

AIMB-330F

**Socket 370 SBC for Multimedia
Applications**

User's Manual

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This manual is for the AIMB-330F Series.

Part No.2006033020

2nd Edition, September 2004

Packing List

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

- 1 AIMB-330 all-in one single board computer
- 1 CD-ROM or disks for utility, drivers, and manual (in PDF format)
- 1 warranty certificate
- 1 UDMA/66IDE flat cable
- 1 startup manual
- 1 2-port serial port cable
- 1 4-port serial cable (AIMB-330F only)
- 1 IEEE 1394 cable (optional)

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Additional Information and Assistance

Step 1. Visit the Advantech web site at **www.advantech.com** where you can find the latest information about the product.

Step 2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User's Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
 - a. The power cord or plug is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been exposed to moisture.
 - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - e. The equipment has been dropped and damaged.
 - f. The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Wichtige Sicherheitshinweise

1. Bitte lesen sie Sich diese Hinweise sorgfältig durch.
2. Heben Sie diese Anleitung für den späteren Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie Keine Flüssig-oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.
4. Die Netzanschlussteckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.
5. Das Gerät ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen.
7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor überhitzung schützt. Sorgen Sie dafür, daß diese Öffnungen nicht abgedeckt werden.
8. Beachten Sie beim Anschluß an das Stromnetz die Anschlußwerte.
9. Verlegen Sie die Netzanschlusbleitung so, daß niemand darüber fallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.
10. Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.
11. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
12. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. elektrischen Schlag auslösen.
13. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von autorisiertem Servicepersonal geöffnet werden.
14. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:
 - a - Netzkabel oder Netzstecker sind beschädigt.
 - b - Flüssigkeit ist in das Gerät eingedrungen.
 - c - Das Gerät war Feuchtigkeit ausgesetzt.
 - d - Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
 - e - Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
 - f - Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.
15. VORSICHT: Explosionsgefahr bei unsachgemabem Austausch der Batterie.Ersatz nur durch denselben oder einem vom Hersteller empfohlene-mähnlichen Typ. Entsorgung gebrauchter Batterien navh Angaben des Herstellers.

Der arbeitsplatzbezogene Schalldruckpegel nach DIN 45 635 Teil 1000 beträgt 70dB(A) oder weiger.

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Caution!



Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

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General Information

This chapter gives background information on the AIMB-330F.

Sections include:

- Sections include:
- Introduction
- Features
- Specifications
- Board layout and dimensions

Chapter 1 General Information

1.1 Introduction

The AIMB-330F utilizes an EmbeddedATX form factor (Socket 370) design that supports Socket 370 for Intel Celeron® / Pentium® III processors (Tulatin), VGA C3 above 750MHz. This effective EmbeddedATX socket 370 solution gives end users the choice of good, economical performance with the VIA C3 series processors, or the impressive performance of the Intel Celeron® and Pentium III series. This processor flexibility combined with all the other on-board features, explains why the AIMB-330F is the new top-of-the-line Industrial Motherboard solution at Advantech.

The AIMB-330F is loaded with special on-board features that rival full-size systems. It has standard 10/100Base-T PCI Ethernet, 2 channel 48-bit LVDS LCD panel support as well as SSD support for CompactFlash®. There is a Mini PCI socket for optional international version modem, plus optional support for AC97 3D stereo surround sound with speaker-out, CD-input, line-in, line-out and microphone. The AIMB-330F also includes two 184-pin DDR DIMM sockets for up to 2 GB total on-board memory.

The AIMB-330F was designed using feedback and knowledge gained from our customers. It has more of the features our customers have requested. It is 100% PC compatible and is ready to handle the most challenging Industrial motherboard environments. Besides the great onboard memory flexibility and capacity, the AIMB-330F has six on-board serial ports, each with +5/+12 V power, six USB connectors, watchdog timer and tough industrial grade construction. The Award 256 KB Flash BIOS supports Plug & Play, Boot from Ethernet, Boot from CD-ROM, Boot from Zip drive, Wake-on-Lan, Modem. All these features make the AIMB-330F a very "system integrator friendly" solution, perfect for handling gaming, ATM, kiosks and DVR multimedia applications in the harshest unmanned environments.

1.2 Features

- All-in-one design simplifies system integration and increases system stability
- Socket 370 supports Intel® Celeron®/Pentium® III processors(Tulatin), VGA C3 above 750MHz.
- Dual display support
- 2/6 serial ports, one RS-232/422/485, the others are RS-232, COM 3~6 shared IRQ
- Supports DDR266 DRAM memory sockets
- 6 USB 2.0 interface compliant included 1 Embedded USB
- Supports Mini PCI interface for optional modem/wireless LAN
- Supports I²C, DIO interface
- Supports system overheat temperature control
- 63-level watchdog timer, jumperless on-line setup supported
- Supports 2 slots Cardbus and 2 ports IEEE 1394 interface(optional)

1.3 Specifications

Standard SBC functions

- **CPU:** Socket 370 for Intel® Celeron®/Pentium III processors(Tulatin),VGA C3 above 750MHz.
- **BIOS:** Award 256 KB Flash memory
- **Chipset:** VIA CLE266 + 8235 Chipset
- **System memory:** DDR DIMM x2, Max. 2G
- **Enhanced IDE interface:** 2 x EIDE, 40-pin UDMA 66&100 and 44-pin UDMA 33
- **FDD interface:** Supports up to one FDD (optional)
- **Serial ports:** 2/6 serial RS-232 ports, COM1,3,4,5,6: RS-232, COM2: RS-232/422/485, COM3~6 share IRQ. It will depend on the OS support to have a share IRQ capability.
- **Parallel port:** 1/2 parallel ports, supports SPP/EPP/ECP mode
- **Infrared port:** Shared with COM2. Transfer rates up to 1.15 Mbps
- **Keyboard/mouse connector:** Supports standard PC/AT keyboard and a PS/2 mouse
- **Power management:** Supports power saving modes including Normal/Standby/Suspend modes. APM 1.1 compliant
- **Watchdog timer:** 63 level timer intervals
- **USB:** Six universal serial bus ports (USB2.0), EmbeddedUSB will occupy 2 USB resources.
- **Expansion Interface:** 1 x PCI, 1 x mini PCI, 2 x Cardbus, 2 x Firewire

Solid state disk

- Supports one 50-pin socket for CompactFlash™ card

VGA/LCD interface

- **Chipset:** VGA CLE266
- **Display mode:** Maximum 3D resolution supported, LCD panel: 1600 x 1200. CRT 1400x1050, DVI 1280x1024
- **Dual display combination:** CRT +24-bit LCD panel; CRT+ LVDS panel

Ethernet interface

- **Chipset:** ReakTek RTL 8139DL 10/100M or Intel 82541GI (10/100/1000M optional)
- **Ethernet interface:** 1 x RJ45
- **Connection:** On-board RJ-45 connector
- **Speed:** 10/100Base-T or 1000Base-T
- **Standard:** IEEE 802.3, IEEE 802.3u, IEEE 802.3z/ab (optional)
- Built-in boot ROM

Display

- **Chipset:** VIA CLE266/VT8623CD
- **Memory Size:** VIA Direct Memory Execution model to use system memory
- **Resolution:** Maxium 3D Resolution Supported:
 - LCD panel: 1600 x 1200
 - CRT: 1400 x 1050
 - DVI: 1280 x 1024

Mechanical and environmental

- Power requirements: +12 V(CPU)@ 0.33 mA, +5 V@ 6.15 mA, +3.3 V@ 2.6A (PentiumIII, 1.26 G, DDR333 512+256 M)
- Operating temperature: 0 ~ 60° C (32 ~ 140° F)
- Operating humidity: 0% ~ 90% relative humidity, noncondensing
- Dimensions (L x W): 244 x 244 mm (9.6" x 9.6")
- Weight: 0.7 kg (1.2 lb)

1.4 Board Dimensions

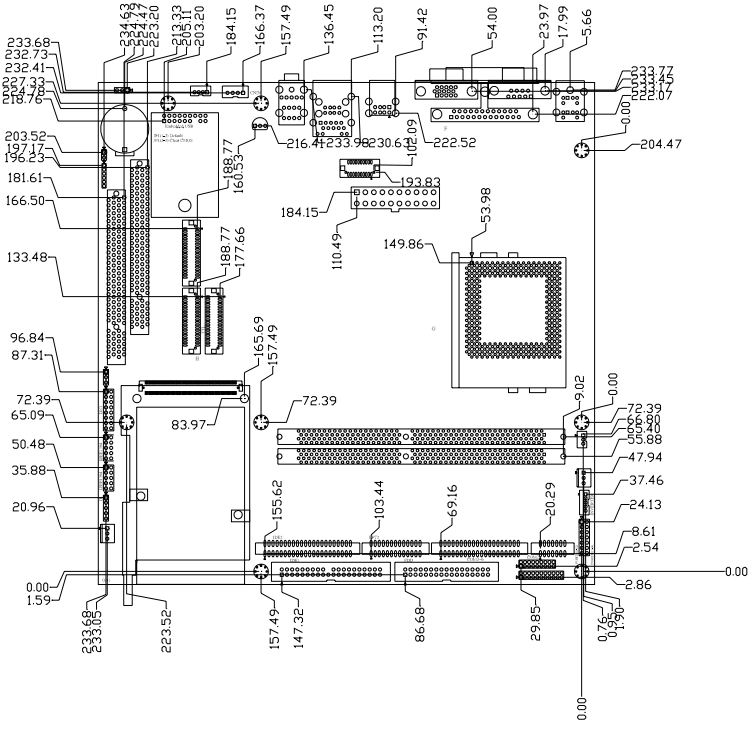


Figure 1.1: Board Dimensions (Component Side)

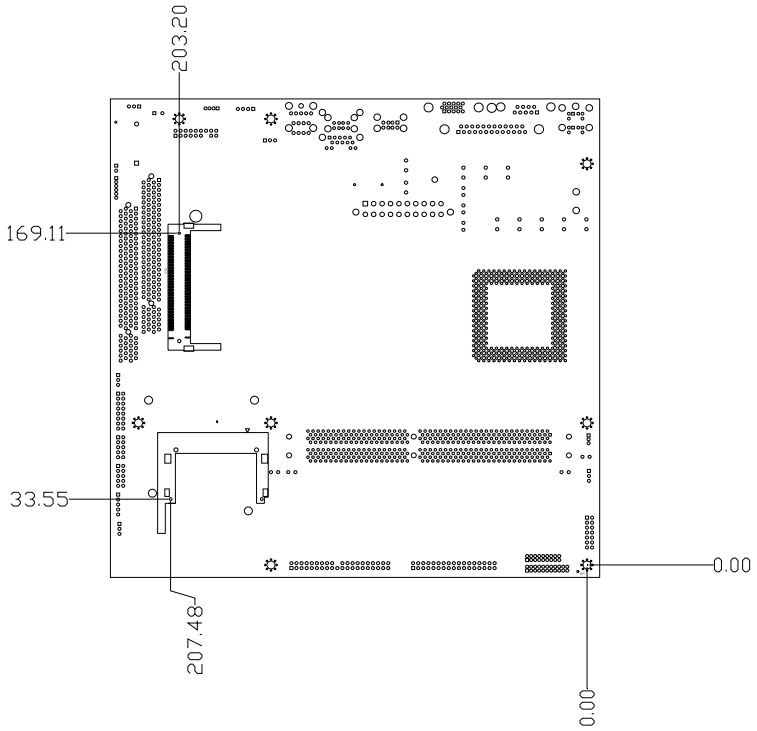


Figure 1.2: Board Dimensions (Solder Side)

Installation

This chapter explains how to set up the AIMB-330F hardware, including instructions on setting jumpers and connecting peripherals, switches and indicators. Be sure to read all the safety precautions before you begin the installation procedure.

