

Half-size PCIe CPU Card with Intel® Atom™ N270 1.6GHz processor,VGA/LVDS/HDTV-out,Dual PCIe GbE,USB2.0 and SATA

PIC0e-945GSE

Quick Installation Guide

Version 1.0

Jul. 21, 2009

Package List

PIC0e-945GSE package includes the following items:

- 1 x PIC0e-945GSE Single Board Computer
- 1 x Mini Jumper Pack
- 1 x Dual RS-232 cable with bracket
- 2 x SATA cable
- 1 x KB/MS Y cable
- 1 x USB cable with bracket
- 1 x Utility CD
- 1 x QIG (Quick Installation Guide)



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Specifications

- CPU: On board Intel® Atom™ N270 1.6GHz/512KB L2 Cache with a FSB 533MHz
- System Chipset: Intel® 945GSE + ICH7M
- BIOS: AMI Flash BIOS
- System memory:
 - On board DDR2 533MHz 512MB
 - One 240-pin Dual channel DDR2 400/533 MHz up to 2GB
- Ethernet:
 - Dual PCI interface Realtek RTL8110SC GbE Chipsets
- I/O Interface
 - 2 x RS-232
 - 1 x LPT
 - 7 x USB 2.0 (1 on bracket, 6 on board)
 - 2 x SATA
 - 1 x Infrared interface
 - 1 x PS/2 connector for KB/MS
 - 1 x 6-pin header for KB/MS (2.0mm pitch)
- Digital I/O: 8-bit digital I/O, 4-bit input/ 4-bit output
- Super I/O: ITE IT8718F
- Display Interface:
 - VGA integrated in Intel® 945GSE
 - 18/24-bit Dual channel LVDS
 - HDVT/TV support NTSC/PAL/HDTV resolution(1080i max.) output
 - SDVO Interface (Option)
- Audio:
 - 7.1 Channel HD Audio Kit with Realtek ALC883 support Dual audio streams
 - 5.1 Channel Audio Kit with Realtek ALC655 AC'97 codec
- SSD: CF type II
- WDT: Software programmable supports 1-255 sec. System reset
- Power supply: AT/ATX support
- Power Consumption
 - 5V@3.38A, 12V@0.19A(Intel® Atom™ N2701.6G with DDR2

667MHz 1GB DRAM)

- Temperature: Operation:0~60°C (32~140°F)
- Humidity: Operation: 5%~95% non-condensing
- Dimension: 185mm x 122mm
- Weight: GW: 1000g

Ordering Information

- PICOe-945GSE-N270-512MB-R10 :
Half-size PCIe CPU Card with Intel® Atom™ N270 1.6GHz processor, on-board 512MB Memory, VGA/LVDS/HDTV-out, Dual PCIe GbE, USB2.0 and SATA
- AC-KIT883HD-R10 :
7.1 Channel HD Audio Kit with Realtek ALC883 support Dual Audio streams
- AC-KIT08R-R10 :
5.1 Channel AC'97 Audio Kit with Realtek ALC655
- 32200-015100-RS : LPT Cable
- 32100-088600-RS : SATA Power Cable
- HDTV-CABLESET-01 : HDTV Cable Set with S-Video, Composite and Component interfaces

