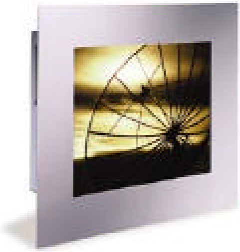
ODYSSE 120/150/170 IV (PC710B)

12.1"/15.0"/17.0" TFT Intel®
Socket 478 Celeron/Pentium® IV
Industrial Panel PC with
Versatile Bezel design

User's Manual (Version 2412)



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Unpacking

After unpacking the **ODYSSE 120/150/170 IV** carton, check and see if the following items are included and in good condition.

◆ **ODYSSE IV main system**	x 1
◆ Accessories	
- Power cord	x 1
- External FDD cable (optional)	x 1
- External 5V/12V DC power cable (optional)	x 1
- External IDE cable (optional)	x 1
- Utilities & drivers & user manual CD diskette (for touchscreen drivers, please download the updated drivers from the following website http://www.elotouch.com or http://www.3m.com or http://www.eturbotouch.com	x 1
- Panel mounting kit	x 1 set
- Screw packet	

Make sure that all of the items listed above are present. If any of the above items is missing, contact your dealer immediately.

Warranty

All products manufactured by the Manufacturer. are warranted against defective materials and workmanship for one year starting from the date of delivery to the original purchaser. However, warranty or service will not be extended if 1). the product is repaired, modified or altered unless such repair, modification or alteration is authorized by the Manufacturer; or 2). the product serial number or warranty label is defaced or missing; or 3). the product is not properly used.

Important Safety Precautions

Before getting started, read these instructions and save them for later reference.

1. Turn off the computer before cleaning. Clean with a damp or dry cloth only. Do not spray any liquid cleaner on screen directly.
2. The power outlet socket used to plug in the computer power cord must be located near the system and easily accessible. Do not use outlets on the same circuit of the systems that regularly switched on and off.
3. Make sure the voltage of the power source is correct before connecting the computer to the power outlet.
4. If the computer is sharing an extension cord with other devices, make sure the total ampere rating of the devices plugged into the extension cord does not exceed the cord's ampere rating.
5. Do not expose the power cord, extension cord and power outlet to moisture.
6. Install the computer on a reliable surface to prevent damage caused by dropping.
7. This computer is not equipped with an operating system. An operating system must be loaded first before installing any software into the computer.
8. Disconnect the power cord from the computer before any installation. Make sure both the computer and the external devices are turned off. The sudden surge of power may ruin any sensitive components. Also make sure the computer is properly grounded.
9. During installation of any internal components, be sure to ground yourself to keep from any static charge. Most electronic components are sensitive to the static electric charge. Use a grounding wrist strap and place all electronic components in any static-shielded devices.

10. The openings on the computer enclosure are for the cabin ventilation to prevent the computer from overheating. DO NOT COVER THE OPENINGS.
11. The brightness of the flat panel display will decrease with use. However, hours of use will vary depending on the application environment.
12. If the computer is equipped with a touch panel, avoid using sharp objects to operate the touch panel. Scratches on the touch panel may cause mal-calibration or non-function to the panel.
13. The LCD panel display is not subject to shock or vibration. When assembling the computer, make sure it is securely installed.

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1. INTRODUCTION

This chapter provides background information and detail specification on the ODYSSE 120/150/170 IV. Sections in this chapter include:

- General Information
- What covers in this Manual
- Specification
- Dimension

1.1. General Information

The information revolution which started from the mid '90 inaugurated a new competitive era where consumer-computing technology was exploited to business operation quicker than ever before. Many enterprises from our life related industries such as **POS**, **POI**, **KIOSK**, **Banking**, **Medical** to the high-tech **Telecom**, **Aerospace**, **Semiconductor** … etc. all are eager or forced to automate their industries with PCs in order to thrive in this new age. For their industrial automation, there is one thing in common, i.e. space is always a premium and system stability is always a must in their environmental applications.

The **ODYSSE 120/150/170** is a 12.1"/15.0"/17.0" TFT Intel Celeron/Pentium III/Pentium IV multimedia industrial panel PC system. With a 180W ATX power supply as its engine, the ODYSSE is a genuine P4 panel PC designed for high performance multimedia application.

In terms of panel size, the ODYSSE has 12.1", 15.0" and 17.0" systems. In terms of system engine, the ODYSSE also have two versions, one **ODYSSE IV**, Celeron/Pentium III system and the other **ODYSSE IV**, Pentium IV system. To upgrade the system, simply replace the motherboard.

Fully configurable and with its versatile front bezel design, the **ODYSSE 120/150/170** system is an ideal solution platform for any customized integration and industrial automation. The small bezel is mainly designed for KIOSK integration when the KIOSK cabinet is with a curve surface. The big bezel is for panel mounting or for KIOSK integration when the KIOSK cabinet is of flat surface and allows the computer to be fixed to the KIOSK cabinet directly from inside. The aluminum alloy bezel is mainly designed for panel mounting in any industrial floor.

1.2. What Covers in this Manual

This handbook contains most information you need to set up and use the ODYSSE IV system. Only service technicians are allowed to open the system for service. You do not need to read everything in this handbook to use the system.

For a quick start, see the following chapter summaries;

Chapter 1 (the current chapter) provides background information and detail specification on the ODYSSE 120/150/170 IV.

Chapter 2 identifies the ODYSSE IV system exterior components and provides instructions to help you to use the system as soon as possible.

Chapter 3 details the panel PC's various mounting options by graphical illustrations.

Chapter 4 provides the procedures to connect external devices to the I/O interface

Chapter 5 helps you to recognize the ODYSSE system internal components. It also provides the installation procedures including LCD, touchscreen, power supply module, CPU, system memory, FDD, HDD and CD-ROM drive.

Chapter 6 provides detail information of the jumper settings and connector signals of the motherboard.

Chapter 7 explains the AWARD BIOS setup.

Chapter 8 introduces the Ethernet, XGA, audio & touchscreen drivers.

Appendix A details the 12.1"/15.0"/17.0" LCD specifications.

Appendix B introduces the DiskOnChip® installation.

Appendix C introduces the Wake-On-LAN feature.

Appendix D explains the first MB memory map.

Appendix E provides the specifications for the built-in power supply.

1.3. Specifications

ODYSSE IV: 12.1”/15.0”/17.0” TFT Intel® Socket 478 Celeron/Pentium® IV Industrial Panel PC with ***Versatile Bezel*** design

SYSTEM

Flat Panel

◆ **ODYSSE 120**:	12.1” color TFT, 800*600
Viewing angle	100
Luminance (cd/m^2)	150 or above
Simultaneous mode	yes
◆ **ODYSSE 150**:	15.0” color TFT, 1024*768
Viewing angle	120
Luminance (cd/m2)	250 or above
Simultaneous mode	yes
◆ **ODYSSE 170**:	17.0” color TFT, 1280*1024
Viewing angle	120
Luminance (cd/m2)	280 or above
Simultaneous mode	yes

CPU (Socket 478)

- Intel Pentium IV mPGA 2.26GHz-3.06GHz/533MHz
- Intel Pentium IV mPGA 1.8GHz-2.4GHz/400MHz
- Intel Celeron mPGA 1.7GHz-2.0GHz/400MHz

System Chipset

- Intel 845GV/ICH4

System BIOS

- Award PnP Flash BIOS

System Memory

- 2*184 pin DDR socket supporting system memory up to 1GB

L2 Cache

- CPU built-in 256K/512K

Standard I/O

- Serial ports*4: COM 1, 2 & 4 with +5V/12 power output on pin #9, COM 3 internal type reserved for touchscreen, COM2 RS-232/485 jumper selectable
- Parallel Port*1: supports SPP/EPP/ECP
- External FDD Interface*1
- +5V/+12V DC-out*1
- PS/2 Keyboard Interface*1
- PS/2 Mouse Interface*1
- DIO: Input*2, output*2
- USB port*2 supporting USB 2.0 devices
- VGA Interface*1
- Brightness VR*1
- Speaker-out, MIC-in, Line in

Ethernet

- 100/10 Base-T Ethernet with RJ-45 phone jack
- Supports WAKE-ON-LAN

Display

- Integrated 2D/3D graphics engine, 4X AGP
- Share system memory architecture able to utilize the display memory size up to 64MB
- Supporting LCD/VGA

Audio

- Full duplex and independent sample rate converter for audio recording & playback
- Supports Microsoft DirectSound
- 3D positional audio effects
- Hi-performance, mixed-signal, stereo
- MIC-In, Speaker-Out, Line-In
- Pin header for CD-audio in

Hardware Monitor

- Monitoring processor & system
- Monitoring 5VSB, VBAT, 1.5V, 3.3V, +5V, +12V, -12V, and processor voltages
- Monitoring processor, chassis fan speeds
- Controlling processor and chassis fan speed and failure alarm
- Automatic fan on/off control
- Read back capability that displays temperature, voltage and fan speed
- Supporting Intel processor thermal diode output (real processor temperature)

Expansion Slot

- PCI*2 or PCI*1 + ISA*1
- Expansion card size (L*W)
  - PCI card: max. 190*120 mm
  - ISA card max. 190*120 mm if no internal FDD is installed; 170*120 mm if internal FDD is installed

PERIPHERALS & STORAGE DEVICES

Touchscreen (optional, sharing COM3)

◆ 12.1”/15.1”/17.0” analog resistive type with RS-232 controller

◆ 12.1”/15.1” capacitive type with RS-232 controller

◆ 12.1”/15.1” surface acoustic wave type (SAW)

Power Supply

◆ ATX 180W, input range: 100~240V/4A @50/60Hz

◆ DC 200W 38~72VDC (optional)

CD-ROM or CD-RW or DVD-ROM or COMBO

◆ Slim type*1 (optional) or

◆ External type via external IDE

Floppy Disk Drive

◆ Slim type*1 (optional) or

◆ Via external FDD or

◆ External type via USB

Hard Disk Drive

◆ 3.5" HDD*1 (optional) or 2.5” HDD x 2 (optional)

MECHANICAL & ENVIRONMENTAL

Construction

- heavy-duty steel

Dimension (chassis only, unit: mm)

- ODYSSE 120: 354*283*115 (L*W*D)
- ODYSSE 150: 395*320*127 (L*W*D)
- ODYSSE 170: 426*350*130 (L*W*D)

Front Bezels

- ODYSSE 120S: 354*283 mm (small bezel)
- ODYSSE 150S: 395*320 mm (small bezel)
- ODYSSE 170S: 426*350 mm (small bezel)
- ODYSSE 120B: 405*330 mm (big bezel)
- ODYSSE 150B: 448*371 mm (big bezel)
- ODYSSE 170B: 478*401 mm (big bezel)
- ODYSSE 120A: 405*330 mm (aluminum bezel)
- ODYSSE 150A: 448*371 mm (aluminum bezel)
- ODYSSE 170A: 478*401 mm (aluminum bezel)

Mounting

- Panel mount with mounting kits
- Wall mount with swing arm: standard VESA mounting holes (75*75 mm)
- To KIOSK enclosure

- *Specifications are subject to change without notice.*

1.4. Dimensions

1.4.1. ODYSSE 120

The ODYSSE 120's chassis size is shown below.

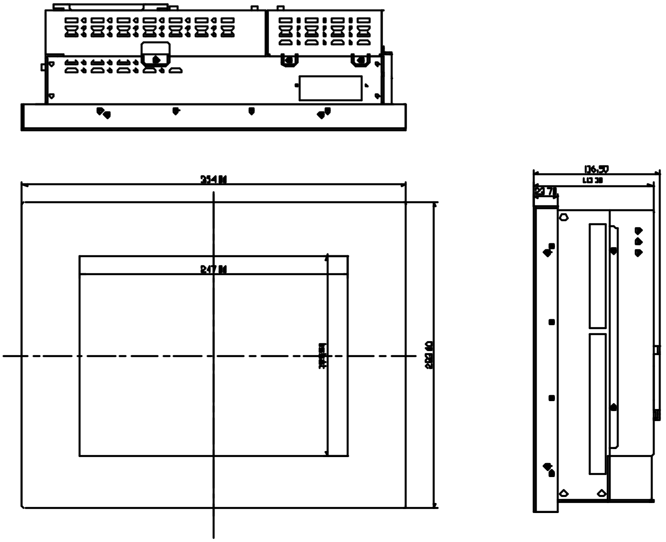


Figure 1-1: ODYSSE 120 DIMENSION

1.4.2. ODYSSE 150

The ODYSSE 150's chassis size is shown below.

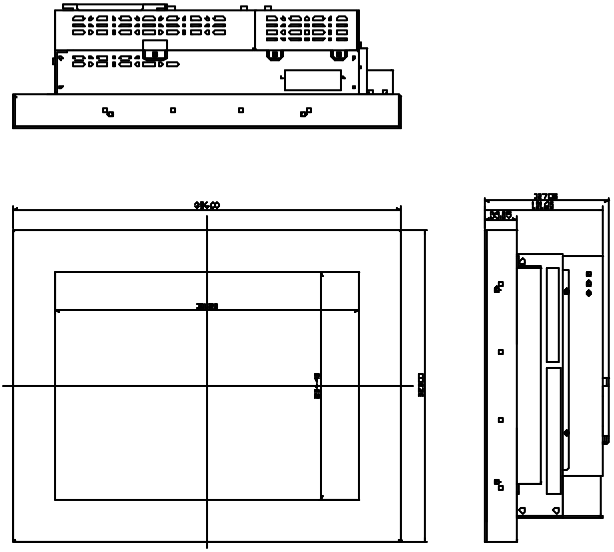


Figure 1-2: ODYSSE 150 DIMENSION

1.4.3. ODYSSE 170

The ODYSSE 170's chassis size is shown below.

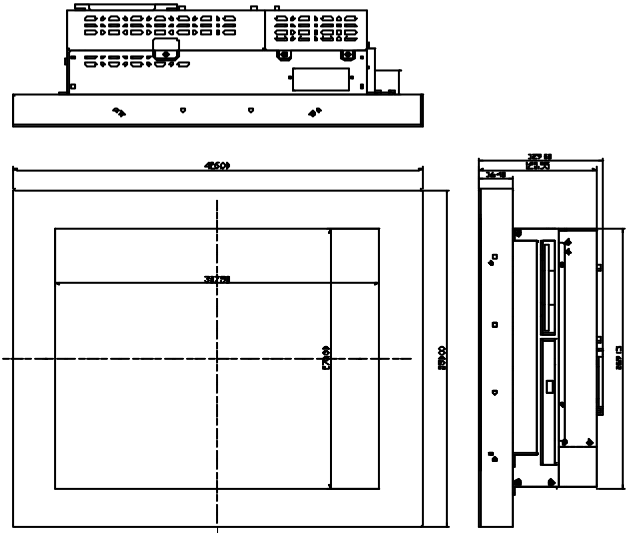


Figure 1-3: ODYSSE 170 DIMENSION

2. USING THE SYSTEM

◆ Identifying the ODYSSE system

◆ System setup for the first-time use

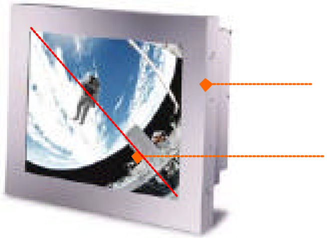
2.1. Identifying the System

Before getting started, take a moment to familiarize yourself with the system and the I/O arrangement of the ODYSSE 120/150/170.

2.1.1. Front View

The ODYSSE 's front view appears as below.

The illustrations of the ODYSSE 120/150/170 may differ slightly because the ODYSSE system series has three different LCD size: 12.1", 15.0" & 17.0".



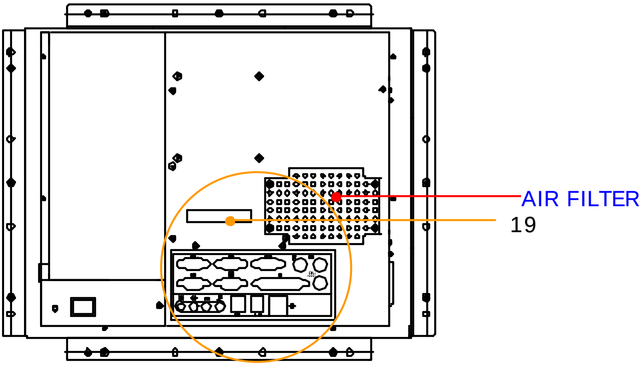
ODYSSE with small

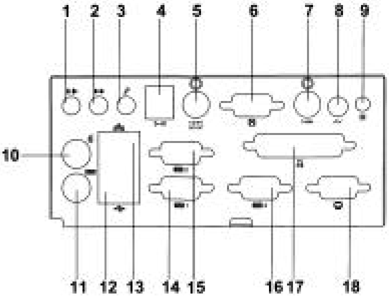
ODYSSE with big bezel ODYSSE with aluminum bezel

FIGURE 2-1: ODYSSE FRONT BEZELS

2.1.2. I/O Outlets

When you turn around the ODYSSE system, you will find the power switch and all the I/O ports are located at the rear cover of the panel PC.





1. Speaker-out
2. Line-in
3. MIC-in
4. 2-channel DIO
5. +5/12V DC-out
6. External FDD
7. S-video
8. RCA
9. VR brightness
10. PS/2 Mouse
11. PS/2 Keyboard
12. USB*2
13. Ethernet (RJ-45)
14. COM 1
15. COM 2
16. COM 4
17. Printer port
18. VGA port
19. External IDE

2.2. System Setup for the First-time Use

To set up the ODYSSE 120/150/170 for the first-time use, you should have the following items ready. The items are either in the accessory box or available in any computer stores.

- 110V or 220V power cord
- PS/2 or keyboard
- PS/2 or a serial mouse

2.2.1. Installation Procedures

The ODYSSE system can be powered either by an AC electrical outlet (100~240V/4A @50/60Hz) or by DC power source (38~72VDC). If the system is to be powered up by AC power, be sure to use the right power cord (110V or 220V) for connection.

1. Connect the female end of the power cord to the AC inlet located at the rear bottom side of the panel PC.
2. Connect the 3-pin male end of the power cord to an electrical outlet.
3. Connect a PS/2 keyboard to the keyboard port.
4. Connect the PS/2 mouse to the PS/2 mouse port. If you are using a serial mouse, it can be connected to the COM port.
5. Turn on the main switch on the power supply if there is one.
6. Power on the panel PC by switching the power switch located at the rear bottom side.

2.2.2. Running the BIOS Setup

If you are a commercial user, the ODYSSE 120/150/170 IV should have been properly set up and configured by your dealer. You may still find it necessary to change the system configuration information. In this case, you need to run the system's BIOS setup program.

Under the following conditions, the CMOS settings are to be changed.

1. The system is starting for the first time.
2. The hardware devices attached to the ODYSSE IV system have been changed.
3. The CMOS memory has lost power and the configuration information has been erased.

The BIOS setup program is stored in ROM, which can be accessed by pressing <DEL> key on the keyboard immediately when the system is powered on.

In order to retain the specified setup information when the system power is turned off, the system setup information is stored in a battery-backed CMOS RAM. The battery is to ensure the settings will not be erased when the computer is turned off or reset. When the computer is powered on again, the system will read the settings stored in the CMOS RAM and compare them to the equipment check conducted during the power on self-test (POST). If any error or mismatch occurs, an error message will be shown on the screen and the computer will be prompted to run the setup program.

To change the BIOS setup, please refer to Chapter 7 for more information.

2.2.3. Operating System and Driver Installation

The ODYSSE IV system is not equipped with an operating system when delivered from the original manufacturer. If you are a commercial user, the system is likely to have been pre-installed proper operating system and software drivers by your dealer or system integrator.

If the system is not pre-installed with any system OS and drivers or you intend to install your preferred ones, there are several ways to load OS and software into the system.

1. Via the external FDD or internal FDD
2. Via the CD-ROM
3. Via an USB data-retrieval devices
4. Via Ethernet: You can boot up the system via Ethernet bootrom (optional) and download system OS or software from the network.

Recent releases of operating systems always include setup programs that load automatically and guide you through the installation. You can also refer to your OS user manual for instructions on formatting or partitioning the hard disk drive before any software installation.

The ODYSSE IV system provides the following utility drivers stored in the CD-ROM diskette or utilities diskettes;

- ✧ Ethernet utilities
- ✧ VGA utilities
- ✧ Audio drivers
- ✧ Touchscreen drivers

3. MOUNTING OPTIONS

To ODYSSE system is designed for universal mounting to fit into different system enclosures for various environmental applications. This chapter highlights the steps of different mounting alternatives of the ODYSSE system. Sections include

- Different Front Bezels
- Metal Brackets
- Panel Mount
- Wall Mount

3.1. Different Front Bezels

The standard ODYSSE systems provide 4 kinds of front bezels for different environmental applications.

3.1.1. ODYSSE system with Small Bezel

The ODYSSE 120/150/170 **S** is an ODYSSE system with small bezel. The front bezel size is identical to the computer's chassis size.

FIGURE 3-1: ODYSSE SMALL BEZEL

Front bezel size (Small bezel)

ODYSSE 120S: 354*283 mm

ODYSSE 150S: 395*320 mm

ODYSSE 170S: 426*350 mm

This type of bezel is mainly designed for KIOSK integration when the KIOSK enclosure is not with flat surface and does not allow a big bezel computer. When integrating the ODYSSE S system into the KIOSK enclosure, the integrator may need to design special metal brackets per the enclosure's specific mechanism in order to fix the ODYSSE system to the enclosure.

3.1.2. ODYSSE system with Big Bezel

The ODYSSE 120/150/170 **B** is an ODYSSE system with big bezel. The front bezel size is larger than the computer's chassis size.

FIGURE 3-2: ODYSSE BIG BEZEL

Front bezel size (Big Bezel)

ODYSSE 120B: 405*330 mm

ODYSSE 150B: 448*371 mm

ODYSSE 170B: 478*401 mm

The type of bezel is mainly designed for panel mounting or for KIOSK integration when the KIOSK enclosure is with flat surface and allows the computer to be fixed to the KIOSK enclosure directly. When integrating the ODYSSE B system into the KIOSK enclosure, the integrator can either use the provided metal brackets or design special metal fixtures per the enclosure's specific mechanism in order to fix the ODYSSE system to the enclosure.

3.1.3. Aluminum Alloy Bezel

The ODYSSE 120/150/170 **A** is an ODYSSE system with an aluminum alloy bezel. The aluminum alloy bezel is mainly designed for panel mounting. It not only strengthens the system's framework but also beautifies the system outlook when the system is panel mounted.

Front bezel size (Aluminum bezel)

ODYSSE 120A: 405*330 mm

ODYSSE 150A: 448*371 mm

ODYSSE 170A: 478*401 mm

FIGURE 3-3: ODYSSE ALUMINUM ALLOY BEZEL

3.1.4. Workstation Bezel for 19” Rack Mount

The rack mount bezels are only available with 15” and 17.0” system. The ODYSSE system after replacing with 19” rack mount bezel is called ORION 150/170. The ORION 150/170 shares the same kernel with the ODYSSE series industrial panel PCs. Simply by replacing the front bezel module and an IO board, the ODYSSE systems can be easily transformed to a series of industrial workstations for 19” rack mount. For detailed information, please refer to ORION 150/170 user manual.

FIGURE 3-4: ODYSSE 19” RACK MOUNT BEZEL

3.2. Mounting Brackets

The ODYSSE system provides a pair of L-shape mounting brackets for system panel mounting. On the chassis sides, there are at least 4 screw holes on each side used to fix the metal brackets and the chassis together.

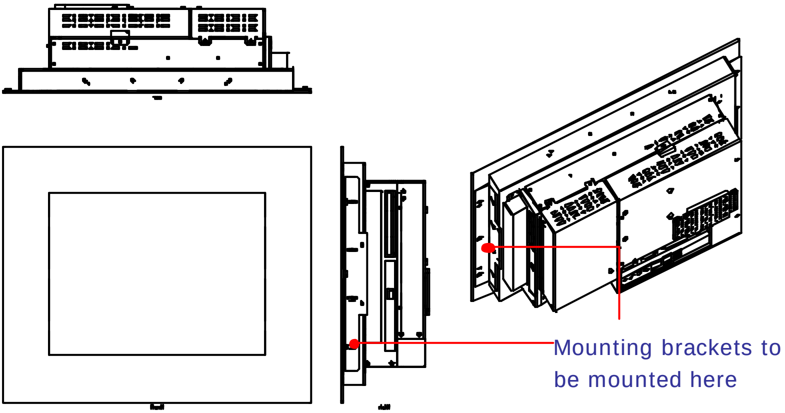


FIGURE 3-5: ODYSSE B MOUNTING WITH L-SHAPE MOUNTING BRACKETS

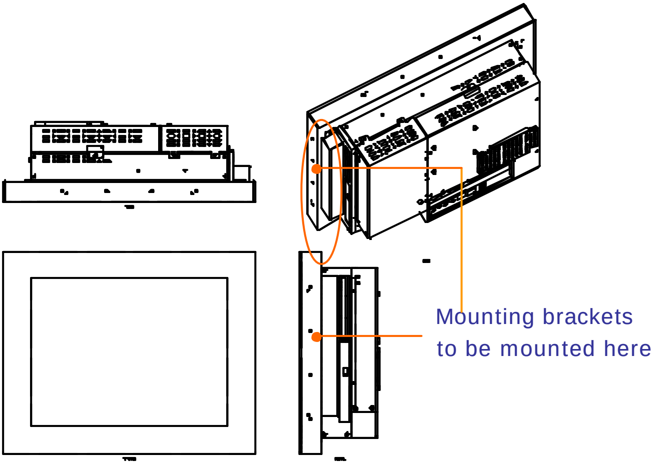


FIGURE 3-6: ODYSSE S MOUNTING WITH L-SHAPE MOUNTING BRACKETS

3.2.1. ODYSSE 120 Panel Mount

The following figures illustrate the distance between the screw holes on the bezel to be fixed with the L-shape mounting brackets.

