

EMB-2121

10*10 主板 USER Manual V1.1

USER MANUAL 用户手册





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▲ 安全须知

1	产品使用前,务必仔细阅读产品说明书。
2	对未准备安装的板卡, 应将其保存在防静保护袋中。
3	在从包装袋中拿板卡前,应将手先置于接地金属物体上一会儿,以释放身体及手中的静电。
4	在拿板卡时,需佩带静电保护手套,并且应该养成只触及其边缘部份的习惯。
5	主板与电源连接时,请确认电源电压。
6	为避免人本被电击或产品被损坏,在每次对主板、板卡进行拔插或生新配置时须先 关闭交流电源或将交流电源线从电源插座中拔掉。
7	在对板卡进行搬动前,先将交流电源线从电源插座中拔掉。
8	当您需连接或拔除任何设备前,须确定所有的电源线事先已被拔掉。
9	为避免频繁开关机对产品造成不必要的损伤,关机后,应至少等待30秒后再开机。
10	设备在使用过程时出现异常情况,请找专业人员处理。





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第一章 产品介绍

1.1 产品规格

Model			EMB-2121	
配置 Item	规格 Specification	描述 Describe		
	处理器 CPU	i3-1220P	i5-1250P	i7-1270P
	内核数 Core Number	10C/12T	12C/16T	12C/16T
处理器	最高主频 Max. Speed	3.3 GHz	3.3 GHz	3.5 GHz
Processor System	<mark>三级缓存</mark> L3 Cache	12M	12M	18M
	功耗 TDP (W)	28W	28W	28W
	BIOS	AMI EFI with CMOS backup in 32MB SPI BIOS		
	规格 Technology	规格 DDR5 4800MHz Technology DDR5 4800MHz 最大容量 64G Max. Capacity 64G 插槽 2*SO-DIMM		
内存 Memory	最大容量 Max. Capacity			
	插槽 Socket			
存储 Storage	SATA	1*SATA3.0 2Pin 5V		
扩展插槽 Expansion Slot	М.2	1*M.2 M-Key 2280(N 1*M.2 E-Key(PCle+U	IVMe PCle 4.0 x4 or S SB2.0 协议,WIFI/BT)	ATA3.0 协议)
	最多显示 Multiple Display	3Ports		
E_	后面板 Rear I/O	1*HDMI2.0 1*DP++		
<u>आर</u> ंग्र Graphics	插针 Header Pin	1*eDP		
	分辨率 Resolution	HDMI2.0:4096*2160@60Hz DP:4096*2160@60Hz eDP:4096*2160@120Hz HDR		
	前面板 Front I/O	4*USB3.2		
озв / туре-с	插针 Header Pin	1*USB2.0(2.0mm_2*5Pin)		
串口 сом	插针 Header Pin	1*RS232/485/422(2.0mm)		



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音频	前面板	二合一音频孔	
Audio	Front I/O		
	控制器	Integrated 10/100/1000M/Adaption	
以太网	Controller	(Intel® Ethernet Controller i211)	
Ethernet	后面板	2*R I45	
	Rear I/O		
	按钮	1*Power Button	
其它	Button	1*Reset Button	
Others	ТРМ	TPM2.0(Option)	
由海	电源类型	DC 12-19V, 150W	
电源	Power Type	1*DC Jack	
Power Requirements	连接器	适配器供电	
	Connector type		
	工作温度	-20~60°C	
环境	Operating Temperature		
Environment	存储温度	-40~85°C	
	Storage Temperature		
物理特性	尺寸 Dimensions	100*100mm	
Physical	PCB 颜色 Color	Green	
操作系统	Windows	Support	
OS	Linux	Support	

1.2 功能框图



1.3 产品照片

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第二章 安装说明

2.1 接口/尺寸图

下图为主板的接口图。安装设备时,请对照此示意图并详细阅读下面的说明,安装组件过程中必须小心,对于有些部件,如果安装不正确,设备将不能正常工作。



正面接口



反面接口

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2.2 硬件安装

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▲ 注意:操作时,请戴上防静电手套,因为静电有可能会损坏部件。

本主板关键元器件都是集成电路,而这些元件很容易因为遭受静电的影响而损坏。因此,请在正式安装主板之前, 请先做好以下的准备:

- 1. 拿主板时手握板边,尽可能不触及元器件和插头插座的引脚。
- 2. 接触集成路元件 (如 CPU、RAM 等)时,最好戴上防静电手环/手套。
- 3. 在集成电路元件未按装前,需将元件放在防静电垫或防静电袋内。
- 4. 在确认电源的开关处于断开位置后,再插上电源插头。

2.3 跳线功能设置

在进行硬件设备安装之前请按照您的需要对相应的跳线进行设置。

提示:如何识别跳线、接口的第1针脚,观察插头插座旁边的文字标记,会用"1"或加粗的线条或三角符号表示; 看看背面的焊盘,方型焊盘为第1针脚;所有跳线的针脚1旁都有1个白色箭头。

JBAT1: 1x2pin, 清CMOS 跳线设置

	设置	功能
1 🔳 🔴 2	1-2 短路	插掉电池, 1-2 清除 CMOS 内容, 所有 BIOS 设置恢复成出厂 值
	1-2 开路	插上电池正常工作状态(Default)



2.4 插针接口定义

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F_USB1: USB2.0, 2.0mm 间距 2*5 插针

	管脚	信号名称	管脚	信号名称
10	1	5V	2	5V
	3	USB_N0	4	USB_N1
	5	USB_P0	6	USB_P1
9	7	GND	8	GND
	9	NC	10	GND

JCOM1 插针串口: 2.0mm 间距 2*5 插针

-	管脚	信号名称	管脚	信号名称
	1	DCDN	2	SINN
	3	SOUTN	4	DTRN
	5	GND	6	DSRN
1 9	7	RTSN	8	CTSN
	9	RIN	10	NC

eDP1 接口: 0.5mm_1*40Pin

管脚	信号名称	管脚	信号名称
1	NC	21	LVDS-VDD
2	GND	22	NC
3	TMDS Data3-	23	GND(VDD)
4	TMDS Data3+	24	GND(VDD)
5	GND	25	GND(VDD)
6	TMDS Data2-	26	GND(VDD)
7	TMDS Data2+	27	HPD
8	GND	28	GND(BKL)
9	TMDS Data1-	29	GND(BKL)

CPU_FAN1/SYS_FAN1: CPU 和系统风扇座子

۰	管脚	信号名称
	1	GND
	2	+5V
	3	FAN_IO
	4	FAN_PWM



SATA 接口: SATA1 7Pin 数据座

	管脚	信号名称	管脚	信号名称
	1	GND	2	SATA_TX_P
└┲┙┲╥╥┲╥╥┲╺┲┙	3	SATA_TX_N	4	GND
1	5	SATA_RX_N	6	SATA_RX_P
	9	GND		

M.2 PCIe 卡槽

数量	卡槽	类 型	协 议
1	WIFI/BT1	E_KEY	WiFi/蓝牙
1	M2_KEY_M	M_KEY	4x PCle



第三章 BIOS 设置说明

Setup Utility User Interface

This document describes BIOS Setup Utility user interface.

3.1 Main Screen

The Main screen is the first screen that is displayed when the BIOS Setup is entered.



Setup Item	Options	Help Text	Comments
BIOS Information			
BIOS Vendor			Displays BIOS vendor.
			Displays the current BIOS version:
			Format: AAAABBC
Project Version			AAAAA = Project name
			BB = BIOS revision
			C = Customer number
Build Date and Time			Displays the current BIOS build date.
A			Displays password level that setup is
			running in: Administrator or User.
Access Level			With no passwords set,
			Administrator is the default mode.



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Setup Item	Options	Help Text	Comments				
Process Information	Process Information						
CPU XXXXX			Displays the CPU BrandString installed in the system.				
Memory Information							
Total Memory			Displays the total physical memory installed in the system, MB Unit.				
Memory Speed							
System Language	English	Choose the system default language.					
System Date	[Day of week MM/DD/YYYY]	Set and display the Date					
System Time	[HH:MM:SS]	Set and display the Time.					



3.2 Advanced Screen

The Advanced screen provides an access point to configure several options. On this screen, the user selects the option that is to be configured.

