Quick Installation Guide

2801600

About this Quick Installation Guide

This Quick Installation Guide provides general information and installation instructions about the motherboard. This User's Manual is intended for experienced users and integrators with hardware knowledge of personal computers. If you are not sure about any description in this User's Manual, please consult your vendor before further handling.

Warning

Single Board Computers and their components contain very delicate Integrated Circuits (IC). To protect the Single Board Computer and its components against damage from static electricity, you should always follow the following precautions when handling it :

1. Disconnect your Single Board Computer from the power source when you want to work on the inside

2. Hold the board by the edges and try not to touch the IC chips, leads or circuitry

3. Use a grounded wrist strap when handling computer components.

4. Place components on a grounded antistatic pad or on the bag that came with the Single Board Computer, whenever components are separated from the system

Replacing the lithium battery

Incorrect replacement of the lithium battery may lead to a risk of explosion. The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer.

Do not throw lithium batteries into the trashcan. It must be disposed of in accordance with local requlations concerning special waste.
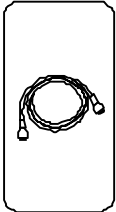
Warranty

This product is warranted to be in good working order for a period of two years from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party.

Vendors disclaim all other warranties, either expressed or implied, including but not limited to implied warranties of merchantibility and fitness for a particular purpose, with respect to the hardware, the accompanying product's manual(s) and written materials, and any accompanying hardware. This limited warranty gives you specific legal rights.

Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

2801600 PACKING LIST

	2801600 ATX Industrial Motherboard
	1 x I/O Bracket
	1 x CD-ROM (System Driver)
	Quick Installation Guide

Before up and running, please make sure the package contains all of above accessories.

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

Ordering Information

**2801600**   ATX Pentium D LGA775 Industrial Motherboard with CRT, and LAN

Cable Kit   2801600 Cable Kit

Engineering Specification	
Product Name	MB-B450
Form Factor	ATX Size (305mm x 220mm)
Processor	LGA775 pin Pentium 4 / Pentium D / Celeron D Processor (533/800/1066MHz FSB)
Chipset	NB : Intel 945G SB: ICH7R
System Memory	Support Two 240Pin DDR2 SDRAM DIMM Socket Up to 2GB
VGA/LCD Controller	Intel 945G integrated Intel Graphic Media Accelerator 950 VGA
Ethernet	Dual LAN, Intel 82573V Gigabit LAN.
	2 x 2 pin LED (Front)
I/O Chips	WINBOND W83627EHF x 1
BIOS	Phoenix-Award BIOS
Audio	AC97 Codec, on board supports MIC-In/ Line-In/ Line-out; 2x5 pin onboard (2.54mm)
IDE Interface	Serial ATA x 4 with 300MB/s transfer rate (Support 4 SATA devices)
	Support one ATA-100/66/33 IDE devices
Serial Port	COM 1: RS-232 on rear panel
	COM 2,3,4: RS232 by Box-header (2.54mm)
FDD	FDD connector, supports 1.44 / 2.88MB and 3-mode floppy drive by Box-header (2.54mm)
Parallel Port	Parallel Port Supports SPP/ EPP/ ECP mode select by BIOS setting
K/B and Mouse	Two Mini-DIN for PS/2 K/B and Mouse connector, 1 x 6pin wafer (2.54mm)
Universal Serial Bus	8 x USB 2.0 Ports
Expansion Interface	By 16-PCI Express x 1 Slot, By 1-PCI Express x 2 Slots, PCI 32bit/33MHz x 4 Slots
Digital I/O	Onboard 8-bit Digital I/O interface
Watchdog Timer Chipset	1~255 Level (sec or min)
Hardware Monitor Chip	Integrated in W83627EHF
RTC	Support Real Time Clock
Power Connector	ATX 2 x 12 pin power connector and 2 x 2 pin power connector (CPU)
Operation Temp.	0°C ~ 60°C
Relative Humidity	5 ~ 95%, non-condensing
Dimension (L x W):	305 x 220 mm