Jumpers setting and Connectors

LABEL	FUNCTION
J_CMOS1	CMOS state setting jumper
J_VLVDS1	LCD Voltage Selector jumper
J_LCD_TYPE1	LVDS Panel Resolution Selection jumper
J_PCIE1	PCIe Status Selector jumper
JCF1	CF Card setting jumper
ATXCTL1	AT/ATX Power Mode Setting connector
LAN1 LAN2	RJ-45 LAN Connector
USB_C1	USB Port Connectors
USB1 USB2 USB3	Internal USB Connectors
KB_MS1	6-pin Header Keyboard/Mouse Connector
KB_MS2	PS/2 Mouse & Keyboard Connector
VGA1	VGA 15-pin Female Connector
COM1,COM2	Internal Serial Port Connectors (RS-232)
J_AUDIO1	External Audio Module Connector
S_ATA1 S_ATA2	Serial ATA Connectors
IR1	IrDA Infrared Interface Connector
JSPI1	Flash SPI ROM Connector
TV1	TV Out Connector
INVERTER1	LVDS Panel Voltage Supply Connector
LVDS1	LVDS Panel Connector
CPU_FAN1	Fan Connector
DIO1	Digital I/O Connector
F_PANEL1	PWR & RST Buttons and Indicators
LPT1	Parallel Port Connector
SDVO1	SDVO Connector
BAT2	Battery connector
CF1	CF II Slot
DIMM1	SO-DIMM DDR2 slot

J_CMOS1: Clear CMOS Setup	
J_CMOS1	DESCRIPTION
1-2 (Default)	Keep CMOS Setup (Normal Operation)
2-3	Clear CMOS Setup

JCF1: CF Card Setup	
JCF1	DESCRIPTION
Short	Master
Open (Default)	Slave

J_VLVDS1: Set The Panel Voltage	
J_VLVDS1	DESCRIPTION
1-2 (Default)	Set The Voltage Level Of Panel To 3.3V
Short 2-3	Set The Voltage Level Of Panel To +5V

J_PCIE1: PCIe interface Setup	
J_PCIE1	DESCRIPTION
1-2 Short (Default)	Set up the interface of PCIe is x1
1-2 Open	Set up the interface of PCIe is x4

J_LCD_TYPE1 : LVDS Panel Resolution Selection	
JP1	DESCRIPTION
OPEN	640 X 480 (18-bit)
1-2	800 X 480 (18-bit)
3-4 (Default)	800 X 600 (18-bit)
1-2 & 3-4	1024 X 768 (18-bit)
5-6	1280 X 1024 (36-bit)
1-2 & 5-6	1400 X 1050 (36-bit)
3-4 & 5-6	1400 X 900 (36-bit)
1-2 & 3-4 & 5-6	1600 X 1200 (36-bit)

ATXCTL1: Backplane to Mainboard Connector	
PIN	DESCRIPTION
1	GND
2	PS_ON#
3	5VSB

Power	DESCRIPTION
AT (Default)	Short 1-2.
ATX	Connect "PS_ON# & 5VSB Cable".

TV1: Video output for television			
S-Video Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	AGREEN_Y
3	GND	4	ARED_C
RCA Connector (only video signal)			
5	GND	6	ABLUE_CVBS

LVDS1: LVDS Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND1	2	GND2
3	A_Y0	4	A_Y0#
5	A_Y1	6	A_Y1#
7	A_Y2	8	A_Y2#
9	A_CK	10	A_CK#
11	A_Y3	12	A_Y3#
13	GND3	14	GND4
15	B_Y0	16	B_Y0#
17	B_Y1	18	B_Y1#
19	B_Y2	20	B_Y2#
21	B_CK	22	B_CK#
23	B_Y3	24	B_Y3#
25	GND5	26	GND6
27	VCC1	28	VCC2
29	VCC3	30	VCC4

COM1, COM2: Internal Serial Port Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DCD#	6	DSR#
2	RXD	7	RTS#
3	TXD	8	CTS#
4	DTR#	9	RI#
5	GND	10	NC

USB1 - USB2 - USB3: Internal USB Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC(+5V)	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	VCC(+5V)

DIO1: Digital Input / Output Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	VCC
3	OUTPUT 3	4	OUTPUT 2
5	OUTPUT 1	6	OUTPUT 0
7	INPUT 3	8	INPUT 2
9	INPUT 1	10	INPUT 0

F_PANEL1: PWR & RST Buttons and Indicators panel					
	PIN	DESCRIPTION	PIN	DESCRIPTION	
PWRBTN	1	PWR_BTN+	2	PWR_LED+	Power LED
	3	PWR_BTN-	4	PWR_LED-	
HDD LED	5	HDD_LED+	6	RESET+	RESET
	7	HDD_LED-	8	RESET-	

