

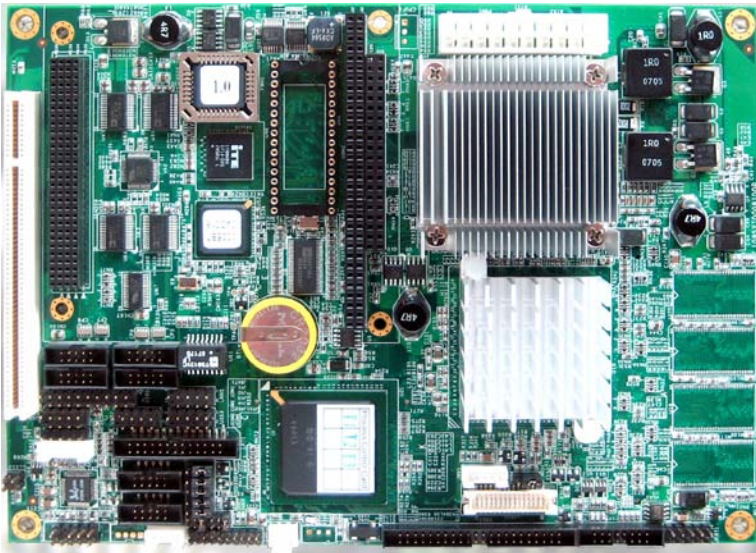


integration with integrity

User's Manual

5.25" Embedded Controller 3308020

Version 1.0



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Chapter 1

Introduction

1.1 About this User's Manual

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.

1.2 Warning

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

1. Disconnect your Embedded Miniboard 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 Embedded Miniboard, whenever components are separated from the system.
-

1.3 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 regulations concerning special waste.

1.4 Technical Support

If you have any technical difficulties, please do not hesitate to call or

Email Global American, Inc. at:

(800) 833-8999 Toll Free

E-mail: support@globalamericaninc.com

1.5 Packing List

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



1 x 3308020 embedded miniboard



1 x Quick Installation Guide



1 x CD-ROM (for Driver used)

1 x RJ45 Cover

1.6 Cable Kit

3308020 (Standard Version) Cable Kit (1208680) contains the followings:

Content

1. 1 x Audio Flat Cable
2. 3 x 2xUSB Flat Cable
3. 6 x COM Flat Cable
4. 1 x IDE Cable
5. 1 x PRINT Cable
6. 1 x K/B-M/S Cable
7. 1 x VGA Cable
8. 1 x RJ-45 Ethernet Wire Cable
9. 1 x FDD Flat Cable

1.7 Ordering Information

3308020

5.25" Intel ULV Celeron M 600MHz Miniboard with CRT/LCD, LAN, Audio, PC/104 & PC/104 Plus and DOC Socket

