



integration with integrity

User's Manual

3.5" Embedded Board 3301133

Version 1.0, Month 2003

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Packing List

Hardware

3301133 Single Board Computer X 1

Cable Kit

Audio Cable X 1

IDE Flat Cable (UltraDMA/100, 40-pin) X 1

IDE Flat Cable (UltraDMA/66, 44-pin) X 1

26-pin slim-type FDD Cable X 1

COM Port DB9 X 1

LPT Port DB25 X 1

PS/2 Keyboard and Mouse Cable X 1

TV-out cable..... X 1

USB Cable X 1

LAN Cable X 1

VGA Port DB15 X 1

Printed Matter and Software

3301133 User Manual X 1

Driver CD X 1

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Chapter 1. Introduction

1.1 Product Overview

The 3301133 Single Board Computer is an all-in-one industrial 3.5" drive-size embedded-board computer based on **VIA EBGA Eden/C3** embedded / low power 686-level processor. The onboard **VIA EBGA Eden** CPU offers 667/533/400 MHz of speed at the low voltage to provide the low power embedded computing platform for low power, an free, mobile and related applied / embedded computing applications.

3301133 integrates **VIA CLE266** chipset with **MPEG II/I decoder**, onboard 128 MB PC133 SDRAM, 24-bit TTL flat panel SVGA, TV-out, 10/100BASE-Tx Fast Ethernet, AC97 3D audio, CompactFlash solid state disk, UltraATA/100 PCI enhanced IDE interfaces, and multiple I/O ports including 1 RS232, 1 LPT and 1 USB ports. These features make 3301133 be the ideal solution of multimedia platform, node terminal, transaction station, POS, Kiosk, panel PC, ATM and embedded application.

Compact Low Profile Board Size

3.5" drive size meets the industrial standard EBX form factor. The onboard CPU and SDRAM also make **3301133** be the low profile solution for embedded compact applications.

Advanced Embedded Computing Platform

VIA Eden embedded CPU supports up to 700 MHz at 133 MHz FSB with onboard 128 MB PC133 SDRAM of system memory for high-end industrial embedded computing platform with high CPU and memory loading.

Flat Panel SVGA Interface

Integrated **VIA/S3 ProSavage** flat panel SVGA controller with 24-bit TTL flat panel interface offers the high 3D performance for LCD-based applications.

Multiple I/O Port Interface

Integrated 1 COM, 1 parallel, 1 USB ports for industrial applications like POS, Kiosk, Panel PC, ATM and transaction workstation.

1.2 Specifications

General Specification

Form Factor	3.5" drive-size EBX compliant littleboard computer
CPU	VIA Eden 667 MHz CPU at 133 MHz FSB Low power / fan free x86 computing platform Optional Eden 533/400 or C3 800 MHz CPU for OEM
Chipset	VIA CLE266 with VT8623 and VT8235 MPEG II/I decoder integrated
DRAM	Onboard 128 MB PC133 SDRAM 1 x 144-pin SO-DIMM slot supports 512 MB PC133 SDRAM Total memory capacity up to 640 MB PC133 SDRAM
BIOS	Phoenix-Award 2Mb PnP flash BIOS
Enhanced IDE	PCI enhanced IDE interface supports dual ports up to 4 ATAPI devices with UltraATA/100 supported One 40-pin box header connector One 44-pin box header connector
Green Function	Power saving mode supported in BIOS with DOZE, STANDBY and SUSPEND modes. ACPI version 1.0 and APM version 1.2 compliant
Watchdog Timer	256-level system reset programmable watchdog timer
Real Time Clock	VIA VT8235 built-in RTC with lithium battery

Multi-I/O Ports

Chipset	Winbond W83697HF for COM1, FFD and LPT Ports
Serial Port	one RS-232 serial port COM1 with 16C550 compatible UART and 16 bytes FIFO +5V/+12V power output for RS232 peripherals
USB Port	two USB ports with USB version 2.0 compliant
Parallel Port	one bi-direction parallel port with SPP/ECP/EPP mode
FDD	One FPC connector to support slime type floppy
IrDA Port	1 x IrDA compliant Infrared interface supports SIR
K/B & Mouse	PS/2 keyboard and mouse ports

Solid State Disk Interface

Flash Type	CompactFlash Type-II for CFC (Compact Flash Card) or IBM MicroDrive
Capacity	Up to 1 GB flash memory

Display Interface

Chipset	VIA CLE266 chipset with integrated S3 ProSavage™ 8X AGP 3D SVGA controller
Video Memory	8/16/32/64MB of video memory shared with system memory, selectable in BIOS
Display Type	24-bit TTL flat panel / CRT and LCD monitor at VGA, SVGA, XGA, SXGA, UXGA

TV-out Interface

chipset	Integrated VT1622M to support NTSC or PAL TV display
type	One 2x5-pin header to support S-video & Composite output

Ethernet Interface

Chipset	One 10/100BASE-Tx Fast Ethernet LAN interfaces with VIA VT6103 PHY controller
Type	10Base-T / 100Base-TX, auto-switching Fast Ethernet, full duplex, IEEE802.3U compliant

Audio Interface

Chipset	VIA VT8235 integrated AC97 3D audio controller with onboard Realtek ALC201A codec
Interface	Line-in, line-out, CD-in, Mic-out
Connector	Onboard 10-pin header connector for line-in, line-out and Mic-out

Expansive Interface

PC/104-plus	One PC/104-plus interface with 32-bit PCI-based
--------------------	---

Power and Environment

Power Req.	+5V, +12V DC input on standard 4-pin AT connector
-------------------	---

ATX Function	One 3-pin ATX interface with 5V standby
---------------------	---

Dimension	146 x 101 mm (L x W), standard EBX size
------------------	---

Temperature	Operating within 0 ~ 60°C (32 ~ 140°F) Storage within -20 ~ 85°C (-4 ~ 185°F)
--------------------	--

