

MB-i965Q

ATX Industrial Motherboard

Quick Installation Guide
Version 1.0

Form Factor ATX Industrial Motherboard	CPU Intel® Core™ 2 Duo Desktop / Pentium® D / Pentium® 4 / Celeron® D processor in the LGA775 package	Chipset Intel® Q965 Intel® ICH8R
VGA CRT		Audio Realtek ALC888 HD Audio Codec, 7.1 channel.
I/O 1 x PCIe*16/ 1xISA/ 5xPCI/ 4xSATA/ 10xUSB/ 1xIDE/ 2xCOM/ 1xLPT/ 1xFDD/8 bit DIO	LAN 2 x Realtek 8111B 10/100/1000 Base-T Ethernet	

◆ Technical Support

If you have any technical difficulties, please consult the user's manual first at:
<ftp://ftp.arbor.com.tw/pub/manual>

Please do not hesitate to call or e-mail our customer service when you still can not find out the answer.

<http://www.arbor.com.tw>
E-mail: info@arbor.com.tw

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1.4 Specification

Form Factor	ATX Industrial Motherboard
CPU	Intel® Core™ 2 Duo Desktop / Pentium® D / Pentium® 4 / Celeron® D processor in the LGA775 package
Chipset	Intel® Q965 + Intel® ICH8R
System Memory	2 x 240pin DIMM DDR2 Up to 4GB DDR2 SDRAM
VGA Controller	Intel® Graphics Media Accelerator 3000 (GMA 3000) CRT (Dual independent display)
Ethernet	2 x Realtek 8111B 10/100/1000 Base-T Ethernet
I/O Chips	ITE-8718
BIOS	AMI BIOS
Audio	ALC888 HD Codec, 7.1 channel/MIC-in/Line-in/Line-out
Serial ATA	4 x Serial ATA II with 300MB/s
IDE Interface	1 x Ultra DMA100, support 1 IDE device Mavell 88SA8040
Serial Port	2 x COM ports (COM1: RS-232, COM2: RS-232/422/485 selectable)
Parallel Port/ Floppy	1 x SPP/EPP/ECP mode 1 x Floppy connector
KBMS/Ext. KBMS	1 x Standard PS/2 Keyboard connector 1 x Standard PS/2 Mouse connector 1 x External Keyboard & Mouse connector
Universal Serial Bus	10 x USB 2.0
DIO	8 bit programmable Digital I/O (4 bit In/ 4 bit Out)
Expansion Interface	1 x PCIe*16 5 x PCI 1 x ISA
Hardware Monitor Chip	Integrated in ITE8718
RTC	Real Time Clock
Operation Temp.	0°C ~ +60°C
Watchdog Timer	255-level Reset
Dimension (L x W)	305 x 220 mm (12" x 8.6")

1.1 Packing List

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

	1 x MB-i965Q Industrial Motherboard
	1 x CD-ROM (For Driver used)
	1 x Quick Installation Guide
	1 x COM Port Cable 1 x IDE Cable 1 x USB Cable 1 x SATA Cable

