

LE-364

3.5 Inches Embedded Miniboard

User's Manual

Edition: 1.02

2005/4/20



UniChrome Pro

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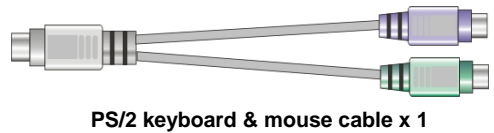
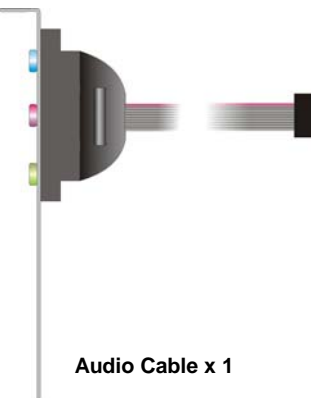
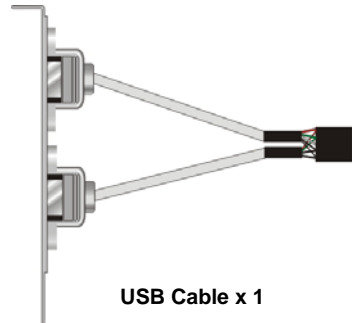
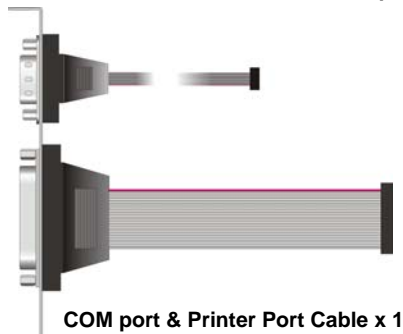
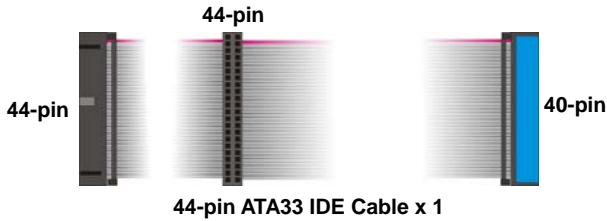
Packing List:

Please check the package before you starting setup the system

Hardware:

LE-364 motherboard x 1

Cable Kit:



Other Accessories:

Divers CD (including User's Manual) x 1

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Chapter 1 <Introduction>

1.1 <Product Overview>

LE-364 is the 3.5 inches embedded miniboard based on VIA CN400 platform, with onboard VIA Eden ESP8000 processor, VGA, LAN, Audio, USB2.0, CF, LVDS, the board provides economic fanless solution for multimedia applications.

VIA CN400 & VT8237 Chipset

The board integrates VIA CN400 & VT8237 chipset, to provide built-in UniChrome Pro 3D / 2D Graphics with MPEGII/MPEG4 decoder, and supports DDR266/333/400 memory up to 1G of capacity. The CN400 and VT8237 has Ultra V-Link Host interface with 1 GB/sec total bandwidth to enhance the system performance.

18/24-bit LVDS LCD interface

The board provides onboard 18/24-bit LVDS LCD interface, supports up to 1600 x 1200 of UXGA high resolution.

Flexible Extension Interfaces

The board provides one Mini-PCI socket for wireless LAN module, video capture card and IEEE1394 add-on card. The board also provide optional PCI interface with a riser card to have up to 2 PCI devices.

Expanded UCR for remote Operating SETUP Bios Feature

Expanded Universal Console Redirection (UCR) is a feature for monitoring POST messages and running Setup and an operation system from a remote serial terminal.

1.2 <Product Specification>

General Specification

| | |
|-----------------|---|
| Form Factor | 3.5 inches embedded miniboard |
| CPU | Embedded VIA Eden ESP8000 processor Front side bus: 133MHz Fanless with heatsink only |
| Memory | 1 x 184-pin DDR 266/333/400 SDRAM up to 1GB Unbuffered, none-ECC memory supported only |
| Chipset | VIA CN400 and VT8237 |
| BIOS | Phoenix-Award v6.00PG 4Mb PnP flash BIOS |
| Green Function | Power saving mode includes doze, standby and suspend modes. ACPI version 1.0 and APM version 1.2 compliant |
| Watchdog Timer | System reset programmable watchdog timer with 1 ~ 255 sec./min. of timeout value |
| Real Time Clock | VIA VT8237 built-in RTC with lithium battery |
| Enhanced IDE | Enhanced UltraDMA133 IDE interface supports dual channels and up to 2 ATAPI devices One 44-pin IDE port onboard |

Multi-I/O Port

| | |
|------------------|---|
| Chipset | VIA VT8237 with Winbond W83697HF controller |
| Serial Port | One external & one internal RS-232 serial ports |
| USB Port | Two Hi-Speed USB 2.0 ports with 480Mbps of transfer rate |
| Parallel Port | One bi-direction parallel port with SPP/ECP/EPP mode |
| Floppy Port | One slim type Floppy port |
| IrDA Port | One IrDA compliant Infrared interface supports SIR |
| K/B & Mouse | External PS/2 keyboard and mouse ports on rear I/O panel |
| GPIO | One 12-pin Digital I/O connector with 8-bit programmable I/O interface |
| Hardware Monitor | Fan speed, CPU temperature and voltage monitoring |

VGA Display Interface

| | |
|----------------|--|
| Chipset | VIA CN400 built-in S3 Graphics UniChrome Pro IGP graphics core |
| Core Frequency | 200MHz |
| Memory | BIOS selectable 16/32/64MB shard with system memory |
| Display Type | CRT, LCD monitor with analog display |
| Connector | External DB15 female connector on rear I/O panel |

LCD Interface

| | |
|-----------|---|
| Chipset | VIA CN400 with VT1631 transmitter |
| Interface | 18/24-bit LVDS interface 12V backlight inverter connector Panel voltage 3.3V/5V jumper selectable |

Ethernet Interface

| | |
|-----------|--|
| Chipset | VIA VT6103 PHY |
| Type | 10Base-T / 100Base-TX auto-switching Fast Ethernet Full duplex, IEEE802.3U compliant |
| Connector | External RJ45 connectors with LED on rear I/O panel |

Audio Interface

| | |
|-----------|--|
| Chipset | REALTEK ALC201A |
| Interface | 2 channel 3D audio with Line-in, Line-out and MIC-in |
| Connector | External Audio phone jack for Line-out Onboard audio connector with pin header Onboard CD-IN connector |

Expansive Interface

| | |
|----------|--|
| Mini-PCI | 1 x 32-bit 5V/3.3V Mini-PCI socket |
| PCI | 1 x optional PCI interface supports up to two PCI devices through riser card |

Solid State Disk

| | |
|--------------|---|
| DOM | IDE1 supports 44-pin DOM (DiskOnModule) |
| CompactFlash | 1 x CompactFlash Type 1 socket on solder side |

Power and Environment

| | |
|-------------------|--|
| Power Requirement | DC 12V input 1 x DC jack on I/O panel or 1 x 4-pin DC connector onboard |
| Dimension | 146 (L) x 101 (H) mm |
| Temperature | Operating within 0 ~ 60°C (32 ~ 140°F) Storage within -20 ~ 85°C (-4 ~ 185°F) |

