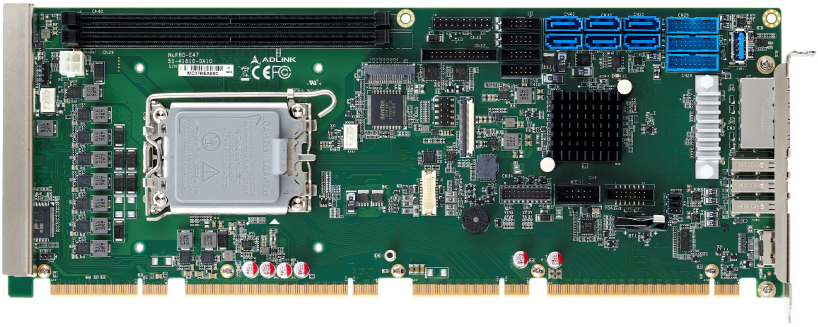
NuPRO-E47

PICMG® 1.3 Full Size LGA1700 Intel® Core™

i9/i7/i5/i3 Processor-Based SHB

User's Manual



Manual Rev.: 1.0

Revision Date: March 04, 2024

Part No: 50M-41810-1000

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

Advance Technologies; Automate the World.

Revision History

Revision	Release Date	Description of Change(s)
1.0	March 04, 2024	Initial release

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

Preface

Copyright 2024 ADLINK Technology, Inc.

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.

Disclaimer

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.

Environmental Responsibility

ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive and Waste Electrical and Electronic Equipment (WEEE) directive. Environmental protection is a top priority for ADLINK. We have enforced measures to ensure that our products, manufacturing processes, components, and raw materials have as little impact on the environment as possible. When products are at their end of life, our customers are encouraged to dispose of them in accordance with the product disposal and/or recovery programs prescribed by their nation or company.

Trademarks

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

Conventions

Take note of the following conventions used throughout this manual to make sure that users perform certain tasks and instructions properly.


NOTE:

Additional information, aids, and tips that help users perform tasks.


CAUTION:

Information to prevent ***minor*** physical injury, component damage, data loss, and/or program corruption when trying to complete a task.


WARNING:

Information to prevent ***serious*** physical injury, component damage, data loss, and/or program corruption when trying to complete a specific task.

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

Table of Contents

Preface iii

List of Figures vii

List of Tables ix

1 Introduction 1

1.1 Overview 1
1.2 Features 1
1.3 Specifications 2
1.4 Block Diagram 5
1.5 Schematics and Dimensions 6
1.6 I/O Connectivity 6
1.7 Rear Panel I/O Ports 8
1.8 Board Layout 10
1.9 Onboard Connectors 12
1.10 Jumpers & Switches 20

2 Getting Started 21

2.1 Package Contents 21
2.2 Driver Installation 22
2.3 Optional Accessories 23

A Appendix: BIOS Setup 25

A.1 Entering the BIOS 25
A.2 Menu Structure 25
A.3 Main Menu 27
A.4 Advanced Menu 28
A.4.1 CPU Configuration 28
A.4.2 Power Management 30
A.4.3 Serial Console Redirection 30

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

A.4.4 USB Configuration 32
A.4.5 TPM 2.0 Configuration 33
A.4.6 Onboard Device Configuration 34
A.4.7 NCT6126H Hardware Monitor 36
A.4.8 BIOS Watchdog Timer 37
A.4.9 PCI Express Configuration 38
A.4.10 Miscellaneous 40
A.4.11 Network Stack Configuration 41
A.5 Chipset 42
A.5.1 System Agent (SA) Configuration 42
A.5.2 PCH-IO Configuration 44
A.6 Security 47
A.6.1 Secure Boot menu 48
A.6.2 Security Configuration 48
A.7 Boot 49
A.8 Save & Exit 53
A.9 MEBx 54

Important Safety Instructions 55

Getting Service 57

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

List of Figures

Figure 1-1: NuPRO-E47 Block Diagram 5
Figure 1-2: Board Dimensions 6
Figure 1-3: Rear Panel I/O Ports..... 8
Figure 1-4: Board Layout 10

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

This page intentionally left blank.

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

List of Tables

Table 1-1: NuPRO-E47 I/O Connectivity 7
Table 1-2: Rear Panel I/O Legend 8
Table 1-3: Board Layout Legend 11

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

This page intentionally left blank.

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

1 Introduction

1.1 Overview

The ADLINK NuPRO-E47 is a PICMG 1.3 System Host Board (SHB) supporting the 12th Generation Intel® Core™ i9/i7/i5/i3 and Pentium® processors in LGA1700 package to deliver a scalable high performance platform for a wide array of industrial applications. The NuPRO-E47 supports 10nm process CPUs at up to 5.0 GHz with integrated graphics and memory controllers and Direct Media Interface (DMI) connectivity to the Intel® Q670E Express chipset. Dual-channel DDR5 memory is supported up to a maximum of 64GB on two DIMM slots.

These advanced features, coupled with PCI Express® x16 expansion capability, dual PCI Express®-based Gigabit Ethernet, SATA 6 Gb/s and USB 3.2 support make the NuPRO-E47 ideal for vision and automation control applications.

1.2 Features

- Supports Intel® Core™ i9/i7/i5/i3 and Pentium® processors in LGA1700 package
- Integrated Intel® HD Graphics
- PCI Express® x16 expansion capability via backplane
- Dual 2.5-Gigabit Ethernet
- 10x USB 3.x ports (3x USB 3.2 Gen2 x1 ports on rear panel, 7x USB 3.2 Gen1 x1 headers on SHB)
- 4x USB 2.0 ports on backplane
- 6x SATA 6 Gb/s ports on SHB
- 4x COM ports (including 2x RS232/422/485)
- 1x HDMI on rear panel
- 1x DVI-D header on SHB
- 1x VGA header on SHB
- 1x M.2 M-Key, 2280, supporting PCIe Gen4 x4
- 1x LPT port

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

- Watchdog timer, hardware monitor
- Optional HD audio kit (DB-Audio2 daughter board)
- TPM2.0
- RoHS compliant

NOTE: To purchase the optional DB-Audio2 daughter board, please contact your ADLINK sales representative.

1.3 Specifications

Processor& System

CPU	Intel® Core™ i9-12900E, up to 5.0 GHz, 16 Cores, 30M Cache, 65W TDP Intel® Core™ i9-12900TE, up to 4.8 GHz, 16 Cores, 30M Cache, 35W TDP Intel® Core™ i7-12700E, up to 4.8 GHz, 12 Cores, 25M Cache, 65W TDP Intel® Core™ i7-12700TE, up to 4.7 GHz, 12 Cores, 25M Cache, 35W TDP Intel® Core™ i5-12500E, up to 4.5 GHz, 6 Cores, 18M Cache, 65W TDP Intel® Core™ i5-12500TE, up to 4.3 GHz, 6 Cores, 18M Cache, 35W TDP Intel® Core™ i3-12100E, up to 4.2 GHz, 4 Cores, 12M Cache, 60W TDP Intel® Core™ i3-12100TE, up to 4.0 GHz, 4 Cores, 12M Cache, 35W TDP Intel® Pentium® Gold G7400E, up to 3.6 GHz, 2 Cores, 6M Cache, 46W TDP Intel® Pentium® Gold G7400TE, up to 3.0 GHz, 2 Cores, 6M Cache, 35W TDP Intel® Celeron® G6900E, up to 3.0 GHz, 2 Cores, 4M Cache, 46W TDP Intel® Celeron® G6900TE, up to 2.4 GHz, 2 Cores, 4M Cache, 35W TDP
Chipset	Intel® Q670E

