

# ERX-Q77

Intel® Q77 with Core™ i7/ i5 /i3 Micro-ATX Motherboard

## Quick Installation Guide



1<sup>st</sup> Ed – 27 November 2012

## 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 UNDESIRE 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.

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To receive the latest version of the user's manual; please visit our Web site at:

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### Headquarters and Branch

#### Avalue Technology Inc.

7F, 228, Lian-cheng Road, Chung Ho City, Taipei,  
Taiwan

Tel:+886-2-8226-2345

Fax : +886-2-8226-2777

Information : [sales@avalue.com.tw](mailto:sales@avalue.com.tw)

Service: [service@avalue.com.tw](mailto:service@avalue.com.tw)

### Avalue USA

#### Avalue Technology Inc.

9 Timber Lane, Marlboro, NJ 07746-1443

Tel : (732) 414-6500

Fax : (732) 414-6501

Information : [sales@avalue-usa.com](mailto:sales@avalue-usa.com)

Service : [support@avalue-usa.com](mailto:support@avalue-usa.com)

### BCM Advanced Research

#### BCM Advanced Research an Avalue Company

7 Marconi, Irvine, CA92618

Tel: +1-949-470-1888

Fax: +1-949-470-0971

Information: [BCMSales@bcmcom.com](mailto:BCMSales@bcmcom.com)

Web: [www.bcmcom.com](http://www.bcmcom.com)

### Avalue Europe

#### Avalue Europe A/S

Moelledalen 22C, 3140

Aalsgaarde, Denmark

Tel: +45-7025-0310

Fax:+45-4975-5026

Information: [sales.europe@avalue.com.tw](mailto:sales.europe@avalue.com.tw)

Service: [service.europe@avalue.com.tw](mailto:service.europe@avalue.com.tw)

### Avalue China

#### Avalue Technology Inc.

Room 805, Building 9, No.99 Tianzhou Rd.,  
Caohejing Development Area,

Xuhui District, Shanghai

Tel: +86-21-5169-3609

Fax:+86-21-5445-3266

Information: [sales.china@avalue.com.cn](mailto:sales.china@avalue.com.cn)

Service: [service@avalue.com.tw](mailto:service@avalue.com.tw)

### Avalue Japan

#### Avalue Technology Inc.

3F Ishiyama-Bldg, 1-6-1 Taito,

Taito-ku, Tokyo 110-0016 Japan

Tel : +81-3-5807-2321

Fax : +81-3-5807-2322

Information : [sales.japan@avalue.com.tw](mailto:sales.japan@avalue.com.tw)

Service : [service@avalue.com.tw](mailto:service@avalue.com.tw)

# 1. Getting Started

## 1.1 Safety Precautions

### 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.

### 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.

## 1.2 Packing List

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

- 1 x ERX-Q77 Micro-ATX Main board
- 1 x CD-ROM contains OS drivers
- 1 x COM cable
- 2 x SATA cable (2 in 1 package)
- 1 x I/O Shield