Chapter 2 Installation

2.1 Jumpers

The AIMB-330F has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each of the board's jumpers

Table 2.1: Table 2.1: Jumpers

JP1	COMS Power
JP2	
JP3	COM1~COM6 pin9 voltage output setting
JP4	COM2 function select & COM port ring wakeup select
JP5	Panel voltage select

2.2 Connectors

On-board connectors link the AIMB-330F to external devices such as hard disk drives, a keyboard, or floppy drives. The tables below lists the function of each of the board's connectors

Table 2.2: Connectors

1.	CN1	VGA Connector (D-Sub 15Pin)
2.	CN2	COM-1 connector (D-Sub 9-Pin)
3.	CN3	PCMCIA connector
4.	CN4	Audio connector
5.	CN5	LPT connector (D-Sub 25-pin)
6.	CN6	KB/MS connector (Mini-DIN)
7.	CN7	USB connector
8.	CN8	TTL LCD 40-pin HIROSE
9.	CN9	LAN and USB*2 connector
10.	CN10	Internal speaker connector
11.	CN11	CD-Input connector

Table 2.2: Connectors

12.	CN12	Watch-Dog program connector
13.	CN13	24-bits LVDS LCD (40-pin) HIROSE
14.	CN14	12-bits LVDS LCD (40-pin) HIROSE
16.	CN16	Embedded USB-V
17.	CN17	Inverter Power Connector
18.	CN18	ATX Power connector
19.	CN19	DIO connector
20.	CN20	Secondary IDE connector
21.	CN21	IR Connector
22.	CN22	Primary IDE connector
23.	CN23	Floppy connector
24.	CN24	Front panel connector
25.	CN25	COM3-COM6 RS232 connector
26.	CN26	LPT-2 connector
27.	CN27	COM-2 RS232 connector
28.	CN28	Mini PCI
29.	CN29	Compact Flash (IDE Secondary Slave)
30.	CN30,	IEEE-1394
31.	CN31	IEEE-1394
32.	CN33	DVI connector
33.	FAN1	FAN connector(Speed Detect)
34.	FAN2	FAN2 connector(Speed Detect)

2.3 Locating jumpers and connectors

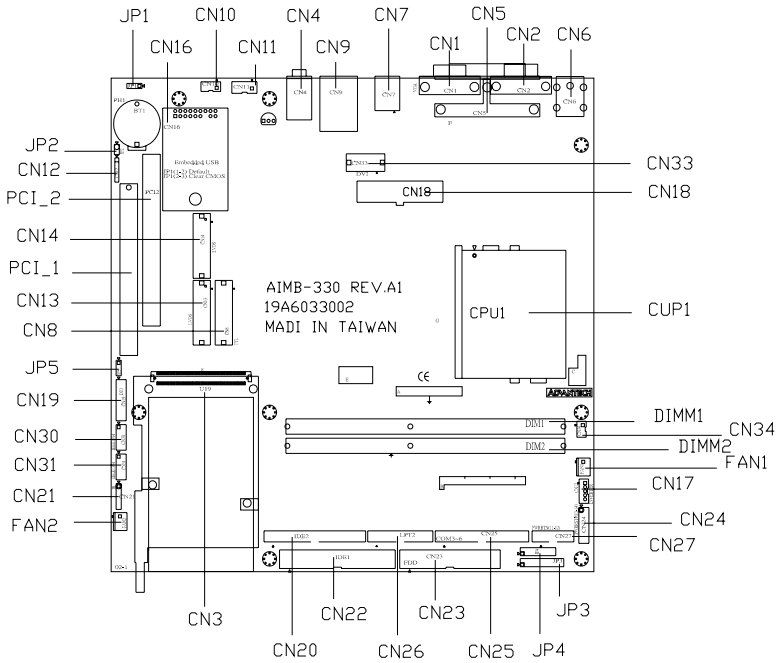


Figure 2.1: Locating Jumpers & Connectors

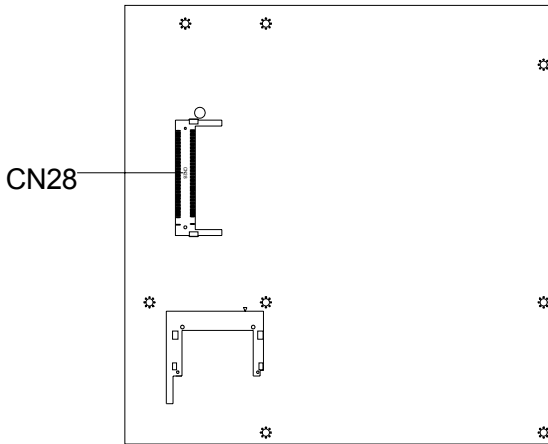
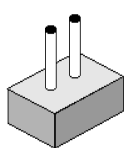


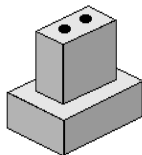
Figure 2.2: Locating Jumpers & Connectors(soldor side)

2.4 Setting Jumpers

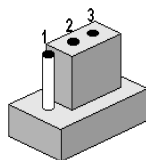
You configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To close a jumper you connect the pins with the clip. To open a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



open

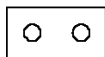


closed



closed 2-3

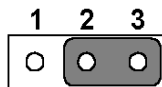
The jumper settings are schematically depicted in this manual as follows:



open



closed



closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

Generally, you simply need a standard cable to make most connections.

2.5 CPU installation and upgrading

You can upgrade to a higher power Pentium 4 processor at any time. Simply remove the old CPU, install the new one, and the BIOS will auto detect the new CPU type and speed.

Warning! *Always disconnect the power cord from your chassis when you are working on it. Do not make connections while the power is on as sensitive electronic components can be damaged by the sudden rush of power. Only experienced electronics personnel should open the PC chassis*



Caution! *Always ground yourself to remove any static charge before touching the PC board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis.*



2.5.1 Installing a CPU in the ZIF socket

AIMB-330F provides a Zero Insertion Force (ZIF) socket for easy CPU installation.

1. Make sure the ZIF socket lever is in the upright position. To raise the lever, pull it out to the side a little and raise it as far as it will go.
2. Place the CPU in the empty socket. Follow the instructions that came with the CPU. If you have no instructions, do the following: Carefully align the CPU so it is parallel to the socket and the notch on the corner of the CPU corresponds with the notch on the inside of the socket. Gently slide the CPU in. It should insert easily. If it does not, pull the lever up a little more.
3. Press the lever down. The plate will slide forward. You will feel some resistance as the pressure starts to secure the CPU in the socket. This is normal and will not damage the CPU.

When the CPU is installed, the lever should snap into place at the side of the socket.

Note: To remove a CPU, pull the lever out to the side a little and raise it

2.5.2 CMOS clear (JP1)

Warning! To avoid damaging the computer, always unplug the power cord to turnoff the power supply before setting “Clear CMOS.” Use a pencil or a tool to press the tactile-switch.



2.6 DRAM installation

There are two on-board 186-pin DDR DIMM sockets.

2.6.1 DDR SDRAM (DIMM 1 and DIMM 2)

You can install one DDR SDRAM (up to 1 GB) or two 186-pin DIMM (up to 2 GB DRAM) in the DIMM sockets.

Caution! When installing DIMM, make sure the module is oriented properly. Do not use excess force during installation.



2.7 Primary (3.5") IDE connector (CN22)

The 40-pin IDE connector supports up to two 40-pin IDE interface devices, including CD-ROM drives, tape-backup drives, HDDs, etc. When connecting, make sure pin 1 of the connector is matched with pin of the device's connector.

The built-in Enhanced IDE (Integrated Device Electronics) controller supports up to two IDE devices, including CD-ROM drives, tape backup drives, a large hard disk drive and other IDE devices. It also supports faster data transfer rates and allows IDE hard disk drives with capacities in excess of 528 MB.

2.7.1 Connecting the hard drive

Connecting drives is done in a daisy-chain fashion. Wire number 1 on the cable is red or blue, while the other wires are gray.

Unlike floppy drives, IDE hard drives can connect to either end of the cable. If you install two drives, you will need to set one as the master and one as the slave by using jumpers on the drives. If you install just one drive, set it as the master.

2.8 Secondary (2.5") IDE connector (CN20)

The on-board 44-pin mini-pitched IDE interface is used to let user support either a 2.5" HDD.

Follow the same connection arrangement as the 3.5" HDD if you want to connect to a 2.5" IDE device. Read the BIOS setup section for more information regarding system settings.

Note: *You cannot use a DMA-66 HDD, due to the cable is limitation.*

2.9 FDD connector (CN23) (optional)

You can attach up to one floppy disk to the AIMB-330F's on-board controller. You can use any combination of 5.25" (360 KB and 1.2 MB) and/or 3.5" (720 KB, 1.44 MB, and 2.88 MB) drives.

A 34-pin daisy-chain drive connector cable is required for a dual-drive system. On one end of the cable is a 34-pin flat-cable connector. On the other end are two sets of floppy disk drive connectors. Each set consists of a 34-pin flat-cable connector (usually used for 3.5" drives) and a printed-circuit board connector (usually used for 5.25" drives).

2.9.1 Connecting the floppy drive

Use FDD cable connector with CN23 on the AIMB-330F

1. Plug the 34-pin flat-cable connector into CN23 connector. Make sure that the red wire corresponds to pin one on the connector.
2. Attach the appropriate connector on the other end of the cable to the floppy drive(s). You can use only one connector in the set. The set on the end (after the twist in the cable) connects to the A: drive.
3. If you are connecting a 5.25" floppy drive, line up the slot in the printed circuit board with the blocked-off part of the cable connector. If you are connecting a 3.5" floppy drive, you may have trouble determining which pin is pin number one. Look for a number printed on the circuit board indicating pin number one. Also, the connector on the floppy drive connector may have a slot. When the slot is up, pin number one should be on the right. Check the documentation that came with the drive for more information. The B: drive can be attached to the connectors in the middle of the cable as described above.

2.10 LPT1 (primary parallel port) connectors (CN5)

The primary parallel printer port is located at the rear edge of the board, and has a DB-25 connector. This printer port is typically used to connect a printer via an adapter cable. LPT1's IRQ setting is defined as IRQ7. You can select Normal/EPP/ECP for LPT1, and enable/disable it in BIOS (see Chapter 4).

2.11 LPT2 (secondary parallel port) connector (CN26)

The secondary parallel port is located next to and on the inner side of the primary parallel port. This secondary port has a 26-pin box header. LPT2's IRQ setting is defined as IRQ9. You can select Printer/EPP/ECP/SPP for LPT2, and enable/disable it in BIOS (see Chapter 4).

2.12 Keyboard/mouse connectors (CN6)

The AIMB-330F is uniquely designed to allow 3 ways for keyboard and mouse input. Please note that only one keyboard and one mouse can be connected at one time.

- External mini-DIN PS/2 keyboard jack (CN6) in purple
- External mini-DIN PS/2 mouse jack (CN6) in green

2.13 Power connectors (CN18, FAN1, FAN2)

2.13.1 ATX power input connector (CN18)

The power connection is a 20-pin connector requiring ± 5 V and ± 12 V and 5VSB single.

2.13.2 Fan power supply connector (FAN2, FAN1)

There are two FAN connector provided, FAN2 is system FAN, FAN1 is optional CPU cooling fan. Only present when +5 V and +12 V power is supplied to the board.

2.14 Audio interfaces (CN4, CN10, CN11)

The AIMB-330F is equipped with a high quality audio interface, which provides 16-bit CD-quality recording and playback as well as OPL3 compatible FM music. It is supported by all major operating systems and is 100% Sound Blaster Pro compatible.

2.14.1 Audio connector (CN4)

The AIMB-330F provides all major audio signal connectors, CN4. These audio signals include Microphone in (mono), Line in (stereo), Line out (stereo).

2.14.2 Internal Speaker Connector (CN10)

There is an internal speaker on CN10. It is a 4-pin box header connector.

2.14.3 CD audio-in connector (CN11)

All CD-ROM drives can provide analog audio signal output when used as a music CD player. The CN11 on AIMB-330F is a connector to input CD audio signal into the audio controller. The audio cable of your CD-ROM drive will be used to connect to CN11.

2.15 Serial (COM1-6) (CN2, CN27, CN25)

The AIMB-330F has a total of six/two on-board RS-232 serial ports, COM1,3,4,5,6: RS-232, COM2: RS-232/422/485, COM3~6 share IRQ. It will depend on the OS support to have a share IRQ capability. The OS which supports shared IRQs is Windows98/2000/XP. All serial ports have +5 V and +12 V power capabilities on both pin #1 and pin #9, depending on the jumper setting. Pin assignments for both internal and external COM ports can be found in the Appendix.

2.15.1 Primary (COM1:CN2,COM2:CN27)

COM1:CN2 serial port is one external DB-9, COM2:CN27 is one internal 10-pin header giving the user the flexibility to adapt the board to many different systems. IRQ for COM1 and COM2 is fixed with COM1 on IRQ4 and COM2 on IRQ3. COM1 and COM2 can be enabled or disabled via BIOS (see Chapter 4).

2.15.2 Secondary (COM3~COM6: CN25)

The secondary serial ports each have one 40-pin, internally positioned header connection. The IRQ 5 or IRQ 10 is for COM3~COM6 share.COM3~COM6 can be enabled/disabled via BIOS (see Chapter 4). And check the IRQ resource allocate in the appendix.

