M-855
Industrial
Motherboard
User's Manual



Recycled Paper
60070024IHA00

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

© Copyright 2004 ADLINK Technology Inc.

All Rights Reserved.

Manual Rev. 1.00: August 16, 2004

The information in this document is subject to change without prior notice in order to improve reliability, design, and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

Trademarks

NuDAQ®, NuIPC®, NuDAM®, NuPRO® are registered trademarks of ADLINK Technology Inc. Other product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective companies.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Getting Service from ADLINK

Customer Satisfaction is top priority for ADLINK Technology Inc. If you need any help or service, please contact us.

ADLINK TECHNOLOGY INC.			
Web Site	http://www.adlinktech.com		
Sales & Service	Service@adlinktech.com		
TEL	+886-2-82265877	FAX	+886-2-82265717
Address	9F, No. 166, Jian Yi Road, Chungho City, Taipei, 235 Taiwan		

Please email or FAX your detailed information for prompt, satisfactory, and consistent service.

Detailed Company Information			
Company/Organization			
Contact Person			
E-mail Address			
Address			
Country			
TEL		FAX	
Web Site			
Questions			
Product Model			
Environment	OS: Computer Brand: M/B: CPU: Chipset: BIOS: Video Card: NIC: Other:		
Detail Description			
Suggestions for ADLINK			

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table of Contents

Chapter 1 Introduction 1
- 1.1 Unpacking Checklist 2
- 1.2 Features 3
- 1.3 System Block Diagram 5
- 1.4 Specifications 6

Chapter 2 Installation 9
- 2.1 System Installation 9
- 2.2 Board Layout 13
- 2.3 Jumper Settings 14
- 2.4 Connector Descriptions 16

Chapter 3 Award BIOS Setup 33
- 3.1 BIOS Instructions 33
- 3.2 Main Menu 33
- 3.3 Standard CMOS Features 35
- 3.4 IDE Adapters 37
- 3.5 Advanced BIOS Features 39
- 3.6 Advanced Chipset Features 42
- 3.7 Integrated Peripherals 45
- 3.8 Power Management Setup 49
- 3.9 PnP/PCI Configurations 52
- 3.10 PC Health Status 53
- 3.11 Frequency/Voltage Control 54
- 3.12 Load Fail-Safe Defaults 54
- 3.13 Load Optimized Defaults 55
- 3.14 Supervisor/User Password Setting 55
- 3.15 Exiting BIOS Setup 56

Warranty Policy 57

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1

Introduction

The M-855 series combines the high performance and exceptional value of the Intel® 855GME chipset with a full-featured, next generation, industrial board. The Intel® 855GME advanced chipset supports socket 478-pins Intel® Pentium® M processors ranging from 1.30GHz to 1.80GHz, and up to 2GB DDR SDRAM memory on its 400/533MHz FSB. It includes an integrated LVDS and VGA, an onboard Intel® 82541 Gigabit Ethernet controller (supporting 10/100/1000 Base-TX Ethernet), audio line-out, four COM ports, two internal USB2.0 ports, 2 SATA ports, and a CompactFlash™ type II connector. M-855 uses include ATM, CTI, KIOSK, POS, and other high-end applications.

The 82801DB I/O Controller Hub (ICH4) employs the Intel® Accelerated Hub Architecture to make a direct connection from the graphics chip and memory to the integrated Ethernet controller, IDE controllers (ATA/33, ATA/66, or ATA/100), and six USB ports.

The M-855 industrial board supports Windows® 98/NT/2000/XP and Linux® operation system.

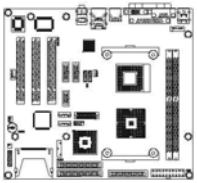
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.1 Unpacking Checklist

1. Take out the M-855 series unit from the carton box, check if the unit is properly secure in its plastic bag.

2. Check the contents of the carton box:

◆ Industrial Board



◆ Installation Guide



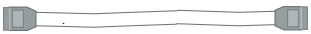
◆ ATA-66/100 HDD ribbon cable



◆ Floppy ribbon cable



◆ S-ATA & Power cable (1 Set)



◆ Driver CD



◆ COM3 ribbon cable (1 Set)
(for RS-232/422/485)

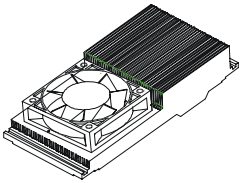


◆ External K/B & M/S cable
(6-pin to 6-pin)

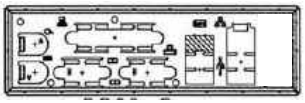


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

◆ Low profile heat sink with fan



◆ I/O Shield



Note: M-855 OEM versions with non-standard configurations may vary in function or contents according to request.

CAUTION: This board must be protected from static discharge and physical shock. Never remove any of the socketed parts except at a static-free workstation. Use the anti-static bag shipped with the product to handle the board. Wear a wrist strap grounded through one of the system's ESD Ground jacks while servicing system components.

1.2 Features

- Intel® Pentium® M / Celeron® M processor
- Intel® 855GME + ICH4 AGPset
- Support 2GB DDR266/333 SDRAM (max.) memory
- Front Side Bus Frequency: 400/533MHz
- Chipset integrated graphic & LVDS function
- Single 10/100/1000 Mbps Gigabit Ethernet using Intel® 82541 chip
- Software programmable watchdog timer
- Hardware Monitoring
- AC97 Audio Lin-out pin-header

Hardware Monitoring

Hardware monitoring allows the user to monitor various aspects of system operations and status (including the CPU temperature, voltage, and fan RPM).

I/O Shield Connector

The SBC is equipped with an I/O bracket. Please use the appropriate I/O shield.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

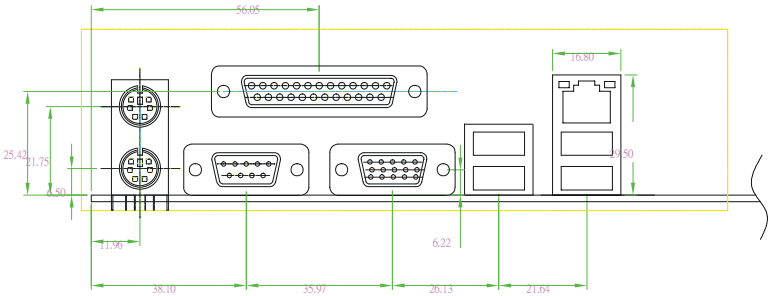


Figure 1: I/O back panel layout

M-855 Series Overview

Function	M-855
◆ Chipset	Intel® 855GME
◆ LVDS	⦿
◆ VGA	⦿
◆ Gigabit Ethernet	⦿
◆ 40-pins EIDE interface	2
◆ Type II CF socket	1
◆ Parallel ports	1
◆ Serial ports	4
◆ PCI slots	3
◆ USB 2.0 ports (two for USB cable)	6
◆ Audio Line-out pin-header	1
◆ Fan connector	2

