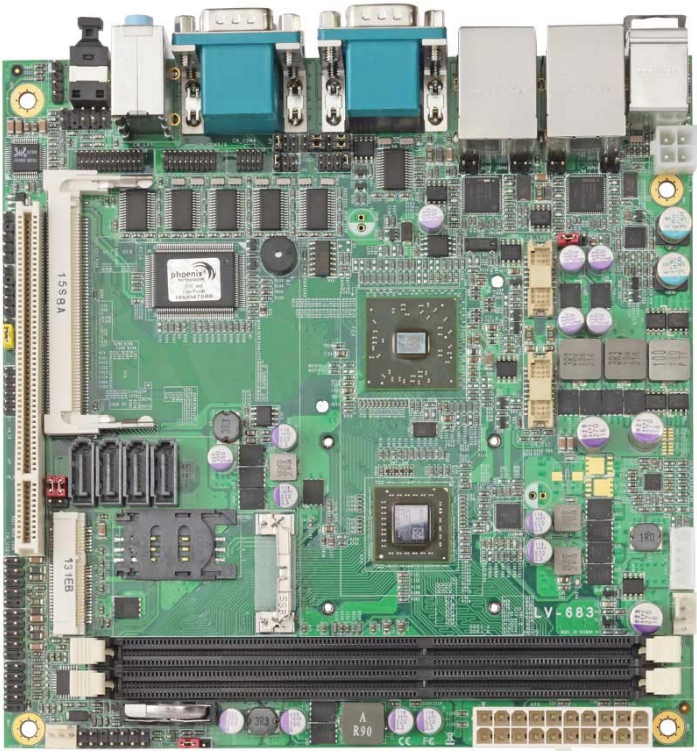
LV-683

Mini-ITX Miniboard

User's Manual

Edition 1.1
2012/01/09



Copyright

Disclaimer

The company shall not be liable for any incidental or consequential damages resulting from the performance or use of this product.
The company does not issue a warranty of any kind, express or implied, including without limitation implied warranties of merchantability or fitness for a particular purpose.
The company has the right to revise the manual or include changes in the specifications of the product described within it at any time without notice and without obligation to notify any person of such revision or changes.

Trademark

All trademarks are the property of their respective holders.

Any questions please visit our website at http://www.commell.com.tw

Packing List:

Please check the package content before you starting using the board.

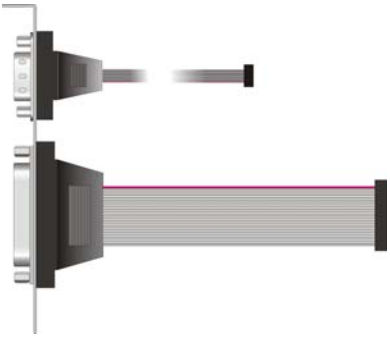
Hardware:

LV-683 Mini-ITX motherboard x 1

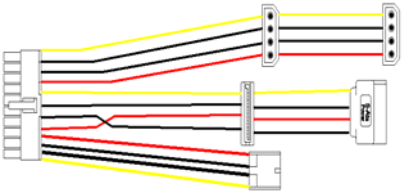
Cable Kit:

SATA Cable x 2
(OALSATA-L)

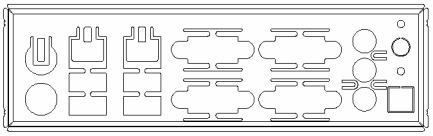
DC Power Cable x 1
(OALDC-2)
(OSCREW-8) * 2



COM port & Printer Port Cable x 1
(OALES-BKU-3)



ATX Power Output Cable x 1
(OALATX-P3S2)

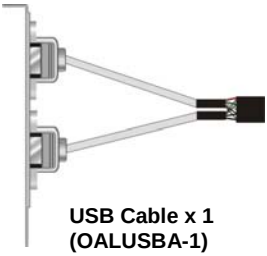


I/O Shield x 1
(OPLATE-67E)

DVI Module With DVI Cable x 1
(BADPDVI-A + OALDVI-DF13)

Optional Cable Kit:

Dual COM PORT cable
(OALES-BKU2NB)



USB Cable x 1
(OALUSBA-1)

Printed Matters:

Driver CD x 1 (Including User's Manual)

Index

Chapter 1 <Introduction> 6

1.1 <Product Overview> 6

1.2 <Product Specification> 7

1.3 <Mechanical Drawing> 9

1.4 <Block Diagram> 10

Chapter 2 <Hardware Setup> 11

2.1 <Connector Location> 11

2.2 <Jumper Reference> 12

2.3 <Connector Reference> 13

2.3.1 <Internal Connector> 13

2.3.2 <External Connector> 13

2.4 <CPU and Memory Setup> 14

2.5 <CMOS & ATX Setup> 15

2.6 <SATA & CFast Interface> 16

2.8 <LAN Interface> 17

2.9 <Onboard Display Interface> 18

2.9.1 <Analog VGA Interface> 18

2.9.2 <Digital Display> 19

2.9.3 <DVI Interface > 23

2.10 <Onboard Audio Interface> 24

2.11 <USB2.0 Interface> 25

2.12 <PCIE Mini Card and SIM Interface> 26

2.12.1 <SIM Setup> 27

2.13 <GPIO Interface> 29

2.14 <Serial Port Jumper Setting > 30

2.15 <Power & FAN Connector > 32

2.15.1 <Power Input> 32

2.15.2 <Power Output> 33

2.15.3 <Fan Connector> 34

2.16 <Indicator and Switch>....35
Chapter 3 <BIOS Setup> **37**
Appendix A <I/O Port Pin Assignment>....**39**
A.1 <SATA Port>....39
A.2 <IrDA Port>....39
A.3 <SMBUS Port>....39
A.4<LPT Port>....40
A.5 < CRT Port >....40
A.6 <Serial Port>....41
A.7 <LAN Port>....41
A.8 <LAN LED Port>....41
Appendix B <Flash BIOS>....**42**
B.1 <Flash Tool>....42
B.2 <Flash BIOS Procedure>....42
Appendix C <System Resources> **43**
C.1 <I/O Port Address Map>....43
C.2 <Memory Address Map >....45
C.3 < System IRQ Resources >....47
Appendix D <Programming GPIO's> **48**
Appendix E <Watch Dog timer Setting >....**49**
Appendix F <AMD Hing Definition Audio Device > ...**50**
Contact Information **51**

(This page is left for blank)

Chapter 1 <Introduction>

1.1 <Product Overview>

LV-683 is the Mini-ITX motherboard with AMD G-T56N platform, with onboard VGA, Realtek ALC888 HD Codec audio, Giga LAN interface. Based on the AMD G-T56N Processor, the board provides many advanced features for reduced power consumption.

A55E Chipset

The board integrates AMD A55E supports, to provide built-in UniChrome Pro 3D / 2D Graphics with MPEGII/MPEG4 decoder, and supports DDRIII 1066/1333 memory up to 8G of capacity. The A55E has Ultra V-Link Host interface with 1 GB/sec total bandwidth to enhance the system performance.

18-bit LVDS LCD interface

The board provides onboard 18-bit LVDS LCD interface, supports up to 1600 x 1200 of UXGA high resolution.

Flexible Extension Interface

The board also provides one mini PCI socket and one PCI Express Mini card socket and PCI Slot.

1.2 <Product Specification>

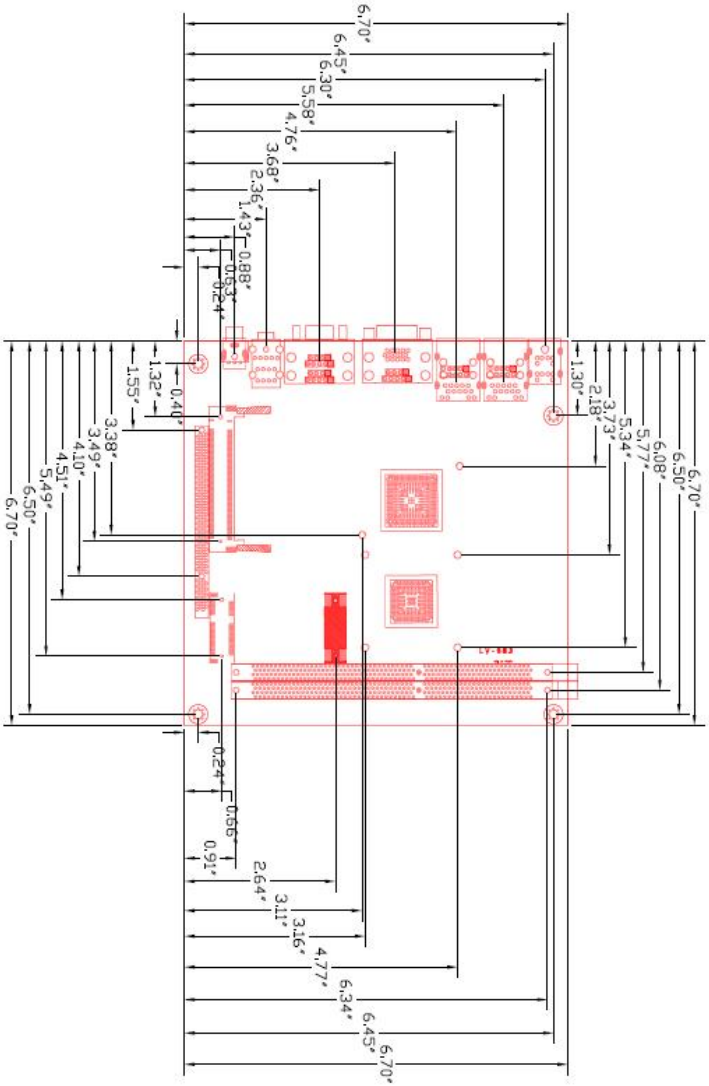
General Specification	
Form Factor	Mini-ITX motherboard
CPU	AMD G-T56N Processor 1.65GHz
Memory	2 x 240-pin DDR3 1066/1333MHz SDRAM up to 8GB Unbufferred, none-ECC memory supported only
Chipset	AMD A55E FCH
Watchdog Timer	System reset programmable watchdog timer with 1 ~ 255 sec./min. of timeout value
Real Time Clock	Chipset integrated RTC with onboard lithium battery
Serial ATA	4 x serial ATAII interface with 300MB/s transfer rate
Multi-I/O Port	
Chipset	Winbond W83627DHG-P
Serial Port	Five RS-232 and One RS-232/422/485 serial port
USB Port	Ten Hi-Speed USB 2.0 ports with 480Mbps of transfer rate
IrDA Port	One IrDA compliant Infrared interface supports SIR
K/B & Mouse	PS/2 keyboard and mouse port
GPIO	One 12-pin Digital I/O connector with 8-bit programmable I/O interface
VGA Display Interface	
Chipset	AMD A55E FCH (System Controller Hub)
Frame Buffer	Up to 512MB shared with system memory
Display Type	CRT, LCD monitor with analog display, single channel DVI, LVDS
Connector	External DB15 female connector Onboard 20-Pin LVDS and 5-Pin inverter connector Onboard 20-Pin DVI and 5-Pin
Ethernet Interface	
Controller	2 x Intel® 82583V Gigabit Ethernet controller
Type	Triple speed 10/100/1000Base-T auto-switching Fast Ethernet Full duplex, IEEE802.3U compliant
Connector	Two External RJ45 connector with LED
Audio Interface	
Chipset	REALTEK ALC888
Interface	Stereo audio Line-out and MIC-in
Connector	Onboard audio connector with pin header
Expansive Interface	
PCIE	1 x PCIE Mini Card socket
PCI	1 x Mini PCI Card socket & PCI Card

Power and Environment	
Power Requirement	Standard 20-pin ATX power supply or 5~24V full range DC Input
Dimension	170 (L) x 170 (H) mm
Temperature	Operating within 0 ~ 60℃ Storage within -20 ~ 85℃

The specifications may be different as the actual production.