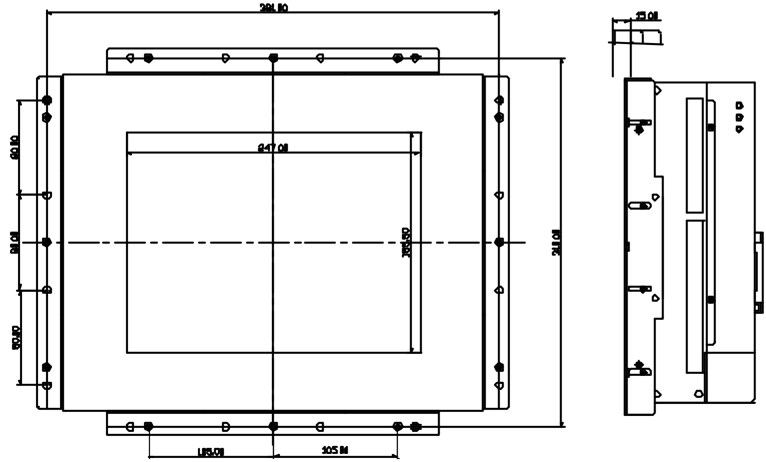


FIGURE 3-7: ODYSSE 120 with small bezel

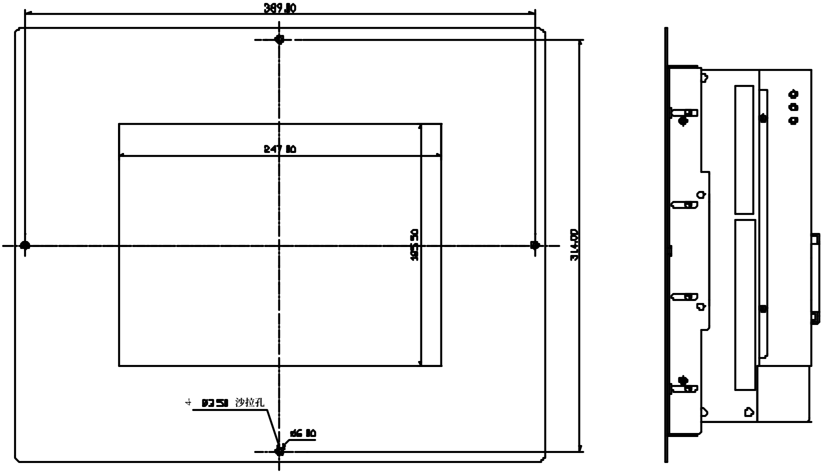


FIGURE 3-8: ODYSSE 120 with big bezel

3.2.2. ODYSSE 150 Panel Mount

The following figures illustrate the distance between the screw holes on the bezel to be fixed with the L-shape mounting brackets.

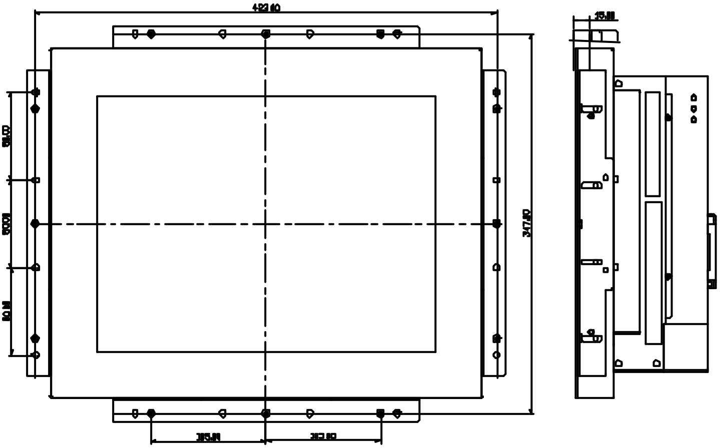


FIGURE 3-9: ODYSSE 150 with small bezel

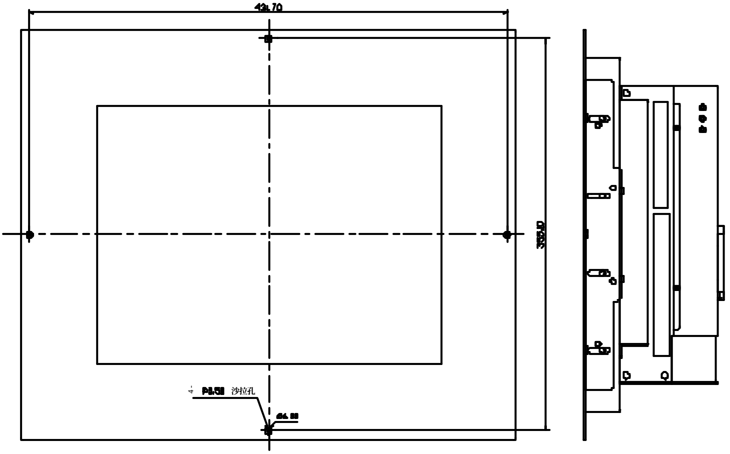


FIGURE 3-10: ODYSSE 150 with big bezel

3.2.3. ODYSSE 170 Panel Mount

The following figures illustrate the distance between the screw holes on the bezel to be fixed with the L-shape mounting brackets.

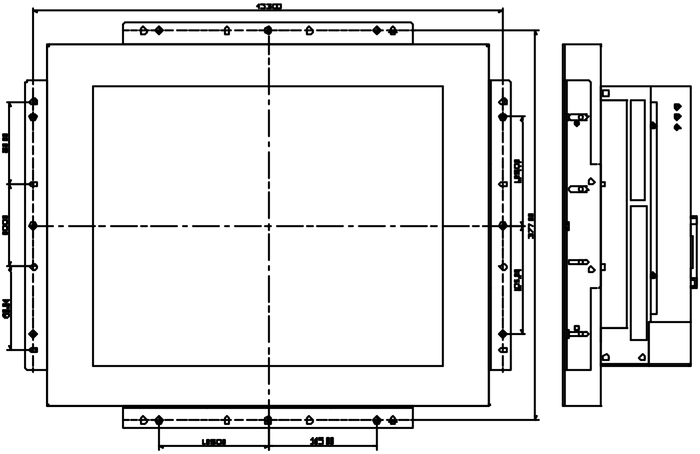


FIGURE 3-11: ODYSSE 170 with small bezel

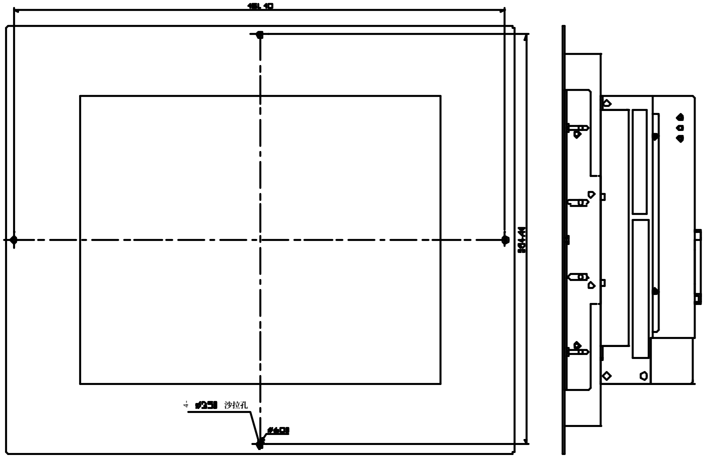


FIGURE 3-12: ODYSSE 170 with big bezel

3.3. Wall Mounting and Mobile Applications

The ODYSSE system provides 1 set of VESA mounting holes, 75*75mm on the rear side of the chassis. System integrators can design their special wall mount brackets per the VESA holes or obtain market-available swing arms for wall mounting, table mounting or mobile applications.

4. I/O CONNECTION

This chapter describes the ODYSSE system I/O ports and how to use the I/O interface to connect to external devices.

The I/O interfaces located at the rear side of the chassis are used to connect external peripheral devices, such as a mouse, a keyboard, a monitor, serial devices or parallel printer...etc. Before any connection, make sure that the computer and the peripheral devices are turned off.

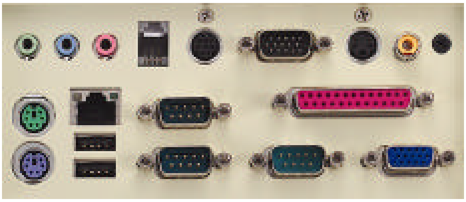


FIGURE 4-1

4.1. Parallel Port

The ODYSSE 120/150/170 can support the latest EPP and ECP parallel port protocols. It can be used to connect to a wide array of printers, ZIP drive, parallel scanner and any other parallel devices. The printer interface on the ODYSSE 120/150/170 IV is a 25-pin female D-SUB connector. To connect any parallel device, follow the steps below:

1. Turn off the system and the parallel devices.
2. Plug in the male connector of the parallel device to the 25-pin female D-SUB connector and fasten the retaining screws.
3. Turn on the system and the attached parallel devices.
4. Refer to the parallel device's manual for instruction to configure the operation environment to recognize the new attached devices.
5. You may need to run the CMOS setup to change the hardware device setup.

4.2. COM Ports x 4

The ODYSSE 120/150/170 features with four onboard COM ports. COM 1, 2 & 4 are D-SUB serial ports located at the rear side of the chassis, ready to connect to a wide range of serial devices. COM 3 is internal serial port reserved for touchscreen for internal connection. COM1, COM3 and COM4 are RS-232 and COM2 is RS-232/422/485, selected via BIOS setting.

COM 1, 2 & 4 are equipped with +5V/+12V power capabilities on pin 9, providing easy accommodation to a broad range of serial devices.

The COM port 5V/12 power is selected via jumper setting on the IO board, IO-005. Please refer to SEC. 6.2.1.1 for 5V/12 power selection.

If a touchscreen module is installed, for factory default setting, its controller will occupy COM3.

COM1, 2 & COM4 are all D-SUB 9-pin connectors. To connect to any serial device; follow the procedures below;

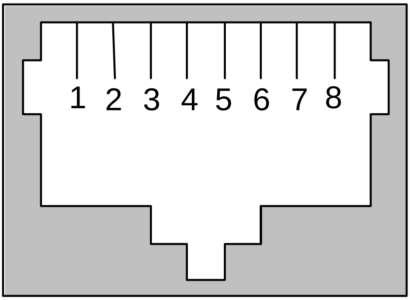
1. Turn off the ODYSSE system and the serial devices.
2. Attach the interface cable of the serial device to the 9-pin D-SUB serial connector. Be sure to fasten the retaining screws.
3. Turn on the computer and the attached serial devices.
4. Refer to the serial device's manual for instruction to configure the operation environment to recognize the new attached devices.
5. If the serial device needs specified IRQ or address, you may need to run the CMOS setup to change the hardware device setup.

If the COM2 is to be set to RS-422/485 for long distance transmission, make sure the COM2 setting on the BIOS "Integrated Peripheral" is properly set.

4.3. 100/10 Base-T Ethernet (RJ-45)

The ODYSSE 120/150/170 provides a 100/10 Base-T NE2000 compatible Ethernet (RJ-45) interface. For network connection, follow the instructions below.

1. Turn of the ODYSSE system and the Ethernet hubs.
2. Plug in one end of cable of a 100/10 Base-T hub to the system's RJ-45 phone jack. The pin assignment of the RJ-45 is listed as follow;



RJ-45

RJ-45 Connector Pin Assignment

Pin	**Description**
1	Tx+ (data transmission positive)
2	Tx- (data transmission negative)
3	Rx+ (data reception positive)
6	Rx- (data reception negative)
others	No use

4.4. VGA Interface

The ODYSSE 120/150/170 has a 15-pin analog RGB connector located at the rear side of the chassis. It can support its own LCD display and an expansion CRT or analog monitor at the same time. The connection to an analog monitor is an easy plug-in of the VGA D-SUB 15-pin connector to the RGB interface.

4.5. PS/2 Keyboard Interface

The ODYSSE provides a standard PS/2 keyboard connector located at the rear panel. If the user would like to use AT keyboard, then an adapter to connect the PS/2 KB to AT KB is needed.

4.6. PS/2 Mouse Interface

The ODYSSE system has one PS/2 mouse connector located at the rear side. A simple plug-in will make the connection.

4.7. External IDE

In addition to the internal CD-ROM and HDD, the ODYSSE also provides an internal IDE interface able to connect to an external IDE device.

The ODYSSE external IDE interface is a 40-pin header connector located at the rear side of the chassis. An external IDE cable is provided to connect a standard IDE device to the system. The external IDE is connected to onboard IDE 2 with the internal CD-ROM.

The ODYSSE system is equipped with a +5V/12V DC-out connector to provide 5V power to drive the external IDE device. Use the provided power cable to connect the IDE device to the 5V DC-out connector.

4.8. External FDD (DB-15)

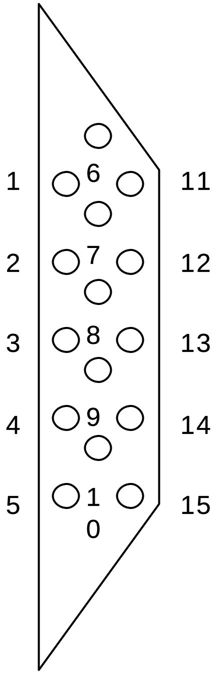
The ODYSSE 120/150/170 provides two ways to connect to a floppy disk drive to fit into specific environmental applications:

1. Internal FDD
2. External FDD

If the FDD is frequently used, it is suggested to use an internal floppy disk drive. If the drive is used only for system installation or maintenance, then, an external device can fulfill this need and is more economical. Please note that if an internal floppy disk drive already exists, no external floppy drive can be used.

The ODYSSE external FDD interface is a 15-pin D-sub connector located at the rear side of the chassis. An external FDD cable is provided to connect a standard 3.5" FDD to the system. Its pin position and pin assignment are listed as follows.

Pin #	Signal	Pin #	Signal
1	DELSEL	9	-WD
2	-INDEX	10	-STEP
3	-MTR1	11	-RD
4	-DVR1	12	-HDSEL
5	-DIR	13	-DSKCHG
6	-WP	14	+5V
7	-TRKO	15	+12V
8	-WG		



The ODYSSE system is equipped with a +5V/12V DC-out connector to provide 5V power to drive the external floppy disk drive. Use the provided FDD power cable to connect the floppy drive to the 5V DC-out connector when an external floppy drive is attached to the system.

4.9. +5V/12V DC-Out

The ODYSSE system provides a +5V/12V DC-out connector. It is used to provide necessary power source for some external devices. For example, if the ODYSSE IV system is to be housed in a KIOSK cabinet which requests extra cooling fan for heat dispensing, then the fan power cable can be attached to 5V/12V DC-out to obtain power from the computer directly. If an external floppy disk drive is attached to the system, it will need +5V power source from the system. A power cable for the external floppy disk drive is already provided for this connection. For other devices, you might need to make your own power cable for the connection.

4.10. VR Brightness Control

The ODYSSE system provides a VR control to adjust the brightness of the LCD. The VR control is with a "+" shape cutout on it. You will need a "+" shape screwdriver to adjust it for display brightness control.

4.11. DIO (Digital Input & Output)

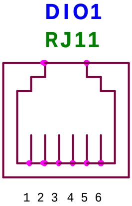
The ODYSSE IV provides 2-channel digital input and output that can be used for the system's simple automation control needs. The digital I/O can be configured to control the opening of a cash drawer or to sense the warning signal of an uninterrupted power system (UPS) or to do the store security control.

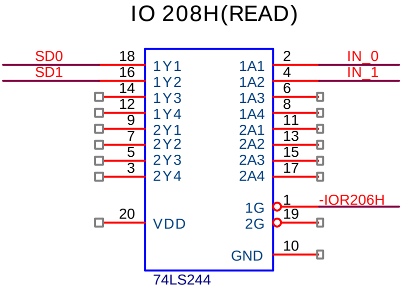
The DIO port address and pin definition is listed below;

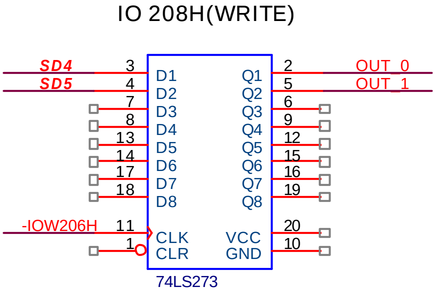
I/O Port address: 200H/208H By CMOS Setting

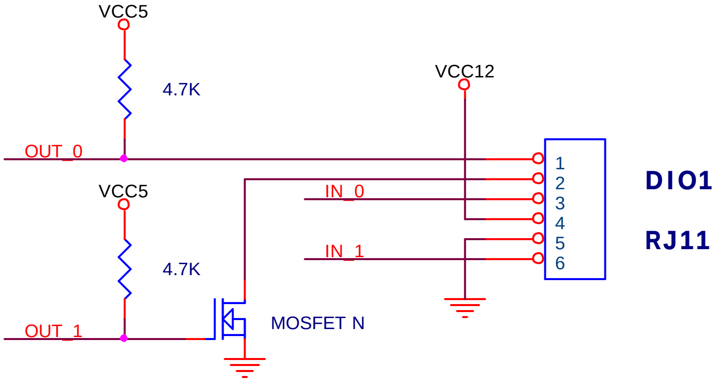
Read: SD0, SD1

Write: SD4, SD5









The Digital I/O is of TTL interface. It is controlled via software programming.

Digital I/O Programming

Input/output address: 208H

In_Data 0~3=SD0~SD1

Out_Data 0~3 SD4~SD7

EXAMPLE:

```
10   REM Digital I/O example program
20   X = INP (&H208)         REM INPUT Digital I/O port
                             for 4 bit
30   X = OUT (&H208)         REM OUTPUT Digital I/O port
        ⋮                    for 4 bit
60   END
100  Return
```

Port 208H Definition

4.12. Audio Interface (Line-in, MIC-in, SPK-out)

The audio interface contains three jacks, microphone-in, line-in and speaker-out.

The microphone-in jack is used to record sound or voice by connecting to an external microphone. The line-in jack is used to input audio from an external audio device such as a CD player, tape recorder or a radio. The speaker-out jack is to output the audio to external devices such as speakers or earphones. The audio device can be directly attached to the jacks. Please note that the audio driver has to be installed first before using any audio device.

4.13. USB Ports

The ODYSSE 120/150/170 IV also provides two USB ports to connect to external USB devices. A simple plug-in of the USB device interface cable to the USB port will make the connection. Before using the USB devices, remember to install the device driver first.

4.14. AC/DC Inlet/Power Switch

For ODYSSE 120/150/170 IV AC system, it can operate in the input range from 100 ~ 240 volts, 50 ~ 60 Hz. For DC system, the input range can be from 38V to 72V with different power supply.

5. HARDWARE INSTALLATION AND UPGRADE

This chapter overviews the installation of the ODYSSE IV's internal components and devices. This chapter is for service engineers not for the end user. Sections include:

- The exploded diagram
- Motherboard assembly
- Touchscreen controller assembly
- LCD module assembly
- Front bezel assembly
- HDD module assembly
- CD-ROM/FDD assembly
- Power module assembly
- Expansion slots

The ODYSSE 120/150/170 IV consists of a socket 478 Celeron/ Pentium® IV multimedia motherboard with an adequate CPU and relevant system memory on it. The system motherboard and other internal devices such as expansion card, HDD and power supply are already housed in the chassis. The system's performance depends on the installed CPU, the capacity of the system memory and hard disk drive. In some circumstances, you might intend to upgrade or maintain the system. By removing the metal back panel, the internal components such as CPU, DDR, HDD, internal FDD, CD-ROM and power supply can be easily accessed for maintenance and upgrade.

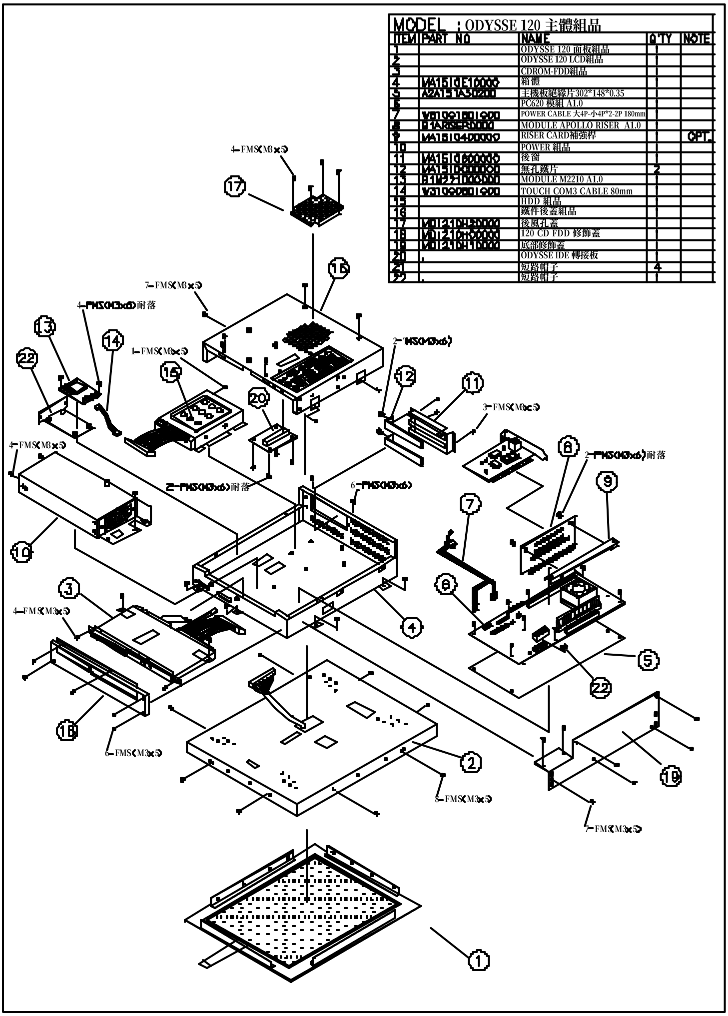
The ODYSSE is composed of 9 major modules. The installation procedure is also listed as below.

1. Motherboard module
2. Touchscreen controller module
3. HDD module
4. LCD module
5. Front bezel module
6. CD-ROM/FDD module
7. Power supply module
8. Expansion slot module
9. Back panel module

To disassemble the system module for maintenance, the procedure is from step 9 to 1.

5.1. Recognizing the System Major Parts

In terms of LCD size, the ODYSSE has three models, one 12.1", another 15.0" and the other 17.0". The assembly of the three models is basically the same except the LCD assembly. The following diagram highlights the system major parts that make up the ODYSSE 120 main system.