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

Memory	Dual channel DDR5 4800 MHz, up to 64GB
BIOS	AMI® UEFI BIOS 256 Mbit SPI flash memory
TPM	Infineon TPM SLB 9670XQ2.0 or 9670VQ2.0
WDT	1-255 sec. or 1-255 min. software programmable, can generate system reset
Hardware Monitor	CPU temperature, system temperature, system voltage, CPU fan speed
OS	Microsoft® Windows® 10 64-bit (Windows 10 IoT Enterprise LTSC 21H2 19044) Microsoft® Windows® 11 64-bit (Windows 11 IoT Enterprise 22H2 22621) Ubuntu 20.04.6 64-bit

I/O

Serial ATA	6x SATA 3.0 onboard with RAID support
Serial Ports	2x RS-232 via onboard 2.0 pitch box header 2x RS-232/422/485 with auto flow control via onboard 2.0 pitch box header
PCIe/PCI bus (Via backplane)	1x PCIe x16 with Intel PCIe slot bifurcation support, can be configured to 1x PCIex 16 or 2x PCIe x8 (based on backplane), 1x PCIe x4 to backplane, and 4x PCI to backplane
USB	10x USB 3.x (3x USB 3.2 Gen2 x1 ports on rear I/O & 7x USB 3.2 Gen1 x1 onboard box header) 4x USB 2.0 to backplane
LPT Port	1x LPT port via onboard box header
Audio	1x box header for audio module DB-Audio2

Audio

Codec	Realtek® ALC262 support by DB-Audio2 daughter board
Interface	Intel® High Definition Audio via onboard box header

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

Display

Graphics	Integrated Intel® HD series, based on CPU for different GPU
VGA	1x VGA on rear I/O, resolution up to 1920 x 1200@60Hz
DVI-D	1x DVI-D via onboard pin header, resolution up to 1920 x 1200@60Hz
HDMI	1x HDMI on rear I/O, resolution up to 4096 x 2160 @ 60Hz

Ethernet

Controller	LAN1: Intel® I225-V PHY via RJ45 LAN2: Intel® I225-LM via RJ45
Interface	2x PCIe x1 bus
iAMT	Support iAMT 11 on LAN2
Wake On LAN	Support on LAN1 & LAN2

Mechanical and Environmental

Form Factor	Full-sized PICMG® 1.3 system host board
Dimensions	338 mm x 126 mm (L x W)
Operating Temperature	0 to 60°C
Storage Temperature	-40 to 80°C
Certification	CE & FCC Class A
Relative Humidity	5% to 95%, non-condensing

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

1.4 Block Diagram

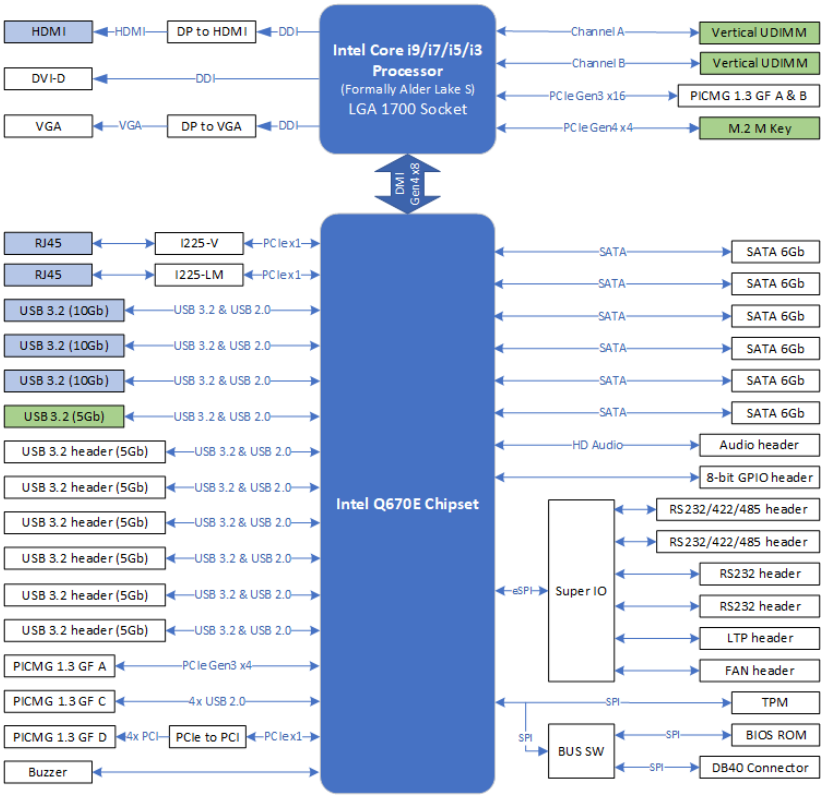


Figure 1-1: NuPRO-E47 Block Diagram

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

1.5 Schematics and Dimensions

NOTE:

All dimensions shown are in mm (millimeters).

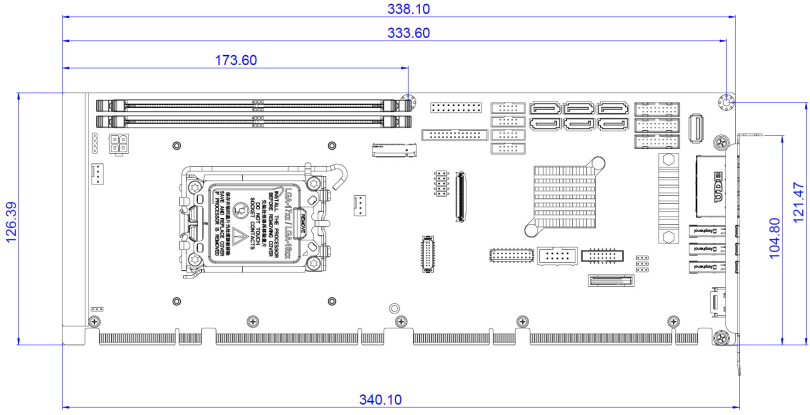


Figure 1-2: Board Dimensions

1.6 I/O Connectivity

I/O	Bracket	Onboard	Edge Connector	Remarks
VGA	—	Y	—	Cable w/ bracket optional
DVI-D	—	Y	—	Cable w/ bracket optional
LAN1/2 (RJ-45)	Y	—	—	Act/Link/ Speed LEDs
USB 3.2 Gen2 x1	3	—	—	
USB 3.2 Gen1 x1	—	7	—	Cable w/ bracket optional
USB 2.0	—	—	4	

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

I/O	Bracket	Onboard	Edge Connector	Remarks
COM	—	4	—	2.00” pitch
SATA	—	6	—	—
PCIe x4	—	—	Y	—
PCIe x16	—	—	Y	—
PCI 32bit/33MHz	—	—	Y	via ITE IT8892