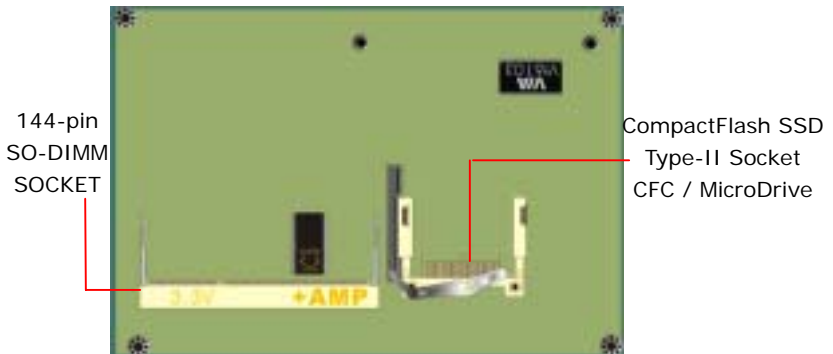
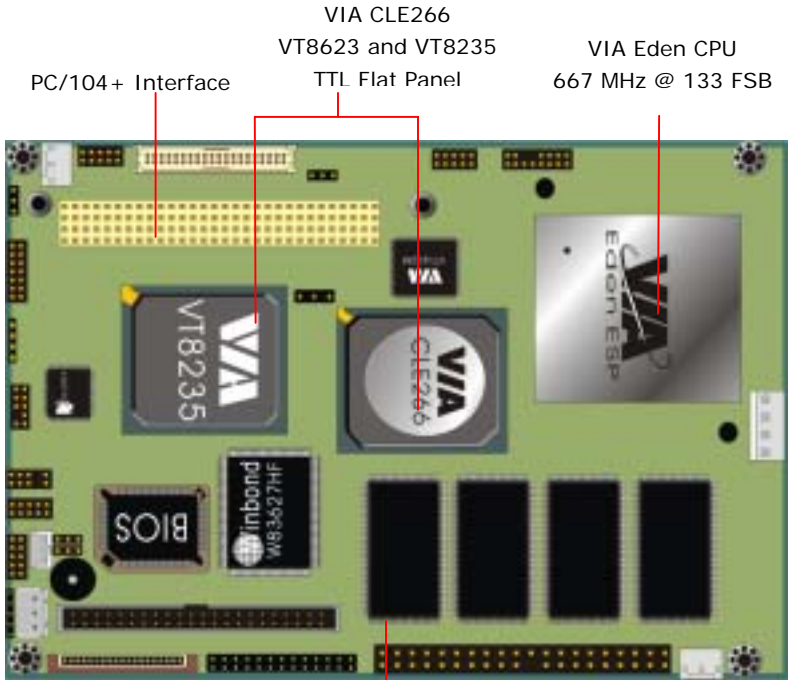
Ordering Code

3301133A	With Eden 667 MHz CPU ,SVGA, Audio, LAN, Compact Flash, PC/104+ Interface and 1 COM Ports, 1 LPT and 1 USB
-----------------	--

3301133B	Same as 3301133A but with 128MB SDRAM onboard
-----------------	---

Online product information detail and updates are available on <http://www.globalamericaninc.com>

1.3 Component Placement



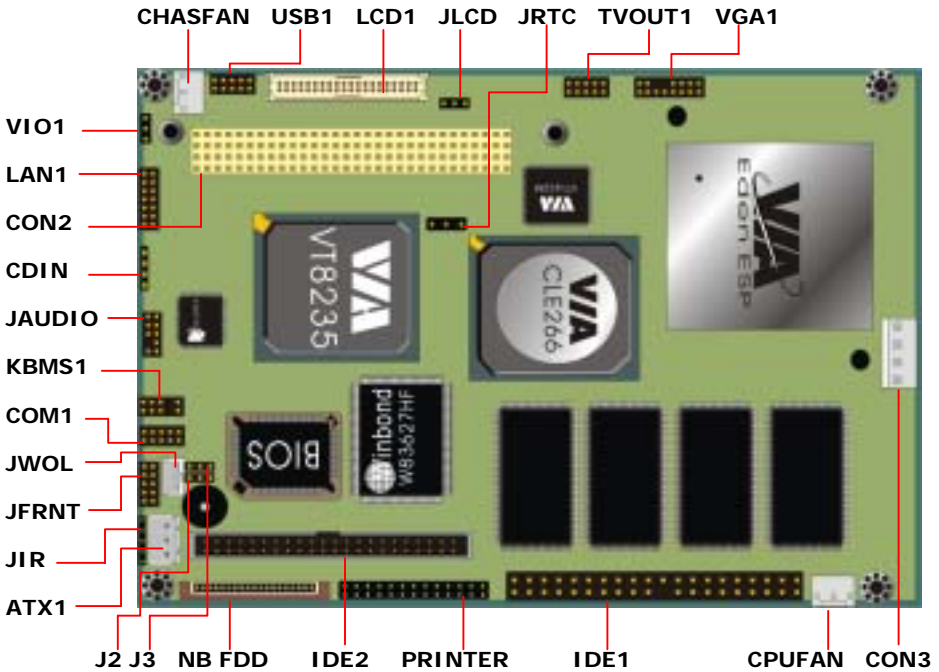
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Chapter 2. Hardware Setup

This chapter contains the information for installation of hardware. The install procedure includes jumper settings, CPU and memory installation, fan, I/O and panel connections.