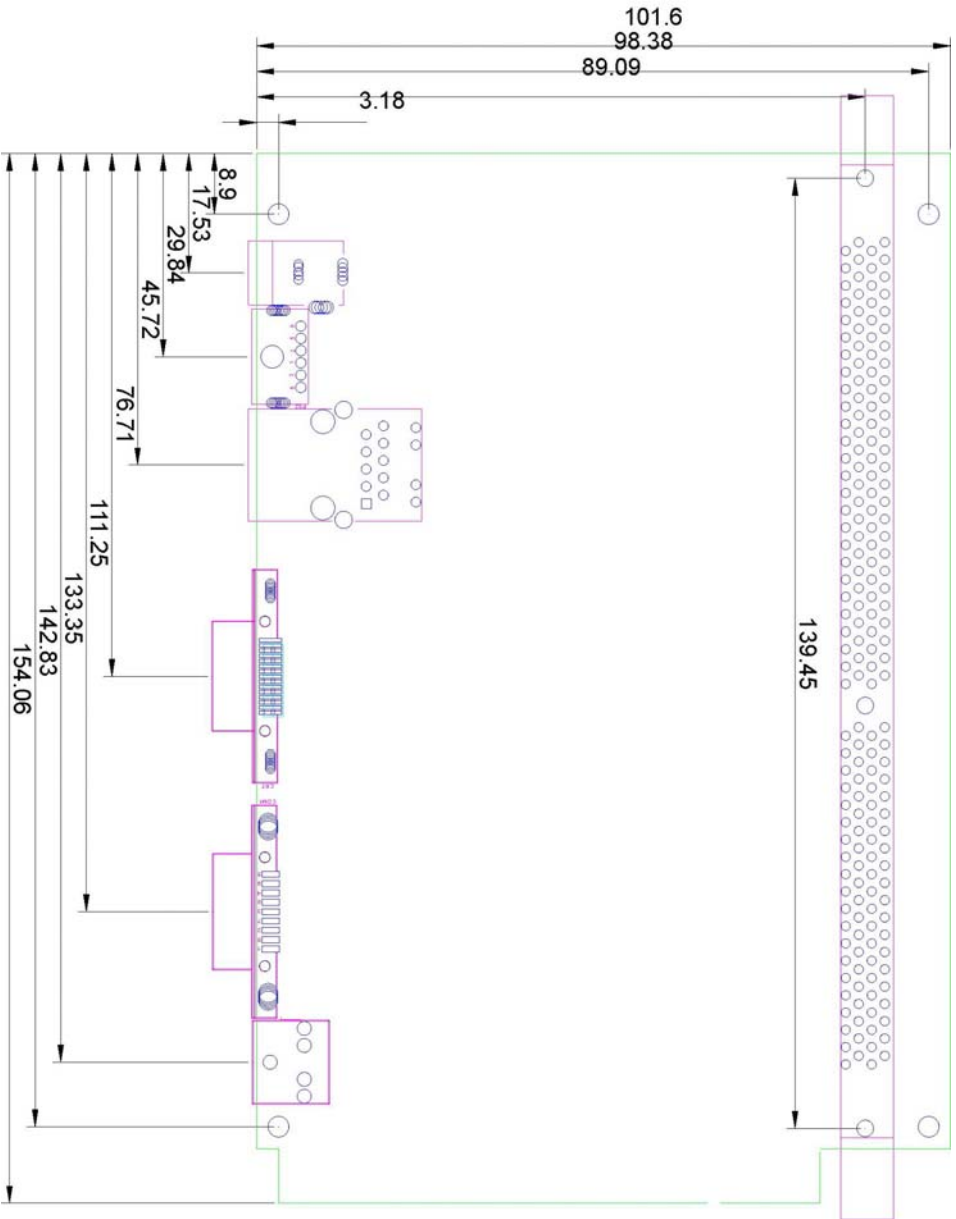
Software support

| | |
|------------------|--|
| Operation System | Windows 98SE/ME, Windows 2000, Windows XP Windows CE 4.0 or later, Windows XP Embedded Linux (Fedora Core 1, Mandrake 9.2 and Red Hat 9.0) |
|------------------|--|

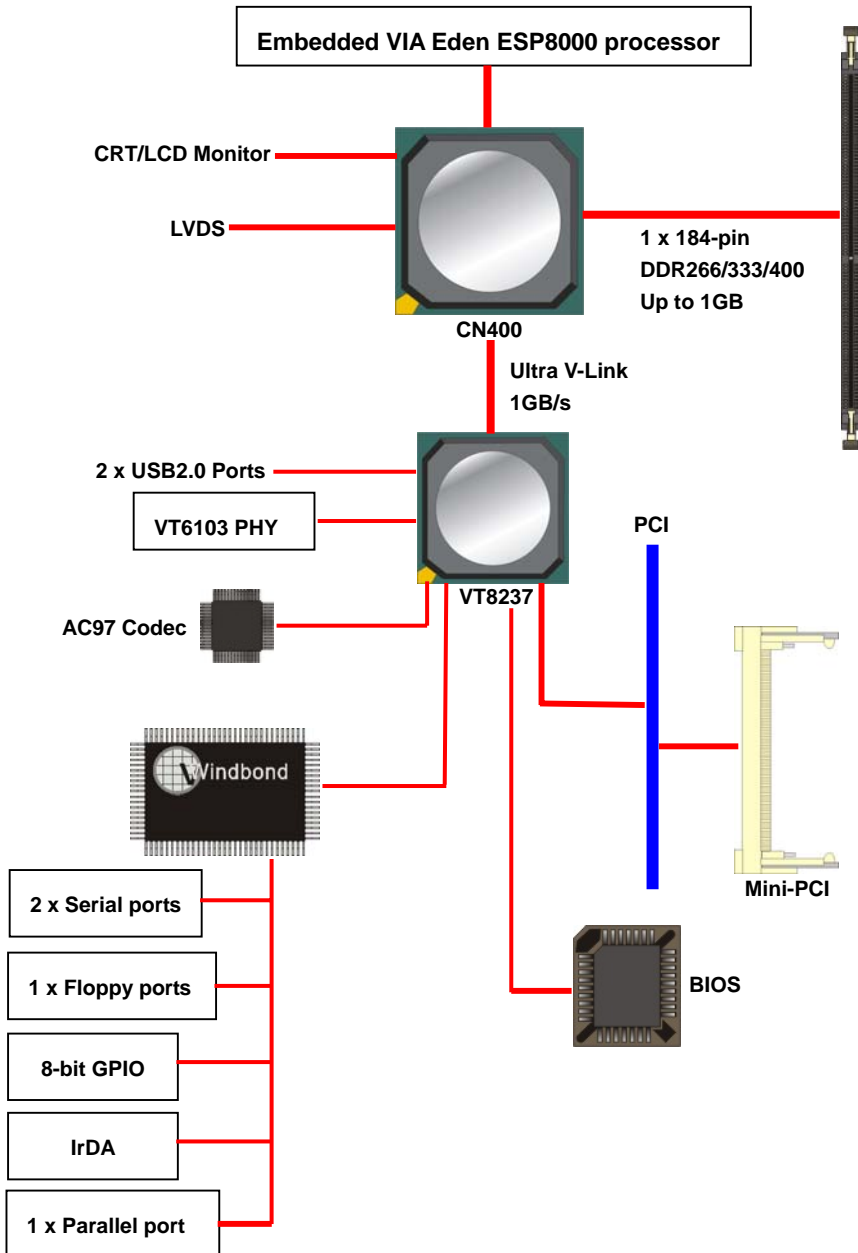
Ordering Code

| | |
|---------------|---|
| LE-364 | VIA CN400 with Embedded Eden ESP8000 processor, VGA, AC97 Audio, LVDS, CF, PCI, Mini-PCI, 2 x RS232, LAN, |
|---------------|---|