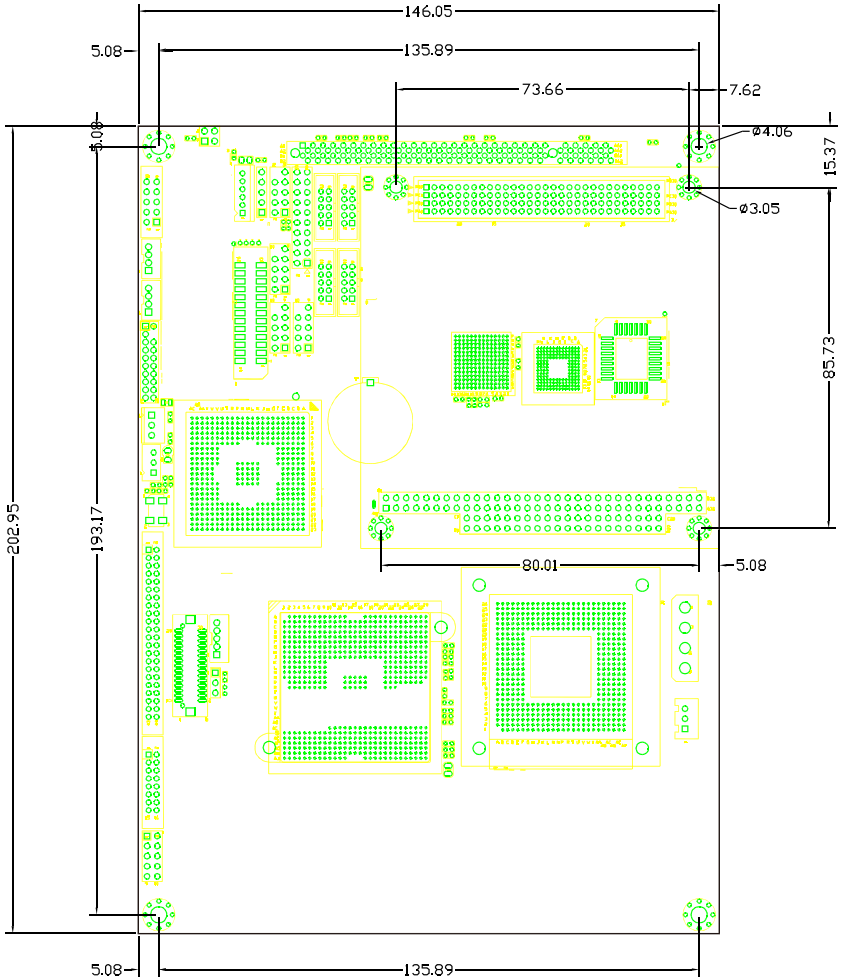
1208680 Cable kit for 3308020

1.8 Specification

Product Name	3308020
Form Factor	5.25" Embedded Board Size (203x146mm)
Processor	Intel Ultra-Low Voltage Celeron-M FSB 400MHz,
	Celeron-M FSB 400MHz,
	Low Voltage Pentium-M FSB 400MHz,
	Pentium-M FSB 400MHz Processor.
Chipset	NB : Intel 852GM SB: Intel ICH4
System Memory	On board DDR RAM 256MB (Optional: 512MB Max)
VGA/LCD Controller	UMA 852GM AGP Video Controller with LVDS and
	CRT support (Support Dual Display, Independent display)
Ethernet	Intel 82551QM 10/100 Base-T Fast Ethernet LAN
I/O Chips	WINBOUND W83627HF
BIOS	Phoenix-Award BIOS version 6.0PG, Support 4MB
	Flash ROM
Audio	AC'97 Codec Version: 2.3 supports MIC-In/ Line-In/
	Line-out; Optional Stereo Amplifier included (ALC655)
IDE Interface	ATA-33 x 1 channel (Support two ATAPI devices)
	Compact Flash Disk X 1 (Support up to 2GB)
IEEE 1394a-2000	N/A
Serial Port	Six COM ports:
	COM1,2: RS232/422/485 Selectable
	COM3~6: RS-232 (By FinTek F81216D)
Parallel Port	Parallel Port Supports SPP/ EPP/ ECP mode
K/B and Mouse	Support Standard PS/2 K/B and Mouse
Universal Serial Bus	6 x USB 2.0 Port
Expansion Interface	PCI slot, PC/104 and PC/104-plus
Watchdog Timer Chipset	Integrated in W83627HF, 1~255 Level (sec or min)
Hardware Monitor Chipset	Integrated in W83627HF
RTC	Support Real Time Clock
Power Input Connector	2 x 10 Pin ATX (AT power can be used)
Operation Temp.	0 ~ 60°C

* PCI Slot and PC/104-Plus can not be used at the same time, since they share PCI resource.

