Notice

This guide is designed for experienced users to setup the system in the shortest time.

Safety Precautions

Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

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

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Contents

A Message to the Customer

First of all, thank you for purchasing PER-T061 ECX Extension Board. This Quick Installation Guide will help you in the process of the installation of this product. **Please refresh the BIOS on the main board to the latest version before you install the SATA driver**. You will find these instructions in this Installation Guide. You may also visit the AAEON website at www.aaeon.com for the latest version of the instructions to do this.

Product Warranty

AAEON Customer Satisfaction

All products in AAEON are designed following the strictest specifications to ensure that our products will perform reliably in typical industrial environments. Whether your purchase from AAEON is made for the purpose of being in a laboratory or in a factory facility, you can be assured that every purchase in AAEON will provide reliability and stability of operation. Your satisfaction is our primary concern. To ensure you get the full benefits of our services, please follow the instructions in the next section.

Technical Support

We require that you receive the maximum performance and satisfaction from your products. If you run into technical difficulties, we'll always be here for you. For the most frequently asked questions, you can easily find solutions in your product documentation as well as on our FAQ page under Support and Service on our website. We strongly suggest that you review these resources before asking for customer service over the phone. If you still cannot find the answer, gather all questions you can think of and have the product on hand before giving a call to your dealer. All dealers of AAEON are well-trained and ready to provide you as much support as you need to get the most from your product. Based on the customer service we've encountered until now, most of problems are minor and able to be easily solved over the phone. In addition, technical support is available from AAEON engineers over e-mail. Please contact your AAEON dealer or visit our website www.aaeon.com to get the e-mail address you can use to ask for technical help. We are always pleased to give advice regarding installation and operation of AAEON products.

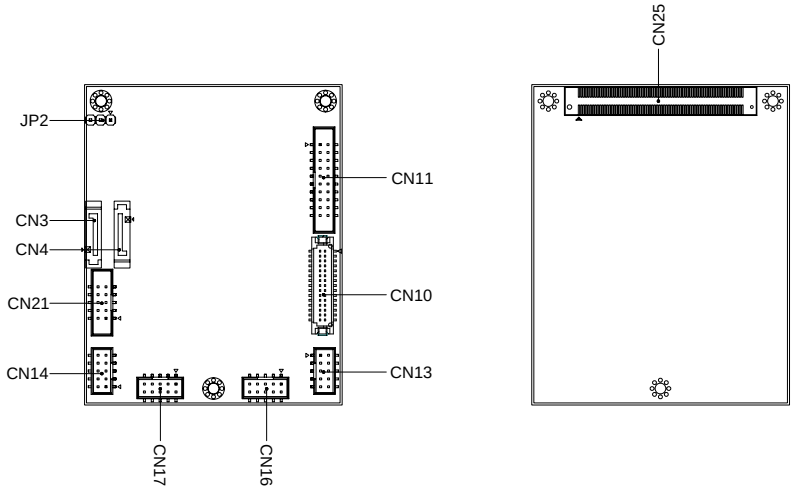
Ordering Information

- TF-PER-T061-A10
  ECX Extension Board LVDS Version
- TF-PER-T061-A10-01
  ECX Extension Board DVI Version