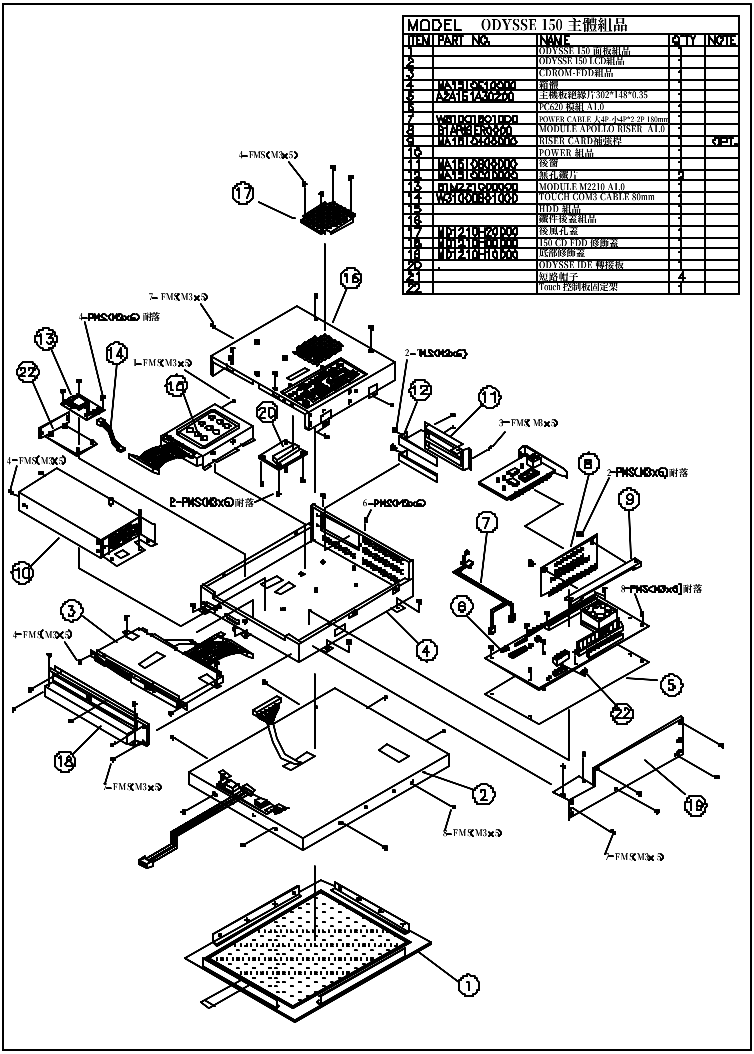


MODEL : ODYSSE 120 主體組品

ITEM	PART NO	NAME	Q'TY	NOTE
1		ODYSSE 120 面板組品	1	
2		ODYSSE 120 LCD組品	1	
3		CDROM-FDD組品	1	
4	MA1510E10000	箱體	1	
5	A2A151A30200	主機板絶緣片302*148*0.35	1	
6		PC620 模組 A1.0	1	
7	V81001801000	POWER CABLE 大4P-小4P*2-2P 180mm	1	
8	B1ARISER0000	MODULE APOLLO RISER A1.0	1	
9	MA1510400000	RISER CARD補強桿	1	OPT.
10		POWER 組品	1	
11	MA1510600000	後窗	1	
12	MA1510C00000	無孔鐵片	2	
13	B1M221000000	MODULE M2210 A1.0	1	
14	V31000801000	TOUCH COM3 CABLE 80mm	1	
15		HDD 組品	1	
16		鐵件後蓋組品	1	
17	MD1210H20000	後風孔蓋	1	
18	MD1210H00000	120 CD FDD 修飾蓋	1	
19	MD1210H10000	底部修飾蓋	1	
20	,	ODYSSE IDE 轉接板	1	
21		短路帽子	4	
22	,	短路帽子	1	

FIGURE 5-1: ODYSSE 120 EXPLODED DIAGRAM

The following diagram shows the system major parts that make up the ODYSSE 150 main system.

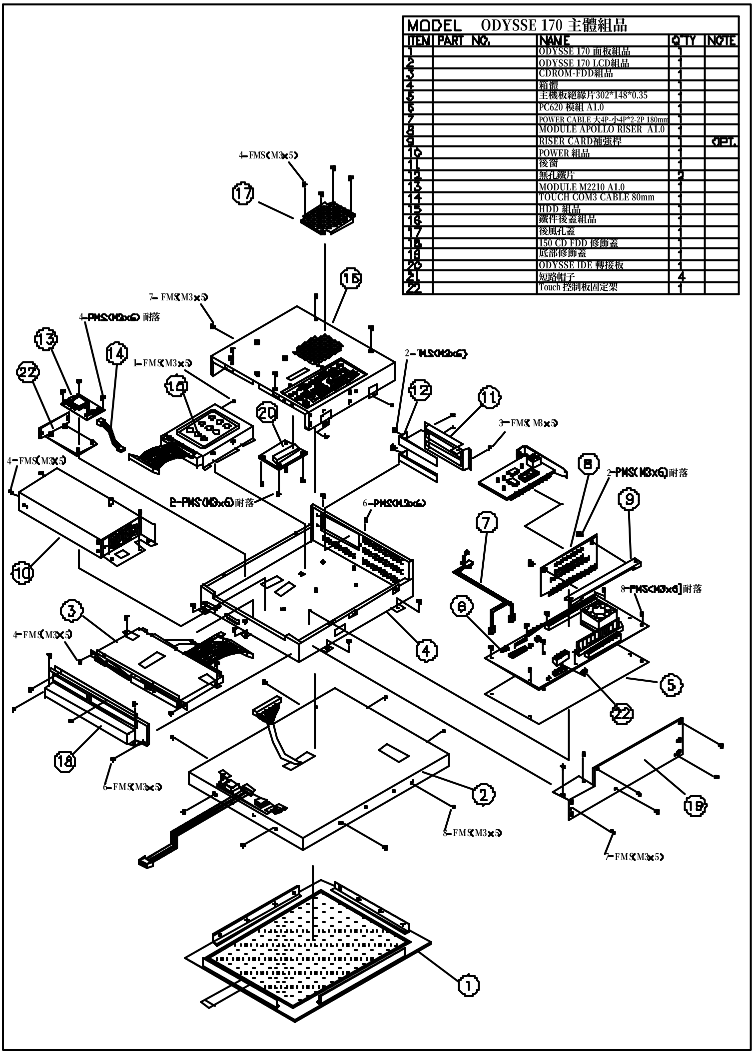


MODEL ODYSSE 150 主體組品

ITEM	PART NO.	NAME	Q'TY	NOTE
1		ODYSSE 150 面板組品	1	
2		ODYSSE 150 LCD組品	1	
3		CDROM-FDD組品	1	
4	MA1510E10000	箱體	1	
5	A2A151A30200	主機板絕緣片302*148*0.35	1	
6		PC620 模組 A1.0	1	
7	W810018010D0	POWER CABLE 大4P-小4P*2-2P 180mm	1	
8	B1ARISER0000	MODULE APOLLO RISER A1.0	1	
9	MA1510400D00	RISER CARD補強桿	1	OPT.
10		POWER 組品	1	
11	MA1510B00D00	後窗	1	
12	MA1510C0D000	無孔鐵片	2	
13	B1M221000000	MODULE M2210 A1.0	1	
14	W31000B0100D	TOUCH COM3 CABLE 80mm	1	
15		HDD 組品	1	
16		鐵件後蓋組品	1	
17	MD1210H20D00	後風孔蓋	1	
18	MD1210H00000	150 CD FDD 修飾蓋	1	
19	MD1210H10D00	底部修飾蓋	1	
20	.	ODYSSE IDE 轉接板	1	
21		短路帽子	4	
22		Touch 控制板固定架	1	

FIGURE 5-2: ODYSSE 150 EXPLODED DIAGRAM

The following diagram shows the system major parts that make up the ODYSSE 170 main system.



MODEL ODYSSE 170 主體組品

ITEM	PART NO.	NAME	Q'TY	NOTE
1		ODYSSE 170 面板組品	1	
2		ODYSSE 170 LCD組品	1	
3		CDROM-FDD組品	1	
4		箱體	1	
5		主機板絕緣片302*148*0.35	1	
6		PC620 模組 A1.0	1	
7		POWER CABLE 大4P-小4P*2-2P 180mm	1	
8		MODULE APOLLO RISER A1.0	1	
9		RISER CARD補強桿	1	OPT.
10		POWER 組品	1	
11		後窗	1	
12		無孔鐵片	2	
13		MODULE M2210 A1.0	1	
14		TOUCH COM3 CABLE 80mm	1	
15		HDD 組品	1	
16		鐵件後蓋組品	1	
17		後風孔蓋	1	
18		150 CD FDD 修飾蓋	1	
19		底部修飾蓋	1	
20		ODYSSE IDE 轉接板	1	
21		短路帽子	4	
22		Touch 控制板固定架	1	

FIGURE 5-3: ODYSSE 170 EXPLODED DIAGRAM

5.2. Installing the CPU

The ODYSSE IV can adapt Socket 478 Intel® Celeron® or Pentium IV CPU. Upgrading the CPU can increase the system performance.

The ODYSSE's motherboard provides one 478-pin ZIF socket (Socket 478). The CPU must come with a CPU fan with a heat sink on to avoid overheating.

To install a CPU or upgrade a new CPU, follow the instructions below.

1. If there is an existing CPU on the socket, remove the CPU cooling fan first. Then remove the CPU by pulling the lever out a little and raising it, then lifting out the existing CPU from the socket.
2. To insert the CPU into the socket, the notch on the corner of the CPU (the corner with golden dot) should point toward the end of the socket lever. If the insertion of the CPU to the socket is not easy, check whether the CPU pins correspond with the holes on the socket.
3. After inserting the CPU into the socket, pull the lever down to make sure the CPU is in place.
4. The CPU cooling fan comes with a 3-pin power wire. Connect the power wire to the 3-pin power connector on the motherboard. Tie the power wires together with a nylon cable tie.
5. There are two silver clips on the CPU socket. Make sure the cooling CPU fan clips click into place.

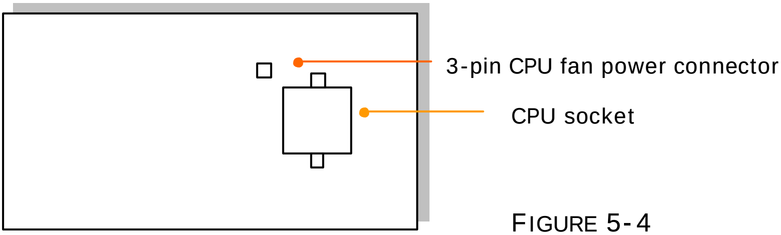


FIGURE 5-4

5.3. Installing the DDR Memory Module

The ODYSSE 120/150/170 IV system control board provides 2 x 184-pin DDR socket, able to support DDR memory from 128MB up to 1GB. To install the memory module, follow the instructions below.

1. Find the 184 pin DDR socket on the motherboard
2. There are two white eject levers at each end of the DDR socket. Push them outward until they separate from the two vertical posts.
3. Holding the memory module with the notch on the upper right corner, then insert the memory module into the DDR socket at 90° angle.
4. Push the two eject levers toward the vertical posts until they click into place. The memory module is now upright.
5. Retain the memory module to the DDR socket by firmly fastening the DDR and the eject levers together with nylon cable ties.

The system is able to auto detect the new memory size and there is no need to change the system configuration after installation.

Make sure that the memory module you are using can handle the specified DDR MHz. Inadequate memory module will make the computer unable to boot up.

5.4. Motherboard Assembly

The motherboard is the first component to be assembled to the system compartment. Follow the steps below to assemble the motherboard to the system chassis. Make sure the CPU with cooling fan and DDR are already properly installed to the motherboard before the motherboard is attached to the system chassis. (Refer to Sec. 5-2 and 5-3 for CPU and DDR installation).

1. The lower side of the chassis has a rectangle opening at the bottom of the chassis. Make the lower side of the chassis to be near you.
2. From your point of view, the motherboard module is to be installed to the lower side of the system compartment.
3. Tape the motherboard insulator (5) (Fig. 5-1 to 5-3 (5)) to the motherboard (6) first. The insulator is to separate the electronic components on the reverse side of the motherboard from the metal compartment to prevent short circuitry caused during system operation.
4. Fix the motherboard (6) with an insulator to the chassis with eight PMS M3*6 screws.

5.5. Touch Controller Assembly

If a touchscreen is integrated with the system, the touchscreen controller is to be installed right after the installation of the motherboard.

For easy maintenance in the future, the touch controller is to be installed to a bracket rather than to the system compartment directly. From your point of view, there is a rectangle opening at the left upper side of the chassis. Insert the touch controller bracket to the opening and retain it to the chassis with 2 FMS 3*5 screws.

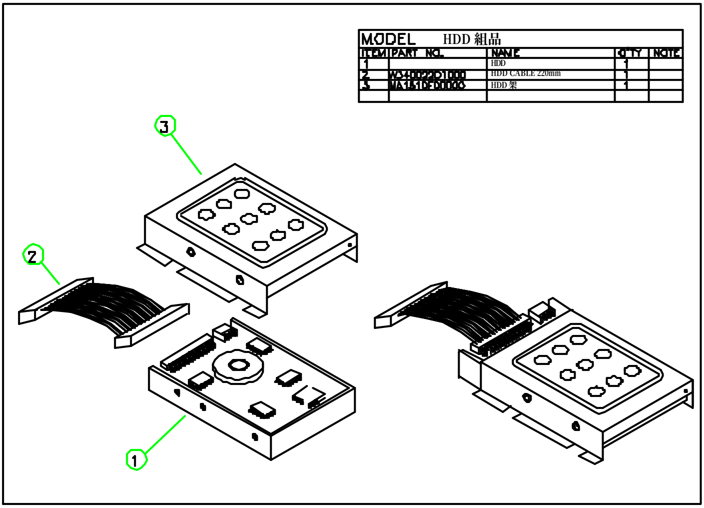
For easy assembly, the related cables are to be connected first.

1. For Elo touch, the touchscreen cable (Fig. 5-1. (14)) is a 2*5-pin to 2*5-pin flat cable. One end is connected to P1 on the touchscreen controller first.
2. There is a 2-pin (black & red) power wire to provide the power source for the touchscreen. Connect one end to P2 on the controller.
3. Connect the other end of the 2*5-pin to 2*5-pin flat cable to the onboard COM3 b and connect the other end of the 2-pin power wire to the motherboard's CN1.
4. Fix the touchscreen controller (13) to the bracket with 2 PMS M3*6 screws.
5. Fold both cables properly.
6. Make sure the two screws at the outward upper side of the chassis are also properly fixed.

5.6. HDD Module Assembly

The ODYSSE provides enough space to build in a 3.5” hard disk drive in the system compartment. The following steps show the way to install an internal hard disk drive.

1. Make the chassis lower side near you. Now, from your point of view, the 3.5" HDD module is to be installed to the right upper side of the system compartment.
2. Refer to Figure 5-5. Fix the hard disk drive (1) to the HDD bracket (3) with one FTS 3*5 screw.
3. Connect the one end of the 40-pin IDE ribbon cable (2) to hard disk drive.
4. There are two clips at the bottom of the compartment used to hold the HDD module to the system compartment. Insert the HDD module to the compartment and clip it into place. Fix the HDD module to the chassis with one 3*5 FMS M3*4 screw outside of the right upper side of the chassis.
5. Make sure the other end of the 40-pin IDE ribbon cable is connected to the motherboard IDE1 connector.



MODEL HDD 組品

ITEM	PART NO.	NAME	Q'TY	NOTE
1		HDD	1	
2	W340022D1000	HDD CABLE 220mm	1	
3	MA151DFD0000	HDD 架	1	

FIGURE 5-5: HDD INSTALLATION

5.7. Touchscreen or Front Bezel Assembly

The ODYSSE is able to accommodate Elo analog resistive touch or Intelli (SAW) touch or 3M capacitive touchscreen. PLEASE NOTE THAT WHEN DIFFERENT TOUCH MODULE IS INSTALLED, DIFFERENT TOUCHSCREEN METAL BRACKETS ARE NEEDED. YOU CAN NOT REPLACE ONE TYPE OF TOUCH PANEL WITH THE OTHER WITHOUT CHANGING THE TOUCHSCREEN METAL BRACKETS USED TO HOLD THE TOUCH PANEL TO THE FRONT BEZEL.

The following steps illustrate the ways to assemble the toucshcreen to the front bezel. Refer to Fig. 5-7.

1. There are 4 one-side adhesive rubber strips (2 & 3). Attached the 4 rubbers to the front bezel (1). The 4 rubbers act as bumpers to absorb the pressure when the touchscreen is fixed to the front bezel.
2. There are 4 metal brackets (5) & (6) used to fix the touchscreen to the front bezel. The metal brackets have to be taped with foam sponge strips (7) & (8).
3. Then, fix the touchscreen (4) to the front bezel with the 4 metal brackets with two PMS M3*6 screws for each. The foam sponges are used to absorb the pressure cause by the four metal brackets when driven tightly to the touchscreen.

If no toushcreen is installed, there are two options. One is to put a resilient glass instead. The advantage of putting a resilient glass is to protect the LCD panel.

The other option is to fix 4 bronze bolts (6 mm) to the LCD bracket to push the LCD panel forward to make up the gap between the LCD and the front bezel.

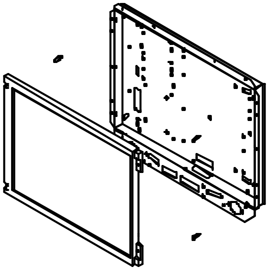
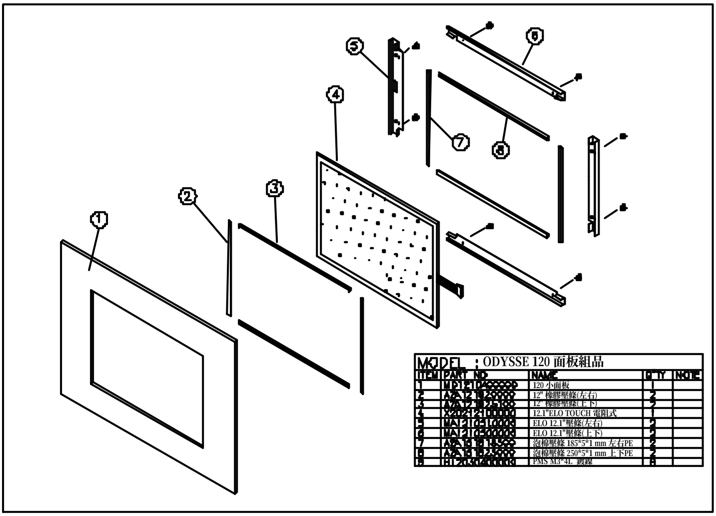


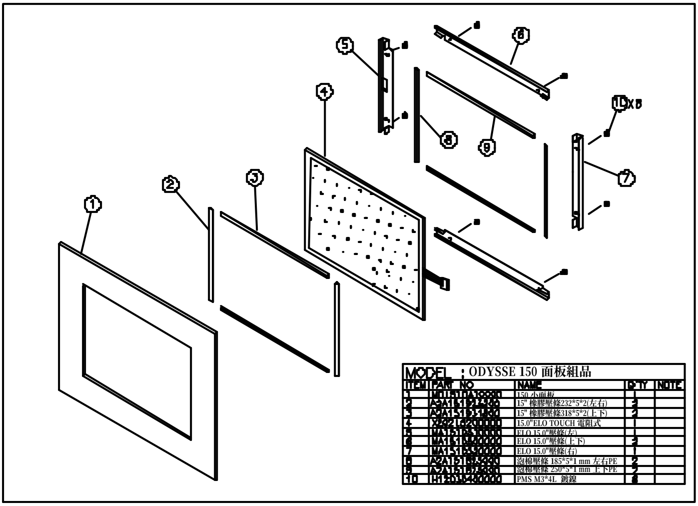
FIGURE 5-6: ODYSSE W/O TOUCH



MODEL : ODYSSE 120 面板組品

ITEM	PART NO	NAME	Q'TY	NOTE
1	MP1210A0000P	120 小面板	1	
2	A2A121829000	12" 橡膠壓條(左右)	2	
3	A2A121825100	12" 橡膠壓條(上下)	2	
4	X20212100000	12.1"ELO TOUCH 電阻式	1	
5	MA1210510000	ELO 12.1"壓條(左右)	2	
6	MA1210500000	ELO 12.1"壓條(上下)	2	
7	A2A161818500	泡棉壓條 185*5*1 mm 左右PE	2	
8	A2A161825000	泡棉壓條 250*5*1 mm 上下PE	2	
9	H12030400000	PMS M3*4L 鍍鎳	8	

FIGURE 5-7: ODYSSE 120 FRONT BEZEL ASSEMBLY



MODEL : ODYSSE 150 面板組品

ITEM	PART NO	NAME	Q'TY	NOTE
1	MD1510A10000	150 小面板	1	
2	A2A151923200	15" 橡膠壓條232*5*2(左右)	2	
3	A2A151931800	15" 橡膠壓條318*5*2(上下)	2	
4	X24216200000	15.0"ELO TOUCH 電阻式	1	
5	MA1510510000	ELO 15.0"壓條(左)	1	
6	MA1510500000	ELO 15.0"壓條(上下)	2	
7	MA1510520000	ELO 15.0"壓條(右)	1	
8	A2A151818500	泡棉壓條 185*5*1 mm 左右PE	2	
9	A2A151825000	泡棉壓條 250*5*1 mm 上下PE	2	
10	H12030400000	PMS M3*4L 鍍鎳	8	

FIGURE 5-8: ODYSSE 150 FRONT BEZEL ASSEMBLY

5.8. LCD Module Assembly

Figure 5-9, 5-10 & 5-11 illustrate the way to assemble the ODYSSE's LCD module.

The LCD does not fix to the main system directly. Rather, it is to be fixed to a LCD holder, then to the main system. The assembly of ODYSSE 120 LCD module slightly differs from that of ODYSSE 150.

ODYSSE 120

1. Refer to Figure 5-9. There are two LCD brackets (2) & (3) used to fix to the LCD panel (1) to the LCD holder (11) from the up & down sides.
2. Fix the LCD to the LCD holder with four PMS 3*8 screws.
3. The standard LCD used in ODYSSE 120 is SANYO MXS121022010 or its equivalent. It is a TTL interface LCD. As the motherboard onboard display is an LVDS controller, to connect the onboard LVDS controller to the LCD, an LVDS receiver board is needed.
4. Plug the LVDS board to LCD connector located at the rear side of the LCD panel first.
5. The ODYSSE 120 LCD cable is a 35cm DF14-20 to DF11-30 (2*15) cable. Insert the DF14-20 end into the opening at the rear side of the LCD holder and have it firmly plugged to the DF11-20 pin connector on the LVDS board. The DF11-30 end is for later connection to the motherboard's LCD1.
6. Attach the insulator (10) to the invertor (9).
7. The invertor cable (8) is a 4-pin to 4-pin wire with wafer connectors at both sides. Connect the one end to invertor first. The other end is for later connection to the INV1 on the motherboard.
8. Connect the pink-white wires from the LCD to the invertor.
9. The invertor module is to be fixed at the right middle side of the LCD holder with the up side down.

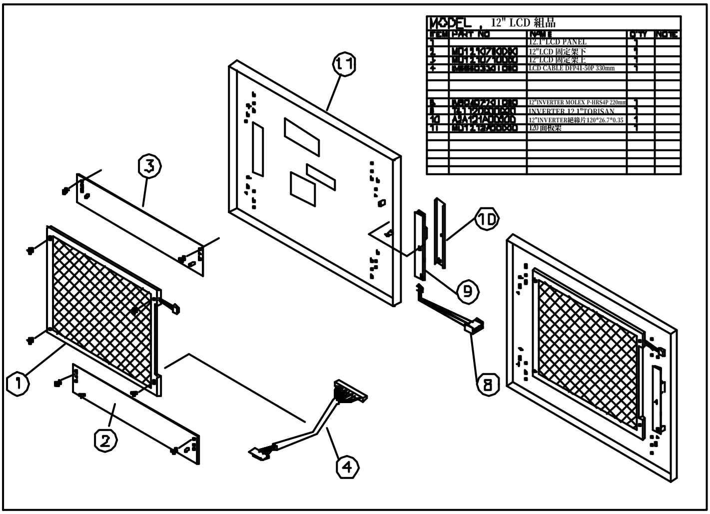
ODYSSE 150

1. Refer to Figure 5-10. The standard LCD used in ODYSSE 150 is 15.0” 24-bit LVDS CHI MEI M150X4-L06 or its equivalent.
2. There are two LCD brackets used to fix to the LCD panel to the LCD holder from the left & right sides. Fix the LCD brackets to the LCD panel with four FMS M2.5*3 screws at each side.
3. Fix the LCD panel module (1) to the LCD holder (9) with two PMS M3*6 screws.
4. As the 15.0’LCD, M150X4-L06 is an LVDS LCD, no LVDS receiver board is needed.
5. The ODYSSE 150 LCD cable is a 35cm DF19-20 to DF11-30 (2*15) cable. Insert the DF19-20 end of the cable into the opening at the rear side of the LCD holder and have it firmly plugged to the DF19-20 pin connector on the LCD panel. The other end is for later connection to the LCD1 on the motherboard.
6. Attach the insulator (6) to the inverter (7).
7. The inverter cable (8) for ODYSSE 150 is a 7-pin to 4-pin wire with wafer connectors at both sides. Connect the 7-pin end to the inverter first. The other end is for later connection to the INV1 on the motherboard.
8. Connect the pink-white high voltage wires from the LCD to the inverter.
9. The inverter module is to be fixed at the reverse side of the LCD holder after the LCD module is to be installed to the system.

ODYSSE 170

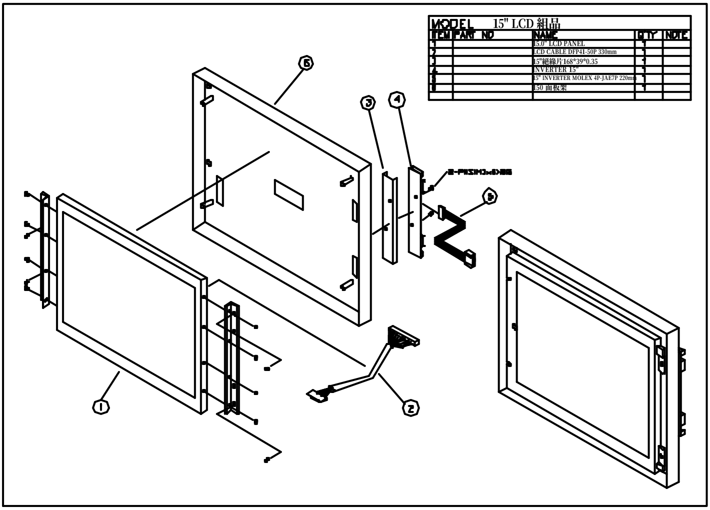
The assembly of ODYSSE 170 LCD module is basically same to that of CHI-MEI 15.0” LVDS LCD, M150X4-L06.