2.16 COM-2 RS232/422/485 & COM 1-6 Ring select (9x2 , 2.0mm Pin-header) (JP4)

Pin-1	RxD	Pin-2	RxD485
Pin-3	RxD	Pin-4	RxD422
Pin-5	RxD	Pin-6	RxD232
Pin-7	COM-1 RING# input	Pin-8	System RING1# Signal
Pin-9	COM-2 RING# input	Pin-10	System RING2# Signal
Pin-11	COM-3 RING# input	Pin-12	System RING3# Signal
Pin-13	COM-4 RING# input	Pin-14	System RING4# Signal
Pin-15	COM-5 RING# input	Pin-16	System RING5# Signal
Pin-17	COM-6 RING# input	Pin-18	System RING6# Signal

COM-2 RS-232 Jumper setting	Pin-5,6 (Default)
COM-2 RS-422 Jumper setting	Pin-3,4
COM-2 RS-485 Jumper setting	Pin-1,2

COM-1 RING# signal select	Pin-7,8 (Default)
COM-2 RING# signal select	Pin-9,10 (Default)
COM-3 RING# signal select	Pin-11,12 (Default)
COM-4 RING# signal select	Pin-13,14 (Default)
COM-5 RING# signal select	Pin-15,16 (Default)
COM-6 RING# signal select	Pin-17,18 (Default)

2.17 COM1~COM6 Pin-9 voltage output select(JP3)

COM1 - COM6 can supply +5 V or +12 V power to the serial devices via RI pin of the COM port connector. The Pin 9 outputs of COM1 - COM6 can be connected to either RI or power by setting J3. If you select power, you can choose +5 V or +12 V by setting JP3..

Pin-1	+5V	Pin-2	+5V
Pin-3	COM1-RI	Pin-4	COM2-RI
Pin-5	+12V	Pin-6	+12V
Pin-7	NC	Pin-8	NC
Pin-9	+5V	Pin-10	+5V
Pin-11	COM3-RI	Pin-12	COM4-RI
Pin-13	+12V	Pin-14	+12V
Pin-15	NC	Pin-16	NC
Pin-17	+5V	Pin-18	+5V
Pin-19	COM5-RI	Pin-20	COM6-RI
Pin-21	+12V	Pin-22	+12V

*** Default Non jumper ***

Examples:

COM-1 Select +5V Output step => Change the JP4 Pin-7,8 jumper to JP3 Pin-1,3

COM-1 Select +12V Output step => Change the JP4 Pin-7,8 jumper to JP3 Pin-3,5

COM-2 Select +5V Output step => Change the JP4 Pin-9,10 jumper to JP3 Pin-2,4

COM-2 Select +12V Output step => Change the JP4 Pin-9,10 jumper to JP3 Pin-4,6

COM-3 Select +5V Output step => Change the JP4 Pin-11,12 jumper to JP3 Pin-9,11

COM-3 Select +12V Output step => Change the JP4 Pin-11,12 jumper to JP3 Pin-11,13

COM-4 Select +5V Output step => Change the JP4 Pin-13,14 jumper to JP3 Pin-10,12

COM-4 Select +12V Output step => Change the JP4 Pin-13,14 jumper to JP3 Pin-12,14

COM-5 Select +5V Output step => Change the JP4 Pin-15,16 jumper to JP3 Pin-17,19

COM-5 Select +12V Output step => Change the JP4 Pin-15,16 jumper to JP3 Pin-19,21

COM-6 Select +5V Output step => Change the JP4 Pin-17,18 jumper to JP3 Pin-18,20

COM-6 Select +12V Output step => Change the JP4 Pin-17,18 jumper to JP3 Pin-20,22

2.18 VGA interface connections

The AIMB-330F 's AGP 4X interface can drive conventional CRT displays and is capable of driving a wide range of flat panel displays, including electroluminescent (EL), gas plasma, passive LCD and active LCD displays. The board has two connectors to support these displays, one for standard CRT VGA monitors and one for flat panel displays.

2.18.1 CRT display connector (CN1)

CN1 is a standard 15-pin D-SUB connector commonly used for the CRT VGA monitor only. Pin assignments appear in the appendix.

2.18.2 Flat panel display connector (CN13,CN14)

CN13, CN14 consists of a 40-pin header. CN13 can connect to a 1 channel 24-bit LVDS LCD panel. CN14 can connect to another 1 channel 12-bit LVDS LCD panel. Pin assignments appear in the appendix. (For more information on LCD connection information between CN13 and LCD, refer to Chapter 3.)

2.18.3 LCD VDDSAFE setting (JP2)

The AIMB-330F's VGA interface supports 5 V and 3.3 V LCD displays. By changing the setting of JP2, you can select the panel video signal level to be 5 V or 3.3 V.

Table 2.3: LCD power (JP2)

Closed pins	Result
1-2	+5 V LCD panel
2-3	+3.3 V LCD panel*

Configuration of the VGA interface is done completely via the software utility. You do not have to set any jumpers. Refer to Chapter 3 for software setup details.

2.18.4 Inverter power connector (CN17)

There is a 5pin connector (CN17) for inverter with +12V and +5V power connector.

2.19 Ethernet configuration

The AIMB-330F is equipped with a high performance 32-bit PCI-bus Ethernet interface which is fully compliant with IEEE 802.3 u

10/100Mbps CSMA/CD standards. It is supported by all major network operating systems.

It has an optional 10/100/1000Base-T Ethernet interface which is fully compliant with IEEE 802.3z/ab.

2.19.1 RJ-45 connector (CN9)

100/10Base-T connects to the AIMB-330F via an RJ-45 standard jack.

2.19.2 Network boot

The Network Boot feature can be utilized by incorporating the Boot ROM image files for the appropriate network operating system. The Boot ROM BIOS files are on the included utility disk.

2.20 Watchdog timer configuration

An onboard watchdog timer reduces the chance of disruptions which EMP (electro-magnetic pulse) interference can cause. This is an invaluable protective device for standalone or unmanned applications. Setup involves one jumper and running the control software (refer to Appendix A). When the watchdog timer activates (CPU processing has come to a halt), it can reset the system.

2.21 USB connector (CN7,CN9,CN16)

The AIMB-330F board provides six USB (Universal Serial Bus) interfaces which support plug and play and hot attach/detach for up to 127 external devices. The USB interfaces comply with USB specification Rev. 2.0 support 480 Mbps transfer rate and are fuse protected.

There are 4 USB2.0 jack on CN7 and CN9. And CN16 is for EmbeddedUSB Type I/II connection purpose.

Embedded USB Interface is based on USB 2.0 and re-define pin assignment and connector type to fit Embedded Market

The USB interfaces can be disabled in the system BIOS setup.

2.22 Digital I/O (CN19: 4 Outputs, 4 Inputs)

The AIMB-330 has two high drive digital outputs (24 VDC, 1 A max) and four digital inputs (TTL level). You can configure the digital I/O to control the opening of the cash drawer and to sense the closing of the cash drawer. The following explains how the digital I/O is controlled via software programming and how a 12 V solenoid or relay can be triggered:

Digital I/O Connector			
IN0	1	2	+5 V
IN1	3	4	OUT0 (Max 1A)
IN2	5	6	GND
IN3	7	8	OUT1 (Max 1A)
GND	9	10	+ 12 V
KEY	11	12	KEY
OUT3	13	14	GND
OUT2	15	16	+ 12

2.22.1 Digital output programming

Output is CMOS MOSFET (high drive) type, capable of handling 24 VDC / 1 A loading. It is meant to drive relays or a solenoid.

Table 2.4: Digital output programming

Output	Address	Bit
Out 1	220	0
Out 2	220	1

Example: ("0" = off "1" = on)

Data 00 = Out 0 and Out 1 = "0"

Data 01 = Out 0 = "1"

Data 02 = Out 1 = "1"

Data 03 = Out 0 and Out 1 = "1"

2.23 IrDA Connector (CN21)

IrDA connector (CN21) shared with COM2. Transfer rates up to 1.15 Mbps

2.24 Front Panel Connector(CN21)

There is a 14pin connector for system led. It included HDD,Power,Suspend,LAN ACT, ATX power and Reset LED. The more detail information can reference appendix.

2.25 COMS Power (JP1)

There is a 3pin connector (JP1) for host bus speed select.

Table 2.5: -> COMS Power

Pin	Function
1-2	Default
2-3	Clear COMS

2.26 Watch Dog programmer (CN12).

CN12 is reserved for watch dog programming purpose. The pin definition reference appendix, please.

2.27 PCI slot expansion (PCI1 or PCI2)

The location of PCI1 follow EmbeddedATX specification. And the location of PCI2 follow MicroATX 2nd PCI slot location. These two PCI slots can not function at the same time. It can have a riser card to expand the 2 PCI slots.

CHAPTER
3

**Chipset Software
Installation Utility**

Chapter 3 Chipset Software Installation Utility

3.1 Before you begin

To facilitate the installation of the enhanced display device drivers and utility software, you should read the instructions in this chapter carefully before you attempt installation. The device drivers for the AIMB-330 board are located on the software installation CD. The auto-run function of the driver CD will guide and link you to the utilities and device drivers under a Windows system.

Note: The files on the software installation CD are compressed. Do not attempt to install the drivers by copying the files manually. You must use the supplied SETUP program to install the drivers.

Before you begin, it is important to note that most display drivers need to have the relevant software application already installed in the system prior to installing the enhanced display drivers. In addition, many of the installation procedures assume that you are familiar with both the relevant software applications and operating system commands. Review the relevant operating system commands and the pertinent sections of your application software's user's manual before performing the installation.

3.2 Introduction

The utility installs to the target system the Windows INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

- Core PCI and ISA PnP services.
- IDE Ultra ATA 100/66/33 interface support.
- USB 1.1 support (USB 2.0 driver needs to be installed separately)

- Integrates superior video features. These include filtered sealing of 720 pixel DVD content, and MPEG-2 motion compensation for software DVD

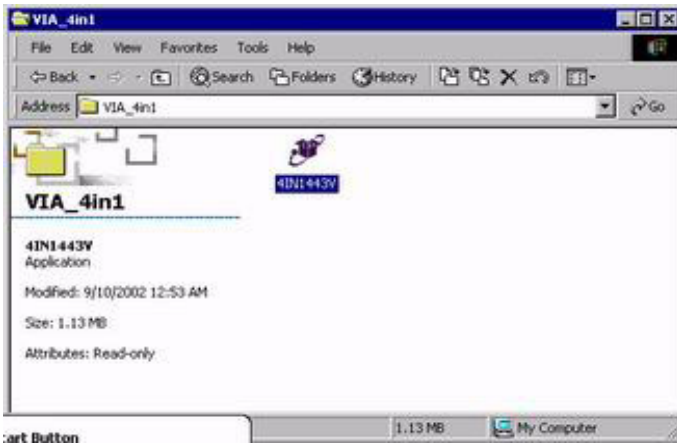
Note: This utility is used for the following versions of Windows system, and it has to be installed before installing all the other drivers:

Windows 2000

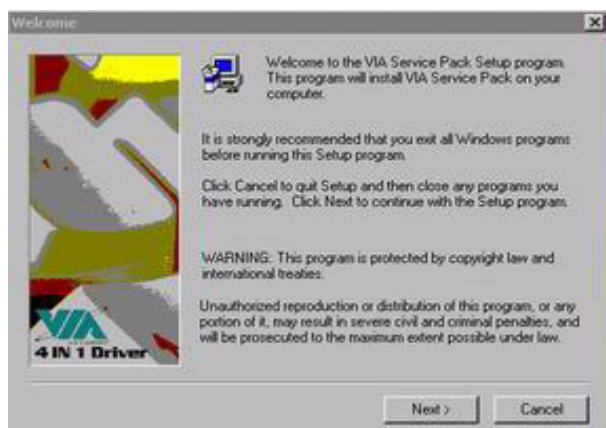
Windows XP

3.3 Installing VIA CLE266 the Utility

1. Insert the driver CD into your system's CD-ROM drive. In a few seconds, the CD main manu appears. Move to "\\AIMB-330\chipset\4in1", and click "4in1443V" icon.



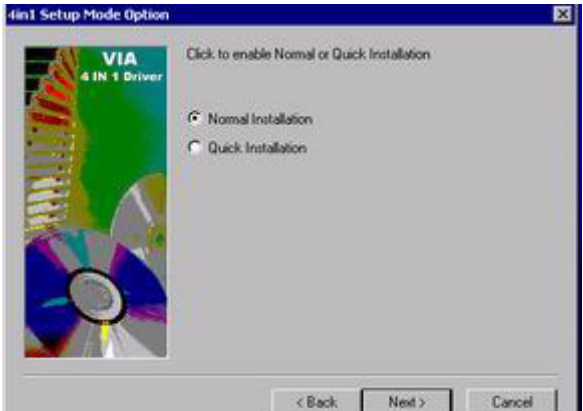
2. Click “Next” when you see the following message..



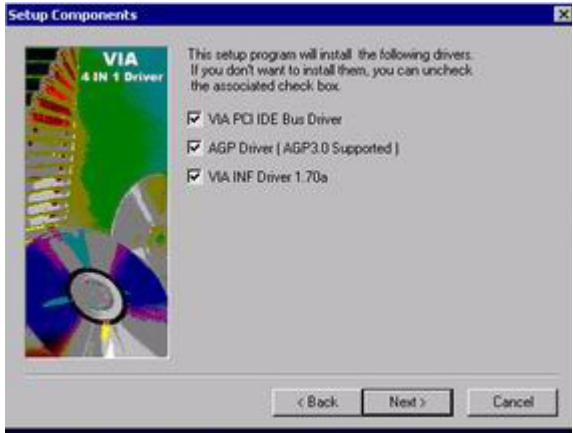
3. Click “Yes” when you see the following message.