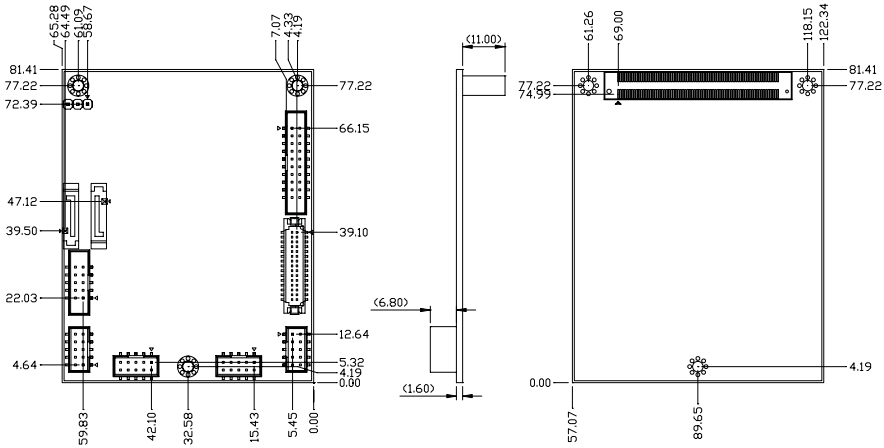
Packing List

- PER-T061 ECX Extension Board
- Quick Installation Guide
- CD-ROM for QIG (in PDF format), BIOS and Driver
- Cable Kit (P/N 9681T06100)
  - SATA Cable (P/N 1709070500)
  - COM Port Cable (P/N 1701100206)
  - USB Cable (P/N 1709100207)
- DVI Cable (P/N 1700200200) (For DVI version only)

Location of Connectors and Jumpers



Mechanical Drawing



List of Jumpers

The board has a number of jumpers that allow you to configure your system to suit your application.

The table below shows the function of each of the board's jumpers:

Label	Function
JP2	LVDS (1)-LCD(CN10) Voltage Selection

List of Connectors

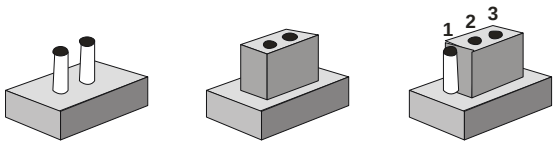
The board has a number of connectors that allow you to configure your system to suit your application. The table below shows the function of each board's connectors:

Label	Function
CN3	Serial ATA Connector
CN4	Serial ATA Connector
CN10	LVDS (1)-LCD Connector (For LVDS Version Only)
CN11	DVI Connector (For DVI Version Only)
CN13	COM 3 Port Connector
CN14	COM 4 Port Connector
CN16	COM 5 Port Connector
CN17	COM 6 Port Connector
CN21	One USB Port Connector
CN25	Expansion Board 140-pin Slot

Setting Jumpers

You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip.

To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



Open **Closed** **Closed 2-3**

A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any change.

Generally, you simply need a standard cable to make most connections.

LVDS (1)-LCD(CN10) Voltage Selection (JP2)

JP2	Function
1-2	+5V
2-3	+3.3V (Default)

LVDS (1)-LCD Connector (CN10)

Pin	Signal	Pin	Signal
1	BKLTEN	2	N.C.
3	PPVCC	4	GND
5	LVDS1_TXCLK-	6	LVDS1_TXCLK+
7	PPVCC	8	GND
9	LVDS1_TX0-	10	LVDS1_TX0+
11	LVDS1_TX1-	12	LVDS1_TX1+
13	LVDS1_TX2-	14	LVDS1_TX2+
15	LVDS1_TX3-	16	LVDS1_TX3+
17	I2C_DATA	18	I2C_CLK
19	LVDS2_TX0-	20	LVDS2_TX0+
21	LVDS2_TX1-	22	LVDS2_TX1+
23	LVDS2_TX2-	24	LVDS2_TX2+
25	LVDS2_TX3-	26	LVDS2_TX3+
27	PPVCC	28	GND
29	LVDS2_TXCLK-	30	LVDS2_TXCLK+

DVI Connector (CN11)

Pin	Signal	Pin	Signal
1	DVI_TX1+	2	DVI_TX1-
3	GND	4	GND
5	DVI_TXCLK+	6	DVI_TXCLK-
7	GND	8	+5V
9	HotPlug_Detect	10	+5V
11	DVI_TX2+	12	DVI_TX2-
13	GND	14	GND
15	DVI_TX0+	16	DVI_TX0-
17	N.C.	18	N.C.
19	I2C_DATA	20	I2C_CLK

COM 3 RS-232 Serial Port Connector (CN 13)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N.C.