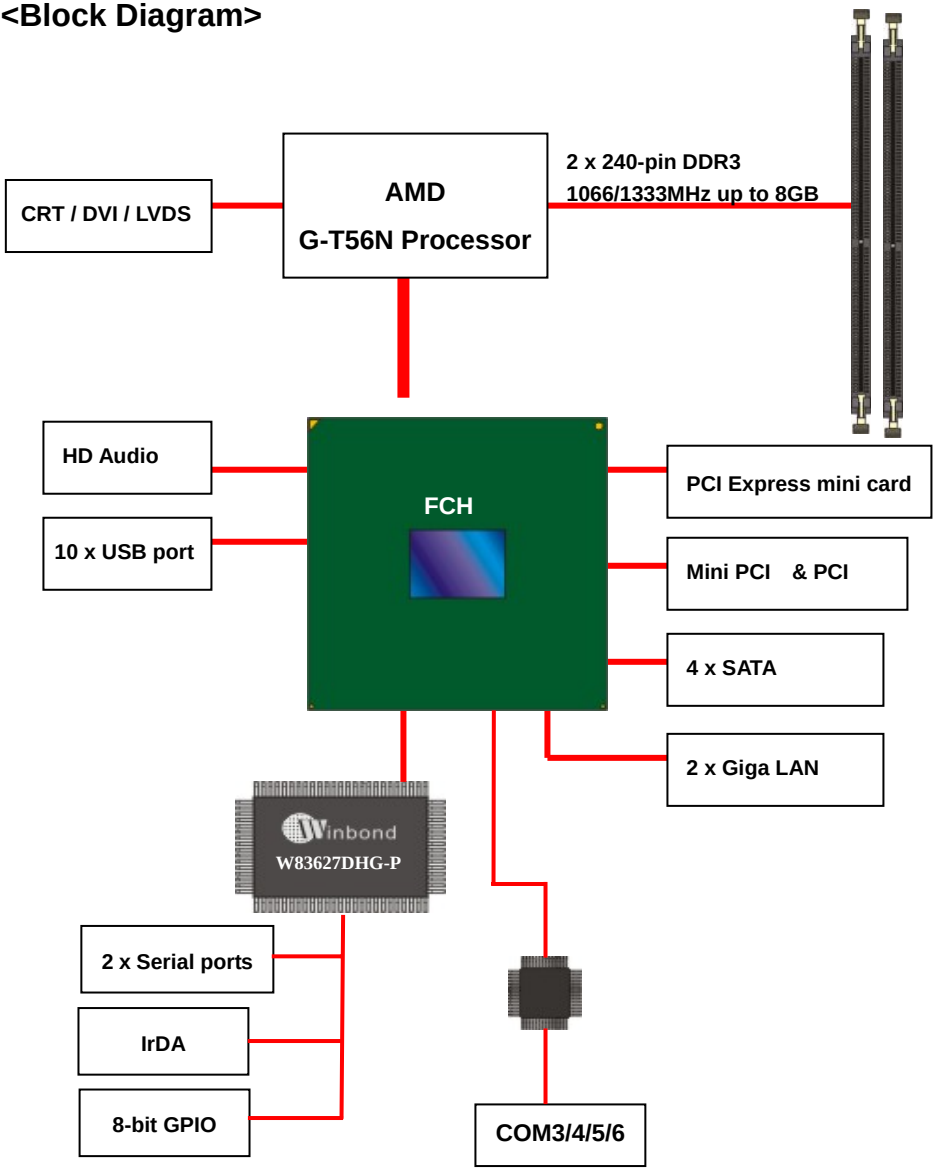
For further product information please visit the website at http://www.commell.com.tw

1.3 <Mechanical Drawing>



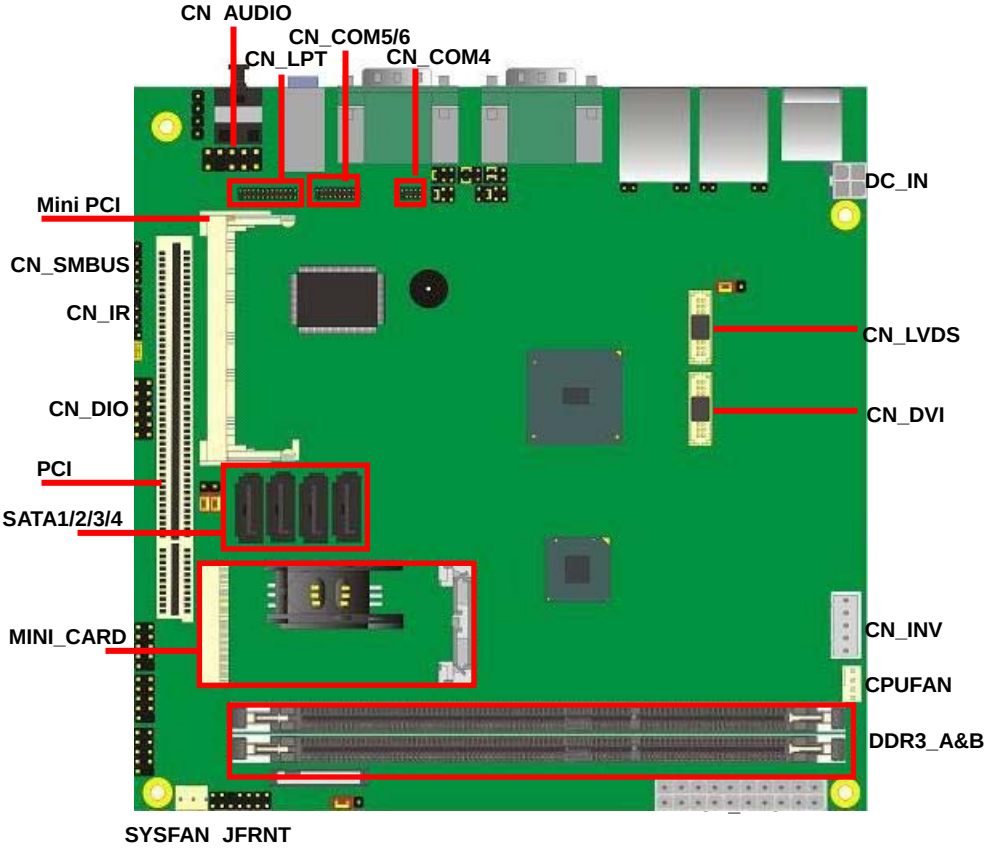
Unit: inch

1.4 <Block Diagram>

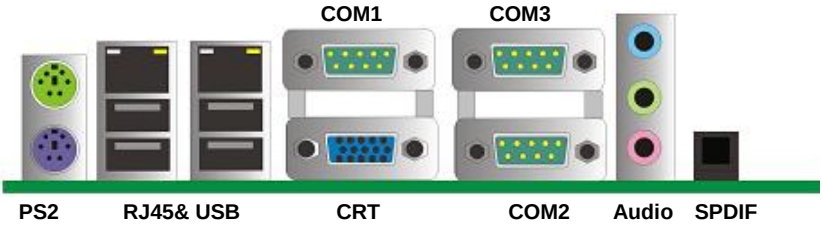


Chapter 2 <Hardware Setup>

2.1 <Connector Location>

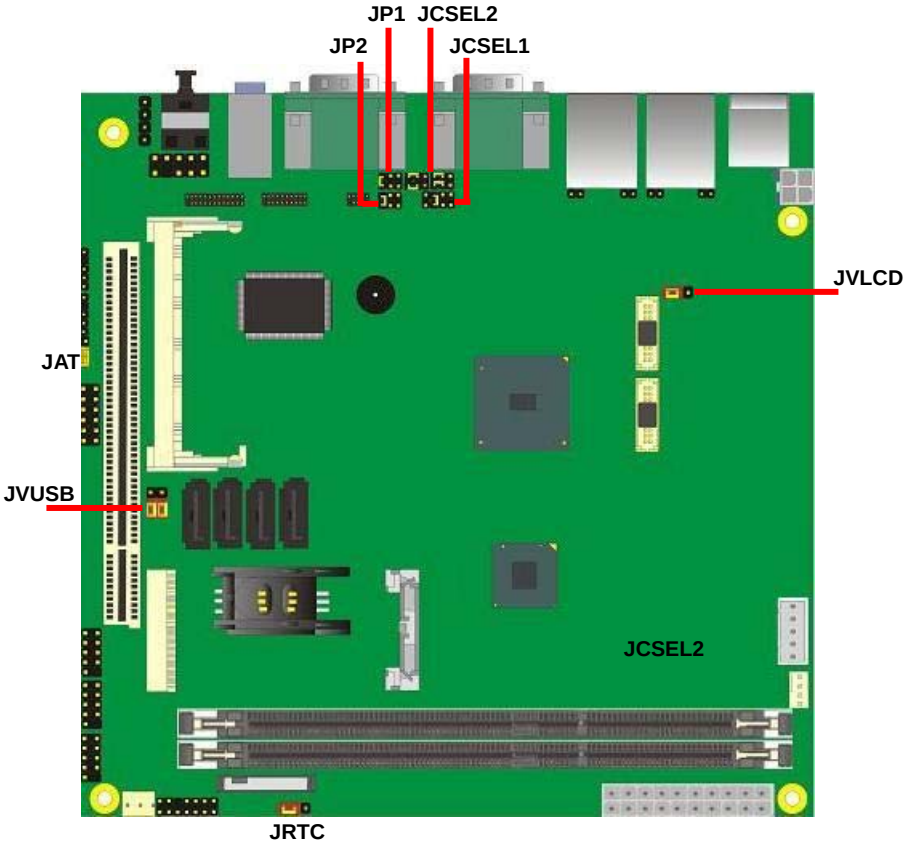


LV-683



2.2 <Jumper Reference>

Jumper	Function
JRTC	CMOS Operating/Clear Setting
JAT	AT/ATX Mode Setting
JCSEL1/2	COM2 RS232/422/485/IrDA Mode Setting
JP1	COM3 signal mode switch (For Pin-9)
JP2	COM4 signal mode switch (For Pin-9)
JVUSB	USB Voltage Setting
JVLCD	Panel Voltage Setting