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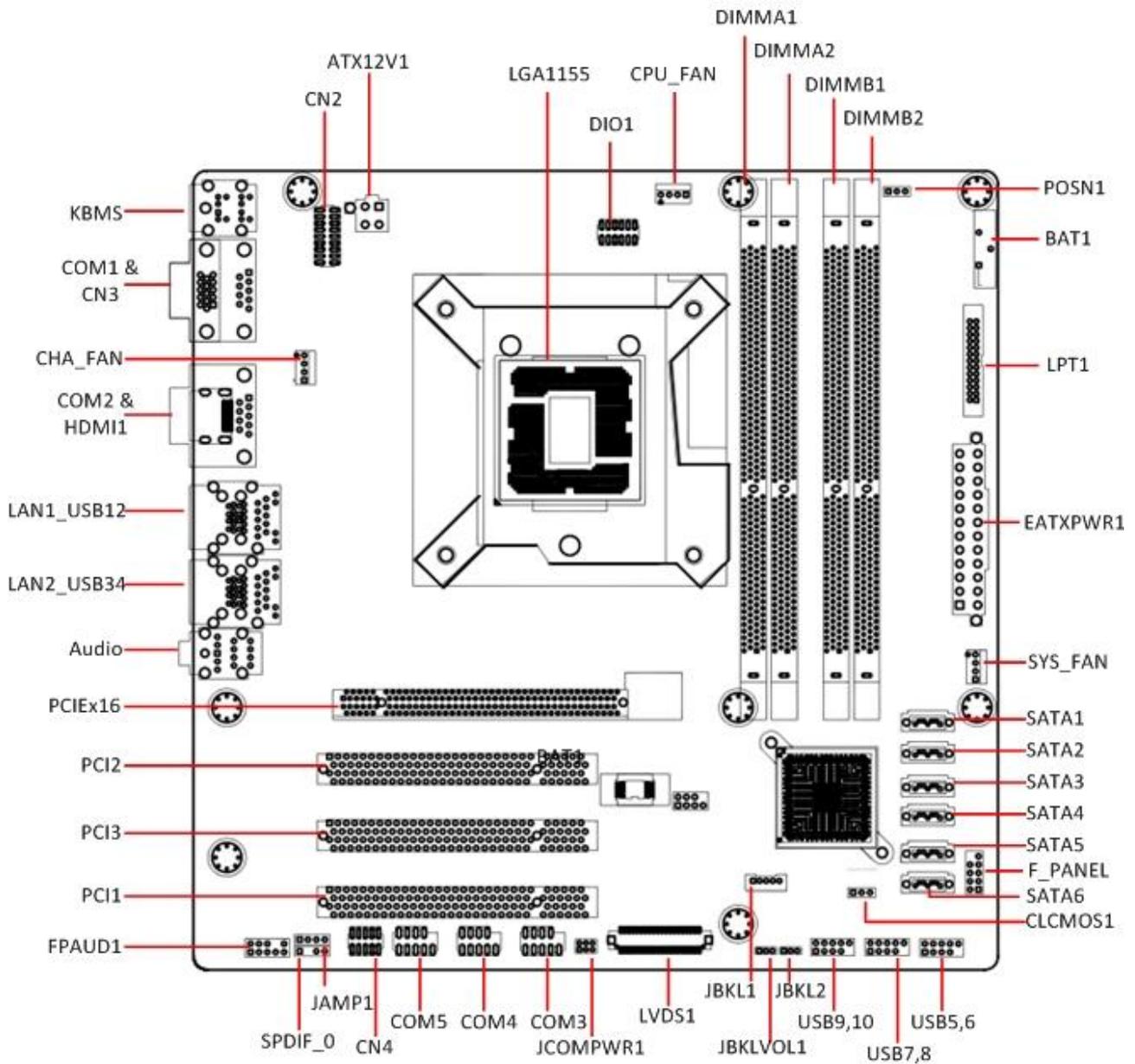
If any of the above items is damaged or missing, contact your retailer.

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# 2. Hardware Configuration

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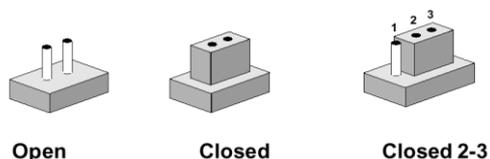
## 2.1 Product Overview



## 2.2 Jumper and Connector List

You can configure your board 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 two pins.



The jumper settings are schematically depicted in this manual as follows:



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

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

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

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

Slots & socket		
Label	Function	Note
LGA1155	LGA1155 socket	
DIMMA1	240-pin DDR3 DIMM Slot A1	
DIMMA2	240-pin DDR3 DIMM Slot A2	
DIMMB1	240-pin DDR3 DIMM Slot B1	
DIMMB2	240-pin DDR3 DIMM Slot B2	
PCIEX16	PCI-e x16 Slot	
PCI1~3	PCI Slot	

Jumpers		
Label	Function	Note
CLCMOS1	Clear CMOS	3 x 1 header, pitch 2.54mm
PSON1	AT/ATX Mode Select	3 x 1 header, pitch 2.54mm

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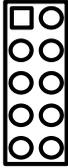
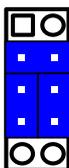
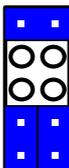
CN2	COM1 RS232/422/485 SETTING	9 x 2 header, pitch 2.00mm
CN4	COM5 RS232/485 SETTING	5 x 2 header, pitch 2.00mm
JCOMPWR1	COM3 POWER SETTING	3 x 2 header, pitch 2.00mm
JBKLVOL1	LVDS Backlight power selection	3 x 1 header, pitch 2.00mm
JBKL2	LVDS Backlight control mode	3 x 1 header, pitch 2.00mm

