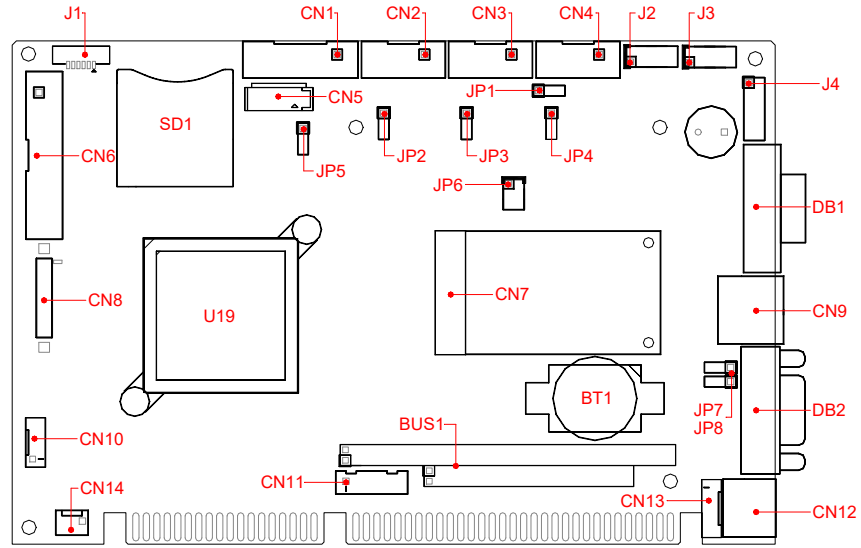
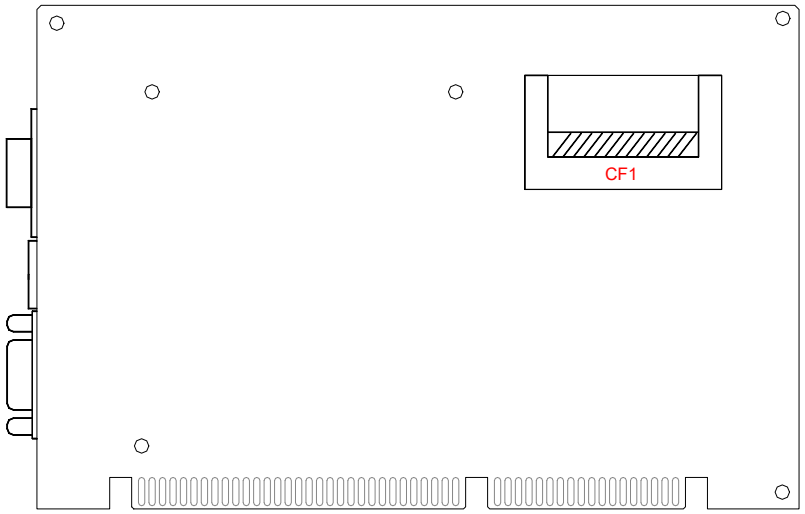
FB2402x Series User's Quick Setting

1. Brief

The FB2402x is a Low power Vortex86 DX3, all in one, half-size 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 FB2402x all-in-one CPU board.
1 serial port interface cable with bracket.
1 PS/2 keyboard and mouse port adapter cable. (Optional)
1 or 2 USB adapter cables. (Optional)
1 SATA interface cable (Optional)
1 compact disc includes software utilities and manuals.

4. Features

* On-board Vortex86 DX3 CPU (512KB L2, running at 1GHz) with heat sink only. (Fanless operation)
* Compact size slot card with fully compatible ISA and PC/104 bus.
* On-board 512MB DDR3 RAM (1GB maximum)
* 4 USB ports and 1 GbE (10/100M for FB2402A) with RJ-45 connector.
* Supports VGA and LCD/LVDS (optional) with UMA architecture.
* 1 SATA connector, 1 mSATA socket (optional), and 1 SD socket (optional) for storage devices.
* 3 RS-232 and 1 RS-232/422/485 ports.
* 1 parallel (optional) and 8 channel A/D inputs (optional).
* CompactFlash socket for CompactFlash and MicroDrives.
* On-board 128MB Flash Disk (optional).
* PS/2 keyboard and mouse interface, On-board buzzer, and LED indicator.
* Software programmable watchdog timer and Flash BIOS with easy upgrade utility.
* Compact size, 185 mm x 122 mm.