1.3 <Mechanical Drawing>

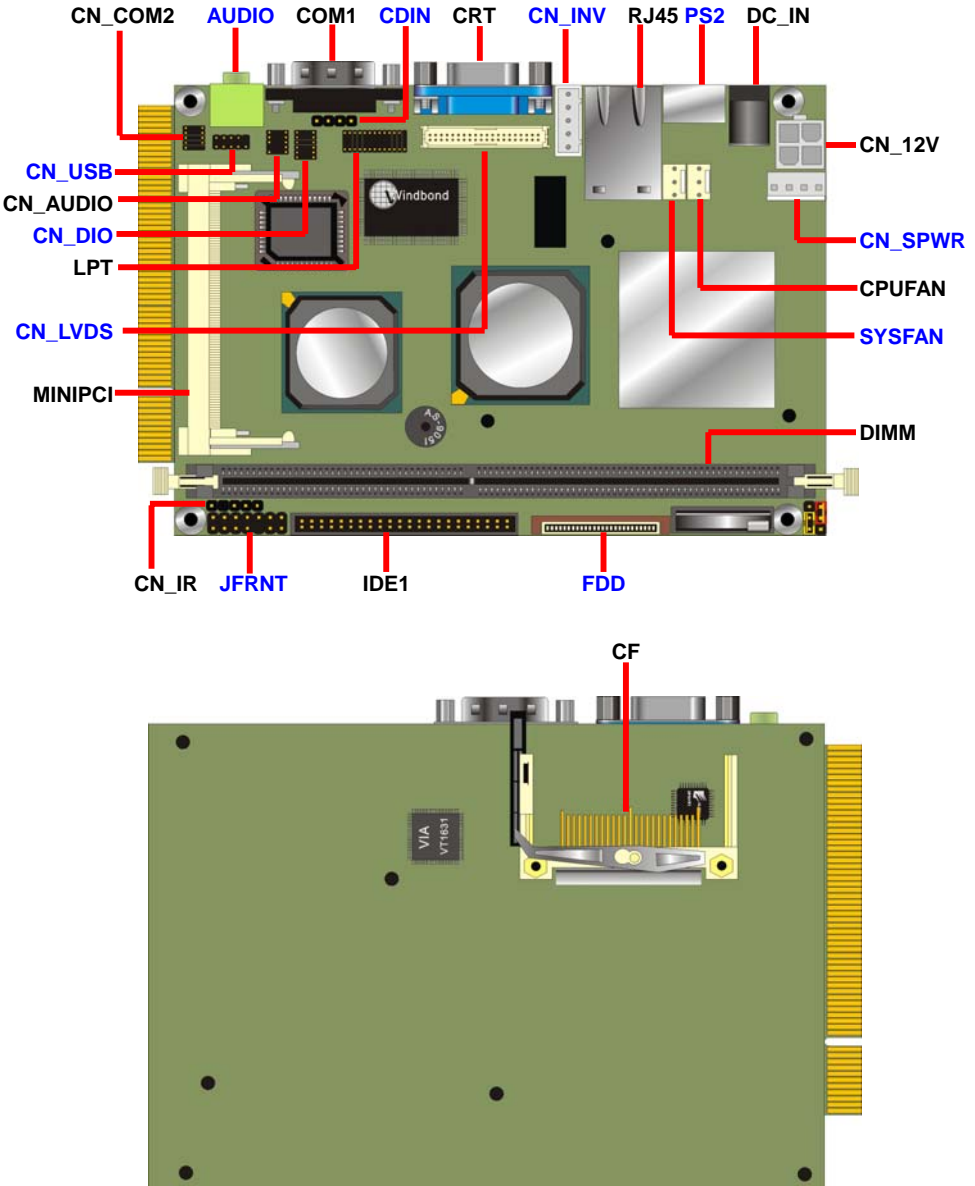


1.4 <Block Diagram>



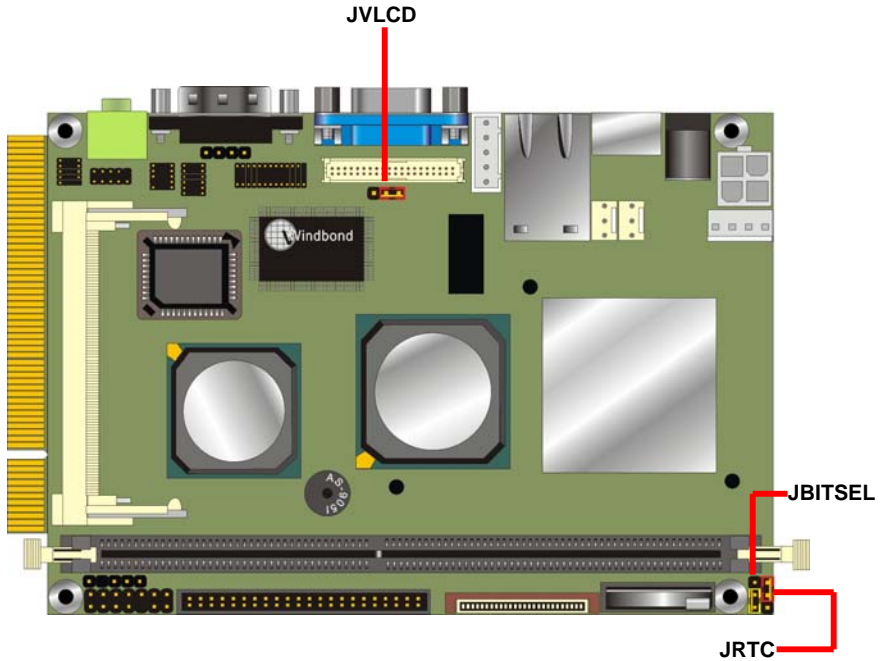
Chapter 2 <Hardware Setup>

2.1 <Connector Location>



2.2 <Jumper Location & Reference>

| Jumper | Function |
|---------|-----------------------------------|
| JRTC | CMOS Operating/Clear Setting |
| JVLCD | LCD panel voltage setting |
| JBITSEL | LCD panel 18-bit/24-bit selection |



2.3 <Connector Reference>

2.3.1 <Internal Connector>

| Connector | Function | Remark |
|-----------|---|----------|
| DIMM | 184-pin DDR SDRAM DIMM | Standard |
| IDE1 | 44-pin primary IDE connector | Standard |
| FDD | 26-pin slim type floppy connector | Standard |
| CN_12V | 4-pin DC input connector | Standard |
| CDIN | 4-pin CD-ROM audio input connector | Standard |
| CN_DIO | 6 x 2-pin digital I/O connector | Standard |
| CN_USB | 5 x 2-pin USB connector | Standard |
| CPUFAN | 3-pin CPU cooler fan connector | Standard |
| SYSFAN | 3-pin system cooler fan connector | Standard |
| CN_COM2 | 5 x 2-pin RS232 serial port | Standard |
| CN_IR | 5-pin IrDA connector | Standard |
| CF | Compact Flash Type I socket | Standard |
| MINI_PCI | Mini-PCI interface | Standard |
| CN_LVDS | 40-pin LVDS LCD interface | Standard |
| CN_INV | 5-pin LCD backlight inverter connector | Standard |
| LPT | 26-pin parallel port interface | Standard |
| JFRNT | 14-pin front panel switch/indicator connector | Standard |
| CN_SPWR | 4-pin DC 5V/12V output connector | Standard |

2.3.2 <External Connector>

| Connector | Function | Remark |
|-----------|-------------------------------|----------|
| CRT | DB15 VGA connector | Standard |
| RJ45 | RJ45 LAN connector | Standard |
| COM1 | Serial port connector | Standard |
| PS2 | PS/2 Keyboard/Mouse connector | Standard |
| Audio | Audio Line-out port | Standard |
| DC_IN | DC input jack | Standard |

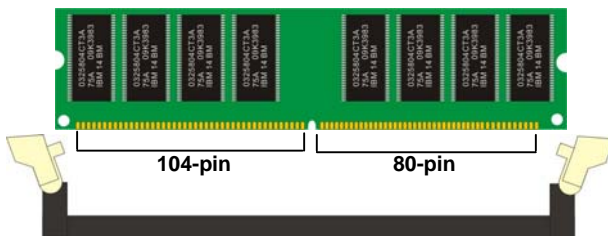
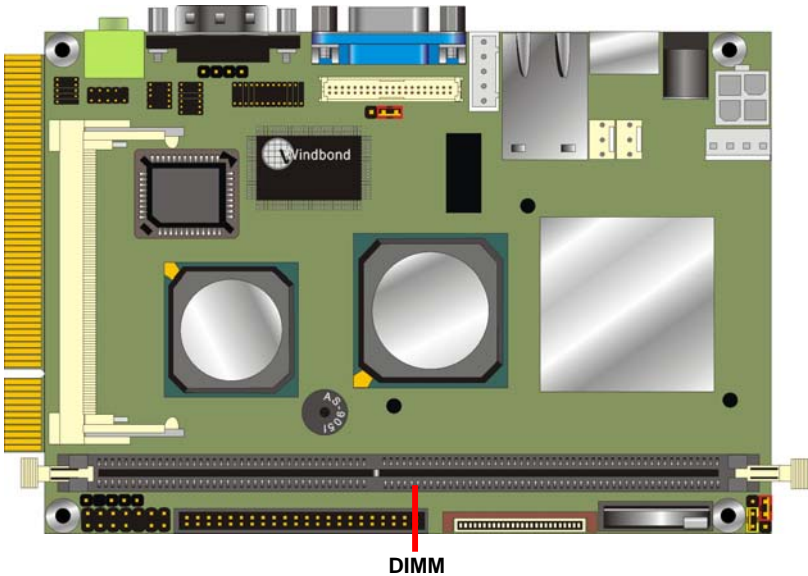
2.4 <CPU & Memory Setup>

2.4.1 <CPU>

The board comes with Embedded VIA Eden ESP8000 processor of 133MHz front side bus, to provide low power consumption and fanless solution.