Aptio Setup – AMI Main <mark>Advanced</mark> Chipset Security Boot Save & Exit	
<pre>Main Advanced Chipset Security Boot Save & Exit CPU Configuration Trusted Computing ACCPI Settings Super ID Configuration Hardware Monitor AMI Graphic Output Protocol Policy SATA Configuration USB Configuration Network Stack Configuration CSM Configuration NWMe Configuration NWMe Configuration LVDS Panel </pre>	Set System WatchDog Parameters. ++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2 22 1289 Copyright (F) 201	24 AMT

Setup Item	Options	Help Text	Comments
CPU Configuration		CPU Configuration Parameters.	
Trusted Computing	Trusted Computing Settings.		
ACPI Settings		System ACPI Parameters.	
Super IO Configuration		System Super IO chip Parameters.	
HW Monitor		Monitor hardware stats.	
AMI Graphic Output			
Protocol Policy			
SATA Configuration		SATA Devices Configuration.	
USB Configuration		USB Configuration Parameters.	
Network Stack		Enable/Disable UEFI Network Stack.	
configuration			
CSM Configuration		CSM configuration: Enable/Disable,	
		Option ROM execution settings, etc.	
NVMe Configuratioin		NVMe Device Options Settings.	
Watchdog configuration		Set System WatchDog Parameters.	
OemSetup Settings		OemSetup Parameters.	



3.2.1 CPU Configuration Screen

The CPU Configuration screen allows the user to view the processor information, and to enable or disable processor options. To access this screen from the Main screen, choose *Advanced > CPU Configuration*.

Advanced	Aptio Setup — AMI	
CPU Configuration		To turn on/off the MLC
Type ID Speed VMX SMX/TXT Hardware Prefetcher Adjacent Cache Line Prefetch Intel (VMX) Virtualization Technology AVX AVX3 Active Processor Cores Hyper-Threading CPU - Power Management Control	11th Gen Intel(R) Core(TM) i5-11500H @ 2.90GHz 0x806D1 2900 MHz Supported Supported [Enabled] [Enabled] [Enabled] [Enabled] [A11] [Enabled]	<pre>**: Select Screen **: Select Screen **: Select Item Enter: Select */-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Versio	n 2.21.1278 Copyright (C) 2	024 AMI



Advanced	Aptio Setup – AMI	
<pre>CPU - Power Management Control Boot performance mode Intel(R) SpeedStep(tm) Turbo Mode ► Config TDP Configurations C states Tcc Activation Offset</pre>	[Max Non-Turbo] [Enabled] [Enabled] [Disabled] 15	Select the performance state that the BIOS will set starting from reset vector.
		<pre>f4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version (2.21.1278 Copyright (C) 2024	AMI
Advanced	Aptio Setup – AMI	
Config TDP Configurations		Applies TDP initialization settings based on non-cTDP or
Enable Configurable TDP Configurable TDP Boot Mode Configurable TDP Lock CTDP BIOS control ConfigTDP Levels ConfigTDP Turbo Activation Ratio Power Limit 1 Power Limit 2	[Applies to cTDP] [Nominal] [Disabled] [Disabled] 2 28 (Unlocked) 45.0W (MSR:45.0) 83.0W (MSR:83.0)	cTDP. Default is 1: Applies to cTDP; if 0 then applies non-cTDP and BIOS will bypass cTDP initialzation flow
Enable Configurable TDP Configurable TDP Boot Mode Configurable TDP Lock CTDP BIOS control ConfigTDP Levels ConfigTDP Turbo Activation Ratio Power Limit 1 Power Limit 2 Custom Settings Nominal ConfigTDP Nominal Power Limit 1 Power Limit 2 Power Limit 2 Power Limit 2 Custom Settings Down ConfigTDP Turbo Activation Ratio Custom Settings Down ConfigTDP Level1 Power Limit 1 Power Limit 2 Power Limit 2 Power Limit 2 Power Limit 1 Power Limit 1	[Applies to cTDP] [Nominal] [Disabled] [Disabled] 2 28 (Unlocked) 45.0W (MSR:45.0) 83.0W (MSR:83.0) Ratio:29 TAR:28 PL1:13.0W 0 0 [0] 0 Ratio:24 TAR:23 PL1:3.0W 0 0 [0] 0	<pre>cTDP. Default is 1: Applies to cTDP; if 0 then applies non-cTDP and BIOS will bypass cTDP initialzation flow ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>