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.3 System Block Diagram

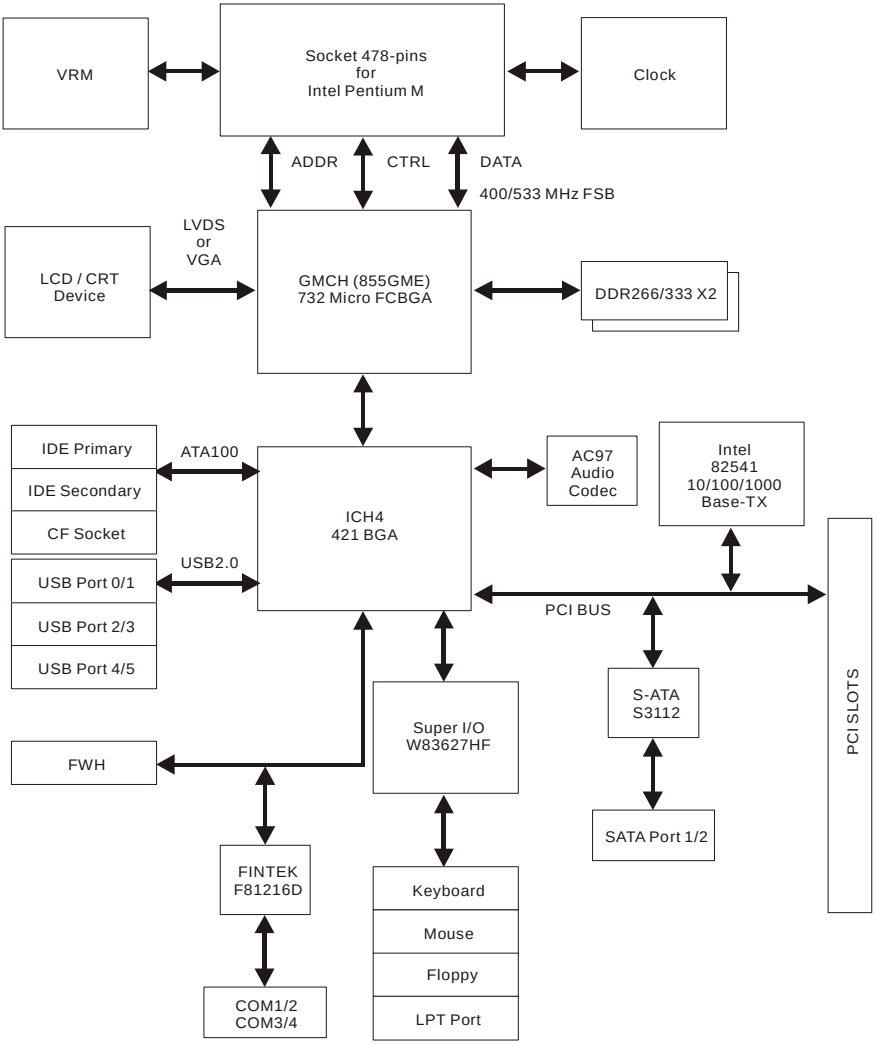


Figure 2: System Block Diagram

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.4 Specifications

- **Processor:**
  - Intel® Pentium® M processor with socket 478-pins package
  - Processor operating at 1.3GHz and up to 1.8GHz
  - System bus frequency at 400 / 533 MHz FSB

Make sure you use the correct CPU (Pentium® M processor). Using a standard Pentium® 4 CPU may crash the system.

- **Chipset:**
  - Intel® 855GME + ICH4 AGPset

- **DRAM Module:**
  - 2 x 184-pin DIMM socket
  - DDR 266/333 memory
  - Support DDR SDRAM up to 2GB (max.)

- **LVDS & VGA:**
  - Intel® 855GME Chipset integrated LVDS & Graphic controller
  - Onboard 15-pin VGA connector

- **Gigabit Ethernet:**
  - Intel® 82541 Ethernet controller
  - 10/100/1000 Base-TX Ethernet
  - Onboard RJ-45 Ethernet connector

- **External Connector:**
  - 1 x type II CompactFlash™ connector (using a CF card will occupy the IDE2 master)
  - 1 x 6-pin KB/MS extender

- **Expansion Slot:**
  - Three PCI slots

- **Onboard I/O:**
  - On-Chip I/O integrated with Keyboard, Mouse, Parallel and Serial, and Power-ON controller

- **Onboard PCI / IDE:**
  - Intel® ICH4 south bridge controller
  - PCI rev2.2 Compliant
  - ACPI Compliant Power Management
  - PCI Bus IDE Port with PIO / Ultra DMA-100 x 2 (up to 4 devices)

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

- **Rear I/O Connectors:**
  - PS/2 Mouse and PS/2 style Keyboard
  - D-Sub 25-pins Printer port connector
    D-Sub 9-pins COM1 Serial port connector for RS-232
    D-Sub 15-pins VGA connector
  - 2 x USB2.0 connectors
  - RJ-45 Ethernet and 2 x USB2.0 connectors
  - Audio for Line-In, Line-Out, MIC phone jack (Optional)

- **Internal I/O Connectors (pin-header):**
  - 3 x Serial ports, COM2 for RS-232 and COM3 / 4 for RS-232/422/485 (Serial cable with bracket)
  - 2 x USB2.0 connectors (USB cable with bracket)
  - 2 x S-ATA connectors
  - Audio Line-Out pin-header

- **BIOS:**
  - Award Plug & Play BIOS

- **Form Factor:**
  - 9.6” x 9.6” (244 x 244mm) Micro ATX Size

- **Weight:**
  - 1.44lb (650g) --- M-855 series

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2

Installation

2.1 System Installation

CPU Installation

Carefully follow the steps below to install the CPU:

1. Check and confirm that the jumpers are correctly set for the CPU you are going to install (figure 3).

2. Take the screwdriver and releasing screw-nut of the Socket 478.

3. Rotate mark of screw-nut to face the “OPEN”.

4. Align the pins of the CPU against the pinholes of the Socket 478. Be sure to pay attention to the orientation of the CPU.

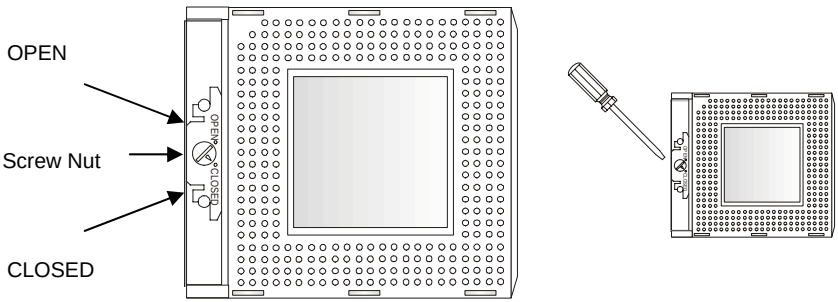


Figure 3: CPU Socket

5. Push down the CPU into the Socket 478.

6. Rotate mark of screw-nut to face the “CLOSED”.

7. Place the CPU cooling fan atop the CPU surface.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

8. Push down the opposite side of the ZIF clip and hook it.

9. Connect the cooling fan cable to the socket as shown below. Be careful not to place the cable on the CPU cooling fan.

Removing a CPU:

1. Before removing the CPU, turn off the power and wait for about 20 minutes until the heat radiation plate of the cooling fan and the CPU cools down.

2. Rotate mark of screw-nut to face the “OPEN”.

3. To remove the CPU.

WARNING: The CPU and the heat radiation plate are hot and can cause burns.

Heat Sink & Retention Module Installation

It is highly recommended that only the M-855 Heat sink and fan (Figure 4), designed for use in the chassis be used. The use of other heat sinks, including those boxed with CPUs, may damage the M-855.

Make sure that good contact is made between the processors and the heat sinks. Insufficient contact, incorrect types of heat sinks, fans, or thermal compound used or improper amount of thermal compound applied on the CPU die can cause the processors to overheat, which may crash the system.

The Retention Module is used to hold up the weight of the Heat sink and fan.

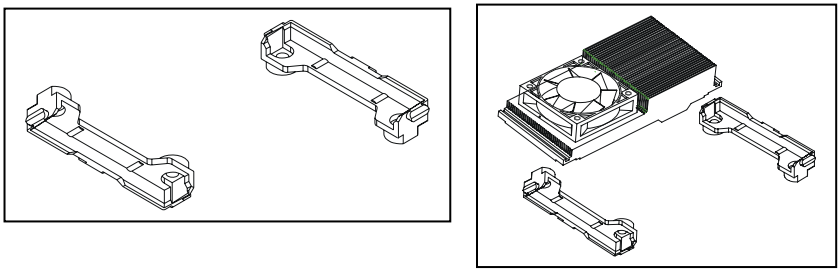


Figure 4: Heat Sink & Retention Module Installation

Memory Module Installation

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Figure 5 display the notch marks and what they should look like on your DIMM memory module.

DIMMs have184 pins and two notches that will match with the onboard DIMM socket. DIMM modules are installed by placing the chip firmly into the socket at a 90-degree angle and pressing straight down (figure 6) until it fits tightly into the DIMM socket.

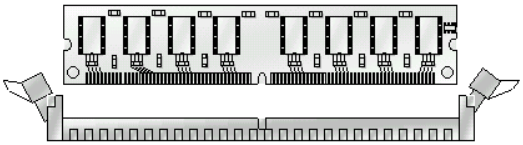


Figure 5: DIMM Memory and 184-pins Socket

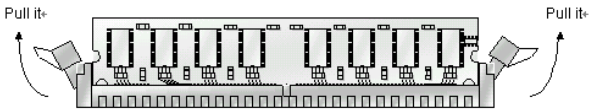


Figure 6: Memory Installation

Carefully follow the steps below in order to install the DIMMs:

1. To avoid generating static electricity and damaging the DIMM, ground yourself by touching a grounded metal surface or using a ground scrap before you touch the DIMM.

2. Do not touch the connector of the DIMM. Dirt residue may cause a malfunction.

3. Hold the DIMM with its notch to the front side of the M-855 and insert it completely into the socket. A DIMM should be inserted into the inner socket first. Guiding the hole at each end of the DIMM over the retaining post at each end of the DIMM socket.

4. If you install two DIMMs, install the second DIMM using the same procedure as above.

5. If DIMM does not go in smoothly, do not force it. Pull it all the way out and try again.

6. Make sure the DIMM is properly installed and locked by the tabs on both sides of the socket.

Removing a DIMM:

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

To remove the DIMM, use your fingers or a small screwdriver to carefully push away the plastic tabs that secure the DIMM at each end. Lift it out of the socket.