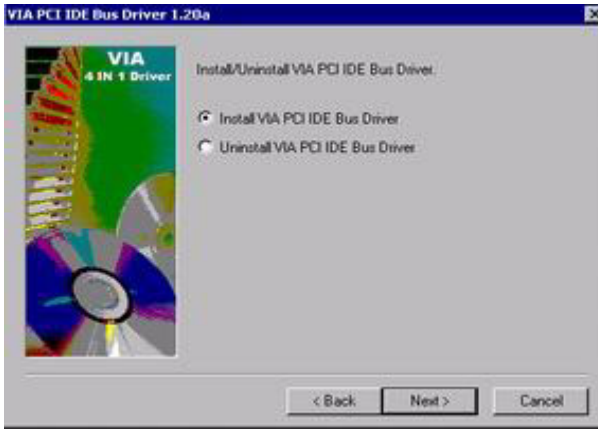
4. Select “Normal Installation”, and click “Next” when you see the following message.



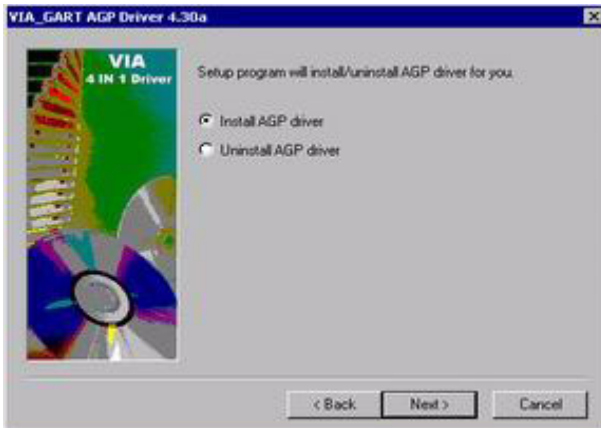
5. Select “VIA PCI IDE Bus Driver”, “AGP Driver[AGP3.0 supported]”, “VIA INF Driver 1.70a” and click “Next” when you see the following message



6. Select “install VIA PCI IDE Bus Driver”, and click “Next” when you see the following message.



7. Select “install AGP Driver”, and click “Next” when you see the following message.



8. When the following message appears, you can choose to restart your computer now or later.



3.4 Connections for Standard LCDs

Table 3.1: LCD connections

LG LM150x60		AIMB-330	
Pin No.	Function	Pin No.	Function
1	Vcc	1	VDDSAFE
2	Vcc	2	VDDSAFE
3	GND	3	GND
4	GND	4	GND
5	Rx0-	7	LVDS_0N
6	Rx0+	9	LVDS_0P
7	GND	11	GND
8	Rx1-	13	LVDS_1N
9	Rx1+	15	LVDS_1P
10	GND	17	GND
11	Rx2-	19	LVDS_2N
12	Rx2+	21	LVDS_2P
13	GND	23	GND
14	RxC-	25	LVDS_C1N
15	RxC+	27	LVDS_C1P
16	GND	29	GND
17	Rx3-	35	LVDS_3N
18	Rx3+	37	LVDS_3P
19	GND	33	GND
20	NC		

Audio Setup

The AIMB-330F is equipped with an audio interface that records and plays back CD-quality audio. This chapter provides instructions for installing the software drivers included on the audio driver diskettes.

Chapter 4 Audio Setup

4.1 Introduction

The AIMB-330F's on-board audio interface provides high-quality stereo sound by using the Realtek ALC202 Audio Codec from Realtek. The audio interface can record, compress, and play back voice, sound, and music with built-in mixer control.

4.2 Driver installation

4.2.1 Before you begin

Please read the instructions in this chapter carefully before you attempt installation. The audio drivers for the AIMB-330F board are located on the audio driver CD. Run the supplied SETUP program to install the drivers; don't copy the files manually.

- Note:*
- 1. Before try to install driver, go to Chapter 3 to do "Chipset Software Installation Utility " first.*
 - 2. The files on the software installation diskette are compressed. Do not attempt to install the drivers by copying the files manually. You must use the supplied SETUP program to install the drivers.*

4.2.2 Windows XP drivers

Step 1. Click "Start" and select "Settings". Click "Control Panel" and double-click Multimedia" icon and press " Reinstall Driver..." to do audio driver installation..



Step 2. In the Hardware Update Wizard window, click "Next".



Step 3. Click "Continue anyway".

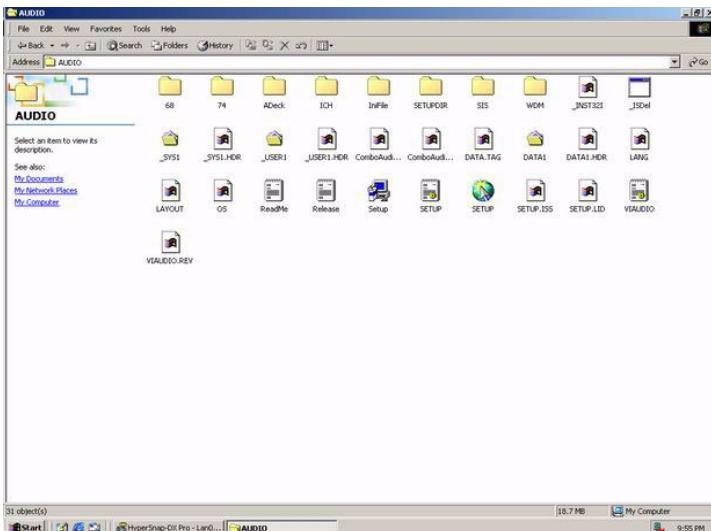


Step 4. In the following Hardware Update Wizard window, click "Finish" for Windows to complete audio driver installation.



4.2.3 Windows 2000 drivers

Step 1. Click "Start" and select "Settings". Click "Control Panel" and double-click "Multimedia".



Step 2. In the Multimedia Properties window, select the "Devices" tab. Then select the "Audio Devices" item, and click "Add...".



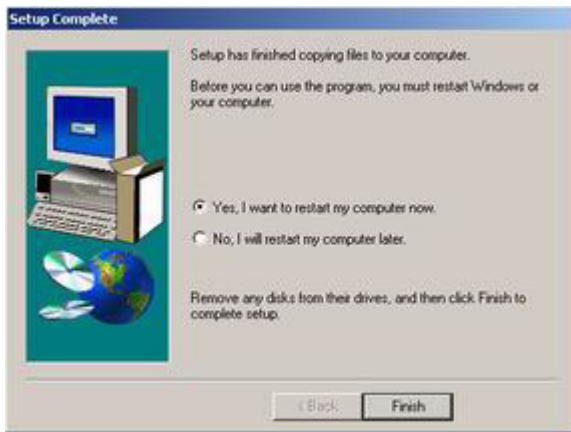
Step 3. In the Add window, select the "Unlisted..." item and click "OK".



Step 4. When the Install Driver window appears, insert the utility disc into the CD-ROM drive. Type: D:\AIMB\340\Audio\WinNT\



Step 5. When the following message appears, you can choose to restart your computer now or later.



VGA Setup

The AIMB-330F features an integrated VGA interface. This chapter provides instructions for installing the VGA drivers from the driver CD included in your package.

Chapter 5 VGA Setup

5.1 Introduction

The AIMB-330 use VIA CLE266 chipset with integrated an onboard AGP flat panel/VGA interface.

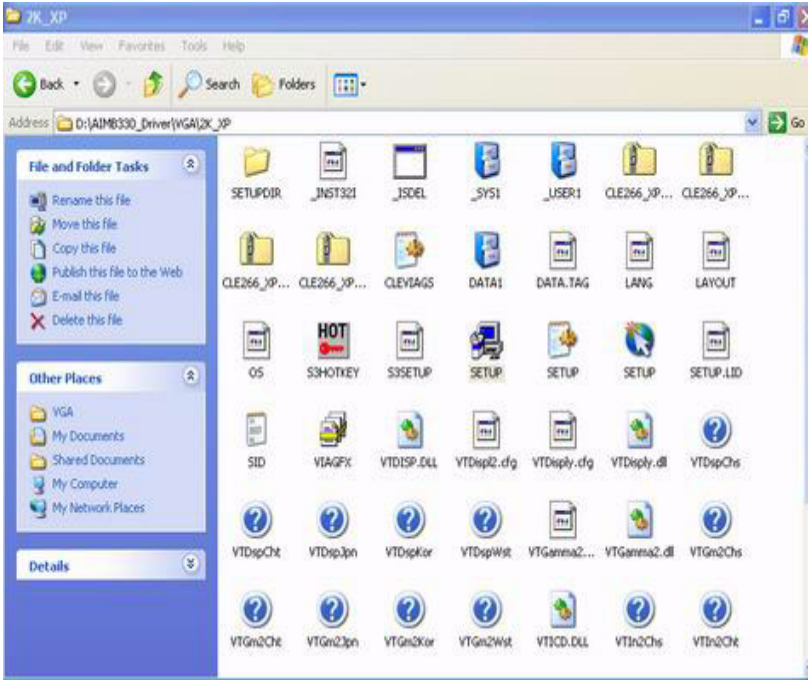
The specifications and features are described as follows:

- Internal AGP4X equivalent performance
- 128-bit 2D/3D graphics engine
- Optimized Shared Memory Architecture(SMA)
- 16/32/64MB frame buffer using system memory
- High quality DVD video playback
- CRT display interface with 24-bit true-color RAMDAC up to 250MHz pixel rate with gamma correction capability
- Support for panel resolutions up to 1024 x 768, CRT resolutions up to 1400x1050, and DVI up to 1280x1024
- Dual view capability where CRT and Flat Panel Monitor can have a different resolution and refresh rate

5.2 Windows XP Installation

Note: Press "CTRL-Alt-F1" hotkey to enable CRT mode in Windows 98

1. Insert the driver CD into your system's CD-ROM drive. In a few seconds, the cd main menu appears. Move to "\\AIBM-330\VGA And click "win2k_xpm113" icon or "winnt4m113" icon. "win2k_xpm133" icon is for WIN9x, WIN2000, WINMe, WINXp and "winnt4m133" icon is for WINNT4.x operating system. installation procedure is for Windows 2000. For other operating systems, please follow the on-screen installation guide



2. You will see a welcome window. Please click on "Next" to continue the installation.



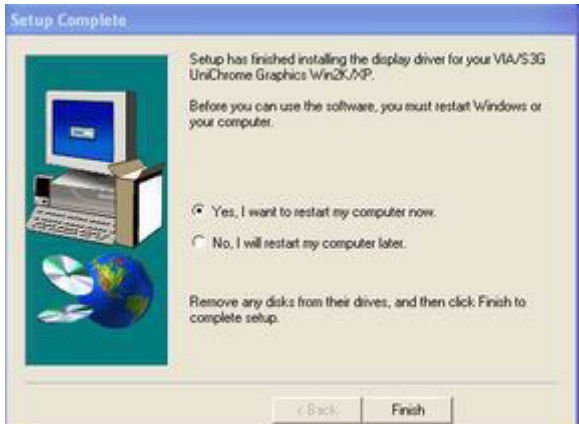
3. Click "Next" when you see the following message.



4. VGA driver is now installing.



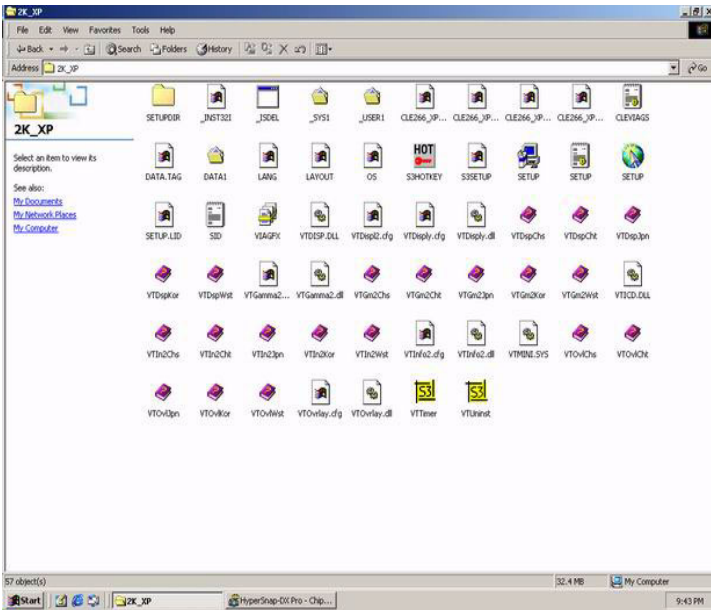
5. When the following message appears, you can choose to restart the computer now or later



5.3 Installation for Windows 2000

Note: *Service Pack X (X = 3, 4, 5, 6,...) must be installed first, before you install the Windows 2000 VGA driver.*

1. Select "Start", "Settings", "Control Panel" and double click the "Display" icon.



2. You will see a welcome window. Please click on “Next “ to continue the installation..



3. Press the "Next" button when you see the following message..



4. When the following message appears, you can choose to restart the computer now or later..



5.4 Dual Display Setting

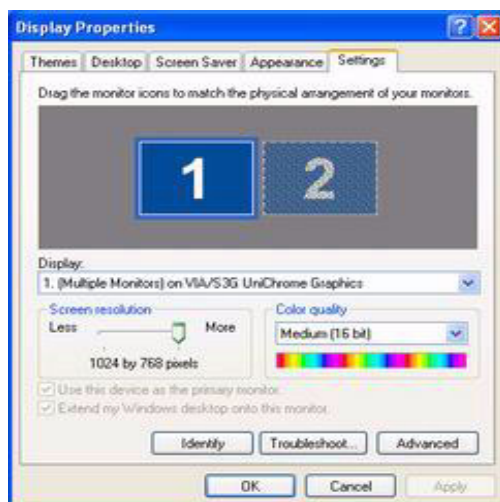
1. Select “Start”, “Setting”, “Control Panel” and double click the “Display” icon.