1.2 Ordering Information

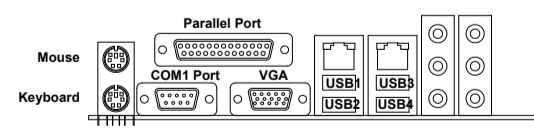
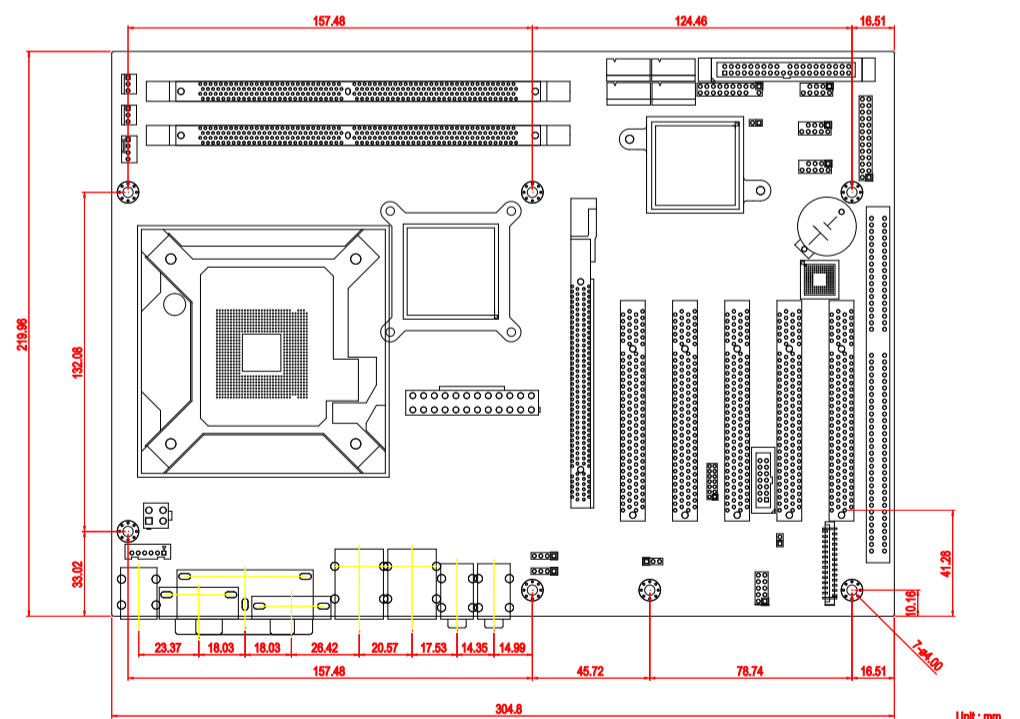
MB-i965Q	MB-i965Q Industrial Motherboard
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1.3 The Installation Paths of CD Driver

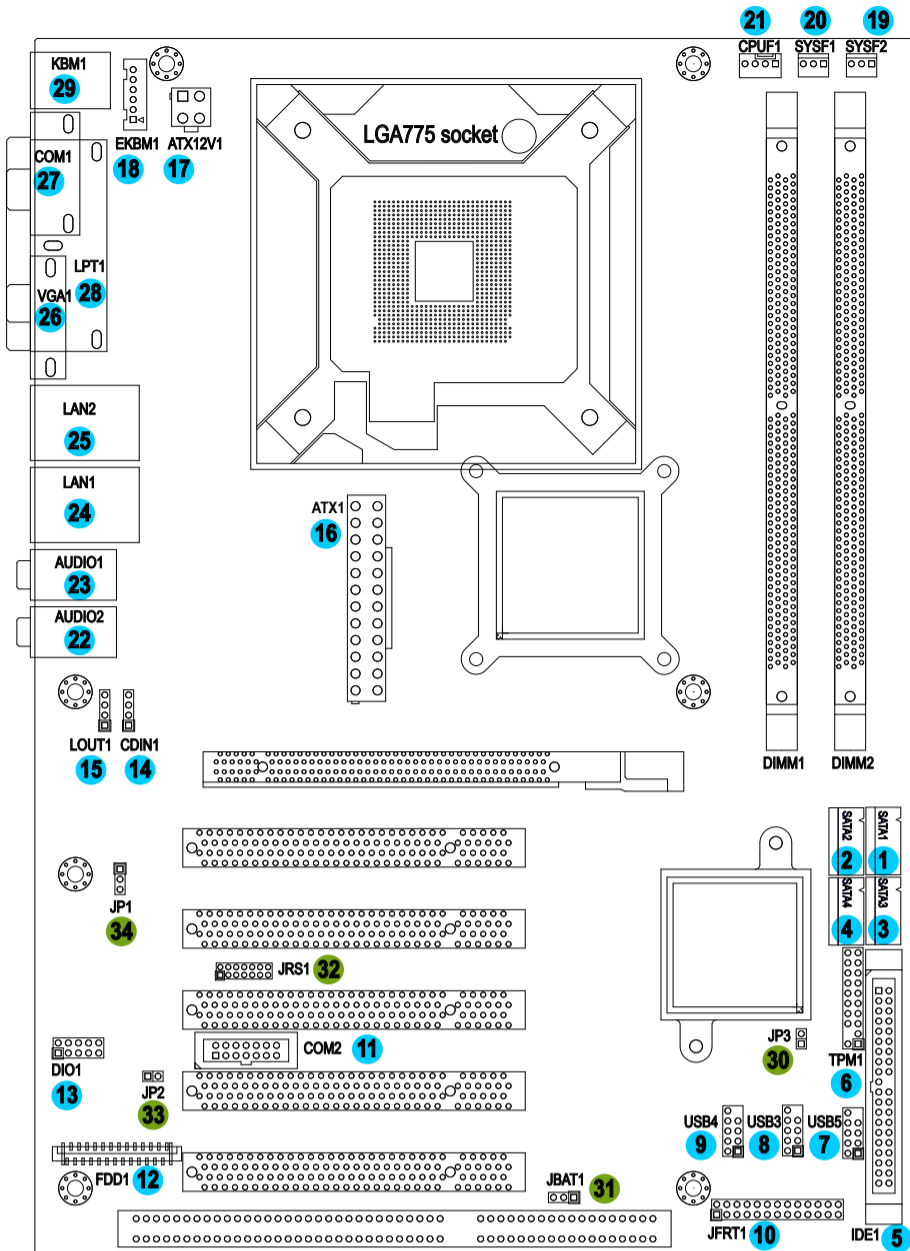
Driver	Path
AUDIO	\\AUDIO\REALTEK_HD\WINDOWS_R178
CHIPSET	\\CHIPSET\INTEL\INF 8.1
LAN	\\ETHERNET\REALTEK\8111B_WIN5640
VGA	\\GRAPHICS\INTEL_2K_XP_32\1431 \\GRAPHICS\INTEL_VISTA_32\1561