Make sure you store the DIMM in an anti-static bag.
Only use the same size and manufacturer of memory modules.

Setting Jumpers and DIP Switches

There are jumpers and DIP-switches on the M/B of the M-855 Series. The jumpers can be set for various operations.

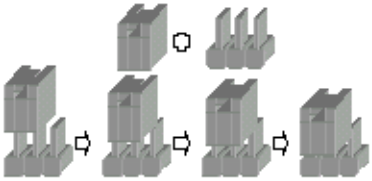


Figure 7: Jumper Connector

For any three-pins jumpers (Figure 7), the jumper setting is 1-2 when the jumper connects pins 1 and 2. The setting is 2-3 when pins 2 and 3 are connected. The numbers “1“ and a “3“ are printed on the circuit board to identify these pins. And also, there is a second way of indication – one of the lines surrounding jumpers is thick, which indicates pin number 1.

To move a jumper from one position to another, use needle-nose pliers or tweezers to pull the pin cap off the pins and move it to the desired position.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.2 Board Layout

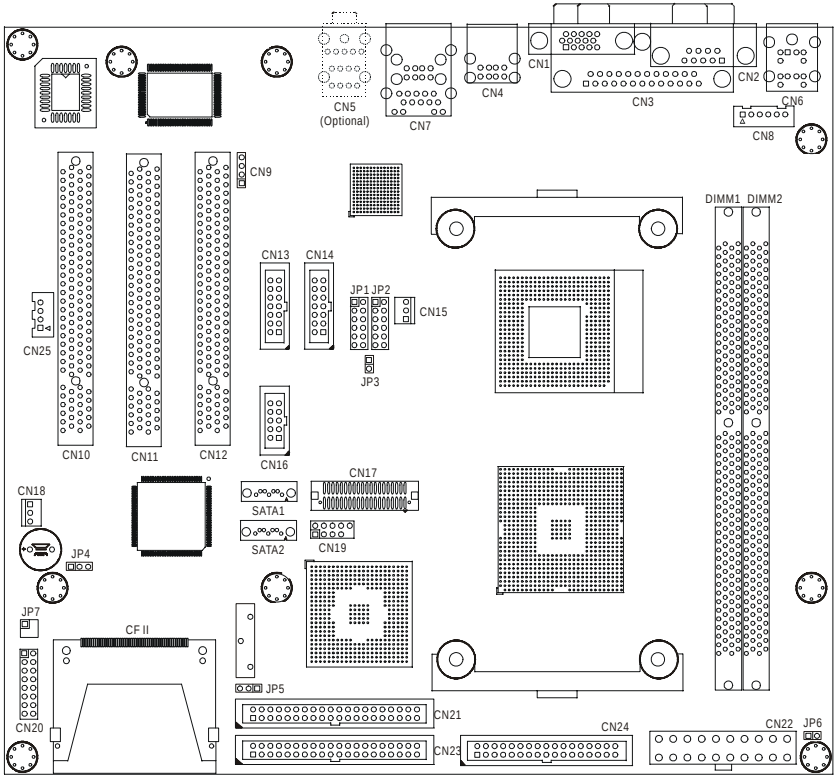


Figure 8: Jumper and Connector Locations

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.3 Jumper Settings

Jumper Location Description:

Use the information in the following table to change the jumpers and the DIP switches.

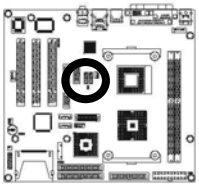
Jumpers	Functions
JP1	COM3 Port Setting Select
JP2	COM4 Port Setting Select
JP3	CPU Type Setting Select
JP4	Watchdog Timer Setting Select
JP5	Clear CMOS Setting Select
JP6	Power Management Setting Select

A description on setting the jumpers to enable/disable or change functions is illustrated below. Please refer to the diagrams below for jumper locations.

◆ **COM3/COM4 Port Setting Select: JP1/JP2**

Function	JP1/JP2					
	1-2	3-4	5-6	7-8	9-10	11-12
RS-232 (Default)	Off	Off	Off	Off	Off	On
RS-422	On (Term.)	On (Term.)	Off	On	On	Off
RS-485	On (Term.)	On (Term.)	On	Off	On	Off

- **Location:**

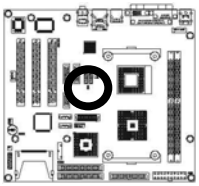


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

◆ **CPU Type Setting Select: JP3**

Function	JP3
CPU FSB 400 MHz (Default)	1-2 On
CPU FSB 533 MHz	1-2 Off

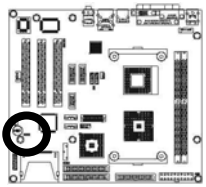
- **Location:**



Watchdog Timer Setting Select: JP4

Function	JP4
NMI	1-2
Reset System (Default)	2-3

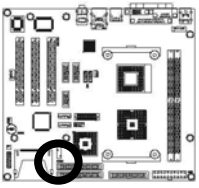
- **Location:**



◆ **Clear CMOS Setting Select: JP5**

Function	JP5
Normal (Default)	1-2
Clear CMOS	2-3

- **Location:**

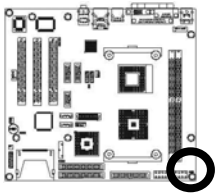


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

◆ **Power Management Setting Select: JP6**

Function	JP6
ACPI Mode	On
APM Mode (Default)	Off

- **Location:**



2.4 Connector Descriptions

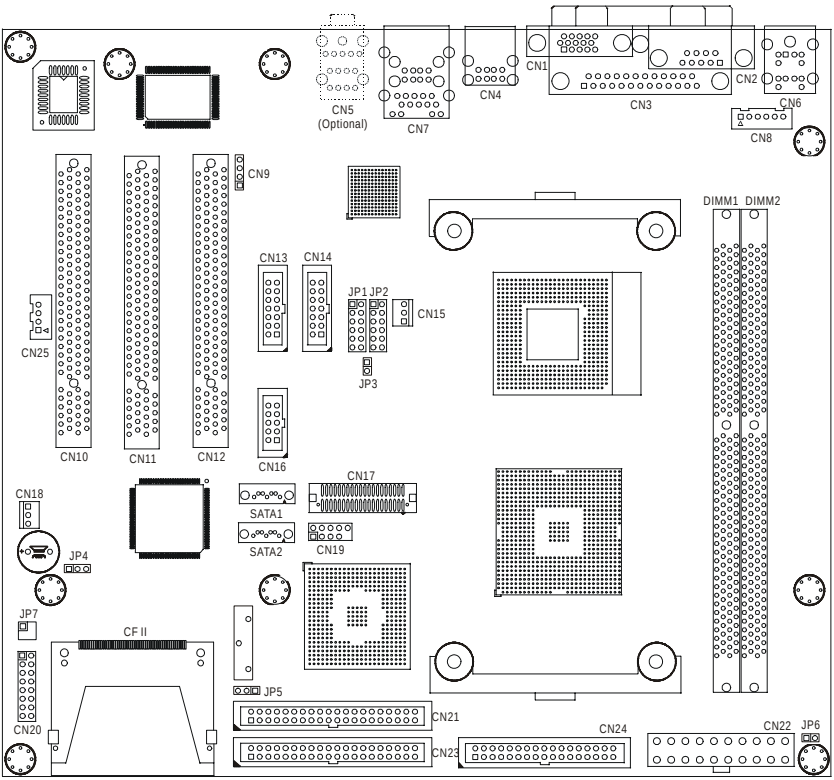


Figure 9: Connector Locations

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table for Connector's Location Description:

Use the information in the following table to change the connector.

