

Quick Installation Guide

ECB-641 / ECB-641C

**STPC Elite / Consumer II 133 Half-size CPU Card with LCD Interface,
10/100Base-Tx Ethernet**

2nd Ed. – 04 May, 2005

FCC STATEMENT

THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIREED OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

Notice:

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

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If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your Evaluate's products. In fact, most problems reported are minor and are able to be easily solved over the phone.

In addition, free technical support is available from Evaluate's engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

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Evalue warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Evalue, or which have been subject to misuse, abuse, accident or improper installation. Evalue assumes no liability under the terms of this warranty as a consequence of such events. Because of Evalue's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If any of Evalue's products is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time, and freight. Please consult your dealer for more details. If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU type and speed, Evalue's products model name, hardware & BIOS revision number, other hardware and software used, etc.) Note anything abnormal and list any on-screen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information available.
3. If your product is diagnosed as defective, obtain an RMA (return material authorization) number from your dealer. This allows us to process your good return more quickly.
4. Carefully pack the defective product, a complete Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Packing List

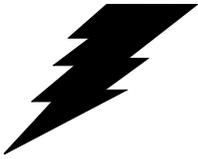
Before you begin installing your single board, please make sure that the following materials have been shipped:

- 1 ECB-641 STPC Elite / ECB-641C Consumer II 133 Half-size CPU card
- 1 Quick Installation Guide
- 1 CD-ROM or DVD-ROM contains the followings:
 - User's Manual (this manual in PDF file)
 - Ethernet driver and utilities
 - VGA drivers and utilities
- Cable set includes the followings:
 - 1 ATA-33 IDE cable (40-pin, pitch 2.54mm)
 - 1 FDD cable (34-pin, pitch 2.54mm)
 - 1 Bracket with one Serial and one Printer cable (10-pin 2.54mm / 26-pin 2.54mm)
 - 1 PS/2 keyboard and mouse Y cable (6-pin, Mini-DIN)

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

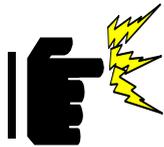
1. Safety Precautions

1.1 Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

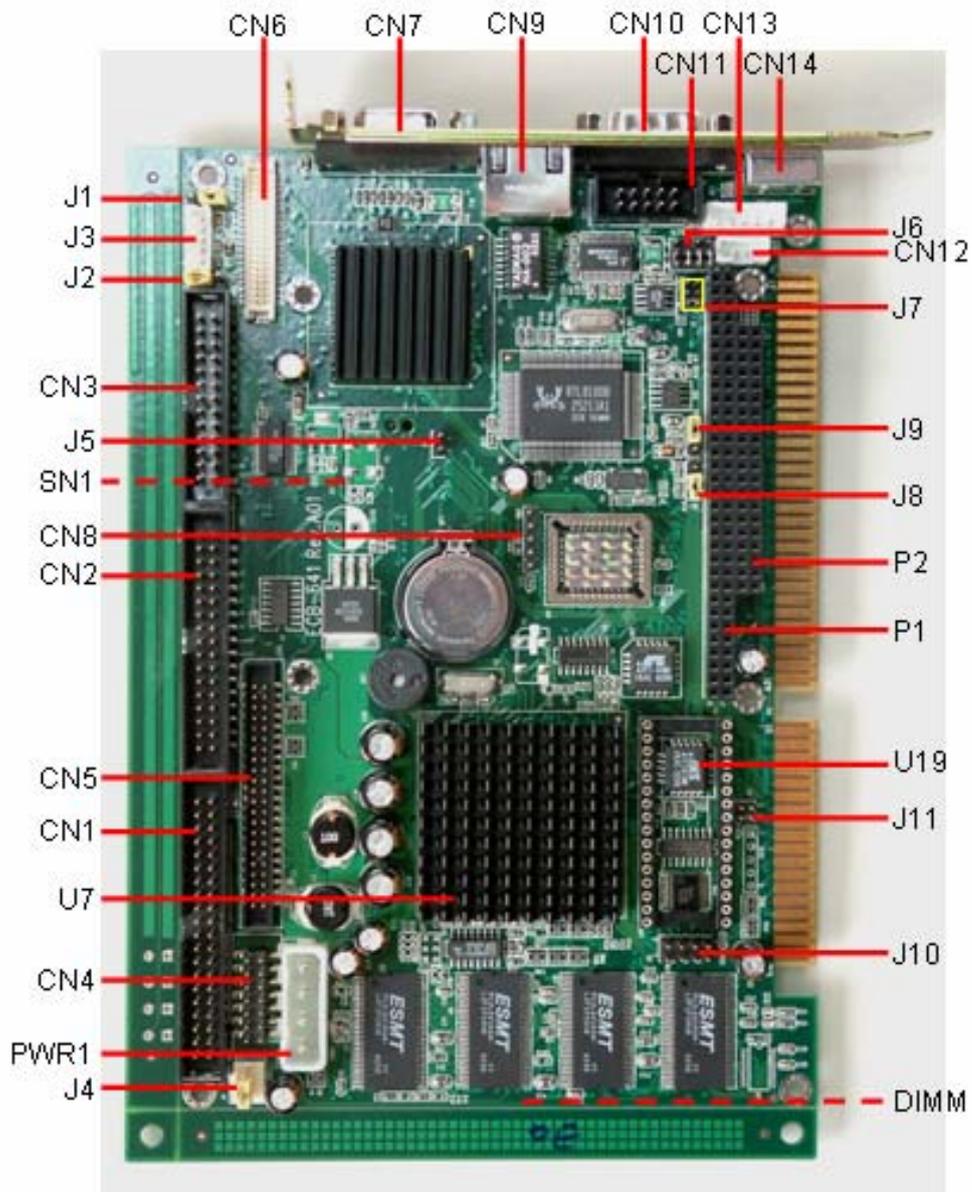
1.2 Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

