ENDAT-3701/3702

ENDAT-3902

All-In-One motherboard

User's Manual

Rev. 5x

For 3701 PCB ver.3A or later

For 3702 PCB ver.4A or later

For 3902 PCB ver.4A or later

6/11/2004

Copyright Notice

The content of this manual has been checked for accuracy. The manufacturer assumes no responsibility for any inaccuracies that may be contained in this manual. ***The manufacturer reserves the right to make improvements or modification to the this document and/or the product at any time without prior notice.*** No part of this document may be reproduced, transmitted, photocopied or translated into any language, in any form or by any means, electronic, mechanical, magnetic, optical or chemical, without the prior written permission of the manufacturer.

VIA is registered trademark of VIA Technology Incorporation

VT82C868A may only be used to identify products of VIA Technology

Realtek is registered trademark of Realtek Technologies Inc.

Multiscan is a trademark of Sony Corp of America

IBM, EGA, VGA, PC/XT, PC/AT, OS/2 and PS/2 are registered trademarks of International Business Machines Corporation

Intel is a registered trademark of Intel Corporation

Plug and Play is registered trademarks of Intel Corporation

Microsoft, Windows and MS-DOS are trademarks of Microsoft Corporation

Award is a trademark of Award Software Inc.

PCI is a registered trademark of PCI Special Interest Group

Other product names mentioned herein are used for identification purpose only and may be trademarks and/or registered trademarks of their respective companies.

Installation Notice

The manufacturer recommends using a grounded plug to ensure proper motherboard operation. Care should be used in proper conjunction with a grounded power receptacle to avoid possible electrical shock. All integrated circuits on this motherboard are sensitive to static electricity. To avoid damaging components from electrostatic discharge, please do not remove the board from the anti-static packing before discharging any static electricity to your body, by wearing a wrist-grounding strap. The manufacturer is not responsible for any damage to the motherboard due to improper operation.

Specification: This manual covers three different layout model of PIII embedded motherboard. The respective board layout outlines are shown on Chapter 1-4/1-5/1-6. Please refer to the following description to make sure which model you have before using.

MODEL	ENDAT-3701 /3701-030	ENDAT-3702	ENDAT-3902
CPU	Socket370 Intel® Pentium® III FCPGA/Celeron™ Processor		
System Chipset	VIA PM133 VT8605 Chipset		
System Bios	Award (4Mbit Flash ROM)		
VGA Adapter	C&T69000/ 69030 Chipset	VIA Chipset Built-in S3 Savage4 AGP 4x Graphic	
LCD Feature	Support TTL LCD	TMDS Interface, via LCD kit (optional)	
LAN Adapter	Realtek 8139C 10BaseT/100BaseT Fast Ethernet (Boot ROM Optional)		
Flash Disk	Socket for DiskOnChip 2000		
System Memory	Up to 1GB (PC66/PC100/PC133)		
IDE Interface	PCI IDE Support Ultra DMA33/66		
I/O	Supports 4 Serial and 2 Parallel Ports COM1, 2, 3, 4 with +5V/+12V Power Supports RS422/485 for COM2 (Optional)		
IRDA / USB Port	Yes (Pin Header)		
Audio Port (optional)	Yes (via AV-CARD)		
Expansion Slot	Extension for PCI/ISA Bus		
Location of Expansion Slot	At the 7th of Standard AT MB		At the 6th of Standard AT MB
Keyboard / Mouse Jack	Two Mini Din Jack / Pin Header		
Pin Header for I/O ports (optional)	VGA / Multi I/O ports		
AT / ATX Power Connector	Yes		
Form Factor	WD/LPX (220x220mm)		PC/AT (223x220mm)

TABLE OF CONTENTS

CHAPTER 1. INTRODUCTION.....1
1-1. FEATURES.....1
1-2. UNPACKING.....3
1-3. ELECTROSTATIC DISCHARGE PRECAUTIONS.....3
1-4. MOTHERBOARD LAYOUT (**ENDAT-3701**).....4
1-5. MOTHERBOARD LAYOUT (**ENDAT-3702**).....5
1-6. MOTHERBOARD LAYOUT (**ENDAT-3902**).....6

CHAPTER 2. SETTING UP THE MOTHERBOARD.....7
2-1. JUMPERS AND CONNECTORS (**ENDAT-3701**).....7
2-2. JUMPERS AND CONNECTORS (**ENDAT-3702**).....13
2-3. JUMPERS AND CONNECTORS (**ENDAT-3902**).....18
2-4. INSTALLING MEMORY.....23
2-5. SHARED VGA MEMORY.....23
2-6. INSTALLING RISER CARD.....23
2-7. ASSIGNING IRQs FOR EXPANSION CARDS.....24
2-8. ASSIGNING DMA CHANNELS FOR ISA CARDS.....25

CHAPTER 3. AWARD BIOS SETUP.....27
3-1. QUICK SETUP.....27
3-2. DESCRIPTION OF BIOS SETUP OPTIONS.....28
3-3. ADVANCED BIOS FEATURES.....28
3-4. ADVANCED CHIPSET FEATURES.....29
3-5. INTEGRATED PERIPHERALS.....31
3-6. POWER MANAGEMENT SETUP.....33
3-7. PnP/PCI CONFIGURATIONS SETUP.....35
3-8. PC HEALTH STATUST.....36

CHPATER 4. VGA, LCD, DOC, IDE FEATURE.....37
4-1. AGP-BUS VGA FEATURE.....37
4-2. LCD FLAT PANEL FEATURE.....38
4-3. PCI BUS AUDIO ADAPTER FEATURE.....40
4-4. DISKONCHIP FEATURE.....41
4-5. DRIVER UTILITY INSTALLATION GUIDE.....42

CHPATER 5. LAN ADAPTER.....45
5-1. FEATURES.....45
5-2. UTP CABLE/RJ-45 JACK DEFINITION.....46
5-3. CONNECTING 100BASE-TX FAST ETHERNET NETWORK.....47
5-4. CONNECTING 10BASE-T ETHERNET NETWORK.....47
5-5. 10M BASE/100MBASE INSTALLATION NOTICE.....47
5-6. REMOTE BOOT ROM INSTALLATION GUIDE.....48
5-7. LED INDICATORS.....49
5-8. SETUP PROGRAM.....49
5-9. LAN DRIVER INSTALLATION PROCEDURE.....52

APPENDIX A: FLASH MEMORY UTILITY.....53

APPENDIX B: CONNECTOR PIN ASSIGNMENT.....55

APPENDIX C: LIMITED WARRANTY.....63

Chapter 1. Introduction

The ENDAT-3701, ENDAT-3702 and ENDAT-3902 All-In-One motherboard uses VIA chipsets built-in VGA and Audio feature onboard, supports LCD feature with TMDS interface via optional kit, built-in Realtek 8139xx LAN chipset with RJ45 Jack for 10BaseT/100BaseT. This board offers the highest performance PC specifications in the industry. The ENDAT-3701, ENDAT-3702 and ENDAT-3902 runs with the Intel® Pentium® III FCPGA / Celeron™ Processor.

The motherboard is fully compatible with industry standards, adding many technical enhancements and is fully compatible with thousands of software applications developed for IBM PC/AT compatible computers. The control logic provides high-speed performance for the most advanced multi-user, multitasking applications available today. "Tomorrows PC technology is here today".

1-1. Features

Basic Feature:

- Supports all Socket-370 Processors Including Intel Pentium II, Pentium III, VIA-Cyrix-III and Intel Coppermine / Celeron CPU; base on 66 / 100 /133 MHz CPU "Front Side Bus (FSB)".
- High performance SMA North Bridge: Integrated VIA Apollo Pro133 and S3 Savage4 in a single chip, provides superior performance between the CPU, DRAM, AGP bus, and PCI bus with pipelined, burst and concurrent operation.
- Advance Memory Controller supporting PC100/PC133 SDRAM.
- 64-bit DRAM interface runs synchronous mode (66/66, 100/100, 133/133) or pseudo-synchronous (66/100, 100/66, 100/133, 133/100) mode with FSB.
- Supports up to 1GB of DRAM memory with 2 x 168 pin DIMM socket
- Built-in C&T 69000 Chipset supports High Performance Flat Panel / CRT HiQVideo with Integrated 2MB Memory (For ENADT-3701)
- AGP controller supports 266Mhz 4x mode (For ENDAT-3702/3902)
- Onboard built-in PCI BUS master IDE controller and one floppy drive controller.

- PCI 2.2 compliant 32-bit PCI interface with 5V tolerant inputs.
- Onboard socket DiskOnChip supports M-System products.
- Onboard LAN Adapter supports 10BaseT/100BaseT,BOOT ROM optional (PLCC Type), and LAN Features can be Enabled/Disabled by jumper settings.
- Support 4 COM ports, STD.RI (RS-232), COM1, 2, 3, 4 with +5V/+12V DC power selectable, with option of RS-422/485 features via COM2.
- Support 2 Parallel Ports
- Support Ultra DMA33/66 EIDE.
- Onboard built-in 4 ports USB functions.
- 188 pin expansion slot for both PCI and ISA BUS signals.
- IR function can be Enabled/Disabled by BIOS

Optional Features

- Supports RS422/RS485 interface with COM2 (Optional)
- For ENDAT-3702/3902, support Digital LCD Panel with 12bits digital signal for TMDS LCD monitor **(via TMDS kit UC-TT1811)**
- Supports Audio function **(via AV Card Kit)**
- Supports TV-Out feature **(via TV-Out adapter Kit)**

Ordering information:

Digital TMDS adapter Kit for ENDAT-3702/3902 :Model No. UC-TT18xx

TTL Panel adapter Kit for ENDAT-3701: Model No. UC-LT1815

UC-LR1815

UC-T1848

UC-L1836

UC-L2448

1-2. Unpacking

The motherboard comes securely packaged in a sturdy cardboard shipping carton. In addition to the User's Manual, the motherboard package includes the following items:

- ENDAT-3701/ 3702/ 3902 All-In-One Motherboard
- HDC/FDC Cables
- TV-Out adapter / cable **(Optional)**
- Audio Kit **(Optional)**
- LCD kit **(Optional)**
- Serial port kit for 2 ports
- IDE Driver includes: Drivers for Windows NT 3.x/4.x, Windows 95, 98, 2000, WinMe, Novell Netware and AWARD FLASH ROM utilities.
- Driver utilities for on-board VGA drivers, LAN adapter and DOC 2000

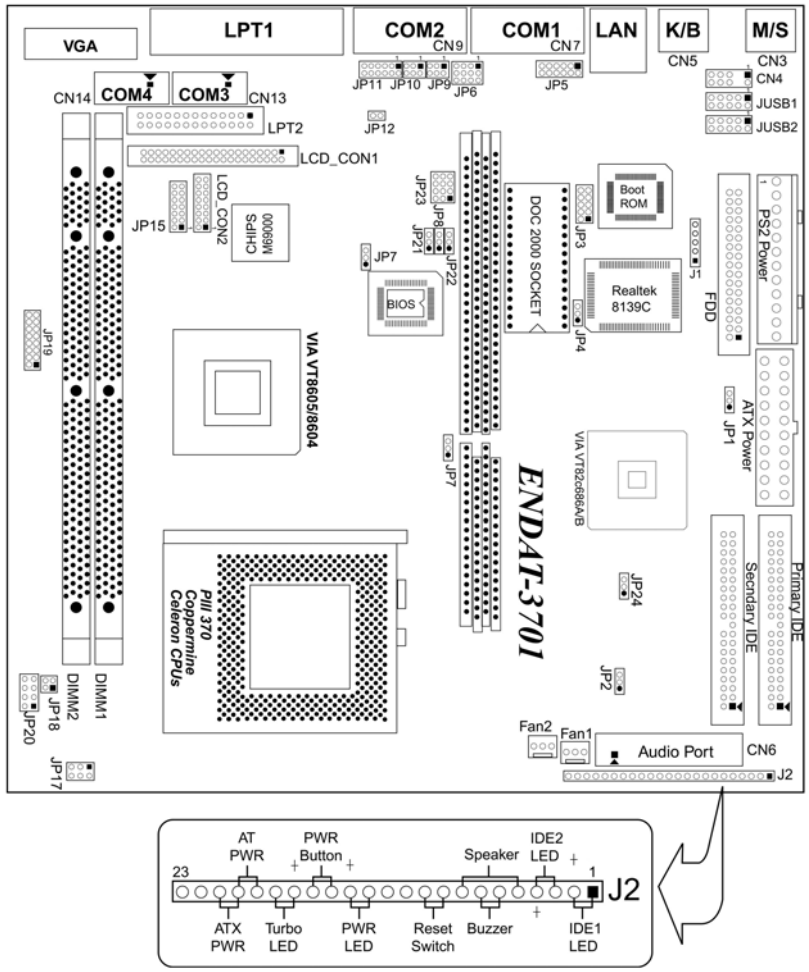
If any of these items are missing or damage, please contact the dealer from whom you purchase the motherboard. Save the shipping material and carton in the event that you want to ship or store the board in the future.

