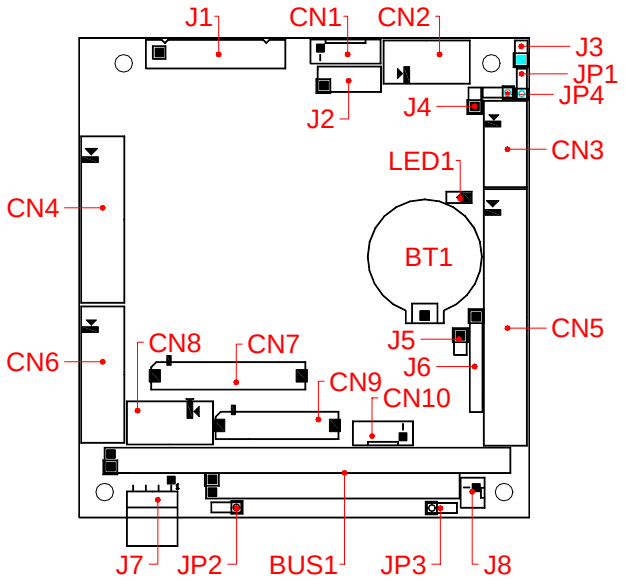
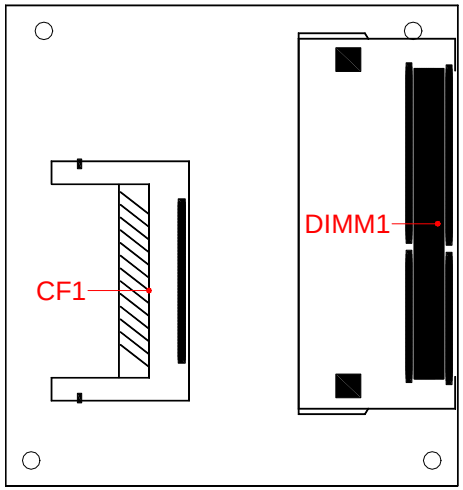
FB2410 Series User's Quick Setting

1. Brief

The FB2410 is an all-in-one, PC/104, STPC Altas low power CPU module. This user's quick setting provides the jumper settings, connector location, and their pin assignment.

2. Board Placement





3. Packing List

1 FB2410x all-in-one PC/104 CPU board.
1 VGA (CRT interface) adapter cable.
1 44-pin hard disk drive interface cable.
1 20-pin to 34-pin floppy drive interface cable.
2 serial port adapter cable and 1 parallel port interface cable.
1 PS/2 keyboard and mouse port adapter cable.
1 USB adapter cable. (Optional)
1 10-pin LAN adapter cable with FB4605A transfer board.
1 compact disc includes software utility.
1 hard copies of this quick setup manual.

4. Features

* On-board 133 MHz STPC Atlas CPU, SOC and UMA architecture.
* 1 So-DIMM socket for 32MB or 64MB PC-100 SDRAM.
* One 10/100 base-TX Ethernet port.
* Provides CRT, TTL LCD, and LVDS LCD with up to 4MB shared memory.
* 1 parallel port, 1 RS-232, 1 RS-232/485, 1 floppy port, and 1 PCI IDE interface.
* PS/2 compatible keyboard and mouse interface.
* Provides header for external speaker and hard disk access LED.
* 2 USB ports and software programmable watchdog timer.
* Flash BIOS with easy upgrade utility.
* Power requires +5V only, 1.5A maximum.
* PC/104 form factor, 90.2 mm x 95.9 mm (3.55" x 3.775")

