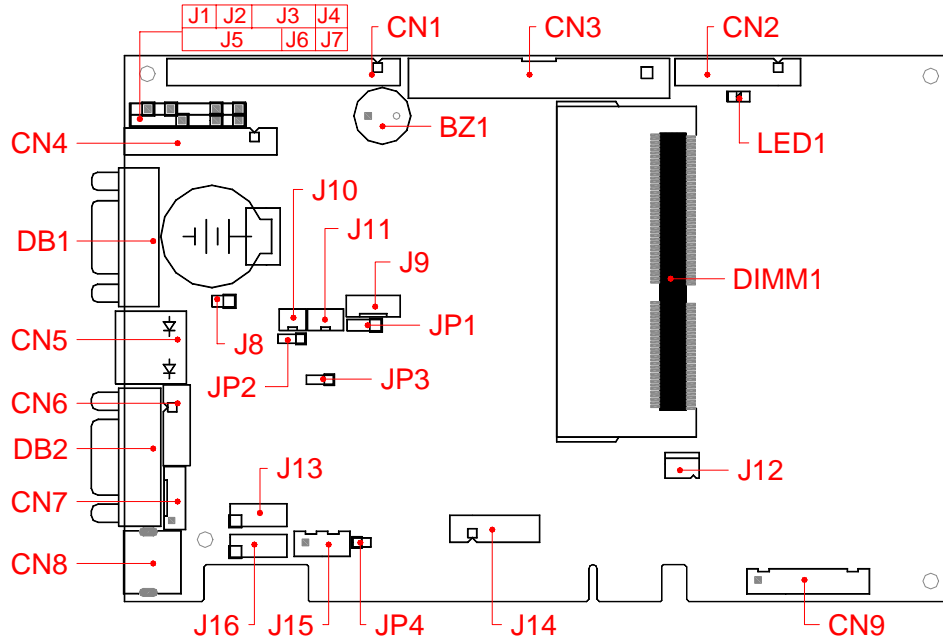


## 1. Brief

The FB2645 series is a Low power PII or PIII Grade, 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 FB2645(x) all-in-one CPU board.
- 1 40-pin hard disk drive interface cable.
- 1 20-pin to 34-pin floppy drive interface cable.
- 1 serial port and parallel port interface cable with bracket.
- 1 Y-type keyboard and mouse port adapter cable.
- 1 USB and Audio adapter board with cables
- 1 compact disc includes software utility.
- 1 hard copies of this quick setup manual.

## 4. Features

- \* On-board low power Intel Celeron or PIII CPU with heat sink only. (Fanless operation)
- \* Compact size slot card with PICMG PCI expansion bus.
- \* Intel 815E+ICH2 chipset and 256KB or above L2 cache inside the CPUs.
- \* On-board 128MB SDRAM and 1 SoDIMM socket for up to 512MB maximum.
- \* 10/100 base-TX or Giga Ethernet with RJ-45 connector.
- \* Onboard VGA port (815E embedded) supports CRT interface with up to 4MB shared memory.
- \* 1 floppy, 2 PCI IDE, 1 parallel, 1 RS-232 and 1 RS-232/422/485 ports.
- \* 1 CompactFlash socket for 3.3V CompactFlash and MicroDrives.
- \* PS/2 compatible keyboard and mouse interface.
- \* E2KEY functions for safe CMOS data keeping. (Optional)
- \* On-board buzzer and LED indicator.
- \* 4 USB ports and hardware monitoring functions.
- \* Provides 1 CPU cooling fan connector for monitoring.
- \* Software programmable watchdog timer.
- \* Provides AC97 Audio function
- \* Flash BIOS with easy upgrade utility.
- \* Compact size, 185 mm x 122 mm.

## 5. Connectors List

Name	Function	Name	Function
CN1	44-pin IDE Connector	J1	Reset Header (2-pin)
CN2	20-pin Floppy Connector	J2	Hard Disk LED (2-pin)
CN3	40-pin IDE Connector	J3	External Speaker (4-pin)
CN4	26-pin Parallel Port	J4	ATX Power Switch (2-pin)
CN5	LAN (RJ-45) Connector	J5	Reserved (5-pin)
CN6	10-pin Serial Port 2	J6	Power/Watchdog LED (3-pin)
CN7	6-pin Keyboard & Mouse	J7	Thermal Sensor (2-pin)
CN8	Keyboard & Mouse (mini-DIN)	J8	LAN Access LED (2-pin)
CN9	9-pin Aux. Power Inputs	J9	TTL I/O Lines (5-pin)
		J10	Reserved (2-pin)
DB1	CRT Connector (D-sub 15)	J11	Internal RS-232 (3-pin)
DB2	Serial Port 1 (D-sub 9)	J12	CPU Cooling Fan (3-pin)
		J13	USB Port 0 & 1 (10-pin)
DIMM1	144-pin SoDimm Socket	J14	AC97 Audio Signals (12-pin)
		J15	ATX Power Controls (4-pin)
		J16	USB Port 2 & 3 (10-pin)
		J17	CompactFlash Socket