2.4.2 <Memory>

The board supports one 184-pin DDR266/333/400 SDRAM and up to 1GB of capacity, only non-ECC, unbuffered memory is supported.



Please check the pin number to match the socket side well before installing memory module.

2.5 <CMOS Setup>

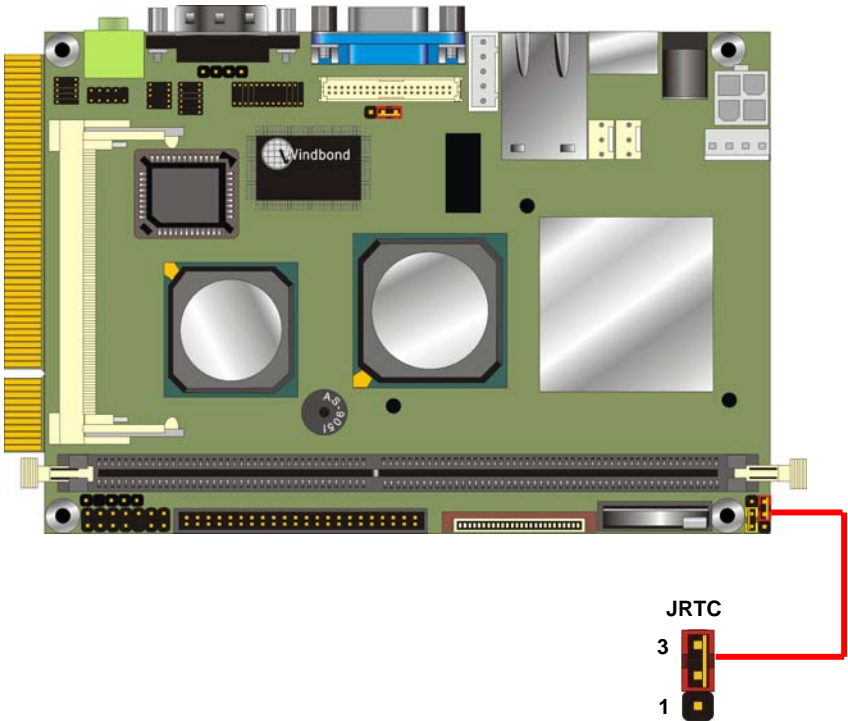
The board's data of CMOS can be setting in BIOS. If the board refuses to boot due to inappropriate CMOS settings, here is how to proceed to clear (reset) the CMOS to its default values.

Jumper: JRTC

Type: Onboard 3-pin jumper

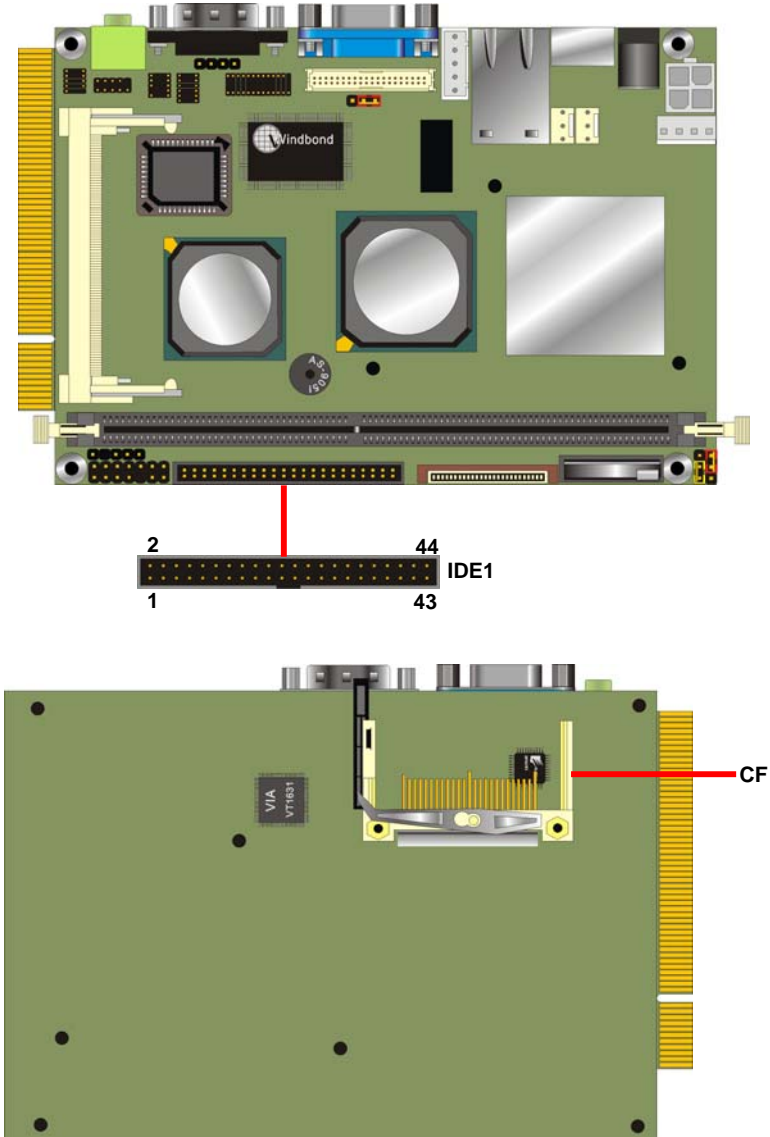
| JRTC | Mode |
|------|------------------|
| 1-2 | Clear CMOS |
| 2-3 | Normal Operation |

Default setting



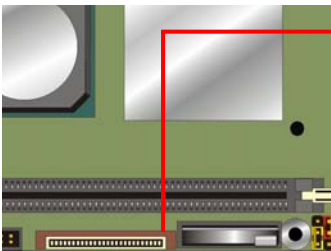
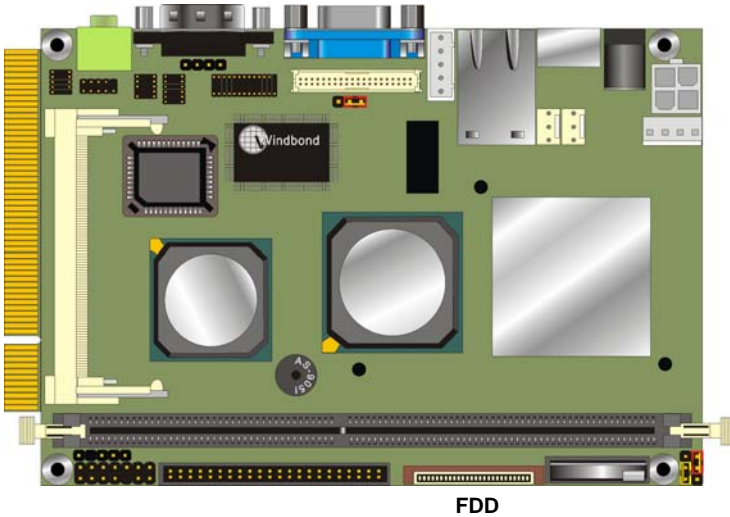
2.6 <Enhanced IDE & CF interface>

The board supports one UltraDMA133 IDE interface, and one CompactFlash Type 1 socket with secondary IDE mode, the 44-pin IDE1 connector can support up to 2 ATAPI devices through IDE cable, and the CompactFlash socket can support IDE DMA mode (depends on the CF card specification).

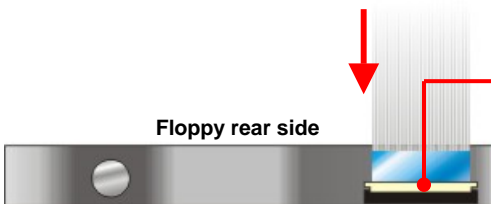


2.7 <Floppy Port>

The board provides a slim type floppy port; please use the 26-pin ribbon cable in the package to connect the floppy device.