1.9 Board Dimensions

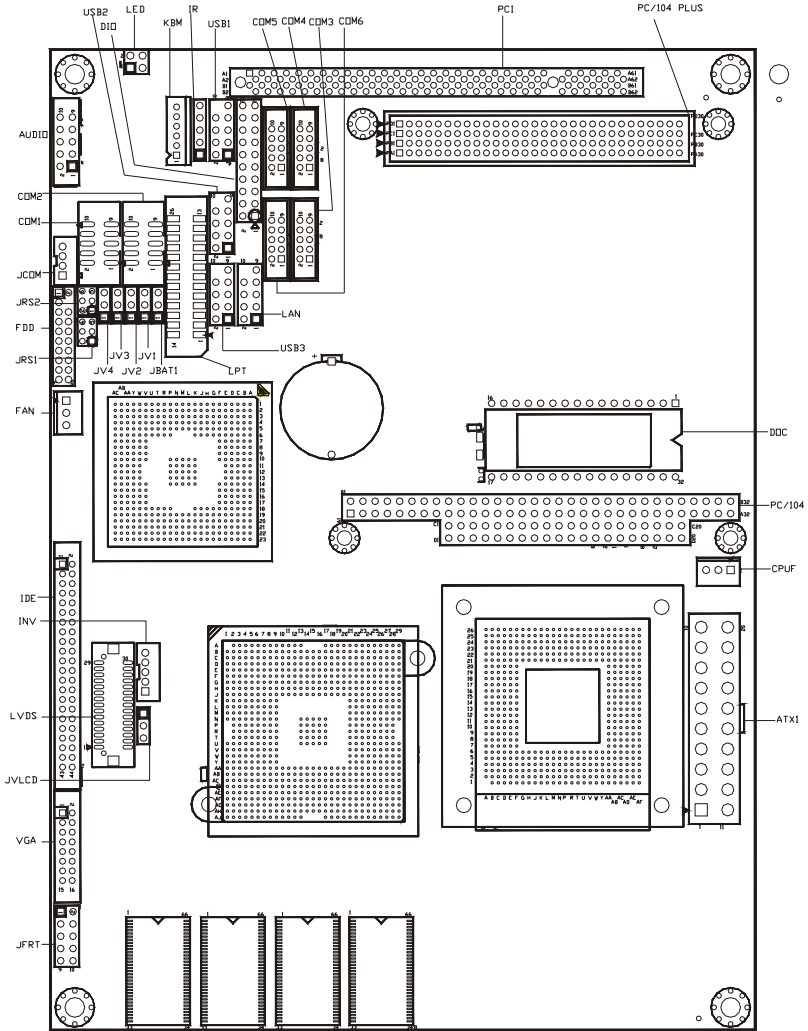




Chapter 2

Installation

2.1 Board layout



2.2 Jumpers and Connectors

Jumpers Setting

Label	Function
JBAT1	CMOS Jumper Settings Clear CMOS
JRS1	COM1 RS-232 / 422 / 485 Select RS-232/422/485 select
JRS2	COM2 RS-232 / 422 / 485 Select RS-232/422/485 select
JV1,JV2,JV3,JV4	COM1 Power Source Special Support
JDOC1	DOC Address select
JVLCD1	LVDS Panel Voltage Selects

CMOS Jumper Settings (JBAT1)

Type: Onboard 3-pin header (JBAT1)

CMOS	JBAT1
Keep CMOS	1-2 ON
Clear CMOS	2-3 ON



JBAT1

Default setting: Keep CMOS

COM1 RS-232 / 422 / 485 Select (JRS1)

Type: Onboard 3-pin header (JCF1)

JRS1 Select	1-2	3-4	5-6
RS-232	ON	OFF	OFF
RS-422	OFF	ON	OFF
RS-485	OFF	OFF	ON



JRS1

Default setting:RS-232 mode

COM2 RS-232 / 422 / 485 Select (JRS2)

Type: onboard 6-pin (2*3) header

JRS1 Select	1-2	3-4	5-6
RS-232	ON	OFF	OFF
RS-422	OFF	ON	OFF
RS-485	OFF	OFF	ON



JRS2

Default setting: RS-232 mode

COM1 Power Source Special Support (JV1, JV3)

Type: onboard 2*3-pin header

COM1 Power Source Special Support	JV3	JV1
Standard	1-2	1-2
POS:5V on Pin1	2-3	1-2
POS:12V on Pin9	1-2	2-3
POS:5V on Pin1, 12V on Pin9	2-3	2-3



JV3 JV1

Default setting: Standard

COM2 Power Source Special Support(JV2, JV4)