Note: CN13 ~ CN17 is default in ACPI Mode (ATX power supply) and disable in APM Mode (AT power supply) because of IRQ resource insufficient.

COM 4 RS-232 Serial Port Connector (CN 14)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N.C.

Note: CN13 ~ CN17 is default in ACPI Mode (ATX power supply) and disable in APM Mode (AT power supply) because of IRQ resource insufficient.

COM 5 RS-232 Serial Port Connector (CN 16)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N.C.

Note: CN13 ~ CN17 is default in ACPI Mode (ATX power supply) and disable in APM Mode (AT power supply) because of IRQ resource insufficient.

COM 6 RS-232 Serial Port Connector (CN 17)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N.C.

Note: CN13 ~ CN17 is default in ACPI Mode (ATX power supply) and

disable in APM Mode (AT power supply) because of IRQ resource insufficient.

USB Connector (CN21)

Pin	Signal	Pin	Signal
1	+5V	2	GND
3	USBD-	4	GND
5	USBD+	6	N.C.
7	GND	8	N.C.
9	GND	10	+5V

Expansion Board 140-pin Slot (CN25)

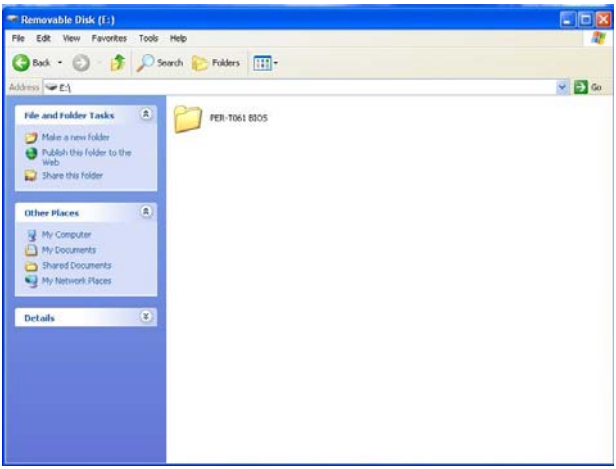
Pin	Signal	Pin	Signal
1	+2.5V	2	SDVOB_CLKN
3	+2.5V	4	SDVOB_CLKP
5	+2.5V	6	GND
7	ICH_RI#	8	SDVOB_BLUE#
9	INT_SERIRQ	10	SDVOB_BLUE
11	PCI_SLOT_RST#	12	SDVOB_GREEN#
13	PCI_GNT#2	14	SDVOB_GREEN
15	PCI_GNT#1	16	SDVOB_RED#
17	PCI_AD11	18	SDVOB_RED
19	PCI_AD13	20	GND
21	PCI_TRDY#	22	SDVOB_INT#
23	PCI_FRAME#	24	SDVOB_INT
25	PCI_AD24	26	GND
27	INT_PIRQC#	28	SDVO_SPC
29	PCI_PME#	30	SDVO_SPD

31	PCI_AD28	32	SDVO_FLDSTALL#
33	PCI_REQ#1	34	SDVO_FLDSTALL
35	PCI_AD22	36	GND
37	PCI_PAR	38	+5V
39	INT_PIRQD#	40	+5V
41	PCI_SLOT2_CLK33	42	+5V
43	PCI_SLOT1_CLK33	44	GND
45	PCI_AD16	46	SMBCLK_SBY
47	PCI_REQ#2	48	SMBDAT_SBY
49	PCI_AD26	50	GND
51	PCI_AD30	52	PCIE_WAKE#
53	PCI_AD31	54	PCIE_RST#
55	PCI_AD29	56	GND
57	PCI_STOP#	58	PCIE_TXP
59	PCI_AD18	60	PCIE_TXN
61	PCI_AD27	62	PCIE_RXP
63	PCI_AD25	64	PCIE_RXN
65	PCI_C/BE#0	66	GND
67	IDSEL0(PCI_AD27)	68	PCIESLOT1_CLK
69	PCI_C/BE#3	70	PCIESLOT1_CLK#
71	PCI_AD23	72	GND
73	IDSEL1(PCI_AD25)	74	LPC_AD3
75	PCI_AD20	76	LPC_AD2
77	PCI_DEVSEL#	78	LPC_AD1
79	PCI_AD21	80	LPC_AD0
81	PCI_AD19	82	ICH_DRQ#1
83	PCI_AD17	84	LPC_FRAME#
85	PCI_C/BE#2	86	GND