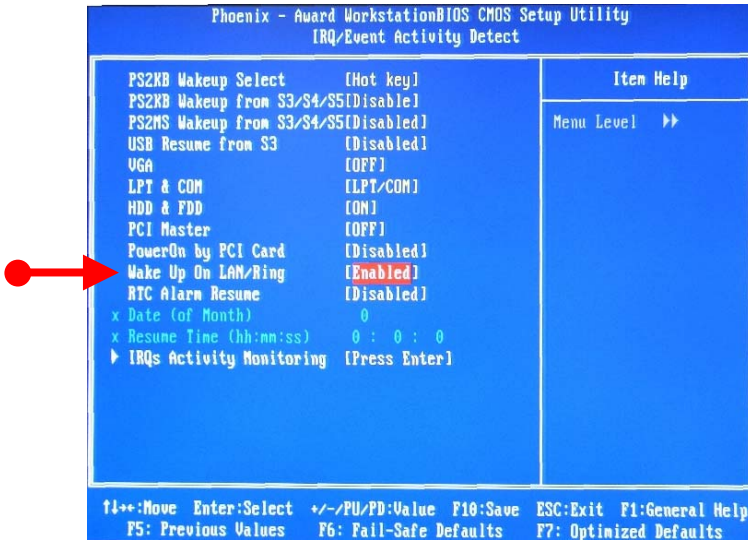
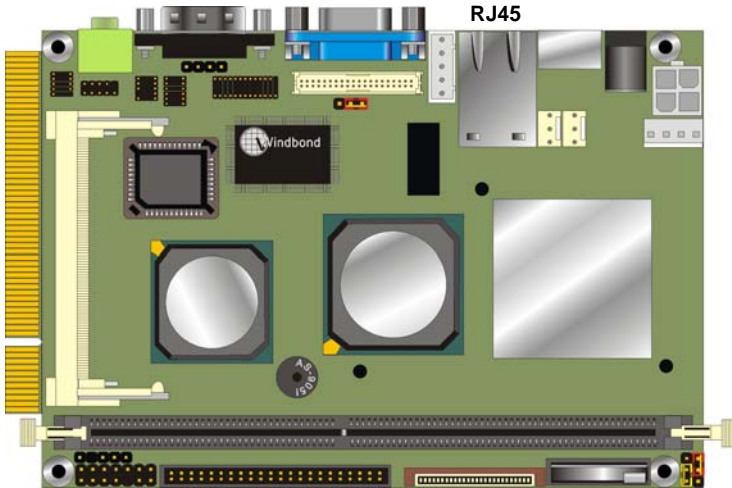
1. Lift up the brown plastic bar
2. Slot the cable in (Blue paste for brown bar side)
3. Press back the plastic bar



4. Lift up this plastic bar
5. Slot the cable in (Blue paste for outside)
6. Press back the plastic bar

2.8 <Ethernet Interface>

The board integrates Ethernet controller with VIA VT6103 PHY, full compliance with IEEE 802.3u 100Base-T specifications and IEEE 802.3x Full Duplex Flow Control, the board supports Wake-Up-On-LAN by BIOS configurable.



For Wake Up On LAN function, please enable this option in the BIOS

2.9 <Onboard Display Interface>

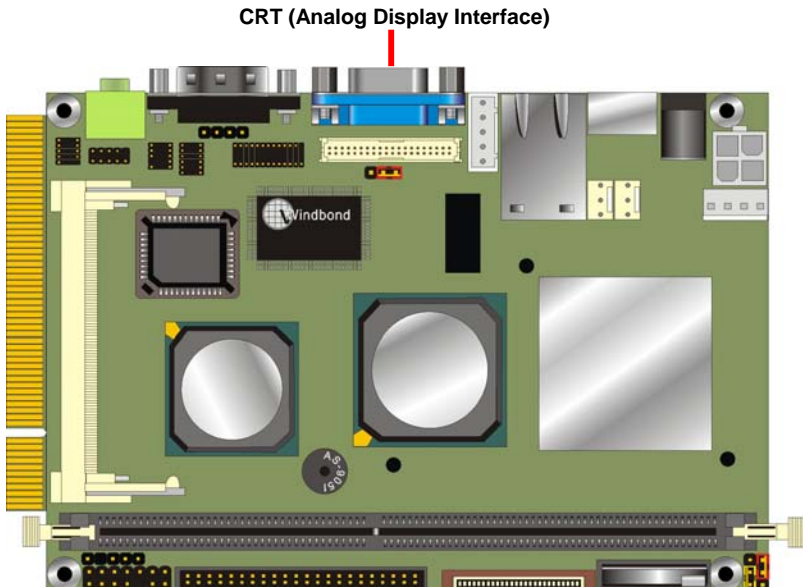
Based on VIA CN400 with built-in S3 Graphics UniChrome Pro IGP graphics, the board provides onboard VGA display interface, and one 18/24-bit LVDS LCD interface with VIA VT1631, supports up to 1600 x 1200 of resolution. The two display interfaces can be set for dual display with extended desktop mode or clone mode.

Below are the main features lists:

- 128-bit 2D/3D graphics engine
- Supports 16 / 32 / 64 MB Frame Buffer sizes (BIOS Selectable)
- MPEG-2 hardware VLD (Various Length Decode), iDCT, and motion compensation for full speed DVD and MPEG-2 playback
- MPEG-4 ASP (Advanced Simple Profile) Level 5 with GMC (Global Motion Compensation) L0/L1 and 1/4-pixel MC support for high video quality and performance.

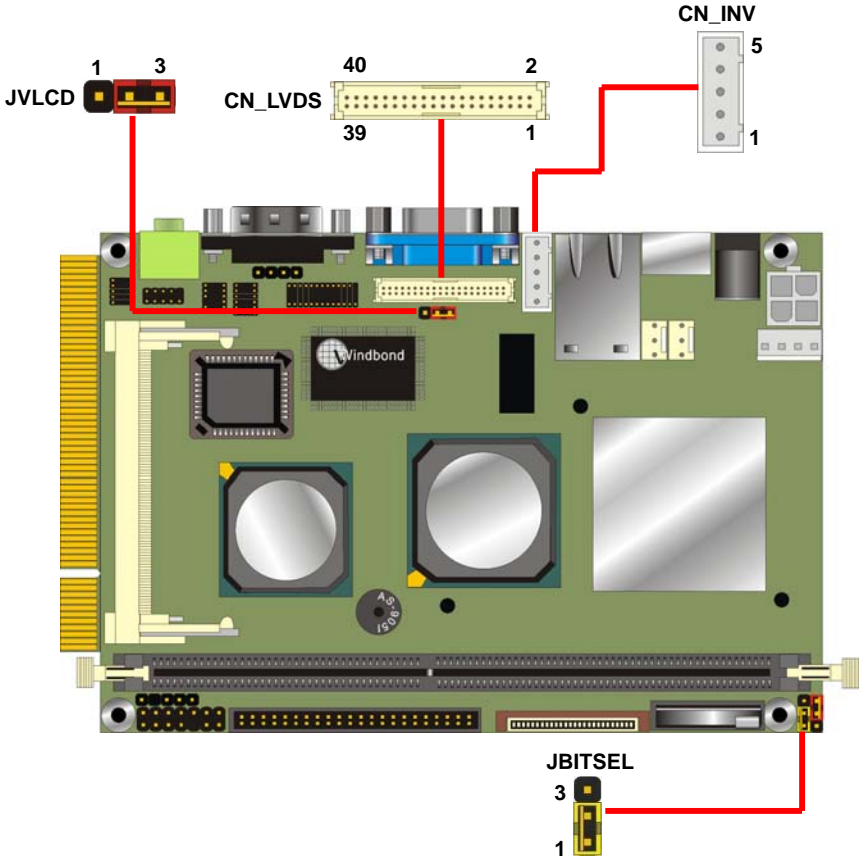
2.9.1 <Analog Display Interface>

The onboard VGA display comes with standard DB15 connector on real I/O panel.