Note: Leave the motherboard in its original package until you are ready to install it!

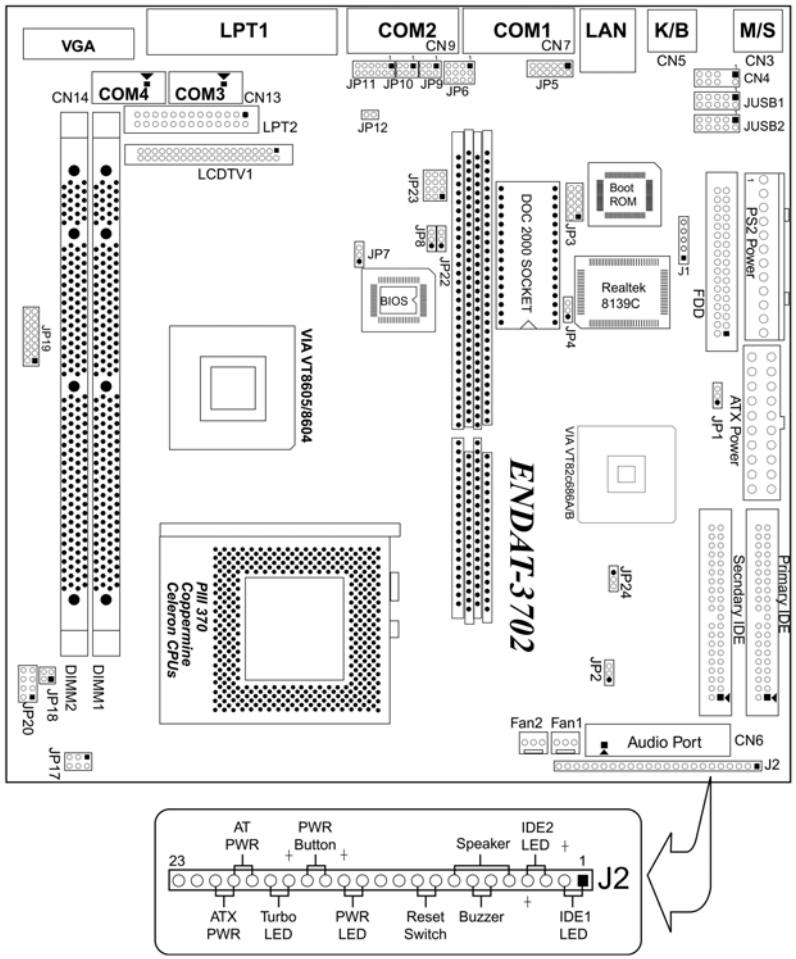
1-3. Electrostatic Discharge Precautions

Make sure you properly ground yourself before handling the motherboard, or other system components. Electrostatic discharge can easily damage the components. Note: You must take special precaution when handling the motherboard in dry or air-conditioned environments.

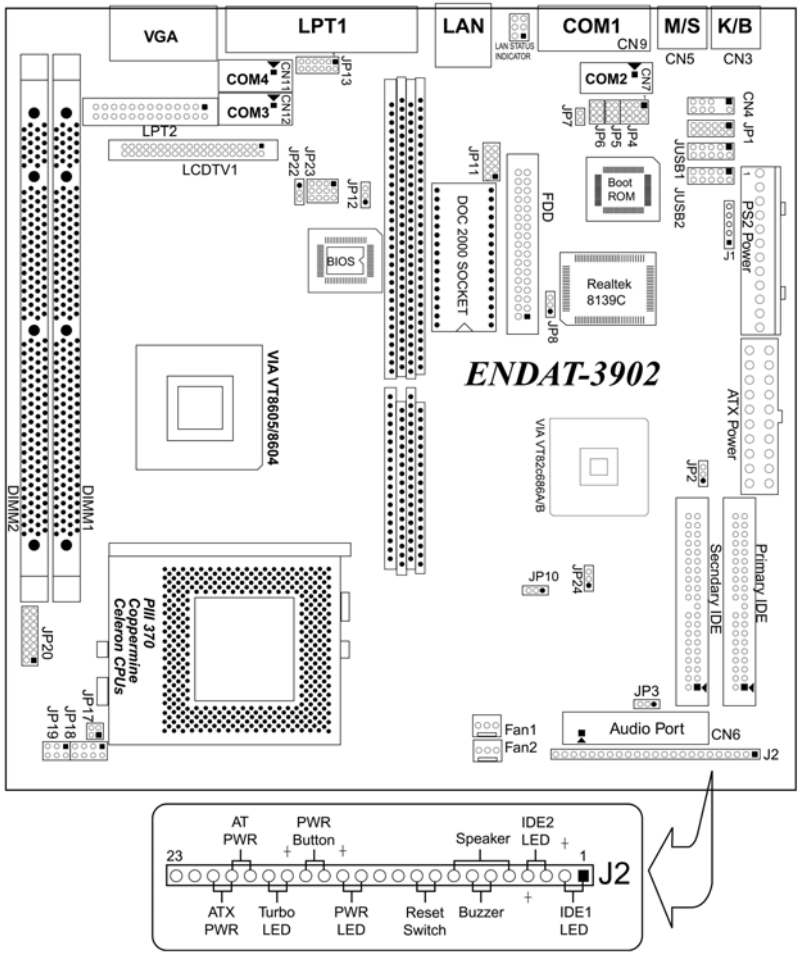
1-4. Motherboard Layout (ENDAT-3701)



1-5. Motherboard Layout (ENDAT-3702)



1-6. Motherboard Layout (ENDAT-3902)



Chapter 2. Setting up the Motherboard

This chapter describes how to set up the motherboard and get ready for operation.

- Installing the CPU upgrade
- Installing DIMM memory. Make sure the correct CPU operating voltage, jumper settings and frequency.
- Double-check the insertion and orientation of the CPU before applying power. Improper installation will result in permanent damage to the CPU.

2-1. Jumpers and Connectors (ENDAT-3701)

Jumpers/Connectors Overview:

Function	Jumpers/Connectors
CPU: CPU Clock Frequency	JP18
CPU Type	JP17(1-2,3-4,5-6), JP20(5-6,7-8)
Connector for Cooling Fan	FAN1,FAN2
Power Supply: Type (ATX or PS/2)	CN2(ATX);CN1(PS/2)
Power Good	JP2
ATX or PS/2 AT Power Selector	JP24; J2 Pin 19, 20, 21
ATX Power On/Off Switch	J2 Pin 15, 16
Audio Output Port Connector	CN6
LAN Adapter Disable/Enable	JP4
On-Board VGA Disable/Enable	JP21
PCI INT selector for Expansion Slot	JP23
COM3 Port	CN13
COM4 Port	CN14
2nd Parallel Port	LPT2
COM Ports IRQ Setting	BIOS Defined
COM Ports Power Selector (COM1, 2, 3,4)	JP5, JP11
RS232/RS422/RS485 Selector (COM2)	JP6, JP9, JP10, JP12

ENDAT-3701

DiskOnChip Memory Address	JP3
LCD Connector	LCD_CON1; LCD_CON2
LCD Panel Type Selector	JP15
Clear CMOS	JP7
PS/2 Keyboard Jack	CN5
PS/2 Mouse Jack	CN3
PS/2 Mouse/KB Pin Header	CN4
IR	J1
USB Header	JUSB1, JUSB2
FDD Connector	FDD1
IDE 1 (Primary IDE)	IDE1
IDE 2 (Secondary IDE)	IDE2
Header for Case Panel	J2
IDE 1 LED	**J2** Pin 1, Pin 2
IDE 2 LED	**J2** Pin 3, Pin 4
External Speaker	**J2** Pin 5, Pin 8
Buzzer On/Off	**J2** Pin 6, Pin 7
Hardware Reset Switch	**J2** Pin 9, Pin 10
Power LED	**J2** Pin 13, Pin 14
ATX Power Supply On/Off Switch	**J2** Pin 15, Pin 16
Turbo LED (for case only, no function)	**J2** Pin 17, Pin 18
ATX or PS/2 Power Selector	**J2** Pin 19, Pin 20, Pin 21
Ring-Detected	**J2** Pin 22, Pin 23

ENDAT-3701

CPU Type Setting: JP17 / JP20

Jumper No. / CPU Type	JP17 (1-2)	JP17 (3-4)	JP17 (5-6)	JP20 (7-8)	JP20 (5-6)
Intel 0.25u Celeron	SHORT	OPEN	OPEN	SHORT	OPEN
Intel 0.18u Celeron. Coppermine	OPEN	SHORT	OPEN	SHORT	OPEN
Cyrix	SHORT	OPEN	SHORT	OPEN	SHORT

Note: CPU ratio already locked by CPU internally.

System Clock Setting: JP18

JP18 (1-2)	JP18 (3-4)	CPU BUS CLOCK	PCI CLOCK
OPEN	OPEN	133 MHz	33.3 MHz
OPEN	CLOSE	100 MHz	33.3 MHz
CLOSE	CLOSE	66 MHz	33 MHz

Caution: Please make sure the CPU type setting and System clock setting as mention above for your system. Any wrong setting may cause system damaged the CPU or system not working.

JP2: On-board Power Good Selector

Pin 1-2	Using External Power Good
Pin 2-3 *	Using On Board Power Good

JP7: CMOS Data Clear:

Pin 1-2 *	Normal
Pin 2-3	Clear CMOS Data

JP3: DiskOnChip Memory Address Selector

JP3		Memory Address
1-2	**7-8**	0C800H - 0C9FFH
1-2	**9-10**	0CC00H - 0CDFFH
3-4	**7-8**	0D000H - 0D1FFH
3-4	**9-10**	0D400H - 0D5FFH
5-6*	**7-8***	**0D800H - 0D9FFH**

JP4: On-board LAN Disable/Enable

JP4	Function
Pin 1-2 *	Enable On-Board LAN
Pin 2-3	Disable On-Board LAN

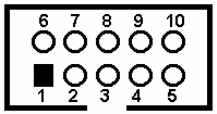
JP8 / JP22: Flash ROM Size/Voltage selector.

JP8 FLASH ROM SIZE	
1-2=2MB	***2-3=4MB**

JP22 FLASH ROM Voltage	
***1-2= 5V Type**	**2-3=3.3V Type**

ENDAT-3701

Box Header: COM1(CN7)/COM2(CN9)/COM3(CN13)/COM4(CN14)



Pin No.	Description	Pin No.	Description
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI / PWR
5	GND	10	N.C.