Table 1-1: NuPRO-E47 I/O Connectivity

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

1.7 Rear Panel I/O Ports

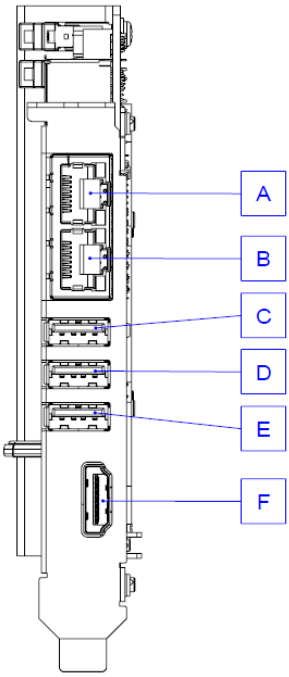


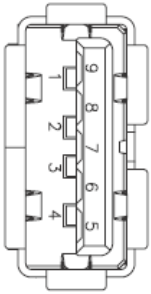
Figure 1-3: Rear Panel I/O Ports

	Connector	Description
A	LAN2 (RJ-45)	2.5 Gigabit Ethernet (supports Intel® AMT)
B	LAN1 (RJ-45)	2.5 Gigabit Ethernet
C/D/E	USB 3.x x3	USB 3.2 Gen2 x1 ports
F	HDMI	HDMI connector for LCD monitor

Table 1-2: Rear Panel I/O Legend

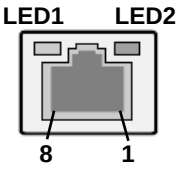
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

USB 3.0 Connectors



Pin #	Signal Name
1	USB3.0_P5VA
2	USB2_CMAN
3	USB2_CMAP
4	GND
5	USB3A_CMRXN
6	USB3A_CMRXP
7	GND
8	USB3A_CMTXN
9	USB3A_CMTXP

LAN (RJ-45) Ports

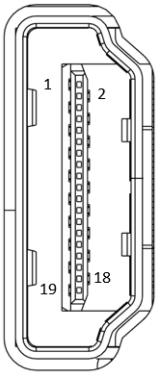


Pin #	10BASE-T/ 100BASE-TX	1000BASE-T
1	TX+	BI_DA+
2	TX-	BI_DA-
3	RX+	BI_DB+
4	--	BI_DC+
5	--	BI_DC-
6	RX-	BI_DB-
7	--	BI_DD+
8	--	BI_DD-

LED1		LED2	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	10/100 Mb connection
Yellow	Linked	Green	1 Gb connection
Blinking	Data Activity	Orange	2.5 Gb connection

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

HDMI Port



Pin #	Signal	Pin #	Signal
1	HDMI0_P2	11	GND
2	GND	12	HDMI0_CKN
3	HDMI0_N2	13	TP_HDMI0_CEC
4	DMI0_P1	14	NC
5	GND	15	HDMI0_SCL_SNK
6	HDMI0_N1	16	HDMI0_SDA_SNK
7	HDMI0_P0	17	GND
8	GND	18	P_+5V_S0_HDMI0
9	HDMI0_N0	19	HDMI0_HPD_SNK
10	HDMI0_CKP		

1.8 Board Layout

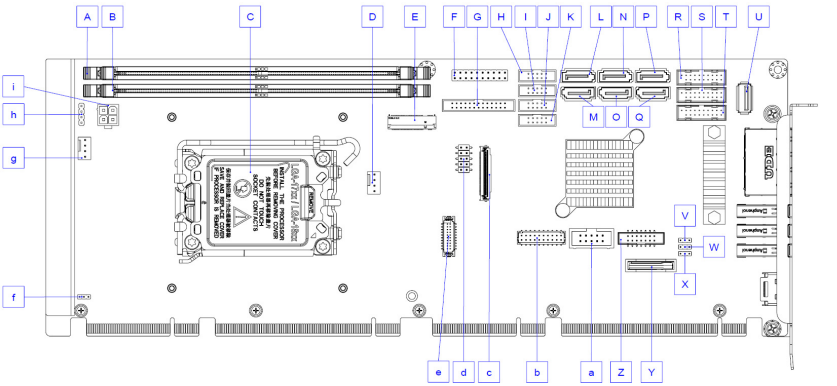


Figure 1-4: Board Layout

	Connector	Description
A	CN40	DIMM B0
B	CN38	DIMM A0
C	CN1	CPU
D	FAN1	CPU fan header
E	M2M1	M.2 M Key

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

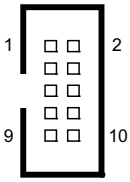
	Connector	Description
F	CN35	System panel header
G	CN22	LTP
H	CN7	COM #1
I	CN8	COM #2
J	CN9	COM #3
K	CN10	COM #4
L	CN43	SATA #5
M	CN44	SATA #6
N	CN32	SATA #3
O	CN33	SATA #4
P	CN30	SATA #1
Q	CN31	SATA #2
R	CN26	USB3.0 #4/5
S	CN27	USB3.0 #6/7
T	CN28	USB3.0 #8/9
U	USB4	USB3.0 #10
V	CN41	Clear CMOS
W	CN42	Clear RTC
X	CN2	SMBus pull high voltage jumper (reserved)
Y	BT1	RTC battery
Z	VGA1	VGA header
a	CN5	Audio header
b	CN34	DVI-D header
c	DB3	DB40
d	CN50	Debug header
e	DIO	8-bit GPIO header
f	CN49	PCI BUS 5V/3.3V jumper (reserved)
g	FAN2	System fan header
h	PCN1	IMVP IC FW update jumper
i	CN36	Power 4-pin (ATX 12V)

Table 1-3: Board Layout Legend

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

1.9 Onboard Connectors

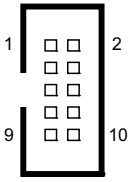
COM #1 to #4 Connector (RS-232) (CN7/8/9/10)



Pin #	RS-232 Signal
1	DCD
2	DSR
3	RXD
4	RTS
5	TXD
6	CTS
7	DTR
8	RI
9	GND
10	NC

	COM#1	COM#2	COM#3	COM#4
Connector	CN8	CN7	CN9	CN10
Pitch	2.00 mm	2.00 mm	2.00 mm	2.00 mm

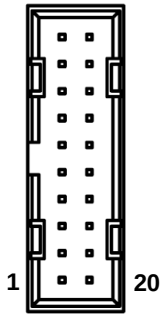
COM #1 to #2 Connector (RS-422/485) (CN7/8)



Pin #	RS-422	RS-485
1	TXD-	Data-
2	NC	NC
3	TXD+	Data+
4	NC	NC
5	RXD+	NC
6	NC	NC
7	RXD-	NC
8	NC	NC
9	GND	GND
10	NC	NC

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

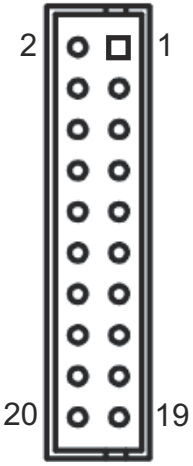
USB 3.0 Connectors (CN26/27/28)



Pin #	Signal	Pin #	Signal
1	P5V_USB3B	20	NC
2	S_USB3_RN3_R	19	P5V_USB3B
3	S_USB3_RP3_R	18	S_USB3_RN4_R
4	GND	17	S_USB3_RP4_R
5	S_USB3_TN3_R	16	GND
6	S_USB3_TP3_R	15	S_USB3_TN4_R
7	GND	14	S_USB3_TP4_R
8	S_USB2_N2_R	13	GND
9	S_USB2_P2_R	12	S_USB2_N3_R
10	S_USB_OC1#	11	S_USB2_P3_R

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

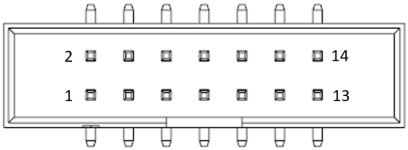
DVI-D Header (CN34)