Type: onboard 2*3-pin header

COM1 Power Source Special Support	JV4	JV2
Standard	1-2	1-2
POS:5V on Pin1	2-3	1-2
POS:12V on Pin9	1-2	2-3
POS:5V on Pin1, 12V on Pin9	2-3	2-3



JV4 JV2

Default setting: Standard

DOC Address Selects(JDOC1)

Type: onboard 4-pin header

Address	JDOC1
D000	1-2
D800	3-4

LVDS Panel Voltage Selects (JVLCD1)

Type: onboard 3-pin header

LCD Voltage	LCD Voltage
5V	3.3V
3.3V	5.0V



Default setting:3.3V

LVDS Panel Voltage Selects (JVLCD1)

Type: onboard 3-pin header

LCD Voltage	LCD Voltage
5V	3.3V
3.3V	5.0V



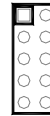
JVLCD1

Default setting:3.3V

JFRT1

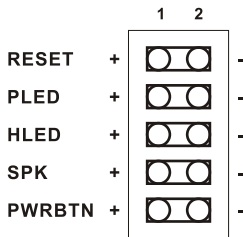
Type: onboard 2.54 pitch 10-pin (2*5) header

Pin	Description	Pin	Description
1	RESET +	2	RESET -
3	Power LED+	4	Power LED-
5	HD LED+	6	HD LED-
7	Speak+	8	Speak-
9	PSON+	10	PSON-



JFRT1

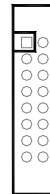
FRONT PANEL



CRT Display Connector(VGA1)

Type: Onboard 2.0mm 2X8 Pin Box Header

Pin	Description	Pin	Description
1	RED	2	GREEN
3	BLUE	4	N/C
5	GND	6	GND
7	GND	8	GND
9	+5V(Poly S/W)	10	GND
11	N/C	12	VDDAT
13	HSYNC	14	VSYNC
15	VDCLK	16	N/C

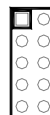


VGA1

JFRT1

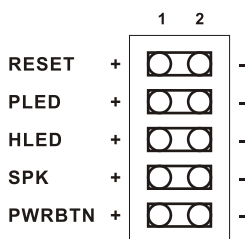
Type: onboard 2.54 pitch 10-pin (2*5) header

Pin	Description	Pin	Description
1	RESET +	2	RESET -
3	Power LED+	4	Power LED-
5	HD LED+	6	HD LED-
7	Speak+	8	Speak-
9	PSOIN+	10	PSOIN-



JFRT1

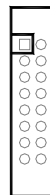
FRONT PANEL



CRT Display Connector(VGA1)

Type: Onboard 2.0mm 2X8 Pin Box Header

Pin	Description	Pin	Description
1	RED	2	GREEN
3	BLUE	4	N/C
5	GND	6	GND
7	GND	8	GND
9	+5V(Poly S/W)	10	GND
11	N/C	12	VDDAT
13	HSYNC	14	VSYNC
15	VDCLK	16	N/C

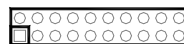


VGA1

LOW PIN CONNECTOR (LPC1)

Type: onboard 2*10pin 2.0mm PIN headers

Pin	Description	Pin	Description
1	VCC	2	VCC
3	#LDRQ1	4	GND
5	SERIRQ	6	LAD3
7	LAD2	8	LAD2
9	LAD0	10	LAD1
11	#PCIRST	12	GND
13	SMBDATA	14	PCLK
15	GND	16	SMBCLK
17	48MHZ	18	#LPC_PME
19	VCC3	20	VCC3

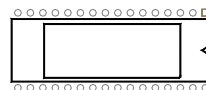


LPC1

DOC CONNECTOR (DOC1)

Type: onboard 2*10pin 2.0mm PIN headers

Pin	Description	Pin	Description
1	NC	32	VCC
2	SA16	31	#SMEMW
3	SA15	30	VCC
4	SA12	29	SA14
5	SA7	28	SA18
6	SA6	27	SA8
7	SA5	26	SA9
8	SA4	25	SA11
9	SA3	24	#SMEMR
10	SA2	23	SA10
11	SA1	22	#CE
12	SA0	21	SD7
13	SD0	20	SD6
14	SD1	19	SD5
15	SD2	18	SD4
16	GND	17	SD3