2.9.2 <Digital Display Interface>

The onboard digital display interface comes with a 40-pin header connector to provide 18/24-bit LVDS LCD interface, and one backlight inverter connector for powering and enable/disable control, the jumper JVLCD is to set the panel voltage, and the JBITSEL is to configure the 18-bit or 24-bit outputting.



Connector: **CN_INV**

Type: 5-pin LVDS Power Header

| Pin | Description |
|-----|-------------|
| 1 | +12V |
| 2 | GND |
| 3 | GND |
| 4 | GND |
| 5 | ENABKL |

Connector: **JVLCD**

Type: 3-pin Power select Header

| Pin | Description |
|-----|-------------|
| 1 | VCC |
| 2 | LCDVCC |
| 3 | VCC3 |

Jumper: **JBITSEL**

Type: onboard 3-pin header

| JBITSEL | Mode |
|---------|--------------|
| 1-2 | 18-bit panel |
| 2-3 | 24-bit panel |

Default setting

Connector: **CN_LVDS**

Type: onboard 40-pin connector for LVDS connector

Connector model: **HIROSE DF13-40S**

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 2 | LCDVCC | 1 | LCDVCC |
| 4 | GND | 3 | GND |
| 6 | A0- | 5 | A4- |
| 8 | A0+ | 7 | A4+ |
| 10 | GND | 9 | GND |
| 12 | A1- | 11 | A5- |
| 14 | A1+ | 13 | A5+ |
| 16 | GND | 15 | GND |
| 18 | A2- | 17 | A6- |
| 20 | A2+ | 19 | A6+ |
| 22 | GND | 21 | GND |
| 24 | CLK1- | 23 | A7- |
| 26 | CLK1+ | 25 | A7+ |
| 28 | GND | 27 | GND |
| 30 | A3- | 29 | CLK2- |
| 32 | A3+ | 31 | CLK2+ |
| 34 | Ground | 33 | GND |
| 36 | N/C | 35 | N/C |
| 38 | N/C | 37 | N/C |
| 40 | N/C | 39 | N/C |

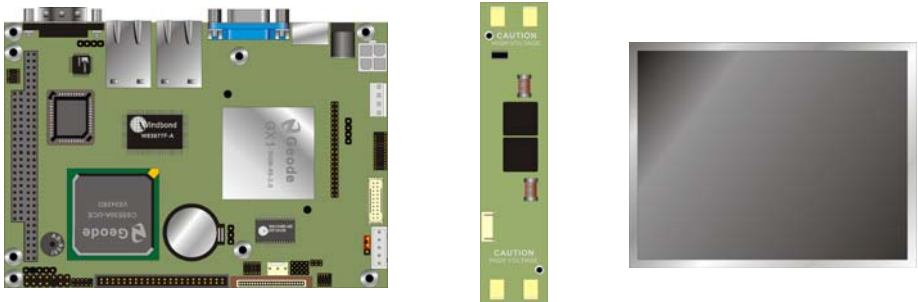
To setup the LCD, you need the component below:

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

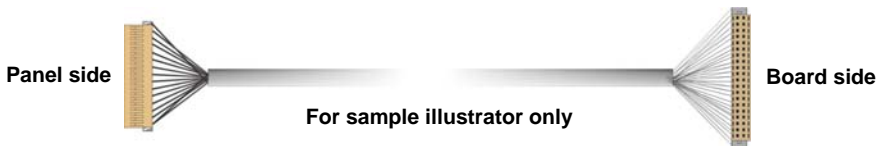
For the cables, please follow the pin assignment of the connector to make a cable, because every panel has its own pin assignment, so we do not provide a standard cable; please find a local cable manufacture to make cables.

LCD Installation Guide:

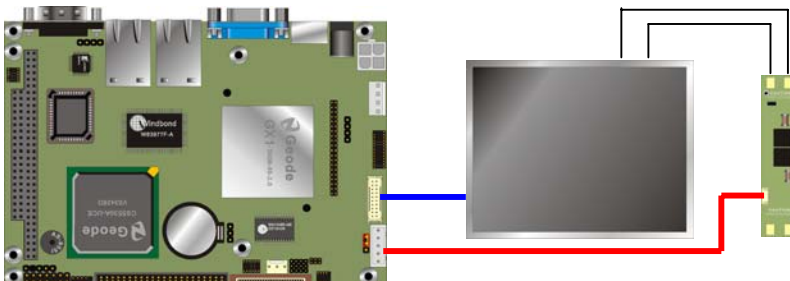
1. Preparing the **LE-364, LCD panel** and the **backlight inverter**.



2. Please check the datasheet of the panel to see the voltage of the panel, and set the jumper **JVOLT** to +5V or +3.3V, and the **JBITSEL** for 18-bit or 24-bit.
3. You would need a LVDS type cable.



4. To connect all of the devices well.



Panel Type Supported Table:

Please enter the BIOS and setup the panel type to fit your panel

| Panel ID | Resolution | Channel | Dithering |
|----------|------------|---------|-----------|
| 0 | 640x480 | 1 | Enable |
| 1 | 800x600 | 1 | Enable |
| 2 | 1024x768 | 1 | Enable |
| 3 | 1280x768 | 1 | Enable |
| 4 | 1280x1024 | 2 | Enable |
| 5 | 1400x1050 | 2 | Enable |
| 6 | 1600x1200 | 2 | Enable |
| 7 | 1280x800 | 1 | Enable |
| 8 | 800x480 | 1 | Enable |
| 9 | 1024x768 | 2 | Enable |
| A | 1024x768 | 1 | Disable |
| B | 1024x768 | 2 | Disable |
| C | 1280x768 | 1 | Disable |
| D | 1280x1024 | 2 | Disable |
| E | 1400x1050 | 2 | Disable |
| F | 1600x1200 | 2 | Disable |



Entering Advanced Chipset Features of BIOS Setup



Entering AGP & P2P Bridge Control for Option of panel type selection

2.10 <Onboard Audio Interface>

The board integrates onboard AC97 audio with REALTEK ALC201A, supports 18-bit ADC and DAC resolution, and Line-out, Line-in and MIC-in input/output interfaces.

Connector: CN_AUDIO

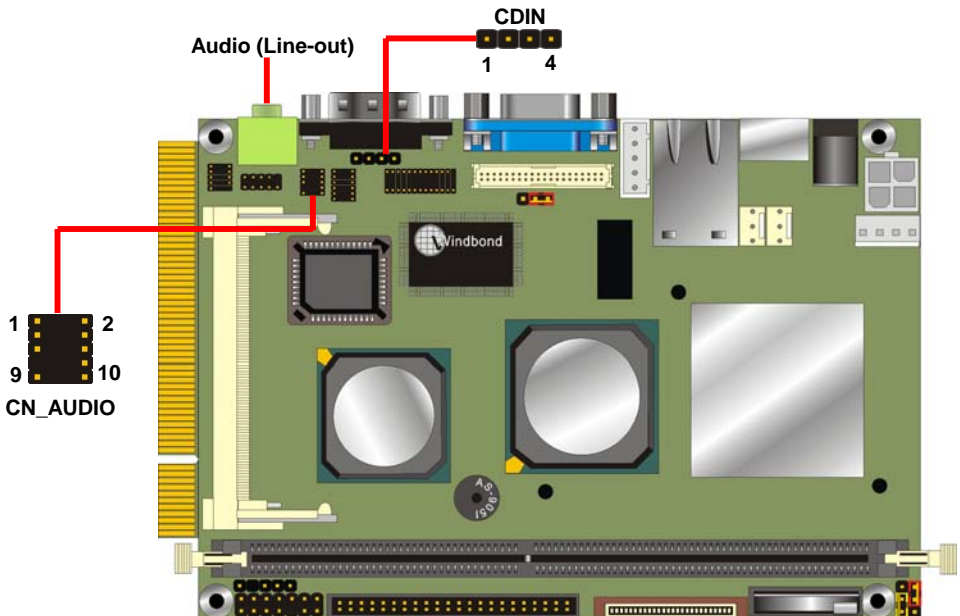
Type: 10-pin (2 x 5) 1.27mm x 2.54mm-pitch header

| Pin | Description | Pin | Description |
|-----|------------------|-----|-----------------|
| 1 | Line – Left | 2 | Ground |
| 3 | Line – Right | 4 | MIC1 |
| 5 | MIC2 | 6 | Ground |
| 7 | N/C | 8 | Line Out – Left |
| 9 | Line Out – Right | 10 | Ground |