Pin #	Signal
1	GND
2	GND
3	TMD_CKP
4	TMD_N2
5	TMD_CKN
6	TMD_P2
7	GND
8	GND
9	TMD_SCL
10	TMD_N1
11	TMD_SDA
12	TMD_P1
13	GND
14	GND
15	TMD_HPD
16	TMD_N0
17	+5V_PSU_DVI
18	TMD_P0
19	GND
20	GND

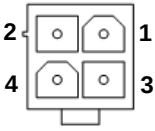
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

VGA Header (VGA1)



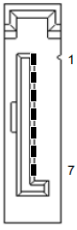
Pin #	Signal	Pin #	Signal
1	+5V	8	Green
2	DDC_DAT	9	GND
3	NC	10	Blue
4	DDC_CLK	11	GND
5	GND	12	HSYNC
6	Red	13	GND
7	GND	14	VSYNC

ATX 12V Power Connector (CN36)



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

Serial SATA Connectors (CN30 to 33, CN43, CN44)

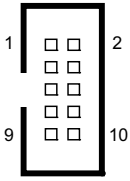


Pin #	Signal
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

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

Audio Header (CN5)

This connector is designed for use with the ADLINK DB-Audio2 daughter board.

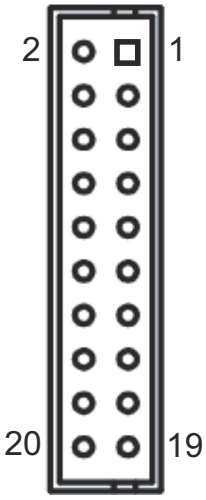


Pin #	Signal	Function
1	GND	Ground
2	AUD_BCLK	Audio Clock
3	GND	Ground
4	ICH_AUD_SDIN1	Audio Data Input
5	P5V	+ 5V
6	ICH_AUD_SDOUT	Audio Data Output
7	P5V_AUD	+ 5V
8	P3V3_DVDD	3.3V
9	AUD_SYNC	Audio Synchronous
10	AUD_RSTJ	Audio Reset

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

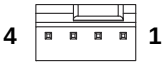
System Panel Header (CN35)

Connects to chassis-mounted buttons, speakers, and LEDs.



Pin #	Signal
1	GND
2	SPKR
3	RSTBTN
4	NC
5	NC
6	NC
7	GND
8	+5V_PSU
9	PWRBTN
10	NC
11	NC
12	GND
13	NC
14	KEYLOCK
15	HLED
16	PLED
17	HLED_POWER
18	NC
19	NC
20	+5V_PSU

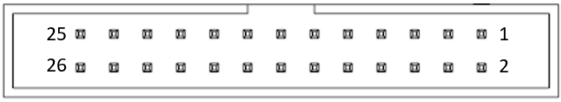
Fan Header (FAN1, FAN2)



Pin #	Signal
1	GND
2	Fan power (+12V)
3	Fan Tachometer
4	Fan Speed Control

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

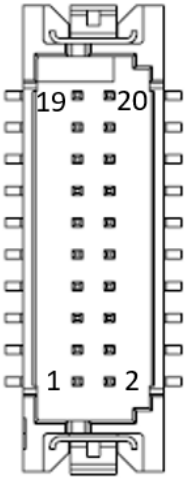
LTP Header (CN22)



Pin #	Signal	Pin #	Signal
1	STB-L	14	GND
2	AFD-L	15	PD6
3	PD0	16	GND
4	ERR-L	17	PD7
5	PD1	18	GND
6	INIT-L	19	ACK-L
7	PD2	20	GND
8	SLIN-L	21	BUSY
9	PD3	22	GND
10	GND	23	PE
11	PD4	24	GND
12	GND	25	SLCT
13	PD5	26	NC

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

8-bit GPIO Header (DIO).



Pin #	Signal
1	DO0
2	DO4
3	DO1
4	DO5
5	DO2
6	DO6
7	DO3
8	DO7
9	DI0
10	DI4
11	DI1
12	DI5
13	DI2
14	DI6
15	DI3
16	DI7
17	GND
18	GND
19	NC
20	NC

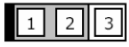
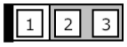
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.10 Jumpers & Switches

Clear CMOS Jumper (CN41)

To clear the BIOS settings (RTC RST#):

1. Power down and disconnect power from the system.
2. Short pins 2-3 on CN41.
3. Reconnect power and power up the system.
4. Wait 3 seconds or more.
5. Power down and disconnect power from the system.
6. Re-short pins 1-2, and power up the system..

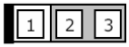
CMOS Status	Connection	CN41
Normal	1 – 2	
Clear CMOS	2 – 3	

Clear RTC Jumper (CN42)

To clear the BIOS settings and data/time (SRTCRST#):

1. Power down and disconnect power from the system.
2. Short pins 2-3 on CN42.
3. Reconnect power and power up the system.

After power up, remove the jumper cap from pins 2-3 and reinstall it to pins 1-2.

CMOS Status	Connection	CN42
Normal	1 – 2	
Clear CMOS	2 – 3	

To clear CMOS, clear both CMOS and RTC jumpers at the same time.

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

2 Getting Started

2.1 Package Contents

Before unpacking, check the shipping carton for any damage. If the shipping carton and/or contents are damaged, inform your dealer immediately. Retain the shipping carton and packing materials for inspection. Obtain authorization from the dealer before returning any product to ADLINK.

- NuPRO-E47
- SATA data cable with latch (x2)
- 2-port USB 3.0 cable with bracket (2.0 mm pitch)
- 2-port COM cable with bracket (2.0 mm pitch)
- Printer port cable with bracket (2.0 mm pitch)



The NuPRO-E47 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 grounded wrist strap when installing and/or servicing.

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

2.2 Driver Installation

Download requisite drivers, as follows, for your system from http://www.adlinktech.com and install.

- Intel® Chipset Device Software
- Intel® Management Engine Components
- Intel® UHD Graphics Driver
- Intel® SerialIO Driver
- Intel® Network Connections Drivers
- Intel® HID Event Filter
- Intel® Dynamic Tuning Technology
- Intel® GNA
- Intel® PPM
- Intel® Rapid Storage Technology
- Realtek Audio ALC262



In order to enable RAID or AHCI mode, you must pre-install the Intel® Rapid Storage Technology driver during the Windows* installation process. using the F6 installation method.

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

2.3 Optional Accessories

ADLINK offers optional accessories for NuPRO-E47. Please contact ADLNIK sales representatives for details.

- DB-Audio2 (high-definition audio) 91-49030-0010
- LGA1700 1U CPU cooler 32-21002-0000-A0
- LGA1700 2U CPU cooler 32-20976-1000-A0
- DVI-D/VGA cable with bracket 30-25309-0000-A0
- 4-port USB 3.0 cable with bracket 30-25305-0020-A0
- 2-port USB 3.0 cable (right angle) with bracket 30-25046-0110-A0
- 1-port COM cable with bracket 30-25003-2100
- DIO cable with bracket 30-25304-0000-B0

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

This page intentionally left blank.

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

Appendix A BIOS Setup

The following chapter describes basic navigation for the AMIBIOS® EFI BIOS setup utility.

A.1 Entering the BIOS

To enter the setup screen, follow these steps:

1. Power on the motherboard
2. Press < Delete > when the prompt appears:

A.2 Menu Structure

This section presents the seven primary menus of the BIOS Setup Utility. Use the following table as a quick reference for the contents of the BIOS Setup Utility. The subsections in this section describe the submenus and setting options for each menu item. The default setting options are presented in bold, and the function of each setting is described in the right hand column of the respective table.