JP5 : Voltage selector for COM1, COM2

	COM1	COM2	Description
JP5	Close 1-2	Close 7-8	+5V
JP5	Close 3-4	Close 9-10	STD. RI. (RS-232)
JP5	Close 5-6	Close 11-12	+12V

JP11 : Voltage selector for COM3, COM4

	COM3	COM4	Description
JP11	Close 1-2	Close 7-8	+12V
JP11	Close 3-4	Close 9-10	STD. RI. (RS-232)
JP11	Close 5-6	Close 11-12	+5V

JP10, JP12, JP6: RS232 / 485 Selector for COM2 Only.

TYPE	JP10	JP12	JP6
RS-232 *	1-2	Open	1-2, 4-5, 7-8, 10-11
RS-485	3-4	Close	2-3, 5-6, 8-9, 11-12

**** Make sure the port mode is set up correctly before installing any peripherals.***

ENDAT-3701

JP21: On-board VGA Disable/Enable

Function	Close
Disable	**Pin 1-2**
Enable	**Pin 2-3 ***

JP24 / J2'Pin 19~21: Power Supply Type

Power Type	JP24	J2's Pin 19~21
PS/2 AT	Close 1-2	Close 19-20
ATX	Close 2-3	Close 20-21

J2's Pin15;16: For ATX Power Supply On/Off

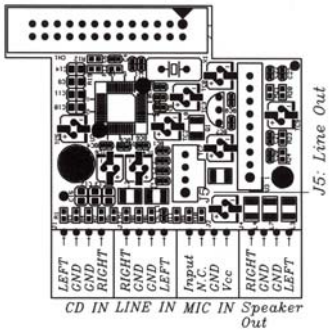
Pin 15; Pin 16	On/Off Switch for ATX Power Button

FAN1, FAN2: CPU / 2nd Cooling Fan Connector

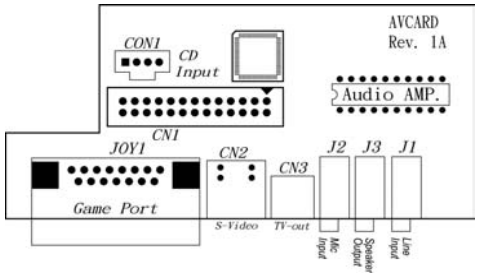
Pin No.	Function
Pin 1	Sensor Pin.
Pin 2	+12V
Pin 3	GND

CN6: Audio Output Port connector via AV Card Kit (Optional)

The AV Card Kit Adapter supports Sound and Game Port. Please close pin13-14 to disable onboard Audio features if the AV Card Kit is not inserted onto the **CN6** connector.



UC-A001



AV Card

J2: Case Panel connection

Pin No.	Description		
1, 2	IDE 1 LED	Pin 1 = –	Pin 2 = +
3, 4	IDE 2 LED	Pin 3 = –	Pin 4 = +
5, 8	External Speaker		
6, 7	Onboard Buzzer		
9, 10	Reset Switch		
13,14	Power LED Indicator		
15, 16	Power On/Off Switch (for ATX Power only)		
17, 18	Turbo LED(for case only, no function)		
19, 20, 21	19-20 for PS/2 AT Power	20-21 for ATX Power	
22, 23	Modem Ring Detected / Wake on LAN		

Modem Ring/ Wake-On-LAN: WOL1, WOL2

ENDAT-3701

LCD_CON1 / LCD_CON2: LCD PANEL OUTPUT Connector.

LCD_CON1: LCD Control signal & Data Bit 0 – Bit23

Pin No.	Description	Pin No.	Description
1	VBL	2	VBL
3	GND	4	GND
5	LCDVSEL	6	LCDVSEL
7	ENAVEE	8	GND
9	PANEL DATA 0	10	PANEL DATA 1
11	PANEL DATA 2	12	PANEL DATA 3
13	PANEL DATA 4	14	PANEL DATA 5
15	PANEL DATA 6	16	PANEL DATA 7
17	PANEL DATA 8	18	PANEL DATA 9
19	PANEL DATA 10	20	PANEL DATA 11
21	PANEL DATA 12	22	PANEL DATA 13
23	PANEL DATA 14	24	PANEL DATA 15
25	PANEL DATA 16	26	PANEL DATA 17
27	PANEL DATA 18	28	PANEL DATA 19
29	PANEL DATA 20	30	PANEL DATA 21
31	PANEL DATA 22	32	PANEL DATA 23
33	GND	34	GND
35	SHFCLK	36	FLM
37	M-DE	38	LP
39	GND	40	CENABKL
41	NC	42	NC
43	VCC(+5V)	44	VCC(+5V)

LCD_CON2: LCD Data Bit 24 – Bit35

Pin No.	Description	Pin No.	Description
1	LCDVSEL	2	VCC(+5V)
3	PANEL DATA 24	4	PANEL DATA 25
5	PANEL DATA 26	6	PANEL DATA 27
7	PANEL DATA 28	8	PANEL DATA 29
9	PANEL DATA 30	10	PANEL DATA 31
11	PANEL DATA 32	12	PANEL DATA 33
13	PANEL DATA 34	14	PANEL DATA 35
15	GND	16	GND

ENDAT-3701

2-2. Jumpers and Connectors (ENDAT-3702)

Jumpers/Connectors Overview:

Function	Jumpers/Connectors
CPU: CPU Clock Frequency	JP18
CPU Type	JP17(1-2,3-4,5-6), JP20(5-6,7-8)
Connector for Cooling Fan	FAN1,FAN2
Power Supply: Type (ATX or PS/2)	CN2(ATX);CN1(PS/2)
Power Good	JP2
ATX or PS/2 Power Selector	JP24; J2 Pin 19, 20, 21
ATX Power On/Off Switch	J2 Pin 15, 16
Audio Output Port Connector	CN6
LAN Adapter Disable/Enable	JP4
PCI INT selector for Expansion Slot	JP23
COM3 Port	CN13
COM4 Port	CN14
2nd Parallel Port	LPT2
COM Ports IRQ Setting	BIOS Defined
COM Ports Power Selector (COM1, 2, 3,4)	COM 1/2=JP5, COM3/4= JP11
RS232/RS422/RS485 Selector (COM2)	JP6, JP9, JP10, JP12
DiskOnChip Memory Address	JP3
LCD Connector	LCDTV1
Clear CMOS	JP7
PS/2 Keyboard Jack	CN5
PS/2 Mouse Jack	CN3
PS/2 Mouse/KB Pin Header	CN4
IR	J1
USB Header	JUSB1, JUSB2
FDD Connector	FDD1
IDE 1 (Primary IDE)	IDE1
IDE 2 (Secondary IDE)	IDE2

ENDAT-3702

Header for Case Panel	J2
IDE 1 LED	**J2** Pin 1, Pin 2
IDE 2 LED	**J2** Pin 3, Pin 4
External Speaker	**J2** Pin 5, Pin 8
Buzzer On/Off	**J2** Pin 6, Pin 7
Hardware Reset Switch	**J2** Pin 9, Pin 10
Power LED	**J2** Pin 13, Pin 14
ATX Power Supply On/Off Switch	**J2** Pin 15, Pin 16
Turbo LED (for case only, no function)	**J2** Pin 17, Pin 18
ATX or PS/2 Power Selector	**J2** Pin 19, Pin 20, Pin 21
Ring-Detected	**J2** Pin 22, Pin 23

CPU Type Setting: JP17 / JP20

Jumper No. / CPU Type	JP17 (1-2)	JP17 (3-4)	JP17 (5-6)	JP20 (7-8)	JP20 (5-6)
Intel 0.25u Celeron	SHORT	OPEN	OPEN	SHORT	OPEN
Intel 0.18u Celeron. Coppermine	OPEN	SHORT	OPEN	SHORT	OPEN
VIA/ Cyrix	SHORT	OPEN	SHORT	OPEN	SHORT

Note: CPU ratio already locked by CPU internally.

ENDAT-3702

System Clock Setting: JP18

JP18 (1-2)	JP18 (3-4)	CPU CLOCK (FSB)	PCI CLOCK
OPEN	OPEN	133 MHz	33.3 MHz
OPEN	CLOSE	100 MHz	33.3 MHz
CLOSE	CLOSE	66 MHz	33 MHz

Caution: Please make sure the CPU type setting and System clock setting as mention above for your system. Any wrong setting may cause system damaged the CPU or system not working.

JP2: On-board Power Good Selector

Pin 1-2	Using External Power Good
Pin 2-3 *	Using On Board Power Good

JP7: CMOS Data Clear:

Pin 1-2 *	Normal
Pin 2-3	Clear CMOS Data

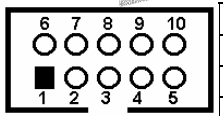
JP3: DiskOnChip Memory Address Selector

JP3		Memory Address
1-2	**7-8**	0C800H - 0C9FFH
1-2	**9-10**	0CC00H - 0CDFFH
3-4	**7-8**	0D000H - 0D1FFH
3-4	**9-10**	0D400H - 0D5FFH
***5-6**	***7-8**	**0D800H - 0D9FFH**

JP4: On-board LAN Disable/Enable

JP4	Function
Pin 1-2 *	Enable On-Board LAN
Pin 2-3	Disable On-Board LAN

Box Header: COM1(CN7)/COM2(CN9)/COM3(CN13)/COM4(CN14)



Pin No.	Description	Pin No.	Description
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI / PWR
5	GND	10	N.C.

JP5 : Voltage selector for COM1, COM2

	COM1	COM2	Description
JP5	Close 1-2	Close 7-8	+5V
JP5	Close 3-4	Close 9-10	STD. RI. (RS-232)
JP5	Close 5-6	Close 11-12	+12V

JP11 : Voltage selector for COM3, COM4

	COM3	COM4	Description
JP11	Close 1-2	Close 7-8	+12V
JP11	Close 3-4	Close 9-10	STD. RI. (RS-232)
JP11	Close 5-6	Close 11-12	+5V

ENDAT-3702

JP10, JP12, JP6: RS232 / 485 Selector for COM2

TYPE	JP10	JP12	JP6
RS-232 *	1-2	Open	1-2, 4-5, 7-8, 10-11
RS-485	3-4	Close	2-3, 5-6, 8-9, 11-12

**** Make sure the port mode is set up correctly before installing any peripherals.***

JP8 / JP22: Flash ROM Size/Voltage selector.

JP8 FLASH ROM SIZE	
1-2=2MB	***2-3=4MB**

JP22 FLASH ROM Voltage	
1-2= 5V Type	***2-3=3.3V Type**

JP24 / J2's Pin 19~21: Power Supply Type

Power Type	JP24	J2's Pin 19~21
PS/2 AT	Close 1-2	Close 19-20
ATX	Close 2-3	Close 20-21

J2's Pin15;16: For ATX Power Supply On/Off

Pin 15; Pin 16	On/Off Switch for ATX Power Button

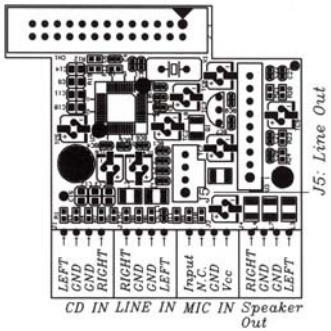
FAN1, FAN2: CPU / 2nd Cooling Fan Connector

Pin No.	Function
Pin 1	Sensor Pin.
Pin 2	+12V
Pin 3	GND

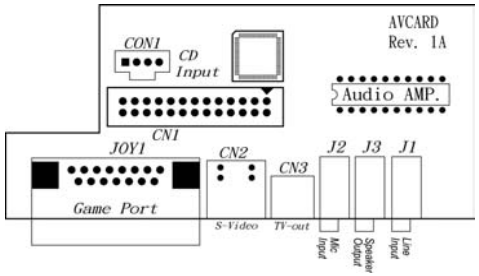
ENDAT-3702

CN6: Audio Output Port connector via AV Card Kit (Optional)

The AV Card Kit Adapter supports Sound and Game Port. Please close pin13-14 to disable onboard Audio features if the AV Card Kit is not inserted onto the **CN6** connector.