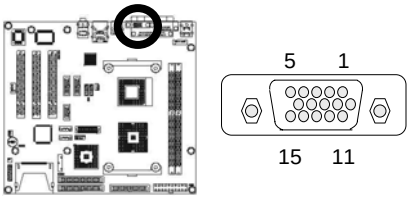
Connectors	Functions
CN1	CRT VGA Port Connector
CN2	COM1 RS-232 Serial Port Connector
CN3	Parallel Port Connector
CN4	USB 0/1 Connectors
CN5	Audio Port Connector (Optional)
CN6	PS/2 Keyboard & Mouse Connectors
CN7	Gigabit Ethernet RJ-45 & USB 2/3 Connectors
CN8	External Keyboard & Mouse Connector
CN9	CD-IN Connector
CN13	COM3 RS-232/422/485 Serial Port Connectors
CN14	COM4 RS-232/422/485 Serial Port Connectors
CN15	CPU Fan Power Connector
CN16	COM2 RS-232 Serial Port Connector
CN17	18/24 Bits LVDS Panel Interface
CN18	System Fan Power Connector
CN19	USB 4/5 (Pin-Header) Connector
CN20	System Panel Indicate Connector
CN21	Secondary IDE Connector
CN22	ATX Power Connector
CN23	Primary IDE Connector
CN24	Floppy Disk Connector
CN25	LINE OUT Connector
JP7	LAN LED Connector
SATA1	S-ATA1 Connector
SATA2	S-ATA2 Connector
CF II	Type II CompactFlash™ Connector

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

CRT VGA Port Connector (D-SUB 15-pins Female): CN1

Pin #	Assignment	Pin #	Assignment
1	Red	2	Green
3	Blue	4	NC
5	Ground	6	Ground
7	Ground	8	Ground
9	VCC	10	Ground
11	NC	12	DData
13	HSync	14	VSync
15	DCK		

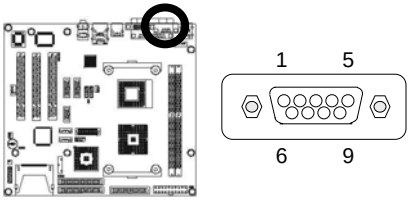
- **Figure:**



COM1 RS-232 Serial Port Connector (D-Sub 9-pins Male): CN2

Pin #	Assignment	Pin #	Assignment
1	DCD (Data Carrier Detect)	6	DSR (Data Set Ready)
2	RXD (Receive Data)	7	RTS (Request to Send)
3	TXD (Transmit Data)	8	CTS (Clear to Send)
4	DTR (Data Terminal Ready)	9	RI (Ring Indicator)
5	Ground		

- **Figure:**

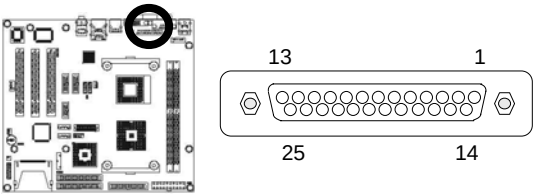


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Parallel Port Connector (D-Sub 25-pins Male): CN3

Pin #	Assignment	Pin #	Assignment
1	Line Printer Strobe	14	Auto Feed
2	PD 0, Parallel Data 0	15	Error
3	PD 1, Parallel Data 1	16	Initialize
4	PD 2, Parallel Data 2	17	Select
5	PD 3, Parallel Data 3	18	Ground
6	PD 4, Parallel Data 4	19	Ground
7	PD 5, Parallel Data 5	20	Ground
8	PD 6, Parallel Data 6	21	Ground
9	PD 7, Parallel Data 7	22	Ground
10	ACK, Acknowledge	23	Ground
11	Busy	24	Ground
12	Paper Empty	25	Ground
13	Select	26	N/A

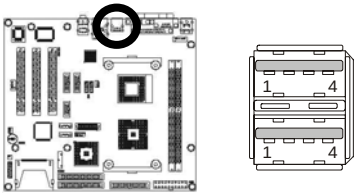
- **Figure:**



USB 0/1 Connectors (4-pins Female): CN4

Pin #	Assignment	Pin #	Assignment
1a	VCC	1b	VCC
2a	USB0 -	2b	USB1 -
3a	USB0 +	3b	USB1 +
4a	Ground	4b	Ground

- **Figure:**

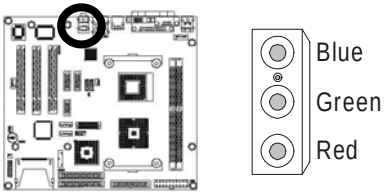


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Audio Port Connector (Audio Phone–Jack): CN5 (Optional)

Pin #	Assignment
BLUE	Line-In
GREEN	Line-Out
Red	Mic-In

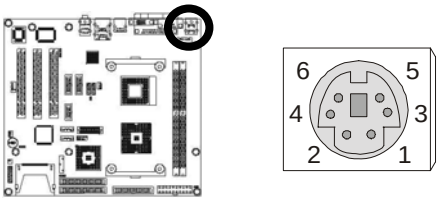
- **Figure:**



PS/2 Keyboard Connector (6-pins Green Mini Din): CN6

Pin #	Assignment	Pin #	Assignment
1	Keyboard Data	2	NC
3	Ground	4	+5V
5	Keyboard Clock	6	NC

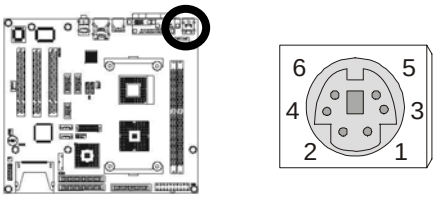
- **Figure:**



PS/2 Mouse Connector (6-pins Purple Mini Din): CN6

Pin #	Assignment	Pin #	Assignment
1	Mouse Data	2	NC
3	Ground	4	+5V
5	Mouse Clock	6	NC

- **Figure:**

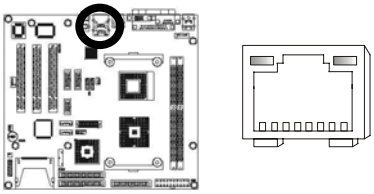


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Gigabit Ethernet RJ-45 Connector (RJ-45 Phone–Jack): CN7

Pin #	Assignment	Pin #	Assignment
1	Transmit output (+)	5	NC
2	Transmit output (-)	6	Receive input (-)
3	Receive input (+)	7	NC
4	NC	8	NC

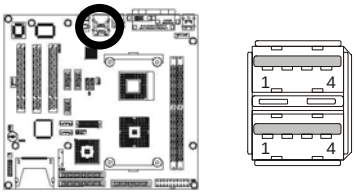
- **Figure:**



◆ **USB 2/3 Connector (4-pins Female): CN7**

Pin #	Assignment	Pin #	Assignment
1a	VCC	1b	VCC
2a	USB2 -	2b	USB3 -
3a	USB2 +	3b	USB3 +
4a	Ground	4b	Ground

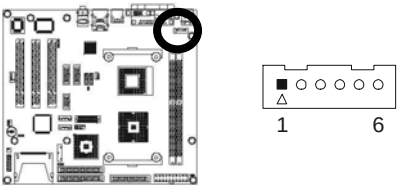
- **Figure:**



External Keyboard & Mouse Connector (6-pins Pin-Header): CN8

Pin #	Assignment	Pin #	Assignment
1	MS Clock	2	MS Data
3	KB Clock	4	KB Data
5	Ground	6	VCC

- **Figure:**

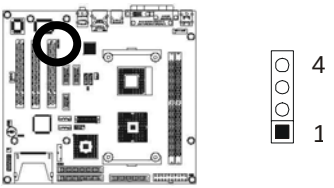


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

CD_IN Connector: CN9

Pin #	Assignment
1	CD_IN_Left
2	CD_GND
3	CD_GND
4	CD_IN_Right

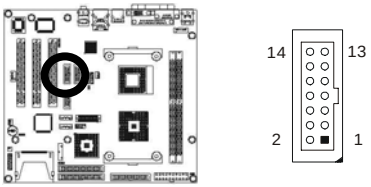
- **Figure:**



COM3 RS-232/422/485 Serial Port Connectors (14-pins Pin-Header): CN13

Pin #	Assignment	Pin #	Assignment
1	DCD	2	RXD
3	TXD	4	DTR
5	Ground	6	DSR
7	RTS	8	CTS
9	RI	10	Ground
11	TXD+	12	TXD-
13	RXD+	14	RXD-

- **COM3 Figure:**

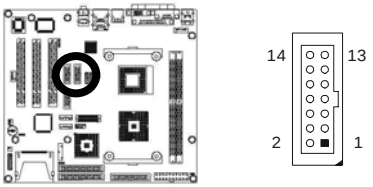


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

COM4 RS-232/422/485 Serial Port Connectors (14-pins Pin-Header): CN14

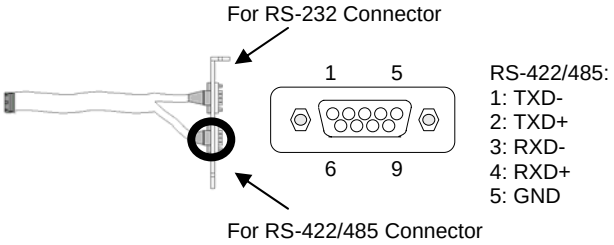
Pin #	Assignment	Pin #	Assignment
1	DCD	2	RXD
3	TXD	4	DTR
5	Ground	6	DSR
7	RTS	8	CTS
9	RI	10	Ground
11	TXD+	12	TXD-
13	RXD+	14	RXD-

- **COM4 Figure:**



Note: How to connect a RS485 device with the COM port ribbon cable?

Our Industrial Board encloses a COM port ribbon cable for internal connection. RS422/485 device must connect to downside D-Sub with 5-pin cable and signal indication as below.