2. Select dual display device type and click “Ok”.



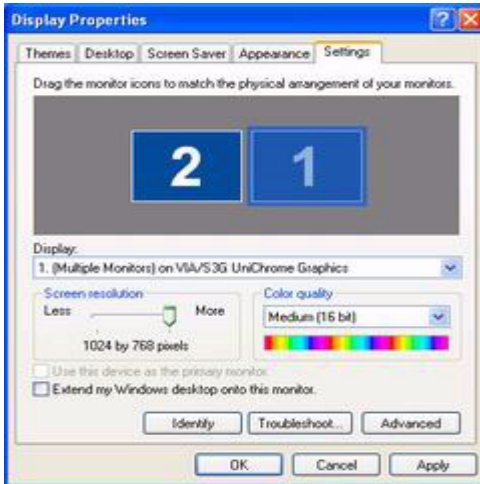
3. Choose “Setting “ tab.



4. Press the Display, select “2”



5. Disable “Extend my Windows desktop on this monitor”, and press the “Apply” button..



6. Select “Extend my Windows desktop on this monitor”, and then press “OK”.



CHAPTER
6

Award BIOS Setup

Chapter 6 Award BIOS Setup

6.1 Introduction

Award's BIOS ROM has a built-in setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed memory (CMOS RAM) so that it retains the setup information when the power is turned off.

6.1.1 CMOS RAM Auto-backup and Restore

The CMOS RAM is powered by an onboard button cell battery. When you finish BIOS setup, the data in CMOS RAM will be automatically backed up to Flash ROM. If operation in harsh industrial environment cause a soft error, BIOS will recheck the data in CMOS RAM and automatically restore the original data in Flash ROM to CMOS RAM for booting.

Note: If you intend to change the CMOS setting without restoring the previous backup, you have to click on "DEL" within two seconds of the "CMOS checksum error..." display screen message appearing. Then enter the "Setup" screen to modify the data. If the "CMOS checksum error..." message appears again and again, please check to see if you need to replace the battery in your system.

6.2 Entering Setup

Turn on the computer and check for the “patch code”. If there is a number assigned to the patch code, it means that the BIOS supports your CPU.

If there is no number assigned to the patch code, please contact Advantech’s applications engineer to obtain an up-to-date patch code file. This will ensure that your CPU’s system status is valid. After ensuring that you have a number assigned to the patch code, press to allow you to enter the setup



Figure 6.1: Award BIOS Setup initial screen

6.3 Standard CMOS Setup

Choose the “Standard CMOS Features” option from the “Initial Setup Screen” menu, and the screen below will be displayed (Figure 5.2). This menu allows users to configure system components such as date, time, hard disk drive, floppy drive, display, and memory.



Figure 6.2: Standard CMOS features screen

6.4 Advanced BIOS Features

The “Advanced BIOS Features (Figure 5.3)” screen appears when choosing the “Advanced BIOS Features” item from the “Initial Setup Screen” menu. It allows the user to configure the AIMB-330F according to his particular requirements. Below are some major items that are provided in the Advanced BIOS Features screen. A quick booting function is provided for your convenience. Simply enable the Quick Booting item to save yourself valuable time.



Figure 6.3: Advanced BIOS features screen

6.4.1 Virus Warning

If enabled, a warning message and alarm beep activates if someone attempts to write here. The commands are “Enabled” or “Disabled.”

6.4.2 CPU Internal Cache

Enabling this feature speeds up memory access. The commands are “Enabled” or “Disabled.”

6.4.3 External Cache

Enabling this feature speeds up memory access. The commands are “Enabled” or “Disabled”.

6.4.4 CPU L2 Cache ECC Checking

Enabling ECC checking feature. The commands are “Enabled” or “Disabled”.

6.4.5 Processor Number Feature

6.4.6 Quick Power On Self Test

This option speeds up the Power-On Self Test (POST) conducted as soon as the computer is turned on. When enabled, BIOS shortens or skips some of the items during the test. When disabled, the computer conducts normal POST procedures.

6.4.7 First/Second/Third/Other Boot Device

The BIOS tries to load the OS with the devices in the sequence selected.

Choices are: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3.

6.4.8 Swap Floppy Drive

Logical name assignments of floppy drives can be swapped if there is more than one floppy drive. The commands are “Enabled” or “Disabled.”

6.4.9 Boot UP Floppy Seek

Selection of the command “Disabled” will speed the boot up. Selection of “Enabled” searches disk drives during boot up.

6.4.10 Boot Up NumLock Status

This feature selects the “power on” state for NumLock. The commands are “Enabled” or “Disabled.”

6.4.11 Gate A20 Option

Normal: A pin in keyboard controller controls GateA20

Fast (Default): Chipect controls GateA20.

6.4.12 Typematic Rate Setting

The typematic rate is the rate key strokes repeat as determined by the keyboard controller. The commands are “Enabled” or “Disabled.” Enabling allows the typematic rate and delay to be selected.

6.4.13 Typematic Rate (Chars/Sec)

BIOS accepts the following input values (characters/second) for typematic rate: 6, 8, 10, 12, 15, 20, 24, 30.

6.4.14 Typematic Delay (msec)

Typematic delay is the time interval between the appearance of two consecutive characters, when holding down a key. The input values for this category are: 250, 500, 750, 1000 (msec).

6.4.15 Security Option

This setting determines whether the system will boot up if the password is denied. Access to Setup is always limited.

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” in the main menu. At this point, you will be asked to enter a password. Simply press <Enter> to disable security. When security is disabled, the system will boot, and you can enter Setup freely.

6.4.16 APIC Mode

Enabling APIC mode feature. The commands are “Enabled” or “Disabled”.

6.5 Advanced Chipset Features

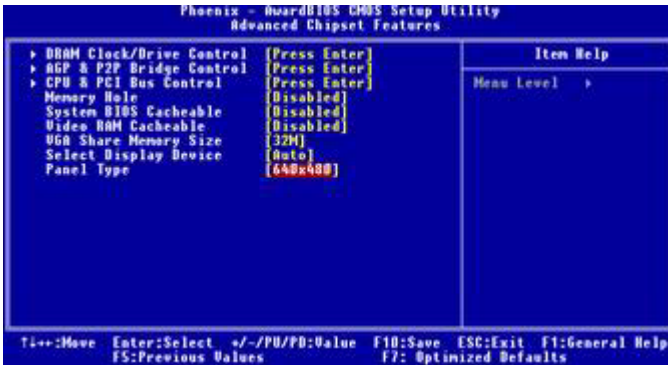


Figure 6.4: Advanced Chipset Feature

6.5.1 DRAM Clock/Driver Control

Select DRAM Clock/Drive Control and Press “Enter”, and Setting DRAM Clock, Timing and DRAM Common Rate.

6.5.2 AGP&P2P Bridge Control

Select AGP&P2P Bridge Control and press “Enter”, and setting AGP related Feature.

6.5.3 CPU & PCI Bus Control

Select CPU&PCI Bus Control and Press “Enter”, and setting CPU to PCI writer buffer, PCI Master 0 WS Writer and PCI Delay Transction. The commands are “Enable” and “Disable”.

6.5.4 Memory Hole

Enabling Memory Hole feature. The commands are “Enabled” or “Disabled”.

6.5.5 System BIOS Cache

Enabling System BIOS Cache. The commands are “Enabled” or “Disabled”.

6.5.6 Video RAM Cacheable

Enabling Video RAM Cacheable feature. The commands are “Enabled” or “Disabled”.

6.5.7 VGA Share Memory Size

The determines VGA share memory size. The choices: 16, 32, 64MB.

6.5.8 Select Display Device

The determines Display Device Type. The choices: CRT, LCD, CRT+LCD, DVI, CRT+DVI.



Figure 6.5: Slect Display Device

6.5.9 Panel Type

The determines panel type. The choices: 640x480, 800x600, 1024x768.

6.6 Integrated Peripherals



Figure 6.6: Integrated peripherals

6.6.1 VIA Onchip IDE Device

IDE Primary (Secondary) Master/Slave PIO/UDMA Mode (Auto) Each channel (Primary and Secondary) has both a master and a slave, making four IDE devices possible. Because each IDE device may have a different Mode timing (0, 1, 2, 3, 4), it is necessary for these to be independent.

The default setting “Auto” will allow autodetection to ensure optimal performance. If you enable IDE HDD Block Mode, the enhanced IDE driver will be enabled. Leave IDE HDD Block Mode on the default setting.



Figure 6.7: VIA Onchip IDE Device

6.6.2 VIA Onchip PCI Device

Select VIA Onchip PCI Device item and press “enter”. setting VIA Onchip function. The commands are “Enabled” or “Disabled”.

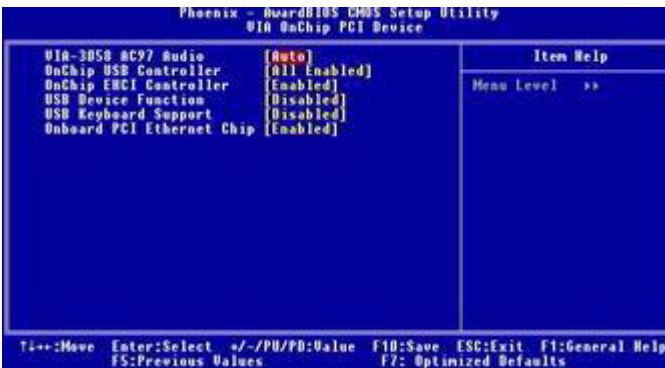


Figure 6.8: VIA Onchip PCI Device

6.6.3 Super I/O Device

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals. The choices: Enabled, Disabled.

Select Super I/O Device and press “enter”, setting super I/O feature.



Figure 6.9: Super I/O Device

6.6.4 Init Display First

This item allows you to choose which one to activate first, PCI Slot or on-chip VGA. The choices: PCI Slot, Onboard.

6.6.5 PWR ON After PWR Fail

Option is OFF and ON. Select ON if user want Power On after Power Fail, the default is “OFF”

6.6.6 Onboard Serial Port 3/4/5/6 Use IRQ

For settings reference the Appendix for the serial resource allocation, and Disabled for the on-board serial connector.

6.6.7 Onboard Parallel Port2

This field sets the address of the on-board parallel port connector. You can select either 3BCH/IRQ7, 378H/IRQ7, 278H/IRQ5 or Disabled. If you install an I/O card with a parallel port, make sure there is no conflict in the address assignments. The CPU card can support up to three parallel ports, as long as there are no conflicts for each port.

6.6.8 Parallel Port2 Mode

This field allows you to set the operation mode of the parallel port. The setting “Normal” allows normal speed operation, but in one direction

only. “EPP” allows bidirectional parallel port operation at maximum speed. “ECP” allows the parallel port to operate in bi-directional mode and at a speed faster than the maximum data transfer rate. “ECP + EPP” allows normal speed operation in a two-way mode.

6.6.9 LPT2 ECP Mode Use DMA

This selection is available only if you select “ECP” or “ECP + EPP” in the Parallel Port Mode field. In ECP Mode Use DMA, you can select DMA channel 1, DMA channel 3, or Disable. Leave this field on the default setting.

6.7 Power Management Setup

By choosing the Power Management Setup option from the initial setup screen menu, the screen below is displayed. This sample screen contains the manufacturer’s default values for the AIMB-330 series.:

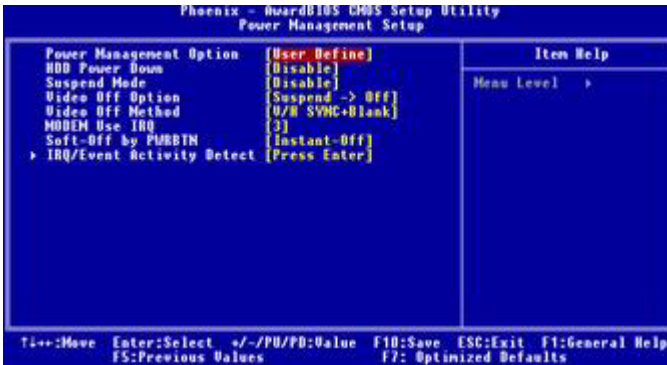


Figure 6.10: Power management setup screen

6.7.1 Power Management Option

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

There are four selections for Power Management, three of which have fixed mode settings.