DOC1

External SMBus Connector (SMBUS1)

Type: onboard 2.54pitch 3-pin wafer

Pin	Description
1	DATA
2	CLK
3	GND

Floppy Disk Drive Connector (FDD1)

Type: onboard standard 2.00pitch 34-pin (2*17) holes

Pin	Description	Pin	Description
1	GND	2	#RWC
3	GND	4	N.C
5	GND	6	#DS1
7	#WD	8	#INDEX
9	#WE	10	#MOA
11	#TRAK0	12	#DSB
13	#WP	14	#DSA
15	#RDATA	16	#MOB
17	#HEAD	18	#DIR
19	#DSKCHG	20	#STEP



FDD1

FAN Connector (CPUF1)

Type: onboard 3-pin wafer connector

Pin	Description
1	GND
2	+12V
3	Fan_Detect



CPUF1

FAN Connector (SYSF1)

Type: onboard 3-pin wafer connector

Pin	Description
1	GND
2	+12V
3	Fan_Detect



SYSF1

RS-232 Serial Port (COM1)

Type: onboard 2X5-BOX HEADER(2.0mm)

Pin	Description	Pin	Description
1	DCDA	2	SINA
3	SOUTA	4	DTRA
5	GND	6	DSRA
7	RTSA	8	CTSA
9	RI A	10	NC



COM1

RS-232 Serial Port (COM2)

Type: onboard 2X5BOX HEADER(2.0mm)

Pin	Description	Pin	Description
1	DCDB	2	SINB
3	SOUTB	4	DTRB
5	GND	6	DSRB
7	RTSB	8	CTSB
9	RI B	10	NC



COM2

RS422/485 Output Connector (JCOM1)

Type: onboard 2.0pitch 4-pin header

Pin	RS-422	RS-485
1	TX+	DATA+
2	TX-	DATA-
3	RX+	N.C
4	RX-	N.C



JCOM1

RS-422/RS-485 Select by JRS1, share COM1 resource.

RS422/485 Output Connector (JCOM2)

Type: onboard 2.0pitch 4-pin header

Pin	RS-422	RS-485
1	TX+	DATA+
2	TX-	DATA-
3	RX+	N.C
4	RX-	N.C



JCOM1

RS-422/RS-485 Select by JRS2, share COM2 resource.

PS/2 Keyboard & Mouse Connector (KBM1)

Type: One onboard 2x4pin Header

Pin	Description
1	KB_DAT
2	GND
3	MS_DAT
4	KB_CLK
5	VCC
6	MS_CLK



KBM1

Parallel Port (LPT1)

Type: onboard 2X13BOX HEADER(2.0mm)

Pin	Description	Pin	Description
1	#STB	2	#AFD
3	PD0	4	#ERR
5	PD1	6	#INIT
7	PD2	8	#SLIN
9	PD3	10	GND
11	PD4	12	GND
13	PD5	14	NC
15	PD6	16	BUSY
17	PD7	18	PE
19	#ACK	20	SLCT



LPT1

USB Connector (USB1)

Type: onboard 2.54pitch 10-pin header for two USB ports

Pin	Description	Pin	Description
1	+5V	1	+5V
3	USBD0-	3	USBD0-
5	USBD0+	5	USBD0+
7	GND	7	GND
9	GND	9	GND

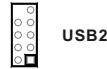


USB1

USB Connector (USB2)

Type: onboard 2.54pitch 10-pin header for two USB ports

Pin	Description	Pin	Description
1	+5V	1	+5V
3	USBD2-	3	USBD3-
5	USBD2+	5	USBD3+
7	GND	7	GND
9	GND	9	N.C



USB2

USB Connector (USB3)