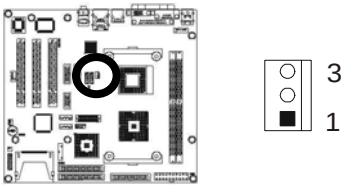


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

CPU Fan Power Connector: CN15

Pin #	Assignment
1	Ground
2	VCC
3	Fan Status Signal

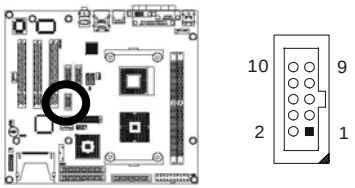
- **Figure:**



COM2 RS-232 Serial Port Connector (10-pins Pin-Header): CN16

Pin #	Assignment	Pin #	Assignment
1	DCD	2	DSR
2	RXD	4	RTS
3	TXD	6	CTS
4	DTR	8	RI
5	Ground	10	Ground

- **Figure:**



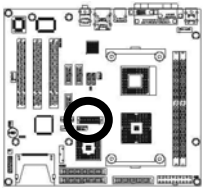
18/24 Bits LVDS Panel Interface (40-pins Male): CN17

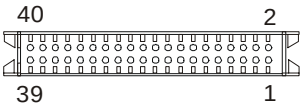
Pin #	Assignment	Pin #	Assignment
1	NC	2	NC
3	Ground	4	Ground
5	YAM0	6	YAM1
7	YAP0	8	YAP1
9	Ground	10	Ground
11	YAM2	12	CLKAM
13	YAP2	14	CLKAP
15	Ground	16	Ground
17	YAM3	18	YBM0
19	YAP3	20	YBP0

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

21	Ground	22	Ground
23	YBM1	24	YBM2
25	YBP1	26	YBP2
27	Ground	28	Ground
29	CLKBM	30	YBM3
31	CLKBP	32	YBP3
33	NC	34	+12V
35	NC	36	+12V
37	NC	38	PVCC
39	BKL	40	PVCC

- **Figure:**

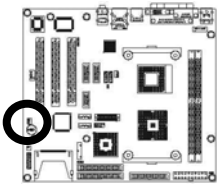




System Fan Power Connector: CN18

Pin #	Assignment
1	Ground
2	VCC
3	Fan Status Signal

- **Figure:**



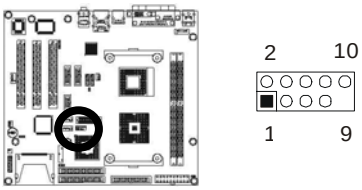


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

USB 4/5 Connector (9-pins Pin-Header): CN19

Pin #	Assignment	Pin #	Assignment
1	VCC	2	VCC
3	USB4 -	4	USB5 -
5	USB4 +	6	USB5 +
7	Ground	8	Ground
9	---	10	NC

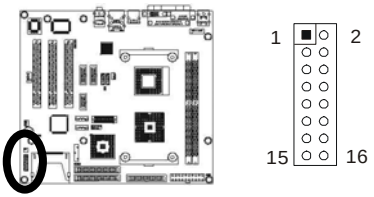
- **Figure:**



System Panel Indicate Connector: CN20

Pin #	Assignment	Pin #	Assignment
SPEAKER		**PWR LED**	
1	+5V	2	PWLED+
3	NC	4	NC
5	BUZZER	6	PWLED-
7	SPEAKER	**KEYLOCK**	
HDD LED		8	KBLOCK
9	HDLED+	10	Ground
11	HDLED-	12	NC
RESET		**PWR ON**	
13	RESET+	14	PWRBT+
15	RESET-	16	PWRBT-

- **Figure:**

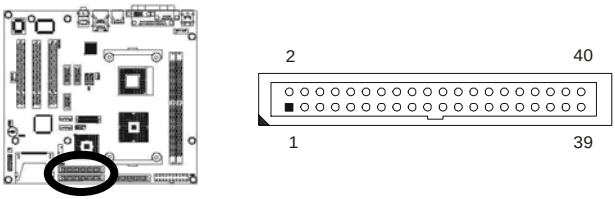


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Secondary IDE Connector (40-pins 2.54mm Pitch Pin-Header with Housing): CN21

Pin #	Assignment	Pin #	Assignment
1	Reset IDE	2	Ground
3	Host Data 7	4	Host Data 8
5	Host Data 6	6	Host Data 9
7	Host Data 5	8	Host Data 10
9	Host Data 4	10	Host Data 11
11	Host Data 3	12	Host Data 12
13	Host Data 2	14	Host Data 13
15	Host Data 1	16	Host Data 14
17	Host Data 0	18	Host Data 15
19	Ground	20	NC
21	DRQ 0	22	Ground
23	Host IOW	24	Ground
25	Host IOR	26	Ground
27	IOCHRDY	28	Host ALE
29	DACK 0	30	Ground
31	IRQ 14	32	No Connect
33	Address 1	34	Ground
35	Address 0	36	Address 2
37	Chip Select 0	38	Chip Select 1
39	Activity	40	Ground

- **Figure:**

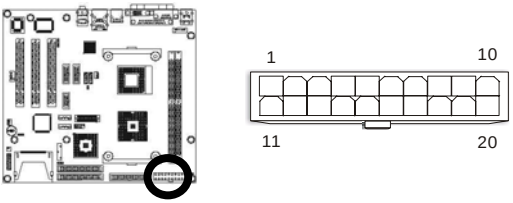


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

ATX Power Connector: CN22

Pin #	Assignment	Pin #	Assignment
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS-ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	NC	18	-5V
9	5VSB	19	+5V
10	+12v	20	+5V

- **Figure:**



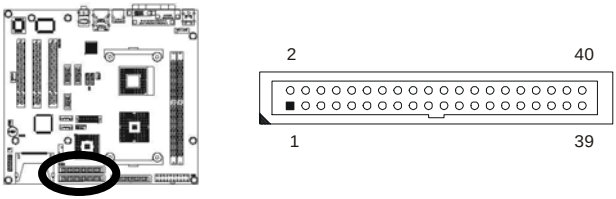
Primary IDE Connector (40-pins 2.54mm Pitch Pin-Header with Housing): CN23

Pin #	Assignment	Pin #	Assignment
1	Reset IDE	2	Ground
3	Host Data 7	4	Host Data 8
5	Host Data 6	6	Host Data 9
7	Host Data 5	8	Host Data 10
9	Host Data 4	10	Host Data 11
11	Host Data 3	12	Host Data 12
13	Host Data 2	14	Host Data 13
15	Host Data 1	16	Host Data 14
17	Host Data 0	18	Host Data 15
19	Ground	20	NC
21	DRQ 0	22	Ground
23	Host IOW	24	Ground
25	Host IOR	26	Ground
27	IOCHRDY	28	Host ALE
29	DACK 0	30	Ground
31	IRQ 14	32	No Connect
33	Address 1	34	Ground

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

35	Address 0	36	Address 2
37	Chip Select 0	38	Chip Select 1
39	Activity	40	Ground

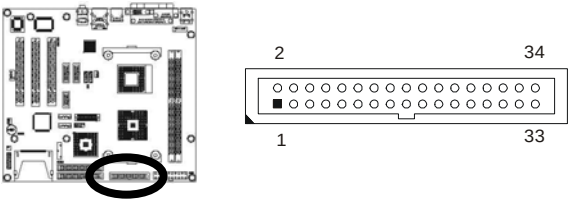
- **Figure:**



Floppy Disk Connector (34-pins 2.54mm Pitch Pin-Header with Housing): CN24

Pin #	Assignment	Pin #	Assignment
1	Ground	2	Drive Density Selection
3	Ground	4	NC
5	Ground	6	Drive Density Selection
7	Ground	8	Index
9	Ground	10	Motor Enable 0
11	Ground	12	Drive Select 1
13	Ground	14	Drive Select 0
15	Ground	16	Motor Enable 1
17	Ground	18	Direction
19	Ground	20	Step
21	Ground	22	Write Data
23	Ground	24	Write Gate
25	Ground	26	Track 00
27	Ground	28	Write Protect
29	NC	30	Read Data
31	Ground	32	Head Select
33	NC	34	Diskette Change

- **Figure:**

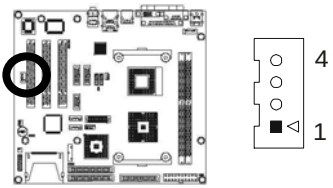


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

LINE OUT Connector: CN25

Pin #	Assignment
1	LOUT_L
2	AU_GND
3	VCC_5V
4	LOUT_R

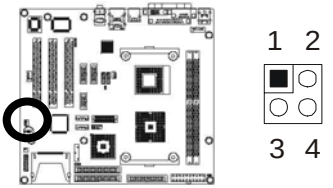
- **Figure:**



LAN LED Connector: JP7

Pin #	Assignment	Pin #	Assignment
1	LINK_LED	2	VCC_3V
3	ACT_LED	4	VCC_3V

- **Figure:**

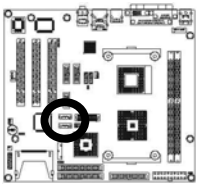


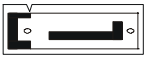
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