► indicates a submenu
Gray text indicates info only

Bold italics font indicates default setting

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

Main	Advanced	Chipset	Security
- System Date - System Time	► CPU Configuration ► Power Management ► Serial Console Redirection ► USB Configuration ► TPM 2.0 Configuration ► Onboard Devices Configuration ► NCT6106D HW Monitor ► BIOS Watchdog Timer ► PCIe Express Configuration ► Miscellaneous ► Network Stake Configuration ► Intel® Ethernet Controller (3) I225-V ► Intel® Ethernet Controller (3) I225-LM	► System Agent (SA) Configuration ► PCH-I/O Configuration - PCH digital I/O device	- Administrator Password - User Password ► Secure Boot menu ► Security Configuration

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

Boot	Save & Exit	MEBx
- Setup Prompt Timeout - Bootup NumLock State - Quiet Boot - Fast Boot - Boot Option #1 - Boot Option #2 - Boot Option #3 - Boot Option #4 - Boot Option #5 - Boot Option #6 - Boot Option #7 - Boot Option #8 - Boot Option #9 - Boot Option #10 - Boot Option #11	- Save Changes and Exit - Discard Changes and Exit - Save Changes and Reset - Discard Changes and Reset - Save Changes - Discard Changes - Restore Defaults - Save as User Defaults - Restore User Defaults - Launch EFI Shell from file system device	- Intel(R) ME Password

A.3 Main Menu

The Main Menu provides read-only information about your system and also allows you to set the System Date and Time

Feature	Option	Description
System Date	xxx mm/dd/yyyy	Sets the date and time. Use Tab to switch between elements.
System Time	hh:mm:ss	

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

A.4 Advanced Menu

This menu contains the settings for most of the user interfaces in the system.

Feature	Description
▶ CPU Configuration	CPU Configuration
▶ Power Management	System ACPI Parameters
▶ Serial Console Redirection	Serial Console Redirection
▶ USB Configuration	USB Configuration Parameters
▶ TPM 2.0 Configuration	TPM 2.0 Configuration
▶ Onboard Devices Configuration	Onboard Device Parameters
▶ NCT6106D HW Monitor	Monitor hardware status
▶ BIOS Watchdog Timer	BIOS Watch Dog Configuration
▶ PCI Express Configuration	PCI Express Configuration settings
▶ Miscellaneous	Miscellaneous
▶ Network Stake	Network Stack Settings
▶ Intel® Ethernet Controller I225-V	Configure Gigabit Ethernet device parameters
▶ Intel® Ethernet Controller I225-LM	

A.4.1 CPU Configuration

Feature	Option	Description
Hyper-threading	***Enabled*** Disabled	Enable or Disable Hyper-Threading Technology

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

Feature	Option	Description
Active Performance-cores	***All*** 3 2 1	Number of P-cores to enable in each processor package. Note: Number of Cores and E-cores are looked at together. When both are {0,0}, Pcode will enable all cores.
Intel (VMX) Virtualization Technology	***Enabled*** Disabled	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Intel(R) SpeedStep(TM)	***Enabled*** Disabled	Allow more than two frequency ranges to be supported.
Intel(R) Speed Shift Technology	***Enabled*** Disabled	Enable/Disable Intel(R) Speed Shift Technology Support. Enabling will expose the CPPC v2 interface to allow for hardware controlled P-states.
Turbo Mode	***Enabled*** Disabled	Enable/Disable processor Turbo Mode (required EMTTM enabled too). AUTO means enabled.
C states	***Disabled*** Enabled	Enable/Disable CPU Power Management. Allows CPU to go to C states when it's not 100% utilized.
TCC Activation Offset	***0***	Offset from factory set Tcc activation temperature at which the Thermal Control Circuit must be activated. Tcc will be activated at: Tcc activation Temp – Tcc Activation Offset. Tcc Activation Offset range is 0 to 63

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

A.4.2 Power Management

Feature	Option	Description
Power Supply Unit	***ATX Mode*** Emulate AT Mode	Select Emulation AT or ATX function. If this option set to [Emulation AT], BIOS will report no suspend functions (S3 & S4) to ACPI OS. In windows XP, it will make OS show shutdown message during system shutdown. ATX: OS will turn off system power when shutdown.
State After G3	***Last State*** Power Off Last State	Specify what state to go to when power is re-applied after a power failure (G3 states).
RTC Wake system from S5	***Disabled*** Fixed Time Dynamic Time	Enable or disable System wake on alarm event. Select FixedTime, system will wake on the hr::min::sec specified. Select DynamicTime, system will wake on the current time + Increase minutes(S).
PCIe Wake	***Enabled*** Disabled	Enable or disable PCI Express wake capability.

A.4.3 Serial Console Redirection

Feature	Option	Description
Console Redirection	***Disabled*** Enabled	Console Redirection Enable or Disable

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

Feature	Option	Description
Terminal Type	***ANSI*** VT100 VT100Plus VT-UTF9	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100Plus: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
Bites per second	***115200*** 9600 19200 38400 57600	Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Data Bits	***8*** 7	Data Bites
Parity	***None*** Even Odd Mark Space	A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd: parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection.
Stop Bits	***1*** 2	Stop bits indicates the end of a serial data packet. (A stat bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may requires more than 1 stop bit.

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

Feature	Option	Description
Flow Control	***None*** Hardware RTS/CTS	Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses tow wires to send start/ stop signals.
VT-UTF8 Combo Key Support	***Enabled*** Enabled	Enabled VT-UTF8 Combination Key Support for ANSI/VT100 terminals.
Recorder Mode	***Disabled*** Enabled	With the mode enabled only text will be sent. This is to capture Terminal data.
Resolution 100x31	***Disabled*** Enabled	Enables or disables extended terminal resolution.
Putty KeyPad	***VT100*** LINUX XTERMR6 SCO ESCN VT400	Select FunctionKey and KeyPad on Putty.

A.4.4 USB Configuration

Feature	Option	Description
USB Mass Storage Driver Support	***Enabled*** Disabled	Enable/Disable USB Mass Storage Driver Support

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

Feature	Option	Description
USB transfer time-out	***20 sec*** 1 sec 5 sec 10 sec	The time-out value for Control, Bulk, and Interrupt transfers.
Device reset time-out	***20 sec*** 10 sec 30 sec 40 sec	USB mass storage device Start Unit command time-out.
Device power-up delay	***Auto*** Manual	Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor.

A.4.5 TPM 2.0 Configuration

Feature	Option	Description
Security Device Support	***Enable*** Disable	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available
SHA256 PCR Bank	***Enabled*** Disabled	Enable or Disable SHA256 PCR Bank
SHA384 PCR Bank	***Disabled*** Enabled	Enable or Disable SHA384 PCR Bank
Pending operation	***None*** TPM Clear	Schedule an Operation for the Security Device. NOTE: Your computer will reboot during restart in order to change State of Security Device.