2.1 Jumpers and Connectors Location



2.1.1 Jumpers Reference

Jumper	Function	Section
JRTC	COMS Setting	2.3
J2	COM1 pin-1 Voltage setting	2.10
J3	COM1 pin-9 Voltage setting	2.10
VIO	PC/104+ Voltage setting for V/IO	2.11
JLCD	Flat Panel's Voltage Setting	2.7.2

2.1.2 Connectors Reference

Connector	Function	Remark
DIMM1	144-pin SO-DIMM Slot	Standard
IDE1	40-pin Primary IDE Port	Standard
IDE2	44-pin Secondary IDE Port	Standard
NB FDD	26-pin slime-type FDD Port	Standard
USB1	10-pin 1st / 2nd USB Port	Standard
CFD1	Compact Flash Socket	Standard
KBMS1	10-pin PS/2 Keyboard / Mouse Connector	Standard
JIR	5-pin SIR IrDA Port	Standard
CON3	4-pin AT Power Connector	Standard
ATX1	3-pin ATX Signal Connector	Standard
JFRNT	10-pin Switch and Indicator Connector	Standard
CPUFAN	3-pin CPU Fan Connector	Standard
CHASFAN	3-pin System Fan Connector	Standard
VGA1	16-pin Internal VGA Port	Standard
LCD1	40-pin TTL Flat Panel Interface	Standard
JAUDIO	10-pin Audio Port	Standard
CDIN	4-pin CD-in Interface	Standard
LAN1	10-pin Primary LAN Port Connector	Standard
CN2	104-pin PC/104+ Connector	Standard
TVOUT1	10-pin TV-out Connector	Standard

2.2 CPU and DRAM Setting

The board is integrated with **VIA embedded EBGA Eden** 667 MHz CPU at 133 MHz FSB.

System memory including onboard 128 MB PC133 SDRAM and one 144-pin SO-DIMM slot up to 512 MB SDRAM. Total memory capacity up to 640 MB PC133 SDRAM.

2.3 CMOS Setting

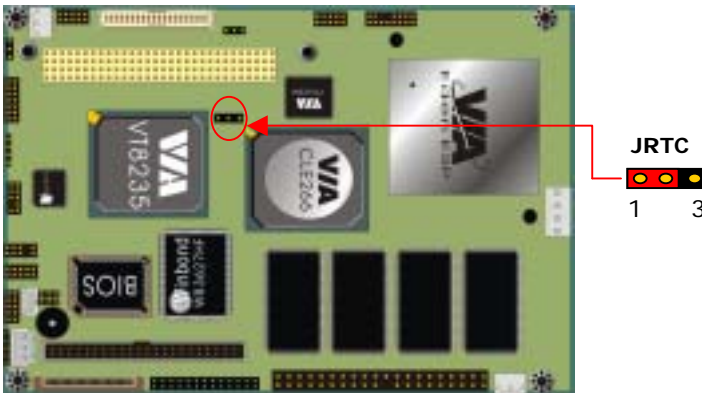
The board's data of CMOS can be setting in BIOS. If the board refuses to boot due to inappropriate CMOS settings, here is how to proceed to clear (reset) the CMOS to its default values.

Jumper: JRTC

Type: onboard 3-pin header

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

Default setting



2.4 Watchdog Timer Setting

The watchdog timer makes the systems auto-reset while it stop to work for a period.

Program Sample

Watchdog timer setup as system reset with 5 second of timeout

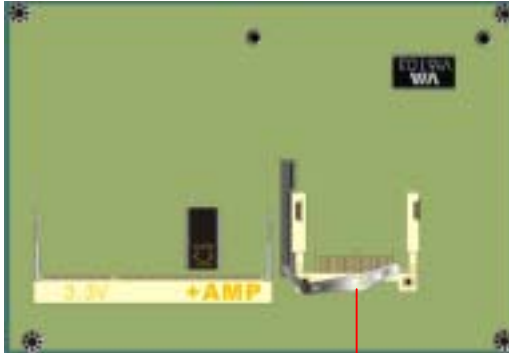
4E, 87	
4E, 87	
4E, 07	Select Logical Device 8
4F, 08	
4E, 30	Set Watchdog Active
4F, 01	
4E, F3	Set Count as Second*
4F, 00	
4E, F4	Set as 5 Second
4F, 05	

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

2.5 Embedded Flash Disk

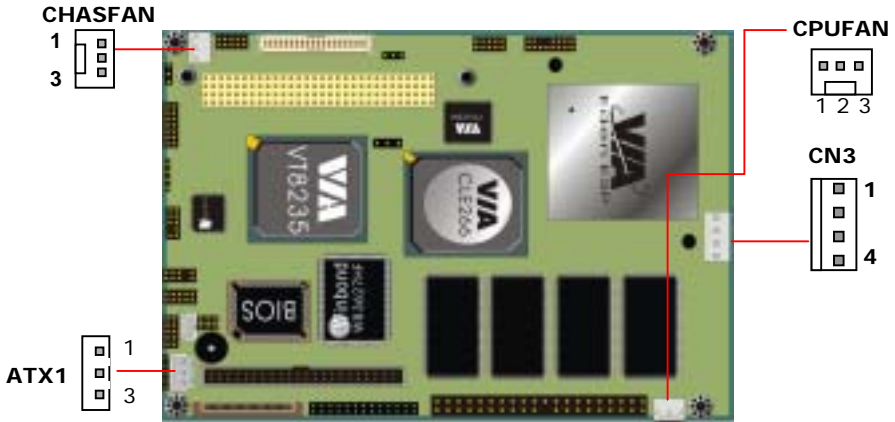
The board supports both IDE-based DiskOnModule and CompactFlash embedded Solid State Disk (SSD).

Please note that this board doesn't provide VCC on IDE1, please use external power Connector with DiskOnModule.



CompactFlash SSD
Type-II Socket
CFC / MicroDrive

2.6 Power and Fan Connectors



Connector: **CN3**

Type: 4-pin AT Power Connector

Pin	Description	Cable Color Reference
1	+12V	Yellow
2	Ground	Black
3	Ground	Black
4	+5V	Red