2. Jumper & Connector

2.1.1 Jumper & Connector Layout



2.1.2 Jumper & Connector List

Connectors on the board are linked to external devices such as hard disk drives, keyboard, mouse, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

The following tables list the function of each of the board's jumpers and connectors.

Jumpers		
Label	Function	Note
J5	CF Master/Slave mode Select	2 x 1 header, pitch 2.54mm
J6	COM2 RS-232/422/485 select	4 x 3 header, pitch 2.0mm
J7	COM2 RS-232/422/485 select	3 x 2 header, pitch 2.0mm (J7)
J8	AT/ATX power select	3 x 1 header, pitch 2.54mm
J9	Clear CMOS	3 x 1 header, pitch 2.54mm
J11	M-Systems DiskOnChip memory address select	2 x 2 header, pitch 2.0mm

Connectors		
Label	Function	Note
CN1	Primary IDE connector	20 x 2 header, pitch 2.54mm
CN2	Floppy connector	17 x 2 header, pitch 2.54mm
CN3	Parallel port connector	13 x 2 header, pitch 2.54mm
CN4	Front panel connector	7 x 2 header, pitch 2.54mm
CN5	Secondary IDE connector	22 x 2 header, pitch 2.0mm
CN6	LCD panel connector (ECB-641 only)	HIROSE DF13-40DP-1.25V
CN7	VGA connector	15-pin female D-sub connector
CN8	IrDA connector	5 x 1 header, pitch 2.54mm
CN9	10/100 Base-Tx Ethernet connector	RJ-45
CN10	Serial port 1 connector	9-pin male D-sub connector
CN11	Serial port 2 connector	5 x 2 header, pitch 2.54mm
CN12	Auxiliary power connector	4 x 1 wafer, pitch 2.0mm
CN13	Internal keyboard connector	5 x 1 wafer, pitch 2.54mm
CN14	PS/2 keyboard and mouse connector	6-pin mini DIN
CN15	TV Output connector (ECB-641C only)	5-pin header, pitch 2.54mm
DIMM	144-pin SODIMM socket	
J1	LCD backlight brightness adjustment connector (ECB-641 only)	3 x 1 header, pitch 2.54mm
J2	LCD backlight contrast adjustment connector (ECB-641 only)	3 x 1 header, pitch 2.54mm
J3	LCD inverter connector (ECB-641 only)	5 x 1 wafer, pitch 2.54mm
J4	Power connector	3 x 1 wafer, pitch 2.54mm
J10	Digital I/O connector	4 x 2 header, pitch 2.54mm
P1, P2	PC/104 connector	
SN1	Compact Flash connector	
U19	M-Systems DiskOnChip socket	

3. Hardware Configuration

3.1 Setting Jumpers

3.1.1 CF Master / Slave Select (J5)

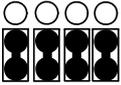
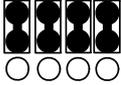
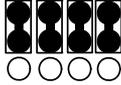
You can use J5 to short or open pin 1-2 to set Master / Slave mode for the Compact Flash.