5. Connectors and Jumpers List

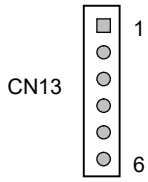
Name	Function	Name	Function
CN1	8 CH A/D Connector (optional)	J1	Reserved Connector (6-pin)
CN2	COM4 Connector (10-pin IDC)	J2	USB #3 & #4 Connector (J2*5)
CN3	COM3 Connector (10-pin IDC)	J3	USB #1 & #2 Connector (J2*5)
CN4	COM2 Connector (10-pin IDC)	J4	Multi-Function Header (J2*6)
CN5	SATA Connector	J5	Reserved Header (J1*8)
CN6	Parallel Port Connector (optional)	JP1	COM2 Terminator Select (3-pin)
CN7	mSATA Connector (optional)	JP2	COM4 Power Output Select (Reserved)
CN8	LCD Connector (40-pin DF13, option)	JP3	COM3 Power Output Select (Reserved)
CN9	LAN Connector (RJ45 w/LEDs)	JP4	COM2 Power Output Select (Reserved)
CN10	LCD Power Connector (optional)	JP5	Flash Disk* M/S Select (Reserved)
CN11	Aux. Power Connector (6-pin JST)	JP6	COM2 Mode Select (J2*3)
CN12	KB/MS Connector (6-pin mini-Din)	JP7	Int./Ext. Battery Select (3-pin)
CN13	Aux. KB/MS CN. (6-pin JST, optional)	JP8	COM1 Power Output Select (Reserved)
CN14	Cooling Fan Connector (optional)	DB1	CRT Connector (15-pin D-sub)
CF1	CompactFlash Socket (50-pin)	DB2	COM1 Connector (9-pin D-sub)
LED1	Power/Watchdog LED (Green)	BUS1	PC/104 Connector (64 and 40-pin)
SD1	SD Socket (optional)	BUS2	ISA Golden Finger (16-bit)
SP1	On-Board Buzzer	BUS3	ISA Golden Finger (8-bit)

Note*: CompactFlash Socket and On-board Flash Disk

6. Connectors and Their Relative Jumpers

A. *Keyboard and Mouse Connector (CN12 and CN13, optional)*

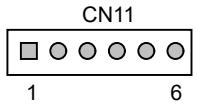
CN12 is a standard PS/2 type keyboard connector and any PS/2 type keyboard can plug into CN12 directly without extra adapter cable. CN13 provides PS/2 mouse interface, use optional mouse adapter cable to connect between CN13 and standard PS/2 mouse.



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

Note that CN12 and CN13 all support PS/2 keyboard and mouse signals and have to order 3-head cable from your supplier.

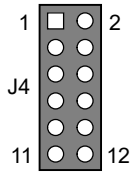
B. *Auxiliary Power Connector (CN11)*



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

Note 1: CN11 is ideal for standalone applications.
Note 2: +5V only, 2.5A Minimum.
Note 3: +12V is not necessary for this board running, it connects to LCD power connector (CN10) and cooling fan connector (CN14) only.

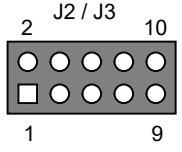
C. *Multi-Fubction Header (J4, Including Reset, External Speaker, and Indicating LEDs)*



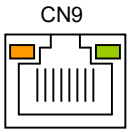
J4	Function	J4	Function
1	+5V (Ext. Speaker+)	2	-RESET (Reset Button-1)
3	Ext. Speaker-	4	Ground (Reset Button-2)
5	Ext. Speaker-	6	CF Access LED+
7	Ext. Speaker-	8	CF Access LED-
9	N.C.	10	PWR/WD LED+
11	N.C.	12	PWR/WD LED-

D. *USB Connectors (J2 and J3), LAN Connector and LED Indicators (CN9: RJ45)*

J2 and J3 support 2 port USB signals each. Use the additional adapter cables (Optional) for your USB applications. CN9 is a RJ45 connector with 2 LEDs. The orange LED indicates data is accessing and the green LED indicates on-line status.



J2/J3	Signal	J2/J3	Signal
1	USBV0/USBV2	2	Case Ground
3	USBD0-/USBD2-	4	USBG1/USBG3
5	USBD0+/USBD2+	6	USBD1+/USBD3+
7	USBG0/USBG2	8	USBD1-/USBD3-
9	Case Ground	10	USBV1/USBV3



(Front View)

E. *SATA Connector and mSATA Socket (CN5 and CN7, optional)*

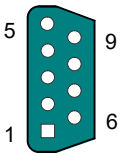
Use the optional 7-pin SATA cable, you can attach one SATA disk drive via CN5. CN7 is mSATA socket for M2 modules.