Connector: **ATX1**

Type: 3-pin ATX Function Connector

Pin	Description	Pin	Description	Pin	Description
1	5V Standby	2	Ground	3	Power On

Connector: **SYSFAN, CPUFAN**

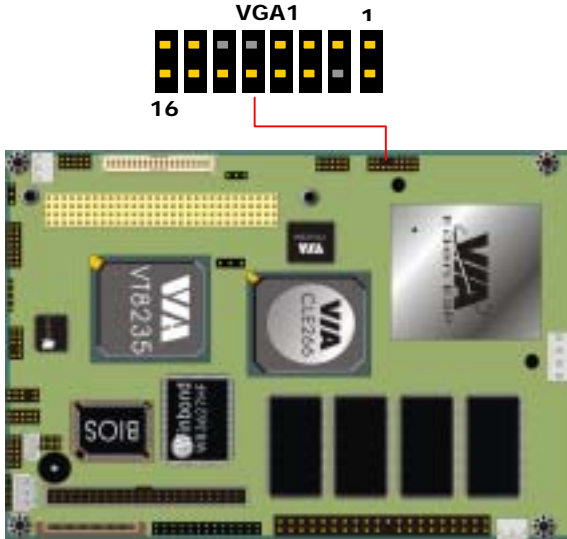
Type: 3-pin Fan Power Wafer Connector

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

2.7 VGA Interface

2.7.1 Standard Analog VGA Interface

The board is integrated with **VIA CLE266** chipset's built-in 8xAGP **S3 ProSavage™** VGA accelerator with 3D/2D engine and 64 MB of video memory shared with system memory.



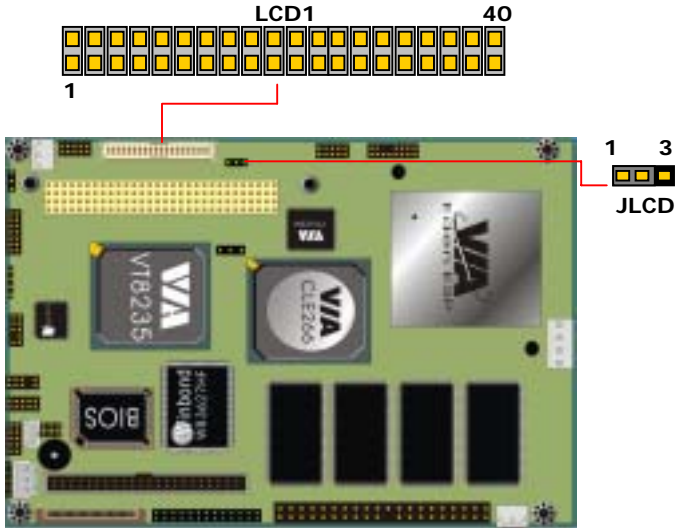
Connector: **VGA1**

Type: 16-pin header

Pin	Description	Pin	Description
1	Red	2	Green
3	Blue	4	N/C
5	Ground	6	Ground
7	Ground	8	Ground
9	N/C / Vcc	10	Ground
11	N/C	12	Data
13	HSYNC	14	VSYNC
15	Clock	16	N/C

2.7.2 Digital VGA Interface

The board's digital video interface provides 24-bit **TTL** interface of flat panel. The digital video interfaces used BIOS selectable 8/16/32/64 MB of video memory shared with system memory.



Jumper: **JLCD**

Type: onboard 3-pin (1 x 3) header

JLCD	LCD Voltage Setting
1-2	+3.3V
2-3	+5V

Default setting

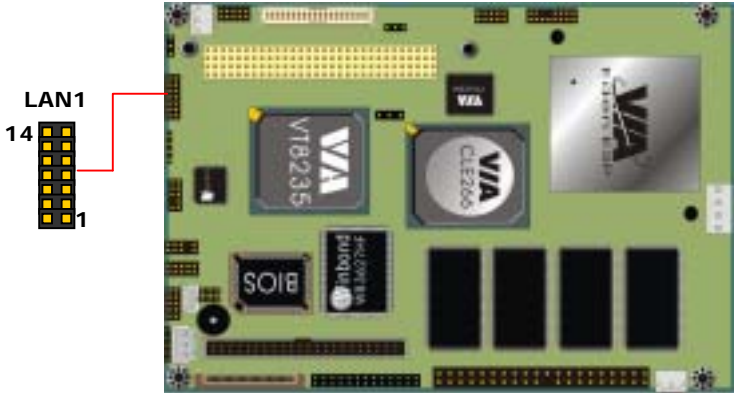
Connector: **LCD1**

Type: onboard 40-pin (2 x 20) 2.0 pitch header

Pin	Signal	Pin	Signal
1	+12V	2	+12V
3	GND	4	GND
5	V _{CC} (LCD)	6	ENAVDD
7	BLON	8	GND
9	P0	10	P1
11	P2	12	P3
13	P4	14	P5
15	P6	16	P7
17	P8	18	P9
19	P10	20	P11
21	P12	22	P13
23	P14	24	P15
25	P16	26	P17
27	P18	28	P19
29	P20	30	P21
31	P22	32	P23
33	N/C	34	N/C
35	SHFCLK	36	VS
37	DATAENA	38	HS
39	GND	40	ENABKL

2.8 Ethernet Interface

The board integrated with 10/100BASE-TX Fast Ethernet interface at the type of 10Base-T/100Base-TX auto-switching Fast Ethernet with full duplex and IEEE 802.3U compliant. The LAN controller, **VIA VT6103** PHY provides the powerful Fast Ethernet interface with embedded operating system (OS) supported, green function (power saving mode / wake-on-LAN) and advanced network management functions.



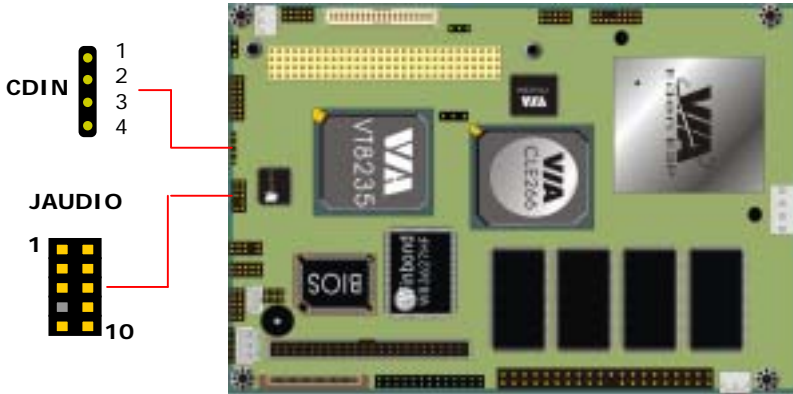
Connector: LAN1

Type: 14-pin header connector (1~10 pin for **LAN signal** & 11~14 for **LED**)

Pin	Description	Pin	Description
1	TX+	2	TX-
3	RX+	4	N/C
5	N/C	6	RX-
7	N/C	8	N/C
9	Ground	10	Ground
11	ACT	12	Vcc
13	SP100	14	Vcc

2.9 Audio Interface

The board integrates with AC97 3D audio interface **VIA VT8235** and **Realtek ALC201A** codec that provides line-in, line-out, Mic-in and CD-in interfaces for industrial applications with audio function.