Setup Item	Options	Help Text	Comments
CPU Configuration		'	
Туре			
ID			
Speed			
VMX			
SMX/TXT			
Hardware Prefetcher	Enabled Disabled	To turn on/off the MLC streamer prefetcher.	
Adjacent Cache line Prefetch	Enabled Disabled	To turn on/off prefetching of adjacent cache lines.	
Intel(VMX) Technology	Enabled Disabled	When enabled, a VMM can utilize the additional hardware capabilities provided by vanderpool technology.	
AVX	Enabled		
AVX3	Enabled		
Active Processer Cores	All 1 2 3	Number of cores to enable in each processor package.	
Hyper-Threading	Enabled		
CPU - Power Manageme	nt Control	1	
Boot performance mode	Max Non- Turbo Max battery Turbo Performance	Select the performance state that the BIOS will set starting from reset vector.	
Intel® SpeedStep™	Enabled Disabled	Allows more than two frequency ranges to be supported.	
Turbo Mode	Enabled Disabled	Enabled/Disabled processor Turbo Mode.	
Config TDP configuratio	ns	1	
C states	Disabled		
Tcc Activation Offset	15		



3.2.2 Trusted Computing

The screen allows the user to set the Trusted Computing(TPM) parameters. To access this screen from the Main screen, choose *Advanced > Trusted Computing*.

Advanced	Aptio Setup — AMI	
TPM 2.0 Device Found Firmware Version: Vendor:	600.7 INTC	Enables or Disables BIOS support for security device. O.S. will not show Security
Security Device Support Active PCR banks Available PCR banks	(Enable) SHA256 SHA-1,SHA256,SHA384,SM3	INTIA interface will not be available.
SHA-1 PCR Bank SHA256 PCR Bank SHA384 PCR Bank SM3_256 PCR Bank	[Disabled] [Enabled] [Disabled] [Disabled]	
Pending operation Platform Hierarchy Storage Hierarchy Endorsement Hierarchy TPM 2.0 UEFI Spec Version Physical Presence Spec Version TPM 2.0 InterfaceType Device Select Disable Block Sid	[None] [Enabled] [Enabled] [TCG_2] [1.3] [CRB] [Auto] [Disabled]	<pre>++: Select Screen f4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version	2 21 1278 Conunight (C) 202	4 QMT



3.2.3 ACPI Settings Screen

The ACPI Settings screen allows the user to set the system ACPI parameters. To access this screen from the Main screen, choose *Advanced > ACPI Settings*.

Advanced	Aptio Setup — AMI	
ACPI Settings		Enables or Disables System
Enable Hibernation ACPI Sleep State	[Enabled] [S3 (Suspend to RAM)]	Sleep State). This option may not be effective with some operating systems.
		++: Select Screen †↓: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Ancion 2 21 1278 Conunidat (C) 20	124 AMT

Setup Item	Options	Help Text	Comments
ACPI Settings			
Enable Hibernation	Enabled		
ACPI Sleep State	Suspend Disabled S3 (Suspend to RAM)	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.	Sleep supported optionally.



3.2.4 Super IO Configuration

The Super IO Configuration screen allows the user to view the super IO information, and to enable or disable super IO options. To access this screen from the Advanced screen, choose *Advanced > Super IO Configuration.*

Aptio Setup Advanced	- AMI
Super IO Configuration	Set Parameters of Serial Port
▶ Serial Port 1 Configuration	I (CONH)
	++: Select Screen
	↑↓: Select Item Enter: Select
	+/−: Change Opt. F1: General Help
	F2: Previous Values F3: Optimized Defaults
	F4: Save & Exit ESC: Exit
Version 2.21.1278 Copyr	ight (C) 2024 AMI

Setup Item	Options	Help Text	Comments	
Super IO Configuration				
Serial Port 1 Configuration			Set Parameters of Serial Port 1 (COM1).	



3.2.4.1 Serial PortX Configuration

The Super IO Configuration screen allows the user to view the super IO information, and to enable or disable serial port options. To access this screen from the Advanced screen, choose *Advanced-> Super IO Configuration->Serial PortX Configuration*.

Advanced	Aptio Setup – AMI	
Serial Port 1 Configuration		Enable or Disable Serial Port
Serial Port Device Settings	[Enabled] IO=3F8h; IRQ=4;	(CUM)
		<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Versi	on 2.21.1278 Copyright (C)	2024 AMI

Setup Item	Options	Help Text	Comments
Serial PortX Configuration	า		
Serial Port	Enabled/Disabled	Enabled or Disabled Serial Port (COM).	
Device Settings			



3.2.5 Hardware Monitor

The hardware monitor screen allows the user to view the hardware information. To access this screen from the Advanced screen, choose *Advanced-> Hardware Monitor*.