Rear Panel Connector		
Label	Function	Note
KBMS	PS/2 Keyboard and Mouse	6-pin Mini-Din
COM1	COM1 Connector	D-sub 9-pin, male
COM2	COM2 Connector	D-sub 9-pin, male
CN3	VGA Port	D-sub 15-pin, female
HDMI1	HDMI Port	HDMI 1.3 19-pin
LAN1_USB12	RJ-45 Ethernet Connector x 1 USB 3.0 Connector x 2	
LAN2_USB34	RJ-45 Ethernet Connector x 1 USB 3.0 Connector x 2	
AUDIO	Audio Line-In , Line-Out , Mic.-In	5.1 Channel Audio I/O (3 jacks)

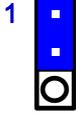
## 2.2.1 Internal Connectors

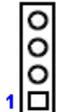
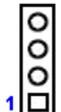
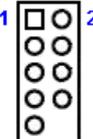
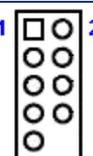
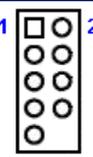
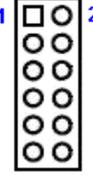
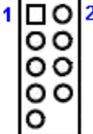
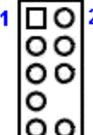
Internal Connector		
Label	Function	Note
CPU_FAN	CPU Fan Connector	4 x 1 wafer, pitch 2.54mm
SYS_FAN	System Fan Connector	4 x 1 wafer, pitch 2.54mm
CHA_FAN	Chassis Fan Connector	4 x 1 wafer, pitch 2.54mm
F_PANEL	Intel Front Panel connector	5 x 2 header, pitch 2.54mm
EATXPWR1	ATX power connectors	12 x 2 wafer
ATX12V1	12V ATX power connectors	2 x 2 wafer
COM3 ~ 5	Serial Port Connector	5 x 2 header, pitch 2.54mm
DIO1	Digital I/O Connector	6 x 2 header, pitch 2.54mm
FPAUD1	Audio Mic.-In & Line-Out Connector	5 x 2 header, pitch 2.54mm
SPDIF_OUT	Digital Audio connector	4 x 1 header, pitch 2.54mm
JAMP1	Amplifier Connector	4 x 1 header, pitch 2.54mm
SATA1 ~ 6	SATA Data Connector * 6	7P Male connector
USB5~10	USB Connector * 6	5 x 2 header, pitch 2.54mm
LVDS1	LVDS Connector	20 x 2 wafer
JBKL1	LVDS Inverter Power Connector	5 x 1 wafer, pitch 2.00mm
LPT1	Print Port Connector	13 x 2 wafer, pitch 2.00mm

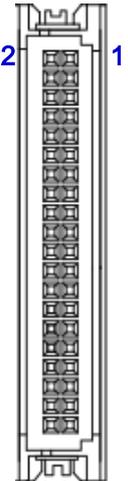
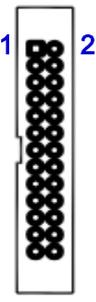
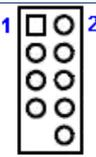
## 2.3 Setting Jumpers & Connectors

Jumpers				
Label	Function	Note		
CLCMOS1	Clear CMOS 1 	Normal 1 	Clear CMOS 1 	
PSO1	AT/ATX Mode 1 	ATX MODE 1 	AT MODE 1 	
CN2	COM1 RS232/422/485 SETTING 2  1	RS232 		
		RS422 		
		RS485 		
CN4	COM5 RS232/485 SETTING 1  2	RS232 1 	RS485 1 	
		JCOMPWR1	COM3 POWER SETTING 2  1	Ring 2  1
JBKLVOL1	LVDS Backlight power selection  1	+3.3V  1	+5V  1	

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Jumpers			
Label	Function	Note	
JBKL2	LVDS Backlight control mode	PWM (Default)	Linear
			