Connector: JAUDIO
Type: 10-pin header

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

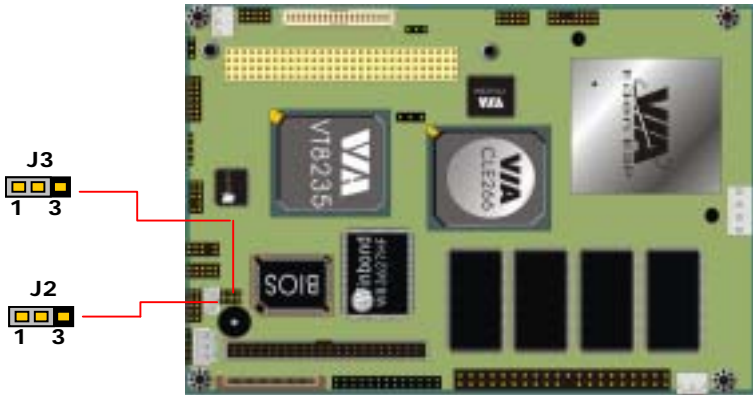
Connector: CDIN
Type: 4-pin header

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

2.10 Multiple I/O Port Configuration

The onboard COM1 can provide +5V or +12V power with J2 and J3 jumper selectable.

2.10.1 COM1 VCC Mode Selection



Jumper: J2
Type: onboard 3-pin header

J2	COM1 Mode
1-2	+12V
2-3	RI

Default setting

Jumper: J3
Type: onboard 3-pin header

J3	COM1 Mode
1-2	+5V
2-3	DCD

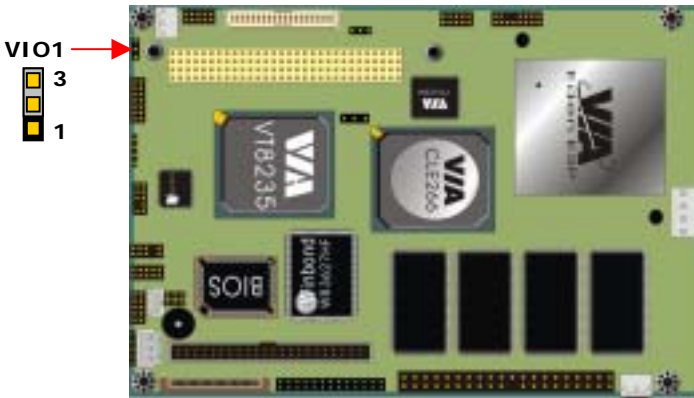
Default setting

2.11 Expansive Bus Interfaces

The board offers PCI/ISA expansive bus interfaces with one PC/104-plus connector.

2.11.1 PC/104-plus Interface

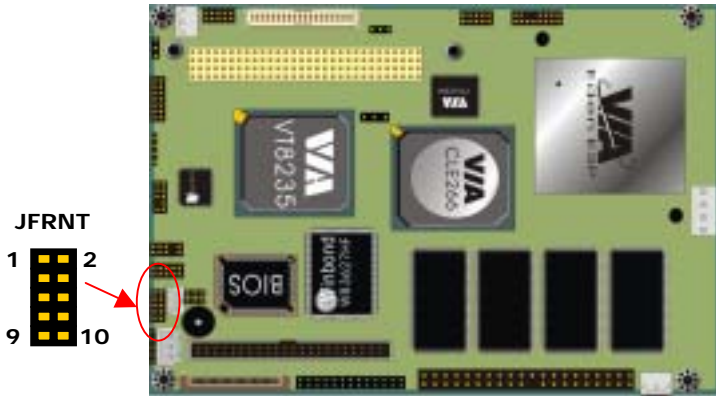
The onboard PC/104-plus interface includes 32-bit PCI-based 120-pin PC/104-plus interface. There is one set of bus master PCI signal is supported on the onboard PC/104-plus interface. More information about PC/104-plus interface is available at: <http://www.pc104.org/>