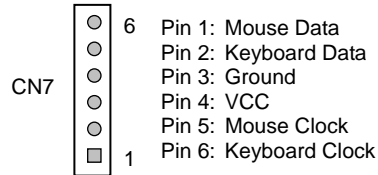
## 6. Connectors and Their Relative Jumpers

### A. Reset Header (J1)

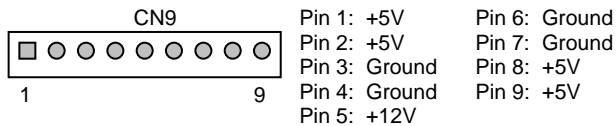
J1 is a 2-pin header for connecting to system reset bottom. Close these 2 pins to hardware reset FB2645(x) and restart system booting.

## B. Keyboard and Mouse Connectors (CN7 and CN8)

CN8 is a standard PS/2 type keyboard connector and any PS/2 type keyboard can plug into CN8 directly without extra adapter cable. Use the included keyboard+mouse adapter cable, you can connect keyboard and mouse simultaneously. CN7 is another way to attach keyboard and mouse with optional adapter cable.



## C. Auxiliary Power Connector (CN9: 9-pin 2.5mm JST)



Note: This power connector is ideal for standalone applications.

## D. IDE Hard Disk Connectors (CN3 - 40-pin 2.54mm IDC, & CN1 - 44-pin 2.0mm IDC)

Use the included 40-pin hard disk cable, you can attach up to two 3.5" hard disk drives. The 44-pin connector is ideal for connecting 2.5" HDD directly, but the 44-pin cable is optional.

## E. Floppy Connector (CN2: 20-pin 2.0mm IDC)

Use the included floppy adapter cable, you can attach up to two 3.5" floppy disk drives.

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

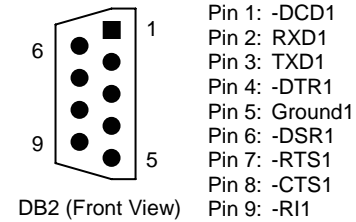
The included printer interface cable is used to transfer 26-pin connector into standard parallel port connector (D-sub 25-pin).

## G. Serial Port Connectors & Selector (DB2, CN6, J11, and JP3)

There are 3 connectors and 1 jumper that served for onboard 2 serial ports. The following table and figure list the combination and pin definition of them:

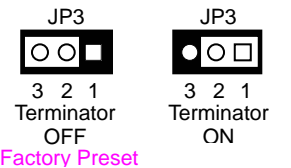
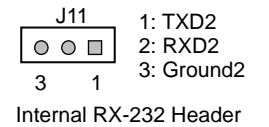
Functional connector, header, and jumper of serial ports	Serial Port 1	Serial Port 2
RS-232 Signals	DB2	CN6
RS-422 Signals	-	CN6
RS-485 Signals	-	CN6
Terminator for RS-422 & RS-485	-	JP3
Internal TXD/RXD	-	J11

## (1) Serial Port 1 (DB2, 9-pin D-sub connector)



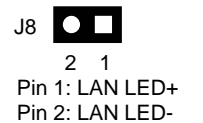
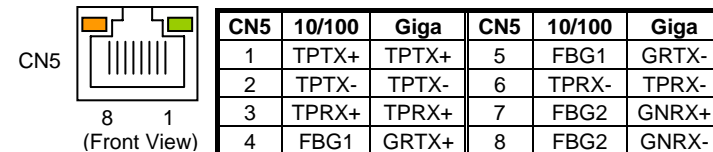
## (2) Serial Port 2 (CN6, J11, and JP3)

CN6	D-sub 9	RS-232	RS-422	RS-485
1	1	-DCD2		-
2	6	-DSR2		-
3	2	RXD2	RX-	485-
4	7	-RTS2	TX-	-
5	3	TXD2	RX+	485+
6	8	-CTS2	TX+	-
7	4	-DTR2		-
8	9	-RI2		-
9	5	Ground2		
10	Metal	Case Ground		