CF Master/Slave mode Select (J5)		
	Master	Slave*
J5	1 2 	1 2 

* default

3.1.2 COM2 RS-232/422/485 Select (J6, J7)

The ECB-641 COM2 serial port can be selected as RS-232, RS-422, or RS-485 by setting J6 & J7.

COM2 RS-232/422/485 Select (J6, J7)			
	RS-232*	RS-422	RS-485
J6	3 6 9 12  1 4 7 10	3 6 9 12  1 4 7 10	3 6 9 12  1 4 7 10
J7	5 6 3 4 1 2 	5 6 3 4 1 2 	5 6 3 4 1 2 

*default

3.1.3 AT/ATX Power Select (J8)

You can use J8 to select the power supply type. To use the AT power supply, set the J8 to 1-2 closed. Set J8 to 2-3 closed if ATX power supply is used.

AT/ATX Power Select (J8)	
	AT P/S*
J8	

	ATX P/S
J8	

*default

Note:

Set J4 to 2-3 closed if AT power supply is used.

3.1.4 Clear CMOS (J9)

You can use J9 to clear the CMOS data if necessary. To reset the CMOS data, set J9 to 1-2 closed for just a few seconds, and then move the jumper back to 2-3 closed.

Clear CMOS (J9)	
	Protect*
J9	

	Clear CMOS
J9	

* default

3.1.5 M-Systems DiskOnChip Memory Address Select (J11)

The M-systems DiskOnChip memory address can be selected by J11. The choice is D0000~D1FFF, D4000~D5FFF, D8000~D9FFF, or Disabled.

M-systems DiskOnChip Memory Address Select (J11)			
	D0000*	D4000	D8000
J11			

	Disabled
J11	

* default

3.2 Connector Definitions

3.2.1 Front Panel Connector (CN4)

Signal	PIN		Signal
SPKIN	14	7	GND
NC	13	6	PWRBT
NC	12	5	NC
+5V	11	4	HHLED
GND	10	3	+5V
NC	9	2	RESET
+5V	8	1	GND

3.2.2 LCD panel Connector (CN6)

Signal	PIN		Signal
ENBKL	39	40	ENVEE
M	37	38	LP
SHFCLK	35	36	FLM
GND	33	34	GND
P22	31	32	P23
P20	29	30	P21
P18	27	28	P19
P16	25	26	P17
P14	23	24	P15
P12	21	22	P13
P10	19	20	P11
P8	17	18	P9
P6	15	16	P7
P4	13	14	P5
P2	11	12	P3
P0	9	10	P1
VCON	7	8	GND
+3.3V	5	6	+3.3V
GND	3	4	GND
+5V	1	2	+5V

3.2.3 Signal Description – LCD Panel Connector (CN6)

P [23:0]	Flat Panel Data bit 23 to bit 0
SHFCLK	Flat Panel Shift Clock. This is the pixel clock for Flat Panel Data
LP	DSTN LCD: Line Pulse TFT LCD: LCD Horizontal Sync
FLM	First Line Marker. Flat panel equivalent of VSYNC (vertical synchronization)
M	M-signal or Display Enable. This signal is used to indicate the active horizontal display time. FPR3E [7] is used to select 1 = M-signal 0 = Display Enable
ENBKL	Flat Panel Enable. This signal needs to become active after all panel voltages, clocks, and data are supplied. This signal also needs to become inactive before any panel voltages or control signals are removed. FPEN is part of the VESA FPMI-1B specification.
ENVEE	Flat Panel Voltage Bias Enable. This signal is used to control LCD Bias power.