Jumper: VIO1
Type: onboard 3-pin header

VIO1	PC/104+ Mode
1-2	3.3V Standby
2-3	5V Standby
Default setting	

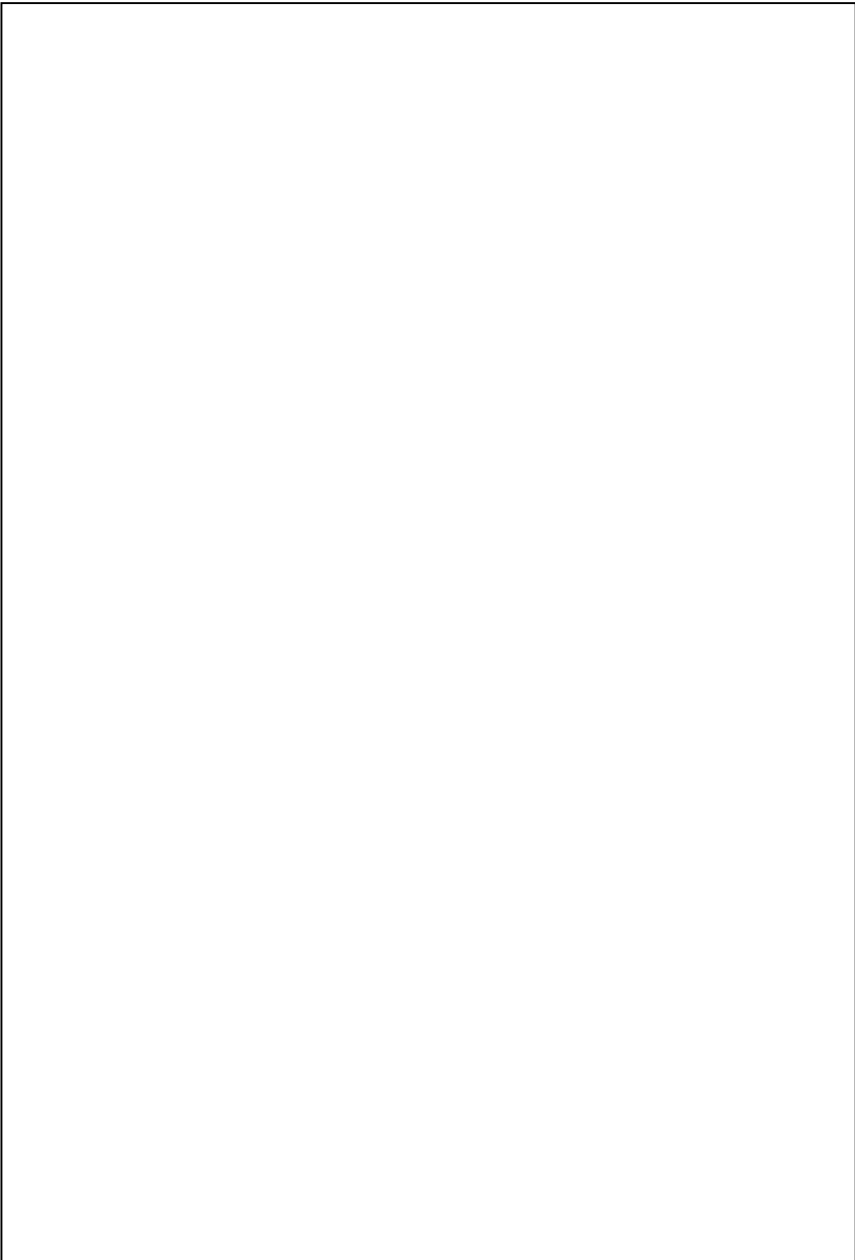
2.12 Switches and Indicators



Connector: JFRNT
 Type: onboard 10-pin header

Function	Signal	PIN		Signal	Function
IDE LED	Vcc (+)	1	2	(+) Vcc	Power LED
	Active	3	4	N/C	
Reset	Reset	5	6	GND	
	GND	7	8	N/C	
	PW_BN	9	10	GND	Power Button

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Chapter 3. BIOS Setup

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

The BIOS setup program of the single board computer let the customers modify the basic configuration setting. The settings are stored in a dedicated battery-backed memory, NVRAM, retains the information when the power is turned off. If the battery runs out of the power, then the settings of BIOS will come back to the default setting. The BIOS section of the manual is subject to change without notice and is provided here for reference purpose only. The settings and configurations of the BIOS are current at the time of print, and therefore they may not be exactly the same as that displayed on your screen.

To activate CMOS Setup program, press < DEL > key immediately after you turn on the system. The following message “Press DEL to enter SETUP” should appear in the lower left hand corner of your screen. When you enter the CMOS Setup Utility, the Main Menu will be displayed as **Figure 3-1**. You can use arrow keys to select your function, press < Enter > key to accept the selection and enter the sub-menu.

Figure 3-1. CMOS Setup Utility Main Screen

Phoenix – Award BIOS CMOS Setup Utility	
>Standard CMOS Features	>Frequency/Voltage Control
>Advanced BIOS Features	Load Fail-Safe Defaults
>Advanced Chipset Features	Load Optimized Defaults
>Integrated Peripherals	Set Supervisor Password
>Power Management Setup	Set User Password
>PnP / PCI Configurations	Save & Exit Setup
>PC Health Status	Exit Without Saving
Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	

3.1 Flat Panel Type Setting

3.1.1 Advanced Chipset Features Screen

The selection of display type for flat panel depends on the LCD display you use. Please enter the “Advanced Chipset Features” screen on the main screen and find the item of “Panel Type”, and set it with the specification of the flat panel.

Figure 3.2 - Advanced Chipset Features Screen

Phoenix – AwardBIOS CMOS Setup Utility
Advanced Chipset Features

		Item Help
		Menu Level
DRAM Timing	[By SPD]	
DRAM Clock	[By SPD]	
SDRAM Cycle Length	3	
Bank Interleave	Disabled	
Memory Hole	Disabled	
P2C/C2P Concurrency	Enabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
Frame Buffer Size	16M	
AGP Aperture Size	64M	
AGP-4X Mode	Enabled	
AGP Driving Control	: [Auto]	
AGP Driving Value	: DA	
Panel Type	06	
Boot Device Select	[Auto]	
Power-Supply Type	AT	
OnChip USB	Enabled	
USB Keyboard Support	Disabled	
USB Mouse Support	Disabled	
OnChip Sound	[Auto]	
OnChip Modem	Disabled	
CPU to PCI Write Buffer	: Enabled	
PCI Dynamic Bursting	: Disabled	
PCI Master 0 WS Write	: Disabled	
PCI Delay Transaction	: Disabled	
PCI#2 Access #1 Retry	: Disabled	
AGP Master 1 WS Write	: Disabled	
AGP Master 1 WS Read	: Disabled	

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

3.1.2 Panel Type

The chipset / BIOS built-in flat panel selection offers the support of general flat panel. Please find the panel type you use on the list below, save and exit BIOS to restart the system.

Panel Type	Support Function
00	640x480
01	800x600
02	1024x768
03	1280x768
04	1280x1024
05	1400x1500
06	1600x1200

Default Setting

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Chapter 4. Driver Installation

4.1 Install Board's Software

The selection helps you install the drivers of chipset. It will detect your version of OS automatically.

4.2 Install Ultra ATA IDE Driver

The selection helps you to install the driver of IDE interface.