Type: onboard 2.54pitch 10-pin header for two USB ports

Pin	Description	Pin	Description
1	+5V	1	+5V
3	USBD4-	3	USBD5-
5	USBD4+	5	USBD5+
7	GND	7	GND
9	GND	9	N.C



USB3

LVDS Panel Inverter Connector (INV1)

Type: onboard 2.0pitch 5-pin wafer

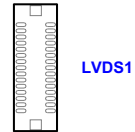
Pin	Description
1	+12V
2	GND
3	Backlight on/off
4	Brightness control
5	GND



LVDS LCD Connector (LVDS1)

Type: onboard DF13 30-pin header

Pin	Description	Pin	Description
1	VDD	2	VDD
3	TX1CLK+	4	TX2CLK+
5	TX1CLK-	6	TX2CLK-
7	GND	8	GND
9	TX1D0+	10	TX2D0+
11	TX1D0-	12	TX2D0-
13	GND	14	GND
15	TX1D1+	16	TX2D1+
17	TX1D1-	18	TX2D1-
19	GND	20	GND
21	TX1D2+	22	TX2D2+
23	TX1D2-	24	TX2D2-
25	GND	26	GND
27	TX1D3+	28	TX2D3+
29	TX1D3-	30	TX2D3-



VDD could be selected by JVLCD1 in +5V or +3.3V

DVI CONNECTOR (TMSDS1)

Type: onboard DF13 20-pin header

Pin	Description	Pin	Description
1	DVI_VCC	2	DVI_VCC
3	TX0P	4	TXCP
5	TX0M	6	TXCM
7	GND	8	GND
9	TX1P	10	5VDDCCLK
11	TX1M	12	5VDDCDATA
13	GND	14	GND
15	TX2P	16	DVI_HPD
17	TX2M	18	NC
19	GND	20	NC

Infrared (IR) Connector (IR1)

Type: onboard 2.54pitch 5-pin header

Pin	Description
1	+5V
2	N.C
3	IRRX
4	GND
5	IRTX



Fast Ethernet Connector (LAN1)

Type: onboard 2.54pitch 10-pin header

Pin	Description	Pin	Description
1	TX+	2	TX-
3	RX+	4	D2+
5	D2-	6	RX-
7	D3+	8	D3-
9	LAN_GND	10	Key



LAN LED Indicator (LLED1)

Type :onboard 1*4pin 2mm header

Pin	Description
1	ACT-
2	ACT+
3	LILED-
4	LILED+



LLED1

Audio Port (Audio1):

Audio Interface Port

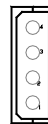
Type: onboard 2*5pin 2.0mm BOX header

Pin	Description	Pin	Description
1	GND	2	Line Right in
3	Line Left in	4	MIC1
5	GND	6	MIC2
7	NC	8	LOUT_L
9	GND	10	LOUT_R

Power Connector (ATX1)

Type : onboard 2*10-pin connector

Pin	Description	Pin	Description
1	NC	11	NC
2	NC	12	-12V
3	GND	13	GND
4	VCC	14	PSON#
5	GND	15	GND
6	VCC	16	GND
7	GND	17	GND
8	NC	18	-5V
9	5VSB	19	VCC
10	+12V	20	VCC



PWR1

Compact Flash Connector (CFD1)

Pin	Description	Pin	Description
1	GND	26	GND
2	DATA3	27	DATA11
3	DATA4	28	DATA12
4	DATA5	29	DATA13
5	DATA6	30	DATA14
6	DATA7	31	DATA15
7	CS#1	32	CS#3
8	GND	33	GND
9	GND	34	IO READ
10	GND	35	IO WRITE
11	GND	36	+5V
12	GND	37	IRQ15
13	+5V	38	+5V
14	GND	39	CSEL
15	GND	40	N/C
16	GND	41	IDE RESET
17	GND	42	IO READY
18	ADDR2	43	N/C
19	ADDR1	44	+5V
20	ADDR0	45	DASP
21	DATA0	46	DIAG
22	DATA1	47	DATA8
23	DATA2	48	DATA9
24	N/C	49	DATA10
25	GND	50	GND

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 your products, projects and business.



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