Advanced	Aptio Setup — AMI	
Pc Health Status CPU FAN Mode Setting	[Full On Mode]	CPU FAN Configration
CPU temperature SYS temperature CPU Fan Speed Vcore 3.3V SV VBAT	: +52 C : +41 C : 4218 RPM : +1.344 V : +3.344 V : +5.100 V : +3.078 V	
		<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version	2.22.1289 Copyright (C) 2024	AMI

Setup Item	Options	Help Text	Comments
SMART FAN Control			
CPU FAN Mode Setting	Full On mode Automatic mode Manual mode	Fan control mode select.	When Manual mode selected, Manual PWM Setting shows to set FAN PWM Duty.
PC Health Status			
CPU temperature		Shows Current CPU temperature.	NOTE1:Sometimes not the actual temperature value, just indicates temperature tolerance limitation.
CPU FAN Speed			HW Information.



3.2.6 SATA Configuration

The SATA Configuration screen allows the user to view the SATA Controller information, and to enable or disable SATA Controller options. To access this screen from the Main screen, choose *Advanced* > *SATA Configuration*.

Advanced	Aptio Setup – AMI	
SATA Controller(s) SATA Mode Selection SATA Speed	(Enabled) [AHCI] [Auto]	Enable/Disable SATA Device.
Serial ATA Port O Software Preserve Port O	Empty Unknown [Enabled]	
Serial ATA Port 1 Software Preserve Port 1	Empty Unknown [Enabled]	
		↔: Select Screen †∔: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
L V	ersion 2.21.1278 Copyright	(C) 2024 AMI

Setup Item	Options	Help Text	Comments
SATA Configuration			
SATA Controller(s)	Enabled Disabled	Enable / Disable SATA Device.	
SATA Mode Selection	AHCI Mode	Select AHCI.	
SATA Speed	Auto Gen1 Gen2 Gen3	Configure SATA Speed.	
Serial ATA Port 0			Show HDD
Serial ATA Port 1			information connected.

Note: If SATA or PCIe RAID groups are configured separately, contact technical support.



3.2.7 USB Configuration

The USB Configuration screen allows the user to view the USB Configuration information, and to enable or disable options. To access this screen from the Main screen, choose *Advanced > USB Configuration*.

Advanced		
USB Configuration		Enables Legacy USB support. AUTO option disables legacy
USB Controllers:		support if no USB devices are
1 XHUI USB Devices:		connected. DISABLE option will keen USB devices available
1 Drive, 1 Keyboard, 1 Mouse, 1 H	Hub	only for EFI applications.
Legacy USB Support [E	Enabled]	
XHCI Hand-off [E	Enabled]	
USB Mass Storage Driver Support [E	Enabled]	
USB hardware delays and time-outs:		
USB transfer time-out [2	20 sec]	
Device reset time-out [2	20 sec]	++: Select Screen
Device power-up delay [f	Auto]	T∔: Select Item Enter: Select
Mass Storage Devices:		+/-: Change Opt.
kingstonDT 101 G2 1.00 [f	Auto]	F1: General Help
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit
Version 2.21	1.1278 Copyright (C) 2024	AMI

Setup Item	Options	Help Text	Comments
USB Configuration	•		
Legacy USB Support	Enabled Disabled	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.	
XHCI Hand-off	Enabled Disabled	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.	
USB MASS Storage Driver	Enabled	Enable/Disable USB Mass Storage Driver	
USB hardware delays and time-outs:			
USB transfer time-out	1 sec 5 sec 10 sec 20 sec	The time-out value for Control, Bulk, and Interrupt transfers.	



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Setup Item	Options	Help Text	Comments
Device reset time-out	1 sec 5 sec 10 sec 20 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 100ms,for a Hub port the delay is taken from Hub descriptor.	



3.2.8 Network Stack Configuration

To access this screen from the Main screen, choose *Advanced > Network Stack Configuration*.