4.3 Install VGA Driver

The selection helps you to install the driver of onboard VGA interface.

4.4 Install LAN Driver

The selection helps you to install the driver of onboard LAN interface.

4.5 Install Audio Driver

The selection helps you to install the driver of onboard audio interface.

4.6 Link to < Website > Homepage

The selection help you to link to the website to find the updated technical documents and download directly.

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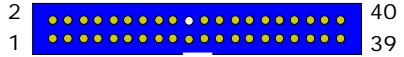
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Appendix A. I/O Port Pin Assignment

A.1 IDE Port

Connector: **IDE1**

Type: 40-pin (2 x 20) box header



Pin	Description	Pin	Description
1	Reset	2	Ground
3	D7	4	D8
5	D6	6	D9
7	D5	8	D10
9	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	Ground	20	N/C
21	REQ	22	Ground
23	IOW-/STOP	24	Ground
25	IOR-/HDMARDY	26	Ground
27	IRDY/DDMARDY	28	IDESEL
29	DACK-	30	Ground
31	IRQ	32	N/C
33	A1	34	CBLID
35	A0	36	A2
37	CS0 (MASTER CS)	38	CS1 (SLAVE CS)
39	LED ACT-	40	Ground

Connector: **IDE2**

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



Pin	Description	Pin	Description
1	Reset	2	Ground
3	D7	4	D8
5	D6	6	D9
7	D5	8	D10
9	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	Ground	20	N/C
21	REQ	22	Ground
23	IOW-/STOP	24	Ground
25	IOR-/HDMARDY	26	Ground
27	IORDY/DDMARDY	28	Ground
29	DACK-	30	Ground
31	IRQ	32	N/C
33	A1	34	SD
35	A0	36	A2
37	CS1	38	CS3
39	ASP1	40	Ground
41	Vcc	42	Vcc
43	Ground	44	Ground

A.2 FDD Port



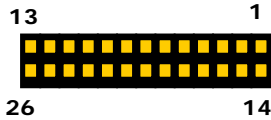
Connector: **FDD1**

Type: 26-pin connector

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

A.3 Serial and Parallel Port

A.3.1 Parallel Port



Connector: **PRINTER**

Type: 26-pin (2 x 13) 2.54-pitch box header

Pin	Description	Pin	Description
1	STROBE-	14	AUTO FEED-
2	D0	15	ERROR-
3	D1	16	INITIALIZE-
4	D2	17	SELECT INPUT-
5	D3	18	Ground
6	D4	19	Ground
7	D5	20	Ground
8	D6	21	Ground
9	D7	22	Ground
10	ACKNOWLEDGE-	23	Ground
11	BUSY	24	Ground
12	PAPER EMPTY	25	Ground
13	SELECT+	26	Ground

A.3.2 Serial Port

Connector: **COM1**

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



Pin	Description	Pin	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	Ground	6	DSR
7	RTS	8	CTS
9	RI	10	N/C

A.4 USB Port

Connector: **JUSB1**

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



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

A.5 IrDA Port

Connector: **JIR**

Type: 5-pin (1 x 5) header for SIR Port



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

A.6 PS/2 Keyboard and Mouse Port

Connector: **JPS2**

Type: 10-pin (2 x 5) header connector



Pin	Description	Pin	Description
1	Keyboard Data	2	Mouse Data
3	N/C	4	N/C
5	Ground	6	Ground
7	VCC	8	VCC
9	Keyboard Clock	10	Mouse Clock

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Appendix B. Flash the BIOS

B.1 BIOS Auto Flash Tool

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

<http://www.award.com>

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

B.2 Flash Method

1. Get the ".bin" file including the image of new BIOS you want to update.
2. Power on the system and flash the BIOS.
3. Re-start the system.

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

<http://www.globalamericaninc.com>

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Appendix C. System Resources

C.1 I/O Port Address Map

Address Range	Device
x0000 - x000F	Direct Access Memory controller
x0020 - x0021	Programmable interrupt controller
x0040 - x0043	System Timer
x0060 - x0060	Standard 101/102-Key or Microsoft Natural Keyboard
x0061 - x0061	System Speaker
x0064 - x0064	Standard 101/102-Key or Microsoft Natural Keyboard
x0070 - x0071	System CMOS/ Real time clock
x0081 - x0083	Direct Access Memory controller
x0087 - x0087	Direct Access Memory controller
x0089 - x008B	Direct Access Memory controller
x008F - x0091	Direct Access Memory controller
x00A0 - x00A1	Programmable interrupt controller
x00C0 - x00DF	Direct Access Memory controller
x00F0 - x00FF	Numeric data processor
x0170 - x0177	VIA Bus Master PCI IDE Controller
x0170 - x0177	Secondary IDE controller (dual fifo)
x01F0 - x01F7	VIA Bus Master PCI IDE Controller
x01F0 - x01F7	Primary IDE controller (dual fifo)
x0294 - x0297	PCI bus
x02F8 - x02FF	Communication port (COM2)
x0376 - x0376	VIA Bus Master PCI IDE Controller
x0376 - x0376	Secondary IDE controller (dual fifo)
x0378 - x037F	Printer port (LPT1)
x03B0 - x03BB	VIA/S3G CLE266
x03C0 - x03DF	VIA/S3G CLE266
x03F0 - x03F1	Mainboard resource
x03F2 - x03F5	Standard Floppy Disk Controller
x03F6 - x03F6	VIA Bus Master PCI IDE Controller
x03F6 - x03F6	Primary IDE controller (dual fifo)
x03F8 - x03FF	Communication port (COM1)
x04D0 - x04D1	PCI bus

