

EMX-QM67

Intel® QM67 with Core™ i7/ i5/ i3/ Celeron Mini-ITX
Motherboard

Quick Installation Guide



1st Ed – 04 February 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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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.

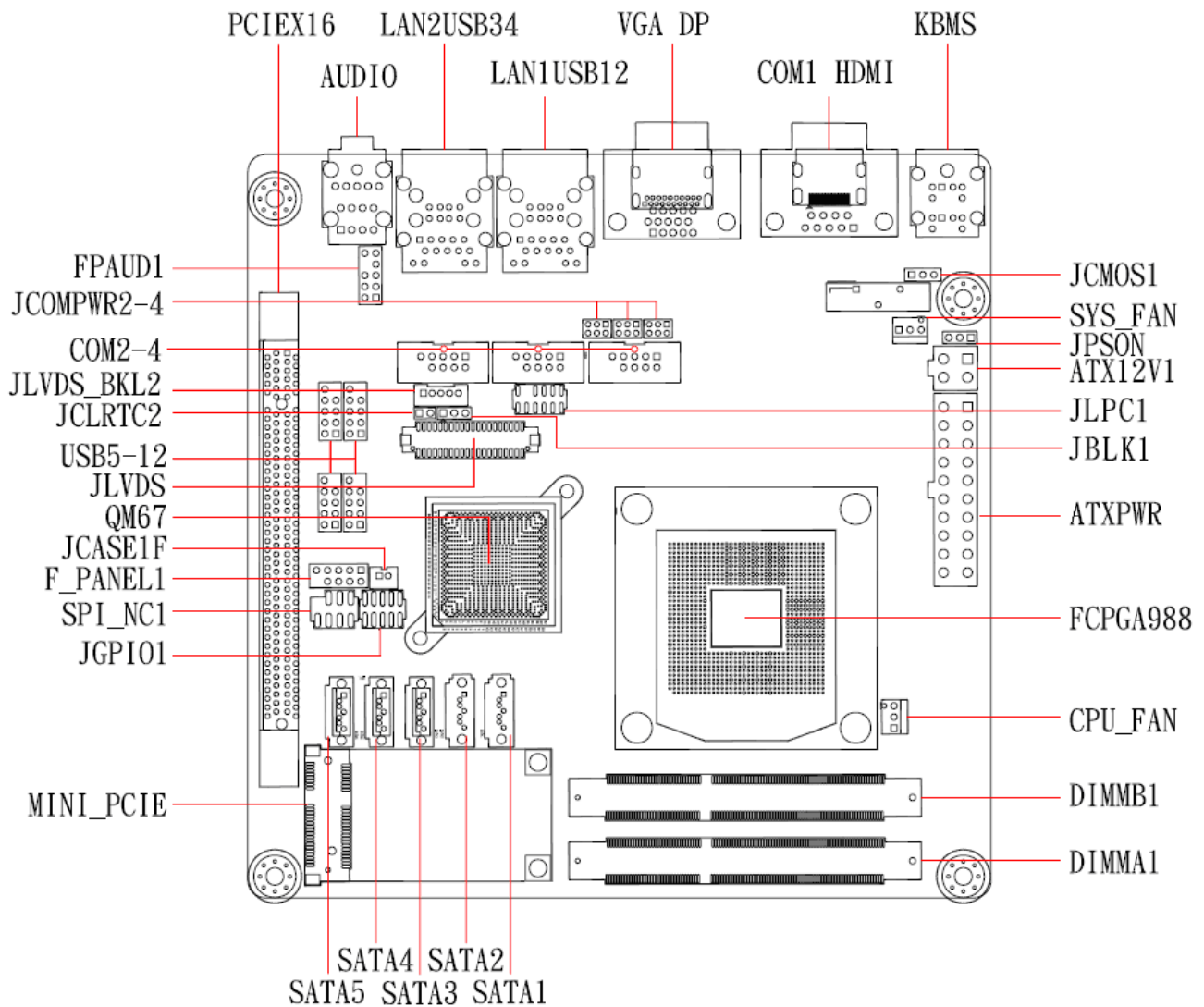
- 1 x EMX-QM67 Mini-ITX Main board
- 1 x CD-ROM contains OS drivers
- 2 x COM cable
- 2 x SATA cable
- 1 x I/O Shield
- 1 x Quick Installation Guide



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

2. Hardware Configuration

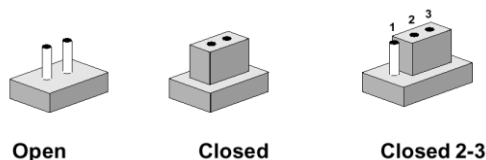
2.1 Product Overview



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.

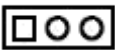











If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

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

Specifications	
System	
CPU	Intel rPGA988 Socket (Socket G2) supports Intel Core i7/ i5/ i3/ Celeron Mobile CPU
BIOS	AMI 16Mb SPI
System Chipset	Intel® QM67
I/O Chipset	Nuvoton NCT6776F
Memory	Two 204-pin SODIMM support up to 16GB dual channel DDR3 1333/ 1066, up to 16GB
Watchdog Timer	Reset: 1 to 255 sec/min per step
H/W Status Monitor	Monitoring temperature, voltage and cooling fan status. Auto throttling control when CPU overheats.
Expansion Slots	1 PCI-E x 16 Gen. 2, 1 Mini PCI-E x 1, 1 CFast Card Connector
Power State	S1, S3, S4, S5
Wake up on LAN or Ring	LAN (WOL) and Ring (WO)
Smart Fan Control	Yes
Smart Fan Control	Supports 3 modes (Silent/Optimal/Performance)