UC-A001



AV Card

J2: Case Panel connection

Pin No.	Description		
1, 2	IDE 1 LED	Pin 1 = –	Pin 2 = +
3, 4	IDE 2 LED	Pin 3 = –	Pin 4 = +
5, 8	External Speaker		
6, 7	Onboard Buzzer		
9, 10	Reset Switch		
13,14	Power LED Indicator		
15, 16	Power On/Off Switch (for ATX Power only)		
17, 18	Turbo LED(for case only, no function)		
19, 20, 21	19-20 for AT Power	20-21 for ATX Power	
22, 23	Modem Ring Detected / Wake on LAN		

ENDAT-3702

2-3. Jumpers and Connectors (ENDAT-3902)

Jumpers/Connectors Overview (ENDAT-3902):

Function	Jumpers/Connectors
CPU: CPU Clock Frequency	JP17
CPU Type	JP18, JP19
Connector for Cooling Fan	FAN1,FAN2
Power Supply: Type (ATX or PS/2)	CN2(ATX);CN1(PS/2)
Power Good	JP3
ATX or PS/2 Power Selector	JP24; J2 Pin 19, 20, 21
ATX Power On/Off Switch	J2 Pin 15, 16
Audio Output Port Connector	CN6
LAN Adapter Disable/Enable	JP8
PCI INT selector for Expansion Slot	JP23
COM2 Port	CN7
COM3 Port	CN12
COM4 Port	CN11
2nd Parallel Port	LPT2
COM Ports IRQ Setting	BIOS Defined
COM Ports Power Selector (COM1, 2, 3,4)	COM1/2=JP1, COM3/4= JP13
RS232/RS422/RS485 Selector (COM2)	JP6, JP7, JP4, JP5
DiskOnChip Memory Address	JP11
LCD Connector (Optional)	LCDTV1
Clear CMOS	JP10
PS/2 Keyboard Jack	CN3
PS/2 Mouse Jack	CN5
PS/2 Mouse/KB Pin Header	CN4
IR	J1
USB Port Header	JUSB1, JUSB2
FDD Connector	FDD1
IDE 1(Primary IDE)	IDE1
IDE 2 (Secondary IDE)	IDE2

ENDAT-3902

Header for Case Panel	J2
IDE 1 LED	**J2** Pin 1, Pin 2
IDE 2 LED	**J2** Pin 3, Pin 4
External Speaker	**J2** Pin 5, Pin 8
Buzzer On/Off	**J2** Pin 6, Pin 7
Hardware Reset Switch	**J2** Pin 9, Pin 10
Power LED	**J2** Pin 13, Pin 14
ATX Power Supply On/Off Switch	**J2** Pin 15, Pin 16
Turbo LED (for case only, no function)	**J2** Pin 17, Pin 18
ATX or PS/2 Power Selector	**J2** Pin 19, Pin 20, Pin 21
Ring-Detected	**J2** Pin 22, Pin 23

CPU Type Setting: JP19 / JP18

JUMPER No. / CPU Type	JP19 (1-2)	JP19 (3-4)	JP19 (5-6)	JP18 (7-8)	JP18 (5-6)
Intel 0.25u Celeron	SHORT	OPEN	OPEN	SHORT	OPEN
Intel 0.18u Celeron Coppermine	OPEN	SHORT	OPEN	SHORT	OPEN
VIA / Cyrix	SHORT	OPEN	SHORT	OPEN	SHORT

Note: CPU ratio already locked by CPU internally.

System Clock Setting: JP17

JP17 (1-2)	JP17 (3-4)	CPU BUS CLOCK	PCI BUS CLOCK
OPEN	OPEN	133 MHz	33.3 MHz
OPEN	CLOSE	100 MHz	33.3 MHz
CLOSE	CLOSE	66 MHz	33 MHz

Caution: Please make sure the CPU type setting and System clock setting as mention above for your system. Any wrong setting may cause system damaged the CPU or system not working.

ENDAT-3902

JP10: CMOS Data Clear:

Pin 1-2 *	Normal
Pin 2-3	Clear CMOS Data

JP11: DiskOnChip Memory Address Selector

JP11		Memory Address
1-2	**7-8**	0C800H - 0C9FFH
1-2	**9-10**	0CC00H - 0CDFFH
3-4	**7-8**	0D000H - 0D1FFH
3-4	**9-10**	0D400H - 0D5FFH
***5-6**	***7-8**	**0D800H - 0D9FFH**

JP8: On-board LAN Disable/Enable

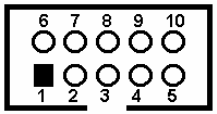
Pin 1-2 *	Enable On-Board LAN
Pin 2-3	Disable On-Board LAN

ENDAT-3902

JP12 / JP22: Flash ROM Size/Voltage selector.

JP12 FLASH ROM SIZE	
1-2=2MB	***2-3=4MB**
JP22 FLASH ROM Voltage	
1-2= 5V Type	***2-3=3.3V Type**

Box Header: COM1(CN9)/COM2(CN7)/COM3(CN11)/COM4(CN12)



Pin No.	Description	Pin No.	Description
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI / PWR
5	GND	10	N.C.

JP1: Voltage selector for COM1, COM2

	COM1	COM2	Description
JP1	Close 1-2	Close 7-8	+5V
JP1	Close 3-4	Close 9-10	STD. RI. (RS-232)
JP1	Close 5-6	Close 11-12	+12V

JP13: Voltage selector for COM3, COM4

	COM3	COM4	Description
JP13	Close 1-2	Close 7-8	+12V
JP13	Close 3-4	Close 9-10	STD. RI. (RS-232)
JP13	Close 5-6	Close 11-12	+5V

JP6, JP7, JP4: RS232 / 485 Selector for COM2

TYPE	JP6	JP7	JP4
RS-232 *	1-2	Open	1-2, 4-5, 7-8, 10-11
RS-485	3-4	Close	2-3, 5-6, 8-9, 11-12

**** Make sure the port mode is set up correctly before installing any peripherals.***

JP3: On-board Power Good Selector

JP3	Function
Pin 1-2	Using External Power Good
Pin 2-3 *	Using On Board Power Good

FAN1, FAN2: CPU / 2nd Cooling Fan Connector

Pin No.	Function
Pin 1	Sensor Pin.
Pin 2	+12V
Pin 3	GND

JP24; J2's Pin 19~21: Power Supply Type

Power Type	JP24	J2's Pin 19~21
PS/2 AT	Close 2-3	Close 19-20
ATX	Close 1-2	Close 20-21

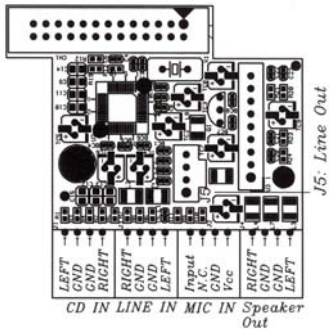
J2's Pin15,16: For ATX Power Supply On/Off

Pin 15; Pin 16	On/Off Switch for ATX Power Button

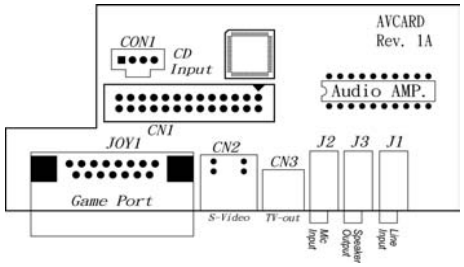
ENDAT-3902

CN6: Audio Output Port connector via AV Card Kit (Optional)

The AV Card Kit Adapter supports Sound, Game Port. Please close pin13-14 to disable onboard Audio features if the AV Card Kit is not inserted onto the **CN6** connector.



UC-A001



AV Card

J2: Case Panel connection

Pin No.	Description	
1, 2	IDE 1 LED	Pin 1 = – / Pin 2 = +
3, 4	IDE 2 LED	Pin 3 = – / Pin 4 = +
5, 8	External Speaker	
6, 7	Onboard Buzzer	
9, 10	Reset Switch	
13,14	Power LED Indicator	
15, 16	Power On/Off Switch (for ATX Power only)	
17, 18	Turbo LED(for case only, no function)	
19, 20, 21	19-20 for AT Power	20-21 for ATX Power
22, 23	Modem Ring Detected / Wake on LAN	

ENDAT-3902

2-4. Installing Memory

The motherboard offers two 168pin DIMM sockets supporting up to 1GB of memory. The DIMM memory can be 66MHz, 100MHz (PC-100) or 133 MHz (PC-133).

2-5. Shared VGA Memory

The ENDAT-3702 / ENDAT-3902 is using built-in AGP VGA controller with share memory architecture (SMA) - **AGP mode with 2MB to 32MB** of system memory. The ENDAT-3701 motherboard has 2MB build-in dedicate memory for VGA chip C&T 69000, and 4MB build-in dedicated memory for chip C&T 69030. The amount of video memory on motherboard determines the number of colors and the video graphic resolution.

2-6. Installing Riser Card

Installing Riser Card (Max. 3 PCI Slot on Riser Card)

PCI Slot	INT	ADSEL
PCI 1	A,B,C,D	AD24(Onboard LAN)
PCI 2	B,C,D,A	AD23
PCI 3	C,D,A,B	AD22
PCI 4	D,A,B,C	AD21

There are two different riser cards that can be fitted to ENDAT-3701/3702/3902 All-In-One motherboard. The first one is a 98pin ISA only Bus riser card (traditional ISA Bus riser card), the second one is a 188pins PCI/ISA riser card.

Please note: PCI/ISA riser cards jumper settings have to be matched with the motherboard INT/AD-select jumper. The default INT/AD-select for ENDAT-3701/3702/3902 All-In-One motherboard is listed in the above table. However, it could be revised by changing **JP23** setting for different INT/AD-select. The following table shows the JP23 configurations:

JP23 Configurations:

Expansion for PCI Slot	* JP23 = 1-2	JP23 = 2-3
Expansion PCI 1	INT =A,B,C,D	INT = B,C,D,A
Expansion PCI 2	INT = B,C,D,A	INT = C,D,A,B
Expansion PCI 3	INT = C,D,A,B	INT = D,A,B,C
Expansion PCI 4	INT = D,A,B,C	INT = A,B,C,D

Note: Even change the JP23 setting for different configuration the AD-select should be match to each INT. Please using the default setting as above if you are not familiar with the configuration of raiser card and add-on card .

Caution: Do not insert PCI Bus Add-On cards directly into the on-board expansion slot!

2-7. Assigning IRQs for Expansion Cards

Some expansion cards require an IRQ (Interrupt request vector) to operate. Generally, each IRQ must be exclusively assigned to specific use. In a standard design, there are 16 IRQ available with 11 of them already in used by other part of the system.

Both ISA and PCI expansion cards may need to use IRQ. Cards installed in the ISA Expansion Bus have the first priority to use the available system IRQs. Any remaining IRQ then, may be assigned to this PCI Bus. Microsoft's Diagnostic (MSD.EXE) utility included in the Windows directory can be used to see their map. Make sure that there are no two devices using the same IRQ in the system. Otherwise this will cause the system to hang up or give unexpected results. To simplify the process, this motherboard complies with the Plug and Play (PnP) specifications, which was developed to allow automatic system configuration. Whenever a PnP-compliant card is added to the system, PnP cards and IRQs are automatically assigned if available. If the system has both Legacy and PnP ISA cards installed. IRQs are assigned to PnP cards from those not used by Legacy cards. The PCI and PnP configuration in the BIOS setup utility can be used to indicate which IRQs have being used by Legacy cards. For older Legacy cards that do not work with the BIOS, you can contact your vendor for an ISA configuration utility.