S-ATA1 Connector (9-pins): SATA1

Pin #	Assignment
1	Ground
2	SATA1_TXP
3	SATA1_TXN
4	Ground
5	SATA1_RXN
6	SATA1_RXP
7	Ground
8	Ground
9	Ground

- **Figure:**

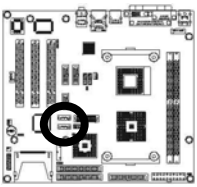


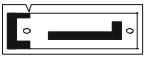


S-ATA2 Connector (9-pins): SATA2

Pin #	Assignment
1	Ground
2	SATA2_TXP
3	SATA2_TXN
4	Ground
5	SATA2_RXN
6	SATA2_RXP
7	Ground
8	Ground
9	Ground

- **Figure:**



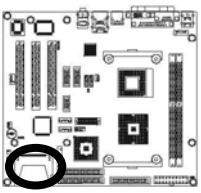


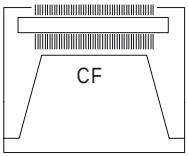
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Type II CompactFlash™ Connector: CF II

Pin #	Assignment	Pin #	Assignment
1	Ground	2	D3
3	D4	4	D5
5	D6	6	D7
7	CS#1	8	Ground
9	Ground	10	Ground
11	Ground	12	Ground
13	VCC	14	Ground
15	Ground	16	Ground
17	Ground	18	A2
19	A1	20	A0
21	D0	22	D1
23	D2	24	NC
25	NC	26	NC
27	D11	28	D12
29	D13	30	D14
31	D15	32	CS#3
33	NC	34	IOR#
35	IOW#	36	VCC
37	INTS	38	VCC
39	CSEL#	40	NC
41	IDERST#	42	IORDY
43	NC	44	VCC
45	IDEACTS#	46	DET
47	D8	48	D9
49	D10	50	Ground
51	Ground	52	Ground
53	NC	54	NC
55	NC	56	NC
57	NC	58	NC

- **Figure:**





LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3

Award BIOS Setup

3.1 BIOS Instructions

Award's ROM BIOS provides a built-in Setup program, which allows the user to modify the basic system configuration and hardware parameters. The modified data will be stored in a battery-backed CMOS, so that data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM will stay unchanged unless there is a configuration change in the system, such as hard drive replacement or a device is added.

It is possible for the CMOS battery to fail, which would cause data loss in the CMOS only. If that happens the BIOS settings would need to be reconfigured.

3.2 Main Menu

Once you enter the AwardBIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Phoenix - AwardBIOS CMOS Setup Utility

➢Standard CMOS Feature ➢Advanced BIOS Feature ➢Advanced Chipset Feature ➢Integrated Peripherals ➢Power Management Setup ➢PnP/PCI Configurations ➢PC Health Status	➢Frequency/Voltage Control Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving
Esc: Quit F10: Save & Exit Setup	↑↓←→: Select Item
Time, Date, Hard Disk Type….	

Note: that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items:
The main menu includes the following main setup categories. Recall that some systems may not include all entries.

Standard CMOS Features:
Use this menu for basic system configuration. See 3.3 for the details.

Advanced BIOS Features:
Use this menu to set the Advanced Features available on your system. See 3.5 for the details.

Advanced Chipset Features:
Use this menu to change the values in the chipset registers and optimize your system's performance. See 3.6 for the details.

Integrated Peripherals:
Use this menu to specify your settings for integrated peripherals. See section 3.7 for the details.

Power Management Setup:
Use this menu to specify your settings for power management. See 3.8 for the details.

PnP / PCI Configuration:
This entry appears if your system supports PnP/PCI. See 3.9 for the details.

PC Health Status:

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Use this menu to show your system temperature, speed and voltage status. See 3.10 for the details.

Frequency / Voltage Control:
Use this menu to specify your settings for frequency/voltage control. See 3.11 for the details.

Load Fail-Safe Defaults:
Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate. See 3.12 for the details.

Load Optimized Defaults:
Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs. See 3.13 for the details.

Supervisor / User Password:
Use this menu to set User and Supervisor Passwords. See 3.14 for the details.

Save & Exit Setup:
Save CMOS value changes to CMOS and exit setup. See 3.15 for the details.

Exit Without Save:
Abandon all CMOS value changes and exit setup. See 3.15 for the details.

3.3 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes none, one, or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Standard CMOS Features

Date (mm:dd:yy):	Mon, JUN 7 2004	Item Help
Time (hh:mm:ss):	16:19:20	
➢ IDE Primary Master	13579 MB	Menu Level ➢
➢ IDE Primary Slave	None	
➢ IDE Secondary Master	None	Change the day, month, year and century
➢ IDE Secondary Slave	None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	No Errors	
Based Memory	640K	
Extended Memory	515072K	
Total Memory	516096K	

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

Date: Options MM/DD/YYYY
Set the system date. Note that the 'Day' automatically changes when you set the date.

Time: Options HH : MM : SS
Set the system time.

IDE Primary Master: Options are in its sub menu (described in 3.4)
Press <Enter> to enter the sub menu of detailed options.

IDE Primary Slave: Options are in its sub menu (described in 3.4)
Press <Enter> to enter the sub menu of detailed options.

IDE Secondary Master: Options are in its sub menu (described in 3.4)
Press <Enter> to enter the sub menu of detailed options.

IDE Secondary Slave: Options are in its sub menu (described in 3.4)
Press <Enter> to enter the sub menu of detailed options.

Drive A/ Drive B: Options are None, 360K, 5.25 in/1.2M, 5.25 in/720K, 3.5 in/ 1.44M, 3.5 in/2.88M, 3.5 in.
Select the type of floppy disk drive installed in your system.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Video: Options EGA/VGA/CGA 40/CGA 80/MONO
Select the default video device.

Halt On: Options All Errors/No Errors/All, All but Keyboard/All, All but Diskette/All, All but Disk/Key
Select the situation in which you want the BIOS to stop the POST process and notify you.

Base Memory: Option N/A
Displays the amount of conventional memory detected during boot up.

Extended Memory: Option N/A
Displays the amount of extended memory detected during boot up.

Total Memory: Option N/A
Displays the total memory available in the system.

3.4 IDE Adapters

The IDE adapters control the hard disk drive. Use a separate sub menu to configure each hard disk drive.

Phoenix - AwardBIOS CMOS Setup Utility
IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	
Access Mode	Auto	Menu Level ➢➢
Capacity	13579 MB	To auto-detect the HDD's size, head... on this channel
Cylinder	26310	
Head	16	
Precomp	0	
Landing Zone	26309	
Sector	63	

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

IDE HDD Auto-Detection: Options Press Enter
Press Enter to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

IDE Primary Master: Options None, Auto and Manual
Selecting “Manual” lets you set the remaining fields on this screen. Selects the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc. Note: PRECOMP=65535 means NONE!

Access Mode: Options CHS, LBA, Large and Auto
Choose the access mode for this hard disk

Capacity: Options Auto Display your disk drive size
Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk-checking program.

The following options are selectable only if the ‘IDE Primary Master’ item is set to “Manual”

Cylinder: Options Min = 0, Max = 65535
Set the number of cylinders for this hard disk.

Head: Options Min = 0, Max = 255
Set the number of read/write heads

Precomp: Options Min = 0, Max = 65535
**** **Warning**: Setting a value of 65535 means no hard disk

Landing zone: Options Min = 0, Max = 65535

Sector: Options Min = 0, Max = 255
Number of sectors per track

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.5 Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features

➢ CPU Feature	Press Enter	Item Help
➢ Hard Disk Boot Priority	Press Enter	
Virus Warning	Enabled	
CPU L1 Cache	Enabled	Menu Level ➢
CPU L2 Cache	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	Hard Disk	
Third Boot Device	LS-120	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Enabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
X Typematic Rate (Chars/Sec)	6	
X Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64MB	Non-OS2	
Report No FDD For WIN95	No	

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

CPU Feature:

Phoenix - AwardBIOS CMOS Setup Utility
CPU Feature

Thermal Management	Thermal Monitor 1	Item Help
		Menu Level ➢➢

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

Thermal Management:

It allows you to select the thermal Monitor.

The Choice: Thermal monitor1.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Hard Disk Boot Priority:
Press Enter and It shows Bootable add-in Card.