F. *Serial Port Connectors & Selector (DB2, CN4, CN3, CN2, JP1, JP2, JP3, JP4, JP6, and JP8)*

There are 4 connectors and 6 jumpers that served for on-board 4 serial ports. The following table and figure list the combination and pin definition of them:

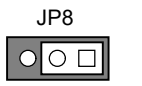
Functional connector, header, and jumper of serial ports	Serial Port 1	Serial Port 2	Serial Port 3	Serial Port 4
RS-232 Signals	DB2	CN4	CN3	CN2
Power Output Select	JP8	JP4	JP3	JP2
Mode Select	-	JP6	-	-
RS-422 Signals	-	CN4	-	-
RS-485 Signals & Terminator	-	CN4 and JP1	-	-

DB2	Signals	CN4/CN3/CN2	D-sub 9	RS-232	RS-422	RS-485
1	-DCD1	1	1	-DCD2/3/4	RX-	485-
6	-DSR1	2	6	-DSR2/3/4	-	-
2	RXD1	3	2	RXD2/3/4	RX+	485+
7	-RTS1	4	7	-RTS2/3/4	-	-
3	TXD1	5	3	TXD2/3/4	TX+	-
8	-CTS1	6	8	-CTS2/3/4	-	-
4	-DTR1	7	4	-DTR2/3/4	TX-	-
9	-RI1	8	9	-RI2/3/4	-	-
5	Ground1	9	5	Ground2/3/4	-	-
Metal	Case Ground	10	Metal	Case Ground	-	-

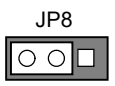


DB2
(D-sub 9)

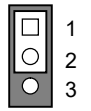
Note: Serial port 2, 3, 4 all are necessary to use included serial port interface cable for standard 9-pin D-sub output.



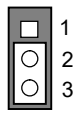
None
Factory Preset w/Jumper Wire



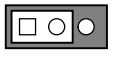
-RI1: +5V



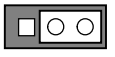
None
Factory Preset w/Jumper Wire



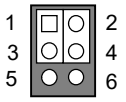
-RIx: +5V



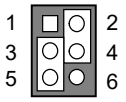
ON



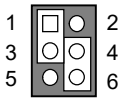
OFF
Factory Preset



RS-232
Factory Preset

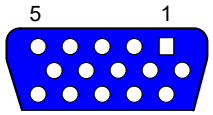


RS-422



RS-485

G. CRT Connector (DB1)



DB1 (D-sub 15)

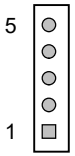
DB1	Signal	DB1	Signal
1	Red	13	Hsync
2	Green	14	Vsync
3	Blue	12	DDC Data
5, 10	Digital Ground	15	DDC Clock
6, 7, 8	Analog Ground	Others	Not Used

H. LCD Connectors (CN8 and CN10, all are Optional)

CN8	Signal	CN8	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	Y3+.
15	Y3-	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	+3.3V	30	+3.3V

CN8 supports 24-bit TTL LCD signals, and CN10 is the power connector for LCD panel.

CN10



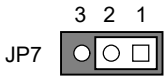
Pin 1: +12V
Pin 2: Ground
Pin 3: FPEN
Pin 4: N.C.
Pin 5: +5V

Note: If any question when connecting FB2402x with LCD panels, you could contact technical support division of FabiaTech Corporation.

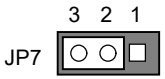
I. CPU Cooling Fan Connector (CN14, optional)

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

J. Clear CMOS RAM (JP7)



Normal Operation
Factory Preset



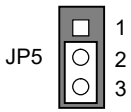
Clear CMOS Data
Short pin 2 & 3 for about 3 seconds

K. Parallel Port Connector (CN6: 26-pin 2.54mm IDC, optional)

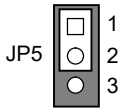
The included printer interface cable (optional) is used to transfer 26-pin connector into standard parallel port connector (D-sub 25-pin).

L. CompactFlash Socket and Master/Slave Select (CF1 and JP5)

The CompactFlash socket CF1 (on the solder side) supports 3.3V CompactFlash and MicroDrives. JP5 is used to select master/slave device of this socket and optional on-board Flash Disk.



CF1 Socket: Master
Flash Disk: Slave
(Factory Preset w/Jumper Wire)

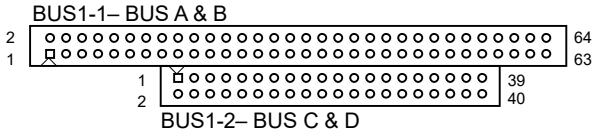


CF1 Socket: Slave
Flash Disk: Master

M. A/D Input Connector (CN1: 16-pin 2.54mm IDC, Optional)

CN1	Signals	CN1	Signals
1	Analog I/P 0	2	Ground
3	Analog I/P 1	4	Ground
5	Analog I/P 2	6	Ground
7	Analog I/P 3	8	Ground
9	Analog I/P 4	10	Ground
11	Analog I/P 5	12	Ground
13	Analog I/P 6	14	Ground
15	Analog I/P 7	16	Ground

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



End of Document