An IRQ number is automatically assigned to PCI expansion cards after those used by Legacy and PnP ISA cards. In the PCI Bus design, the BIOS is automatically assigned an IRQ to a PCI slot that has a card in it which requires an IRQ. To install a PCI card, you need to set the correct "ADSEL" and "INT" (interrupt) assignment. Please refer to "Chapter 2-5" Installing a Riser Card for detail assignments.

IRQ	Status	Assignment
0	Used	Timer
1	Used	Keyboard
2	Used	Second 8259
3	Used	COM2
4	Used	COM1
5	Used	COM3
6	Used	Floppy Disk
7	Used	LPT1
8	Used	RTC
9	Used	LPT2
10	Used	COM4
11	Used	LAN Adapter (on board)
12	Used	PS/2 Mouse
13	Used	Coprocessor
14	Used	Hard Disk (IDE 1)
15	Used	Reserved (IDE 2)

2-8. Assigning DMA Channels for ISA Cards

Since ISA cards, both Legacy and PnP may also need to use a DMA (direct memory access) channel, DMA assignments for this motherboard are handled the same way as the IRQ assignment process described above. You can select a DMA channel in the PCI and PnP configuration section of the BIOS setup utility. In the BIOS setup, you should choose "Yes" for those IRQ's and DMA's you wish to reserve for Legacy cards.

Chapter 3. AWARD BIOS SETUP

Use the CMOS setup program to modify the system parameters to reflect the environment installed in your system and to customize the system as desired. Press the <DEL> key to enter into the CMOS setup program when you turn on the power. Settings can be accessed via arrow keys. Press <Enter> to choose an option to configure the system properly.

In the main menu, press F10 or "SAVE & EXIT SETUP" to save your changes and reboot the system. Choose "EXIT WITHOUT SAVING" to ignore the changes and exit the setup procedure. Pressing <ESC> at anywhere during the setup will return to the main menu.

"Advanced BIOS Features", "Advanced Chipset Features" and "PnP/PCI Configurations" requires board knowledge on PC/AT system architecture and VIA chipset specification. They intend to be used by well-trained technicians and experienced users. Incorrect setup could cause system malfunctions.

3-1. Quick Setup

In most cases, you can quickly configure the system by using the following procedure. The manufacturer highly recommends that you use "Quick Setup" for setting CMOS to avoid any unpredictable results.

1. Choose "Standard CMOS Features" from the main menu, to configure the date and time, hard disk type, floppy disk drive type etc.
2. Choose "Load Optimized Defaults" from the menu for loading the defaults parameters that is set by the manufacturer for the most stable normal configuration.
3. Press F10 or "SAVE & EXIT SETUP" to save the changes and reboot the system.

3-2. Description of the BIOS Setup Option

Please make clear the means of those option parameters. Improper settings will cause the system to hang up or perform poorly. Most items are clearly understood from the screen prompt or "Help" by function key "F1". The manufacturer highly recommends that "Default" settings have been used to avoid any unpredictable results.

3-3. Advanced BIOS Features Setup

Advanced BIOS Features

Virus Warning	: Disabled	OS Select For DRAM > 64MB	: Non-OS2
CPU Internal Cache	: Enabled	Video BIOS Shadow	: Enabled
External Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
CPU L2 Cache ECC Checking	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
First Boot Device	: Floppy	D4000-D7FFF Shadow	: Disabled
Second Boot Device	: HDD-0	D8000-DBFFF Shadow	: Disabled
Third Boot Device	: LS120	DC000-DFFFF Shadow	: Disabled
Other Boot Device	: Enabled		
Swap Floppy Drive	: Disabled		
Boot Up Floppy Seek	: Disabled		
Boot Up NumLock Status	: On		
Gate A20 Option	: Normal		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		

3-4. Details of the Advanced Chipset Features Setup

Advanced Chipset Feature

DRAM Timing By SPD	: Enabled	CPU to PCI Write Buffer	:Enabled
DRAM Clock	: Host CLK	PCI Dynamic Bursting	:Enabled
SDRAM Cycle Length	: 3	PCI Master 0 WS Write	:Enabled
Bank Interleave	: Disabled	PCI Delay Transaction	:Disabled
Memory Hole	: Disabled	PCI#2 Access #1 Retry	:Enabled
P2C/C2P Concurrency	: Enabled	AGP Master 1 WS Write	:Disabled
Fast R-W Turn Around	:Disabled	AGP Master 1 WS Read	:Disabled
System BIOS Cacheable	: Enabled		
Video BIOS Cacheable	: Enabled		
Frame Buffer Size	: 8M		
AGP Aperture Size	: 128M		
AGP-4X Mode	:Enabled		
AGP Driving Control	:Auto		
OnChip USB	: Disabled		

SDRAM Cycle Length

This item sets the CAS latency timing.

Video BIOS Cacheable

When enabled, the Video BIOS cache will cause access to video BIOS addressed at C0000H to C7FFFH to be cached, if the cache controller is also enabled.

System BIOS Cacheable

Enabling this selection allows access to the system BIOS ROM addressed F0000H-FFFFFH to be cached, provided the cache controller is enabled.

Memory Hole At 15Mb Addr.

In order to improve performance, certain space in memory is reserved for ISA cards. This memory must be mapped into the memory space below 16MB.

Frame Buffer Size

Allocate the share memory size from system memory for Video

AGP Aperture Size

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

OnChip USB

Select "Enabled" if your system contains a Universal Serial Bus (USB) controller and you have a USB peripheral. **The "Assign IRQ for USB" has to be set to Enabled on "PnP/PCI Configuration" (when the USB be used.)**

CPU to PCI Write Buffer

When enabled, up to four D words of data can be written to the PCI bus without interrupting the CPU. When disabled, a write buffer is not used and the CPU read cycle will not be completed until the PCI bus signals is ready to receive the data.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transaction cycles. Select Enabled to support compliance with PCI specification version 2.2.

3-5. Integrated Peripherals

Integrated Peripherals

OnChip IDE Channel 0	: Enabled	Onboard Parallel Port	: 378/IRQ7
OnChip IDE Channel 1	: Enabled	Onboard Parallel Mode	: ECP
Primary Master PIO	: Auto	ECP Mode use DMA	: 3
Primary Slave PIO	: Auto	Onboard serial Port 3	:3E8H
Secondary master PIO	: Auto	Serial Port 3 Use IRQ	:IRQ5
Secondary Slave PIO	: Auto	Onboard serial Port 4	:2E8H
Primary Master UDMA	: Auto	Serial Port 4 Use IRQ	:IRQ10
Primary Slave UDMA	: Auto	Onboard Parallel Port 2	: 278H
Secondary Master UDMA	: Auto	Parallel Port 2 Use IRQ	:IRQ9
Secondary Slave UDMA	: Auto	Parallel Port 2 Mode	:Normal
InitDisplay First	:PCI Slot		
HDD Block Mode	: Enabled		
Onboard FDD Controller	: Enabled		
Onboard Serial Port 1	: 3F8/IRQ4		
Onboard Serial Port 2	: 2F8/IRQ3		
UART 2 Mode	: Standard		

OnChip IDE Channel

This chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the first and/or second IDE interface. Select Disabled to deactivate this interface, if a first and/or second add-in IDE interface is installed.

IDE Prefetch Mode

Enable pre-fetch for IDE drive interface that supports its faster drive access. If disk drive errors appear, change the setting to omit the drive interface where the errors occur. Depending on the configuration of IDE subsystem, this field may not appear, and does not appear when the Internal PCI/IDE field is "Disabled".

IDE HDD Block Mode

This allows hard disk controller to use the fast block mode to transfer data to and from hard disk drive (HDD). Select Enabled only if hard drives support block mode.

IDE Primary/Secondary Master/Slave PIO

The four IDE IPO (Programmed Input/Output) fields allow setting a PIO mode (0-4) for each of the four IDE devices which the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In auto mode, the system automatically determines the best mode for each device.

IDE Primary/Secondary Master/Slaver UDMA

Ultra DMA/33 implementation is possible only if your IDE hard drive support it and the operating environment includes a DMA drive (Windows 95 OSR2 or a third-party IDE bus master driver). If the hard drive and system software both support Ultra DMA/33, select Auto enable BIOS support.

Onboard FDD Controller

This should be enabled if system has a floppy disk drive (FDD) installed on the system.

Onboard Serial Port 1/ Port 2 / Port 3 / Port 4

This item allows determining the I/O address and IRQ of the onboard serial port.

UART 2 Mode

This item allows determining which Infrared (IR) function of onboard I/O chip.

Onboard Parallel Port

This item allows determining the I/O address of onboard parallel port.

Onboard Parallel Mode

Select an operating mode for the onboard parallel port. Normal EPP (Extended Parallel Port), ECP (Extended Capabilities Port) ECP+EPP PC AT parallel port Bi-directional port Fast, buffered port Fast, buffered and Bi-directional port. Select Normal, unless it is sure that the hardware and software both support EPP or ECP mode

3-6. Power Management Setup

Power Management Setup

ACPI Function	: Disabled	Primary INTR	: ON
Power Management	: User Define	IRQ3 (COM2)	: Enabled
ACPI Suspend Type	: S1(POS)	IRQ4 (COM1)	: Enabled
PM Control by APM	: Yes	IRQ5 (LPT 2)	: Enabled
Video Off Option	: Suspend OFF	IRQ6 (FDD)	: Enabled
Video off Method	: V/H Sync + Blank	IRQ7 (LPT 1)	: Enabled
MODEM Use IRQ	: 3	IRQ8 (Alarm)	: Disabled
Soft-Off by PWRBTN	: Instant-Off	IRQ9 (Rsv)	: Disabled
State After Power Failure	: Auto	IRQ10 (Rsv)	: Disabled
Wake Up Events:		IRQ11 (Rsv)	: Disabled
VGA	: OFF	IRQ12 (PS/2)	: Enabled
LPT & COM	: LPT/COM	IRQ13 (CoPro)	: Enabled
HDD & FDD	: ON	IRQ14 (HDD)	: Enabled
PCI Master	: OFF	IRQ15 (Rsv)	: Disabled

Power Management

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

1. Doze Mode
2. Suspend Mode
3. HDD Power Down

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

Disable (Default)	No Power Management. Disables all four modes
Min. Power Saving	Minimum power management. Doze Mode = 1 hr., Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD power down = 15 min.
Max. Power Saving	Maximum power management – **Only Available for SL CPU's.** Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., And HDD power down = 1 min.
User Defined	Allows you to set each mode individually. When enabled, 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

PM Control by APM

When enabled, an Advanced Power Management device will be activated to enhance the Maximum Power saving mode and to stop the CPU internal clock. If Advance Power Management (APM) is installed on your system, selecting "Yes" gives better power savings. If the Maximum Power Saving is not enabled, this will be preset to "NO".

Video Off Method

This determines the manner in which the monitor is blanked

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and to write blank to the video buffer
Blank Screen	This option only writes blank to the video buffer
DPMS	Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standard to select video power management values

MODEM Use IRQ

This determines the IRQ in which the MODEM can be used.

Soft-Off by PWRBTN

When Enabled, turning the system off with the on/off button places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity.

HDD Power Down

When enabled and after the "Set time of system inactivity", the hard disk drive will be powered down while all other devices remain active.

Doze Mode

When enabled and after the "Set time system inactivity", the CPU clock will run at a slower speed while all other devices operate at full speed.