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

Enabled---Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Disabled---No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

CPU L1& L2 Cache:
These two categories speed up memory access. However, it depends on CPU/chipset design.
Enabled---Enable cache
Disabled---Disable cache

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

First/Second/Third Boot Device:
The BIOS attempts to load the operating system from the devices in the sequence selected in these items.
The choices: Floppy, LS/ZIP, Hard Disk, CDROM, LAN and Disabled.

Boot Other Device:
When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the first, second, and third boot devices.
The choices: Enabled, Disabled

Swap Floppy Drive:
If the system has two floppy drives, you can swap the logical drive name assignments.
The choices: Enabled, Disabled.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Boot Up Floppy Seek:

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

The choices: Enabled, Disabled.

Boot Up NumLock Status:

Select power on state for NumLock.

The choices: On, Off

Gate A20 Option:

Select if chipset or keyboard controller should control GateA20.

Normal---A pin in the keyboard controller controls GateA20

Fast---Lets chipset control GateA20

Typematic Rate Setting:

Keystrokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected.

The choice: Enabled, Disabled.

Typematic Rate (Chars/Sec):

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

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

Typematic Delay (Msec):

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

The choice: 250, 500, 750 and 1000.

Security Option:

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

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

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

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

OS Select For DRAM > 64MB:

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

The choices: Non-OS2, OS2.

Report No FDD For Win 95:

Whether report no FDD for Windows 95 or not.

The choices: Yes, No.

3.6 Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features

DRAM Timing Selectable	By SPD	Item Help
X CAS Latency Time	2.5	
X Active To Precharge Delay	6	
X DRAM RAS# To CAS# Delay	3	Menu Level ➢
X DRAM RAS# Precharge	3	
DRAM Data Integrity Mode	Non-ECC	
MGM Core Frequency	Auto Max 266MHz	
System BIOS Cacheable	Enabled	
Video BIOS Cacheable	Disabled	
Memory Hole At 15M-16M	Disabled	
Delayed Transaction	Enabled	
Delay Prior To Thermal	16 Min	
AGP Aperture Size (MB)	64	
** On-Chip VGA Setting **		
On-Chip VGA	Enabled	
On-Chip Frame Buffer Size	32MB	
Boot Display	VBIOS Default	
Pannel Number	1	

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

DRAM Timing Selectable:

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Select the operating system that is selecting DRAM timing, so select SPD for setting SDRAM timing by SPD.

The choices: Manual, By SPD.

CAS Latency Time:

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

The choices: 2, 2.5.

Active To Precharge Delay:

Select the operating system that is active to precharge delay.

The choices: 5, 6, 7.

DRAM RAS# To CAS# Delay:

This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

The choices: 2, 3.

DRAM RAS# Precharge:

If an insufficient number of cycles are allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

The choices: 2, 3.

DRAM Data Integrity Mode:

This item shows you if the DRAM has ECC or not.

The choices: Non-ECC, ECC.

MGM Core Frequency:

This item allows you to determine the MGM core frequency.

The choices: Auto Max 266MHz, 400/266/133/200MHz, 400/200/100/200MHz, 400/200/100/133MHz, 400/266/133/267MHz, 400/333/166/250MHz, Auto Max 400/333.

System BIOS Cacheable:

Selecting “Enabled” allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

The choices: Enabled, Disabled.

Video BIOS Cacheable:
Select “Enabled” allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.
The choices: Enabled, Disabled.

Memory Hole At 15M-16M:
You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.
The choices: Enabled, Disabled.

Delayed Transaction:
The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select “Enabled” to support compliance with PCI specification version 2.2.
The choices: Enabled, Disabled.

Delay Prior To Thermal:
Select this item allows the delay prior to thermal time.
The choices: 4Min, 8Min, 16Min and 32Min.

AGP Aperture Size (MB):
This field determines the effective size of the Graphic Aperture used for a particular GMCH configuration. It can be updated by the GMCH-specific BIOS configuration sequence before the PCI standard bus enumeration sequence takes place. If it is not updated then a default value will select an aperture of maximum size.
The choices: 4, 8, 16, 32, 64, 128 and 256.

****On-Chip VGA Setting****

On-Chip VGA:
This item allows you to control the on-chip VGA.
The choices: Enabled, Disabled.

On-Chip Frame Buffer Size:
This item allows you to control the on-chip frame buffer size.
The choices: 1M, 4M, 8M, 16M and 32M.

Boot Display:
This item allows you to select the boot display device.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

The choices: VBIOS Default, CRT, LFP and CRT+LEP.

Panel Number:

This item allows you to select the panel resolution.

The choices: 1-8.

3.7 Integrated Peripherals

Phoenix - AwardBIOS CMOS Setup Utility

Integrated Peripherals

➢ Onboard IDE Device	Press Enter	Item Help
➢ Onboard Device	Press Enter	
➢ SuperIO Device	Press Enter	
Onboard Lan Boot ROM	Disabled	Menu Level ➢
Onboard Serial Port 1	3F8	If your IDE hard drive supports block mode select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support
Serial Port 3 Use IRQ	IRQ4	
Onboard Serial Port 2	2F8	
Serial Port 4 Use IRQ	IRQ3	
Onboard Serial Port 3	3E8	
Serial Port 3 Use IRQ	IRQ10	
Onboard Serial Port 4	2E8	
Serial Port 4 Use IRQ	IRQ11	

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

Onboard IDE Device:

Onboard IDE Device

On-Chip Primary PCI IDE	Enabled	Item Help
IDE Primary Master PIO	Auto	
IDE Primary Slave PIO	Auto	
IDE Primary Master UDMA	Auto	Menu Level ➢
IDE Primary Slave UDMA	Auto	If your IDE hard drive supports block mode select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support
On-Chip Secondary PCI IDE	Enabled	
IDE Secondary Master PIO	Auto	
IDE Secondary Slave PIO	Auto	
IDE Secondary Master UDMA	Auto	
IDE Secondary Slave UDMA	Auto	
IDE HDD Block Mode	Enabled	

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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

OnChip Primary/Secondary PCI IDE:
The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select “Enabled” to activate each channel separately.

The choices: Enabled, Disabled.

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

The choices: Auto, Mode 0, Mode 1, Mode 2, Mode 3 and Mode 4.

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

The choices: Auto, Disabled.

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

The choices: Enabled, Disabled

Onboard Device:

Onboard Device

USB Controller	Enabled	Item Help
USB 2.0 Controller	Enabled	
USB Keyboard Support	Disabled	
USB Mouse Support	Disabled	Menu Level ➢
AC97 Audio	Auto	
Init Display First	Onboard/AGP	

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

USB / USB 2.0 Controller:
Select “Enabled” if your system contains a Universal Serial Bus (USB) / USB 2.0 controller and you have USB peripherals.

The choices: Enabled, Disabled.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

USB Keyboard Support:

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

The choices: Enabled, Disabled.

USB Mouse Support:

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

The choices: Enabled, Disabled.

AC97 Audio:

This item allows you to decide to auto or disable the chipset family to support AC97 Audio.

The choices: Auto, Disabled.

Init Display First:

This item allows you to decide to active whether PCI Slot or on-chip VGA first.

The choices: PCI Slot, Onboard/AGP.

SuperIO Device:

SuperIO Device

Power ON Function	BUTTON ONLY	Item Help
X KB Power ON Password	Enter	
X Hot Key Power ON	Ctrl-F1	
Onboard FDC Controller	Enabled	Menu Level ➢
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
X EPP Mode Select	EPP1.7	
X ECP Mode Use DMA	3	
PWRON After PWR-Fail	Off	

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

Power On Function:

You can use this item to select operating Power On the system.

The choices: Password, Hot KEY, Any KEY, BUTTON ONLY,
Keyboard 98

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

KB Power ON Password:
You can use this item to limit operating KB Power On system.
The choice: Enter

Hot Key Power ON:
You can use this item to select operating Hot Key to Power On system.
The choices: Ctrl-F1~Ctrl-F12.

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

Onboard Parallel Port:
This item allows you to determine access onboard parallel port controller with which I/O address.
The choices: 3BC/IRQ7, 378/IRQ7, 278/IRQ5 and Disabled.

Parallel Port Mode:
Select an operating mode for the onboard parallel (printer) port. Select Normal, Compatible, or SPP unless you are certain your hardware and software both support one of the other available modes.
The choices: SPP, EPP, ECP and ECP+EPP.

EPP Mode Select:
Select EPP port type 1.7 or 1.9.
The choices: EPP1.7, 1.9.

ECP Mode Use DMA:
Select a DMA channel for the parallel port for use during ECP mode.
The choices: 3, 1.

PWRON After PWR-Fail:
This item allows you to select if you want to power on the system after power failure.
The choices: Off, On and Former-Sts.

Onboard Lan Boot ROM:
Select “Enabled” if your system has a LAN device installed on the system board and you wish to use it.
The choices: Enabled, Disabled.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Onboard Serial Port 1/Port 2:
Select an address for the first and second serial ports.