2.3 <Connector Reference>

2.3.1 <Internal Connector>

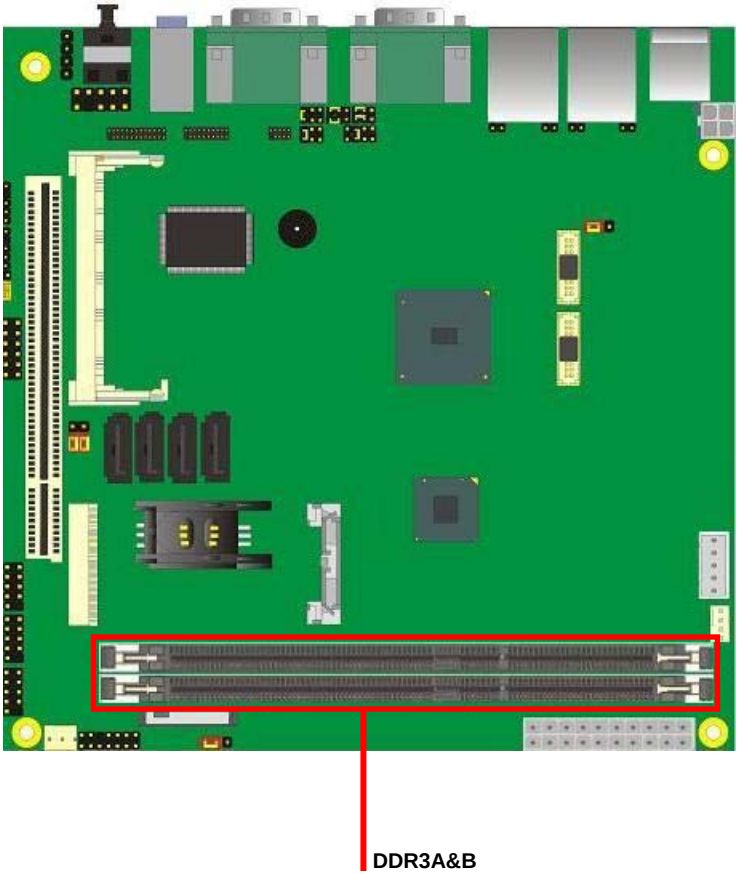
Connector	Function	Remark
CPU	LGA1155 CPU socket	
DDRIIIA/B	240 –pin DDR3 SDRAM DIMM socket	
S_ATAII1/2/3/4/	7-pin Serial ATA II connector	
ATX	24-pin power supply connector	
DC_IN	4-pin +12V additional power supply connector	
CN_AUDIO	5 x 2-pin audio connector	
CDIN	4-pin CD-ROM audio input connector	
CN_DIO	6 x 2-pin digital I/O connector	
CN_USB1/2/3	10-pin USB connector	
CPUFAN	4-pin CPU cooler fan connector	
SYSFAN	3-pin system cooler fan connector	
CN_IR	5-pin IrDA connector	
CN_SMBUS	5-pin SMBUS connector	
JFRNT	14-pin front panel switch/indicator connector	
PCI	120-Pin PCI socket	
Mini-PCI	124-pin Mini-PCI socket	
CN_DVI	26 Pin connector	
CN_COM4/5/6	5 x 2-pin com connector	
MINI_CARD	1 x 52-pin PCI Express mini card	
CN_INV	5-pin LCD inverter connector	
CN_LVDS	20 x 2-pin LVDS connector	
CN_LPT	26 -pin LVDS connector	

2.3.2 <External Connector>

Connector	Function	Remark
PS2	PS/2 Keyboard/Mouse connector	
CRT+COM1	DB15 VGA + Serial port connector	
USB_RJ45_1/2	Dual USB and one RJ45 LAN Port	
COM 2/3	Serial port connector	
AUDIO	Audio connectors	
SPDIF	SPDIF digital audio output connector	

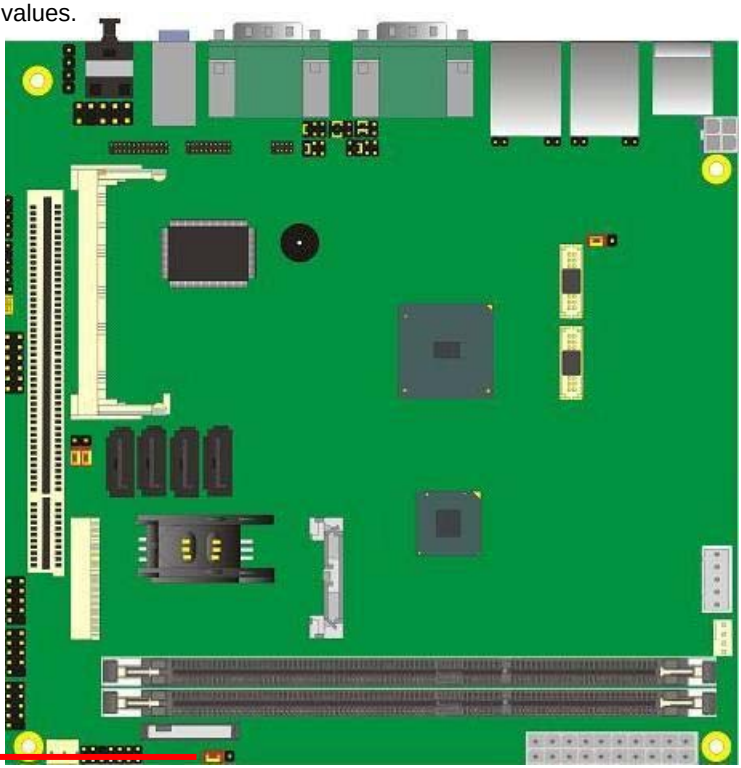
2.4 <CPU and Memory Setup>

LV-683 has two 240-pin DDR3 DIMM support up to 8GB of memory capacity. The memory frequency supports 1066/1333 MHz. Only Non-ECC memory is supported.



2.5 <CMOS & ATX Setup>

The board's data of CMOS can be setting in BIOS. If the board refuses to boot due to inappropriate CMOS settings, please remove battery to clear (reset) the CMOS to its default values.



Jumper: **JRTC**
Type: onboard 3-pin jumper

JAT	Mode
1-2	Clear CMOS
2-3	Normal Operation

Default setting

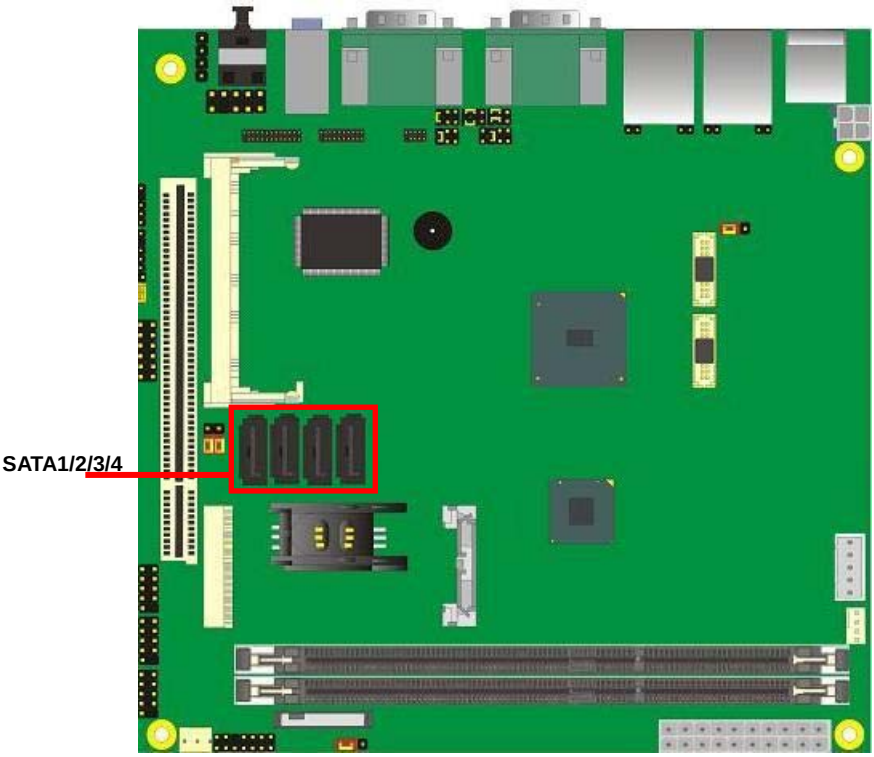
Jumper: **JAT**
Type: onboard 3-pin jumper

JRTC	Mode
1-2	AT Mode
2-3	ATX Mode

Default setting

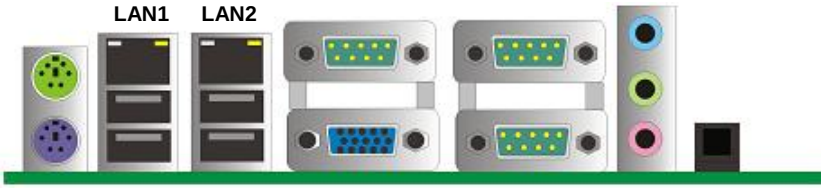
2.6 <SATA & CFast Interface>

Based on Intel A55E, the board provides Four Serial ATAII interfaces with up to 300MB/s of transfer rate.



2.8 <LAN Interface>

The board integrates with two Intel 82583V Gigabit Ethernet controllers, as the PCI Express bus. The Intel 82583V supports triple speed of 10/100/1000Base-T, with IEEE802.3 compliance and Wake-On-LAN supported.



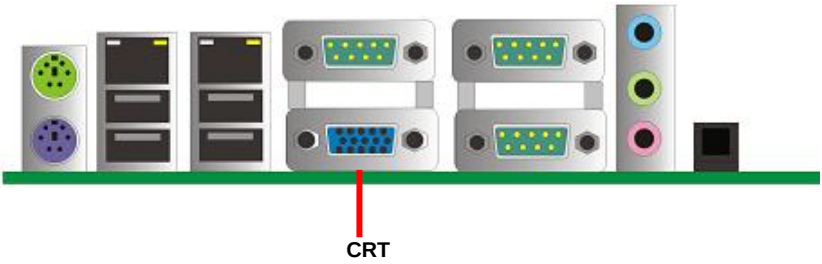
2.9 <Onboard Display Interface>

Based on AMD G-T56N chipset with built-in AMD Radeon HD 6300 series Graphics, the board provides one DB15 connector on real external I/O port, and one 20-pin DVI and one LVDS interface with 5-pin LCD backlight inverter connector. The board provides dual display function with clone mode and extended desktop mode for CRT, DVI and LVDS.