1. Refer to Figure 5-11. The standard LCD used in ODYSSE 170 is 17.0” 48-bit LVDS CHI MEI M170E5-L01 or its equivalent.
2. There are two LCD brackets used to fix to the LCD panel to the LCD holder from the left & right sides. Fix the LCD brackets to the LCD panel with four FMS M3*4 screws at each side.
3. The LCD cable (4) is a 35cm JAE FI X30M to DF11-30 cable. Insert the 30-pin end into the opening at the rear side of the LCD holder and have it firmly plugged to the 30-pin connector at the rear side of the LCD panel. The DF11-30 end is for later connection to the motherboard’s LCD1.
4. Attach the insulator (6) to the inverter (7).
5. The inverter cable (8) for ODYSSE 170 is a 7-pin to 4-pin wire with wafer connectors at both sides. Connect the 7-pin end to the inverter first. The other end is for later connection to the INV1 on the motherboard.
6. Connect the pink-white high voltage wires from the LCD to the inverter.
7. The inverter module is to be fixed at the reverse side of the LCD holder after the LCD module is to be installed to the system.



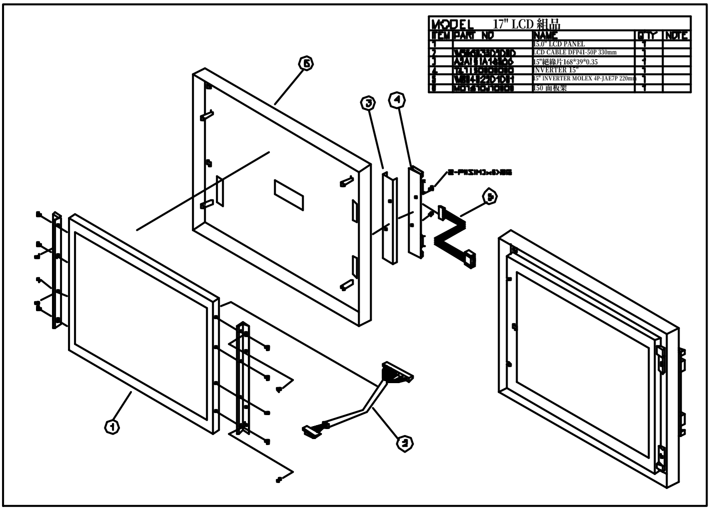
MODEL ， 12" LCD 組品				
ITEM	PART NO	NAME	Q'TY	NOTE
1		12.1"LCD PANEL	1	
2	[illegible]	12"LCD 固定架下	1	
3	[illegible]	12"LCD 固定架上	1	
4	[illegible]	LCD CABLE DFP41-50P 330mm	1	
8	[illegible]	12"INVERTER MOLEX P-HRS4P 220mm	1	
9	[illegible]	INVERTER 12.1"TORISAN	1	
10	[illegible]	12"INVERTER絕緣片120*26.7*0.35	1	
11	[illegible]	120 面板架	1	

FIGURE 5-9: **ODYSSE 120** LCD MODULE ASSEMBLY



MODEL 15" LCD 組品				
ITEM	PART NO	NAME	Q'TY	NOTE
1		15.0" LCD PANEL	1	
2		LCD CABLE DFP41-50P 330mm	1	
3		15"絕緣片168*39*0.35	1	
4		INVERTER 15"	1	
5		15" INVERTER MOLEX 4P-JAE7P 220mm	1	
6		150 面板架	1	

FIGURE 5-10: **ODYSSE 150** LCD MODULE ASSEMBLY



MODEL 17" LCD 組品				
ITEM	PART NO	NAME	Q'TY	NOTE
1		15.0" LCD PANEL	1	
2	[illegible]	LCD CABLE DFP41-50P 330mm	1	
3	[illegible]	15"絕緣片168*39*0.35	1	
4	[illegible]	INVERTER 15"	1	
5	[illegible]	15" INVERTER MOLEX 4P-JAE7P 220mm	1	
6	[illegible]	150 面板架	1	

FIGURE 5-11: **ODYSSE 170** LCD MODULE ASSEMBLY

After finishing the LCD module installation, the module is to be assembled to the front bezel module, then to the chassis with the motherboard and touch controller already on.

1. Use special air blower to blow any dust between the LCD and touchscreen before the two modules are assembled together. Retain the LCD module and the front bezel module together with 8 FMS M3*6 screws.
2. Install the whole front bezel module with LCD already on to the system chassis with the motherboard, touchscreen controller and HDD module already on.
3. The LVDS cable is already at the rear side of the LCD holder through the cutout. Make sure the other end is to go through the rectangle opening at the rear side of the system chassis and have it connected to LCD connector, LCD1 on the motherboard.

SPECIAL ATTENTION NEEDS TO BE PAID WHEN PLUGGING THE LVDS OR LCD CABLE TO THE LCD HEADER CONNECTOR ON THE MOTHERBOARD. MAKE SURE PIN 1 OF THE ONBOARD LCD CONNECTOR MATCH PIN 1 OF THE CABLE. ANY WRONG PLUGGING OR SHIFTED PLUGGING WILL DAMAGE THE LCD PANEL OR LEAD TO MAL-FUNCTION.

4. The touchscreen 5-pin flat cable should go through the rectangle opening at the left side of the LCD holder, then get into the chassis from the oval-shape cutout at the left side of the chassis. Connect this cable to the touchcreen controller. Connect the other end of the touch power cable to the onboard CN1.
5. For ODYSSE 150 and 170, the inverter now is to be fixed to the left outward side of the chassis and have the inverter cable go into the chassis through the cutout. Connect the other end of the inverter cable to the motherboard's INV1.

5.9. CD-ROM/DVD-ROM/FDD Module Assembly

The ODYSSE provides enough space to accommodate a CD-ROM or CD-RW or DVD-ROM or a 3-in-1 COMBO unit and a floppy disk drive. The CD-ROM or DVD-ROM drive used in the ODYSSE 120/150 is not the common 5.25” drive seen in computer stores. Rather, it is a slim type drive widely used in notebook computers.

The ODYSSE 120/150 can connect to an external floppy disk drive or an internal slim type floppy disk drive, depending on the system requirement.

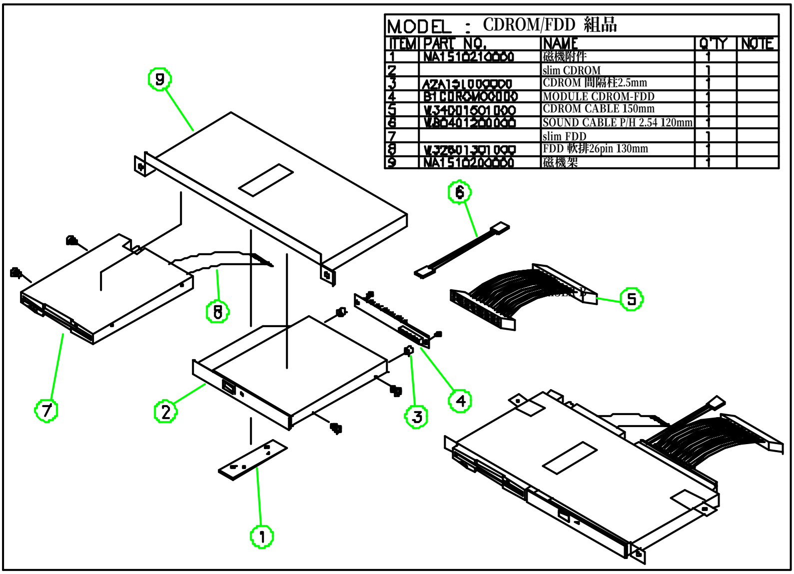
Please note that either an external floppy disk drive or internal floppy disk drive can be used.

5.9.1. Internal CD-ROM/FDD Assembly

The following steps show the ways to install an internal CD-ROM or DVD-ROM and floppy disk drive.

1. Make the chassis’ lower side near you. Now, from your point of view, the CD-ROM/FDD module is to be installed on the left side of the chassis.
2. Refer to Figure 5-12. Attach the CD-ROM board (4) to the slim CD-ROM (2) and fix them together with 2 IMS screws.
3. Insert the CD-ROM module to the CD-ROM/FDD bracket (9) and fix them together with two IMS M2*2.25 screws.
4. There is a 40-pin 3-connector IDE ribbon cable. Connect one end to the CD-ROM board.
5. Attach one end of the 26-pin FDD flat cable (8) to the slim floppy disk drive (7) first.
6. Insert the FDD module to the CD-ROM/FDD bracket and fix them together with 2 FMS screws.
7. There is a small metal bracket (1) used to firmly fix the CD-ROM and FDD modules to the CD-ROM/FDD bracket. This small bracket is to prevent the CD-ROM/FDD from moving when installed to the FDD/CD-ROM bracket.
8. Connect another end of the 3-connector 40-pin end of the CD-ROM ribbon cable to the motherboard’s IDE2.

9. There is a 4-pin CD audio-in wire to be plugged to CD1 on the motherboard. Connect the other end of the CD-Audio wire (6) to the 4-pin black pin connector on the CD-ROM board.
10. Connect the other end of the FDD cable to the FDD1 on the motherboard.
11. Fix the whole unit to the chassis and fix them together with 3 FMS M3*5 screws.

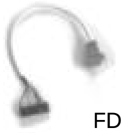


MODEL : CDROM/FDD 組品

ITEM	PART NO.	NAME	Q'TY	NOTE
1	MA1510210000	磁機附件	1	
2		slim CDROM	1	
3	AZA15L000000	CDROM 間隔柱2.5mm	1	
4	B1CDROM00000	MODULE CDROM-FDD	1	
5	W34001501000	CDROM CABLE 150mm	1	
6	W80401200000	SOUND CABLE P/H 2.54 120mm	1	
7		slim FDD	1	
8	W32801301000	FDD 軟排26pin 130mm	1	
9	MA1510200000	磁機架	1	

FIGURE 5-12: CD-ROM/FDD MODULE ASSEMBLY

5.9.2. External FDD Connection



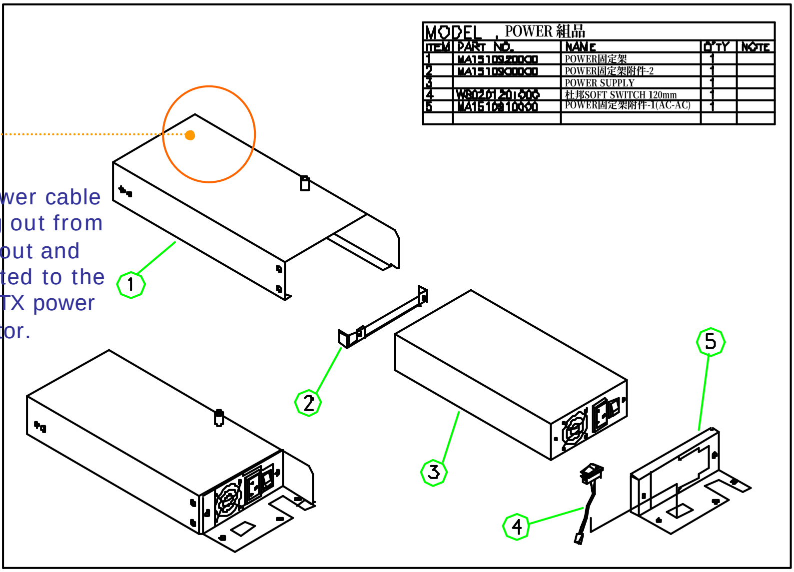
FDD cable

1. Use the provided 15-34 pin FDD cable (see below figure) to connect to the system's 15-pin FDD D-sub connector located at the rear side of the cover.
2. Connect the other end (34 pin) of the FDD cable to a standard 3.5” FDD. Match pin 1 of the FDD and pin 1 of the cable.
3. To drive the floppy disk drive, it will need 5V power. Connect the provided FDD power cable to the floppy disk drive to the +5V/12V DC-out connector to obtain 5V power for the device.

5.10. Power Module Assembly

The power supply is to be integrated with the power brackets before it is installed to the panel PC system. The following diagram shows the steps to assemble the ATX power module. For the specification of the power supply, please refer to APPENDIX.

1. Refer to Figure 5-13. Attach the power fix bracket (2) to the power supply (3) and fix them together with 2 FMS screws (3*5). This small bracket is used to prevent the power supply from moving around in the power bracket.
2. Insert the power supply to power bracket (1) and fix them together with four 3*5 screws.
3. Manage all the power cables from the power supply properly.
4. Insert the power switch (4) to power bracket (5). The other end of the switch cable is to be connected to the 2-pin POWER ON switch, CN3 on the motherboard.
5. Plug the ATX power cable to the ATX power connector, ATXP2 on the motherboard.
6. Plug the ATX12V power cable to the ATX12V power connector, ATXP1 on the motherboard
7. Connect the big 4P end of the power cable to the HDD.
8. Connect the small 4P end the CD-ROM board.
9. The power module is to be installed to the system right on the top of the CD-ROM/FDD module.
10. Attach a nylon adhesive mounting base to the surface of the power bracket.
11. Anchor the power wire bundle to the mounting base with a cable tie.



MODEL , POWER 組品

ITEM	PART NO.	NAME	Q'TY	NOTE
1	MA1510920000	POWER固定架	1	
2	MA1510900000	POWER固定架附件-2	1	
3		POWER SUPPLY	1	
4	W80201201000	杜邦SOFT SWITCH 120mm	1	
5	MA1510810000	POWER固定架附件-1(AC-AC)	1	

The power cable coming out from the cutout and connected to the MB's ATX power connector.

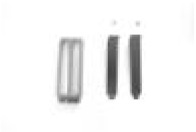
FIGURE 5-13: ODYSSE AC POWER MODULE

5.11. Expansion Outlets & Riser Card Assembly

The ODYSSE 120/150/170 provides PCI/ISA expansion slots for system expansion. Via the specially designed riser card, the system can accommodate either two PCI or one PCI plus one ISA expansion cards; all the connectors of the expansion card will come out from the expansion outlet on the left side of the chassis for further cable connection.

The expansion outlet bracket has to be installed to the system before plugging the riser card to the motherboard PCI/ISA expansion slot.

1. When the system is reverse with the rear side facing you and lower side near you, the expansion outlets are located at the right upper side of the chassis.
2. Install the expansion window (Fig. 5-1 (11)) to the chassis and fix them together with 2 FMS screws.



3. If no expansion card is plugged to the riser card, seal the expansion outlets with the 2 metal slips located inside the expansion outlet.
4. The riser card (8) is to be fixed with the metal bracket (9) with two FMS screws first. Then, plug the riser card to the onboard PCI/ISA slot. Make sure the riser card is firmly plugged to the motherboard to prevent any bad connection.

Due to the internal space limitation, the expansion card can not exceed 190*120 (L*W) mm if no internal FDD is installed. However if an internal FDD is installed, the ISA card can not exceed 170*120 mm.

5.12. Back Panel Assembly

The back panel module is the last module to be integrated to the ODYSSE main system. Refer to Fig. 5-14.

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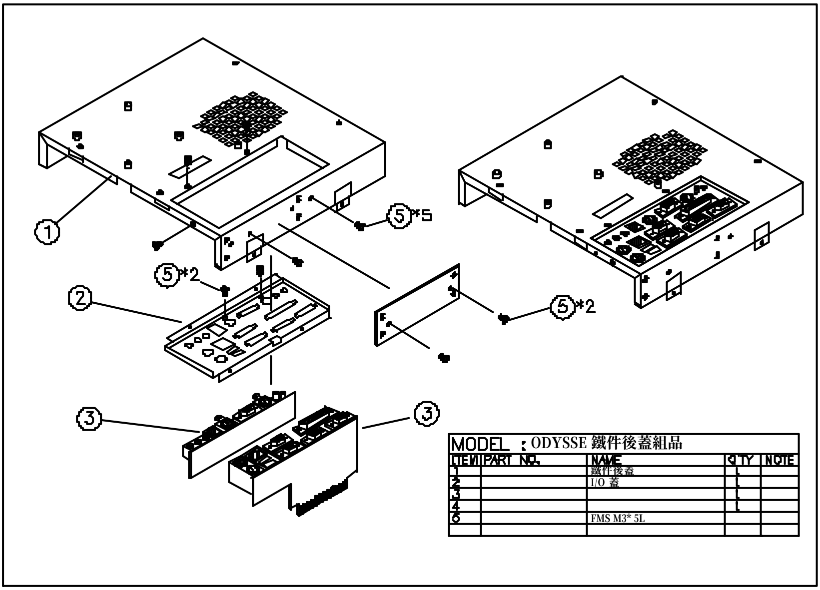
1. Attach the IO-005 (3) I/O board to the I/O bracket (2) and fix them together with ten secure bolts.
2. Attach the IO-006 I/O board (3) to the I/O bracket and fix them together with two secure bolts and two 3*5 screws.
3. Link the two I/O boards with a 2*22 flat cable.
4. Fix the complete I/O module to the metal back panel (1) four FMS M3*5 screws.
5. Insert the external IDE board (Fig. 5-1 to 5-3 (20)) to the back panel and connect the 3rd end of the IDE ribbon cable to the IDE board with one end already on the CD-ROM board and the other end already on the IDE2 on the motherboard.
6. Plug the back panel module to the IOINF 1.
7. Retain the back panel module to the main system with FMS M3*4 screws.
8. Attach the filtering bracket (Fig. 5-1 to 5-3, 17) to the chassis with 4 FMS M3*4 screws. For specific environmental application, a filter can be inserted between the chassis and this bracket to prevent dust get into the system.
9. There are three additional metal brackets to be attached to the system to make the ODYSSE a complete unit. Refer to Figure 5-1 & 5-2 & Figure 5-3.



MODEL ：ODYSSE 鐵件後蓋組品

ITEM	PART NO.	NAME	Q'TY	NOTE
1		鐵件後蓋	1	
2		I/O 蓋	1	
3			1	
4			1	
5		FMS M3* 5L		

FIGURE 5-14: ODYSSE BACK MODULE ASSEMBLY

6. SYSTEM MOTHERBOARD & I/O BOARD

The system controller used in the ODYSSE IV system is a special-design Intel Socket 478 Celeron/Pentium® IV multimedia motherboard. All the onboard signal is connected to the external I/O ports via two I/O boards. This chapter provides jumper definition and connector signal of the motherboard and the I/O boards.

6.1. ODYSSE IV Motherboard

This section provides background information and detail specification on the ODYSSE 120/150 IV system engine, PC710B. Sections include:

- ✧ General Information
- ✧ Features
- ✧ Specification
- ✧ Board placement & Dimension

6.1.1. General Information

The **PC710B** is an Intel Pentium IV (Socket 478) multimedia ATX motherboard with LCD/VGA controller, Ethernet 100/10, AC97 sound, and IDE flash disk. By integrating single chip, Intel 845G, the PC710B provides a high performance/low cost desktop solution.

Highly integrated, the PC710B can adapt Intel® Socket 478 Celeron/Pentium IV CPU. Onboard features include four serial ports, one multi–mode Parallel ports, a floppy drive controller and a PS/2 keyboard PS/2 mouse interface. The built-in high speed PCI IDE controller supports both PIO and ATA 100 mode. Up to four IDE devices can be connected, including large hard disks, CD-ROM drives and other IDE devices. The full PC functionality coupled with its multi-I/Os stand ready to accommodate a wide range of PC peripherals. Compact in size and with its highly integrated multimedia and networking functions, the PC710B is the most powerful PC engine to build any small footprint all-in-one PC system for integration into any space-constricted embedded applications.

Fully configurable and with its modular design, the PC710B is an ideal platform for any consumer computing applications where space is a premium.

6.1.2. Specifications

PC710B: Multimedia Socket 478 Intel Pentium IV Motherboard with XGA, LCD, Ethernet & Audio Interface

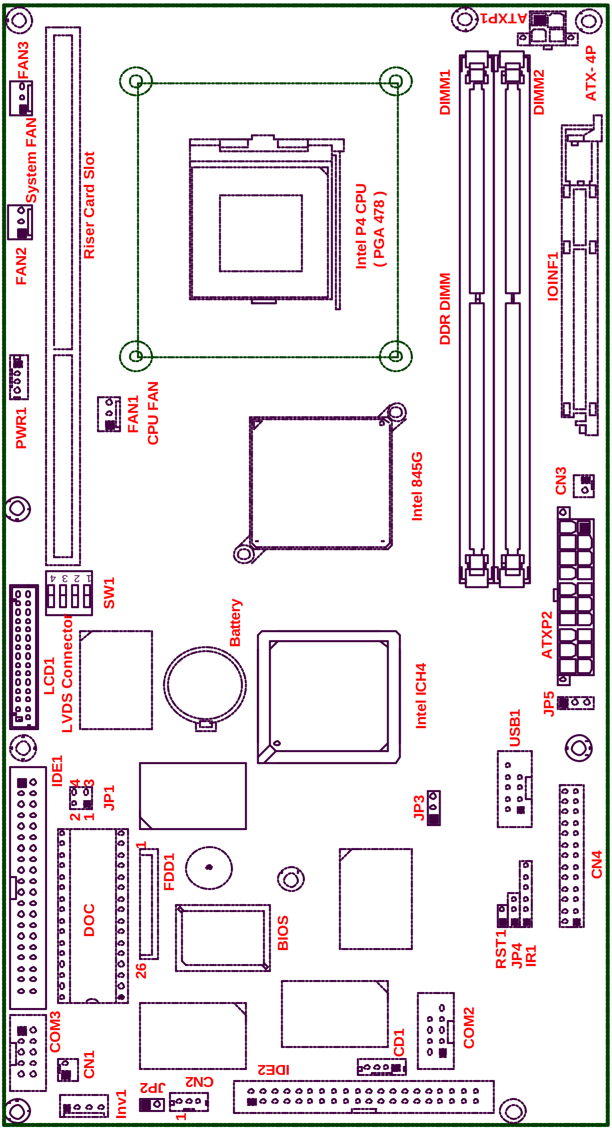
- **CPU**: Intel Socket 478
  - Intel Pentium IV mPGA 2.26GHz-3.06GHz/533MHz
  - Intel Pentium IV mPGA 1.8GHz-2.4GHz/400MHz
  - Intel Celeron mPGA 1.7GHz-2.0GHz/400MHz
- **Main Chipset**: Intel 845GV/ICH4
- **System BIOS**: Award PnP Flash BIOS
- **System Memory**: 2 x 184 pin DDR sockets supporting system memory up to 2GB
- **L2 Cache**: CPU built-in 256K/512K
- **Standard I/O**
  - Serial ports x 4
  - Parallel port x 1
  - ATA 100/66 IDE x 2: supports up to 4 IDE devices
  - FDD x 1: supports up to 2 floppy disk drives
  - PS/2 Keyboard Interface x 1
  - Internal Keyboard Interface x 1
  - PS/2 Mouse Interface x 1
  - USB Interface x 6: supports USB 2.0 devices
- **IrDA:** 6-pin header with CIR support
- **Ethernet**
  - 100/10 Base-T Ethernet
  - Support WAKE-ON-LAN

- **Display**
  - LVDS controller
  - Supports 2-channel LVDS LCD, resolution up to 1600x1200
  - Integrated 2D/3D graphics engine, 4X AGP
  - Share system memory architecture able to utilize the display memory size up to 64MB
  - Maximum resolution for video chipset: 640x480, 800x600, 1024x768, 1280x1024, 1600x1200, 1920x1200, True-color
- **Audio Function**
  - Full duplex and independent sample rate converter for audio recording & playback
  - Supports Microsoft DirectSound
  - 3D positional audio effects
  - Hi-performance, mixed-signal, stereo
  - MIC-In, Speaker-Out, Line-In
  - Pin header for CD-audio in
- **Hardware Monitor**
  - Monitoring processor & system
  - Monitoring 5VSB, VBAT, 1.5V, 3.3V, +5V, +12V, -12V, and processor voltages
  - Monitoring processor, chassis fan speeds
  - Controlling processor and chassis fan speed and failure alarm
  - Automatic fan on/off control
  - Read back capability that displays temperature, voltage and fan speed
  - Supporting Intel processor thermal diode output (real processor temperature)
- **Expansion Bus: PCI / ISA x 1**
- **Power:** ATX power
- **Dimension**: 300*146 mm (L*W)

Specifications are subject to change without notice.

6.1.3. Locating Jumpers & Connectors

The following figure helps you to locate the jumpers and connectors on the motherboard.



6.1.4. Jumpers & Jumper Setting

The table below lists the function of each jumper. The related jumper settings are shown in the coming sections.

Jumper	**Description**
JP1	DOC Address Selection
JP3	Clear CMOS
JP5	AT/ATX power selection

6.1.4.1. DOC 2000 Address Setting (JP1)

1-2	D000
3-4	D800

6.1.4.2. Clear CMOS (JP3)

1-2	Normal
2-3	Clear CMOS

6.1.4.3. AT/ATX power selection (JP5)

1-2	ATX Power Function
2-3	AT Power Function

6.1.5. Connectors & Pin Assignment

The table below lists the function of each connector on the PC710B. Their corresponding pin assignments will be shown in the following sections.