Connector: CDIN

Type: 4-pin header (pitch = 2.54mm)

| Pin | Description |
|-----|-------------|
| 1 | CD – Left |
| 2 | Ground |
| 3 | Ground |
| 4 | CD – Right |



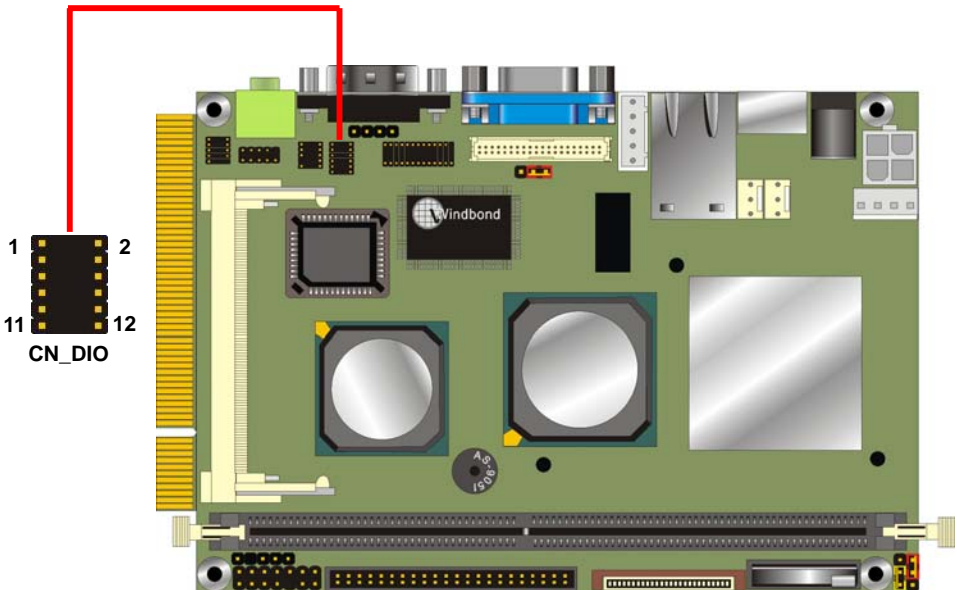
2.11 <GPIO Interface>

The board offers 8-bit digital I/O to customize its configuration to your control needs. For example, you may configure the digital I/O to control the opening and closing of the cash drawer or to sense the warning signal from a tripped UPS.

Connector: **CN_DIO**

Type: onboard 2 x 6-pin 1.27mm x 2.54mm-pitch header

| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | Ground | 2 | Ground |
| 3 | GP0 | 4 | GP4 |
| 5 | GP1 | 6 | GP5 |
| 7 | GP2 | 8 | GP6 |
| 9 | GP3 | 10 | GP7 |
| 11 | +5V | 12 | +12V |



2.12 <Power Supply & Fan>

2.12.1 <Power Input>

The board requires DC 12V input with onboard DC jack or 4-pin 12V DC connector.

Connector: **CN_12V**

Type: 4-pin standard ATX2.0 +12V power connector

| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | Ground | 2 | Ground |
| 3 | +12V | 4 | +12V |

2.12.2 <Power Output>

The board also provides one 4-pin connector with +5V/+12V output.

Connector: **CN_SPWR**

Type: 4-pin P-type connector for +5V/+12V output

| Pin | Description | Pin | Description | Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|-----|-------------|-----|-------------|
| 1 | +12V | 2 | Ground | 3 | Ground | 4 | +5V |

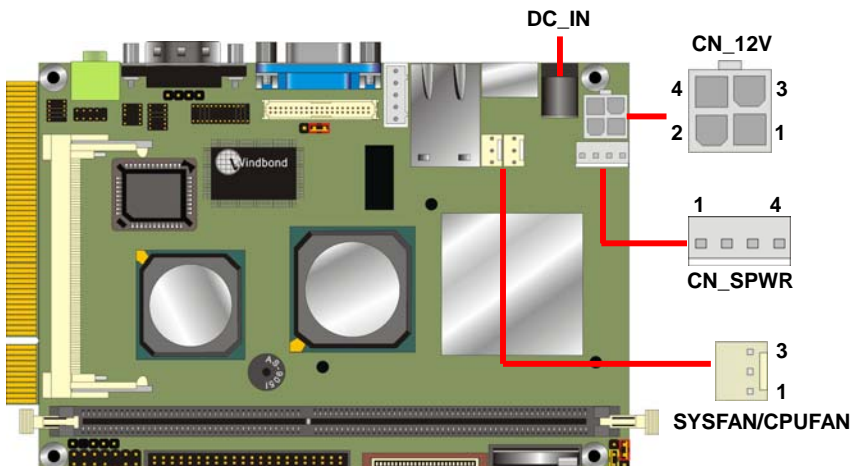
PS: Maximum output current for 5V/1A & 12V/1A

2.12.3 <Fan connectors>

Connector: **CPUFAN, SYSFAN**

Type: 3-pin fan wafer connector

| Pin | Description | Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|-----|-------------|
| 1 | Ground | 2 | +12V | 3 | Fan Control |



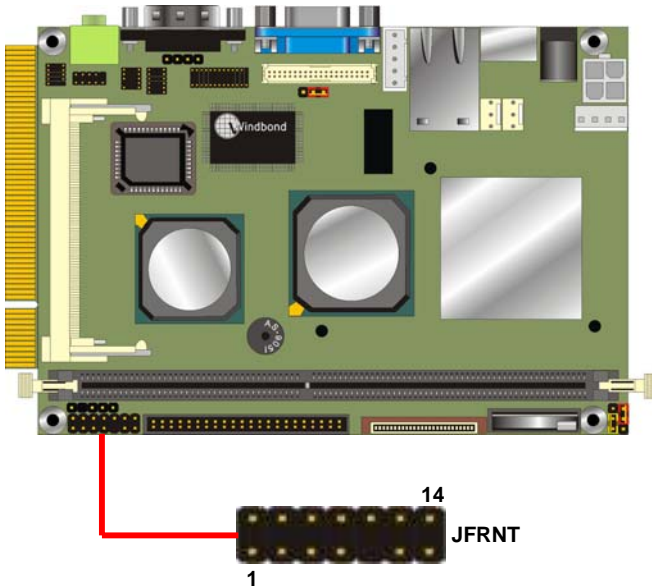
2.13 <Switch & Indicator>

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 | VCC | 1 | 2 | VCC | Power LED |
| | Active | 3 | 4 | N/C | |
| Reset | Reset | 5 | 6 | GND | Speaker |
| | GND | 7 | 8 | VCC | |
| N/C | | 9 | 10 | N/C | |
| Power Button | PWRBT | 11 | 12 | N/C | |
| | Ground | 13 | 14 | SPKIN | |

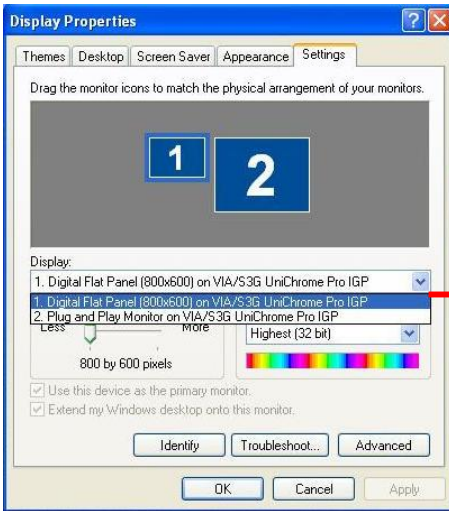


Chapter 3 <System Setup>

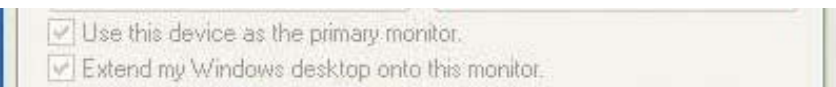
3.1 <Display Configuration>

The board provides onboard VGA with DB15 analog display interface, and LVDS LCD interface for digital display, when connecting two display devices, you can enable dual display function with clone mode or extended desktop mode.