Advanced	Aptio Setup – AMI	
Network Stack IPv4 PXE Support IPv4 HTTP Support IPv6 PXE Support IPv6 HTTP Support PXE boot wait time Media detect count	[Enabled] [Enabled] [Disabled] [Disabled] [Disabled] 0 1	Enable/Disable UEFI Network Stack
		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Setup Item	Options	Help Text	Comments
Network Stack Configuration	n		
Notwork Stack	Disabled		Enable/Disable UEFI
Network Stack	Enabled		Network Stack
IDv4 DVE Support	Disabled		Enable/Disable IPv4 PXE
IPV4 PXE Support	Enabled		boot support
IDv4 HTTD Support	Disabled		Enable/Disable IPv4 HTTP
IPV4 HTTP Support	Enabled		boot support.
IDv6 DVE Support	Disabled		Enable/Disable IPv6 PXE
	Enabled		boot support
IPv6 HTTP Support	Disabled		
PXE boot wait time 0			
Media detect count	1		



3.2.9 CSM Configuration

The CSM Configuration screen allows the user to view the CSM information, and to enable or disable CSM options. To access this screen from the Main screen, choose *Advanced > CSM Configuration*.

	Advanced	Aptio Setup – AMI	
(Compatibility Support Module Configu	ration	Enable/Disable CSM Support.
	CSM Support	[Enabled]	
E	Boot option filter	[UEFI only]	
(Option ROM execution		
	Network Storage Video Other PCI devices	(UEFI) (UEFI) (UEFI) (UEFI)	<pre>++: Select Screen f4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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Setup Item	Options	Help Text	Comments
CSM Configuration	·		
CSM Support	Enabled Disabled	Enable / Disable CSM support.	
Boot option filter	UEFI and Legacy Legacy only UEFI only	This option control Legacy/UEFI ROMs priority.	
Option ROM execution			
Network	Legacy UEFI Do not lunch	Control the execution of UEFI and Legacy PXE OpROM.	
Storage	Legacy UEFI Do not lunch	Control the execution of UEFI and Legacy Storage OpROM.	
Video	Legacy UEFI Do not lunch	Control the execution of UEFI and Legacy video OpROM.	



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Setup Item	Options	Help Text	Comments
Other PCI devices	Legacy UEFI	Determines OpROM execution policy for devices other than	
	Do not lunch	Network, Storage or video.	



3.2.10 NVMe Configuration

The NVMe Configuration screen allows the user to view the NVMe Device information. To access this screen from the Main screen, choose *Advanced* > *NVMe Configuration*.

Advanced	Aptio Setup – AMI	
Multe Confiduration		
► ADATA SX6000LNP		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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	Antio Setup – AMT	
Advanced		
Seg:Bus:Dev:Func Model Number Total Size Vendor ID Device ID Namespace: 1 Device Self Test: Self Test Option Self Test Action	00:02:00:00 ADATA SX6000LNP 256.0 GB 1E4B 1202 Size: 256.0 GB [Short] [Controller Only Test]	Select either Short or Extended Self Test. Short option will take couple of minutes and extended option will take several minutes to complete.
Run Device Self Test	[Not Augilable]	tt: Salact Sensen
Extended Device Selftest Result	[Not Available] [Not Available]	 ↑1: Select Streen ↑1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.2.11 Watchdog Configuration

The Watchdog Configuration screen allows the user to Set System WatchDog Parameters. To access this screen from the Main screen, choose *Advanced > Watchdog Configuration*.

Advanced	Aptio Setup — AMI	
WatchDog Parameters WatchDog Control WatchDog Count Mode WatchDog TimeOut Value	[Enabled] [Minute] 1	WatchDog function ++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Setup Item	Options	Help Text	Comments
Watchdog Parameters			
WatchDog Control	Disabled Enabled		WatchDog function.
WatchDog Count Mode	Minute Second		WatchDog Count Mode Selection.
WatchDog TimeOut Value	1		Fill WatchDog TimeOut (0~255),0 means function disabled.



3.2.12 OemSetup Settings

To access this screen from the Main screen, choose *Advanced > OemSetup Settings*.

Advanced	Aptio Setup – AMI	
HeartBeat Default	(LOH)	HeartBeat Default value, as high,low.
		<pre>++: Select Screen f1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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Setup Item	Options	Help Text	Comments
OemSetup Settings			
	Disabled		Enable or Disable for LVDS
LVDS Panel	Enabled		control(Only Support LVDS
LVDS Panel	1024*768/24/Single		bom)
Lleast Defeult	LOW	HeartBeat Default	
Hear ibeal Default	High	value, as high, low.	



3.3 Chipset Screen

The Chipset screen provides an access point to configure SA Configuration and PCH-IO configuration. To access this screen from the Main screen, press the right arrow until the Chipset screen is chosen.