Board Layout
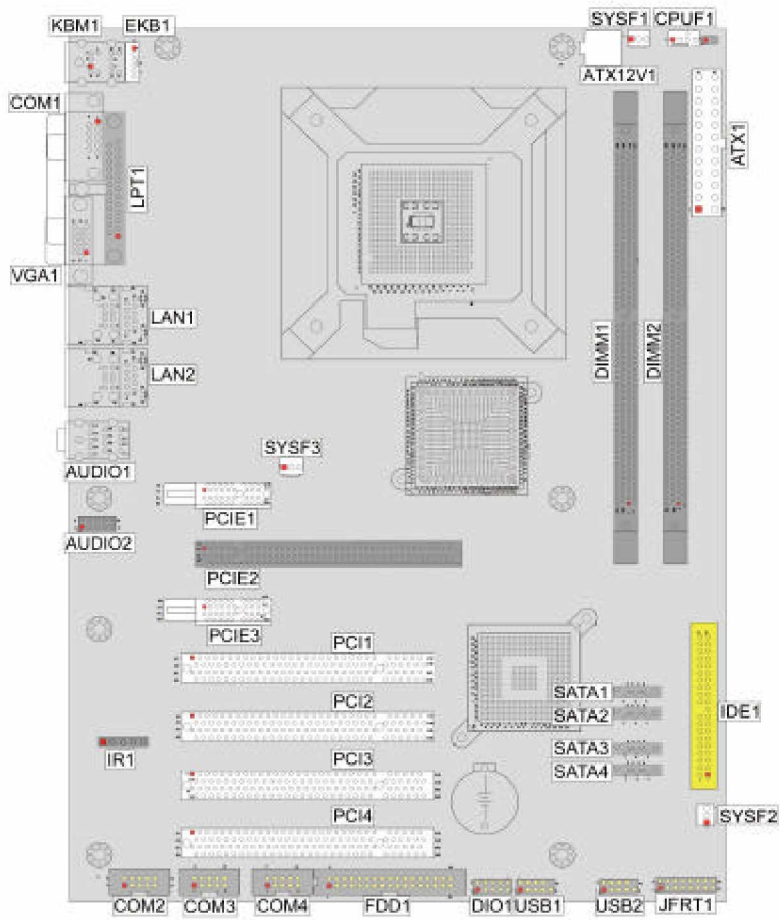
Board Dimension
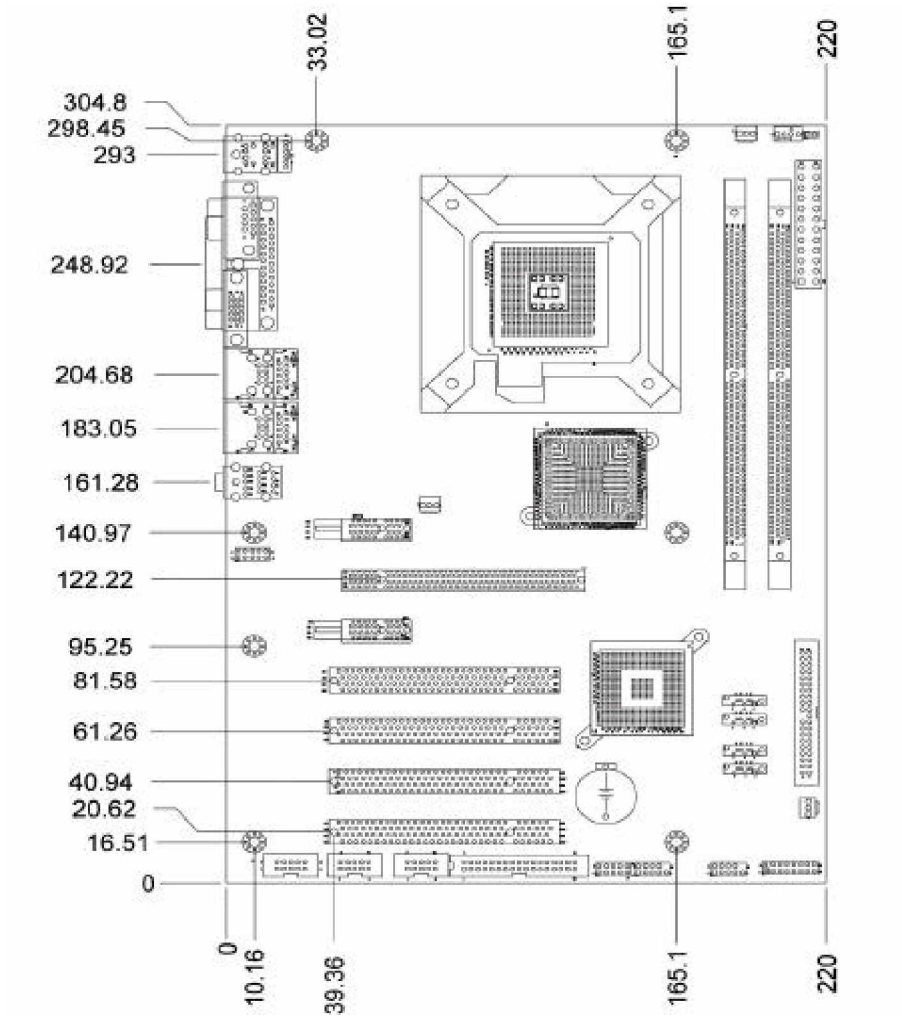
Jumper Quick Reference