Min. Power Saving	Minimum power management., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
-------------------	---

Max. Power Saving	Maximum power management., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined (Default)	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

6.7.2 HDD Power Down

You can choose to turn the HDD off after one of the time intervals listed, or when the system is in “suspend” mode. If the HDD is in a power saving mode, any access to it will wake it up.

6.7.3 Suspend Mode

Enabling Suspend Mode feature. The commands are “Enabled” or “Disabled”.

6.7.4 Video Off Option

The default is “Suspend ->off”. When system is suspend, video will turn off.

6.7.5 Video Off Mode

Select Video Off Mode and press “Enter”, the choice is “Blank Screen”, “V/H SYNC+Blank” and “DPMC Support”.

6.7.6 Modem Use IRQ

This determines the IRQ in which the MODEM can use. The choices: 3, 4, 5, 7, 9, 10, 11, NA.

6.7.7 Soft-Off by PWR-BTTN

If you choose “Instant-Off”, then pushing the ATX soft power switch button once will switch the system to “system off” power mode. You can choose “Delay 4 sec.” If you do, then pushing the button for more than 4 seconds will turn off the system, whereas pushing the button momentarily (for less than 4 seconds) will switch the system to “suspend” mode.

6.7.8 IRQ/Event Activity

Select IRQ/Event Activity, and press “Enter”.



Figure 6.11: IRQ/Event Activity

6.8 PnP/PCI Configurations

6.8.1 PnP OS Installed

Select Yes if you are using a plug and play capable operating system.

Select No if you need the BIOS to configure non-boot device

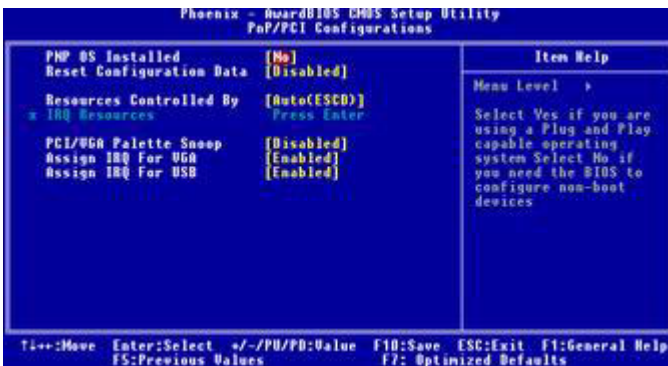


Figure 6.12: PnP/PCI configurations screen

6.8.2 Reset Configuration Data

Default is Disable. Select Enable to reset Extended System Configuration Data (ESCD) if you have installed a new add-on and system econfiguration has caused such a conflict that OS cannot boot.

6.8.3 Resources controlled by:

The commands here are “Auto” or “Manual.” Choosing “manual” requires you to choose resources from each following sub-menu. “Auto” automatically configures all of the boot and Plug and Play devices but you must be using Windows 95 or above.

6.8.4 PCI/VGA Palette Snoop

This is left at “Disabled.”

6.9 PC Health Status

6.9.1 CPU Warning Temperature

This item will prevent the CPU from overheating. The choices: 30~120.

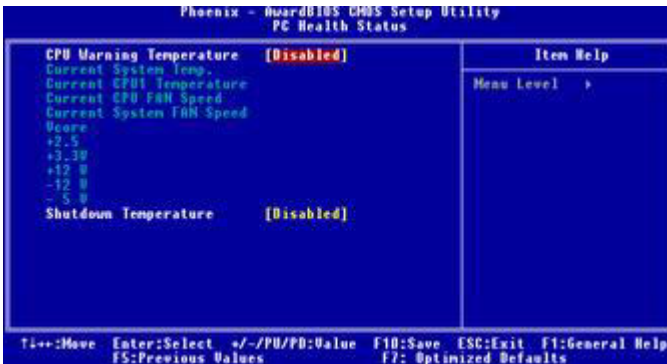


Figure 6.13: PC health status screen

6.9.2 Current CPU Temperature

This shows you the current CPU temperature.

6.9.3 Current CPUFAN Speed

This shows you the current CPUFAN operating speed.

6.9.4 +5V/+12V/-12V/-5V

This shows you the voltage of +5V/+12V/-12V/-5V

6.9.5 Shut Down Temperature

6.10 Password Setting

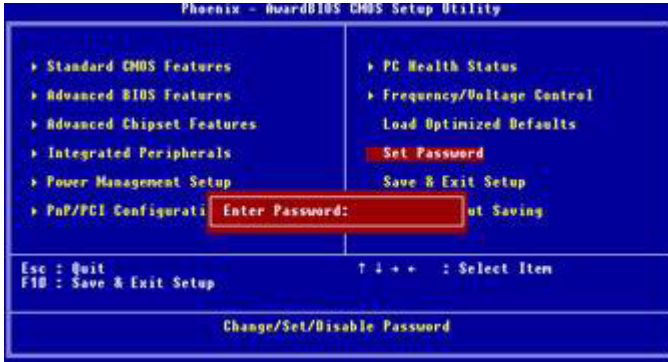


Figure 6.14: Password Setting

To change the password:

1. Choose the “Set Password” option from the “Initial Setup Screen” menu and press <Enter>.

The screen will display the following message:

Please Enter Your Password

Press <Enter>.

2. If the CMOS is good or if this option has been used to change the default password, the user is asked for the password stored in the CMOS. The screen will display the following message:

Please Confirm Your Password

Enter the current password and press <Enter>.

3. After pressing <Enter> (ROM password) or the current password (user-defined), you can change the password stored in the CMOS. The password must be no longer than eight (8) characters.

Remember, to enable the password setting feature, you must first select either “Setup” or “System” from the “Advanced BIOS Features” menu.

6.11 Save & Exit Setup

If you select this and press <Enter>, the values entered in the setup utilities will be recorded in the CMOS memory of the chipset. The microprocessor will check this every time you turn your system on and compare this to what it finds as it checks the system. This record is required for the system to operate.



Figure 6.15: Save and Exit Setup

6.12 Exit Without Saving

Selecting this option and pressing <Enter> lets you exit the setup program without recording any new values or changing old ones.



Figure 6.16: Exit Without Saving

LAN Configuration

- Introduction
- Features
- Installation of Ethernet Driver for
 - Windows 2000 Drivers Setup Steps
 - Windows NT Drivers Setup Steps
 - Windows Wake-on-LAN Setup

Chapter 7 PCI Bus Ethernet Interface

7.1 Introduction

The AIMB-330F is equipped with a high-performance 32-bit Ethernet chipset which is fully compliant with IEEE 802.3 100 Mbps CSMA/CD standards. It is supported by major network operating systems. It is also both 100Base-T and 10Base-T compatible.

7.2 Features

- RTL8139 10/100Base-T Ethernet LAN controller
- Optional Intel 82541 10/100/1000 Base-T Ethernet LAN controller
- Supports Wake-on-LAN remote control function.
- PCI Bus Master complies with PCI Rev. 2.2
- Complies with 100Base-TX, and 10Base-T applications.
- Single RJ-45 connector gives auto-detection of 10 Mbps or 100 Mbps network data transfer rates and connected cable types.
- Enhancements on ACPI & APM.
- Complies with PCI Bus Power Management Interface Rev. 1.1,
- ACPI Rev. 2.0, and Device Class Power Management Rev. 1.0.

7.3 Installation of Ethernet Driver

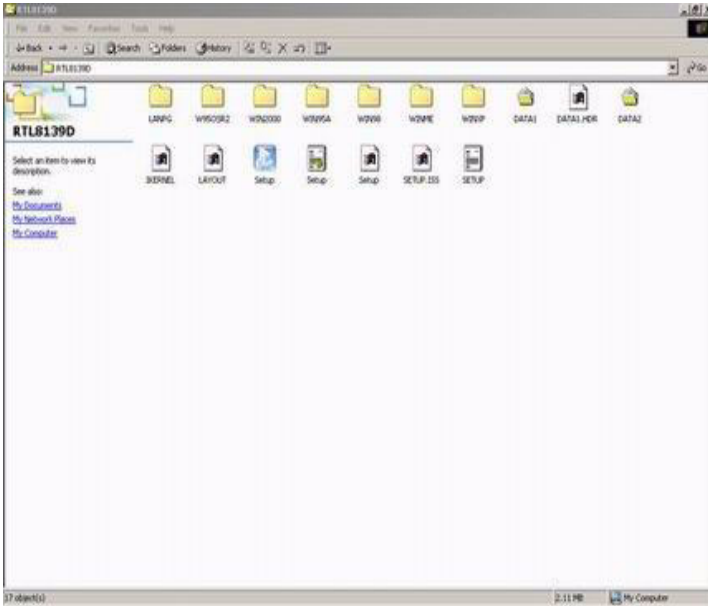
Before installing the Ethernet driver, note the procedures below. You must know which operating system you are using in your AIMB-330F, and then refer to the corresponding installation procedure. Then just follow the steps described. You will quickly and successfully complete the installation, even if you are not familiar with instructions for Windows.

Note: *The windows illustrations in this chapter are examples only. You must follow the flow chart instructions and pay attention to the instructions which then appear on your screen.*

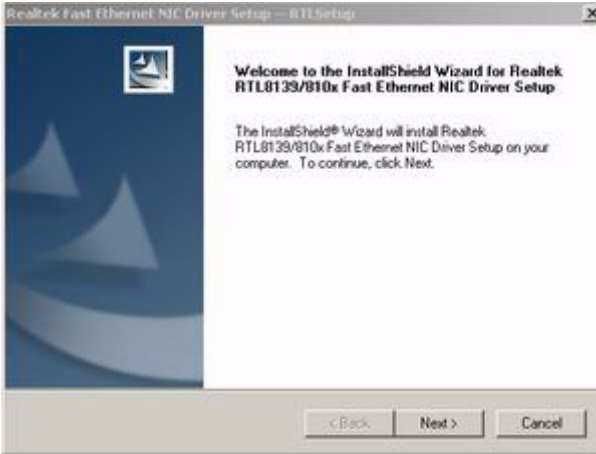
7.3.1 Installation for Windows 2000

Note: The CD-ROM drive is designated as "D" throughout this section.

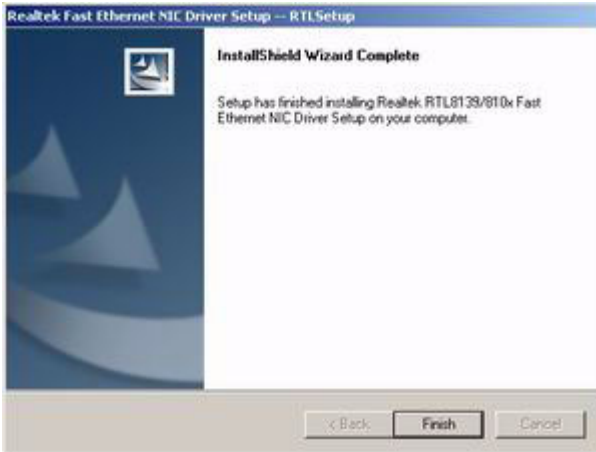
1. Click "Setup" icon in path "D:\AIMB\330\LAN\RTL8139D"



2. Click "Next" to go next step.

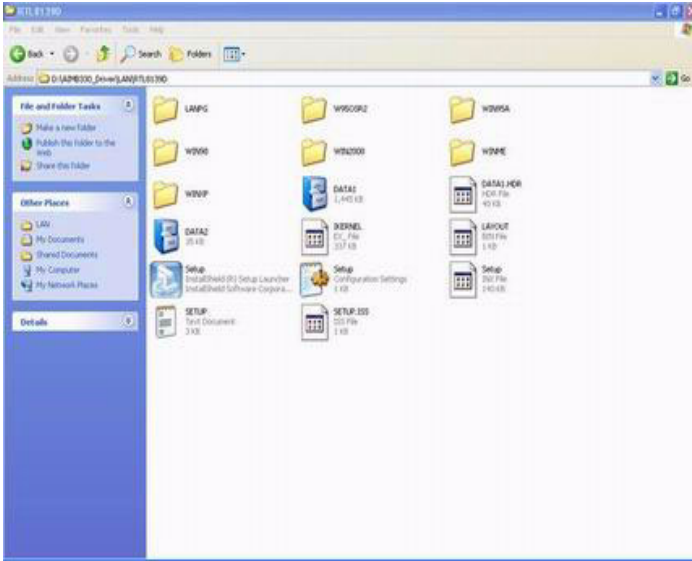


3. Then this menu will show on the screen. And click "Finish" to finish the install network driver process.



7.3.2 Installation for Windows XP

1. Click “Setup” icon in path “D:\\AIMB\\330\\LAN\\RTL8139D”..



2. Then this menu will show on the screen. And click "Finish" to finish the install network driver process.



7.4 Further information

Realtek website: www.realtek.com

VIA website: www.via.com.tw

Advantech websites: www.advantech.com

www.advantech.com.tw

Programming the Watchdog Timer

The AIMB-330F is equipped with a watchdog timer that resets the CPU or generates an interrupt if processing comes to a standstill for whatever reason. This feature ensures system reliability in industrial standalone or unmanned environments.