2.9.1 <Analog VGA Interface>

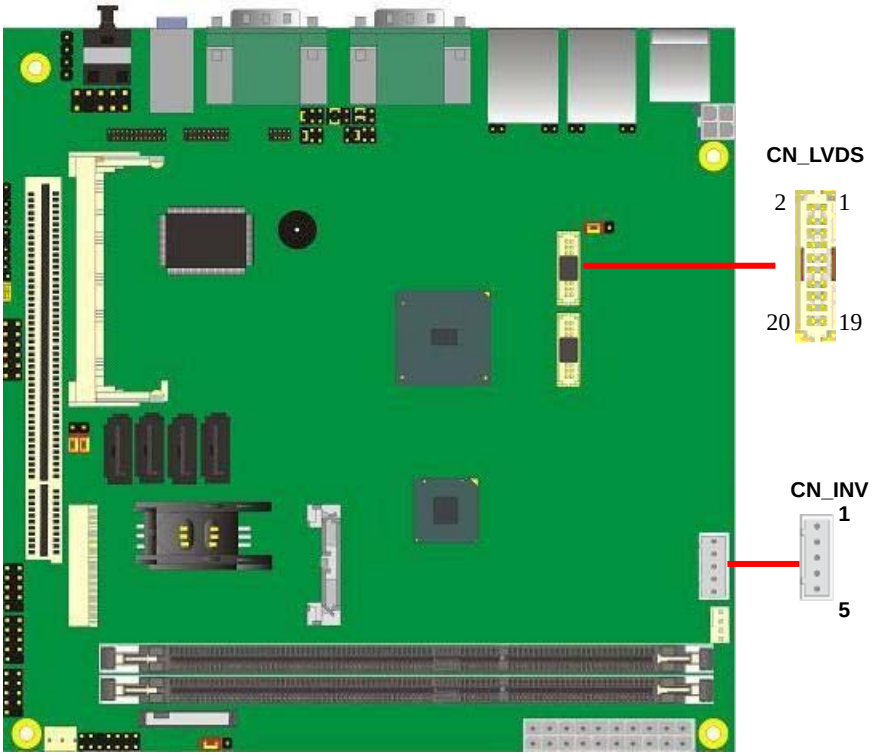
Please connect your CRT or LCD monitor with DB15 male connector to the onboard DB15 female connector on rear I/O port.

The board supports up to 1920 x 1080 (WUXGA) of resolution.



2.9.2 <Digital Display>

The board provides one 20-pin LVDS for 18 bit single channel panels, supports up to 1600 x 900 of resolution, with one LCD backlight inverter connector and one jumper for panel voltage setting



Connector: **CN_INV**
Type: 5-pin Inverter power connector
Connector model: **JST B5B-XH-A**

Pin	Description
1	+12V
2	LVDS_VARY_BL
3	GND
4	GND
5	INV_ON

Jumper: **JVLCD**
Type: 3-pin Power select jumper

Pin	Description
1-2	+5V
2-3	+3.3V

Default: 2-3

Connector: **CN_LVDS**
Type: onboard 20-pin connector for LVDS connector
Connector model: **HIROSE DF13-20DP-1.25V**

Pin	Signal	Pin	Signal
1	LCDVCC	2	LCDVCC
3	GND	4	GND
5	TX0N	6	TX0P
7	GND	8	TX1N
9	TX1P	10	GND
11	TX2N	12	TX2P
13	GND	14	CLKN
15	CLKP	16	GND
17	AUXP	18	AUXN
19	GND	20	NC

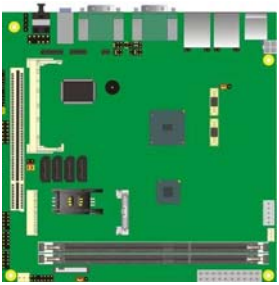
To setup the LCD, you need the component below:

1. A panel with LVDS interfaces.
2. An inverter for panel's backlight power.
3. A LCD cable and an inverter cable.

For the cables, please follow the pin assignment of the connector to make a cable, because every panel has its own pin assignment, so we do not provide a standard cable; please find a local cable manufacture to make cables.

LCD Installation Guide:

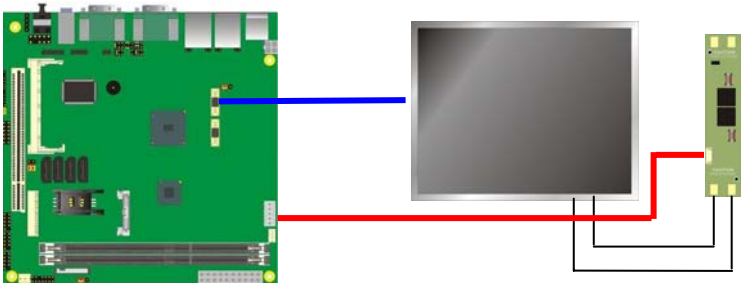
1. Preparing the LV-683, LCD panel and the backlight inverter



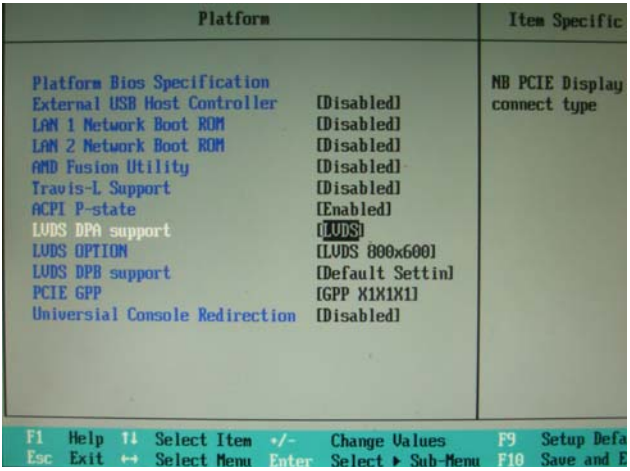
2. You would need a LVDS type cable.

For sample illustrator only

3. To connect all of the devices well.



After setup the devices well, you need to select the LCD panel type in the BIOS.



The panel type mapping is list below:

LV-683 BIOS panel type selection form	
On board Single channel LVDS	
18bit	
NO.	**Output format**
1	800 x 600
2	1024 x 768
3	1280 x 720
4	1280 x 800
5	1280 x 1024
6	1366 x 768
7	1440 x 900

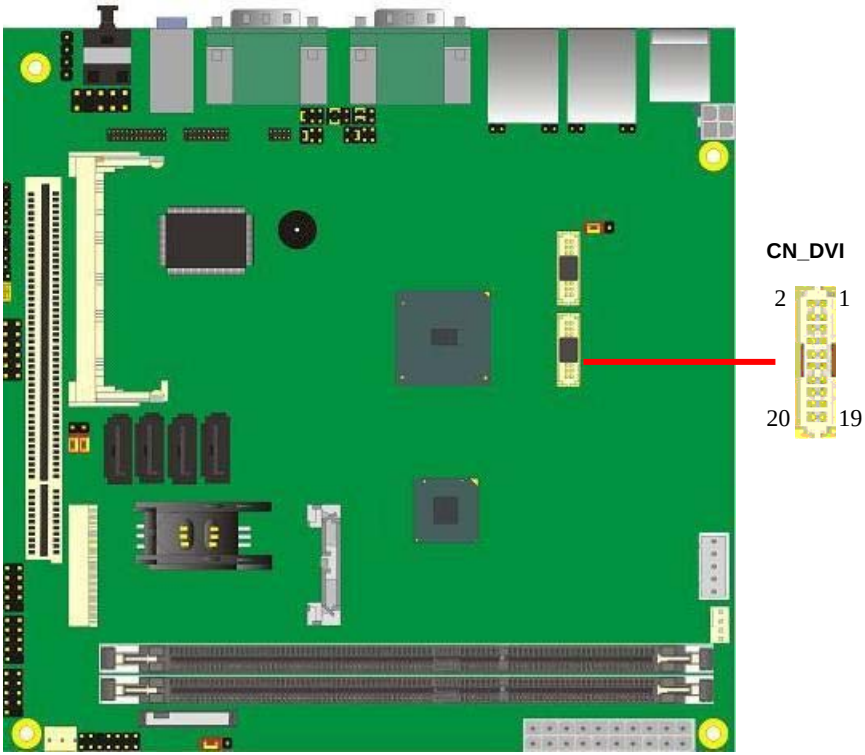
2.9.3 <DVI Interface >

The board also comes with a DVI interface. Supports up to 1600 x 1200 (UXGA) of resolution.

Connector: **CN_DVI**

Connector type: **HIROSE DF13-20DP-1.25V**

Pin Number	Assignment	Pin Number	Assignment
1	+5V	2	+3.3V
3	HPD	4	Ground
5	TMDSTX0N	6	TMDSTX0P
7	Ground	8	TMDSTX1N
9	TMDSTX1P	10	Ground
11	TMDSTX2N	12	TMDSTX2P
13	Ground	14	TMDSTXCN
15	TMDSTXCP	16	Ground
17	DVI_DA	18	DVI_SL
19	AUXN	20	AUXP