Suspend Mode

When enabled, after the "Set time of system inactivity", all devices except the CPU will be shut off.

3-7. PnP/PCI Configurations Setup

This section describes the configuration of the PCI bus system. PCI is a system that allows I/O device to operate at speeds nearing the speed of the CPU itself, when communicating with its own special components. This section covers some very technical items. It is strongly recommended that only experienced users make any changes to the default settings.

PnP/PCI Configuration

PNP OS Installed	: No	PCI /VGA Palette Snoop	: Disabled
Resources Controlled By	: Manual		
Reset Configuration Data	: Disabled	Assign IRQ For USB	: Disabled
		Assign IRQ For VGA	: Disabled
IRQ-3 Assigned to	: Legacy ISA		
IRQ-4 Assigned to	: Legacy ISA		
IRQ-5 Assigned to	: PCI/ISA PnP		
IRQ-7 Assigned to	: Legacy ISA		
IRQ-9 Assigned to	: PCI/ISA PnP		
IRQ-10 Assigned to	: PCI/ISA PnP		
IRQ-11 Assigned to	: PCI/ISA PnP		
IRQ-12 Assigned to	: PCI/ISA PnP		
IRQ-14 Assigned to	: PCI/ISA PnP		
IRQ-15 Assigned to	: PCI/ISA PnP		
DMA-0 Assigned to	: PCI/ISA PnP		
DMA-1 Assigned to	: PCI/ISA PnP		
DMA-3 Assigned to	: PCI/ISA PnP		
DMA-5 Assigned to	: PCI/ISA PnP		
DMA-6 Assigned to	: PCI/ISA PnP		
DMA-7 Assigned to	: PCI/ISA PnP		

PNP OS Installed

Select "Yes" if the system operating environment is Plug-and-Play software (e.g. Windows95).

Resource Controlled By

The Award Plug and Play BIOS has the capability to automatically configuring the all of device with Plug and Play function.

Reset Configuration Data

Normally, you can leave this field Disabled. If you have installed new add-on

device and the system configuration has caused a serious conflict that the operating system cannot boot, then, select enabled to reset Extended System Configuration Data (ESCD) when exit setup.

IRQ3/4/5/7/9/10/11/12/14/15 Assigned to

When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt:

Legacy ISA Devices is compliant with the original PC/AT bus specification; it requires a specific interrupt (such as IRQ4 for serial port). PCI/ISA PnP Devices is compliant with the Plug and Play standard, no matter if it is originally designed for PCI or ISA bus architecture.

DMA0/1/3/5/6/7 Assigned to

When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the interrupt:

Legacy ISA Devices is compliant with the original PC AT bus specification; it requires a specific interrupt (such as IRQ4 for serial port). PCI/ISA PnP Devices compliant with the Plug and Play standard, no mater if it is designed for PCI or ISA bus architecture.

3-8. PC Health Status

Provide some information such as CPU temperature, speed of cooling fan and usage voltage of CPU for user.

Chapter 4. VGA, LCD, DOC, IDE Feature

4-1. AGP-BUS VGA Feature

The ENDAT-3702 / ENDAT-3902 integrates S3 Savage4graphics with 4x AGP BUS mode accelerator into a single chip. It brings mainstream graphics performance to the Value PC with leading-edge 2D, 3D and DVD video acceleration into a cost effective package. Based on its capabilities, the ENDTA-3702 / ENDAT-3902 is an ideal solution for the consumer, corporate desktop users and entry-level professionals. Using the AGP 4X solution with S3's DX6 texture compression (S3TC) and massive 2Kx2K textures to deliver unprecedented 3D performance and high image quality for the Value PC desktop market.

- AGP controller supports 266Mhz 4x mode.
- Integrated Savage4 2D/3D/Video accelerator supports 140M pixels/second tri-linear fill rate, high quality DVD video playback, flat panel monitor, and 2D/3D resolutions up to 1920x1440.
- Support 3D rendering with specula lighting and disuse shading and MPEG-2 video textures features.

Note: The standard for default BIOS setting for model
ENDAT-3702/3902: Support CRT/TMDS
ENDAT-3701: Support CRT/LCD
Please specify if you need different BIOS.

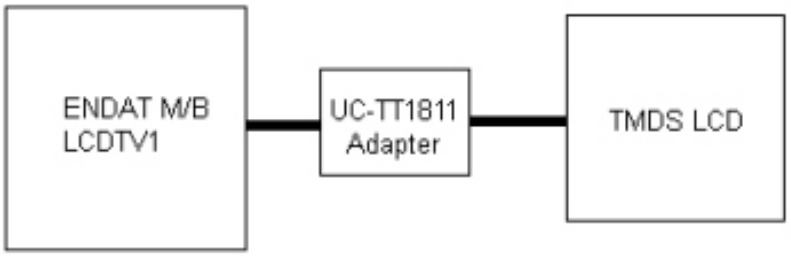
4-2. LCD Flat Panel Feature

4-2-1. The solution for ENDAT-3702 / ENDAT-3902

Due to the on board chipset only support the LCD feature with TMDS interface. The manufacturer offer the special design adapter to support TTL interface LCD panel. The Flat Panel interface can also be used to driving external PanelLink™ transmitter adapters (via UC-TT1811 kit).

The kit supports PanelLink™, providing a low voltage, high speed, low EMI, serial DC-balanced differential data to the TMDS LCD panel.

The manufacturer provides the flat panel interface by following block diagram:



4-2-2. The solution for ENDAT-3701

The ENADT-3701 built-in C&T 69000 Chipset supports High Performance Flat Panel / CRT HiQVideo with Integrated 2MB Memory. The 69000 incorporates 2MB of proprietary integrated SDRAM for the graphics/video frame buffer. The integrated SDRAM memory can support up to 83MHz operation, based on AGP compatibility thus increasing the available memory bandwidth for the graphics subsystem. The 69000 graphics is designed to be used with either 33MHz PCI, or with AGP as a frame-based AGP device, allowing it to be used with the AGP interface provided by the latest core logic chipsets.

The board supports a wide variety of monochrome and color Single-Panel,

Single-Drive (SS) and Dual-Panel, Dual Drive (DD), standard and high-resolution, passive STN and active matrix TFT/MIM LCD, and EL panels. Up to 256 gray scales are supported on passive STN LCDs. Up to 16.7M different colors can be displayed on passive STN LCDs and up to 16.7M colors on 24-bit active matrix LCDs.
The 69000 offers a variety of programmable features to optimize display quality. Vertical centering and stretching are provided for handling modes with less than 480 lines on 480-line panels. Horizontal and vertical stretching capabilities are also available for both text and graphics modes for optimal display of VGA text and graphics modes on 800x600, 1024x768 and 1280x1024 panels.

Display Modes Supported

The 69000 supports the modes which appear in the table below.

Resolution	Color (bpp)	Refresh Rates (Hz)
640x480	8	60, 75, 85
640x480	16	60, 75, 85
640x480	24	60, 75, 85
800x600	8	60, 75, 85
800x600	16	60, 75, 85
800x600	24	60, 75, 85
1024x768	8	60, 75, 85
1024x768	16	60, 75, 85
1280x1024	8	60

4-3. PCI Bus Audio Adapter Features

The Chipset built-in SoundBlaster Pro Hardware and Direct Sound Ready AC97' Digital Audio Controller

- Dual full-duplex direct sound channels between system memory and AC97' link
- PCI Master interface with scatter / gather and bursting capability
- 32byte FIFO of each direct sound channel
- Host based sample rate converter and mixer
- Standard v1.0 or v2.0 AC98' Codec interface for single or cascaded AC97' Codec's from multiple vendors
- Loopback capability for re-directing mixed audio streams into USB and 1394 speakers
- Hardware SoundBlaster Pro for Windows DOS box and real-mode DOS legacy compatibility
- Plug and Play with 4 IRQ, 4 DMA and 4 I/O space options for SoundBlaster Pro and MIDI hardware
- Hardware assisted FM synthesis for legacy compatibility
- Complete software driver support for Windos-95, Windows-98 and Windows-NT

4-4. DiskOnChip Feature

On board reserved is a 32-pin Socket for DiskOnChip 2000, it is a unique data storage solution to offer a better, faster and more cost effective Flash Disk for applications.

The DiskOnChip 2000 provides a Flash Disk (as BIOS expansion) that does not require any additional bus, slot or connector. Simply insert the DiskOnChip 2000 into a 32-pin socket on your motherboard. With minimal installation costs, you have a bootable Flash Disk. DiskOnChip 2000 has built-in TrueFFS (True Flash File System) technology, which provides full Read/Write disk emulation.

TrueFFS provides hard disk compatibility at both the sector and file level. It works in a variety of operating system environments, such as DOS, Win95, WinCE, WinNT, Psos+ and QNX.

You have to set the correct memory address for DiskOnChip by **JP3(for 3701/3702);JP11 (for 3902)**. The driver utilities are placed onto CD-ROM

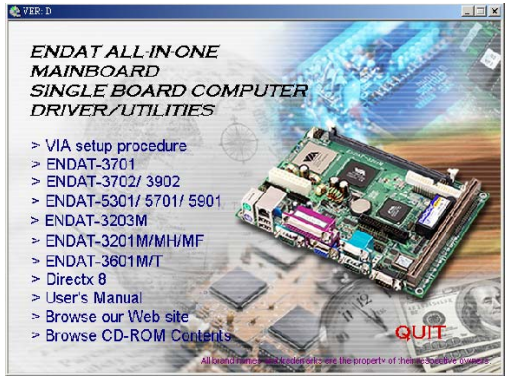
JP3(3701) / JP3(3702) / JP11(3902)		Memory Address
1-2	**7-8**	0 C 8 0 0 H - 0 C 9 F F H
1-2	**9-10**	0 C C 0 0 H - 0 C D F F H
3-4	**7-8**	0 D 0 0 0 H - 0 D 1 F F H
3-4	**9-10**	0 D 4 0 0 H - 0 D 5 F F H
***5-6**	***7-8**	**0 D 8 0 0 H - 0 D 9 F F H**

4-5. Driver Utility Installation Guide

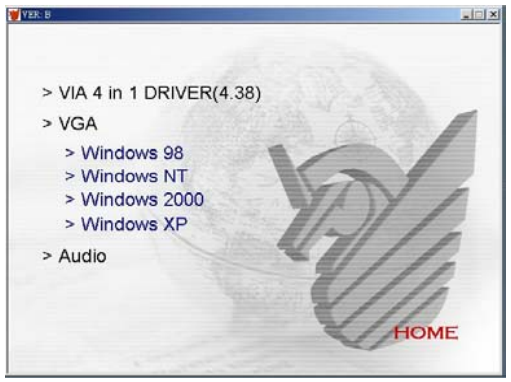
1. When finishing the installation of Windows platform (95/98/2000/NT), please install the relative VIA driver (**4in1)** utilities for compliance compatibility of hardware environment.

2. Insert the support CD that supplied with motherboard into CD-ROM driver which enable the access with auto-run mode; or double –click the CD driver icon in "My Computer" to bring up the screen.

3. Select correct motherboard to install driver / utility for the system



4. Select VIA 4in1 service pack driver install to the system



5. The Screen will appear VIA 4in1 driver setup screen, please press "NEXT" to continue. Please follow the steps instructed by each screen for the installation of the VIA 4in1 driver. Restart the system after the completion of the installation.

6. After installing the VIA 4in1 driver, please select VGA driver for install. The system will request for "restart" after the completion of the driver installation.

7. The Screen can be adjusted at Display properties after the installation of VGA driver.

We strongly recommend using the 4in1 driver to install the system since the 4in1 driver will automatically detect / update the necessary drivers.