1.5 Jumpers/ Connectors Quick Reference

1.5.1 Board Layout Top View



1.5.3 Jumpers & Connectors



Jumpers

1.5.3.1 JP3: PATA IDE Select (30)

Pin 1-2	Function Select
Short	Disable
Open	Enable (Default)

1.5.3.2 JBAT1: CMOS Setup (31)

Pin	Mode
1-2	Keep CMOS (Default)
2-3	Clear CMOS

1.5.3.3 JSR1: COM2 RS-232/422/485 Select (32)

Pin	RS-232 (Default)	RS-422	RS-485
1-2	Off	On	On
3-4	Off	On	On
5-6	Off	Off	On
7-8	Off	On	Off
9-10	Off	On	On
11-12	On	Off	Off
13-14	Off	Off	On

1.5.3.4 JP2: AT/ATX Power Mode(33)

Pin 1-2	Mode
Short	AT Mode
Open	ATX Mode (Default)

1.5.3.5 JP1: BIOS Write protect (34)

Pin	Mode
1-2	Write protect (Default)
2-3	Write Enable

Connectors

1.5.3.6 SATA1, SATA2, SATA3, SATA4: Serial ATA Connector (1), (2), (3), (4)

High speed transfer rates (300MB/s).

1.5.3.7 IDE1: 40-pin IDE Connector (5)

Pin	Description	Pin	Description
1	IDE RESET	2	GND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GND	20	N/C
21	REQ	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	IO READY	28	IDESEL
29	DACK	30	GND
31	IRQ14	32	N/C
33	ADDR1	34	ATA66 DETECT
35	ADDR0	36	ADDR2
37	CS#2	38	CS#3
39	IDEACTP	40	GND

1.5.3.8 TPM1: Trusted Platform Module Connector (6)

Pin	Description	Pin	Description
1	CLK	2	GND
3	LFRAME	4	N/C
5	LRESET	6	N/C
7	LAD3	8	LAD2
9	+3.3V	10	LAD1
11	LAD0	12	GND
13	N/C	14	N/C
15	+3.3V_SB	16	SERIRQ
17	GND	18	CLKRUN
19	PD	20	N/C

1.5.3.9 USB3/ USB4/ USB5: USB Connector (7), (8), (9)

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

1.5.3.9 JFRT1: Switches and Indicators (10)

It provides connectors for system indicators that provides light indication of the computer activities and switches to change the computer status.