Connectors			
Label	Function	Note	
CPU_FAN	CPU Fan Connector		4. FAN_PWM1_C 3. FANCPUDEC1 2. +V12 1. GND
SYS_FAN	System Fan Connector		4. FAN_PWM2_C 3. FANCPUDEC2 2. +V12 1. GND
CHA_FAN	Chassis Fan Connector		4. FAN_PWM3_C 3. FANCPUDEC3 2. +V12 1. GND
COM3	Serial Port Connector		1. COM_C-DCD3#      2. COM_C-RXD3 3. COM_C-TXD3      4. COM_C-DTR3# 5. GND                6. COM_C-DSR3# 7. COM_C-RTS3#      8. COM_C-CTS3# 9. RI3xPOWERxJMP
COM4	Serial Port Connector		1. COM_C-DCD4#      2. COM_C-RXD4 3. COM_C-TXD4      4. COM_C-DTR4# 5. GND                6. COM_C-DSR4# 7. COM_C-RTS4#      8. COM_C-CTS4# 9. COM_C-RI4#
COM5	Serial Port Connector		1. COM_C-DCD5#      2. COM_C-RXD5 3. COM_C-TXD5      4. COM_C-DTR5# 5. GND                6. COM_C-DSR5# 7. COM_C-RTS5#      8. COM_C-CTS5# 9. COM_C-RI5#
DIO1	Digital I/O Connector		1. DIO_GP0            2. DIO_GP4 3. DIO_GP1            4. DIO_GP5 5. DIO_GP2            6. DIO_GP6 7. DIO_GP3            8. DIO_GP7 9. SMB_CLK_RESUME   10. SMB_DATA_RESUME 11. GND                12. +V5_DUAL
F_PANEL	Intel Front Panel connector		1. HDD_LED+            2. +V5_DUAL 3. SATA_LED#           4. SUPLED1 5. GND                 6. PANSWIN# 7. SRST#                8. GND 9. NC
FPAUD1	Audio Mic.-In & Line-Out Connector		1. MIC2L                2. GND 3. MIC2R                4. PCH_GPIO34 5. LINE2R               6. MIC2-JD 7. FRONT-IO-SENSE_C 8. NC 9. LINE2L               10. LINE2-JD

Connectors			
Label	Function		Note
SPDIF_O	Digital Audio connector		<ol style="list-style-type: none"> <li>+V5</li> <li>NC</li> <li>SPDIF-OUT</li> <li>GND</li> </ol>
JAMP1	Amplifier Connector		<ol style="list-style-type: none"> <li>AMP_L-</li> <li>AMP_L+</li> <li>AMP_R-</li> <li>AMP_R+</li> </ol>
LVDS1	LVDS Connector		<ol style="list-style-type: none"> <li>VDD_+3V</li> <li>VDD_+3V</li> <li>VDD_+3V</li> <li>DDC_CLK</li> <li>GND</li> <li>LVDS_A0+</li> <li>LVDS_A1+</li> <li>LVDS_A1-</li> <li>GND</li> <li>LVDS_A2+</li> <li>LVDS_A3+</li> <li>LVDS_A2-</li> <li>LVDS_A3-</li> <li>GND</li> <li>LVDS_B0+</li> <li>LVDS_B1+</li> <li>LVDS_B0-</li> <li>LVDS_B1-</li> <li>GND</li> <li>LVDS_B2+</li> <li>LVDS_B3+</li> <li>LVDS_B2-</li> <li>LVDS_B3-</li> <li>GND</li> <li>LVDS_A_CLK+</li> <li>LVDS_B_CLK+</li> <li>LVDS_A_CLK-</li> <li>LVDS_B_CLK-</li> <li>GND</li> <li>VDD_+12V</li> </ol>
JBKL1	LVDS Inverter Power Connector		<ol style="list-style-type: none"> <li>+12V</li> <li>GND</li> <li>BL_EN</li> <li>Backlight</li> <li>+5V</li> </ol>
LPT1	Print Port Connector		<ol style="list-style-type: none"> <li>LPT_STB#</li> <li>LPT_AFD#</li> <li>LPT_PD0</li> <li>LPT_ERR#</li> <li>LPT_PD1</li> <li>LPT_INIT#</li> <li>LPT_PD2</li> <li>LPT_SLIN#</li> <li>LPT_PD3</li> <li>GND</li> <li>LPT_PD4</li> <li>GND</li> <li>LPT_PD5</li> <li>GND</li> <li>LPT_PD6</li> <li>GND</li> <li>LPT_PD7</li> <li>GND</li> <li>LPT_ACK#</li> <li>GND</li> <li>LPT_BUSY</li> <li>GND</li> <li>LPT_PE</li> <li>GND</li> <li>LPT_SLCT</li> <li>NC</li> </ol>
USB56 USB78 USB910	USB 2.0 Connector		<ol style="list-style-type: none"> <li>USB +5V</li> <li>USB +5V</li> <li>USB-</li> <li>USB-</li> <li>USB+</li> <li>USB+</li> <li>GND</li> <li>GND</li> <li>NC</li> <li>NC</li> </ol>