Appendix A Programming the Watchdog Timer

A.1 Programming the watchdog timer

The following example shows how you might program the watchdog timer in assembly:

Watch Dog:

```
;-----  
; Enter the extended function mode ,interruptible double-write |  
;-----  
MOV DX,2EH  
MOV AL,87H  
OUT DX,AL  
OUT DX,AL  
  
;-----  
; Configurate logical device 8, configuration register CRF6 |  
;-----  
MOV DX,2EH  
MOV AL,07H ; point to Logical Device Number Reg.  
OUT DX,AL  
MOV DX,2FH  
MOV AL,08H ; select logical device 8  
OUT DX,AL  
  
;  
MOV DX,2EH  
MOV AL,30H ;Set watch dog activate or inactivate  
OUT DX,AL  
MOV DX,2FH  
MOV AL,01H ; 01:activate 00:inactivate  
OUT DX,AL  
  
;
```



```
MOV DX,2EH
MOV AL,F5H ; Setting counter unit is second
OUT DX,AL
MOV DX,2FH
MOV AL,00H
OUT DX,AL
;
MOV DX,2EH
MOV AL,F6H
OUT DX,AL
MOV DX,2FH
MOV AL,05H ; Set 5 seconds
OUT DX,AL
```

```
;-----
; Exit extended function mode |
;-----
MOV DX,2EH
MOV AL,AAH
OUT DX,AL
```


Appendix

B

Sample Code of GPIO programming

Appendix B Sample Code of GPIO programming

GPIO output

```
;-----  
; Enter the extended function mode ,interruptible double-write |  
;-----
```

```
MOV DX,2EH  
MOV AL,87H  
OUT DX,AL  
OUT DX,AL
```

```
;-----  
-----  
; Configurate logical device 7(GP10~GP17), configuration register  
CRF0,CRF1,CRF2 |
```

```
;-----  
-----
```

```
MOV DX,2EH  
MOV AL,07H ; point to Logical Device Number Reg.  
OUT DX,AL  
MOV DX,2FH  
MOV AL,07H ; select logical device 7  
OUT DX,AL
```

```
;  
MOV DX,2EH  
MOV AL,F0  
OUT DX,AL  
MOV DX,2FH  
MOV AL,00H ; 01:Input 00:output for GP10~GP17  
OUT DX,AL
```

```
;  
MOV DX,2EH  
MOV AL,F2H ;
```

```
OUT DX,AL
MOV DX,2FH
MOV AL,00H ;Set GPIO is normal not inverter
OUT DX,AL
;
MOV DX,2EH
MOV AL,F1H
OUT DX,AL
MOV DX,2FH
MOV AL,??H ; Put the output value into AL
OUT DX,AL
```

```
;-----
```

```
; Exit extended function mode |
```

```
;-----
```

```
MOV DX,2EH
MOV AL,AAH
OUT DX,AL
```


Appendix

C

Connector Definition and Jumper Settings

Appendix C AIMB-330 Jumper and Connector Settings

C.1 Connectors

Table C.1: Connectors

1.	CN1	VGA Connector (D-Sub 15Pin)
2.	CN2	COM-1 connector (D-Sub 9-Pin)
3.	CN3	PCMCIA connector
4.	CN4	Audio connector
5.	CN5	LPT connector (D-Sub 25-pin)
6.	CN6	KB/MS connector (Mini-DIN)
7.	CN7	USB connector
8.	CN8	TTL LCD 40-pin HIROSE
9.	CN9	LAN and USB*2 connector
10.	CN10	Internal speaker connector
11.	CN11	CD-Input connector
12.	CN12	Watch-Dog program connector
13.	CN13	24-bits LVDS LCD (40-pin) HIROSE
14.	CN14	12-bits LVDS LCD (40-pin) HIROSE
16.	CN16	Embedded USB-V
17.	CN17	Inverter Power Connector
18.	CN18	ATX Power connector
19.	CN19	DIO connector
20.	CN20	Secondary IDE connector
21.	CN21	IR Connector
22.	CN22	Primary IDE connector
23.	CN23	Floppy connector
24.	CN24	Front panel connector
25.	CN25	COM3-COM6 RS232 connector
26.	CN26	LPT-2 connector
27.	CN27	COM-2 RS232 connector
28.	CN28	Mini PCI

Table C.1: Connectors

29.	CN29	Compact Flash (IDE Secondary Slave)
30.	CN30,	IEEE-1394
31.	CN31	IEEE-1394
32.	CN33	DVI connector
33.	FAN1	FAN connector(Speed Detect)
34.	FAN2	FAN2 connector(Speed Detect)

C.2 CN1 VGA D-TYPE 15 Pins connector

pin	signal	pin	signal
1	R	9	NC
2	G	10	GND
3	B	11	NC
4	NC	12	SMB DATA
5	GND	13	HSYNC
6	GND	14	VSYSN
7	GND	15	SMB CLK
8	GND		

C.3 CN2 COM1 D-TYPE 9 Pins connect

pin	signal	pin	signal
1	DCD	2	RX
3	TX	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI & POWER		

C.4 CN3 PCMCIA connector

C.5 CN4 Audio connector

pin	signal	pin	signal
A1	GND	A2	MIC
A3	GND	A4	GND
A5	MIC	B2	HP_OUT_L
B3	GND	B4	GND
B5	HP_OUT_R	C2	LINE_IN_L
C3	GND	C4	GND
C5	LINE_IN_R		

C.6 CN26 LPT-2 connector 25-pin D-sub

pin	signal	pin	signal
1	STROBE-	2	AUTO FEED-
3	DATA0	4	ERROR
5	DATA1	6	INIT-
7	DATA2	8	SLCT IN-
9	DATA3	10	GND
11	DATA4	12	GND
13	DATA5	14	GND
15	DATA6	16	GND
17	DATA7	18	GND
19	ACK-	20	GND
21	BUSY	22	GND
23	Paper Empty	24	GND
25	SELECT	26	X

C.7 CN5 LPT1 D-TYPE 25 Pin connector

pin	signal	pin	signal
1	STB	14	AFD
2	PD0	15	ERR
3	PD1	16	INIT
4	PD2	17	SLIN
5	PD3	18	GND
6	PD4	19	GND
7	PD5	20	GND
8	PD6	21	GND
9	PD7	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT		

C.8 CN10 Internal speaker(4x1,2.0mm Wafer-box)

pin	signal
1	OUT_A-
2	OUT_A+
3	OUT_B-
4	OUT_B+

C.9 CN11 CD-Input connector (4x1,2.54 mm Wafer-box)

pin	signal
Pin-1	CD_L
Pin-2	CD_GND
Pin-3	CD_GND
Pin-4	CD_R

C.10 CN12 Reserved to program the Watch-dog

pin	signal
Pin-1	+3.3V
Pin-2	GND
Pin-3	W_TDI
Pin-4	W_TMS
Pin-5	W_TCK
Pin-6	W_TDO

C.11 CN17 Inverter power(5x1,2.0 mm Wafer-box)

pin	signal
Pin-1	+12V
Pin-2	GND
Pin-3	Enable
Pin-4	VBR
Pin-5	+5V

C.12 CN13 24-bit LVDS (20X2, DF13 connector)

pin	signal	pin	signal
Pin-1	VDDSAFE (Select by JP5)	Pin-2	VDDSAFE (Select by JP5)
Pin-3 =>	GND	Pin-4	GND
Pin-5	VDDSAFE (Select by JP5)	Pin-6	VDDSAFE (Select by JP5)
Pin-7	LVDS_0N	Pin-8	LVDS_4N
Pin-9	LVDS_0P	Pin-10	LVDS_4P
Pin-11	GND	Pin-12	GND
Pin-13	LVDS_1N	Pin-14	LVDS_5N
Pin-15	LVDS_1P	Pin-16	LVDS_5P
Pin-17	GND	Pin-18	GND
Pin-19	LVDS_2N	Pin-20	LVDS_6N
Pin-21	LVDS_2P	Pin-22	LVDS_6P
Pin-23	GND	Pin-24	GND
Pin-25	LVDS_C1N	Pin-26	LVDS_C2N
Pin-27	LVDS_C1P	Pin-28	LVDS_C2P
Pin-29	GND	Pin-30	GND
Pin-31	DDC_CLK	Pin-32	DDC_DATA
Pin-33	GND	Pin-34	GND
Pin-35	LVDS_C3N	Pin-36	LVDS_C7N
Pin-37	LVDS_C3P	Pin-38	LVDS_C7P
Pin-39	HPLG_DTS	Pin-40	VCON

C.13 CN14 12-bit LVDS

pin	signal	pin	signal
Pin-1	VDDSAFE	Pin-2	VDDSAFE
Pin-3	GND	Pin-4	GND
Pin-5	VDDSAFE	Pin-6	VDDSAFE
Pin-7	OD0-	Pin-8	ED0-
Pin-9	OD0+	Pin-10	ED0+
Pin-11	GND	Pin-12	GND
Pin-13	OD1-	Pin-14	ED1-
Pin-15	OD1+	Pin-16	ED1+
Pin-17	GND	Pin-18	GND
Pin-19	OD2-	Pin-20	ED2-
Pin-21	OD2+	Pin-22	ED2+
Pin-23	GND	Pin-24	GND
Pin-25	OCK-	Pin-26	ECK-
Pin-27	OCK+	Pin-28	ECK+
Pin-29	GND	Pin-30	GND
Pin-31	DDC_CLK	Pin-32	DDC_DAT
Pin-33	GND	Pin-34	GND
Pin-35	OD3-	Pin-36	ED3-
Pin-37	OD3+	Pin-38	ED3+
Pin-39	HPLG	Pin-40	VCON

C.14 CN16 Embedded USB (9x2,2.54 mm Pin-header)

pin	signal	pin	signal
Pin-1	GND	Pin-2	GND
Pin-3	GND	Pin-4	GND
Pin-5	+5V	Pin-6	+5V
Pin-7	USB4_D-	Pin-8	USB5_D-
Pin-9	USB4_D+	Pin-10	USB5_D+
Pin-11	GND	Pin-12	GND
Pin-13	No Pin	Pin-14	NC
Pin-15	+5V	Pin-16	+3.3V
Pin-17	GND	Pin-18	GND

C.15 CN18 ATX Power connector (10x2,ATX)

pin	signal	pin	signal
Pin-1	+3.3V	Pin-11	+3.3V
Pin-2	+3.3V	Pin-12	-12V
Pin-3	GND	Pin-13	GND
Pin-4	+5V	Pin-14	PSON#
Pin-5	GND	Pin-15	GND
Pin-6	+5V	Pin-16	GND
Pin-7	GND	Pin-17	GND
Pin-8	Power_OK	Pin-18	-5V
Pin-9	+5VSB	Pin-19	+5V
Pin-10	+5V	Pin-20	+12V

C.16 CN19 DIO Connector(8x2,2.54mm pin-header)

pin	signal	pin	signal
Pin-1	IN0	Pin-2	+5V
Pin-3	IN1	Pin-4	OUT0 (Max 1A)
Pin-5	IN2	Pin-6	GND
Pin-7	IN3	Pin-8	OUT1 (Max 1A)
Pin-9	GND	Pin-10	+12V
Pin-11	Key	Pin-12	Key
Pin-13	POUT3	Pin-14	GND
Pin-15	OUT2	Pin-16	+12V

C.17 CN20 Secondary IDE(22x2 ,2.0mm Box-header)

pin	signal	pin	signal
Pin-1	Reset#	Pin-2	GND
Pin-3	D7	Pin-4	D8
Pin-5	D6	Pin-6	D9
Pin-7	D5	Pin-8	D10
Pin-9	D4	Pin-10	D11
Pin-11	D3	Pin-12	D12
Pin-13	D2	Pin-14	D13
Pin-15	D1	Pin-16	D14
Pin-17	D0	Pin-18	D15
Pin-19	GND	Pin-20	Key (No pin)
Pin-21	DREQ#	Pin-22	GND
Pin-23	IOW#	Pin-24	GND
Pin-25	IOR#	Pin-26	GND
Pin-27	IORDY	Pin-28	CSEL
Pin-29	DACK#	Pin-30	GND