Pin	Description	Pin	Description
1	+5V	2	RESET+
3	N/C	4	RESET-
5	IRRX	6	N/C
7	GND	8	SPKR
9	IRTX	10	BUZZ
11	N/C	12	GND
13	HDD LED+	14	5V
15	HDD LED-	16	N/C
17	TB LED+	18	POWER LED+
19	TB LED-	20	N/C
21	N/C	22	POWER LED-
23	PWRBTN+	24	KBLOCK
25	PWRBTN-	26	GND

1.5.3.10 COM2: RS-232/422/485 Connector (11)

Pin	Description	Pin	Description
1	DCD#	2	DSR#
3	RXD	4	RTS#
5	TXD	6	CTS#
7	DTR#	8	RI#
9	GND	10	GND
11	TX+	12	TX-
13	RX+	14	RX-

1.5.3.11 FDD1: 26-pin FDD Connector (12)

Pin	Description	Pin	Description
1	+5V	2	INDEX#
3	+5V	4	DRIVER SELECT A#
5	+5V	6	DISK CHANGE#
7	N/C	8	N/C
9	N/C	10	MOTOR ENABLE A#
11	N/C	12	DIRECTION #
13	DRIVE DENSITY SELECT 0	14	STEP#
15	GND	16	WRITE DATA#
17	GND	18	WRITE GATE#
19	GND	20	TRAK0#
21	GND	22	WRITE PROTECT#
23	GND	24	READ DATA#
25	GND	26	HEAD SELECT#

1.5.3.12 DIO1: Digital I/O Connector (13)

DIO1 is a 8 bit DIO connector w/ Onboard 10-pin header connector, supports 4 bit In/ 4 bit Out.

Pin	Description	Pin	Description
1	OUTPUT1	2	INPUT1
3	OUTPUT2	4	INPUT2
5	OUTPUT3	6	INPUT3
7	OUTPUT4	8	INPUT4
9	+5V	10	GND

1.5.3.13 CDIN1: Audio CD IN Connector (14)

Pin	Description
1	CD-L
2	GND
3	GND
4	CD-R

1.5.3.14 LOUT1: Audio Line Out Connector (15)

Pin	Description
1	LOUT-L
2	GND
3	LOUT_JD
4	LOUT-R

1.5.3.15 ATX1: ATX Power Supply Connector (16)

Pin	Description	Pin	Description
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	GND	3	GND
16	PS-ON	4	+5V
17	GND	5	GND
18	GND	6	+5V
19	GND	7	GND
20	-5V	8	PW-OOK
21	+5V	9	+5VSB
22	+5V	10	+12V
23	+5V	11	+12V
24	GND	12	+3.3V

1.5.3.16 ATX12V1: ATX +12V Connector (17)

Pin	Description	Pin	Description
1	GND	3	+12V
2	GND	4	+12V

1.5.3.17 EKBM1: External KB & MS Connector (18)

Pin	Description
1	KB_Data
2	GND
3	MS_Data
4	KB_CLK
5	VCC
6	MS_CLK

1.5.3.18 SYSF1/SYSF2: FAN Connector (19), (20)

Pin	Description
1	GND
2	+12V
3	Fan_Detect

1.5.3.19 CPUF1: CPU FAN Connector (21)

Pin	Description
1	GND
2	+12V
3	Fan_Detect
4	Fan_Detect2

1.5.3.20 AUDIO1/AUDIO2: HD Audio Interface Phone jacks (22), (23)

ALC888 is 7.1 channel High Definition (HD) Audio Codec.

1.5.3.21 LAN1, LAN2 : 10/100 RJ-45 (24), (25) Include USB1/2, USB3/4

Realtek RTL8111B 10/100/1000 Base-T Ethernet & USB connector support 2 x USB 2.0 with 480MB/s.

1.5.3.22 VGA1: CRT Connector D-SUB 15-pin female (26)

1.5.3.23 COM1: RS-232 Connector D-SUB 9-pin male (27)

1.5.3.24 LPT1: Parallel Port D-SUB 15-pin female (28)

1.5.3.25 KBM1: PS/2 Keyboard & Mouse 6-pin Mini-DIN connectors (29)