pin 9: -RI1

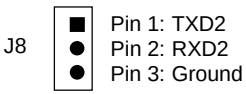
(2) Serial Port 2 (CN11, JP3, JP2, J6 and J8)

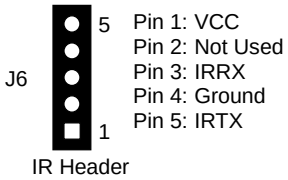
Serial port 2 is designed for multiple proposes. It could be RS-232, RS-422 or RS-485 by selecting JP3, and JP2 is use to enable or disable terminator if RS-422 or RS-485 mode is selected. Serial port 2 also could be configured as Infra (IrDA) interface (J6 header) by changing the setting in BIOS setup program. J8 is use to interface with touch screen controller directly instead of connect from CN11 connector. The included serial port cable is use to transfer CN11 into standard 9-pin D-type male connector. The following tables and figures show the pin definitions and its usage:

CN11	RS-232	RS-422	RS-485	DB-9
1	-DCD2		-	1
2	-DSR2		-	6
3	RXD2	RXD-	485-	2
4	-RTS2	TXD-	-	7
5	TXD2	RXD+	485+	3
6	-CTS2	TXD+	-	8
7	-DTR2		-	4
8	-RI2		-	9
9	Ground2	Ground2	Ground2	5
10	Case Ground	Case Ground	Case Ground	-



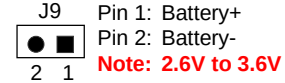




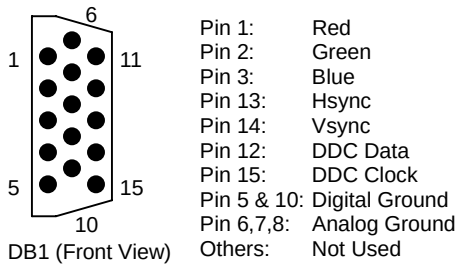


L. *External Battery Header (J9)*

J9 is used to connect an external battery pack if on-board Lithium battery is empty or not.



M. *CRT Connector (DB1)*

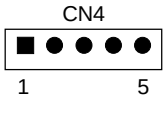


N. *LCD Connectors (CN6 and CN4)*

CN6 is 18-bit LCD interface connector and CN4 provides control signals and power source for LCD inverter.

CN6	Signal	CN6	Signal	CN6	Signal	CN6	Signal
1	+5V	21	FPD8	2	+5V	22	FPD9
3	Ground	23	FPD10	4	Ground	24	FPD11
5	+3.3V	25	N.C.	6	+3.3V	26	N.C.
7	R/L	27	FPD12	8	Ground	28	FPD13
9	N.C.	29	FPD14	10	N.C.	30	FPD15
11	FPD0	31	FDP16	12	FPD1	32	FPD17
13	FPD2	33	Ground	14	FPD3	34	Ground
15	FPD4	35	FPCLK	16	FPD5	36	FPVSYNC
17	N.C.	37	FPDISP	18	N.C.	38	FPHYNC
19	FDP6	39	U/D	20	FPD7	40	FPVDDEN

Note 1: N.C. means not connected, it is reserved for upgraded signals.
Note 2: If any trouble when connecting FB2500 with LCD panels, you could contact technical support division of FabiaTech Corporation.

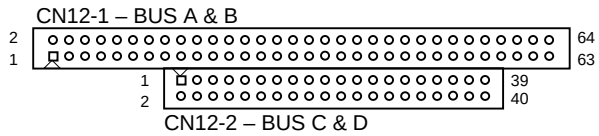


Note: +12V is come from CN13 (power connector) only

O. *Audio Connector (CN8: 26-pin 2.0mm IDC)*

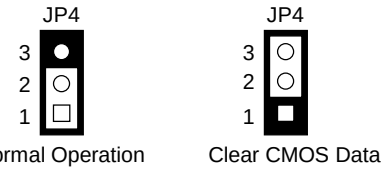
CN8	Signal	CN8	Signal	CN8	Signal	CN8	Signal
1	AUXL	15	AGND	2	Line-In-L	16	Ground
3	AUXR	17		4	Line-In-R	18	
5	+12V	19		6	+5V	20	
7	Line-Out-L	21		8	MIC In	22	
9	Line-Out-R	23		10	PCSPK	24	
11	AGND	25	AGND	12	Ground	26	Ground
13		-		14		-	

P. *PC/104 Connectors (CN12: 64-pin IDC & 40-pin IDC)*

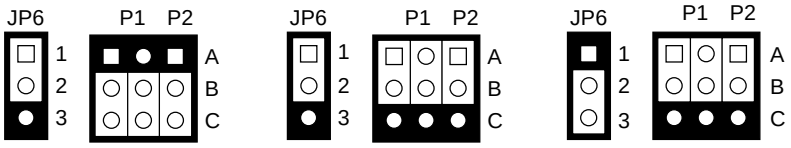


6. Others

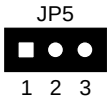
A. Clear CMOS Data (JP4)



B. U18 (DOC/SRAM Socket) Memory Type Select (JP6 and P1/P2)



C. U18 (DOC/SRAM Socket) and On-Board SRAM Mapping Segment Select (JP5)



JP5	U18 (DOC Socket)	U18 (SRAM Socket) & On-Board SRAM	Remark
Short 1 & 2	DA00h:0	D800h:0 (*1)	
Short 2 & 3	CE00h:0	CC00h:0 (*1)	Factory Preset

Note 1: It will not occupy any memory address if no on-board SRAM exist.
Note 2: It will occupy 8 Kbytes addresses for each mapping selection.