3.2.4 Signal Configuration – DSTN & TFT Panel Displays (CN6)

Pin name	Color DSTN		Color TFT				
	16-bit	24-bit	9-bit	12-bit	18-bit	24-bit	12-bit x 2
P23		UD11				R7	RB3
P22		UD10				R6	RB2
P21		UD9			R5	R5	RB1
P20		UD8			R4	R4	RB0
P19	UD7	UD7		R3	R3	R3	RA3
P18	UD6	UD6	R2	R2	R2	R2	RA2
P17	UD5	UD5	R1	R1	R1	R1	RA1
P16	UD4	UD4	R0	R0	R0	R0	RA0
P15	UD3	UD3				G7	GB3
P14	UD2	UD2				G6	GB2
P13	UD1	UD1			G5	G5	GB1
P12	UD0	UD0			G4	G4	GB0
P11		LD11		G3	G3	G3	GA3
P10		LD10	G2	G2	G2	G2	GA2
P9		LD9	G1	G1	G1	G1	GA1
P8		LD8	G0	G0	G0	G0	GA0
P7	LD7	LD7				B7	BB3
P6	LD6	LD6				B6	BB2
P5	LD5	LD5			B5	B5	BB1
P4	LD4	LD4			B4	B4	BB0
P3	LD3	LD3		B3	B3	B3	BA3
P2	LD2	LD2	B2	B2	B2	B2	BA2
P1	LD1	LD1	B1	B1	B1	B1	BA1
P0	LD0	LD0	B0	B0	B0	B0	BA0

Note:

The principle of attachment of TFT panels is that the bits for red, green, and blue use the least significant bits and skip the most significant bits if the display interface width of the TFT panel is insufficient.

3.2.5 IrDA Connector (CN8)

Signal	PIN
IRTX	5
GND	4
IRRX	3
CIRRX	2
+5V	1

3.2.6 Signal Description – IrDA Connector (CN8)

IRRX	Infrared Receiver input
IRTX	Infrared Transmitter output

3.2.7 Serial port 1 with External DB9 Connector (CN10)

Signal	PIN		Signal
GND	5		
		9	RI
TR	4		
		8	CTS
TxD	3		
		7	RTS
RxD	2		
		6	DSR
DCD	1		

3.2.8 Serial port 2 Connector in RS-232 mode (CN11)

Signal	PIN		Signal
NC	10	9	RI
CTS	8	7	RTS
DSR	6	5	GND
DTR	4	3	TxD
RxD	2	1	DCD

3.2.9 Serial Port 2 Connector in RS-422 Mode (CN11)

Signal	PIN		Signal
NC	10	9	NC
NC	8	7	NC
NC	6	5	NC
Rx-	4	3	Tx+
Rx+	2	1	Tx-

3.2.10 Serial Port 2 Connector in RS-485 Mode (CN11)

Signal	PIN		Signal
NC	10	9	NC
NC	8	7	NC
NC	6	5	NC
NC	4	3	DATA+
NC	2	1	DATA-

3.2.11 Auxiliary Power Connector (CN12)

Signal	PIN
-12V	4
GND	3
GND	2
-5V	1

3.2.12 Internal Keyboard Connector (CN13)

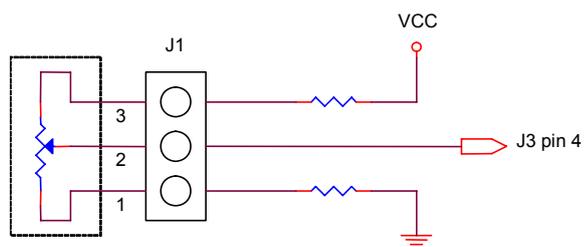
Signal	PIN
+5V	5
GND	4
NC	3
KBDT	2
KBCK	1

3.2.13 TV Output Connector (CN15)

Signal	PIN
CVBS	1
GND	2
Y	3
C	4
GND	5

3.2.14 LCD Backlight Brightness Adjustment Connector (J1)

Signal	PIN
+5V	3
VR	2
GND	1



Variation Resistor (Recommended: 4.7KΩ, >1/16W)

3.2.15 LCD Backlight Contrast Adjustment Connector (J2)

Signal	PIN
+3.3V	3
Vcon	2
GND	1

3.2.16 LCD Inverter Connector (J3)

Signal	PIN
+12V	1
GND	2
ENBKL	3
VR	4
+5V	5

Note:

For inverters with adjustable Backlight function, it is possible to control the LCD brightness through the VR signal controlled by **J1**. Please see the **J1** section for detailed circuitry information.

3.2.17 Power Connector (J4)

PIN	Signal
1	PSON#
2	+5V
3	VCCSB

Note:

Set J4 to 2-3 closed if AT power supply is to be used.

3.2.18 Digital I/O Connector (J10)

Signal	PIN		Signal
DO3	7	8	DI3
DO2	5	6	DI2
DO1	3	4	DI1
DO0	1	2	DI0