Aptio Se Main Advanced Chipset Security Boot Save	tup – AMI & Exit
 ≻ System Agent (SA) Configuration ▶ PCH-IO Configuration 	System Agent (SA) Parameters
	<pre>++: Select Screen f1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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Setup Item	Options	Help Text	Comments
Chipset Screen			
System Agent (SA) Configuration		System Agent (SA) Parameters.	
PCH-IO Configuration		PCH Parameters.	



3.3.1 System Agent (SA) Configuration

The North Bridge Screen allows user to set NB chipset configuration. To access this screen, form the Main screen, choose *Chipset> System Agent (SA) Configuration*.

Chipset	Aptio Setup – AMI	
System Agent (SA) Configuration		Memory Configuration Parameters
VT-d	Supported	
 Memory Configuration Graphics Configuration PEG Port Configuration VMD setup menu 		
Above 4GB MMIO BIOS assignment	[Enabled]	
		++: Select Screen †↓: Select Item Enter: Select +/-: Change Opt.
		F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	2 21 1278 Copunight (8) 202	24 QMT

Setup Item	Options	Help Text	Comments
System Agent (SA) Configu	ration		
Memory Configuration		Show Memory information.	
Graphics Configuration		Graphics Configuration.	
PEG Port Configuration		PEG Port Options.	
VMD setup memu			
Above 4GB MMIO BIOS	Disabled	Enable/Disable above 4GB	
assignment	Enabled	MemoryMappedIO BIOS assignment.	



Memory Configuration		Maximum Memory Frequency Selections in Mhz.
Memory RC Version Memory Speed Memory Timings (tCL-tRCD-tRP-tRAS) Controller 0 Channel 0 Slot 0 Controller 1 Channel 0 Slot 0 Size	2.0.2.2 2667 MT/s 19–19–19–43 Not Populated / Disabled Populated & Enabled 8192 MB (DDR4)	
Maximum Memory Frequency	[Auto]	
		<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. E1: General Help</pre>
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Setup Item	Options	Help Text	Comments
Memory Information			
Maximum Memory	A	Maximum Memory Frequency Selections	
Frequency	Auto	in Mhz.	

ZRT

Unipoet		
Graphics Configuration Primary Display Select PCIE Card Internal Graphics GTT Size Aperture Size DVMT Pre-Allocated DVMT Total Gfx Mem • LCD Control	[Auto] [Auto] [Auto] [8MB] [256MB] [60M] [256M]	Select which of IGFX/PEG/PCI Graphics device should be Primary Display Or select HG for Hybrid Gfx.
		<pre>++: Select Screen f4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Vee	cion 2 21 1278 Conunight (P)	2024 AMT

Setup Item	Options	Help Text	Comments
Graphics Configuration	1		
Primary Display	Auto IGFX PEG PCH	Select which of IGFX/PEG/PCI Graphics device should be Primary Display Or select HG for Hybrid Gfx.	
Select PCIE Card	Auto		
Internal Graphics	Auto Disabled Enabled	Keep IGFX enabled based on the setup options.	
GTT Size	2MB 4MB 8MB	Select the GTT Size.	
Aperture Size	128MB 256MB 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		
DVMT Total Gfx Mem	128M 256M MAX	Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.	
LCD Control			



Chipset	Hptio Setup - HMI	
PEG Port Configuration		Enable or Disable the Root Port
PEG 0:1:0 Enable Root Port Power Down Unused Lanes ASPM OBFF LTR	x8 [Auto] [Auto] [Disabled] [Enabled] [Enabled]	
		++: Select Screen †4: Select Item Enter: Select +/-: Change Opt. E1: General Help
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Setup Item	Options	Help Text	Comments
PEG Port Configuration			
PEG Port Configuration		PEG Port Options.	
PEG 0:1:0			
Enable Root Port	Auto Disabled Enabled	Enable or Disable the Root Port.	
Power Down Unused Lanes	Auto Disabled	Power Down Unused Lanes.	
ASPM	Disabled Enabled	Control ASPM support for the PEG 0.	
OREE	Disabled	CPU PEG0 (0,1,0) OBFF	
ODFF	Enabled	Enable/Disable.	
LTR	Enabled		



3.3.2 PCH-IO Configuration

The South Bridge Screen allows user to set SB chipset configuration.

To access this screen form the Main screen, choose *Chipset> PCH-IO Configuration*.