Pin-31	IRQ	Pin-32	NC
Pin-33	A1	Pin-34	P66 Detect
Pin-35	A0	Pin-36	A2
Pin-37	CS0#	Pin-38	CS1#
Pin-39	HDD-LED#	Pin-40	GND
Pin-41	+5V	Pin-42	+5V
Pin-43	GND	Pin-44	NC

C.18 CN21 IrDA Connector(5x1,2.54mm Pin-header)

pin	signal
Pin-1	+5V
Pin-2	CIRRX
Pin-3	IRRX
Pin-4	GND
Pin-5	IRTX

C.19 CN22 Primary IDE(20x2 , 2.54mm Box-header)

pin	signal	pin	signal
Pin-1	Reset#	Pin-2	GND
Pin-3	D7	Pin-4	D8
Pin-5	D6	Pin-6	D9
Pin-7	D5	Pin-8	D10
Pin-9	D4	Pin-10	D11
Pin-11	D3	Pin-12	D12
Pin-13	D2	Pin-14	D13
Pin-15	D1	Pin-16	D14
Pin-17	D0	Pin-18	D15
Pin-19	GND	Pin-20	Key (No pin)
Pin-21	DREQ#	Pin-22	GND
Pin-23	IOW#	Pin-24	GND
Pin-25	IOR#	Pin-26	GND
Pin-27	IORDY	Pin-28	CSEL
Pin-29	DACK#	Pin-30	GND
Pin-31	IRQ	Pin-32	NC
Pin-33	A1	Pin-34	P66 Detect
Pin-35	A0	Pin-36	A2
Pin-37	CS0#	Pin-38	CS1#
Pin-39	HDD-LED#	Pin-40	GND

C.20 CN23 Floppy(26 Pin FDC connector)(optional)

pin	signal
Pin-1	VCC
Pin-2	INDEX#
Pin-3	VCC
Pin-4	DSA#
Pin-5	VCC
Pin-6	DSKCHG#
Pin-7	NC
Pin-8	NC
Pin-9	NC
Pin-10	MOA#
Pin-11	NC
Pin-12	DIR#
Pin-13	NC
Pin-14	STEP#
Pin-15	GND
Pin-16	WD#
Pin-17	GND
Pin-18	WE#
Pin-19	GND
Pin-20	TRACK0#
Pin-21	GND
Pin-22	WP#
Pin-23	GND
Pin-24	RDATA#
Pin-25	GND
Pin-26	HEAD#

C.21 CN24 Front Panel connector

pin	signal	pin	signal
Pin-1	HDD_LED+	Pin-2	IDE-LED-
Pin-3	Power_LED+	Pin-4	Power_LED-
Pin-5	Suspend_LED+	Pin-6	Suspend LED-(1Hz)
Pin-7	Action LED+	Pin-8	Action LED-
Pin-9	NC	Pin-10	NC
Pin-11	GND	Pin-12	Power Button
Pin-13	GND	Pin-14	FP RST#

C.22 CN25 COM3 - COM6(20x2 , 2.0 mm Box-header)

pin	signal	pin	signal
Pin-1	COM3 DCD	Pin-2	COM3 DSR
Pin-3	COM3 RxD	Pin-4	COM3 RTS
Pin-5	COM3 TxD	Pin-6	COM3 CTS
Pin-7	PCOM3 DTR	Pin-8	COM3 RI
Pin-9	GND	Pin-10	GND
Pin-11	COM4 DCD	Pin-12	COM4 DSR
Pin-13	COM4 RxD	Pin-14	COM4 RTS
Pin-15	COM4 TxD	Pin-16	COM4 CTS
Pin-17	COM4 DTR	Pin-18	COM4 RI
Pin-19	GND	Pin-20	GND
Pin-21	COM5 DCD	Pin-22	COM5 DSR
Pin-23	COM5 RxD	Pin-24	COM5 RTS
Pin-25	COM5 TxD	Pin-26	COM5 CTS
Pin-27	COM5 DTR	Pin-28	COM5 RI
Pin-29	GND	Pin-30	GND
Pin-31	COM6 DCD	Pin-32	COM6 DSR
Pin-33	COM6 RxD	Pin-34	COM6 RTS
Pin-35	COM6 TxD	Pin-36	COM6 CTS
Pin-37	COM6 DTR	Pin-38	COM6 RI
Pin-39	GND	Pin-40	GND

C.23 CN27 COM-2(7x2,2.0mm Box-header)

pin	signal	pin	signal
Pin-1	DCD	Pin-2	DSR
Pin-3	RxD	Pin-4	RTS
Pin-5	TxD	Pin-6	CTS
Pin-7	DTR	Pin-8	RI
Pin-9	GND	Pin-10	PGND
Pin-11	422/485 TxD+	Pin-12	422/485 TxD-
Pin-13	422 RxD+	Pin-14	422 RxD-

C.24 CN6 K/B & M/S Connector

pin	signal	pin	signal
Pin-1	KB_DATA	Pin-2	NC
Pin-3	GND	Pin-4	+5V
Pin-5	KB_CLK	Pin-6	NC
Pin-7	MS_DATA	Pin-8	NC
Pin-9	GND	Pin-10	+5V
Pin-11	MS_CLK	Pin-12	NC

C.25 CN7 USB Connector

pin	signal	pin	signal
Pin-1	VCCUSB1	Pin-2	USBP0-
Pin-3	USBP0+	Pin-4	CNGND
Pin-5	VCCUSB2	Pin-6	USBP1-
Pin-7	USBP1+	Pin-8	CNGND

C.26 CN8 LCD 40-pin HIROSE

pin	signal	pin	signal
Pin-1	LCD VDD(+5V)	Pin-2	LCD VDD(+5V)
Pin-3	GND	Pin-4	GND
Pin-5	LCD VDD(+3.3V)	Pin-6	LCD VDD(+3.3V)
Pin-7	Vcon(ptional)	Pin-8	GND
Pin-9	PD0	Pin-10	PD1
Pin-11	PD2(B0)	Pin-12	PD3(B1)
Pin-13	PD4(B2)	Pin-14	PD5(B3)
Pin-15	PD6(B4)	Pin-16	PD7(B5)
Pin-17	PD8	Pin-18	PD9
Pin-19	PD10(G0)	Pin-20	PD11(G1)
Pin-21	PD12(G2)	Pin-22	PD13(G3)
Pin-23	PD14(G4)	Pin-24	PD15(G5)
Pin-25	PD16	Pin-26	PD17
Pin-27	PD18(R0)	Pin-28	PD19(R1)
Pin-29	PD20(R2)	Pin-30	PD21(R3)
Pin-31	PD22(R4)	Pin-32	PD23(R5)
Pin-33	GND	Pin-34	GND
Pin-35	SHFCLK	Pin-36	FLM(V-SYNC)
Pin-37	M/(DE)	Pin-38	LP(H-SYNC)
Pin-39	ENABKL	Pin-40	ENVEE

C.27 CN9 LAN+USB*2 Connector

pin	signal	pin	signal
Pin-1	TX+	Pin-2	TX-
Pin-3	RX+	Pin-4	GND
Pin-5	GND	Pin-6	RX-
Pin-7	GND	Pin-8	GND
Pin-9	GND	Pin-10	GND
Pin-11	VCC_LAN	Pin-12	ACTLED
Pin-13	VCC_LAN	Pin-14	LILED
Pin-15	VCCUSB1	Pin-16	DT1-
Pin-17	DT1+	Pin-18	GND1
Pin-19	VCCUSB1	Pin-20	DT1-
Pin-21	DT1+	Pin-22	GND1
Pin-23	VCCUSB2	Pin-24	USBP1-
Pin-25	USBP1+	Pin-26	CNGND
Pin-27	SHIELD GND	Pin-28	SHIELD GND
Pin-29	SHIELD GND	Pin-30	SHIELD GND

C.28 CN28 Mini PCI

C.29 CN29 Compact Flash (IDE Secondary Slave)

C.30 CN30,CN31 IEEE-1394

pin	signal	pin	signal
Pin-1	1394R_TPAP0	Pin-2	1394R_TPAP0
Pin-3	GND	Pin-4	GND
Pin-5	1394R_TPAP0	Pin-6	1394R_TPAP0
Pin-7	VCC_1394	Pin-8	VCC_1394
Pin-9	X	Pin-10	GND

C.31 CN33 DVI

C.32 FAN1 CPU FAN (3x1,2.54 mm Molex)

pin	signal
Pin-1	GND
Pin-2	+12V
Pin-3	Speed detect

C.33 FAN2 System FAN (3x1,2.54 mm Molex)

pin	signal
Pin-1	GND
Pin-2	+12V
Pin-3	Speed detect

C.34 JP1 COMS Power(3x1,2.0 mm Pin-header)

pin	function
1~2	Default
2~3	Clear COMS

C.35 JP5 LVDS VDDSAFE sel.(3x1,2.0 mm Pin-header)

pin	signal
Pin-1	+5V
Pin-2	VDDSAFE
Pin-3	+3.3V

Default Pin-2,3 short

C.36 JP3 COM1-6 Pin-9 V out (11x2,2.0mm Pin-header)

pin	signal	pin	signal
Pin-1	+5V	Pin-2	+5V
Pin-3	COM1-RI	Pin-4	COM2-RI
Pin-5	+12V	Pin-6	+12V
Pin-7	NC	Pin-8	NC
Pin-9	+5V	Pin-10	+5V
Pin-11	COM3-RI	Pin-12	COM4-RI
Pin-13	+12V	Pin-14	+12V
Pin-15	NC	Pin-16	NC
Pin-17	+5V	Pin-18	+5V
Pin-19	COM5-RI	Pin-20	COM6-RI
Pin-21	+12V	Pin-22	+12V

*** Default Non jumper ***

Examples:

COM-1 Select +5V Output step => Change the JP4 Pin-7,8 jumper to JP3 Pin-1,3

COM-1 Select +12V Output step => Change the JP4 Pin-7,8 jumper to JP3 Pin-3,5

COM-2 Select +5V Output step => Change the JP4 Pin-9,10 jumper to JP3 Pin-2,4

COM-2 Select +12V Output step => Change the JP4 Pin-9,10 jumper to JP3 Pin-4,6

COM-3 Select +5V Output step => Change the JP4 Pin-11,12 jumper to JP3 Pin-9,11

COM-3 Select +12V Output step => Change the JP4 Pin-11,12 jumper to JP3 Pin-11,13

COM-4 Select +5V Output step => Change the JP4 Pin-13,14 jumper to JP3 Pin-10,12

COM-4 Select +12V Output step => Change the JP4 Pin-13,14 jumper to JP3 Pin-12,14

COM-5 Select +5V Output step => Change the JP4 Pin-15,16 jumper to JP3 Pin-17,19

COM-5 Select +12V Output step => Change the JP4 Pin-15,16 jumper to JP3 Pin-19,21

COM-6 Select +5V Output step => Change the JP4 Pin-17,18 jumper to JP3 Pin-18,20

COM-6 Select +12V Output step => Change the JP4 Pin-17,18 jumper to JP3 Pin-20,22

C.37 JP4 COM-2 RS232/422/485 and COM-1 to COM-6 Ring signal select (9x2 , 2.0mm Pin-header)

pin	signal	pin	signal
Pin-1	RxD	Pin-2	RxD485
Pin-3	RxD	Pin-4	RxD422
Pin-5	RxD	Pin-6	RxD232
Pin-7	COM-1 RING# input	Pin-8	System RING1# Signal
Pin-9	COM-2 RING# input	Pin-10	System RING2# Signal
Pin-11	COM-3 RING# input	Pin-12	System RING3# Signal
Pin-13	COM-4 RING# input	Pin-14	System RING4# Signal
Pin-15	COM-5 RING# input	Pin-16	System RING5# Signal
Pin-17	COM-6 RING# input	Pin-18	System RING6# Signal

COM-2 RS-232 Jumper setting	Pin-5,6 (Default)
COM-2 RS-422 Jumper setting	Pin-3,4
COM-2 RS-485 Jumper setting	Pin-1,2

COM-1 RING# signal select	Pin-7,8 (Default)
COM-2 RING# signal select	Pin-9,10 (Default)
COM-3 RING# signal select	Pin-11,12 (Default)
COM-4 RING# signal select	Pin-13,14 (Default)
COM-5 RING# signal select	Pin-15,16 (Default)
COM-6 RING# signal select	Pin-17,18 (Default)

Appendix

D

IRQ Resource Table

Appendix D IRQ Resources

D.1 IRQ Resource Guide

IRQ 0 :	Timer
IRQ 1:	Keyboard
IRQ 2:	Bridge
IRQ 3:	COM2
IRQ 4:	COM1
IRQ 5:	COM3~COM6 share or Printer 2
IRQ6:	FDD
IRQ7:	Printer 1
IRQ8:	IRTC
IRQ9:	ACPI
IRQ10:	ICOM 3~COM6 share
IRQ11:	LAN
IRQ12:	PS2/Mouse
IRQ13:	Core Processor
IRQ14:	IDE
IRQ 15:	IDE (CD_ROM)