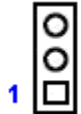
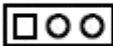
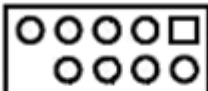
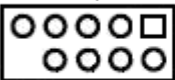
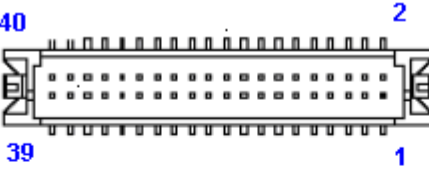
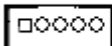
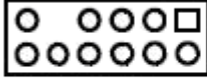
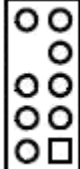
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Display	
Chipset	Intel® GMA HD 2000/ 3000 supports DirectX 10.1, OpenGL 3.0
Display Memory	Shared Memory, up to 1.7GB
Dual Display	VGA + LVDS, VGA + DisplayPort, VGA + HDMI, DisplayPort + HDMI, LVDS + HDMI, LVDS + DisplayPort
VGA	Onboard, supports max resolution 2048 x 1536
HDMI	Onboard HDMI 1.3, supports max resolution 1920 x 1080
DisplayPort	Onboard, supports max resolution 1920 x 1080
LVDS	Onboard dual channel 24-bit LVDS supports max resolution 1600 x 1200
LVDS Backlight	Yes, through internal LVDS Backlight Connector
Audio	
Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	Line-in, Line-out, Mic-in, Front Audio Header
TPM	
TPM	Infineon SLB9635 supports TPM 1.2
Ethernet	
LAN1	Intel 82579LM
LAN2	Intel 82583V

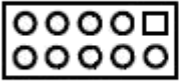

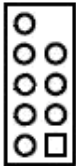
Jumpers				
Label	Function	Note		
JCMOS1	Clear CMOS	Normal *	Clear CMOS	
	1 	1 	1 	
JCOMPWR3	COM3 COM4 COM5	RI	+5V	+12V
JCOMPWR4	RI/+5V/+12V Select			
JCOMPWR5	1 2	1 2	1 2	1 2
JBLK1	BL controller from SIO	ENABLED	DISABLED	
	1  1. SIO_LVDS0_VBR 2. GND 3. NC	1 	1 	
PSON1	1. ATSEL IN 2. PWRBT 3. ATXSEL IN	AT MODE	ATX MODE	
	1 			

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Connectors

Label	Function	Note
CPU_FAN	CPU Fan Connector	 <p>3. CPUFAN1_IO_R 2. CPUFAN1_VCC (PWM) 1. GND</p>
SYS_FAN1	System Fan Connector	 <p>1. GND 2. SYSFAN1_VCC (PWM) 3. SYSFAN1_IO_R</p>
Connectors		
COM3	Serial Port	 <p>1. DCD 2. RXD 3. TXD 4. DTR 5. GND 6. DSR 7. RTS 8. CTS 9. RI/PWR 10. NC</p>
COM4	Connector	
COM5	Connector	
F_PANEL	Intel Front Panel connector	 <p>1. HDDLED+ 2. POWERLED+ 3. HDDLED- 4. POWERLED- 5. GND 6. PWSWITCH 7. RESET 8. GND 9. NC</p>
JLVDS	24-bit LVDS Connector	 <p>1. VDD(+3.3V) 2. VDD(+5V) 3. VDD(+3.3V) 4. VDD(+5V) 5. I2C_CLK 6. I2C_DATA 7. GND 8. GND 9. LVDS_A1+ 10. LVDS_A0+ 11. LVDS_A1- 12. LVDS_A0- 13. GND 14. GND 15. LVDS_A3+ 16. LVDS_A2+ 17. LVDS_A3- 18. LVDS_A2- 19. GND 20. GND 21. LVDS_B1+ 22. LVDS_B0+ 23. LVDS_B1- 24. LVDS_B0- 25. GND 26. GND 27. LVDS_B3+ 28. LVDS_B2+ 29. LVDS_B3- 30. LVDS_B2- 31. GND 32. GND 33. LVDS_B_CK+ 34. LVDS_A_CK+ 35. LVDS_B_CK- 36. LVDS_A_CK- 37. GND 38. GND 39. VDD(+12V) 40. VDD(+12V)</p>
JBKL1	LCD Inverter Connector	 <p>1. +12V 2. GND 3. ENBKL 4. VR 5. +5V</p>
JLPC1	LPC Connector	 <p>1. NC 2. +V3.3 3. LPC_AD3 4. PRST_SIO# 5. LPC_AD1 6. LPC_AD2 7. LPC_FRAME# 8. LPC_AD0 9. GND 10. GND 11. CLK33M_LPC 12. GND</p>
FPAUD1	Audio Mic.-In & Line-Out Connector	 <p>1. MIC2_L 2. GND 3. MIC2_R 4. PRESENSE 5. LINE2_R 6. SENSE1_RTN 7. SENSE_B 8. NC 9. LINE2_L 10. SENSE2_RTN</p>

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JGPIO	GPIO Connector		1. SIO_GPIO0 6. SIO_GPIO6 2. SIO_GPIO4 7. SIO_GPIO3 3. SIO_GPIO1 8. SIO_GPIO7 4. SIO_GPIO5 9. VCC_GPIO 5. SIO_GPIO2 10. GND
JCASE1	Case open Connector		1. CASEOP IN 2. GND
USB56 USB78 USB910 USB1112	USB 2.0 Connector		9. NC 8. GND 7. GND 6. USB + 5. USB + 4. USB - 3. USB - 2. USB+5V 1. USB+5V