Label	Function
JBAT1	Clear CMOS Select Jumper
JFRT1	Front Panel (Switches and Indicators) Connector

Connector Quick Reference

Label	Function
CPU1	LGA775, Support Intel FSB 1066/800/533 MHz Processor
DIMM1	Bank0, Channel A 240 Pin DIMM
DIMM2	Bank1, Channel B 240 Pin DIMM
KBM1	Purple: PS/2Keyboard
COM1, VGA1, LPT1	Satndard COM1+VGA1+LPT1 Connector
LAN1	USB0,1 + LAN1(82573V)
LAN2	USB2,3 + LAN2(82573V)
AUDIO1	Audio Port
PCIE2	PCIE X16 Graphics Card Interface
PCIE1, PCIE3	PCIE X1 Interface
PCI1~4	5V 32Bit PCI Interface
USB1	USB4,5, ARBOR 2.54mm Standard Cable
USB2	USB6,7, ARBOR 2.54mm Standard Cable
IR1	Infrared (IR) Connector
COM2, 3, 4	ARBOR Standard B Type Cable
ATX1	Standard ATX Power Connector
ATX12V1	ATX12V Connector
FDD1	Floppy Disk Drive Connector
IDE1	Primary IDE Connector
SATA1	Standard SATA Interface
SATA2	Standard SATA Interface
SATA3	Standard SATA Interface
SATA4	Standard SATA Interface
LED1	Power On LED(Green)
LED2	Standby LED(Orange)
LLED1	Internal LAN LED Connector
DIO1	Digital I/O Connector

CMOS Jumper Settings

CMOS Setup (JBAT1)

1 2 3

JBAT1

Type : JBAT1: onboard 3-pin header

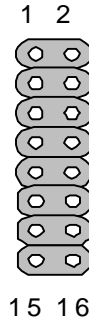| CMOS Setup (JBAT1)	JBAT1	
Keep CMOS	1-2	ON
Clear CMOS	2-3	ON
Default setting		

Switches & Indicators

Connector: JFRT1

Type: onboard 2*8pin 2.54mm header

Pin	Description	Pin	Description
1	Power LED+	2	PWRBTN+
3	Power LED-	4	PWRBTN-
5	Power LED-	6	RESET+
7	HDD LED+	8	RESET-
9	HDD LED-	10	SPEAKER+
11	SMBCLK_STBY	12	SPEAKER+
13	SMBDATA_STBY	14	SPEAKER-
15	GND	16	SPEAKER-