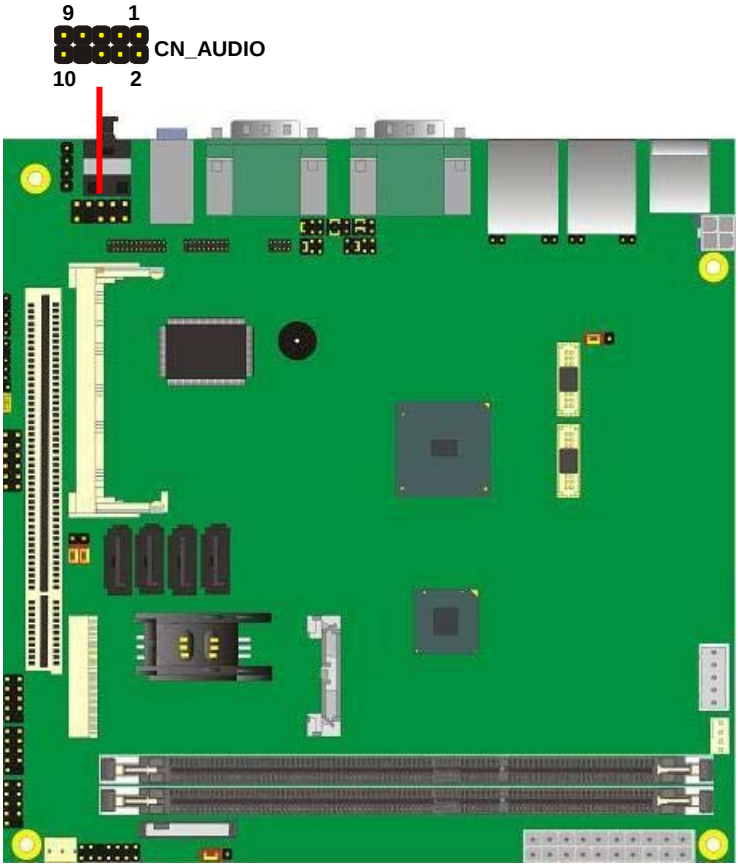
2.10 <Onboard Audio Interface>

The board provides the onboard high definition audio with Realtek ALC888

Connector: CN_AUDIO

Type: 10-pin (2 x 5) 1.27mm x 2.54mm-pitch header

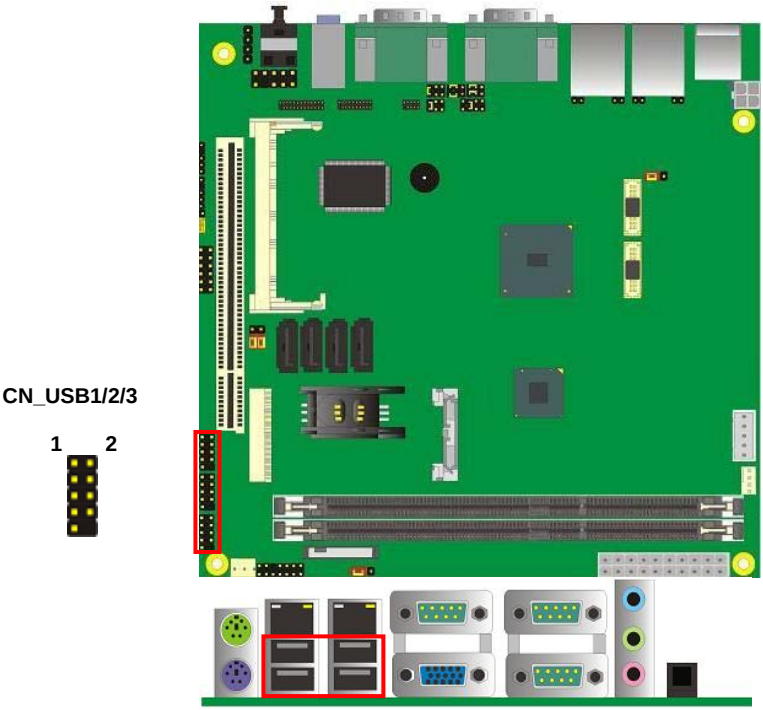
Pin	Description	Pin	Description
1	MIC2_L	2	AGND
3	MIC2_R	4	AVCC
5	FRO_R	6	MIC2_JD
7	F_IO_SEN	8	N/C
9	FRO_L	10	LINE2_JD



2.11 <USB2.0 Interface>

Based on AMD A55E FCH, the board provides Ten USB2.0 ports. The USB2.0 interface provides up to 480Mbps of transferring rate.

Interface	USB2.0
Controller	A55E
Transfer Rate	Up to 480Mb/s
Output Current	500mA



Connector: **CN_USB1/2/3**

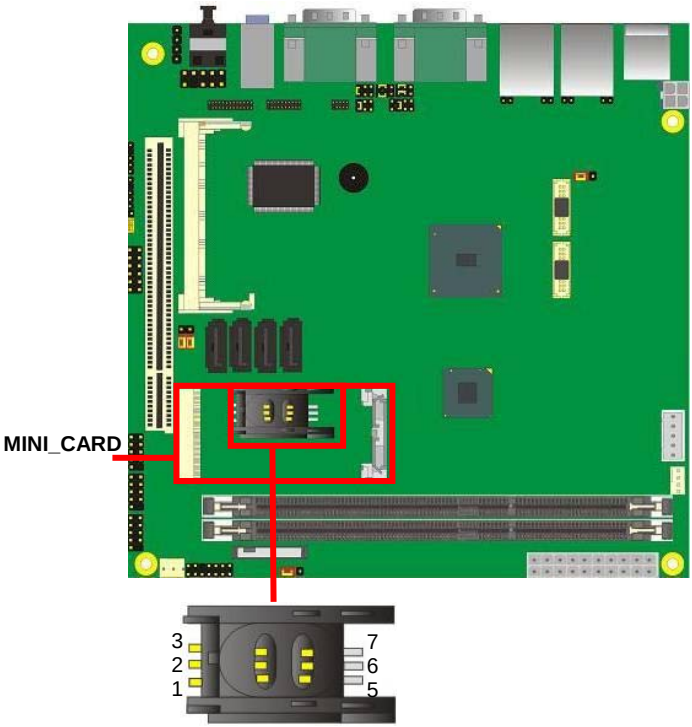
Type: 10-pin (5 x 2) header for USB Port

Pin	Description	Pin	Description
1	VCC	2	VCC
3	D0-	4	D1-
5	D0+	6	D1+
7	Ground	8	Ground
9	Ground	10	N/C

2.12 <PCIE Mini Card and SIM Interface>

The board provides one PCIE mini card sockets and a SIM socket.

MINI_CARD support 3G PCIE Mini card with SIM.



Connector: **SIMM**
Type: 6-pin SIM socket

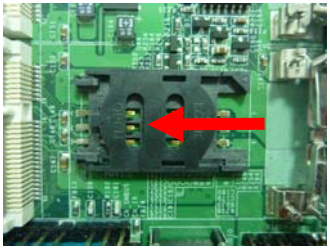
Pin	Description	Pin	Description
1	SIMVCC	2	SIMRST
3	SIMCLK	4	NC
5	GND	6	SIMVPP
7	SIMDATA		

2.12.1 <SIM Setup>

Step1.

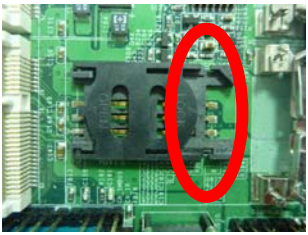
SIM card holder is marked by circle.

Slide the cap toward OPEN direction.



Step 2.

Make sure that the cap is now at the OPEN position.



Step 3.

Flip the cap up for inserting a SIM card into.

Step 4.

Insert a SIM card as shown in the photo.

Be sure that the corner cut is on top and the golden pads are up.

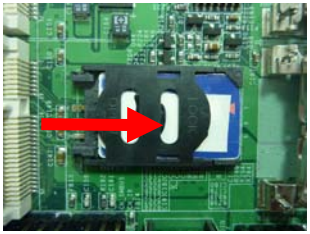
Step 5.

Now, flip down the cap as shown in the photo.

Step 6.

Press down and slide the cap to the CLOSE position.

Be sure that the cap is tightly held with the socket.

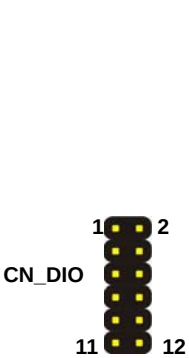


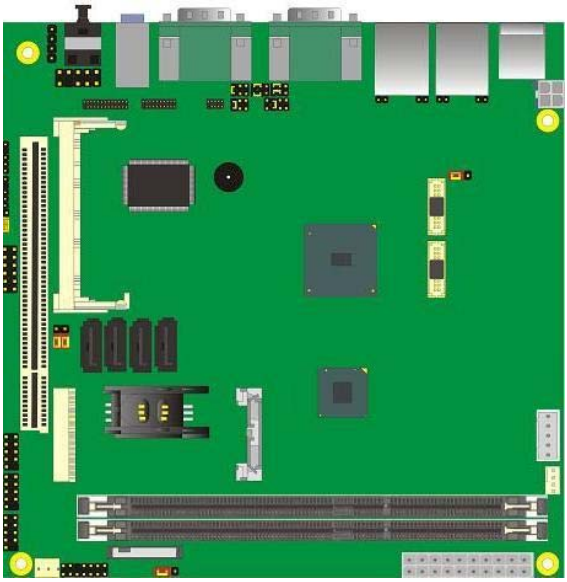
2.13 <GPIO Interface>

The board provides a programmable 8-bit digital I/O interface; you can use this general purpose I/O port for system control like POS or KIOSK.

Connector: **CN_DIO**
Type: onboard 2 x 6-pin header, pitch=2.0mm

Pin	Description	Pin	Description
1	Ground	2	Ground
3	GP10	4	GP14
5	GP11	6	GP15
7	GP12	8	GP16
9	GP13	10	GP17
11	+5V	12	+12V



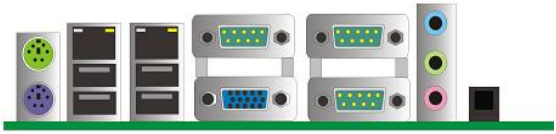


2.14 <Serial Port Jumper Setting >

The board provides Six RS232 serial ports, with jumper selectable RS422/485/IrDA for COM2.

Connector: **COM2**
Type: 10-pin (5 x 2) 1.27mm x 2.54mm-pitch header for COM2

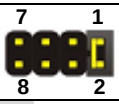
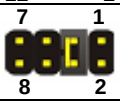
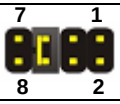
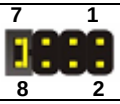
Pin	Description	Pin	Description
1	DCD/422TX-/485-	2	RXD/422TX+/485+
3	TXD/422RX+	4	DTR/422RX-
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N/C



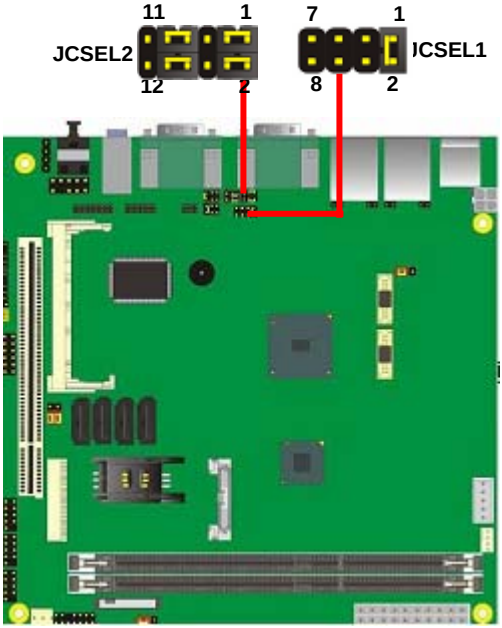
COM2

Jumper: **JCSEL1/2**

Type: 12-pin (6 x 2) & 8-pin (4 x 2) for set COM2 mode jumper

	RS232	RS485	RS422	IrDA
JCSEL1				
JCSEL2				

Default: RS232



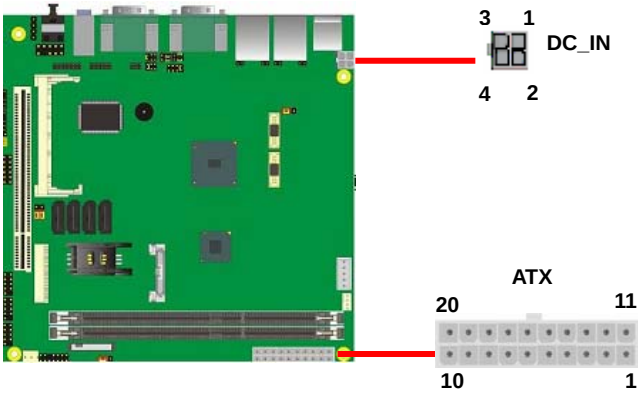
2.15 <Power & FAN Connector >

2.15.1 <Power Input>

The board requires onboard **4-pin** DC-input connector voltage range is from 5V to 24V, or onboard **20-pin** ATX2.0, for the input current, please take a reference of the power consumption report on appendix.