Connector	**Description**
ATXP1	ATX +12V Power Connector
ATXP2	ATX Power Connector
CN1	Power Connector For Touch Screen
PWR1	Power Connector For CD- ROM
INV1	LCD Inverter connector
LCD1	LCD Connector
USB1	USB Port Connector
IDE1	Primary IDE connector
IDE2	Primary IDE connector
FDD1	FDD connector
COM2	Serial Port 2
COM3	Serial Port 3 (For Touch Screen)
CD1	CD Audio In
IR1	IR/CIR connector
CN4	KB/Mouse/Speaker/LED Connector
EISA1	PCI/ISA Expansion Slot
IOINF1	For I/O Connector
FAN1	CPU FAN Connector
FAN2/FAN3	System FAN Connector
JP2	External SMI Connector
CN3	ATX Power ON/OFF
RST1	RESET Connector
CN2	EXT. LAN Wake up Connector

6.1.5.1. ATXP1: ATX +12V Power Connector

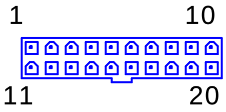
ATXP2 is a standard +12V ATX power connector. Its pin assignments are listed below

Pin #	Signal	Pin #	Signal
1	GND	3	+12V
2	GND	4	+12V

6.1.5.2. ATXP2: ATX Power Connector

ATXP1 is a standard ATX power connector. This connector is provided to connect to an ATX power supply. The plug of the power supply will only insert in one orientation due to the different hole size. Find the proper orientation and push down the power connector firmly to make sure the pins are aligned. Its pin assignments are listed below:

Pin #	Signal	Pin #	Signal
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	PWROK	18	-5V
9	SB5V	19	+5V
10	+12V	20	+5V



6.1.5.3. CN1: Touchscreen Power Connector

Pin #	Signal
1	GND
2	VCC

6.1.5.4. PWR1: CD-ROM Power Connector

Pin #	Signal
1	+12V
	GND
	GND
2	VCC

6.1.5.5. INV1: LCD Inverter Connector

Pin #	Signal
1	Backlight ADJ
2	GND
3	Backlight Enable
4	12V

6.1.5.6. USB1: USB Port Connector

Pin #	Signal	Pin #	Signal
1	USB VCC	2	USB VCC
3	USB P4-	4	USB P5-
5	USB P4+	6	USB P5+
7	GND	8	GND
9	KEY	10	HEAD#

6.1.5.7. CN3: LCD Connector

Pin #	**Signal**	**Pin #**	**Signal**
1	YA0M	2	YA0P
3	YA1M	4	YA1P
5	YA2M	6	YA2P
7	GND	8	CLKAM
9	CLKAP	10	YA3M
11	YA3P	12	YB0M
13	YB0P	14	GND
15	YB1M	16	YB1P
17	GND	18	YB2M
19	YB2P	20	CLKBM
21	CLKBP	22	YB3M
23	YB3P	24	GND
25	VCC3	26	VCC3
27	VCC3	28	VCC
29	VCC	30	VCC

6.1.5.8. IDE1/IDE2: Primary/Secondary HDD

The PC710B provides 2 sets of 40-pin IDE connectors. The built-in high speed PCI IDE controller supports both PIO and ATA 100 mode. Up to four IDE devices can be connected, including large hard disks, CD-ROM drives and other IDE devices. Their corresponding pin assignments are listed below;

Pin #	**Signal**	**Pin #**	**Signal**
1	RESET#	2	GND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA10
9	DATA 4	10	DATA11
11	DATA 3	12	DATA12
13	DATA 2	14	DATA13
15	DATA 1	16	DATA14
17	DATA 0	18	DATA15
19	GND	20	NC
21	IDEREQ	22	GND
23	IOW#	24	GND
25	IOR#	26	GND
27	ICHRDY#	28	GND
29	DACK	30	GND
31	IDEIRQ	32	NC
33	A1	34	LID
35	A0	36	A2
37	IDECS0	38	IDECS1
39	HDD LED	40	GND

6.1.5.9. FDD1: FDD Connector

Pin #	**Signal**	**Pin #**	**Signal**
1	VCC	2	INDEX#
3	VCC	4	DSA#
5	VCC	6	DSKCHG#
7	NC	8	NC
9	NC	10	MOA#
11	NC	12	DIR#
13	RWC#	14	STEP#
15	GND	16	WD#
17	GND	18	WE#
19	GND	20	TRAK0#
21	GND	22	WP#
23	GND	24	RDATA#
25	GND	26	HEAD#

6.1.5.10. COM2

COM2 is a RS-232, 422 or 485, selected via BIOS setup.

Pin #	**Signal**	**Pin #**	**Signal**
1	DCD/422TX-	2	DSR
3	RXD/422TX+	4	RTS
5	TXD/422RX+	6	CTS
7	DTR/422RX-	8	RI
9	GND	10	KEY

6.1.5.11. COM3

COM 3 is an internal RS-232 reserved for touchscreen. Its corresponding pin assignment is listed as below;

Pin #	**Signal**	**Pin #**	**Signal**
1	DCD	2	DSR
3	RXD	4	RTS
5	TXD	6	CTS
7	DTR	8	RI
9	GND	10	VCC

6.1.5.12. CD1: CD Audio IN

Pin #	**Signal**
1	Left channel
2	CD GND
3	CD GND
4	Right channel

6.1.5.13. IR1: IR/CIR Connector

IR	
Pin #	**Signal**
1	5V
2	NC
3	IRRX
4	GND
5	IRTX
6	CIRRX

6.1.5.14. CN4: Power LED & EXT. KB/MS, USB Port

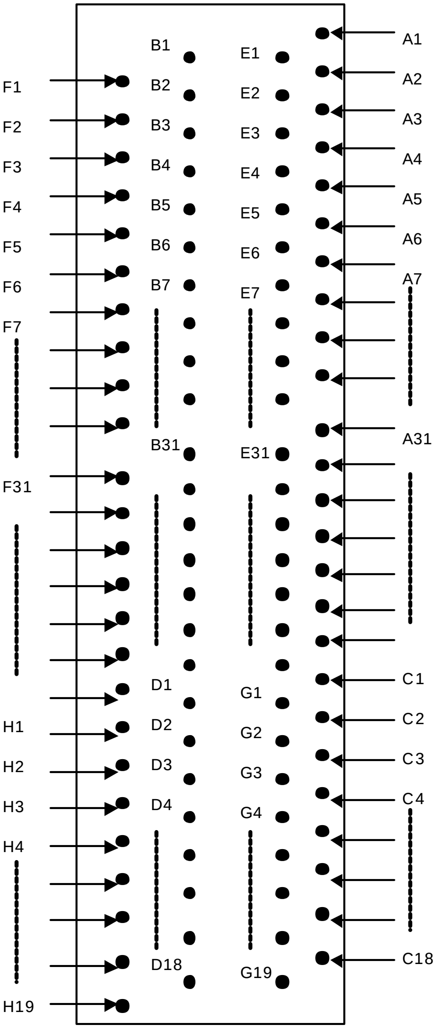
Pin #	Signal	Pin #	Signal
1	VCC	2	VCC
3	HDD LED	4	LAN LED
5	Suspend LED	6	IRTX
7	KEY	8	IRRX
9	BACKLIGHT CTRL INPUT	10	CIRRX (Option)
11	GND	12	GND
13	SPK-LO	14	SPK-RO
15	SPK-LN	16	SPK-RN
17	GND	18	GND
19	USB P2-	20	EXT.KBDAT
21	USB P2+	22	EXT.KBCLK
23	USB P3-	24	EXT.MSDAT
25	USB P3+	26	EXT.MSCLK

6.1.5.15. IOINF 1: I/O Connector

The PC710B's onboard I/O signal for LAN, USB, keyboard, mouse, VGA, TV-out, COM ports and parallel port are all mixed in the IOINF1 slot. By plugging an IO-005 I/O board and connected to another IO-006 I/O board, all the onboard signal are connected to the system external I/O ports. *PLEASE BE NOTED THAT THE IOINF1 IS A SLOT IN AGP SLOT FORM, BUT IT IS NOT TO BE PLUGGED WITH ANY AGP CARD.*

6.1.5.16. CN4: PCI/ISA Expansion Slot

The PC710B provides an ISA/PCI slot for ISA and PCI device expansion.



CN4: PCI/ISA Slot Side

CN4: PCI/ISA Slot Connector Pin Assignment

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
F1	GND	B1	GND	E1	GND	A1	IOCHK
F2	GND	B2	ISARST	E2	GND	A2	SD7
F3	INTB	B3	VCC	E3	INTC	A3	SD6
F4	INTA	B4	IRQ9	E4	INTD	A4	SD5
F5	VCC	B5	-5V	E5	VCC	A5	SD4
F6	KEY	B6	DRQ2	E6	KEY	A6	SD3
F7	VCC	B7	-12V	E7	VCC	A7	SD2
F8	PCICLK1	B8	OWS	E8	PCIRST	A8	SD1
F9	GND	B9	+12V	E9	GNT0	A9	SD0
F10	GNT3	B10	GND	E10	REQ0	A10	IORDY
F11	GND	B11	SMEMW	E11	GND	A11	AEN
F12	REQ3	B12	SMEMR	E12	PCILKE2	A12	SA19
F13	AD31	B13	IOW	E13	GND	A13	SA18
F14	AD29	B14	IOR	E14	AD30	A14	SA17
F15	NC	B15	DACK3	E15	NC	A15	SA16
F16	KEY	B16	DRQ3	E16	KEY	A16	SA15
F17	NC	B17	DACK1	E17	NC	A17	SA14
F18	AD27	B18	DRQ1	E18	AD28	A18	SA13
F19	AD25	B19	REF	E19	AD26	A19	SA12
F20	CBE3	B20	ATCLK	E20	AD24	A20	SA11
F21	AD23	B21	IRQ7	E21	AD22	A21	SA10
F22	AD21	B22	IRQ6	E22	AD20	A22	SA9
F23	AD19	B23	IRQ5	E23	AD18	A23	SA8
F24	NC	B24	IRQ4	E24	NC	A24	SA7
F25	KEY	B25	IRQ3	E25	KEY	A25	SA6
F26	NC	B26	DACK2	E26	NC	A26	SA5
F27	AD17	B27	TC	E27	AD16	A27	SA4
F28	IRDY	B28	ALE	E28	FRAME	A28	SA3

To continue…

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
F29	DEVSEL	B29	VCC	E29	CBE2	A29	SA2
F30	LOCK	B30	OSC	E30	TRDY	A30	SA1
F31	PERR	B31	GND	E31	STOP	A31	SA0
H1	SERR	D1	MEMCS16	G1	NC	C1	SBHE
H2	AD15	D2	IOCS16	G2	NC	C2	LA23
H3	AD14	D3	IRQ10	G3	CBE1	C3	LA22
H4	AD12	D4	IRQ11	G4	PAR	C4	LA21
H5	GND	D5	IRQ12	G5	GND	C5	LA20
H6	KEY	D6	IRQ15	G6	KEY	C6	LA19
H7	GND	D7	IRQ14	G7	GND	C7	LA18
H8	AD10	D8	DACK0	G8	AD13	C8	LA17
H9	AD8	D9	DRQ0	G9	AD11	C9	MEMR
H10	AD7	D10	DACK5	G10	AD9	C10	MEMW
H11	AD5	D11	DRQ5	G11	CBE0	C11	SD8
H12	AD3	D12	DACK6	G12	AD6	C12	SD9
H13	AD1	D13	DRQ6	G13	AD4	C13	SD10
H14	AD0	D14	DACK7	G14	AD2	C14	SD11
H15	KEY	D15	DRQ7	G15	KEY	C15	SD12
H16	VCC	D16	VCC	G16	VCC	C16	SD13
H17	VCC	D17	MASTER	G17	VCC	C17	SD14
H18	GND	D18	GND	G18	GND	C18	SD15
H19	GND			G19	GND		

6.1.5.17. FAN 1~3: FAN Connector

Pin #	Signal
1	GND
2	+12V
3	FAN SPEED DECECT

6.1.5.18. JP2: External SMI Connector

Pin #	Signal
1	SMI
2	GND

6.1.5.19. CN3: ATX Power ON/OFF & Reset

Pin #	Signal
1	5VSB
2	Power ON/OFF

6.1.5.20. RST1: RESET SYSTEM Connector

Pin #	Signal
1	RESET
2	GND

6.1.5.21. CN2: External LAN Wake-up Connector

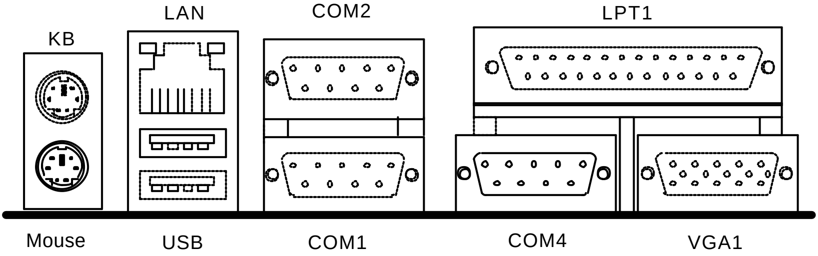
Pin #	Signal
1	5VSB
2	GND
3	LAN WAKE-UP

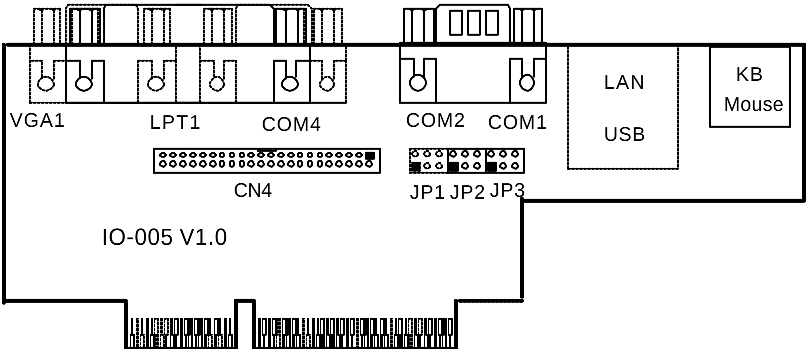
6.2. ODYSSE IV I/O Board

All the onboard I/O signal of the ODYSSE IV motherboard is connected to two I/O boards, IO-005 and IO-006 for external device connection. This section provides jumper definition and connector signal of the I/O board.

6.2.1. I/O Board-IO005

The IO-005 connects the onboard keyboard, mouse, Ethernet, USB ports, COM1, COM2, COM4 , parallel port and VGA signal for external device connection.





6.2.1.1. Jumper Setting & Connectors

6.2.1.2. Jumpers & Jumper Setting

The table below lists the function of each jumper on IO-005. The related jumper settings are shown in the coming sections.

JP3	COM1 Pin 9 power selection
JP2	COM2 Pin 9 power selection
JP1	COM4 Pin 9 power selection

The ODYSSE IV onboard COM port power selection is selected via jumper setting

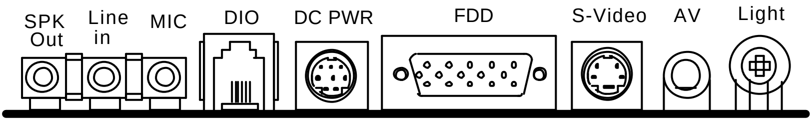
RI	5V	12V
1-2	3-4	5-6

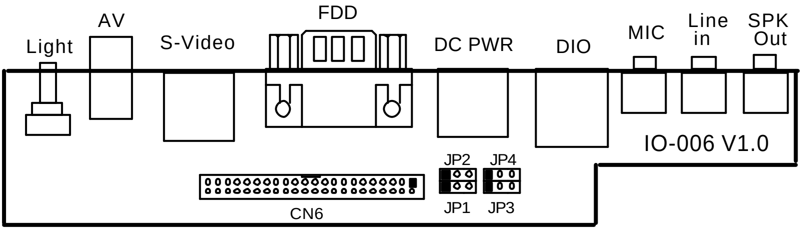
6.2.1.3. CN4: EXT. Connector

The onboard speaker-out, line-in, MIC-in, DIO, external FDD and TV-out are connected to the CN4 on IO-005. Then, via a 44-pin flat cable, these signals are linked to IO-006 for external device connection.

6.2.2. IO Board-IO006

The IO-006 is an I/O board links the onboard speaker-out, line-in, MIC-in, DIO, external FDD and TV-out for external device connection.





6.2.2.1.1. Jumpers & Jumper Setting

The DIO port address setting is selected in CMOS SETTING.
Select ADDRES 200H OR 208H
Read DIO IN BIT0~BIT3 IN DIO PORT ADDRES BIT0~3
WRITE DIO OUT BIT0~3 IN DIO PORT ADDRES BIT4~7

JP2: CN4 DIO PORT PIN2 Select

1-2	DIO IN Bit 0
2-3	DIO OUT Bit 2

JP1: CN4 DIO PORT PIN3 Select

1-2	DIO IN Bit 1
2-3	DIO OUT Bit 3

JP4: CN4 DIO PORT PIN5 Select

1-2	DIO OUT Bit 0
2-3	DIO IN Bit 2

JP2: CN4 DIO PORT PIN6 Select

1-2	DIO OUT Bit 1
2-3	DIO IN Bit 3

6.2.2.2. CN6: EXT. Connector

CN6 is a 44-pin connector links the onboard speaker-out, line-in, MIC-in, DIO, external FDD and TV-out to the IO-006 for external device connection.

6.2.3. Connectors & Pin Assignment

The table below lists the function of each connector on IO-005 and IO-006. Their corresponding pin assignments will be shown in the following sections.

KEYBOARD	Keyboard Connector
MOUSE	Mouse Connector
COM1	Serial Port 1 (3F8)
COM2	Serial Port 2 (2F8)
COM4	Serial Port 4 (2E8)
DC POWER	DC Power +5V/+12VC output
LPT	Parallel Port
CRT	CRT Display Connector
FDD	External FDD Connector
USB1	USB Connector 1
USB2	USB Connector 2
DIO	Digital I/O Connector
LAN	Ethernet Connector
MIC	Microphone In Connector
LINE IN	Line In Connector
SPK OUT	Speaker Output Connector
VR	LCD Backlight Control

6.2.3.1. KEYBOARD: PS/2 Keyboard Connector

Pin #	**Signal**
1	KBDATA
2	NC
3	GND
4	SB5V
5	KBCLK
6	NC

6.2.3.2. MOUSE: PS/2 Mouse

Pin #	**Signal**
1	MSDATA
2	NC
3	GND
4	5V
5	MSCLK
6	NC

6.2.3.3. COM1, COM2, COM4 (DB-9)

Pin #	**Signal**	**Pin #**	**Signal**
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI (+5V/12V)
5	GND		

6.2.3.4. DC POWER: DC Power Output

Pin #	**Signal**	**Pin #**	**Signal**
1	GND	5	+5V
2	GND	6	+12V
3	+5V	7	GND
4	+12V	8	GND

6.2.3.5. LPT1: D-SUB-25 Parallel Port

Pin #	Signal	Pin #	Signal
1	STRB#	14	AFD#
2	DATA 0	15	ERROR#
3	DATA 1	16	INIT#
4	DATA 2	17	SLINT#
5	DATA 3	18	GND
6	DATA 4	19	GND
7	DATA 5	20	GND
8	DATA 6	21	GND
9	DATA 7	22	GND
10	ACK#	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT		

6.2.3.6. CRT: VGA (D-SUB 15 Pin)

Pin #	Signal	Pin #	Signal	Pin #	Signal
1	Red	6	GND	11	NC
2	Green	7	GND	12	DDCDATA
3	Blue	8	GND	13	Hsync
4	NC	9	NC	14	Vsync
5	GND	10	GND	15	DDCCLK

6.2.3.7. FDD: External FDD Connector

Pin #	Signal	Pin #	Signal	Pin #	Signal
1	RWC#	6	WP#	11	RDATA#
2	INDEX#	7	TRAK0#	12	HEAD#
3	MOA#	8	WE#	13	DSKCHG#
4	DSA#	9	WD#	14	GND
5	DIR#	10	STEP#	15	GND

6.2.3.8. J11: USB 1, USB2 Connector

USB1		USB2	
Pin #	**Signal**	**Pin #**	**Signal**
1	USBVCC	1	USBVCC
2	Data-	2	Data-
3	Data+	3	Data+
4	GND	4	GND

6.2.3.9. DIO1: RJ-11 Connector

Pin #	**Signal**	**Pin #**	**Signal**
1	+12V	2	IN_0/OUT_2
3	IN_1/OUT_3	4	GND
5	OUT_0/IN_2	6	OUT_1/IN_3

6.2.3.10. LAN1: RJ-45 Ethernet Connector

Pin #	**Signal**	**Pin #**	**Signal**
1	TD+	2	TD-
3	RO+	4	NC
5	NC	6	RO-
7	NC	8	NC

6.2.3.11. MIC1

Pin #	**Signal**
1	Vref
2	NC
3	NC
4	MIC IN
5	GND

6.2.3.12. LINE 1

Pin #	Signal
1	Right CHI
2	NC
3	NC
4	Left CH
5	GND

6.2.3.13. SPK 1

Pin #	Signal
1	Right CHI
2	NC
3	NC
4	Left CH
5	GND

7. AWARD BIOS SETUP

The chapter describes how to set up BIOS configuration.

7.1. Award BIOS

The Award BIOS ROM builds in a setup program, which allows the users to modify the basic system configuration such as the current date and time or the type of peripheral devices attached to the computer.

Under the following conditions, the CMOS settings are to be changed：

1. The system is starting for the first time
2. The hardware devices attached to the systems have been changed
3. The CMOS memory has lost power and the configuration information has been erased.

The BIOS setup program is stored in ROM, which can be accessed by pressing <DEL> key on the keyboard immediately when the system is powered on.

In order to retain the specified setup information when the system power is turned off, the system setup information is stored in a battery-backed CMOS RAM. The battery is to ensure the settings will not be erased when the computer is turned off or reset. When the computer is powered on again, the system will read the settings stored in the CMOS RAM and compare them to the equipment check conducted during the power on self test (POST). If any error or mismatch occurs, an error message will be shown on the screen and the computer will be prompted to run the setup program.

7.2. Control Key Definition

Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item in the left hand
Right arrow	Move to the item in the right hand
ESC key	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2 key	Change color from total 16 colors
F3 key	Reserved
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6 key	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
F7 key	Load the default
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

7.3. Getting Help

7.3.1. Main Menu

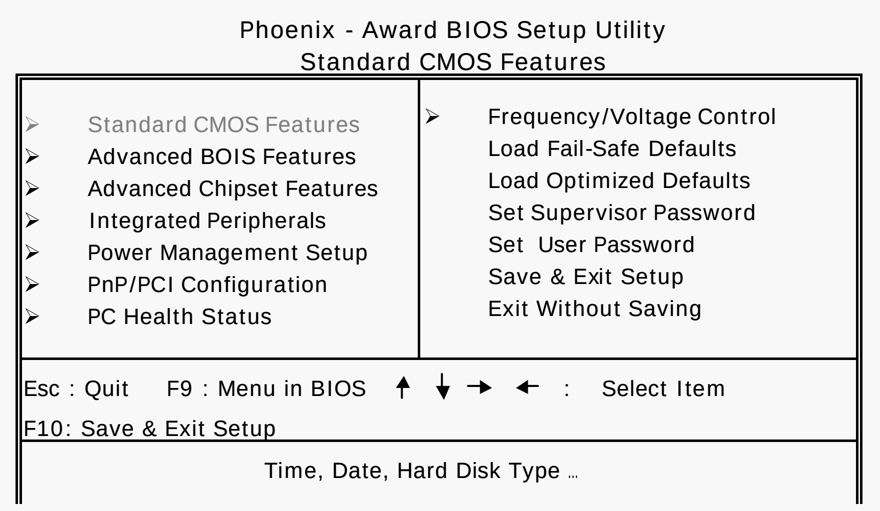
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Press <F1> to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <ESC>.