1 2

15 16

COM1/VGA1/LPT1   Connector

This connector supports CRT, Serial Port Connectors and Standard Parallel Port

Type: D-Sub 9-pin COM1 & D-Sub 15-pin (Male) VGA1; D-Sub 25-pin (Female) LPT Connector
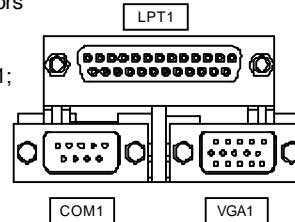
Connector : **COM1**

Type : 9-pin D-sub male connector on board

Pin	Description	Pin	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

Connector : **VGA1**

Type : external 15-pin D-sub female connector on board

Pin	Description	Pin	Description	Pin	Description
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	VDDAT
3	BLUE	8	GND	13	HSYNC
4	NC	9	Vcc	14	VSYNC
5	GND	10	GND	15	VDCLK

Connector : **LPT1**

Type : external D-Sub 25-pin female connector on board

Pin	Description	Pin	Description
1	#STROBE	2	#AUTO FEED
3	DATA0	4	#ERROR
5	DATA1	6	#INITIALIZE
7	DATA2	8	#SELECT INPUT
9	DATA3	10	GND
11	DATA4	12	GND
13	DATA5	14	GND
15	DATA6	16	GND
17	DATA7	18	GND
19	#ACKNOWLEDGE	20	GND
21	BUSY	22	GND
23	PAPER EMPTY	24	GND
25	SELECT		

COM Port Connector

COM2~COM4

COM

Connector : **COM2, 3, 4**
Type : onboard 10-pin box header

2 1
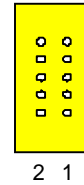
Pin	Description	Pin	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

External Keyboard Connector

AT Keyboard

EKB1

Connector : **EKB1**
Type : Onboard 6-pin header
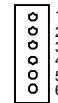
Pin	Description	Pin	Description
1	KB_DATA	2	GND
3	MS_DATA	4	KB_CLK
5	Vcc	6	MS_CLK

Note: EKB1 doesn't provide Vcc power pin on pin-5, that is, EKB1 cannot connect to AT keyboard directly. EBK1 supports AT keyboard with passive backplane.

PS/2 Keyboard and Mouse

PS/2 Keyboard & Mouse

Connector: **KBM1**
Type: external 6-pin Mini DIN connector on bracket
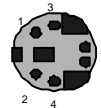
Pin	Description	Pin	Description
1	KB-DATA	2	MS-DATA
3	GND	4	VCC
5	KB-CLK	6	MS-CLK

Note: KBM1 supports PS/2 keyboard directly, and PS/2 mouse suppoted with the additional PS2 1-to-2 cable in the standard packing.

Dual Fast Ethernet Connectors

LAN Port

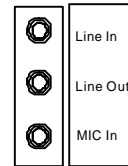Connector : **LAN1, LAN2**
Type : RJ-45 on bracket

Pin Defined	1	2	3	4	5	6	7	8
Gigabit LAN1	TX1	TX1	RX1	RX2	RX2	RX1	TX2	TX2
Gigabit LAN2	TX1	TX1	RX1	RX2	RX2	RX1	TX2	TX2

Audio Port

AC'97 Audio support 2-/4-/6-channel audio

Connector : Audio1

Type: Triple Stack Audio Jack

Line In
Line Out
MIC In

Infrared (IR) Connector

1 2 3 4 5

IR1

Connector : **IR1**
Type : onboard 5-pin header (2.54mm)
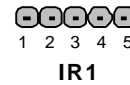
Pin	Description	Pin	Description
1	Vcc	2	NC
3	IRRX	4	GND
5	IRTX		

USB Connector

USB Ports

2 10
1 9
USB1
USB2

Connector: **USB1, USB2**
Type:onboard Two 9-pin headers for four USB ports

Pin	Description	Pin	Description
1	VCC	2	VCC
3	DATA-	4	DATA-
5	DATA+	6	DATA+
7	GND	8	GND
9	GND	10	NA

1 2 3 4

Part1

Part0

1 2 3 4

ATX Power Connector

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24                          13
[pin diagram]
12                           1
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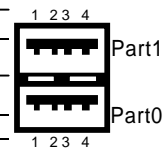
Connector : **ATX1**