This driver will automatically detect and install the latest utilities as following:

IDE Bus master , VIA AGP Driver, IRQ Routing Driver, VIA INF Driver

LAN Driver: Install the LAN driver for on-board LAN adapter. Please refer to Chapter 5. the Realtek 8139 LAN Driver Installation Procedure.

VGA Driver: Install the VGA driver for on-board AGP VGA adapter

Please download or check from VIA Web-site: www.via.com.tw **if you prefer to install the drivers individually or you need more information.**

Chapter 5. LAN Adapter

The on-board LAN adapter use of Single Chip Fast Ethernet Controller, that is highly integrated and requires no "glue" logic external memory on board. It runs in the bus master mode and directly sending/receiving Ethernet packet to/from memory. The On-board LAN adapter can directly fetch the system CPU. Also, it can transfer data Directly between I/O devices and system memory in the 32-bit bus master mode that provides low CPU utilization.

It complies with the IEEE 802.3u standard, IEEE802.3 standard and PCI Local Bus version 2.1 and transmits data on the network at 100 Mbps or 10 Mbps. It also operates in full-duplex mode that **doubles the network speed up to 20/200 Mbps when working with Fast Switching Hub.** Built-in one RJ-45 port for connection of 100Base-TX Fast Ethernet or 10Base-T Ethernet network, and automatically senses the connection type.

This model ENDAT-3701 not only provides a standard LAN solution of Realtek, but also provides the optional choice of Intel LAN solution for specific use.

5-1. Features

- Full compliancy with PCI Rev. 2.1
- Complies with the Ethernet/IEEE 802.3u 100Base-TX and 10 Base-T industry standard
- Supports full-duplex operations, thus doubling the network speed up to 20Mbps on 10 Base-T Ethernet or 200Mbps on 100 Base-TX Fast Ethernet when setting in full duplex mode
- Two LED indicators to report network status
- One RJ-45 connector with Auto-sense cable type of 10 or 100Mbps network operation
- Supports PCI clock speed up to 33MHz, capable of zero wait states
- Supports optional Remote Boot ROM socket
- Provides a comprehensive setup program for displaying the adapter configuration and includes diagnostic on board or network tests.
- Complete drivers for Novell, ODI, SCO UNIX, LAN Manager, Windows NT and Windows 95/98 Packet driver etc

5-2. UTP Cable / RJ-45 Jack Definition

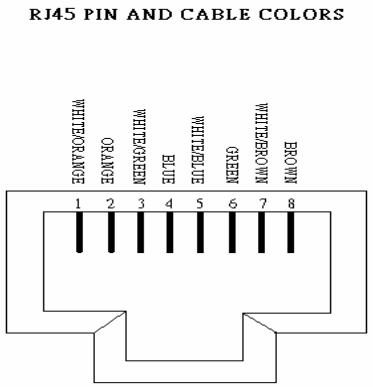
Straight through twisted pair cable is typically used to connect a hub to a server or workstation. In a straight through connection, Pin 1 at the server, Pin 2 at the hub connects to Pin 2 at the server, and so on. Figure A-1 shows the locations of pins on a standard RJ-45 plug on a twisted-pair cable.

Table A-1 shows the wiring in a straight-through twisted-pair cable (Pins 4,5,7 and 8 are not used).

Twisted Pair Number	Pin Number	Signal Description	To	Pin Number	Signal Description
1	1 2	TD+ TD–	→	1 2	TD+ TD–
2	3 6	RD+ RD–	→	3 6	RD+ RD–

RJ-45 Connector Pin Assignments

Figure A-1 shows the RJ-45 Connector pin assignments



5-3. Connecting 100Base-TX Fast Ethernet Network

The system board provides an RJ-45 port for connection to 100Base-TX Fast Ethernet or 10Base-T Ethernet Network with a single connection over unshielded twisted-pair (UTP). The adapter automatically operates at 10Mbps or 100Mbps when the appropriate 10/100Base hub be connected.

To connect the adapter to 100Base-TX Fast Ethernet Network, you need a twisted-pair Category 5 cable with RJ-45 modular jacks at both ends. This cable can have a maximum length of 300 feet (100 meters).

5-4. Connecting 10Base-T Ethernet Network

To connect the adapter to a 10Base-T Ethernet Network, you need a twisted-pair Category 3, 4 or 5 cables with RJ-45 modular jacks at both ends. This cable can have a maximum length of 300 feet (100 meters).

5-5. 10MBase/100MBase Installation Notice

- 100Mbps network must be shielded twisted-pair (STP) or Category 5 unshielded twisted-pair cable. Do not use a Category 3 or 4 cable for 100Mbps-network operation, it could cause data loss. Category 3 or 4 cable is good for 10Mbps network only.
- Category 5 cable is also good for 10Mbps operation. Use UTP Category 5 cable for the versatility to operate the network at either 100Mbps or 10Mbps speed without changing cable.
- Two pairs of wiring are required.
- Depending on building codes, different insulation materials may be required. Plenum-rated or TEFLON-coated wiring maybe required in some areas where fire proofing is required.
- The wire gauge should be between 18 and 26 AWG (Most telephone installations use 24-gauge wiring).
- UTP cable should meet the following requirements:

1. Solid copper
2. Nominal capacitance: less than 16pF/ft
3. Nominal impedance: 100 ohms
4. Nominal attenuation: less than 11.5db

Automatic Selection of the Media Type

While the driver installs, it automatically detects the media type based on the type of cable connected. Once you change the cable type, you must reinstall the driver to execute auto-detect again.

If the driver cannot detect which cable is connected or whether a cable is connected, look at cabling network driver (Ex. Modify net.cfg file parameters—force line speed=10 or 100).

10/100 Auto – Negotiation (N-Way)

Depending on the hub or connected device, the LAN adapter can automatically run at the appropriate speed, by using N-way, a feature that complies with the IEEE802.3 standard. It also works with any of the other IEEE-compliant products.

5-6. Remote BOOT ROM Installation Guide

A BOOT ROM allows the computer to boot up over the network, instead of using the local operating system device. This enables the system to be a diskless workstation environment.

1. Make sure the BOOT ROM is properly oriented. Incorrect orientation may damage the chip!
2. Use the utility of RSET8139.exe to enable the BOOT ROM.
3. Reboot the system to use the BOOT ROM function.

BOOT ROM Type:

Once the PCI system detects the presence of a BOOT ROM chip on the adapter during boot-up, it will automatically set a working configuration. Supports 64K FLASH ROMs (PLCC Type)for an upgrade BOOT ROM.

5-7. LED Indicators

The system board comes with two LED indicators on the edge of the motherboard that indicates the network system status. If you experience any problems with the adapter, first make sure the appropriate driver is loaded, the proper cable is connected to the RJ-45 port and the hub complies with the adapter specification, such as 10Mbps 10Base-T or 100Mbps 100Bast-TX. Finally, recheck the LEDs.

FUDUP (Full Duplex) Indicator

When indicator is ON, it indicates Full-duplex mode: otherwise, it is OFF. The adapter supports full duplex at 10 or 100Mbps. If the switch-hub supports the N-way feature and full duplex, the system automatically runs in full duplex mode.

Tx/Rx (Transmit/Receiver) Indicator

This indicator flashes to display that there is network activity – indicating transmission or reception data from the network.

5-8. The Setup Program

The package includes a diskette containing the setup program. This program allows you to verify the configuration and isolation of faults.

The adapter's I/O port address and interrupt request levels (IRQ) are set by the BIOS. Other default settings can be changed for situations as shown below.

Problem (RESET8139.exe) provides the following function:

- Displays the current configuration of the adapter
- Performs network diagnostic tests to verify the operation of the adapters basic functions, and the adapters ability to communicate over the network with another adapter.
- Provides set up for new configuration to make a change specify settings: Remote BOOT ROM, Flow Control and Full-Duplex mode Enable/or Disable

Full duplex operation is set automatically if the Full-duplex option is set to Disable. Please follow the prompt instructions to set-up or change the system configuration.

Note: Before running the setup program, make sure the adapter's driver is not loaded, otherwise unpredictable results may arise!

The setup program can be set the on board configuration to provide diagnostic testing. It is for testing the basic function verification, EEPROM data Access, loopback operation, and the ability to communicate over the network with another adapter.

To access this program, insert the Driver Diskette into the floppy disk drive and then type the following at the DOS prompt:

- A:\REST8139.EXE <ENTER>

1. View Current Configuration

This allows you to find the PCI Fast Ethernet adapter current configuration in your system.

2. Set Up New Configuration

Select New Set Up Configuration option from the main menu

The option settings can be changed, the table shown as below:

Option	Default Setting	Other Available Settings
Full-duplex	Disabled → Auto Selection	Enable – Forces to full duplex operation
Flow Control	TX Enable, RX Enable	TX Disable, RX Disable

Note: Before setting the adapter for full duplex, make sure the hub switch is also set to full duplex. Before you activate the switching hub to server connection, make sure the hub switch and adapter are configured for full duplex.

3. Run Diagnostics

Running diagnostic tests perform basic function verification for on board LAN adapters. The basic Diagnostic tests include:

- **EEPROM Test**: EEPROM data read/write test
- **Diagnostics On Board**: Performs on board basic function verification

- **Diagnostics On Network**: To run this test on the network, you will need another computer set up as a Responder to receive packets from the adapter being tested and echo them back to the adapter. This checks the adapter's ability for communication over the network with another adapter to receive and transmit network packets.

4. Software Installation

Installing Network Drivers

You must install a network driver to allow the adapter to work with your network operating system.

The system board provides various network drivers on the driver diskette. The following provides the installation procedures for different network drivers.

Note: Please install the "VIA PATCH FILE" first if you want to link your LAN with Windows 98

For detailed information of each OS installation, please refer to the README(.TXT) file on the driver diskette.

Software Installation Examples

Before installing the driver programs, please refer to each directory that contains a README file, which provides detailed installation instructions, or to execute the HELP8139.EXE help file viewer in DOS. The utility will then present with a screen showing the information about how to install the network driver. Driver needed for the adapter to work with the operating system.

5-9. The Realtek 8139 LAN Driver Installation Procedure:

Please note: The LAN Driver installation has to be done after completing Win 95/98/2000 installation.

When completed with the WIN 95/98 installation, please click "My Computer" to start your LAN driver installation (procedure listed as below):

My Computer ➔ Control Panel ➔System ➔ Device Manager➔ ? Other Devices ➔ ?

PCI Ethernet Controller ➔ Properties ➔ Driver ➔ Update Drive ➔ Yes (Recommended) ➔ Next ➔ Other Locations ➔ Browse ➔ A:\Rtsnt.100\Exe\Win95 ➔ OK ➔ Finish

After finishing the above procedure, the screen will show "copy the files from?"

Please type A:\Rtsnt.100\Exe\Win95=> OK and select "OK", the system will ask you to insert Win95 driver diskette to update new driver.

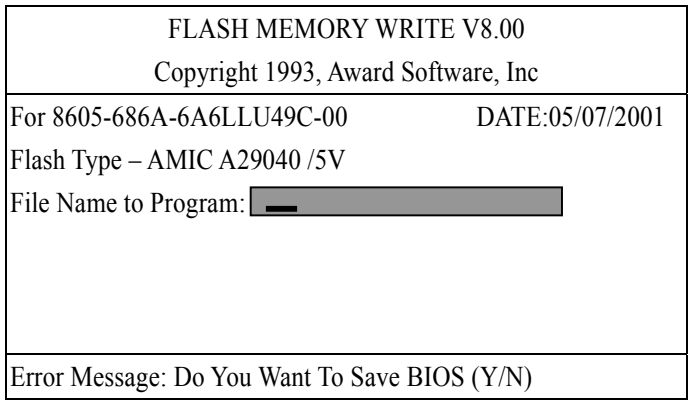
After finishing the above steps, please shut down your system and re-boot the system.