7.4. AWARD BIOS Setup

7.4.1. AWARD BIOS Setup Main Menu

Power on the computer and press <DEL> immediately to run the AWARD BIOS setup. The setup main menu will appear on the screen;



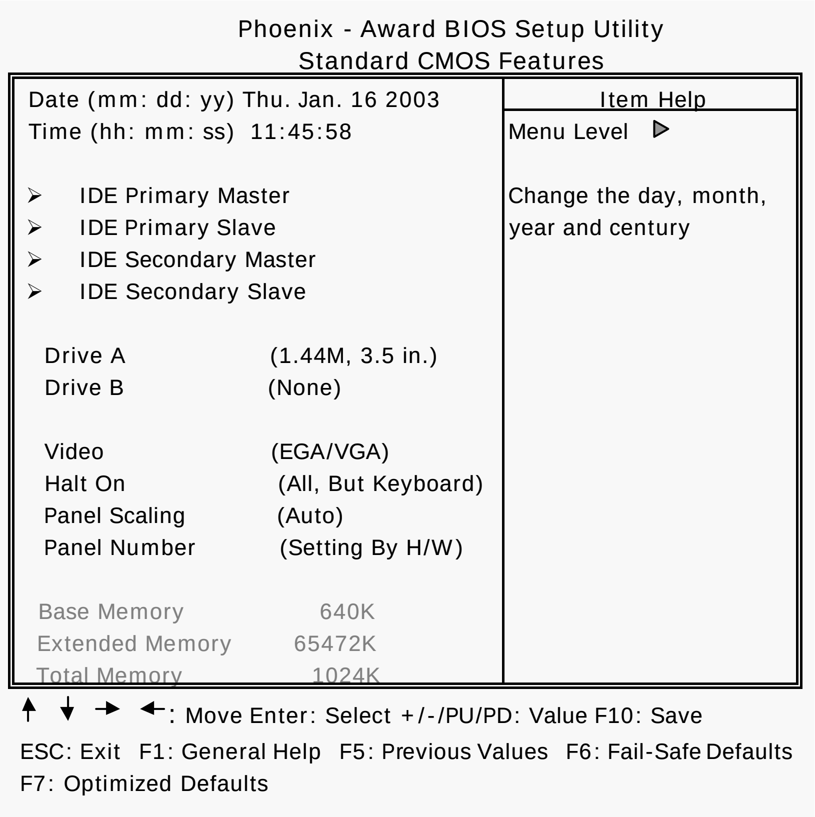
```
                 Phoenix - Award BIOS Setup Utility
                      Standard CMOS Features

➢   Standard CMOS Features            ➢   Frequency/Voltage Control
➢   Advanced BOIS Features                Load Fail-Safe Defaults
➢   Advanced Chipset Features             Load Optimized Defaults
➢   Integrated Peripherals                Set Supervisor Password
➢   Power Management Setup                Set  User Password
➢   PnP/PCI Configuration                 Save & Exit Setup
➢   PC Health Status                      Exit Without Saving

Esc : Quit    F9 : Menu in BIOS    ↑ ↓ → ←  :   Select Item
F10: Save & Exit Setup

                 Time, Date, Hard Disk Type …
```

Use the arrow keys to move among the items and press <Enter> to enter the sub-menu.

- **STANDARD CMOS SETUP**: This setup page includes all the items in standard compatible BIOS.
- **ADVANCED BIOS FEATURES**: This setup page includes all the items of Award special enhanced features.
- **ADVANCED CHIPSET FEATURES**: This setup page includes all the items of chipset special features.
- **INTEGRATED PERIPHERALS**: This setup page includes all onboard peripherals.
- **POWER MANAGEMENT SETUP**: This setup page includes all the items of Green function features.
- **PNP/PCI CONFIGURATION**: This setup page includes all the configurations of PCI & PnP ISA resources.
- **PC HEALTH STATUS**: This setup page auto detects the temperature, voltage and fan speed.
- **FREQUENCY/VOLTAGE CONTROL**: This setup page includes the CPU/DDR/PCI frequency setting
- **LOAD FAIL-SAFE DEFAULTS**: BIOS Defaults indicates the most appropriate value of the system parameters that the system would be in safe configuration.
- **LOAD OPTIMIZED DEFAULTS**: Setup Defaults indicates the value of the system parameters that the system would be in the best performance configuration.
- **SET SUPERVISOR PASSWORD**: Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.
- **SET USER PASSWORD**: Change, set, or disable User password. It allows you to limit access to the system and Setup, or just to Setup.
- **SAVE & EXIT SETUP**: Save CMOS value settings to CMOS and exit setup.
- **EXIT WITHOUT SAVING**: Abandon all CMOS value changes and exit setup.

7.4.2. Standard CMOS Features

If the **STANDARD CMOS FEATURE** is selected from the main menu, the screen below will appear. This menu allows the users to configure the system components such as date, time, hard disk drive, floppy disk drive and display type. The system BIOS will automatically detect the memory size; therefore no setting is needed.



```
                     Phoenix - Award BIOS Setup Utility
                          Standard CMOS Features
Date (mm: dd: yy) Thu. Jan. 16 2003       |        Item Help
Time (hh: mm: ss)  11:45:58               | Menu Level  ▷
                                          |
➢    IDE Primary Master                   | Change the day, month,
➢    IDE Primary Slave                    | year and century
➢    IDE Secondary Master                 |
➢    IDE Secondary Slave                  |
                                          |
  Drive A                (1.44M, 3.5 in.) |
  Drive B                (None)           |
                                          |
  Video                  (EGA/VGA)        |
  Halt On                (All, But Keyboard)
  Panel Scaling          (Auto)           |
  Panel Number           (Setting By H/W) |
                                          |
 Base Memory                640K          |
 Extended Memory          65472K          |
 Total Memory               1024K         |
↑ ↓ → ←: Move Enter: Select +/-/PU/PD: Value F10: Save
ESC: Exit  F1: General Help  F5: Previous Values  F6: Fail-Safe Defaults
F7: Optimized Defaults
```

◆ DATE

The date format is <day>, <month> <date> <year>.

day	The day, from Sun to Sat, determined by the BIOS and is display-only
month	The month, Jan. through Dec.
date	The date, from 1 to 31 (or the maximum allowed in the month)
year	The year, from 1994 through 2079

◆ TIME

The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

◆ PRIMARY HDDS / SECONDARY HDDS

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and user definable type. User type is user-definable; Auto type which will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

CYLS.	Number of cylinders
HEADS	number of heads
PRECOMP	write precomp
LANDZONE	Landing zone
SECTORS	number of sectors

If a hard disk has not been installed select *NONE* and press <Enter>.

◆ DRIVE A TYPE / DRIVE B TYPE

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

None	No floppy drive installed
360K, 5.25"	5.25 inch PC-type standard drive; 360K byte
1.2M, 5.25"	5.25 inch AT-type high-density drive; 1.2M bytes (3.5 inch when 3 Mode is Enabled).
720K, 3.5"	3.5 inch double-sided drive; 720K byte
1.44M, 3.5"	3.5 inch double-sided drive; 1.44M byte
2.88M, 3.5"	3.5 inch double-sided drive; 2.88M byte

◆ VIDEO

The category selects the default video device

Options: EGA/VGA/CGA40/CGA80/Mono

◆ HALT ON

The category determines whether the computer will stop if an error is detected during power up.

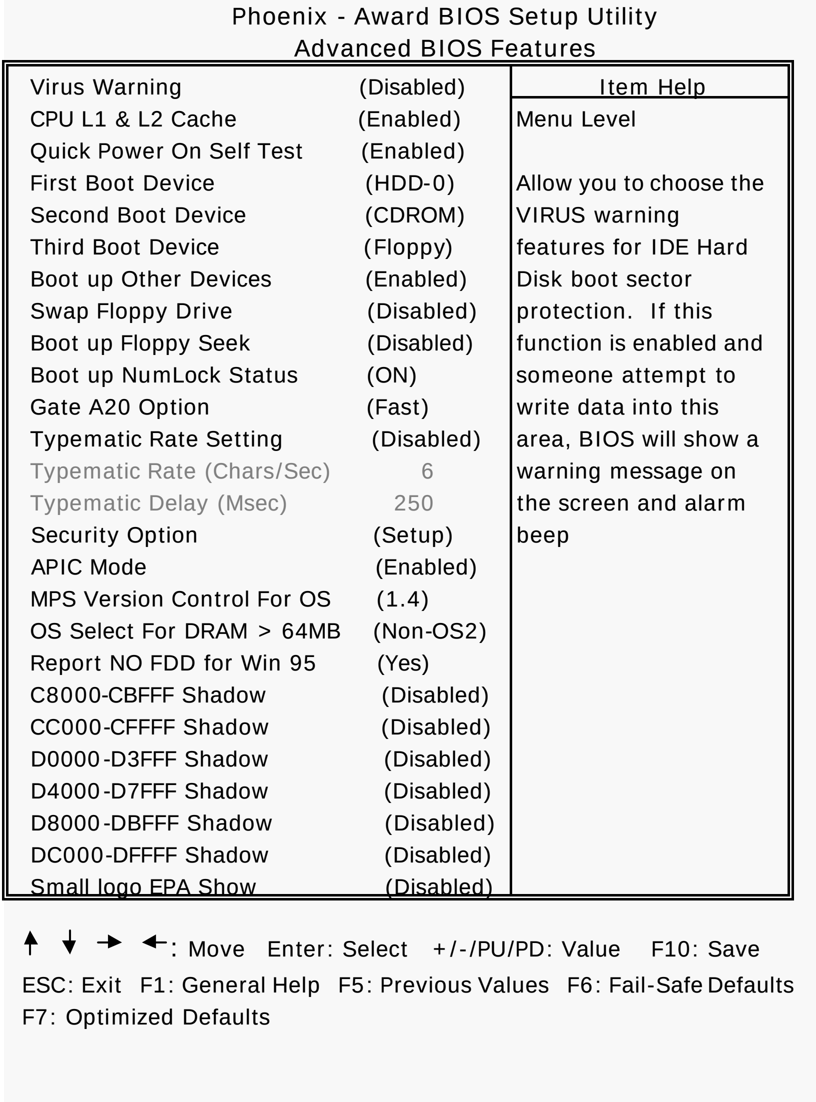
NO Errors	The system boot will not stop for any error that may be detected
All Errors	Whenever the BIOS detects a non-fatal error the system will be stopped and you will be prompted
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors
All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors

◆ PANEL SCALING

◆ PANEL NUMBER

7.4.3. Advanced BIOS Features

If the **ADVANCED BIOS FEATURES** option is selected from the main menu, the screen below will appear. The following sample screen consists of the default values for PC710B.



```
                 Phoenix - Award BIOS Setup Utility
                       Advanced BIOS Features
 Virus Warning                    (Disabled)  |        Item Help
 CPU L1 & L2 Cache                (Enabled)   | Menu Level
 Quick Power On Self Test         (Enabled)   |
 First Boot Device                (HDD-0)     | Allow you to choose the
 Second Boot Device               (CDROM)     | VIRUS warning
 Third Boot Device                (Floppy)    | features for IDE Hard
 Boot up Other Devices            (Enabled)   | Disk boot sector
 Swap Floppy Drive                (Disabled)  | protection.  If this
 Boot up Floppy Seek              (Disabled)  | function is enabled and
 Boot up NumLock Status           (ON)        | someone attempt to
 Gate A20 Option                  (Fast)      | write data into this
 Typematic Rate Setting           (Disabled)  | area, BIOS will show a
 Typematic Rate (Chars/Sec)          6        | warning message on
 Typematic Delay (Msec)             250       | the screen and alarm
 Security Option                  (Setup)     | beep
 APIC Mode                        (Enabled)   |
 MPS Version Control For OS       (1.4)       |
 OS Select For DRAM > 64MB        (Non-OS2)   |
 Report NO FDD for Win 95         (Yes)       |
 C8000-CBFFF Shadow               (Disabled)  |
 CC000-CFFFF Shadow               (Disabled)  |
 D0000-D3FFF Shadow               (Disabled)  |
 D4000-D7FFF Shadow               (Disabled)  |
 D8000-DBFFF Shadow               (Disabled)  |
 DC000-DFFFF Shadow               (Disabled)  |
 Small logo EPA Show              (Disabled)  |

↑ ↓ → ←: Move   Enter: Select   +/-/PU/PD: Value   F10: Save
ESC: Exit  F1: General Help  F5: Previous Values  F6: Fail-Safe Defaults
F7: Optimized Defaults
```

◆ VIRUS WARNING

Allow you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

Enabled Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Disabled No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

◆ CPU INTERNAL CACHE / EXTERNAL CACHE

These two categories speed up memory access. However, it depends on CPU/chipset design.

Enabled Enable cache

Disabled Disable cache

◆ CPU L2 CACHE ECC CHECKING

This item allows you to enable/disable CPU L2 Cache ECC checking.

The choice: *Enabled* & *Disabled*.

◆ PROCESSOR NUMBER FEATURE

Some of the new generation of socket-478 processors are installed with a unique processor number. This number may be used for verification in Internet transactions and e-commerce. If you prefer not to use or distribute the unique processor number, use this item to suppress the processor number.

The choice: *Enabled* & *Disabled*.

◆ QUICK POWER ON SELF TEST

This category speeds up Power On Self Test (POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled Enable quick POST

Disabled Normal POST

◆ FIRST / SECOND / THIRD / OTHER BOOT DEVICE

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

The Choice: Floppy, LS/ZIP, HDD, SCSI, CDROM & Disabled.

◆ SWAP FLOPPY DRIVE

If the system has two floppy drives, you can swap the logical drive name assignments.

The choice: *Enabled* & *Disabled*.

◆ BOOT UP FLOPPY SEEK

Seeks disk drives during boot up. Disabling speeds boot up.

The choice: *Enabled* & *Disabled*.

◆ BOOT UP NUMLOCK STATUS

Select power on state for NumLock.

The choice: *Enabled* & *Disabled*.

◆ GATE A20 OPTION

Select if chipset or keyboard controller should control GateA20.

Normal A pin in the keyboard controller controls GateA20

Fast Lets chipset control GateA20

◆ TYPEMATIC RATE SETTING

Key strokes repeat at a rate determined by the keyboard controller.

When enabled, the typematic rate and typematic delay can be selected.

The choice: *Enabled* & *Disabled*.

◆ TYPEMATIC RATE (CHARS/SEC)

Sets the number of times a second to repeat a key stroke when you hold the key down.

The choice: 6, 8, 10, 12, 15, 20, 24 & 30.

◆ Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

The choice: 250, 500, 750 & 1000.

◆ SECURITY OPTION

Select whether the password is required every time the system boots or only when you enter setup.

System The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

Setup The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

◆ OS SELECT FOR DRAM > 64MB

Select the operating system that is running with greater than 64MB of RAM on the system.

The choice: Non-OS2, OS2.

◆ REPORT NO FDD FOR WIN 95

Whether report no FDD for Win 95 or not.

The choice: Yes & No.

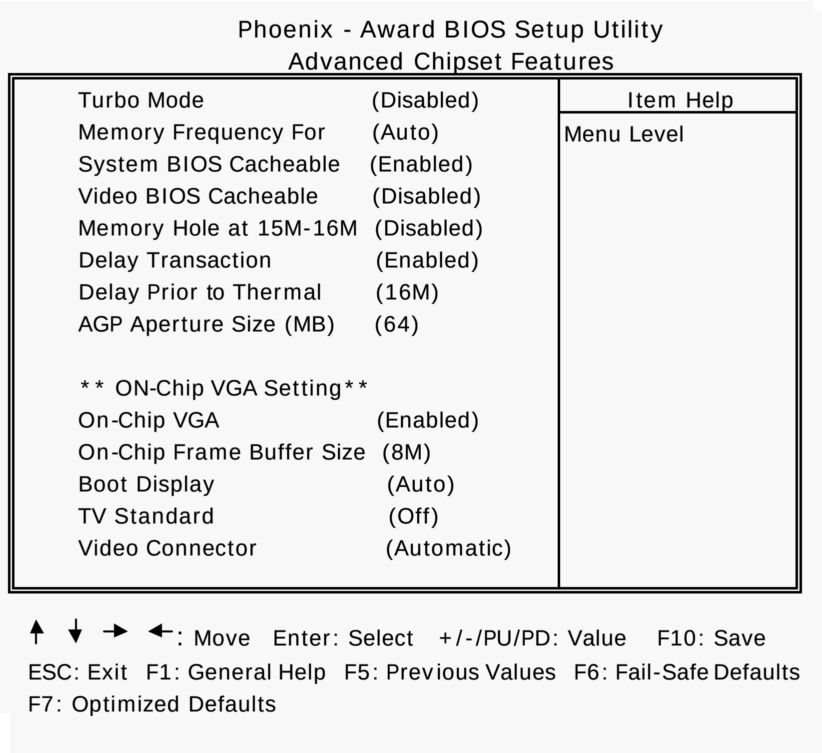
◆ VIDEO BIOS SHADOW

This item allows the video BIOS to be copied to system memory for faster performance.

The choice: *Enabled* & *Disabled*.

7.4.4. Advanced Chipset Features

If the **ADVAMCED CHIPSET FEATURES** option is selected from the main menu, the screen below will appear. The following sample screen consists of the default values for PC710B.



```
                Phoenix - Award BIOS Setup Utility
                   Advanced Chipset Features
    Turbo Mode                    (Disabled)    |        Item Help
    Memory Frequency For          (Auto)        | Menu Level
    System BIOS Cacheable         (Enabled)     |
    Video BIOS Cacheable          (Disabled)    |
    Memory Hole at 15M-16M        (Disabled)    |
    Delay Transaction             (Enabled)     |
    Delay Prior to Thermal        (16M)         |
    AGP Aperture Size (MB)        (64)          |
                                                |
    ** ON-Chip VGA Setting**                    |
    On-Chip VGA                   (Enabled)     |
    On-Chip Frame Buffer Size     (8M)          |
    Boot Display                  (Auto)        |
    TV Standard                   (Off)         |
    Video Connector               (Automatic)   |

 ↑ ↓ → ←: Move   Enter: Select   +/-/PU/PD: Value   F10: Save
 ESC: Exit  F1: General Help  F5: Previous Values  F6: Fail-Safe Defaults
 F7: Optimized Defaults
```

◆ TURBO MODE

◆ MEMORY FREQUENCY FOR

◆ SYSTEM BIOS CACHEABLE:

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance.

However, if any program writes to this memory area, a system error may result.

The choice: Enabled or Disabled.

◆ VIDEO BIOS CACHEABLE

Select Enabled allows caching of the Video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

The choice: Enabled or Disabled.

◆ MEMORY HOLE AT 15M-16M:

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

◆ DELAYED TRANSACTION

◆ DELAY PRIOR TO THERMAL

◆ AGP APERTURE SIZE (MB)

Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

The Choice: 4M, 8M, 16M, 32M, 64M, 128M, 256M.

◆ ON-CHIP VGA

◆ ON-CHIP FRAME BUFFER SIZE

◆ BOOT DISPLAY

7.4.5. Integrated Peripherals

If the **INTEGRATED PERIPHERALS** option is selected from the main menu, the screen below will appear. The following sample screen consists of the default values for PC710B.

Phoenix - Award BIOS Setup Utility
Advanced BIOS Features

		Item Help
On-Chip Primary PCI IDE	(Enabled)	
IDE Primary Master PIO	(Auto)	Menu Level
IDE Primary Slave PIO	(Auto)	
IDE Primary Master UDMA	(Auto)	
IDE Primary Slave UDMA	(Auto)	
On-Chip Secondary PCI IDE	(Enabled)	
IDE Secondary Master PIO	(Auto)	
IDE Secondary Slave PIO	(Auto)	
IDE Secondary Master UDMA	(Auto)	
IDE Secondary Slave UDMA	(Auto)	
USB Controller	(Enabled)	
USB 2.0 Controller	(Enabled)	
USB Keyboard Support	(Disabled)	
AC97 Audio	(Auto)	
Flash ROM Write	(Enable)	
Onboard LAN1 Function	(Enable)	
Init. Display First	(Onboard/AGP)	
IDE HDD Block Mode	(Enable)	
Power On Function	(Button Only)	
KB Power On Password	(Enter)	
Hot Key Power On	(Ctrl-F1)	
Onboard FDC Controller	(Enable)	
Onboard Serial Port 1	(3F8)	
Serial Port 1 Use IRQ	(IRQ4)	
Serial Port 2 Type	(RS232)	
Onboard Serial Port 2	(2F8)	
Serial Port 2 Use IRQ	(IRQ3)	
UART Mode Select	(Normal)	
RxD, TxD Active	(Hi, Lo)	
IR Transmission Delay	(Enabled)	
UR2 Duplex Mode	(Half)	
Use IR Pins	(IR-Rx2Tx2)	
Onboard Serial Port 3	(3E8)	
Serial Port 3 Use IRQ	(IRQ10)	
Onboard Serial Port 4	(2E8)	
Serial Port 4 Use IRQ	(IRQ 11)	
Onboard Parallel Port 1	(378)	
Parallel Port 1 Use IRQ	(IRQ7)	
Parallel Port 1 Mode	(SPP)	
LPT1 EPP Mode Select	(EPP1.7)	
LPT1 ECP Mode Use DMA	(3)	
PWRON After PWR-Fail	(OFF)	
DIO Port Address	(200)	

◆ INTERNAL PCI / IDE

This chipset contains an internal PCI IDE interface with support for two IDE channels.

The choice: Primary, Secondary or Both.

◆ IDE PRIMARY MASTER/SLAVE PIO

The four IDE PIO (Programmed Input/ Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3 or Mode 4.

◆ PRIMARY MASTER/SLAVE ULTRADMA

UDMA (Ultra DMA) is a DMA data transfer protocol that utilizes ATA commands and the ATA bus to allow DMA commands to transfer data at a maximum burst rate of 33 MB/s. When you select Auto in the four IDE UDMA fields (for interface supports), the system automatically determines the optimal data transfer rate for each IDE device.

The choice: Auto or disabled.

◆ USB CONTROLLER

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals.

The choice: Enabled or Disabled.

◆ USB 2.0 CONTROLLER

Select *Enabled* if your system is using with a USB 2.0 devices

◆ USB KEYBOARD SUPPORT

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

The choice: Enabled or Disabled.

◆ AC97 AUDIO

Select Auto to support AC97 Audio.

The choice: Auto or Disabled.

◆ FLASH ROM WRITE

◆ ONBOARD LAN FUNCTION

◆ INIT DISPLAY FIRST

This item allows you to decide to active which bus first (PCI Slote or Onboard/AGP).

The choice: PCI Slot or Onboard/AGP

◆ IDE HDD BLOCK MODE:

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support.

The choice: Enabled or Disabled.

◆ POWER ON FUNCTION

◆ KB POWER ON PASSWORD

This item can be used to prompt the used for a password when the system power is resumed by keyboard action.

The choice:

◆ HOT KEY POWER ON

◆ ONBOARD FDC CONTROLLER

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select Disabled in this field.

◆ ONBOARD SERIAL PORT 1 / PORT 2 / PORT 3 / PORT 4

Select an address and corresponding interrupt for the first and second serial ports.

The choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ10, 2E8/IRQ11, Disabled or Auto.

Serial Port 2 is RS232/RS422/RS485 selected via BIOS setting.

◆ ONBOARD PARALLEL PORT 1:

This item allows you to determine access onboard parallel port controller with which I/O address.

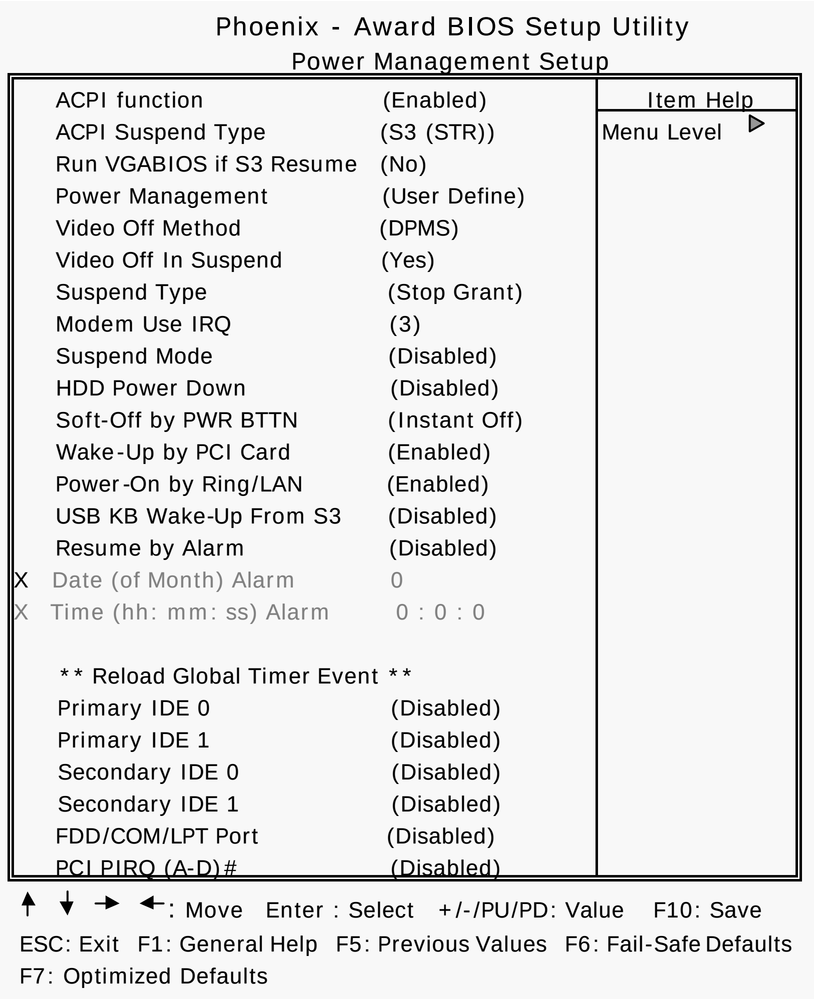
◆ PWRON AFTER PWR-FAIL:

◆ DIO PORT ADDRESS:

The choice: 200, 208 or Disabled.

7.4.6. Power Management Setup

If the **POWER MANAGEMENT SETUP** option is selected from the main menu, the screen below will appear. The following sample screen consists of the default values for PC710B.