5. Connectors and Jumpers List

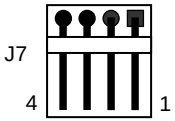
Name	Function	Name	Function
CN1	KB/MS Connector (6-pin JST)	J1	LAN Connector (10-pin JST)
CN2	COM2 Connector (10-pin IDC)	J2	USB #1 & #2 Connector (J2*5)
CN3	COM1 Connector (10-pin IDC)	J3	Reset Header (J1*2)
CN4	LPT Connector (26-pin IDC)	J4	External Hard Disk LED Header (J1*2)
CN5	44-pin IDE Connector (44-pin IDC)	J5	External Speaker Header (J1*2))
CN6	Floppy Connector (20-pin IDC)	J6	Reserved Header
CN7	TTL LCD Connector (40-pin DF-13)	J7	Power Connector (4-pin)
CN8	CRT Connector (10-pin IDC)	J8	External Battery Connector (2-pin JST)
CN9	LVDS Connector (30-pin DF-13)	JP1	CF Master/Slave Select (J1*3)
CN10	LCD Power Connector (5-pin JST)	JP2	COM2 RS-232/485 Select (J1*3)
-	-	JP3	Int./Ext. Battery Select (J1*3)
BUS1	Stack-Through PC/104 Connector	JP4	RS-485 Terminator Select (J1*3)
CF1	CompactFlash Socket	-	-
DIMM1	144-pin So-DIMM Socket	LED1	On-board PW/WD LED (Green)

6. Connectors, Headers and Their Relative Jumpers

A. *Reset Header (J3)*

J3 is a 2-pin header for connecting to system reset bottom. Close these 2 pins to hardware reset FB2410 and restart system booting.

B. *Power Connector (J7: 4-pin 2.5mm JST)*

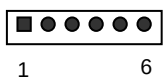


Pin 1: +5V
Pin 2: Ground
Pin 3: Ground
Pin 4: +12V

Note: FB2410 needs +5V only, +12V is not necessary.

C. *Keyboard and Mouse Connector (CN1)*

CN1 provides PS/2 keyboard and mouse interface, use the included adapter cable to connect between CN1 and standard PS/2 devices.



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

D. *IDE Hard Disk Connector and Access LED Header (CN5 and J4)*

Use 44-pin hard disk cable, CN5 can attach up to two 2.5" hard disk drives.

Pin 1: LED+
Pin 2: LED-

E. *Floppy Connector (CN6: 20-pin 2.0mm IDC)*

The included floppy drive interface cable is used to transfer 20-pin connector into standard 34-pin connector. Note that the included floppy cable supports only 720KB, 1.44MB, and 2.88MB floppy disk drives, not for 360KB and 1.2MB.

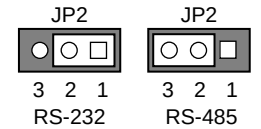
F. *Parallel Port Connector (CN4: 26-pin 2.0mm IDC)*

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

G. *Serial Port Connectors and Select Jumpers (CN3, CN2, JP2, and JP4)*

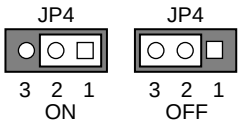
There are 2 connectors and 2 jumpers serve the on-board 2 serial ports. The following table lists the combination and pin definition of them. Use the included serial adapter cables for transferring to standard RS-232 connector (9-pin D-sub).

Functional connector and jumper of serial ports	Serial Port 1 (COM1)	Serial Port 2 (COM2)
RS-232 Signals	CN3	CN2, JP2
RS-485 Signals	-	CN2, JP2, JP4

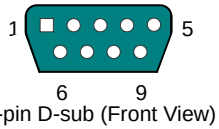


Factory Preset
JP2: 232/485 Select (COM2)

CN3	Signals	9-pin D-sub	CN2	RS-232	RS-485
1	-DCD1	1	1	-DCD2	-
2	-DSR1	6	2	-DSR2	-
3	RXD1	2	3	RXD2	485-
4	-RTS1	7	4	-RTS2	-
5	TXD1	3	5	TXD2	485+
6	-CTS1	8	6	-CTS2	-
7	-DTR1	4	7	-DTR2	-
8	-RI1	9	8	-RI2	-
9	Ground1	5	9	Ground2	-
10	Case Ground	Metal Case	10	Case Ground	Case Ground



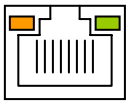
Factory Preset
JP4: Terminator Select



9-pin D-sub (Front View)

H. *LAN Connector and LED Indicators (J1: 10-pin 2.5mm JST)*

J1 provides twist-pair signals of LAN port. Use the included adapter board (FB4605A) with cable to transfer to standard RJ45 connector. 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). The following figure and table list the pin assignment of RJ45 connector on the FB4605A LAN adapter board:



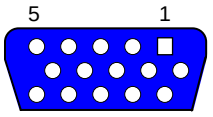
RJ45 connector on FB4605A

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

I. *CRT Connector (CN8)*

The following table and figure illustrate the pin definition of CN8 and 15-pin D-sub (DB-15) on the included CRT adapter cable:

CN8	Signal	DB-15	CN8	Signal	DB-15
1	RED	1	2	Case Ground	Case
3	GREEN	2	4	Digital Ground	5,10
5	BLUE	3	6	Analog Ground	6,7,8
7	VSYNC	14	8	DDC Data	12
9	HSYNC	13	10	DDC Clock	15

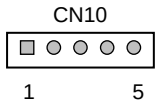


(DB-15)

J. LCD Connectors (CN7, CN9, and CN10)

CN7 supports 18-bit TTL LCD signals, CN9 supports 18-bit LVDS LCD signals, and CN10 is the power connector for inverter board.

CN9	Signal	CN9	Signal
1	Ground	2	Y0+
3	Y0-	4	Ground
5	Y1+	6	Y1-
7	Ground	8	Y2+
9	Y2-	10	Ground
11	YCK+	12	YCK-
13	Ground	14	N.C.
15	N.C.	16	Ground
17	N.C.	18	N.C.
19	Ground	20	N.C.
21	N.C.	22	Ground
23	N.C.	24	N.C.
25	Ground	26	Ground
27	+3.3V	28	+3.3V
29	+5V	30	+5V

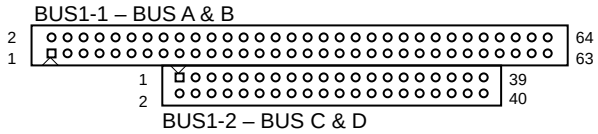


Pin 1: +12V
Pin 2: Ground
Pin 3: ENVDD
Pin 4: N.C.
Pin 5: +5V

Note: If any question when connecting FB2410 with LCD panels, you could contact technical support division of FabiaTech Corporation.

CN7	Signal	CN7	Signal	CN7	Signal	CN7	Signal
1	+5V	21	FP8	2	+5V	22	FP9
3	Ground	23	FP10	4	Ground	24	FP11
5	+3.3V	25	N.C.	6	+3.3V	26	N.C.
7	N.C.	27	FP12	8	Ground	28	FP13
9	N.C.	29	FP14	10	N.C.	30	FP15
11	FP0	31	FP16	12	FP1	32	FP17
13	FP2	33	Ground	14	FP3	34	Ground
15	FP4	35	FPCLK	16	FP5	36	FPVS
17	N.C.	37	FPDE	18	N.C.	38	FPHS
19	FP6	39	ENVDD	20	FP7	40	ENAVEE

K. PC/104 Connectors (BUS1: 64-pin IDC & 40-pin IDC)

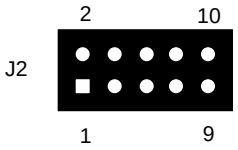


L. Power/Watchdog LED (LED1)

LED1 is used to indicate as powered-on when it lighted, and watchdog is enabled when it is blinking. The watchdog will be disabled and LED1 will always lighted after system reset.

M. USB Connector (J2)

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

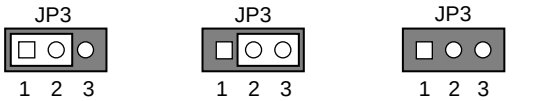
N. External Speaker Header (J5)

Pin 1: Speaker+
Pin 2: Speaker-

O. External Battery Connector and Battery Select Jumper (J8 and JP3)

J8 is used to connect an external battery pack if on-board Lithium battery is too low to keep the CMOS data, and please setting JP3 properly of on-board battery or external battery. Note that JP3 also allow you to clear CMOS data if necessary.

Pin 1: Battery+
Pin 2: Battery-
Note: 2.6V to 3.6V



P. CompactFlash Socket and Master/Slave Select (CF1 and JP1)

The CompactFlash socket CF1 (on the solder side) supports 3.3V CompactFlash and MicroDrives. JP1 is used to select master/slave device of this socket. Be sure to avoid the same master/slave setting with which connects to IDE (CN5) connector, if CF1 and CN5 are used simultaneously.

Q. SoDIMM Socket (DIMM1)

DIMM1 supports 144-pin, 3.3V, and PC-100 SDRAM with size of 32MB and 64MB.

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