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

Feature	Option	Description
Platform Hierarchy	***Enabled*** Disabled	Enable or Disable Platform Hierarchy
Storage Hierarchy	***Enabled*** Disabled	Enable or Disable Storage Hierarchy
Endorsement Hierarchy	***Enabled*** Disabled	Enable or Disable Endorsement Hierarchy
Physical Presence Spec Version	***1.3*** 1.2	Select to Tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests might not support 1.3.
PH Randomization	***Enabled*** Disabled	Enables or Disables Platform Hierarchy randomization. DO NOT ENABLE THIS QUESTION IN

A.4.6 Onboard Device Configuration

Feature	Option	Description
COM1	***Enabled*** Disabled	Enable or Disable Serial Port (COM)
COM1 Mode Control	***RS232*** RS422 RS485	Select COM1 mode. RS232, RS422, RS485
COM2	***Enabled*** Disabled	Enable or Disable Serial Port (COM)
COM2 Mode Control	***RS232*** RS422 RS485	Select COM1 mode. RS232, RS422, RS485
COM3	***Enabled*** Disabled	Enable or Disable Serial Port (COM)
COM4	***Enabled*** Disabled	Enable or Disable Serial Port (COM)

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

Feature	Option	Description
Parallel Port	***Enabled*** Disabled	Enable or Disable Parallel Port (LPT/LPTE)
Change Settings	***Auto*** IO=378h; IRQ=5; IO=378h; IRQ=5,6,7,9,10,11,12; IO=278h; IRQ=5,6,7,9,10,11,12; IO=3BCh; IRQ=5,6,7,9,10,11,12;	Select an optimal settings for Super IO Device
Device Mode	***STD Printer Mode*** SPP Mode EPP-1.9 and SPP Mode EPP-1.7 and SPP Mode ECP Mode ECP and EPP-1.9 Mode ECP and EPP-1.7 Mode	Change the Printer Port Mode
LAN #1	***Enabled*** Disabled	Enable/Disable
LAN #2	***Enabled*** Disabled	Enable/Disable

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

A.4.7 NCT6126H Hardware Monitor

Feature	Option	Description
CPU Fan Control Mode(Fan 1)	***SMART FAN IV*** Manual mode	Configure Fan Control Mode. Select Manual Mode, user can configure a fix fan duty. Select SMART FAN IV, user can configure 4 temperatures and 4 fan duties. Select Auto Mode, FAN will run at automatic speed with thermal.
Temperature 1	***25***	The value of temperature1.
FD/PRM 1	***140***	The value of Fan Duty/RPM when temperature is T1.
Temperature 2	***35***	The value of temperature2.
FD/PRM 2	***170***	The value of Fan Duty/RPM when temperature is T2.
Temperature 3	***45***	The value of temperature3.
FD/PRM 3	***200***	The value of Fan Duty/RPM when temperature is T3.
Temperature 4	***55***	The value of temperature4.
FD/PRM 4	***230***	The value of Fan Duty/RPM when temperature is T4.
Critical Temperature	***60***	Fan temperature critical value.
CPU Fan Control Mode(Fan 2)	***SMART FAN IV*** Manual mode	Configure Fan Control Mode. Select Manual Mode, user can configure a fix fan duty. Select SMART FAN IV, user can configure 4 temperatures and 4 fan duties. Select Auto Mode, FAN will run at automatic speed with thermal.
Temperature 1	***25***	The value of temperature1.

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

Feature	Option	Description
FD/PRM 1	***140***	The value of Fan Duty/RPM when temperature is T1.
Temperature 2	***35***	The value of temperature2.
FD/PRM 2	***170***	The value of Fan Duty/RPM when temperature is T2.
Temperature 3	***45***	The value of temperature3.
FD/PRM 3	***200***	The value of Fan Duty/RPM when temperature is T3.
Temperature 4	***55***	The value of temperature4.
FD/PRM 4	***230***	The value of Fan Duty/RPM when temperature is T4.
Critical Temperature	***60***	Fan temperature critical value.

A.4.8 BIOS Watchdog Timer

Feature	Option	Description
BIOS POST Watchdog	***Disabled*** Second Mode Minute Mode	1. Disable: Disable WatchDog Timer; 2. Second Mode: Enable Watchdog Timer in second mode; 3. Minute Mode: Enable Watchdog Timer in minute mode.

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

A.4.9 PCI Express Configuration

Feature	Option	Description
► PEG Port Configuration		PEG Port Options
► PCI Express Root Port B0		PCI Express Root Port B0 Settings.
Pcie Pll SCC	***Auto*** 0.0% - 2.0% Disable	Pcie Pll SSC percentage. AUTO - Keep hw default, no BIOS override. Range is 0.0%-2.0%.PEG Port Options
Clock B0 Assignment (REFCLK0)	***Enabled*** Platform-POR Disabled	Platform-POR = clock is assigned to PCIe port or LAN according to board layout. Enabled = keep clock enabled even if unused. Disabled = Disable clock.
Clock B0 Assignment (REFCLK1)	***Enabled*** Platform-POR Disabled	
Clock B0 Assignment (REFCLK2)	***Enabled*** Platform-POR Disabled	
Clock B0 Assignment (REFCLK3)	***Enabled*** Platform-POR Disabled	

A.4.9.1 PEG Port Configuration

Feature	Option	Description
PCI Express Root Port 1	***Enabled*** Disabled	Control the PCI Express Root Port

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

Feature	Option	Description
PCIe Speed	***Auto*** Gen1 Gen2 Gen3 Gen4 Gen5	Configure PCIe Speed
PEG1 Max Payload Size	***256*** 128	Select PEG Max Payload Size; Choose Auto(Default Device Capability) or force to 128/256 Bytes
PCI Express Root Port 2	***Enabled*** Disabled	Control the PCI Express Root Port
PCIe Speed	***Auto*** Gen1 Gen2 Gen3 Gen4 Gen5	Configure PCIe Speed
PEG2 Max Payload Size	***256*** 128	Select PEG Max Payload Size; Choose Auto(Default Device Capability) or force to 128/256 Bytes
PCI Express Root Port 3	***Enabled*** Disabled	Control the PCI Express Root Port
PCIe Speed	***Auto*** Gen1 Gen2 Gen3 Gen4 Gen5	Configure PCIe Speed
PEG3 Max Payload Size	***256*** 128	Select PEG Max Payload Size; Choose Auto(Default Device Capability) or force to 128/256 Bytes

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

A.4.9.2 PCI Express Root Port B0

Feature	Option	Description
PCI Express Root Port B0	***Enabled*** Disabled	Control the PCI Express Root Port
PCIe Speed	***Auto*** Gen1 Gen2 Gen3 Gen4 Gen5	Configure PCIe Speed
Detect Non-Compliance Device	***Disabled*** Enabled	Detect Non-Compliance PCI Express Device. If enable, it will take more time at POST time.
Advanced Error Reporting	***Enabled*** Disabled	Advanced Error Reporting Enable/ Disable.
Max Payload	***256*** 128 512	Max Payload settings

A.4.10 Miscellaneous

Feature	Option	Description
Control Iommu Pre-boot Behavior	***Disable IOMMU*** Enable IOMMU during boot	Enable IOMMU in Pre-boot environment (If DMAR table is installed in DXE and If VTD_INFFO_PPI is installed in PEI.)
DMA Control Guarantee	***Disabled*** Enabled	Enable/Disable DMA_CONTROL_GUARANTEE bit

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

Feature	Option	Description
Above 4GB MMIO BIOS assignment	***Enabled*** Disabled	Enable/Disable above 4GB MemoryMappedIO BIOS assignment. This is enabled automatically when Aperture Size is set to 2048MB.