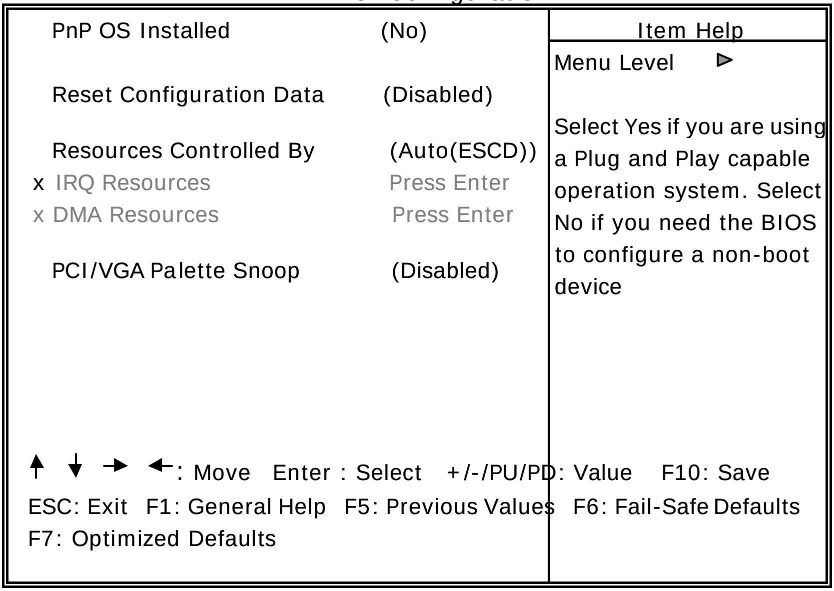


```
            Phoenix - Award BIOS Setup Utility
                 Power Management Setup
   ACPI function                (Enabled)         Item Help
   ACPI Suspend Type            (S3 (STR))       Menu Level  ▷
   Run VGABIOS if S3 Resume     (No)
   Power Management             (User Define)
   Video Off Method             (DPMS)
   Video Off In Suspend         (Yes)
   Suspend Type                 (Stop Grant)
   Modem Use IRQ                (3)
   Suspend Mode                 (Disabled)
   HDD Power Down               (Disabled)
   Soft-Off by PWR BTTN         (Instant Off)
   Wake-Up by PCI Card          (Enabled)
   Power-On by Ring/LAN         (Enabled)
   USB KB Wake-Up From S3       (Disabled)
   Resume by Alarm              (Disabled)
X  Date (of Month) Alarm        0
X  Time (hh: mm: ss) Alarm      0 : 0 : 0

   ** Reload Global Timer Event **
   Primary IDE 0                (Disabled)
   Primary IDE 1                (Disabled)
   Secondary IDE 0              (Disabled)
   Secondary IDE 1              (Disabled)
   FDD/COM/LPT Port             (Disabled)
   PCI PIRQ (A-D)#              (Disabled)
↑ ↓ → ←: Move   Enter : Select   +/-/PU/PD: Value   F10: Save
ESC: Exit  F1: General Help  F5: Previous Values  F6: Fail-Safe Defaults
F7: Optimized Defaults
```

7.4.7. PnP/PCI Configuration

If the **PNP/PCI CONFIGURATION** option is selected from the main menu, the screen below will appear. The following sample screen consists of the default values for PC710B.

Phoenix - Award BIOS Setup Utility
PnP PCI Configuration



```
   PnP OS Installed                 (No)           |        Item Help
                                                   | Menu Level     ►
   Reset Configuration Data         (Disabled)     |
                                                   | Select Yes if you are using
   Resources Controlled By          (Auto(ESCD))   | a Plug and Play capable
 x IRQ Resources                    Press Enter    | operation system. Select
 x DMA Resources                    Press Enter    | No if you need the BIOS
                                                   | to configure a non-boot
   PCI/VGA Palette Snoop            (Disabled)     | device

 ↑ ↓ → ←: Move   Enter : Select   +/-/PU/PD: Value    F10: Save
 ESC: Exit  F1: General Help  F5: Previous Values  F6: Fail-Safe Defaults
 F7: Optimized Defaults
```

◆ RESET CONFIGURATION DATA

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

The choice: *Enabled* or *Disabled*.

◆ RESOURCE CONTROLLED BY

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices.

However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows®95. If you set this field to “manual” choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a “➢”).

The choice: Auto(ESCD), Manual.

◆ IRQ RESOURCES

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

◆ IRQ3/4/5/7/9/10/11/12/14/15 ASSIGNED TO

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.

The Choice: *Legacy ISA* and *PCI/ISA PnP*.

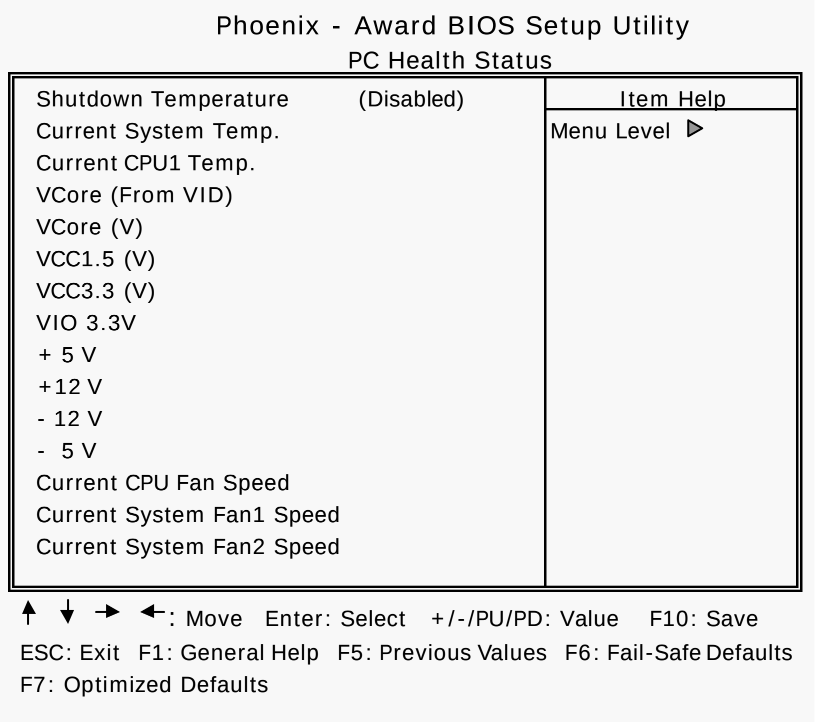
◆ PCI/VGA PALETTE SNOOP

Leave this field at *Disabled*.

The choice: *Enabled* or *Disabled*.

7.4.8. PC Health Status

The **PC HEALTH STATUS** auto detects the system's temperature, voltage and fan speed.



```
           Phoenix - Award BIOS Setup Utility
                    PC Health Status
 Shutdown Temperature        (Disabled)  |      Item Help
 Current System Temp.                    | Menu Level  ▷
 Current CPU1 Temp.                      |
 VCore (From VID)                        |
 VCore (V)                               |
 VCC1.5 (V)                              |
 VCC3.3 (V)                              |
 VIO 3.3V                                |
 + 5 V                                   |
 +12 V                                   |
 - 12 V                                  |
 -  5 V                                  |
 Current CPU Fan Speed                   |
 Current System Fan1 Speed               |
 Current System Fan2 Speed               |

↑ ↓ → ←: Move   Enter: Select   +/-/PU/PD: Value   F10: Save
ESC: Exit  F1: General Help  F5: Previous Values  F6: Fail-Safe Defaults
F7: Optimized Defaults
```

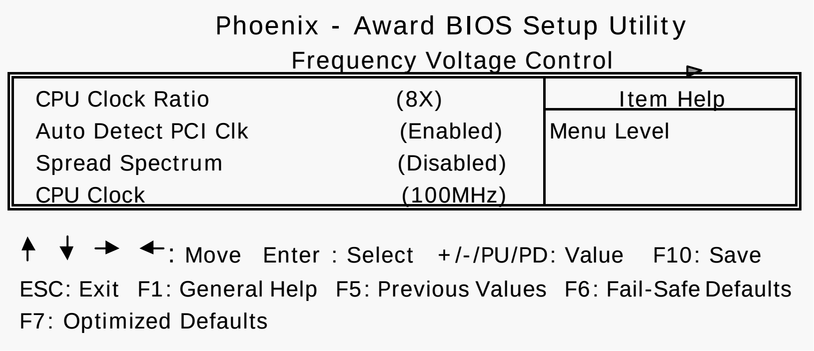
◆ **SHUTDOWN TEMPERATURE:**

This item allows you to select System shutdown temperature.

The choice: 60^{o}C/140^{o}F, 65^{o}C /149^{o}F, 70^{o}C/158^{o}F or Disabled.

7.4.9. Frequency Voltage Control

This setup page is for the CPU, DDR and PCI frequency setting.



Phoenix - Award BIOS Setup Utility

Frequency Voltage Control

		Item Help
CPU Clock Ratio	(8X)	Menu Level
Auto Detect PCI Clk	(Enabled)	
Spread Spectrum	(Disabled)	
CPU Clock	(100MHz)	

↑ ↓ → ←: Move Enter : Select +/-/PU/PD: Value F10: Save

ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults

F7: Optimized Defaults

◆ **CPU CLOCK RATIO**

This item allows you to select CPU Clock ratio.

The choice:

◆ **AUTO DETECT PCI CLK**

This item allows you to select auto detect PCI Clock.

The choice: Enabled or Disabled.

◆ **SPREAD SPECTRUM**

This item allows you to Enabled/Disabled the spread spectrum modulate.

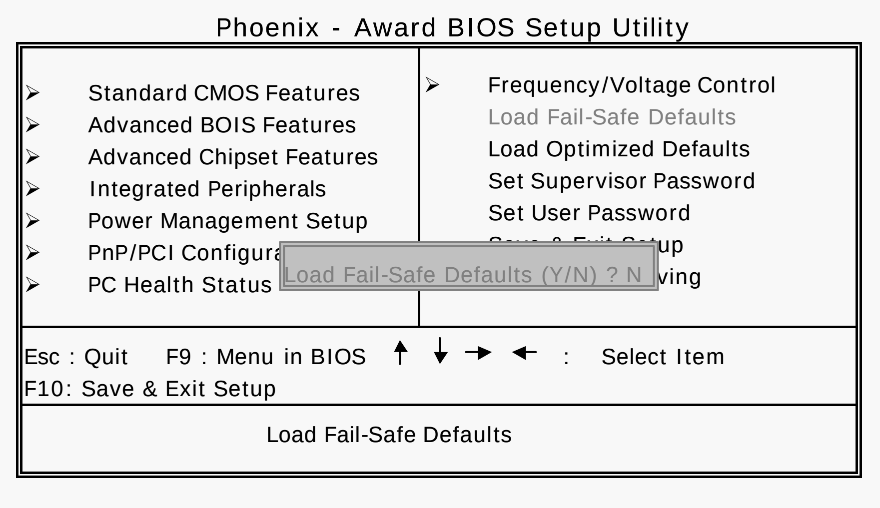
The choice: Enabled or Disabled.

◆ **CPU CLOCK**

This item allows you to select CPU frequency.

7.4.10. Load Fail-Safe Defaults

The default values of the **LOAD FAIL-SAFE DEFAULTS** indicates the most appropriate value of the system parameters that the system would be in safe configuration.



Phoenix - Award BIOS Setup Utility

- ➢ Standard CMOS Features
- ➢ Advanced BOIS Features
- ➢ Advanced Chipset Features
- ➢ Integrated Peripherals
- ➢ Power Management Setup
- ➢ PnP/PCI Configura
- ➢ PC Health Status

- ➢ Frequency/Voltage Control
- Load Fail-Safe Defaults
- Load Optimized Defaults
- Set Supervisor Password
- Set User Password
- Save & Exit Setup
- ving

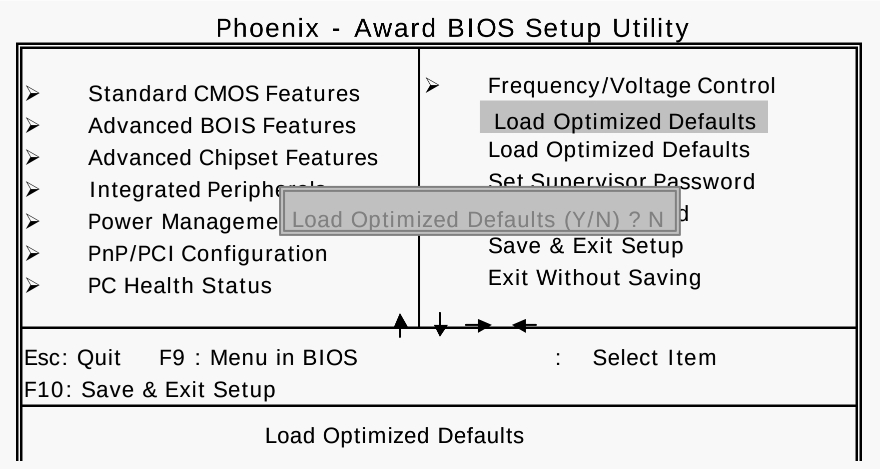
Load Fail-Safe Defaults (Y/N) ? N

Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10: Save & Exit Setup

Load Fail-Safe Defaults

7.4.11. Load Optimized Defaults

The default values of the **LOAD OPTIMIZED DEFAULTS** indicates the most appropriate value of the system parameters that the system would be in best performance configuration.



Phoenix - Award BIOS Setup Utility

- ➢ Standard CMOS Features
- ➢ Advanced BOIS Features
- ➢ Advanced Chipset Features
- ➢ Integrated Periphe
- ➢ Power Manageme
- ➢ PnP/PCI Configuration
- ➢ PC Health Status

➢ Frequency/Voltage Control
Load Optimized Defaults
Load Optimized Defaults
Set Supervisor Password
d
Save & Exit Setup
Exit Without Saving

Load Optimized Defaults (Y/N) ? N

Esc: Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10: Save & Exit Setup

Load Optimized Defaults

7.4.12. User Password

The **USER PASSWORD** is used to set the password. To change the password, select this option from the main menu and press <Enter>.

If the CMOS does not work properly or the **USER PASSWORD** option is selected for the first time, then a default password is stored in the ROM. The following message will appear on the screen;

Enter Password

Press <Enter>.

If the CMOS is working properly or the **USER PASSWORD** option is selected to change the default password, then the current password (the ROM password or the use-defined password) stored in the ROM needs to be entered first. The following message will appear on the screen;

Confirm Password

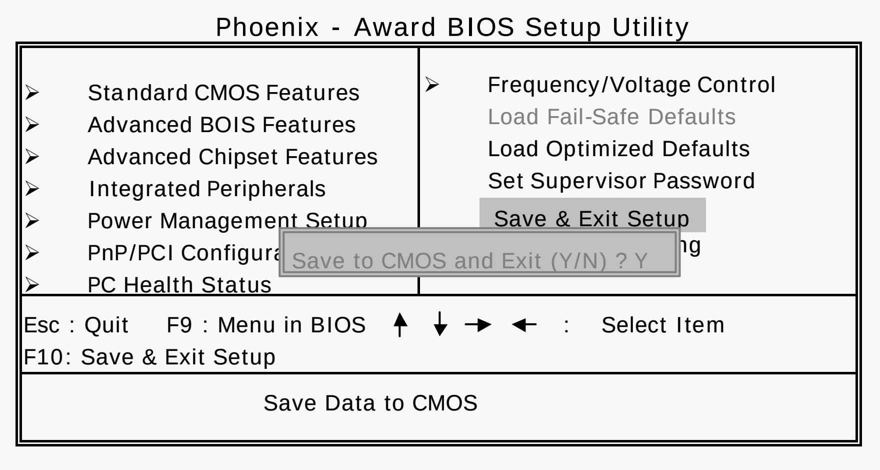
Enter the current password and press <Enter>.

After pressing <Enter>, then the new password (8 characters at most) can be entered now. The new password will be stored in the CMOS.

Please note that to enable this option, either **Setup** or **System** is to be selected from the **ADVANCED BIOS FEATRUES** first.

7.4.13. Save and Exit Setup

If the **SAVE & EXIT SETUP** option is selected, the values entered the setup utilities will be saved in the chipset's CMOS memory. When the system is turned on every time, the CPU will check the CMOS to compare the CMOS data to see whether it matches the system. These data are very important for the system operation.



Phoenix - Award BIOS Setup Utility

- ➢ Standard CMOS Features
- ➢ Advanced BOIS Features
- ➢ Advanced Chipset Features
- ➢ Integrated Peripherals
- ➢ Power Management Setup
- ➢ PnP/PCI Configura
- ➢ PC Health Status

- ➢ Frequency/Voltage Control
- Load Fail-Safe Defaults
- Load Optimized Defaults
- Set Supervisor Password
- Save & Exit Setup
- ng

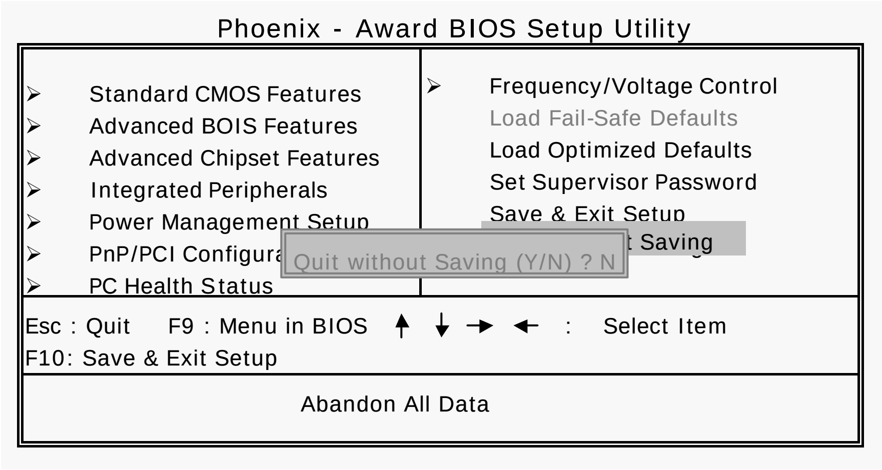
Save to CMOS and Exit (Y/N) ? Y

Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10: Save & Exit Setup

Save Data to CMOS

7.4.14. Exit Without Saving

If the **EXIT WITHOUT SAVING** option is selected and <ENTER> is pressed, you will exit the Setup program without saving any new values. The CMOS will still keep the old values.



```
                 Phoenix - Award BIOS Setup Utility
➢  Standard CMOS Features          ➢  Frequency/Voltage Control
➢  Advanced BOIS Features              Load Fail-Safe Defaults
➢  Advanced Chipset Features           Load Optimized Defaults
➢  Integrated Peripherals              Set Supervisor Password
➢  Power Management Setup              Save & Exit Setup
➢  PnP/PCI Configura                              t Saving
➢  PC Health Status
              Quit without Saving (Y/N) ? N
Esc : Quit    F9 : Menu in BIOS   ↑ ↓ → ←  :   Select Item
F10: Save & Exit Setup
                    Abandon All Data
```

8. SOFTWARE & DRIVERS INSTALLATION

The chapter introduces the PC710B onboard VGA, Ethernet, Audio and the respective drivers and installation.

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8.1. System Chipset Drivers

The system chipset used on PC710B is Intel 845G. The chipset drivers for different operating systems are stored under

PanelPC & Motherboard/Drivers & Utilities/PC 7x0 & Panel PC (478_Celeron_P4_Intel845G)/INF (System Chipset drivers)

For updated system drivers, please have them downloaded the following website

http://www.intel.com

8.2. IDE Acceleration Drivers

The PC710B is able to support UDMA IDE. To extend this functionality, the UDMA acceleration needs to be installed first. The related drivers are stored under

PanelPC & Motherboard/Drivers & Utilities/PC 7x0 & Panel PC (478_Celeron_P4_Intel845G)/aaa (IDE accel. drivers)

8.3. Ethernet Drivers

The PC710B provides a 10/100 Base T fast Ethernet.

The Ethernet chipset used on PC710B is Realtek 8100B. The chipset drivers for different operating systems are stored under

PanelPC & Motherboard/Drivers & Utilities/PC 7x0 & Panel PC (478_Celeron_P4_Intel845G)/RTL8100B (Ethernet drivers)

Realtek RTL8100B Ethernet drivers contains the following;

✧ Windows 95/95OSR2
✧ Windows 98
✧ Windows 2000
✧ Windows NT
✧ Windows ME
✧ Windows XP

For the Ethernet drivers, please download the updated drivers from the following website

http://www.realtek.com.tw

8.4. PC710B AGP XGA

By integrating an advanced hardware 2D/3D GUI engine and 64-bit graphic display interface, the PC710B can deliver AGP 4X performance and memory bandwidth of up to 1GB. It adopts *Share System Memory* architecture which can flexibly utilize the frame buffer size up to 64MB.

In addition to providing standard interface for analog monitor, the PC710B also provides an interface for digital flat panels.

The PC710B XGA driver diskettes contain the following drivers and are stored under

PanelPC & Motherboard/Drivers & Utilities/PC 7x0 & Panel PC (478_Celeron_P4_Intel845G)/845G VGA drivers

Intel 845G VGA drivers for

- Windows OSR2
- Windows 9x
- Windows 2000/XP

For the VGA drivers, please download the updated drivers from the following website

http://www.intel.com

8.5. Audio Setup

The PC710B audio driver diskette contains the following drivers stored under

PanelPC & Motherboard/Drivers & Utilities/PC 7x0 & Panel PC (478_Celeron_P4_Intel845G)/ALC202A Audio drivers

Realtek ALC202A audio drivers for

- ✧ Windows 95/95OSR2
- ✧ Windows 98
- ✧ Windows 2000
- ✧ Windows NT
- ✧ Windows ME
- ✧ Windows XP

For the audio drivers, please download the updated drivers from the following website
http://www.realtek.com.tw

8.6. Touchscreen Drivers

The panel PC audio driver diskette contains the following drivers;

- ✧ Elo resistive/SAW touch driver
- ✧ 3M capacitive touch drivers
- ✧ 3M resistive touch drivers
- ✧ E-turbo touch drivers

The most updated touch drivers are also downloadable from the following websites;

http://www.elotouch.com or
http://www.3m.com or
http://www.eturbotouch.com

8.7. Driver Installation

To install the Ethernet, VGA, Audio and Touchscreen drivers, find the drivers from the correct directory and execute the execution files. All the related drivers for the PC710B motherboard are stored in the floppy diskettes or the panel PC tool CD under the following route;

PanelPC & Motherboard/Drivers & Utilities/PC 7x0 & Panel PC (478_Celeron_P4_Intel845G)

The drivers for touchscreen are stored under the following route;

PanelPC & Motherboard/Drivers & Utilities/xxx Touch

Find the brand and touch type installed with the panel PC and find related drivers in respective directories.

Please refer to the readme.txt file under each directory for more drivers' information.

Recent releases of operating systems always include setup programs that load automatically and guide you through the installation.

Appendix

A: LCD Specification

A-1. ODYSSE 120 LCD

The standard display used for the ODYSSE 120 is a TORISAN 12.1” TFT active matrix color liquid display (LCD) module; its model no. is MXS121022010 or its equivalent. It composes of LCD panel, driver ICs, control circuit and backlight. By applying 6 bit digital data, 800x600, 260K-color images are displayed on the 12.1” diagonal screen. Input power voltage is single 3.3V for LCD driving.

A-1-2. SPECIFICATION

Inverter backlight is not included in this LCD module. General specifications are summarized in the following:

ITEM	SPECIFICATION
Display Area (mm)	246.0 (H) x 184.5 (V) (12.106 inch diagonal)
Number of Pixel	800 x R.G.B (W) x 600 (H)
Sub Pixel Pitch (mm)	0.1025 (W) x 0.3075 (H)
Pixel Pitch (mm)	0.3075 (W) x 0.3075 (H)
Number of Color	262144 colors
Active Viewing Angle	246.0 (W) x 184.5 (H)
Bezel opening area	250.0 (W) x 188.5 (H)
Brightness (cd/m^2)	150 (cd/m^2)
Module Size (mm)	275.0(W)*199(H)*6.9max (T)
Module Weight (g)	440 g (TYP.)
Backlight Unit	CCFL, 1-tube

A-2. THE LCDS FOR ODYSSE 150

The standard display used for the ODYSSE 150 is a Chi Mei M150X4-L06 or a Sanyo TM150XG-A01-01 or its equivalent.

A-2-1: 15” Chi Mei M150X4-L06

M150X4-L06 is a 15.0” TFT Liquid Crystal Display module with 2 CCFL Backlight units and 20 pins LVDS interface. This module supports 1024 x 768 XGA mode and can display 16.2M colors. The optimum viewing angle is at 6 o’clock direction. The inverter module for Backlight is not built in.

A-2-1-1. SPECIFICATION

Inverter backlight is not included in this LCD module. General specifications are summarized in the following:

ITEM	SPECIFICATION
Active Area (mm)	304.128(H) x 228.096(V) (15.0” diagonal)
Bezel Opening Area (mm)	307.5(H) x 231.4(V)
Driver Element	a-Si TFT active matrix
Pixel Number (pixel)	1024 x R.G.B (W) x 768 (H)
Pixel Pitch (mm)	0.297 (W) x 0.297 (H)
Pixel Arrangement	RGB vertical stripe
Display Color	16,194,277 colors
Passive Mode	Normally White
Viewing Angle	* Horizontal: $\theta_x + 50^o$, $\theta_x - 60^o$ * Vertical: $\theta_Y + 30^o$, $\theta_Y - 60^o$
Brightness (cd/m^2)	250 (cd/m^2)
Module Weight (g)	930 g (max.)