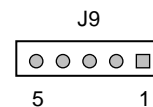


## H. LAN Connector and LED Indicators (CN5: RJ45, and J8)

CN5 is a RJ45 connector with 2 LEDs. The up side LED (orange) indicates data is accessing and the down side LED (green) indicates on-line status. (When lighted indicates on-line and off indicates off-line) The following lists the pin assignment of CN5 and J8:

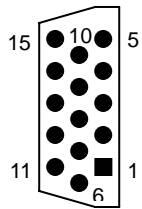


## I. TTL I/O Connector (J9: 5-pin 2.0mm JST)



J9	TTL Lines	Bit Location
1	Output Line 0	Bit 4 of 800h
2	Output Line 1	Bit 5 of 800h
3	Input Line 0	Bit 4 of 801h
4	Input Line 1	Bit 5 of 801h
5	Ground	-

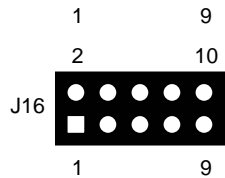
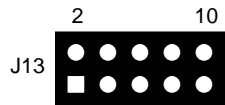
### J. CRT Connector (DB1)



DB1 (Front View)

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

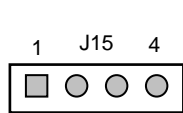
### K. USB Connectors (J13 and J16)



J13	Signal	J16	Signal
1	USBV0	1	USBV2
2	Case Ground	2	Case Ground
3	USBD0-	3	USBD2-
4	USBG1	4	USBG3
5	USBD0+	5	USBD2+
6	USBD1+	6	USBD3+
7	USBG0	7	USBG2
8	USBD1-	8	USBD3-
9	Case Ground	9	Case Ground
10	USBV1	10	USBV3

### L. Soft Start Connector (J15 and J4) – for ATX Power Supply Only

When ATX power supply is used, you can connect J15 to ATX control signals from the back plane, and connect J4 to a push bottom switch as soft power switch.



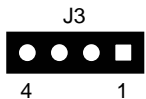
- Pin 1: Ground
- Pin 2: PSON#
- Pin 3: Power OK
- Pin 4: VCCSB



- ATX Soft Power Switch Header

### M. On-Board Buzzer and External Speaker Header (BZ1 and J3)

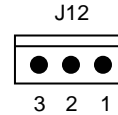
BZ1 is the on-board buzzer and you can use one 2-pin or 4-pin cable connects between an extra 8 ohms speaker with J3 header.



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

### N. Cooling Fan Connector and Temperature Sensor Header(J12, and J7)

J12 is 3-pin Molex connector which is reserved for driving CPU cooling fan. FB2645(x) provides one 2-pin header (J7) for connecting a temperature sensor anywhere the system case.



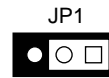
For CPU Cooling Fan



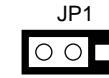
Resistive Temperature Sensor Input Header

### O. CompactFlash Socket and Master/Slave Select (J17 and JP1)

The CompactFlash socket J17 (on the solder side) is optional and 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#2 (CN1) connector, if you use J17 and CN1 simultaneously.



Master  
Factory Preset



Slave

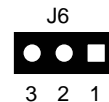
### P. Audio Connector (J14: 12-pin 2.0mm IDC)

J14	Signal	J14	Signal
1	BITCLK	2	+12V
3	+5V	4	SYNC
5	Ground	6	Ground
7	+3.3V	8	ACRST#
9	SDOUT	10	SPKR
11	SDIN	12	SDIN

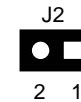
J14 provides AC97 signals for Audio function. Use the included FB4641 (Audio Adapter Board) and cable for your Audio applications.

### Q. Power/Watchdog and HDD LED Indicators (J6 and J2)

LED1 is the on-board Power/Watchdog (PWR/WD) LED and J6 (3-pin header) is used to connect an external PWR/WD LED. J2 is the hard disk LED header.



- Pin 1: PWR/WD LED+
- Pin 2: PWR/WD LED-
- Pin 3: PWR/WD LED-

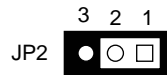


- Pin 1: Hard Disk LED+
- Pin 2: Hard Disk LED-

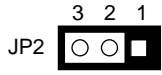
**R. SoDIMM Socket (DIMM1)**

DIMM1 supports 144-pin, 3.3V, and PC-133 SDRAM modules with size of 32MB, 64MB, 128MB, 256MB, and 512MB.

**S. Clear CMOS Data (JP2)**



Normal Operation



Clear CMOS Data

**T. Main Extension BUS (BUS1: PICMG PCI)**

FB2645(x) PCI BUS is designed to be able to plug into a 5V PCI system slot. The I/O device board will not work if you plug FB2645(x) into PCI I/O slots.