A.4.11 Network Stack Configuration

Feature	Option	Description
Network Stack	***Disabled*** Enabled	Enable/Disable UEFI Network Stack
IPv4 PXE Support	***Disabled*** Enabled	Enable/Disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.
IPv4 HTTP Support	***Disabled*** Enabled	Enable/Disable IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available.
IPv6 PXE Support	***Disabled*** Enabled	Enable/Disable IPv6 PXE boot support. If disabled, IPv6 PXE boot support will not be available.
IPv6 HTTP Support	***Disabled*** Enabled	Enable/Disable IPv6 HTTP boot support. If disabled, IPv6 HTTP boot support will not be available.
PXE boot wait time	***0***	Wait time in seconds to press ESC key to abort the PXE boot. Use either +/- or numeric keys to set the value.
Media detect count	***1***	Number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.

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

A.5 Chipset

Feature	Option	Description
► System (SA) Configuration		System Agent (SA) Parameters
► PCH-IO Configuration		PCH Parameters
PCH digital I/O device	***Disabled*** Enabled	Disable/Enable ACPI GPIO Device support for PCH digital I/O and user LED

A.5.1 System Agent (SA) Configuration

Feature	Option	Description
► Memory Configuration		Memory Configuration Parameters
► Graphics Configuration		Graphics Configuration
► VMD setup menu		VMD Configuration settings
► NVMe Configuration		NVMe Device Options Settings
NVMe Controller	***Enabled*** Disabled	Control the PCI Express Root Port
VT-d	***Enabled*** Disabled	VT-d capability

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

A.5.1.1 Graphic Configuration

Feature	Option	Description
Primary Display	***IGFX*** Auto PEG Slot PCH PCI	Select which of IGFX/PEG/PCI Graphics device should be Primary Display or select HG for Hybrid Gfx.
Internal Graphics	***Enabled*** Auto Disabled	Keep IGFX enabled based on the setup options.
GTT Size	***8MB*** 2MB 4MB	Select the GTT Size
Aperture Size	***256MB*** 128MB 512MB 1024MB 2048MB	Select the Aperture Size Note: Above 4GB MMIO BIOS assignment is automatically enabled when selecting > 2048MB aperture. To use this feature, please disable CSM Support.
DVMT Pre-Allocated	***32M*** 4M 8M 16M 64M	Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device

A.5.1.2 VMD Setup Menu

Feature	Option	Description
Enable VMD controller	***Disabled*** Enabled	Enable/Disable to VMD controller

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

Feature	Option	Description
Enable VMD Global Mapping	***Enabled*** Disabled	Enable/Disable to VMD Global Mapping
RAID0	***Enabled*** Disabled	Enable/Disable RAID0 support
RAID1	***Enabled*** Disabled	Enable/Disable RAID1 support
RAID5	***Enabled*** Disabled	Enable/Disable RAID5 support
RAID10	***Enabled*** Disabled	Enable/Disable RAID10 support
Intel Rapid Recovery Technology	***Enabled*** Disabled	Enable/Disable Intel Rapid Recovery Technology.
RRT volumes can span internal and eSATA device	***Enabled*** Disabled	Enable/Disable RRT volumes can span internal and eSATA drives
Intel(R) Optane(TM) Memory	***Enabled*** Disabled	Enable/Disable System Acceleration with Intel(R) Optane(TM) Memory feature.

A.5.2 PCH-IO Configuration

Feature	Option	Description
► SATA Configuration		SATA Device Options Settings
► USB Configuration		USB Configuration Settings

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

A.5.2.1 SATA Configuration

Feature	Option	Description
SATA Mode Selection	***AHCI***	Determines how SATA controller(s) operate.
SATA Controller Speed	***Gen3*** Default Gen1 Gen2	Indicates the maximum speed the SATA controller can support.
SATA HDD 0	***Enabled*** Disabled	Enable or Disable SATA Port
SATA HDD 1	***Enabled*** Disabled	
SATA HDD 2	***Enabled*** Disabled	
SATA HDD 3	***Enabled*** Disabled	
SATA HDD 4	***Enabled*** Disabled	
SATA HDD 5	***Enabled*** Disabled	

A.5.2.2 USB Configuration

Feature	Option	Description
USB Port Disable Override	***Disable Link*** Select Per-Pin	Selectively Enable/Disable the corresponding USB port from reporting a Device Connection to the controller.

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

Feature	Option	Description
USB SS Physical Connector #0	***Enabled*** Disabled	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into the connector will not be detected by BIOS or OS.
USB SS Physical Connector #1	***Enabled*** Disabled	
USB SS Physical Connector #2	***Enabled*** Disabled	
USB SS Physical Connector #3	***Enabled*** Disabled	
USB SS Physical Connector #4	***Enabled*** Disabled	
USB SS Physical Connector #5	***Enabled*** Disabled	
USB SS Physical Connector #6	***Enabled*** Disabled	
USB SS Physical Connector #7	***Enabled*** Disabled	
USB SS Physical Connector #8	***Enabled*** Disabled	
USB SS Physical Connector #9	***Enabled*** Disabled	

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

Feature	Option	Description
USB HS Physical Connector #0	***Enabled*** Disabled	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plug into the connector will not be detected by BIOS or OS.
USB HS Physical Connector #1	***Enabled*** Disabled	
USB HS Physical Connector #2	***Enabled*** Disabled	
USB HS Physical Connector #3	***Enabled*** Disabled	
USB HS Physical Connector #4	***Enabled*** Disabled	
USB HS Physical Connector #5	***Enabled*** Disabled	
USB HS Physical Connector #6	***Enabled*** Disabled	
USB HS Physical Connector #7	***Enabled*** Disabled	
USB HS Physical Connector #8	***Enabled*** Disabled	
USB HS Physical Connector #9	***Enabled*** Disabled	

A.6 Security

Feature	Option	Description
Administrator Password		Set Administrator Password
User Password		Set User Password

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

Feature	Option	Description
► Secure Boot menu		Secure Boot configuration
► Security Configuration		Security Configuration settings

A.6.1 Secure Boot menu

Feature	Option	Description
Secure Boot Control	***Disabled*** Enabled	Secure Boot feature is Active if Secure Boot is Enabled, Platform key (PK) is enrolled and the system is in User mode. The mode change requires platform reset.
Secure Boot Mode	***Standard*** Custom	Secure Boot mode options: Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication

A.6.2 Security Configuration

Feature	Option	Description
BIOS Lock	***Enabled*** Disabled	Enable/Disable the PCH BIOS Lock Enable feature. Required to be enabled to ensure SMM protect of flash.