A-2-1-2. MECHANICAL SPECIFICATION

Item		Min.	Typ.	Max.	Unit
Module Size	Horizontal (H)	320.5	321.0	321.5	mm
	Vertical (V)	244.9	245.4	245.9	mm
	Depth (D)	-	9.7	10	mm
Weight				930	G

A-2-1-3. ABSOLUTE MAXIMUM RATINGS OF ENVIRONMENT

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T_{ST}	-20	+60	°C	
Operating Ambient Temperature	T_{OT}	0	+60	°C	
Storage Humidity	H_{ST}	10	+90	%	
Operation Humidity	H_{OP}	10	+90	%	
Shock (Non-Operating)	S_{NOP}		50	G	
Vibration (Non-Operating)	V_{NOP}		1.5	G	

NOTE (1): TEMPERATURE AND RELATIVE HUMIDITY RANGE IS SHOWN IN THE FIGURE BELOW.

(a) 90 %RH Max. (Ta 40 °C).

(b) Wet-bulb temperature should be 39 °C Max. (Ta > 40 °C).

(c) No condensation of water.

NOTE (2) THE TEMPERATURE OF PANEL SURFACE SHOULD BE 0 °C MIN. AND 60 °C MAX.

NOTE (3) 11MS, 1 TIME EACH ±X, ±Y AND ±Z DIRECTIONS

NOTE (4) 10 ~ 500 HZ, 1 CYCLE/20MIN. 1.5MM MAX, 1 HOUR EACH X, Y AND Z DIRECTIONS

NOTE (5) AT TESTING VIBRATION AND SHOCK, THE FIXTURE IN HOLDING THE MODULE HAS TO BE HARD AND RIGID ENOUGH SO THAT THE MODULE WOULD NOT BE TWISTED OR BENT BY THE FIXTURE.

A-2-1-4. ELECTRICAL ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Value		Unit
		Min.	Max.	
Power Supply Voltage	V_{CC}	V_{SS}-0.3	4.0	V

A-2-2: 15” Sanyo TM150XG-A01-01

The TM150XG-A01-01 is a 15.0” TFT Liquid Crystal Display module with 2 CCFL backlight units and 20 pins LVDS interface. This module supports 1024*768 XGA mode and can display 16.2M. The optimum viewing angle is at 6 o’clock direction.

A-2-2-1 MECHANICAL CHARACTERISTICS

Inverter backlight is not included in this LCD module. General specifications are summarized in the following:

ITEM	SPECIFICATION	UNIT
LCD Module Size	321 (W) x 245.4 (H) x 9.7 (T)	mm
Resolution	1024 x R.G.B (W) x 768 (H)	pixel
Sub Pixel Pitch	0.099 (W) x 0.297 (H)	mm
Pixel Pitch	0.297 (W) x 0.297 (H)	mm
Active Viewing Area	304.1 (W) x 228.1 (H)	mm
Bezel Opening Area	307.5 (W) x 231.4 (H)	mm
Weight	875 typ.	g
Brightness	250 (cd/m^2)	cd/m^2
Backlight Unit	CCFL, 2-tube	

A – 2-2-2. ELECTRICAL ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Value		Unit
		Min.	Max.	
Power Supply Voltage	V_{DD} -V_{SS}	-0.3	4.0	V
Input Voltage	V_1	V_{SS}-0.3	V_{DD}+0.3	V
CFL Lamp Current	I_l	-	8.5	mA

A – 2-2-3. ELECTRICAL CHARACTERISTICS

VDD=3.3V, fv=60Hz, fh=4.84KHz, fclk=65Mhz, Ta=25 ^{o}C

Item	Symbol	Condition	Min.	Typ..	Max.	Unit	Note
Power Supply Voltage	V_{DD} $-V_{SS}$		3.0	3.3	3.6	V	
LVDS Input	V_{TH}	High level	-	-	+100	mV	V_{CM} =12.V
Threshold Voltage	V_{TL}	Low level	-100	-	-		
LVDS Input Common Mode Voltage			1.0	1.2	1.4	V	
LVDS Input Termination Resistor	RT		-	100	-	Ω	Internal
Power Supply Current	I_{DD}	Note 1	-	(430)	800	mV	

NOTE 1: Under the following display image: Typ. Value, display pattern is 256 gray scale bar.

NOTE 2: V_{CM}: Common Mode Voltage of LVDS Input

A – 2-2-4. ENVIRONMENTAL ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Condition	Min.	Max.	Unit	Note
Ambient Temperature	T_{ST}	Storage	-20	60	^{o}C	Note 1
	T_{OP}	Operation	0	50		
Humidity	-	Ta=40 ^{o}C max	-	85	%RH	No condensation Note 2
Vibration	-	Storage	-	1.5	G	Note 3
Shock	-	Storage	-	50	G	XYZ 11msec/direction

NOTE 1: Care should be taken so that the LCD module may not be subjected to the temperature beyond this specification.

NOTE 2: Ta>40^{o}C: Absolute humidity should be less than that of 80%RH/40 ^{o}C

NOTE 3: 10~200Hz, 300min/cycle, X/Y/Z each one cycle except for resonant frequency

A-3. THE LCD FOR ODYSSE 170 IV

The M170E5-L01 model is a 17.0” TFT-LCD module with a 4-CCFL Backlight Unit and a 30-pin 2-channel LVDS interface. This module supports 1280 x 1024 SXGA mode and displays 16M colors. The inverter module for the Backlight Unit is not built in.

A-3-1 FEATURES

- Wide viewing angle
- High contrast ratio
- Fast response time
- High color saturation (EBU Like Specifications)
- SXGA (1280 x 1024 pixels) resolution
- DE (Data Enable) only mode
- LVDS (Low Voltage Differential Signaling) interface

A-3-2 GENERAL SPECIFICATION

General specifications are summarized in the following:

ITEM	SPECIFICATION
Active Area	337.92 (H) x 270.34 (V) mm (17.0” diagonal)
Bezel Opening Area	341.9 (H) x 274.4 (V) mm
Drive Element	a-si TFT active matrix
Pixel Number	1280 x R.G.B. x 1024 pixel
Pixel Pitch	0.264 (H) x 0.264 (V) mm
Pixel Arrangement	RGB vertical stripe
Display Color	16M colors
Display Mode	Normally white
Surface Treatment	Hard coating (3H), Anti-glare (Haze 25)
Viewing Angle	* Horizontal: $\theta_X + 60^o$, $\theta_X - 70^o$ * Vertical: $\theta_Y + 80^o$, $\theta_Y - 60^o$
Brightness (cd/m^2)	Typ. 280 (cd/m^2)

A-3-3 MECHANICAL SPECIFICATIONS

Item		Min.	Typ.	Max.	Unit
Module Size	Horizontal (H)	358	358	359	mm
	Vertical (V)	296	296.5	297	mm
	Depth (D)	-	17	17.5	mm
Weight			1995		G

A-3-4. ABSOLUTE MAXIMUM RATINGS OF ENVIRONMENT

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T_{ST}	-20	+60	°C	(1)
Operating Ambient Temperature	T_{OP}	0	+60	°C	(1)(2)
Shock (Non-Operating)	S_{NOP}		50	G	(3)(5)
Vibration (Non-Operating)	V_{NOP}		1.5	G	(4)(5)

NOTE (1) TEMPERATURE AND RELATIVE HUMIDITY RANGE IS SHOWN IN THE FIGURE BELOW.

(A) 90 %RH MAX. (TA ≦ 40 °C).

(B) WET-BULB TEMPERATURE SHOULD BE 39 °C MAX. (TA > 40 °C).

(C) NO CONDENSATION.

NOTE (2) THE TEMPERATURE OF PANEL SURFACE SHOULD BE 0 °C MIN. AND 60 °C MAX.

NOTE (3) 11MS, HALF-SINE WAVE, 1 TIME FOR ± X, ± Y, ± Z.

NOTE (4) 10 ~ 300 HZ, SWEEP RATE 10 MIN, 30 MIN FOR X,Y,Z AXIS

NOTE (5) UPON THE VIBRATION AND SHOCK TESTS, THE FIXTURE USED TO HOLD THE MODULE MUST BE FIRM AND RIGID ENOUGH TO PREVENT THE MODULE FROM TWISTING OR BENDING BY THE FIXTURE.

A-3-5. ELECTRICAL ABSOLUTE MAXIMUM RATINGS

TFT LCD Module

Item	Symbol	Value		Unit
		Min.	Max.	
Power Supply Voltage	V_{CC}	-0.3	+6	V
Logical Input Voltage	V_{IN}	-0.3	4.3	V

B: DiskOnChipâ Installation

The ODYSSE 120/150/170 IV is equipped with an internal flash disk which can emulate a floppy disk drive by adapting DiskOnChip® memory chips from 2MB to 144MB capacity, and the flash disk is fully compatible with floppy disk format of MS-DOS system.

To install a DiskOnChip® memory to the provided socket, follow the instructions below;

1. Make sure the computer is turned off
2. Insert the DiskOnChip® memory device into the onboard socket. Make sure that pin 1 of the DiskOnChip® is aligned with the pin 1 of the socket.
3. Power up the computer
4. During the power up, the DiskOnChip® drivers will be automatically loaded into the system memory.
5. At this time, the DiskOnChip® can be accessed as any disk drive.
6. If it is the only disk in the system, it will appear as the first drive, drive C:.
7. If there are more drives already attached to the system, then by default, the DiskOnChip® will appear as the last drive unless specially programmed.
8. If the DiskOnChip® is to be bootable, then follow the steps below
    a. Use DOS command to copy the operating files into the DiskOnChip®
    b. The DiskOnChip® is to be configured as the first drive, drive C: in the system. Use the DUPDATE utility.

```
DUPDATE D /S: DOC104.EXB /FIRST (set as c:)
DUPDATE C /S: DOC104.EXB (set as d:)
```

For more information and for the latest software utility and utilities manual on the DiskOnChip®, visit M-System website at www.m-sys.com .

C: System I/O Ports

Address range (Hex)	**Device**
000-01F	DMA controller
020-021	Interrupt controller 1, master
022-023	Chipset address
040-05F	8254 timer
060-06F	8024 keyboard controller
070-07F	Real time clock, non-maskable interrupt mask (NMI)
080-09F	DMA page register
0A0-0BF	Interrupt controller 2
0C0-0DF	DMA controller
0F0	Clear math co-processor
0F1	Reset math co-processor
0F8-0FF	Math co-processor
1F0-1F8	Fixed disk
200-207	Game Port (not used)
443	Watchdog timer
143	Watchdog timer
208	DIO port
2E8	Serial port #4
2F8-2FF	Serial port #2
300-31F	Prototype card (not used)
330-331	MPU-401 Compatible
360-36F	Reserved
378-37F	Parallel printer port 1 (LPT1)
380-38F	SDLC, bisynchronous 2 (not used)
3A0-3AF	Bisynchronous 1 (not used)
3B0-3BF	Monochrome display and printer adapter (LPT1) (not used)
3C0-3CF	Reserved
3D0-3DF	Color/graphics monitor adapter
3E8	Serial port #3
3F0-3F7	Diskette controller
3F8-3FF	Serial port #1

C: Wake-On-LAN

The Wake-On-LAN is a remote management tool with the advantage to reduce system management workload. It provides the capability to remotely power on the client computers supporting Wake-On-LAN by simply sending a "wake up packet". After powering up the client systems, the user is able to monitor the remote systems' status and to upload or download files to or from the clients. With this feature, MIS persons can flexibly perform client maintenance during off-hours; the Total Cost of Ownership (TCO) will be thus lowered.

To use Wake On LAN function, the client system must have a network card with chipset that supports the Wake-On-LAN and an ATX power supply meeting 2.01 with at least 720mA standby current is also required to support the Ethernet card for this function. The ODYSSE is a panel PC system with these two features. To use the ODYSSE Wake-On-LAN function, please refer to the following;

1. **Download the "Wake up packet**",

PCnet Family Software Magic Packet Utility. This utility is downloadable from AMD website at

http://www.amd.com/us-en/Networking/ProductInformation/0,,50_2330,00.html

Or refer to the **Magic Packet™ Technology** at AMD website for how to write your own wake-up program.

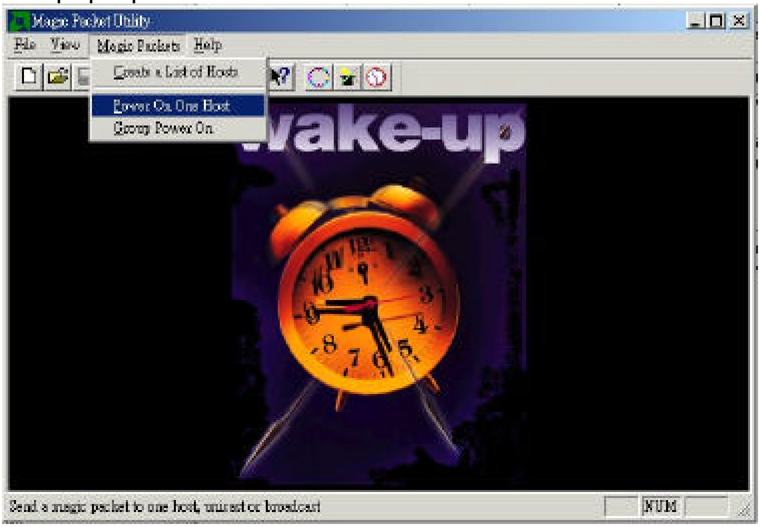
http://www.amd.com/us-en/Networking/TechnicalResources/0,,50_2334_2481,00.html

2. **BIOS Setting**

   Enter the *\POWER MANAGEMENT SETUP\PM WAKE UP EVENTS* to enable the *MACPME POWER UP CONTROL*

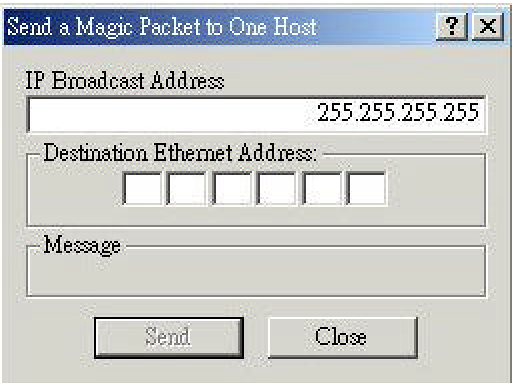
3. Wake up Packet

To use the AMD's Magic Packet, program installation is not needed. Just open the MAGPAC.EXE, then the following screen will pop up.



Send a magic packet to one host, unicast or broadcast

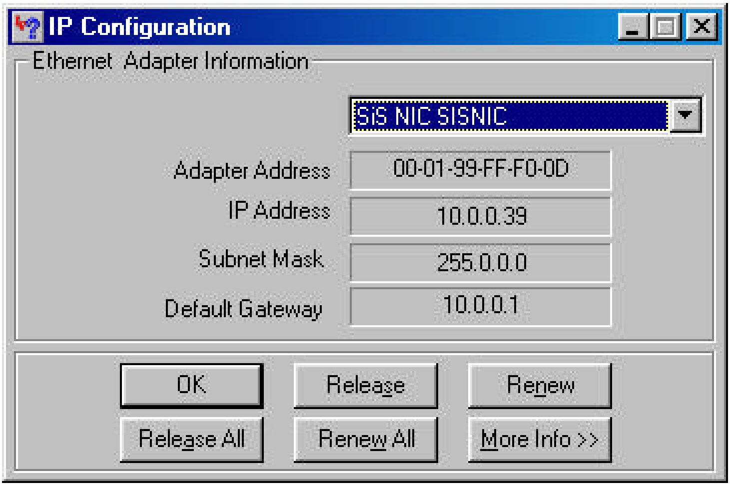
The remote computer can be waken up by selecting the *MAGIC PACKETS*＼*POWER ON ONE HOST* as shown below.



IP Broadcast Address: 255.255.255.255

Do not change the *IP BROADCAST ADDRESS*. The *DESTINATION ETHERNET ADDRESS* is to be filled in with the Ethernet card's MAC address.

To obtain the Ethernet card MAC, under Windows 9x, just enter *START\RUN* to open the *winipcfg.exe*, then the following screen will pop up. If the OS is Windows NT 4.0 or 2000 or XP, then you need to enter DOS mode to run *ipconfig.exe* to obtain the MAC.



IP Configuration

Ethernet Adapter Information

SiS NIC SISNIC

Adapter Address: 00-01-99-FF-F0-0D
IP Address: 10.0.0.39
Subnet Mask: 255.0.0.0
Default Gateway: 10.0.0.1

The adapter address is the LAN card's MAC address.

4. After obtaining all the above information, the remote computer can be powered on now.

Now you can use *Desktop On Call* or other remote software to control the remote computer.

D: First MB Memory Map

Address range (Hex)	**Device**
F000h-FFFFh	System ROM
CC00h-EFFFh	Unused
C000h-CBFFh	Expansion ROM
B800h-BFFFh	CGA/EGA/VGA text
B000h-B7FFh	Unused
A000h-AFFFh	EGA/VGA graphics
0000h-9FFFh	Base memory
D000-D7FFH	DiskOnChip®(Default)

E: Power Supply

The ODYSSE IV can either accommodate an AC power supply or a DC power supply.

E-1: AC POWER SUPPLY

The AC power supply used in the ODYSSE IV system is a single-phase, 180 watts, 6 output level 1U ATX power supply, PSG 180B-8A.

E-1-1: INPUT REQUIREMENT

- Voltage

Minimum	Normal	Maximum	Unit
90	100-240	264	Vrms

- **Frequency**: 47Hz~43Hz.
- **Current**: 4A max, 115VAC 60Hz.
- **Inrush current**: 100A max @230VAC 25°C cold start
- **Power Efficiency**: 65% (min.) at full load, nominal line input
- **Leakage Current**: 3.5mA (max.)

E-1-2: OUTPUT REQUIREMENT

- DC load requirement

Voltage	+5V	+12V	+3.3V	-5V	-12V	+5Vsb
Max load	25.0A	11.0A	22.0A	0.5A/N.A.	1.0A/3.0A	2.0A
Min load	2.5A	0.5A	0.3A	0.0A	0.0A	0.0A
Peak load	--	--	--	--	--	--
Regulation	+-5%	+-5%	+-5%	+-10%	+-10%	+-5%
Ripple	50mA	100mA	50mA	150mA	150mA	50mA
Ripple & Noise	100mA	150mA	100mA	200mA	200mA	100mA

NOTE

1. The continuous total power is 180W max.
2. The combined power of +5V and 3.3V is 150W max.
3. PSG180B,F-ZZ-A the combined current of –12V and –5V output is 1A max.
4. PSB180B,F-ZZ-B –12V output is 3A max, -5V is not present.
5. Add 0.1uF and 10uF capacitors across output terminal during ripple & noise test.
6. Noise test – Noise bandwidth is Form Dc to 20MHz.

- **Remote ON/OFF**

TTL High/PS-OFF: TTL Low/PS-ON

V_{IL}=0.8Vmax, I_{IL}=-1.6mAmax @ V_{IN}=0.4V

V_{IH}=2.0Vmin @ I_{IN}=-200uA, V_{IH}=5.25Vmax@ open ckt.

- **Hold-up Time:** 16msec (min.) at full load, nominal line I/P.
- **Power Good Delay**: 100 – 500 msec.
- **Power Fail Delay**: >1 msec.
- T**urn-on Delay Time**: 2000 msec max. at nominal line full load.
- **Transient Overshoot**: 10% max with 20% load change
- **Rise Time**: 100ms max at full load.

E-1-3 PROTECTION

If the power supply protection latch off all main output, (when OCP, OVP or short protection is working) reset by cycling remote on/off control or AC power. +5Vsb is recovery.

- **Over Power Protection**: Protection at 110%~150% full load
- **Over Voltage Protection**

+3.3V output	4.10	+-0.40V
+5.0V output	6.25	+-0.75V
+12.0V output	14.6	+-1.00V

- **Short Protection**: All output to GND

E-1-4 ENVIRONMENT

- **Operating Temperature**: 0^{o}C to 50^{o}C
- **Storage Temperature**: -20^{o}C to 60^{o}C
- **Operating Humidity**: 10% to 90%, non-condensing at to 40^{o}C
- **Storage Humidity**: 5% to 95%, non-condensing at to 50^{o}C
- **Operating Altitude**: 0 to 10,000 feet
- **Storage Altitude**: 0 to 50,000 feet

E-1-5 HI-POT (INPUT/OUTPUT ISOLATION)

- **Primary to Secondary**: 1500VAC for 1 minute or 4242VDC for 1 second
- **Insulation Resistance**: Primary to earth ground 500VDC, 50M ohms min.

E-1-6 CE REQUIREMENTS

- **Conducted EMI**

  Meet FCC: Class B

  Meet CISPR 22: Class B

  Meet VCCI: Class 2

- **Safety Standards**

  UL/CUL (UL 60950)

  TUV EN60950

  CB (IEC 950)

  CE

- **Harmonic**

  Meet IEC10000-3-2 & IEC10000-3-3, Class D

E-1-7 MTEF AT 25^{o}C

- 100kHrs min. at full load

E-1-8 DIMENSION

- 170 x 100 x 40 mm (L x W x H)

E-2: DC Power supply

The DC power supply used in the ODYSSE 120/150 IV is a 200 watts 1U ATX power supply, APU230D. It is a dual output switching power supply specially designed for the ODYSSE IV system.

E-2-1: ELECTRICAL SPECIFICATIONS

E-2-1-1: INPUT CHARACTERISTICS

- Input Voltage Range: -38VDC to -72 VDC
- Input DC Current (Max): 9.0A Max. full load.

E-2-1-2: OUTPUT CHARACTERISTICS

STATIC OUTPUT CHARACTERISTICS

Output Voltage		Load Range		Regulation		Ripple		Ripple & Noise	
		Min.	Max.	Min.	Max.	Max	P-P	Max.	P-P
+3.3	V	0.3 A	15.0 A	- 5 %	+ 5 %	50	mV	100	mV
+5.0	V	2.5 A	25.0 A	- 5 %	+ 5 %	50	mV	100	mV
+12.0	V	0.5 A	9.0 A	- 5 %	+ 5 %	100	mV	150	mV
-5.0	V	0.0 A	1.0 A	- 10 %	+ 10 %	150	mV	200	mV
-12.0	V	0.0 A	1.0 A	- 10 %	+ 10 %	150	mV	200	mV
SB +5.0	V	0.0 A	1.5 A	- 5 %	+ 5 %	100	mV	100	MV

NOTE

1. Noise test: Noise bandwidth is from DC to 20MHz.
2. Ripple frequencies greater than 1 MHz shall be attenuated by the measurement system.
3. Add 0.1uF/10uF capacitor at output connector terminals for ripple & noise measurements.
4. Combined total power from +3.3V and +5V rails shall not exceed 125W.
5. The total output power shall not exceed 230W.

DYNAMIC OUTPUT CHARACTERISTICS:

1. Rise time: 100 ms max. at nominal line full load.
2. Turn-on delay time: 600ms max. at nominal line full load.
3. Hold-up Time: 16 ms min. for + 5V output at nominal line full load.
4. Transient overshoot: 10% max. of delay state after load change of 25% within the range of 50% to 100% of full load.
5. Temperature Coefficient: 0.03% per °C max.

E-2-2: PROTECTIONS

◆ **Over Voltage Protection**

- Standard on +3.3V output set at 4.10 VDC at +/-0.40 VDC
- +5.0V output set at 6.25 VDC At +/-0.75 VDC
- +12.0V output set at 14.6 VDC At +/-1.0 VDC.

◆ **Short Circuit Protection:** A short circuit placed between DC return and output shall not causedamage and the power supply shall shutdown.

◆ **Over Power Protection**: The power supply can use electronic circuit to limit the output. Power against excessive +150% of full load or protected against excessive power delivery due to short circuit o any output or over total power.

E-2-3: DIELECTRIC WITHSTAND VOLTAGE

◆ **Primary to Secondary:** 1500 VAC for 1 minute or 1800 VAC for 1 second.

◆ **Primary to Safety Ground**: 1500 VAC for 1 minute or 1800 VAC for 1 second.

◆ **Insulation Resistance**: Primary to safety ground - 500VDC, 50M ohms min.

E-2-4: ENVIRONMENT

- Operation Temperature: 0°C to 50°C.
- Operation Relative Humidity: 20% to 90%.
- Storage Temperature: -20°C to 60°C.
- Storage Relative Humidity: 5% To 95%.

E-2-5: BURN-IN

- Burn-In: At 45°C. Max. load, 4 hours.

E-2-6: MEAN TIME BETWEEN FAILURE

- 150 KHrs minimum at full load for 25°C ambient temperature.

E-2-7: SAFETY

Designed to meet the following specification

- UL/CUL – 1950
- TUV - EN 60950

E-2-8: CONDUCTED EMI

Internal filter can meet

- FCC Requirement - Part15, SUB-Part J, Computing Devices " Class A " Limits
- VDE Requirement - Class " A " (General operating permit) Requirements of VFG 234/1991.
- CISPR Requirement - Class " A " Requirements of CLSPR 22.

E-2-9: DIMENSION

- W x H x D - 100.0 x 40.6 x 205.2 (mm)