C.2 Memory Address Map

Range	Device
x00000000 - x0009FFFF	System board extension for PnP BIOS
x000A0000 - x000AFFFF	VIA/S3G CLE266
x000B0000 - x000BFFFF	VIA/S3G CLE266
x000C0000 - x000CF7FF	VIA/S3G CLE266
x000CF800 - x000CFFFF	Motherboard resource
x000F0000 - x000F3FFF	Motherboard resource
x000F4000 - x000F7FFF	Motherboard resource
x000F8000 - x000FFFFFF	Motherboard resource
x00100000 - x00FFFFFF	System board extension for PnP BIOS
xE0000000 - xE3FFFFFF	PCI standard host CPU bridge
xE4000000 - xE7FFFFFF	VIA CPU to AGP Controller
xE4000000 - xE7FFFFFF	VIA/S3G CLE266
xE8000000 - xE8FFFFFF	VIA/S3G CLE266
xE8000000 - xE9FFFFFF	VIA CPU to AGP Controller
xE9000000 - xE900FFFF	VIA/S3G CLE266
xEA000000 - xEA0000FF	VIA PCI to USB Enhanced Host Controller
xEA001000 - xEA0010FF	VIA Rhine II Fast Ethernet Adapter
xFEC00000 - xFEC0FFFF	System board extension for PnP BIOS
xFEE00000 - xFEE0FFFF	System board extension for PnP BIOS
xFFFE0000 - xFFFFFFF	System board extension for PnP BIOS

C.3 System IRQ and DMA Resource

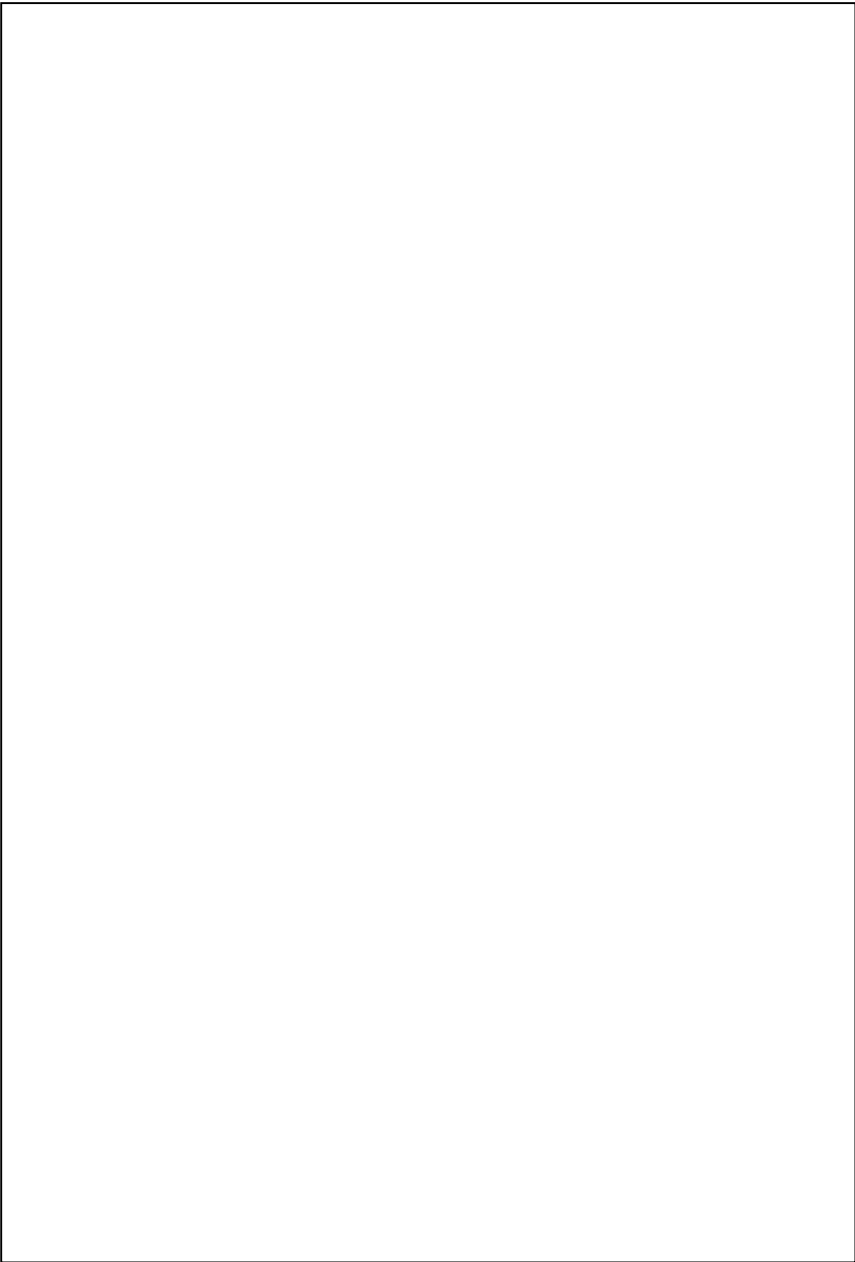
C.3.1 IRQ

IRQ Number	Device
0	System Timer
1	Standard 101/102-Key or Microsoft Natural Keyboard
2	Programmable interrupt controller
3	Communication port (COM2)
4	Communication port (COM1)
5	VIA PCI to USB Enhanced Host Controller
5	IRQ Holder for PCI Steering
6	Standard floppy disk controller
7	Printer port (LPT1)
8	System CMOS/ Real time clock
9	VIA Tech 3038 PCI to USB Universal Host Controller
9	IRQ Holder for PCI Steering
10	Realtek AC'97 Audio for VIA (R) Audio Controller
10	VIA Tech 3038 PCI to USB Universal Host Controller
10	IRQ Holder for PCI Steering
11	VIA Rhine II Fast Ethernet Adapter
11	VIA Tech 3038 PCI to USB Universal Host Controller
11	VIA/S3G CLE266
11	IRQ Holder for PCI Steering
12	PS/2 compatible mouse port
13	Numeric Data Processor
14	Primary IDE controller (dual fifo)
14	VIA Bus Master PCI IDE Controller
15	Secondary IDE controller (dual fifo)
15	VIA Bus Master PCI IDE Controller

C.3.2 DMA

Channel	Device
0	(free)
1	(free)
2	Standard Floppy Disk Controller
3	(free)
4	Direct memory access controller
5	(free)
6	(free)
7	(free)

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