Connector: **ATX** *(It also can become Output when DC-IN be used)*
Type: 20-pin ATX power connector

Pin	Assignment	Pin	Assignment
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	-PSON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW_OK	18	N/C
9	5V_SB	19	5V
10	12V	20	5V



Connector: **DC_IN**
Type: 4-pin standard Pentium 4 additional +5~24V power connector

Pin	Description	Pin	Description
1	Ground	2	Ground
3	+5~24V	4	+5~24V

2.15.2 <Power Output>

The board provides one 20-pin ATX connector for +5V/+12V output for powering your HDD, CDROM or other devices.

Attention: When DC-IN had power supplied, the ATX become output !

Avoid DC-IN and ATX power supply input at the same time !

Connector: **ATX** *(When DC-IN be used)*
Type: 20-pin ATX connector for +3.3V/+5V/+12V **Output**

Pin	Assignment	Pin	Assignment
1	3.3V	11	3.3V
2	3.3V	12	*
3	*	13	*
4	5V	14	*
5	GND	15	*
6	*	16	GND
7	GND	17	GND
8	*	18	*
9	*	19	5V
10	12V	20	5V

Note: Maximum output voltage: ***12V/2A & 5V/3A &3.3V/2A***

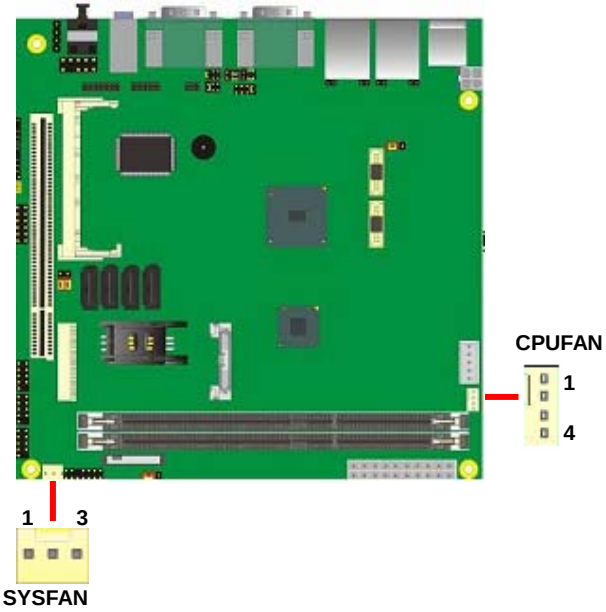
2.15.3 <Fan Connector>

Connector: **CPUFAN**
Type: 4-pin fan wafer connector

Pin	Description	Pin	Description
1	Ground	2	+12V
3	Fan Speed Detection	4	Fan Control

Connector: **SYSFAN**
Type: 3-pin fan wafer connector

Pin	Description	Pin	Description	Pin	Description
1	Ground	2	+12V	3	Sense

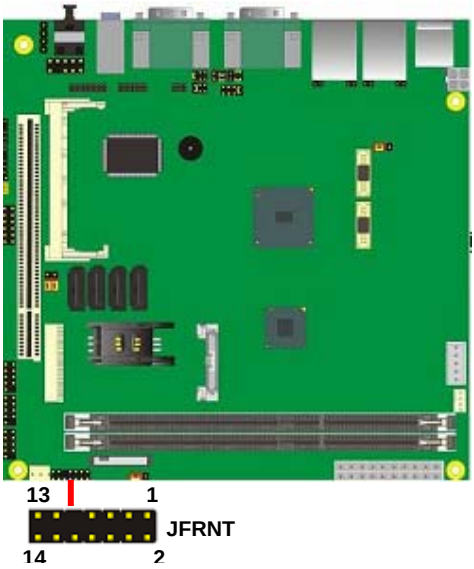


2.16 <Indicator and Switch>

The **JFRNT** provides front control panel of the board, such as power button, reset and beeper, etc. Please check well before you connecting the cables on the chassis.

Connector: **JFRNT**
Type: onboard 14-pin (2 x 7) 2.54-pitch header

Function	Signal	PIN		Signal	Function
IDE LED	HDLED+	1	2	PWDLED+	**Power LED**
	HDLED-	3	4	N/C	
Reset	Reset+	5	6	PWDLED-	
	Reset-	7	8	SPKIN+	**Speaker**
N/C		9	10	N/C	
Power Button	PWRBT+	11	12	N/C	
	PWRBT-	13	14	SPKIN-	



(This Page is Left For Blank)

Chapter 3 <BIOS Setup>

The motherboard uses the Award BIOS for the system configuration. The Award BIOS in the single board computer is a customized version of the industrial standard BIOS for IBM PC AT-compatible computers. It supports Intel® x86 and compatible CPU architecture based processors and computers. The BIOS provides critical low-level support for the system central processing, memory and I/O sub-systems.

The BIOS setup program of the single board computer let the customers modify the basic configuration setting. The settings are stored in a dedicated battery-backed memory, NVRAM, retains the information when the power is turned off. If the battery runs out of the power, then the settings of BIOS will come back to the default setting.

The BIOS section of the manual is subject to change without notice and is provided here for reference purpose only. The settings and configurations of the BIOS are current at the time of print, and therefore they may not be exactly the same as that displayed on your screen.

To activate CMOS Setup program, press ＜DEL＞ key immediately after you turn on the system. The following message "Press DEL to enter SETUP" should appear in the lower left hand corner of your screen. When you enter the CMOS Setup Utility, the Main Menu will be displayed as **Figure 4-1**. You can use arrow keys to select your function, press ＜Enter＞ key to accept the selection and enter the sub-menu.

Figure 4-1 CMOS Setup Utility Main Screen

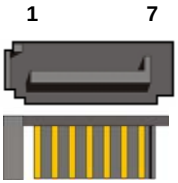
(This Page is Left for Blank)

Appendix A <I/O Port Pin Assignment>

A.1 <SATA Port>

Connector: **SATA1/2/3/4**

Type: 7-pin wafer connector



1	2	3	4	5	6	7
GND	RSATA_TXP1	RSATA_TXN1	GND	RSATA_RXN1	RSATA_RXP1	GND

A.2 <IrDA Port>

Connector: **CN_IR**

Type: 5-pin header for SIR Port

Pin	Description
1	VCC
2	N/C
3	IRRX
4	Ground
5	IRTX

A.3 <SMBUS Port>

Connector: **CN_SMBUS**

Type: 5-pin header for SMBUS Port

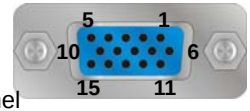
Pin	Description
1	VCC
2	N/C
3	SMDATA
4	SMCLK
5	Ground

A.4<LPT Port>

Connector: **CN_LPT**
Type: 26-pin header for LPT Port

Pin	Description		
1	-PSTB	14	AFD-
2	PRD0	15	ERR-
3	PRD1	16	INIT-
4	PRD2	17	SLIN-
5	PRD3	18	GND
6	PRD4	19	GND
7	PRD5	20	GND
8	PRD6	21	GND
9	PRD7	22	GND
10	ACK-	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT	26	N/C

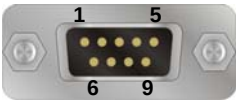
A.5 < CRT Port >



Connector: CRT
Type: 15-pin D-sub female connector on rear panel

Pin	Description	Pin	Description	Pin	Description
1	RED	6	Ground	11	N/C
2	GREEN	7	Ground	12	5VCDA
3	BLUE	8	Ground	13	HSYNC
4	N/C	9	LVGA5V	14	VSYNC
5	Ground	10	Ground	15	5VCLK

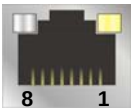
A.6 <Serial Port>



Connector: **COM1**
Type: 9-pin D-sub male connector on rear panel

Pin	Description	Pin	Description
1	DCD	6	DSR
2	SIN	7	RTS
3	SO	8	CTS
4	DTR	9	RI
5	Ground		

A.7 <LAN Port>



Connector: **RJ45**
Type: RJ45 connector with LED on rear panel

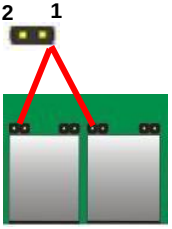
Pin	1	2	3	4	5	6	7	8
Description	TRD0+	TRD0-	TRD1+	TRD2+	TRD2-	TRD1-	TRD3+	TRD3-

A.8 <LAN LED Port>

Connector: **JSPD1/2**
Type: 5-pin header for LAN Speed LED connector

When Lan speed 10/100Mbps

Pin	Description
1	LED-
2	LED+

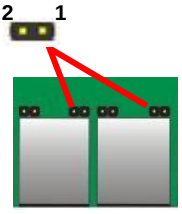


When Lan speed 1Gbps

Pin	Description
1	LED+
2	LED-

Connector: **JATC1/2**
Type: 5-pin header for LAN Activity LED connector

Pin	Description
1	LED-
2	LED+



Appendix B <Flash BIOS>

B.1 <Flash Tool>

The board is based on Phoenix BIOS and can be updated easily by the BIOS auto flash tool. You can download the tool online at the address below:

http://www.phoenix.com/en/home/
http://www.commell.com.tw/Support/Support_SBC.htm

File name of the tool is "Pflash.exe", it's the utility that can write the data into the BIOS flash ship and update the BIOS.

B.2 <Flash BIOS Procedure>

1. Please make a bootable floppy disk.
2. Get the last .bin files you want to update and copy it into the disk.
3. Copy Pflash.exe to the disk.
4. Power on the system and flash the BIOS.