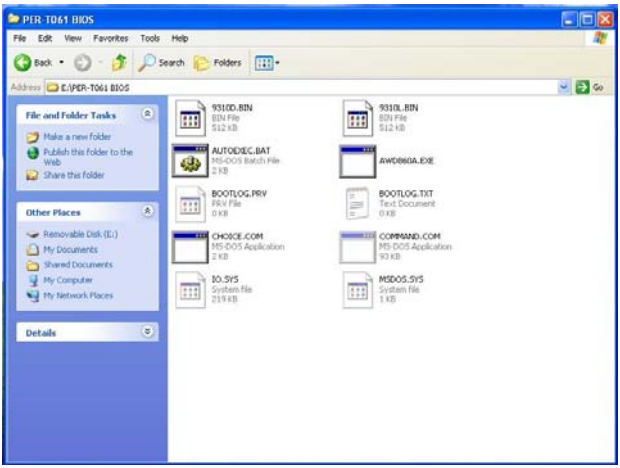
87	PCI_IRDY#	88	+3.3V_DUAL
89	PCI_AD4	90	+3.3V_DUAL
91	PCI_AD9	92	+3.3V_DUAL
93	PCI_AD15	94	GND
95	PM_CLKRUN#	96	PM_SLP_S3#
97	PCI_SERR#	98	PM_SLP_S4#
99	PCI_AD6	100	PM_SLP_S5#
101	PCI_PERR#	102	INT_BAT#
103	PCI_C/BE#1	104	+5V_DUAL
105	PCI_AD0	106	+5V_DUAL
107	PCI_AD2	108	+5V_DUAL
109	PCI_AD14	110	N.C.
111	PCI_LOCK#	112	N.C.
113	INT_PIRQB#	114	N.C.
115	PCI_AD12	116	N.C.
117	PCI_AD10	118	N.C.
119	PCI_AD8	120	N.C.
121	PCI_AD7	122	N.C.
123	INT_PIRQA#	124	N.C.
125	PCI_AD3	126	N.C.
127	PCI_AD5	128	GND
129	PCI_AD1	130	N.C.
131	+3.3V	132	CLK33
133	+3.3V	134	GND
135	+3.3V	136	USBPN
137	GND	138	USBPP
139	GND	140	OC#

Refresh BIOS for GENE-9310 + PER-T061

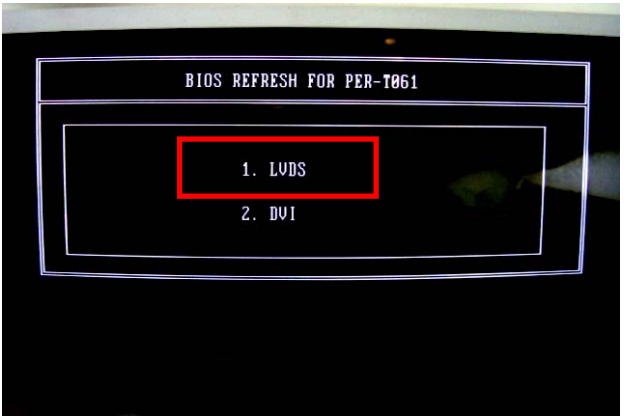
Step 1: Copy the contents of the folder PER-T061 BIOS from CD to your bootable device.