Serial Port 1/Port 2 Use IRQ:
Select an IRQ for the first and second serial ports.

Onboard Serial Port 3/Port 4:
Select an address for the third and forth serial ports.

Serial Port 3/Port 4 Use IRQ:
Select an IRQ for the third and forth serial ports.

3.8 Power Management Setup

The Power Management Setup allows you to configure you system to most effectively save energy while operating in a manner consistent with your own style of computer use.

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup

ACPI Function	Enabled	Item Help
Power Management	User Define	
Video Off Method	DPMS	
Video Off In Suspend	Yes	Menu Level ➢
Suspend Type	Stop Grant	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
CPU THER-Throttling	50.0%	
Wake-Up by PCI card	Enabled	
Resume by Alarm	Disabled	
X Date (of Month) Alarm	0	
X Time (hh:mm:ss) Alarm	0 : 0 : 0	
** Reload Global Timer Events **		
Primary IDE 0	Disabled	
Primary IDE 1	Disabled	
Secondary IDE 0	Disabled	
Secondary IDE 1	Disabled	
FDD, COM, LPT Port	Disabled	
PCI PIRQ [A-D]#	Disabled	

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

ACPI Function:

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This item allows you to enable or disable the Advanced Configuration and Power Management (ACI).

The choices: Enabled, 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. HDD Power Down
2. Doze Mode
3. Suspend Mode

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:
Allow you to set each mode individually. When not disabled, each of the ranges is from 1 min. to 1 hr. except for HDD Power Down, which ranges from 1 min. to 15 min. and disable.

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 write blanks to the video buffer.

Blank Screen:
This option only writes blanks to the video buffer.

DPMS:
Initial display power management signaling.

Video Off In Suspend:
This determines the manner in which the monitor is blanked.

The choices: Yes, No.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Suspend Type:
Select the Suspend Type.
The choices: PWRON Suspend, Stop Grant.

Suspend Mode:
When “Enabled” and after the set time of system inactivity. All devices except the CPU will be shut off.
The choices: Enabled, Disabled.

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.
The choices: Enabled, Disabled.

CPU THER-Throttling:
Select the CPU THRM-Throttling rate.
The choices: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0% and 87.5%.

Wake-Up by PCI Card:
An input signal from PME on the PCI card awakens the system from a soft off state.
The choices: Enabled, Disabled.

Resume by Alarm:
When “Enabled”, your can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.
The choices: Enabled, Disabled.

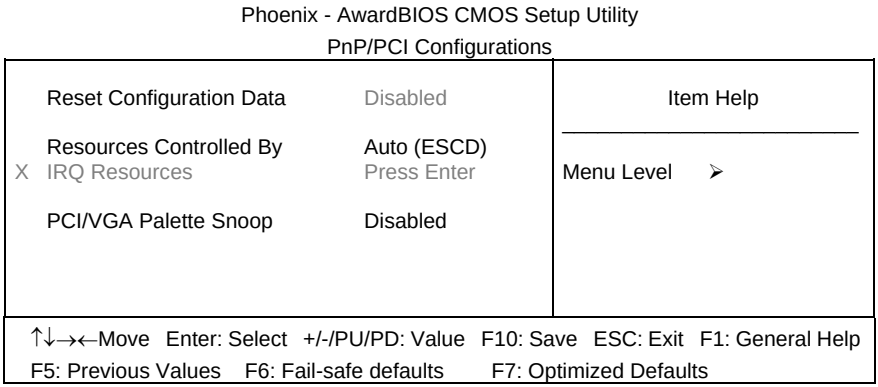
PM Events:
PM events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything, which occurs to a device, which is configured as Enabled, even when the system is in a power down mode.

Primary IDE 0
Primary IDE 1
Secondary IDE 0
Secondary IDE 1
FDD, COM, LPT Port
PCI PIRQ [A-D] #

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.9 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system that allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.



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

The choices: Enabled, Disabled.

Resources Controlled By:
It allows you can automatically configure all the boot and Plug and Play-compatible devices. If you select Auto, all the interrupt request (IRQ) and DMA assignment fields disappear, as the BIOS automatically assigns them.

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

PCI/VGA Palette Snoop:
Leave this field at "Disabled".

The choices: Enabled, Disabled.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.10 PC Health Status

Phoenix - AwardBIOS CMOS Setup Utility
PC Health Status

CPU Warning Temperature	Disabled	Item Help
SYS Temperature	32°C / 89°F	
CPU Temperature	28°C / 82°F	Menu Level ➢
CPU FAN	5152RPM	
SYSFAN	3283RPM	
VDIMM	2.48	
VCORE	4.42V	
+3.3	3.34V	
+ 5 V	4.94V	
+12 V	11.85V	
-12 V	-12.28V	
- 5 V	-4.99V	
VBAT (V)	3.02V	
5VSB (V)	5.04V	
Shutdown Temperature	Disabled	

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

CPU Warning Temperature:
This item will prevent CPU from overheating.
The choices: 50°C /122°F ~70°C /158°F, Disabled.

SYS Temperature:
Displays the current system temperature.

CPU Temperature:
Displays the current CPU temperature.

CPUFAN:
Displays the current CPU fan operating speed.

SYSFAN:
Displays the current system fan operating speed.

VDIMM:
Displays the voltage level of the DRAM.

VCORE:
Displays the voltage level of CPU (Vcore).

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

+3.3V/+5V/+12V/-12V/-5V/5VSB(V):
Displays the voltage of +5V/+12V/-12V/-5V.

VBAT (V):
Displays the voltage level of the battery.

Shutdown Temperature:
This item allows you to set up the CPU shutdown Temperature. This item is only effective under Windows® 98 ACPI mode.

The choices: Disabled, 60°C / 140°F, 65°C / 149°F, 70°C / 159°F and 75°C / 167°F.

3.11 Frequency/Voltage Control

Phoenix - AwardBIOS CMOS Setup Utility
Frequency/Voltage Control

Auto Detect PCI CLK	Enabled	Item Help
Spread Spectrum	Disabled	
		Menu Level ➢

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

Auto Detect PCI CLK:
When “Enabled”, this item will auto detect if the PCI slot have devices and will send clock signal to PCI devices. When disabled, it will send the clock signal to PCI slot.

The choices: Enabled, Disabled.

Spread Spectrum:
This item allows you to enable or disable the Spread Spectrum.

The choices: Disabled, -0.25%, -0.50% and -0.75%.

3.12 Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

3.13 Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)? N

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

3.14 Supervisor/User Password Setting

You can set either supervisor or user password, or both of then. The differences between are:

Set Supervisor Password: can enter and change the options of the setup menus.

Set User Password: just can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option (see Section 3). If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

3.15 Exiting BIOS Setup

Save & Exit Setup
Pressing <Enter> on this item asks for confirmation:

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

Pressing “Y” stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving
Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Warranty Policy

Thank you for choosing ADLINK. To understand your rights and enjoy all the after-sales services we offer, please read the following carefully.

1. Before using ADLINK's products please read the user manual and follow the instructions exactly. When sending in damaged products for repair, please attach an RMA application form which can be downloaded from: http://rma.adlinktech.com/policy/.
2. All ADLINK products come with a limited two-year warranty, one year for products bought in China.
   - The warranty period starts on the day the product is shipped from ADLINK's factory.
   - Peripherals and third-party products not manufactured by ADLINK will be covered by the original manufacturers' warranty.
   - For products containing storage devices (hard drives, flash cards, etc.), please back up your data before sending them for repair. ADLINK is not responsible for any loss of data.
   - Please ensure the use of properly licensed software with our systems. ADLINK does not condone the use of pirated software and will not service systems using such software. ADLINK will not be held legally responsible for products shipped with unlicensed software installed by the user.
   - For general repairs, please do not include peripheral accessories. If peripherals need to be included, be certain to specify which items you sent on the RMA Request & Confirmation Form. ADLINK is not responsible for items not listed on the RMA Request & Confirmation Form.
3. Our repair service is not covered by ADLINK's guarantee in the following situations:
   - Damage caused by not following instructions in the User's Manual.
   - Damage caused by carelessness on the user's part during product transportation.
   - Damage caused by fire, earthquakes, floods, lightening, pollution, other acts of God, and/or incorrect usage of voltage transformers.
   - Damage caused by inappropriate storage environments such as with high temperatures, high humidity, or volatile chemicals.
   - Damage caused by leakage of battery fluid during or after change of batteries by customer/user.
   - Damage from improper repair by unauthorized ADLINK technicians.
   - Products with altered and/or damaged serial numbers are not entitled to our service.
   - This warranty is not transferable or extendible.
   - Other categories not protected under our warranty.
4. Customers are responsible for all fees necessary to transport damaged products to ADLINK.

For further questions, please e-mail our FAE staff: service@adlinktech.com

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000