Appendix A: FLASH Memory Utility

Using this utility to update the system BIOS from a disk file to the on board Flash memory. Be aware the improper change of the system BIOS will cause the system to malfunction.

Using utility as follows:

1. Insert the FLASH memory utility distribution floppy diskette in drive A:
2. At the DOS prompt, type A:>AWDFLASH and press <Enter>



3. Enter the name of the system BIOS disk file into the "File Name to Program" field

The following message appears in the "Error Message" field

4. Do you want to save BIOS (y/n)?
5. To update the FLASH memory from the system BIOS disk file, type Y
6. After complete updating, please re-boot the system (press "**F1**" key)
7. For upgrade BIOS procedure, please refer to our web site:
   http://www.unicorn-computer.com.tw

Appendix B: Connector Pin Assignment

PS/2 Keyboard / Mouse Pin Header Connector (CN4)

Pin No.	PS/2 Keyboard	Pin No	PS/2 Mouse
1	K/B_Data	2	Mouse_Data
3	N.C	4	N.C
5	Grounded	6	Grounded
7	+5V DC	8	Mouse_VCC
9	K/B_Clock	10	Mouse_Clock

D-SUB Type Connector for COM port (RS-232)

Pin No.	Description	Pin No.	Description
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	GND		

Box Header Type Connector for COM port (RS-232)

Pin No.	Description	Pin No.	Description
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	GND	10	N.C

D-SUB Type Connector for COM2 port (RS-422/485)

Pin No.	Description	Pin No.	Description
1	–TXD	6	NA
2	+RXD	7	NA
3	+TXD	8	NA
4	NA	9	–RXD
5	NA		

Printer (LPT1/LPT2) Port

Pin No.	Description	Pin No.	Description
1	STB#	10	ACK#
2	PD0	11	BUSY
3	PD1	12	PE
4	PD2	13	SLCT
5	PD3	14	AFD#
6	PD4	15	ERR#
7	PD5	16	INIT#
8	PD6	17	SLIN#
9	PD7	18-25	GND

VGA Connector

Pin No.	Description	Pin No.	Description
1	RED	9	GND
2	GREEN	10	GND
3	BLUE	11	N.C
4	N.C	12	DDC DAT
5	GND	13	H.Sync
6	GND	14	V.Sync
7	GND	15	DDC CLK
8	GND		

External Speaker Connector (J2)

Pin No.	Description
5	SPK
6	N.C
7	GND
8	Vcc

FDD Connector

Pin No.	Description	Pin No.	Description
1,3,5,7	GND	14	DSA#
9,11,13	GND	16	MOB#
15,17,19	GND	18	DIR
21,23,25	GND	20	STEP#
27,29,31	GND	22	WD#
33	GND	24	WE#
2	RWC#	26	TRAK0
4,6	N.C	28	WP#
8	INDEX#	30	RDATA#
10	MOA#	32	HEAD#
12	DSB#	34	DSKCHG#

LCD Connector : LCDTV1 (For ENDAT-3702/3902)

Pin No.	Description	Pin No.	Description
1	GND	2	FPHSTVHS
3	FPD0TV0	4	GND
5	FPD1TV1	6	FPVSTVVS
7	FPD2TV2	8	GND
9	FPD3TV3	10	FPTVCLKR
11	FPD4TV4	12	GND
13	FPD5TV5	14	FPDTVCLK
15	FPD6TV6	16	GND
17	FPD7TV7	18	GOP0
19	FPD8TV8	20	GND
21	FPD9TV9	22	SPCLK1
23	FPD10TV10	24	GND
25	FP–DET/TV11	26	SPD1
27	FPD11/TV-BLAN	28	GND
29	VCC(+5V)	30	VCC3(+3.3V)
31	VCC(+5V)	32	VCC3(+3.3V)
33	USBDT3+	34	–OC3

35	–PCIRST2	36	USBDR3–
37	+12V	38	+12V
39	GND	40	GND

USB PORT (JUSB1;JUSB2)

Pin No.		Description
1	2	USB VCC
3	4	USB DATA–(0,1/2,3)
5	6	USB DATA+(0,1/2,3)
7	8	USB_GND
9	10	USB_GND

Audio Output Port Connector (CN6)

Pin No.	Description	Pin No.	Description
1	A_BIT_CLK	2	GND
3	A_SD_IN	4	N.C.
5	A_SD_IN2	6	N.C.
7	A_SD_OUT	8	N.C.
9	A_SYNC	10	GND
11	A_RESET	12	GND
13	SPEAKER	14	AUDIO ENABLE/DISABLE
15	VCC3	16	+12V
17	JBCY	18	JAB2
19	JBCX	20	JAB1
21	JACY	22	JBB2
23	JACX	24	JBB1
25	JMS0	26	JMSI

HDD LED (J2)

Pin No.	Description
1;3	LED –
2;4	LED +

Power – LED (J2)

Pin No.	Description
13	Power LED
14	Power LED

IR Connector (J1)

Pin 1	VCC	**Pin 4**	GND
Pin 2	N.C	**Pin 5**	IRTX
Pin 3	IRRX		

IDE1, IDE2 Connector

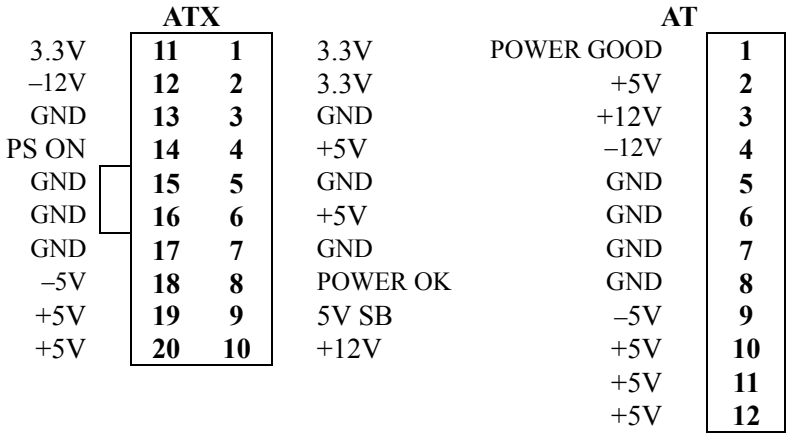
Pin No.	Description	Pin No.	Description
2,19,22	GND	13	IDE data2
24.26.30	GND	14	IDE data13
40	GND	15	IDE data1
20,21,28	N.C	16	IDE data14
29,32,34	N.C	17	IDE data0
1	IDE reset	18	IDE data15
3	IDE data7	23	IDE Write
4	IDE data8	25	IDE Read
5	IDE data6	27	IDE Ready
6	IDE data9	31	IDE IRQ
7	IDE data5	33	IDE A1
8	IDE data10	35	IDE A0
9	IDE data4	36	IDE A2
10	IDE data11	37	IDECS1#
11	IDE data3	38	IDESC3#
12	IDE data12	39	HDLED0#

Expansion Slot to PCI/ISA Pin Assignment

Pin No.	Description A	Description B	Description E	Description F
1	–IOCHK	GND	GND	GND
2	SD7	RSTDRV	GND	GND
3	SD6	VCC	–PCINT2	–PCINT4
4	SD5	IRQ9	–PCINT3	–PCINT1
5	SD4	–5V	VCC	VCC
6	SD3	DRQ2	KEY	KEY
7	SD2	–12V	VCC	VCC
8	SD1	0WS	–PCIRST	PCLKF
9	SD0	+12V	–GNT3	GND
10	IOCHRDY	GND	–REQ3	GNT1
11	AEN	–SMEMW	GND	GND
12	SA19	–SMEMR	PCLKE	–REQ1
13	SA18	–IOW	GND	AD31
14	SA17	–IOR	AD30	AD29
15	SA16	–DACK3	PCLKG	N.C
16	SA15	DRQ3	KEY	KEY
17	SA14	–DACK1	–GNT2	–REQ2
18	SA13	DRQ1	AD28	AD27
19	SA12	REFRESH	AD26	AD25
20	SA11	SYSCLK	AD24	–CBE3
21	SA10	IRQ7	AD22	AD23
22	SA9	IRQ6	AD20	AD21
23	SA8	IRQ5	AD18	AD19
24	SA7	IRQ4	N.C.	N.C
25	SA6	IRQ3	KEY	KEY
26	SA5	–DACK2	N.C	N.C
27	SA4	TC	AD16	AD17
28	SA3	BALE	–FRAME	–IRDY
29	SA2	VCC	–CBE2	–DEVSEL
30	SA1	OSC	–TRDY	–PLOCK
31	SA0	GND	–STOP	–PERR

Pin No.	Description C	Description D	Description G	Description H
1	–SBHE	–MEMCS16	N.C	–SERR
2	LA23	–IOSC16	N.C	AD15
3	LA22	IRQ10	–CBE1	AD14
4	LA21	IRQ11	PAR	AD12
5	LA20	IRQ12	GND	GND
6	LA19	IRQ13	KEY	KEY
7	LA18	IRQ14	GND	GND
8	LA17	–DACK0	AD13	AD10
9	–MEMR	DRQ0	AD11	AD8
10	–MEMW	–DACK5	AD9	AD7
11	SD8	DRQ5	–CBE0	AD5
12	SD9	–DACK6	AD6	AD3
13	SD10	DRQ6	AD4	AD1
14	SD11	–DACK7	AD2	AD0
15	SD12	DRQ7	KEY	KEY
16	SD13	VCC	VCC	VCC
17	SD14	MASTER	VCC	VCC
18	SD15	GND	GND	GND
19			GND	GND

Power connector



Appendix C: LIMITED WARRANTY

Standard one year limited warranty on all our ENDAT series all-in-one motherboards and embedded board. Products that become defective during the warranty period shall be repaired, or subject to manufacturer's option, replaced. The limited warranty applies to normal proper usage of the hardware and does not cover products that have been modified or subjected to unusual electrical or physical stress. Unicorn Computer Corp is not liable to repair or replace defective goods caused by improper using or use of unauthorized parts. The following situations will be charged:

1. The products during the warranty but defective caused by improper using or artificial external pressure and result in the components damages. According to the damage situation, the manufacturer has the rights to decide to repair or not. The manufacturer will charge the parts/repair cost and the returning shipping charge.
2. The products out of warranty will charge the parts/repair cost and the returning shipping charge as per the repair status.
3. The manufacturer has the rights to decide to repair or not based on the stock of parts for the products which are phased out of the production.
4. Please e-mail or fax the RMA Service Request Form when have the defective products.

RMA SERVICE REQUEST FORM

When requesting RMA service, please fill out this "RMA Service Request Form". This form needs to be shipped with your returns. Service cannot begin until we have this information.

RMA NO.:

Company:	Person to Contact:
Phone No:	Purchase Date :
Fax No. :	Applied Date :
Return Shipping Address:	

Model No.	Serial No.	Problem Code	Remark

- **Issue Code of defect.**

01	Second Times R.M.A.	11	Memory Socket Bad
02	No Screen (No Boot)	12	Hang Up Hardware
03	VGA (Display) Fail	13	Hang Up Software
04	CMOS Data Lost	14	PCB Problem
05	FDC Fail	15	CPU Socket Bad
06	HDC Fail	16	LAN Fail
07	Bad Slot	17	Audio Fail
08	BIOS Problem	18	Serial Port Fail
09	Keyboard Controller Fail	19	Parallel Port Fail
10	Cache RAM Problem	20	Others

Please specify the following when returning the RMA boards:

(1) Hardware Configuration (2) OS or Software (3) Testing Program

_____

Authorized Signature