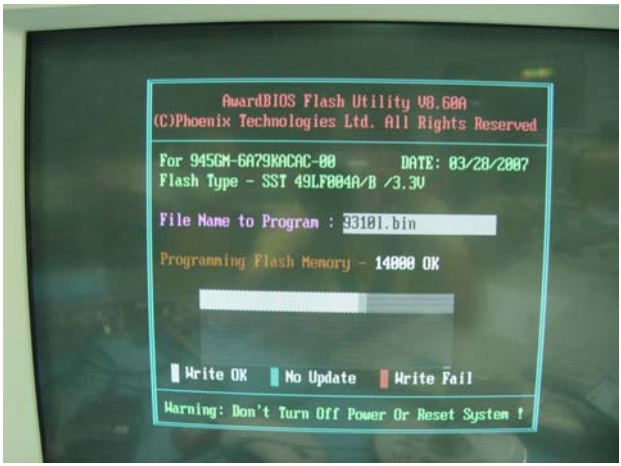
The folder contains a total 10 files, and some of them are hidden, so please make sure you copy all of them.



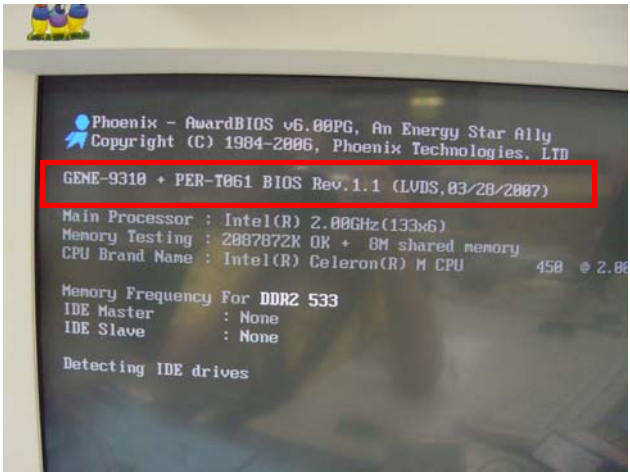
Step 2: Boot the GENE-9310 with the PER-T061 installed with your bootable device. After it boots, you will see the screen below where you can choose a type of BIOS the utility will auto-refresh onto the GENE-9310.



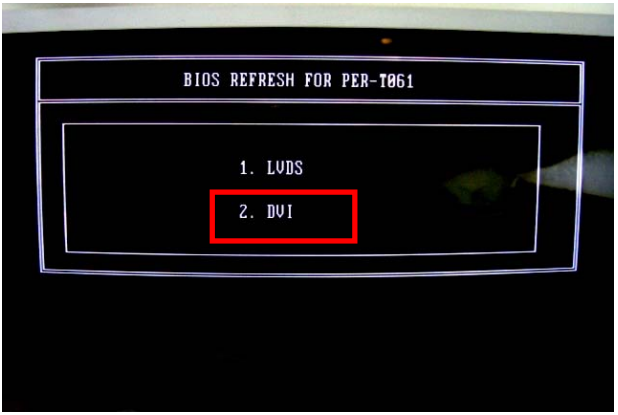
If you select 1 LVDS, for instance, the board will start to refresh the LVDS version of the BIOS as seen below.

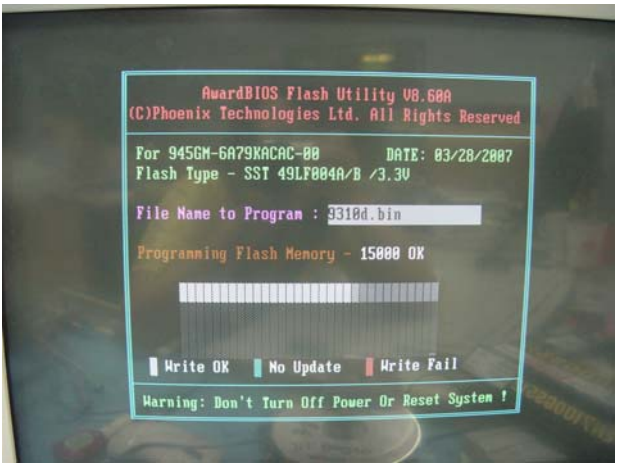


The board will restart when it is finished refreshing the BIOS. The display will show a LVDS message as seen below on the first POST screen.