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

A.7 Boot

Feature	Option	Description
Setup Prompt Timeout	***1***	Number of seconds to wait for setup activation key. The maximum value is 8.
Bootup NumLock State	***Off*** On	Select the keyboard NumLock state
Quiet Boot	***Enabled*** Disabled	Enables or disables Quiet Boot option
Fast Boot	***Disable Link*** Enabled	Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.
Boot Option #1	***Hard Disk*** NVME UEFI AP CD/DVD SD USB Hard Disk USB CD/DVD USB Key USB Floppy USB Lan Network Disabled	Sets the system boot order

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

Feature	Option	Description
Boot Option #2	***NVME*** Hard Disk UEFI AP CD/DVD SD USB Hard Disk USB CD/DVD USB Key USB Floppy USB Lan Network Disabled	Sets the system boot order
Boot Option #3	***UEFI AP*** Hard Disk NVME CD/DVD SD USB Hard Disk USB CD/DVD USB Key USB Floppy USB Lan Network Disabled	Sets the system boot order
Boot Option #4	***CD/DVD*** Hard Disk NVME UEFI AP SD USB Hard Disk USB CD/DVD USB Key USB Floppy USB Lan Network Disabled	Sets the system boot order

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

Feature	Option	Description
Boot Option #5	***SD*** Hard Disk NVME UEFI AP CD/DVD USB Hard Disk USB CD/DVD USB Key USB Floppy USB Lan Network Disabled	Sets the system boot order
Boot Option #6	***USB Hard Disk*** Hard Disk NVME UEFI AP CD/DVD SD USB CD/DVD USB Key USB Floppy USB Lan Network Disabled	Sets the system boot order
Boot Option #7	***USB CD/DVD*** Hard Disk NVME UEFI AP CD/DVD SD USB Hard Disk USB Key USB Floppy USB Lan Network Disabled	Sets the system boot order

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

Feature	Option	Description
Boot Option #8	***USB Key*** Hard Disk NVME UEFI AP CD/DVD SD USB Hard Disk USB CD/DVD USB Floppy USB Lan Network Disabled	Sets the system boot order
Boot Option #9	***USB Floppy*** Hard Disk NVME UEFI AP CD/DVD SD USB Hard Disk USB CD/DVD USB Key USB Lan Network Disabled	Sets the system boot order
Boot Option #10	***USB Lan*** Hard Disk NVME UEFI AP CD/DVD SD USB Hard Disk USB CD/DVD USB Key USB Floppy Network Disabled	Sets the system boot order

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

Feature	Option	Description
Boot Option #11	***Network*** Hard Disk NVME UEFI AP CD/DVD SD USB Hard Disk USB CD/DVD USB Key USB Floppy USB Lan Disabled	Sets the system boot order

A.8 Save & Exit

Feature	Description
Save Changes and Exit	Exit system setup after saving the changes.
Discard Changes and Exit	Exit system setup without saving any changes.
Save Changes and Reset	Reset the system after saving the changes.
Discard Changes and Reset	Reset the system without saving any changes.
Save Changes	Save Changes done so far to any of the setup options.
Discard Changes	Discard Changes done so far to any of the setup options.
Restore Defaults	Restore/Load Default values for all the setup options.

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

Feature	Description
Save as User Defaults	Save the changes done so far as User Defaults.
Restore User Defaults	Restore the User Defaults to all the setup options
Launch EFI Shell from file system device	Attempts to Launch EFI Shell application (Shell.efi) from one of the available file system devices

A.9 MEBx

Feature	Option	Description
Intel(R) ME Password		MEBx Login

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

Important Safety Instructions

For user safety, please read and follow all **instructions**, **WARNINGS**, **CAUTIONS,** and **NOTES** marked in this manual and on the associated equipment before handling/operating the equipment.

- Read these safety instructions carefully.
- Keep this user's manual for future reference.
- Read the specifications section of this manual for detailed information on the operating environment of this equipment.
- When installing/mounting or uninstalling/removing equipment:
  - Turn off power and unplug any power cords/cables.
- To avoid electrical shock and/or damage to equipment:
  - Keep equipment away from water or liquid sources;
  - Keep equipment away from high heat or high humidity;
  - Keep equipment properly ventilated (do not block or cover ventilation openings);
  - Make sure to use recommended voltage and power source settings;
  - Always install and operate equipment near an easily accessible electrical socket-outlet;
  - Secure the power cord (do not place any object on/over the power cord);
  - Only install/attach and operate equipment on stable surfaces and/or recommended mountings; and,
  - If the equipment will not be used for long periods of time, turn off and unplug the equipment from its power source.

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

- Never attempt to fix the equipment. Equipment should only be serviced by qualified personnel.

A Lithium-type battery may be provided for uninterrupted, backup or emergency power.

WARNING:

Risk of explosion if battery is replaced with one of an incorrect type. Dispose of used batteries appropriately.

- Equipment must be serviced by authorized technicians when:
  - The power cord or plug is damaged;
  - Liquid has penetrated the equipment;
  - It has been exposed to high humidity/moisture;
  - It is not functioning or does not function according to the user's manual;
  - It has been dropped and/or damaged; and/or it has an obvious sign of breakage.



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

Getting Service

Ask an Expert: https://www.adlinktech.com/en/Askanexpert

ADLINK Technology, Inc.
No.66 Huaya 1st Road, Guishan District
Taoyuan City 333, Taiwan
Tel: +886-3-216-5088
Fax: +886-3-328-5706
Email: service@adlinktech.com

Ampro ADLINK Technology, Inc.
5215 Hellyer Avenue, #110
San Jose, CA 95138, USA
Tel: +1-408-360-0200
Toll Free: +1-800-966-5200 (USA only)
Fax: +1-408-360-0222
Email: info@adlinktech.com

ADLINK Technology (China) Co., Ltd.
300 Fang Chun Rd., Zhangjiang Hi-Tech Park
Pudong New Area, Shanghai, 201203 China
Tel: +86-21-5132-8988
Fax: +86-21-5132-3588
Email: market@adlinktech.com

ADLINK Technology GmbH
Hans-Thoma-Strasse 11
D-68163 Mannheim, Germany
Tel: +49-621-43214-0
Fax: +49-621 43214-30
Email: emea@adlinktech.com

Please visit the Contact page at www.adlinktech.com for information on how to contact the ADLINK regional office nearest you.

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

ADLINK Technology, Inc. (French Liaison Office)
Address: 6 allée de Londres, Immeuble Ceylan
91940 Les Ulis, France
Tel: +33 (0) 1 60 12 35 66
Fax: +33 (0) 1 60 12 35 66
Email: france@adlinktech.com

ADLINK Technology Japan Corporation
Address: 〒101-0045 東京都千代田区神田鍛冶町 3-7-4
神田 374 ビル 4F
KANDA374 Bldg. 4F, 3-7-4 Kanda Kajicho,
Chiyoda-ku, Tokyo 101-0045, Japan
Tel: +81-3-4455-3722
Fax: +81-3-5209-6013
Email: japan@adlinktech.com

ADLINK Technology, Inc. (Korean Liaison Office)
Address: 경기도 성남시 분당구 수내로 46 번길 4 경동빌딩 2 층
(수내동 4-4 번지) (우) 463-825
2F, Kyungdong B/D, 4 Sunae-ro 46 beon-gil
Bundang-gu, Seongnam-si, Gyeonggi-do, Korea, 463-825
Toll Free +82-80-800-0585
Tel +82-31-786-0585
Fax +82-31-786-0583
Email: korea@adlinktech.com

ADLINK Technology Singapore Pte. Ltd.
Address: 84 Genting Lane #07-02A, Cityneon Design Centre
Singapore 349584
Tel: +65-6844-2261
Fax: +65-6844-2263
Email: singapore@adlinktech.com

ADLINK Technology Singapore Pte. Ltd. (Indian Liaison Office)
Address: #50-56, First Floor, Spearhead Towers
Margosa Main Road (between 16th/17th Cross)
Malleswaram, Bangalore - 560 055, India
Tel: +91-80-65605817, +91-80-42246107
Fax: +91-80-23464606
Email: india@adlinktech.com

ADLINK Technology, Inc. (Israeli Liaison Office)
Address: 27 Maskit St., Corex Building
PO Box 12777
Herzliya 4673300, Israel
Tel: +972-54-632-5251
Fax: +972-77-208-0230
Email: israel@adlinktech.com

ADLINK Technology, Inc. (UK Liaison Office)
Tel: +44 774 010 59 65
Email: UK@adlinktech.com

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