IR1: IrDA connector	
PIN	DESCRIPTION
1	VCC
2	NC
3	IR-RX
4	GND
5	IR-TX

J_AUDIO1: External Audio Module Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	SYNC	2	BITCLK
3	SDOUT	4	PCBEEP
5	SDIN	6	RST#
7	VCC	8	GND
9	+12V		

JSPI1:FlashSPI ROM			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	3.3V	2	GND
3	CS0	4	CLK
5	SO0	6	SI
7	N/C	8	N/C

LPT1: Parallel Port Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	STROBE#	14	AUTO FORM FEED #
2	DATA0	15	ERROR#
3	DATA1	16	INITIALIZE#
4	DATA2	17	PRINTER SELECT LN#
5	DATA3	18	GND
6	DATA4	19	GND
7	DATA5	20	GND
8	DATA6	21	GND
9	DATA7	22	GND
10	ACKNOWLEDGE#	23	GND
11	BUSY	24	GND
12	PAPER EMPTY	25	GND
13	PRINTER SELECT	26	N/C

SDVO1:SDVO CONNECTOR (Option)			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	SDVOC_CLK-
3	SDVOC_CLK+	4	GND
5	SDVOC_GREEN-	6	SDVOC_GREEN+
7	GND	8	SDVOB_CLK-
9	SDVOB_CLK+	10	GND
11	SDVOB_GREEN-	12	SDVOB_GREEN+
13	GND	14	SDVOC_INT+
15	SDVOC_INT+	16	GND
17	SDVOB_INT+	18	SDVOB_INT+
19	GND	20	SDVOC_BLUE-
21	SDVOC_BLUE+	22	GND
23	SDVOC_RED-	24	SDVOC_RED+
25	GND	26	SDVOB_BLUE-
27	SDVOB_BLUE+	28	GND
29	SDVOB_RED-	30	SDVOB_RED+
31	GND	32	SDVO1_STALL-
33	SDVO1_STALL+	34	GND
35	SDVO_TVCLKIN-	36	SDVO_TVCLKIN+
37	GND	38	SDVO_CLK
39	SDVO_DATA	40	PCIRST
41	+5VS	42	+5VS
43	+5VS	44	N/C
45	N/C	46	GND
47	GND		

INVERTER1: 5-pin Header Inverter Connector	
PIN	DESCRIPTION
1	BRIGHTNESS
2	GND
3	+12V
4	GND
5	BACKLIGHT ENABLE

KB_MS1:6-pin Header Keyboard/Mouse Connector	
PIN	DESCRIPTION
1	VCC
2	MOUSE DATA
3	MOUSE CLOCK
4	KB DATA
5	KB CLOCK
6	GND

CPU_FAN1: CPU Fan Connector	
PIN	DESCRIPTION
1	Rotation Signal
2	+12V
3	Sense

BAT2 : Battery Connector	
PIN	DESCRIPTION
1	BAT+
2	BAT-(GND)

CF1: Compact Flash Connector (option)			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	26	CD1#
2	D3	27	D11
3	D4	28	D12
4	D5	29	D13
5	D6	30	D14
6	D7	31	D15
7	CE#	32	CE2#
8	A10	33	VS1#
9	OE#	34	IOR#
10	A9	35	IOW#
11	A8	36	WE#
12	A7	37	IRQ
13	VCC1	38	VCC2
14	A6	39	CSEL#
15	A5	40	VS2#
16	A4	41	RESET#
17	A3	42	WAIT#
18	A2	43	INPACK#
19	A1	44	REG#
20	A0	45	BVD2
21	D0	46	BVD1
22	D1	47	D8
23	D2	48	D9
24	IOCS16#	49	D10
25	CD2#	50	GND2

Board Layout: Jumper and Connector Locations