(Example: C:/Pflash /bbl /cvar /sa XXX.bin)

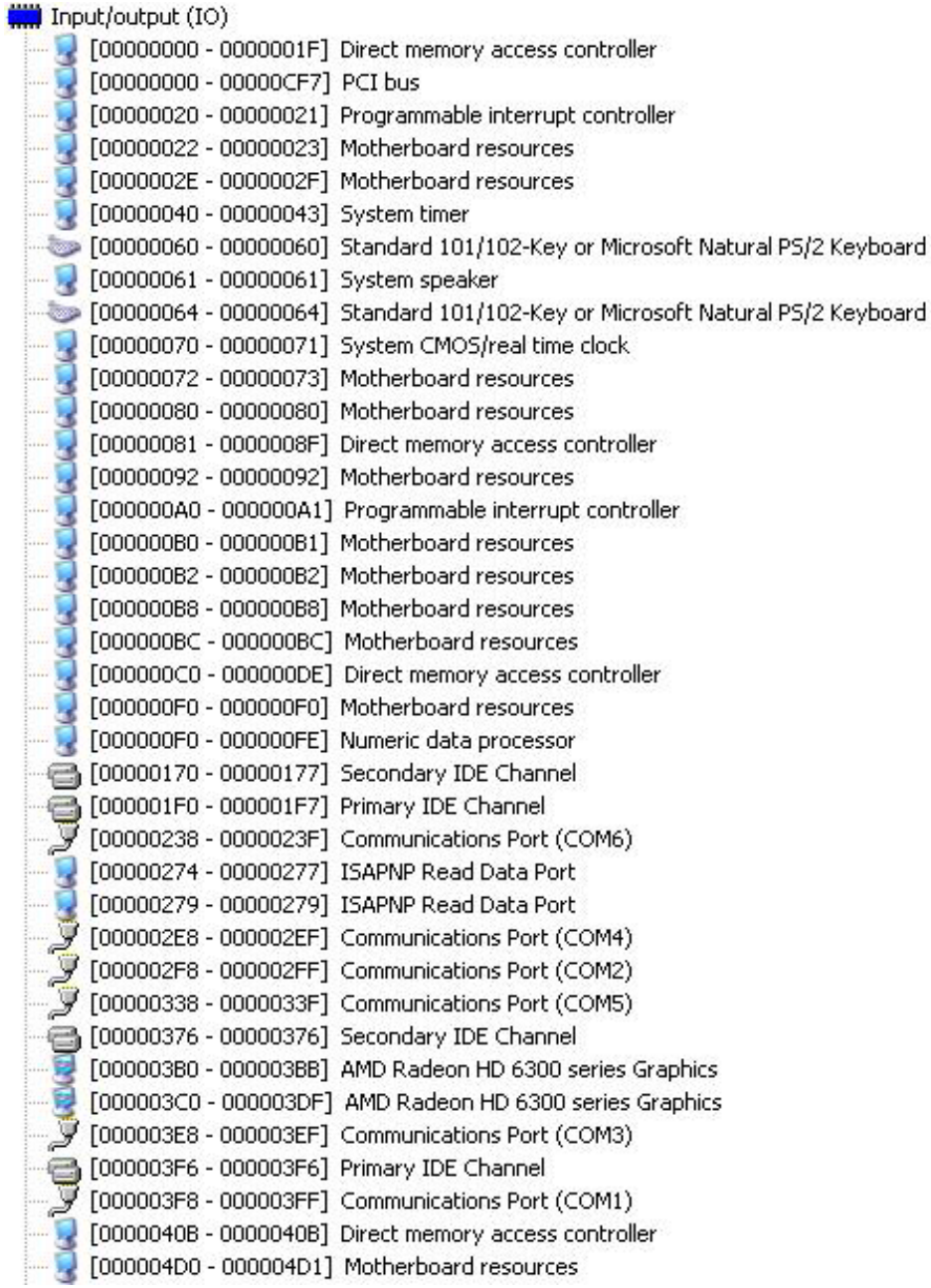
5. Restart the system.

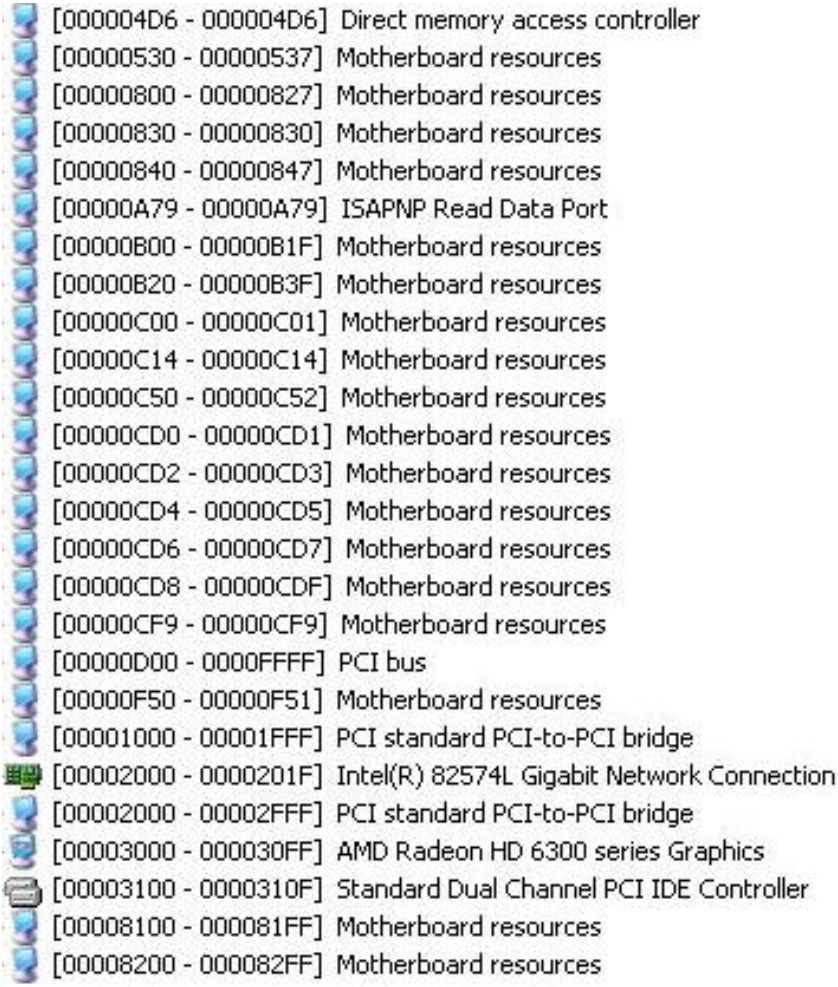
Any question about the BIOS re-flash please contact your distributors or visit the web-site at below:

http://www.commell.com.tw/support/support.htm

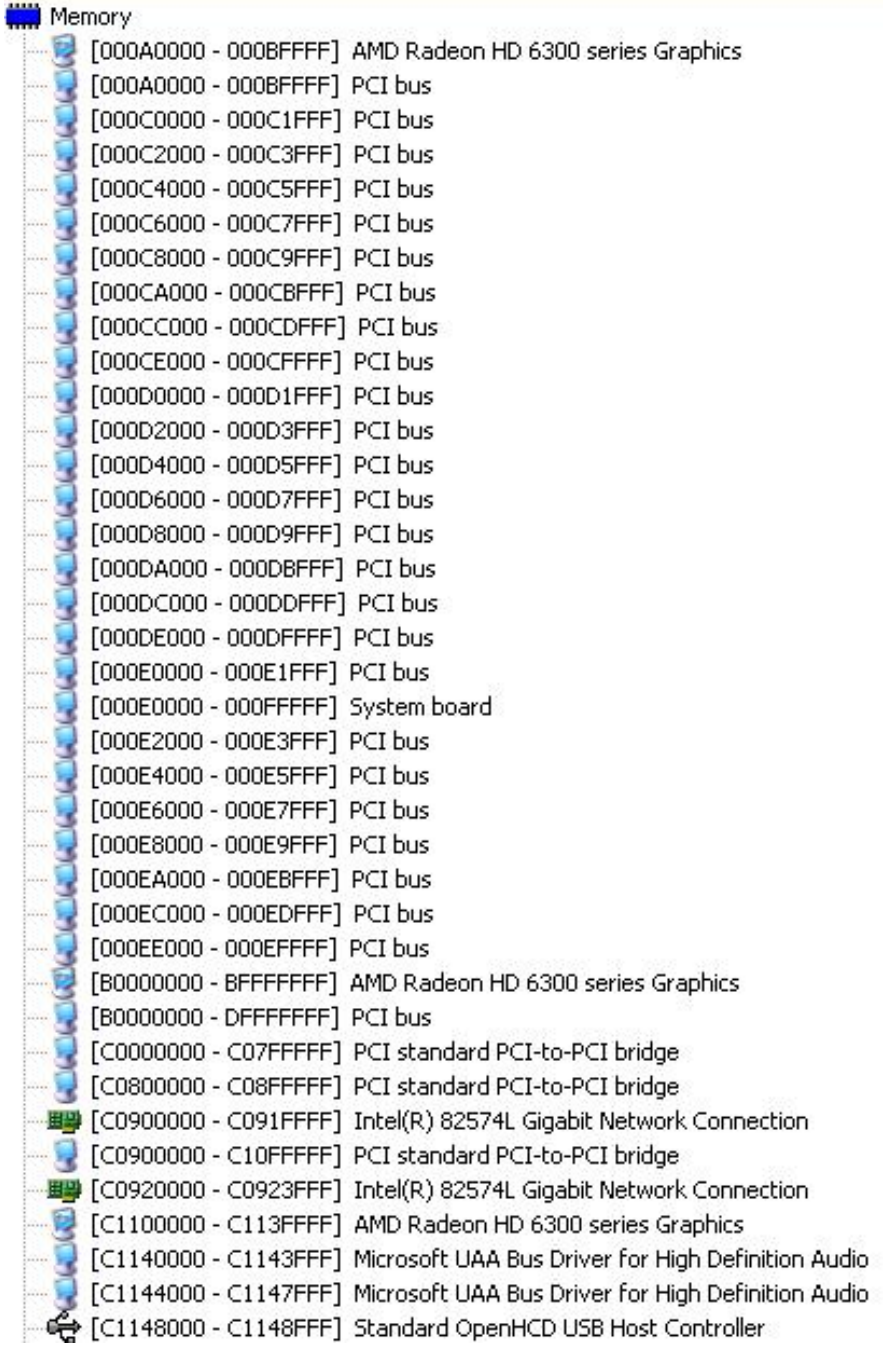
Appendix C <System Resources>

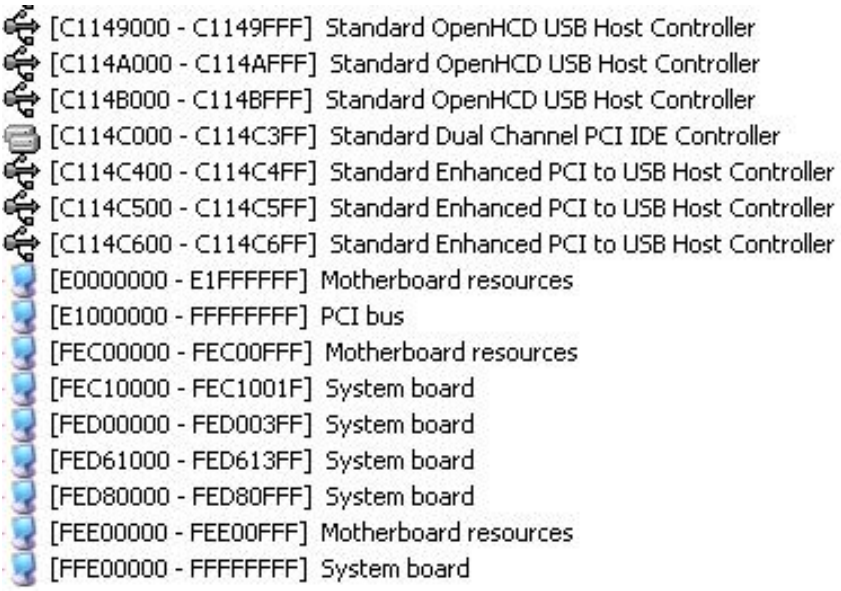
C.1 <I/O Port Address Map>



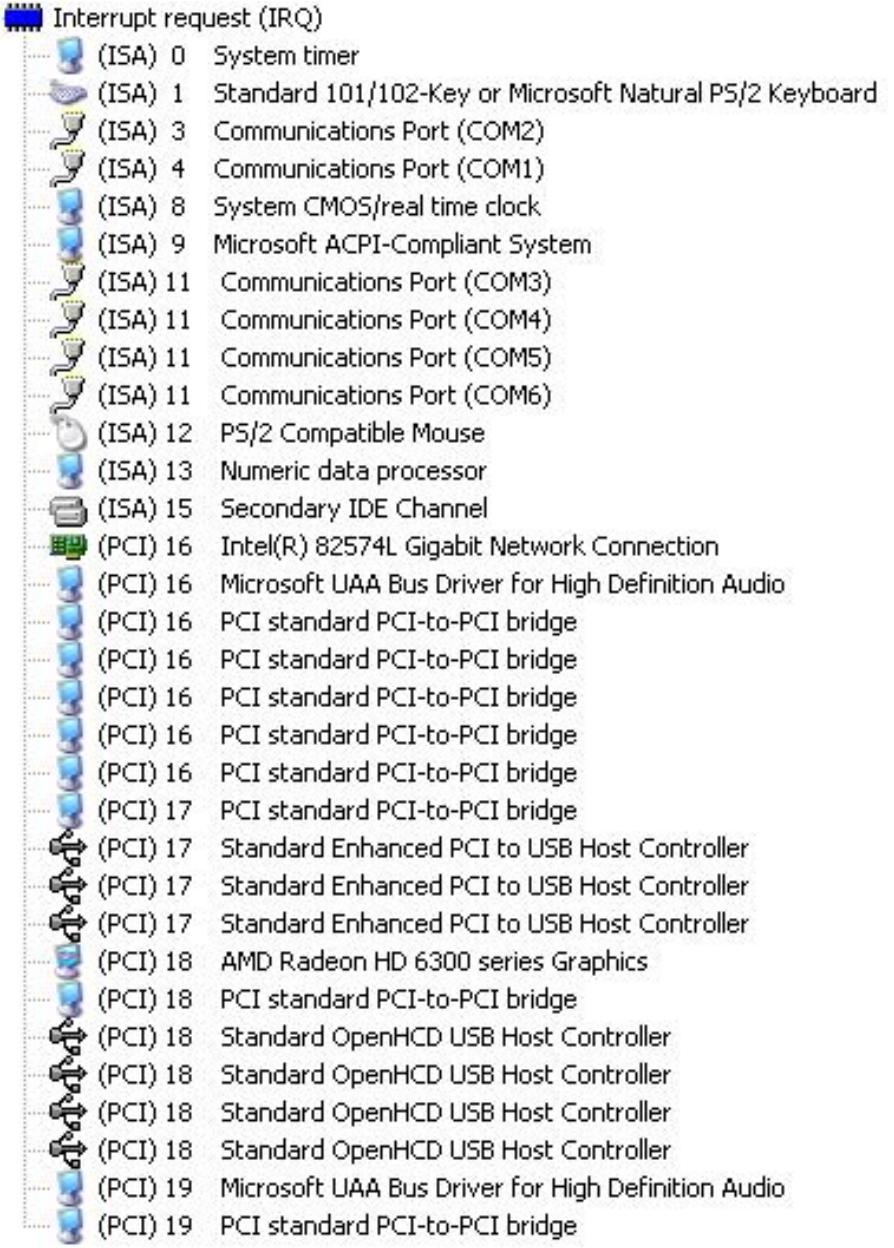

[000004D6 - 000004D6] Direct memory access controller
[00000530 - 00000537] Motherboard resources
[00000800 - 00000827] Motherboard resources
[00000830 - 00000830] Motherboard resources
[00000840 - 00000847] Motherboard resources
[00000A79 - 00000A79] ISAPNP Read Data Port
[00000B00 - 00000B1F] Motherboard resources
[00000B20 - 00000B3F] Motherboard resources
[00000C00 - 00000C01] Motherboard resources
[00000C14 - 00000C14] Motherboard resources
[00000C50 - 00000C52] Motherboard resources
[00000CD0 - 00000CD1] Motherboard resources
[00000CD2 - 00000CD3] Motherboard resources
[00000CD4 - 00000CD5] Motherboard resources
[00000CD6 - 00000CD7] Motherboard resources
[00000CD8 - 00000CDF] Motherboard resources
[00000CF9 - 00000CF9] Motherboard resources
[00000D00 - 0000FFFF] PCI bus
[00000F50 - 00000F51] Motherboard resources
[00001000 - 00001FFF] PCI standard PCI-to-PCI bridge
[00002000 - 0000201F] Intel(R) 82574L Gigabit Network Connection
[00002000 - 00002FFF] PCI standard PCI-to-PCI bridge
[00003000 - 000030FF] AMD Radeon HD 6300 series Graphics
[00003100 - 0000310F] Standard Dual Channel PCI IDE Controller
[00008100 - 000081FF] Motherboard resources
[00008200 - 000082FF] Motherboard resources

C.2 <Memory Address Map >




[C1149000 - C1149FFF] Standard OpenHCD USB Host Controller
[C114A000 - C114AFFF] Standard OpenHCD USB Host Controller
[C114B000 - C114BFFF] Standard OpenHCD USB Host Controller
[C114C000 - C114C3FF] Standard Dual Channel PCI IDE Controller
[C114C400 - C114C4FF] Standard Enhanced PCI to USB Host Controller
[C114C500 - C114C5FF] Standard Enhanced PCI to USB Host Controller
[C114C600 - C114C6FF] Standard Enhanced PCI to USB Host Controller
[E0000000 - E1FFFFFF] Motherboard resources
[E1000000 - FFFFFFFF] PCI bus
[FEC00000 - FEC00FFF] Motherboard resources
[FEC10000 - FEC1001F] System board
[FED00000 - FED003FF] System board
[FED61000 - FED613FF] System board
[FED80000 - FED80FFF] System board
[FEE00000 - FEE00FFF] Motherboard resources
[FFE00000 - FFFFFFFF] System board

C.3 < System IRQ Resources >



Appendix D <Programming GPIO's>

The GPIO can be programmed with the MS-DOS debug program using simple IN/OUT commands.The following lines show an example how to do this.

GPIO0…..GPIO7 bit0……bit7

-o 2E 87 ;enter configuration.

-o 2E 87

-o 2E 07

-o 2F 09 ;select logic device 9.

-o 2E 30

-o 2F 02 ;active GPIO3.

-o 2E F0

-o 2F xx ;set GPIO as input/output; set '1' for input,'0'for output.

-o 2E F1

-o 2F xx ;if set GPIO's as output,in this register its value can be set

Optional :

-o 2E F2

-o 2F xx ; Data inversion register ; '1' inverts the current valus of the bits ,'0' leaves them as they are

For further information, please refer to Winbond W83627DHG-P datasheet.

Appendix E <Watch Dog timer Setting >

The watchdog timer makes the system auto-reset while it stops to work for a period. The integrated watchdog timer can be setup as system reset mode by program.

Timeout Value Range

- 1 to 255
- Second or Minute

Program Sample

Watchdog timer setup as system reset with 5 second of timeout

2E, 87	
2E, 87	
2E, 07	
2F, 08	Logical Device 8
2E, 30	
2F, 01	Activate
2E, F5	
2F, 02	Set as Second*
2E, F6	
2F, 05	Set as 5

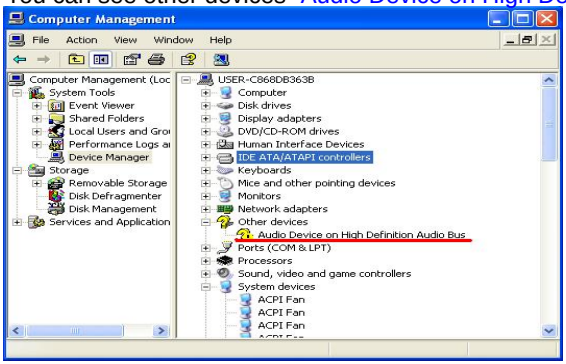
* Minute: bit 3 = 1; Second: bit 3 = 0

You can select Timer setting in the BIOS, after setting the time options, the system will reset according to the period of your selection.

Appendix F <AMD Hing Definition Audio Device >

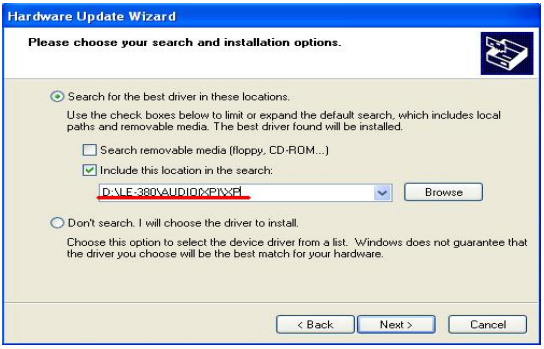
1. Please choose "Device Manager"

2. You can see other devices "Audio Device on High Definition Audio Bus"



3. Please choose "Audio Device on High Definition Audio Bus" then press Update Driver

4. Please select the file location"D:\LV-683\Audio(XP)\XP"



5. Install finish

Contact Information

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

Taiwan Commate Computer Inc.

Address	19F., No.94, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 22102, Taiwan
TEL	+886-2-26963909
FAX	+886-2-26963911
Website	http://www.commell.com.tw
E-Mail	info@commell.com.tw (General Information) tech@commell.com.tw (Technical Support)
Facebook	https://www.facebook.com/pages/Taiwan-Commate-Computer-Inc/547993955271899
Twitter	https://twitter.com/Taiwan_Commate