Type : 24-pin onboard ATX Connetor
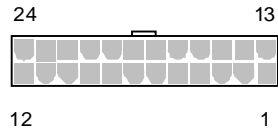
Pin	Description	Pin	Descripition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS-ON
5	GND	17	GND
6	5V	18	GND
7	GND	19	GND
8	PW-OK	20	-5V
9	5VSB	21	5V
10	12V	22	5V
11	12V	23	5V
12	3.3V	24	GND

ATX12V Connector

This connector (ATX12V1) supplies the CPU operation voltage (Vcore).
If this "ATX12V1 connector" is not connected, system cannot boot.

Connector : **ATX12V1**

Type:12V 4-pin (2*2) Power Connector

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4  [ ■ ■ ]  2
3  [ ■ ■ ]  1
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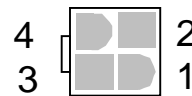
Pin	Description	Pin	Description
4	+12V	2	GND
3	+12V	1	GND

Fan Connector

Connector : **SYSF1, SYSF2, SYSF3**
Type : onboard 3-pin wafer connector

SYSF1

Pin	Description
1	GND
2	+12V
3	FAN_Sensor

Note: SYSF3 doesn't have FAN_Sensor

Connector: CPUF1

Type: onboard 4-pin wafer connector

CPUF1
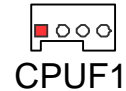
Pin	Description
1	GND
2	+12V
3	FAN-Sensor
4	FAN-CLT

SATA Connector

High speed transfer rates (150MB/sec)

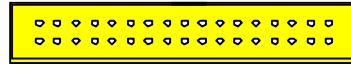Connector : SATA1 / SATA2 / SATA3 / SATA4

Type : Standard 7-pin SATA Connector

7   1

SATA

Pin	Description
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

Interface Connectors FDD

Floppy Disk Drive Connector

Connector : **FDD1**
Type : onboard 34-pin box header

Pin	Description	Pin	Description
1	GND	2	DRIVE DENSITY SELECT 0
3	GND	4	NC
5	GND	6	NC
7	GND	8	#INDEX
9	GND	10	#MOTOR ENABLE A
11	GND	12	NC
13	GND	14	#DRIVER SELECT A
15	GND	16	NC
17	GND	18	#DIRECTION
19	GND	20	#STEP
21	GND	22	#WRITE DATA
23	GND	24	#WRITE GATE
25	GND	26	#TRACK 0
27	GND	28	#WRITE PROTECT
29	GND	30	#READ DATA
31	GND	32	#HEAD SELECT
33	GND	34	#DISK CHANGE

Digital I/O Connector

Connector: DIO1

Type: Onboard 10-pin header
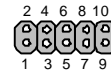
Pin	Description	Pin	Description
1	DIO 0	2	DIO 1
3	DIO 2	4	DIO 3
5	DIO 4	6	DIO 5
7	DIO 6	8	DIO 7
9	VCC5	10	GND

Enhanced IDE Connector

Connector : **IDE1**
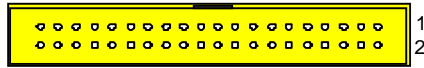
Type : Two onboard 40-pin box headers, primary and secondary IDE

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	#CS0	38	#CS1(#HD SELECT1)
39	IDEACTP	40	GND

Internal LAN LED Connector

Connector : LLED1

Type : Onborad 2*2-pin header

LLED1
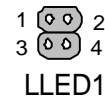
Pin	Description	Pin	Description
1	LAN1 Link_ACT	2	3V_DUAL
3	LAN2 Link_ACT	4	3V_DUAL

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support you for your products, projects and business

Global American Inc.

Address:	17 Hampshire Drive Hudson, NH 03051
TEL:	Toll Free (U.S. Only) 800-833-8999 (603)886-3900
FAX:	(603)886-4545
Website:	http://www.globalamericaninc.com
E-Mail:	salesinfo@globalamericaninc.com