Before setup the video setting, please install the VGA driver well.



Two controllers for each display device

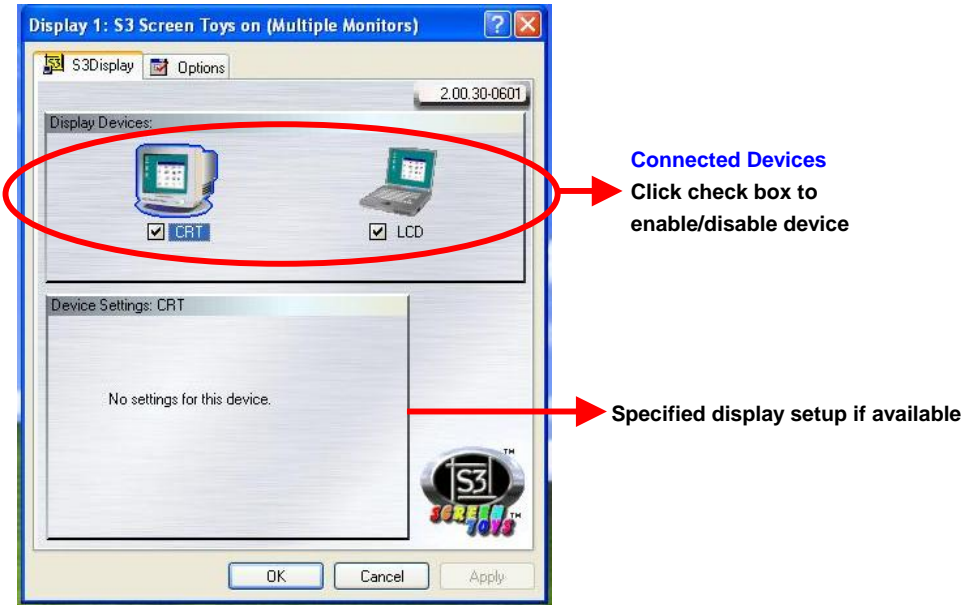


There are two options for secondary display device

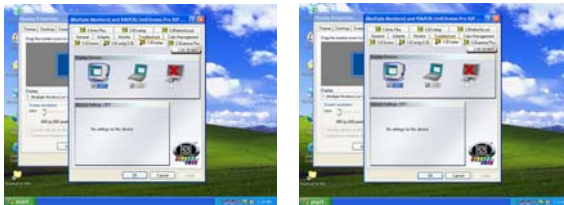


For more display properties setting, please click "Advanced" button.

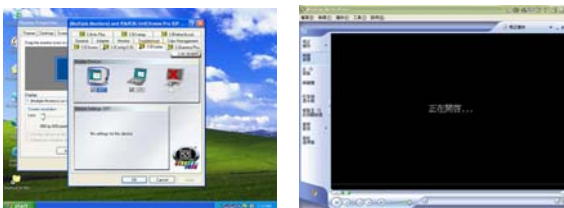
Please select S3Display for advanced device setting.



When you set dual display clone mode, you'll see the same screen display on two devices.



When you set the dual display for extended desktop mode, you can have the independent desktop on the second device.



Chapter 4 <BIOS Setup>

The single board computer 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 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 3-1**. You can use arrow keys to select your function, press <Enter> key to accept the selection and enter the sub-menu.

Figure 3-1. CMOS Setup Utility Main Screen



Appendix A <I/O Port Pin Assignment>

A.1 <IDE Port>

Connector: **IDE1**

Type: 44-pin (22 x 2) box header



| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | Reset | 2 | Ground |
| 3 | D7 | 4 | D8 |
| 5 | D6 | 6 | D9 |
| 7 | D5 | 8 | D10 |
| 9 | D4 | 10 | D11 |
| 11 | D3 | 12 | D12 |
| 13 | D2 | 14 | D13 |
| 15 | D1 | 16 | D14 |
| 17 | D0 | 18 | D15 |
| 19 | Ground | 20 | N/C |
| 21 | REQ | 22 | Ground |
| 23 | -IOW | 24 | Ground |
| 25 | -IOR | 26 | Ground |
| 27 | IORDY | 28 | Ground |
| 29 | DACK | 30 | Ground |
| 31 | IRQ14 | 32 | N/C |
| 33 | A1 | 34 | GPI1 |
| 35 | A0 | 36 | A2 |
| 37 | -CS1 | 38 | -CS3 |
| 39 | -HD LED1 | 40 | Ground |
| 41 | +5V | 42 | +5V |
| 43 | Ground | 44 | Ground |

A.2 <Floppy Port>

Connector: **FDD**



Type: 26-pin connector

| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | VCC | 2 | INDEX |
| 3 | VCC | 4 | DRV0 |
| 5 | VCC | 6 | DSKCHG |
| 7 | DRV1 | 8 | N/C |
| 9 | MTR1 | 10 | MTR0 |
| 11 | RPM | 12 | DIR |
| 13 | N/C | 14 | STEP |
| 15 | Ground | 16 | WRITE DATA |
| 17 | Ground | 18 | WRITE GATE |
| 19 | N/C | 20 | TRACK 0 |
| 21 | N/C | 22 | WRPTR |
| 23 | Ground | 24 | RDATA- |
| 25 | Ground | 26 | SEL |

A.3 <IrDA Port>

Connector: **CN_IR**

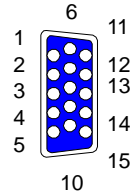


Type: 5-pin header for SIR Ports

| Pin | Description |
|-----|-------------|
| 1 | Vcc |
| 2 | N/C |
| 3 | IRRX |
| 4 | Ground |
| 5 | IRTX |

A.4 < VGA Port >

Connector: **CRT**



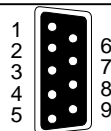
Type: 15-pin D-sub female connector on bracket

| Pin | Description | Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|-----|-------------|
| 1 | RED | 6 | Ground | 11 | N/C |
| 2 | GREEN | 7 | Ground | 12 | 5VSDA |
| 3 | BLUE | 8 | Ground | 13 | HSYNC |
| 4 | N/C | 9 | N/C | 14 | VSYSN |
| 5 | Ground | 10 | Ground | 15 | 5VSCL |

A.5 <Serial Port>

Connector: **COM1**

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



| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | DCD | 6 | DSR |
| 2 | RXD | 7 | RTS |
| 3 | TXD | 8 | CTS |
| 4 | DTR | 9 | -XR |
| 5 | Ground | | |

Connector: **CN_COM2**

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



| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | DCD | 2 | RXD |
| 3 | TXD | 4 | DTR |
| 5 | Ground | 6 | DSR |
| 7 | RTS | 8 | CTS |
| 9 | -XR | 10 | |

A.6 <LAN Port>

Connector: **RJ45**

Type: RJ45 connector with LED on bracket

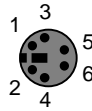


| Pin | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Description | TX+ | TX- | RX+ | RX- | N/C | N/C | N/C | N/C |

A.7 <PS/2 Keyboard & Mouse Port>

Connector: **PS2**

Type: 6-pin Mini-DIN connector on bracket



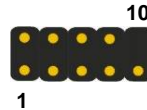
| Pin | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------|-----|-----|--------|-----|-----|-----|
| Description | KBD | MSD | Ground | VCC | KBC | MSC |

Note: The PS/2 connector supports standard PS/2 keyboard directly or both PS/2 keyboard and mouse through the PS/2 Y-type cable.

A.8 <USB Port>

Connector: **CN_USB**

Type: 10-pin (5 x 2) header



| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | VCC | 2 | VCC |
| 3 | Data0- | 4 | Data1- |
| 5 | Data0+ | 6 | Data1+ |
| 7 | Ground | 8 | Ground |
| 9 | Ground | 10 | N/C |

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Appendix B <Flash BIOS>

B.1 BIOS Auto Flash Tool

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

<http://www.award.com>

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

B.2 Flash Method

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 awardflash.exe to the disk.
4. Power on the system and flash the BIOS. (Example: C:/ awardflash XXX.bin)
5. Re-star the system.