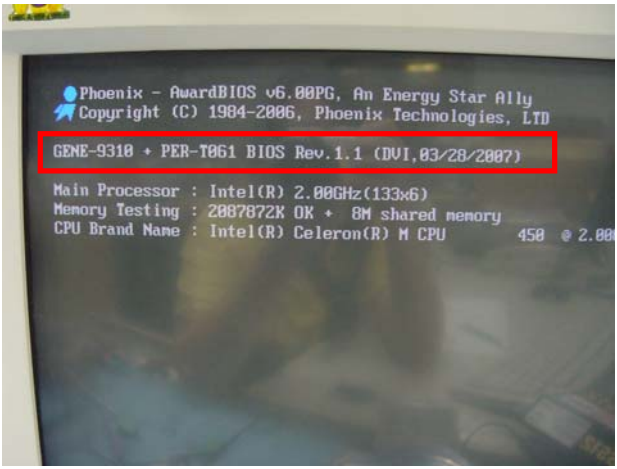


If you select 2 DVI, the board will auto refresh DVI version of the BIOS.





After the restart, you will see the DVI message as seen below on the first POST screen.



Now your GENE-9310 and PER-T061 system is ready to be used in your application.

List of Mating Connectors and Cables

The table notes mating connectors and available cables.

Connector Label	Function	Mating Connector		Available Cable	Cable P/N
		Vendor	Model no		
CN3	Serial ATA Connector	CATCH	1.27mm Pitch 7 pins (CATCH SA07FGP002X or compatible)	SATA Cable	1709070500
CN4	Serial ATA Connector	CATCH	1.27mm Pitch 7 pins (CATCH SA07FGP002X or compatible)	SATA Cable	1709070500
CN10	LVDS(1)-LCD Connector	CATCH	1.25mm Pitch 30 pins (CATCH H716 or compatible)	LVDS Cable	N/A
CN11	DVI Connector	CATCH	2.00mm Pitch 20	DVI Cable	1700200200

			pins (CATCH H754-2x10 or compatible)		
CN13	COM 3 Port Connector	CATCH	2.00mm Pitch 10 pins (CATCH H754-2x5 or compatible)	Serial Port Cable	1701100206
CN14	COM 4 Port Connector	CATCH	2.00mm Pitch 10 pins (CATCH H754-2x5 or compatible)	Serial Port Cable	1701100206
CN16	COM 5 Port Connector	CATCH	2.00mm Pitch 10 pins (CATCH H754-2x5 or compatible)	Serial Port Cable	1701100206

CN17	COM 6 Port Connector	CATCH	2.00mm Pitch 10 pins (CATCH H754-2x5 or compatible)	Serial Port Cable	1701100206
CN21	USB Connector	CATCH	2.00mm Pitch 10 pins (CATCH H754-2x5 or compatible)	USB Cable	1709100207
CN25	Expansion board Connector	Hirose	0.6mm Pitch 140 pins (FX8C-140 S-SV5(92))	Board to Board Connector	N/A

Below Table for China RoHS Requirements
产品中有毒有害物质或元素名称及含量

AAEON Main Board/ Daughter Board/ Backplane

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及其电子组件	×	○	○	○	○	○
外部信号连接器及线材	×	○	○	○	○	○

O：表示该有毒有害物质在该部件所有均质材料中的含量均在 **SJ/T 11363-2006** 标准规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 **SJ/T 11363-2006** 标准规定的限量要求。

备注：此产品所标示之环保使用期限，系指在一般正常使用状况下。