Chipset	Aptio Setup – AMI	
PCH-IO Configuration		Specify what state to go to
Restore AC Power Loss ▶ PCI Express Configuration	[Power On]	a power failure (G3 state).
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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Setup Item	Options	Help Text	Comments
PCH-IO Configuration			
Restore AC Power Loss	Power on Power off	Select AC power state when power is re-applied after a power failure.	
PCI Express Configuration			
PCI Express Root Port 5			

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Chipset	
 PCI Express Configuration PCI Express Root Port 5 PCI Express Root Port 6 Shadowed by x2/x4 port PCI Express Root Port 7 Shadowed by x2/x4 port PCI Express Root Port 8 Shadowed by x2/x4 port 	PCI Express Root Port Settings.
	<pre>→+: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values 50: Optimized Defaults</pre>
	F3: Optimized Defaults F4: Save & Exit ESC: Exit

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3.4 Security

To access this screen form the Main screen, choose *Security*.

Aptio Setup – AMI Main Advanced Chipset <mark>Security</mark> Boot Save & Exit			
Password Description		Set Administrator Password	
If ONLY the Administrator's p then this only limits access only asked for when entering If ONLY the User's password i is a power on password and mu boot or enter Setup. In Setup have Administrator rights. The password length must be in the following range: Minimum length Maximum length Administrator Password User Password	Massword is set, to Setup and is Setup. s set, then this ist be entered to the User will 1 20	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>	
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Setup Item	Options	Help Text	Comments
Security			
Administrator Password		Set Administrator Password.	
User Password		Set User Password.	



3.5 Boot Screen

The Boot screen displays any bootable media encountered during POST, and allows the user to configure desired boot device. To access this screen from the Main screen, choose *Boot*.

Main Advanced Chipset	Aptio Setup – AMI Security Boot Save & Exit	
Boot Configuration Setup Prompt Timeout Bootup NumLock State Quiet Boot	<mark>1</mark> [On] [Disabled]	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Boot Option Priorities Boot Option #1	[Windows Boot Manager (ADATA SX6000LNP)]	
Boot Option #2	[UEFI OS (ADATA SX6000LNP)]	
Boot Option #3	[UEFI: kingstonDT 101 G2 1.00, Partition 1 (kingstonDT 101 G2	
Boot Option #4	1.00)] [UEFI: Built-in EFI Shell]	++: Select Screen ↑↓: Select Item Enter: Select
Fast Boot	[Disabled]	+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Setup Item	Options	Help Text	Comments		
Boot Configuration					
Setup Prompt Timeout	1~65535	Number of seconds to wait for setup activation key.65535(0xFFFF) means indefinite waiting.			
Bootup NumLock State	On off	Select the keyboard Number state.			
Quiet Boot	Disabled Enabled	Enables or disables Quiet Boot option.			
Boot Option Priorities	1				
Boot Option #1		Sets the system boot order.			
Boot Option #2		Sets the system boot order.	Note : Showed When boot		
Boot Option #3		Sets the system boot order.	devices existed.		
Boot Option #4		Sets the system boot order.			
Fast Boot	Disabled				
Hard Drive BBS Priorities		Set the order of the legacy devices in this group.	Set boot order in each group of the same kind, such as HDD, network.		



3.6 Save & Exit Screen

The Save & Exit screen allows the user to choose whether to save or discard the configuration changes made on the other screens. It also allows the user to restore the server to the factory defaults or to save or restore them to set of user-defined default values.

Aptio Setup – AMI Main Advanced Chipset Security Boot <mark>Save & Exit</mark>	
Save Options Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset	Exit system setup after saving the changes.
Save Changes Discard Changes Default Options Restore Defaults	
Save as User Defaults Restore User Defaults	++: Select Screen
Boot Override Windows Boot Manager (ADATA SX6000LNP) UEFI OS (ADATA SX6000LNP) UEFI: kingstonDT 101 G2 1.00, Partition 1 (kingstonDT 101 G2 1.00) UEFI: Built-in EFI Shell	Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

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Setup Item	Options	Help Text	Comments		
Save & Exit Screen					
Save Options					
Save Changes and Exit		Exit system setup after saving the changes.			
Discard Changes and Exit		Exit system setup without saving any changes.	User is prompted for confirmation only if		
Save Changes and Reset		Reset the system after saving the changes.	any of the setup fields were modified.		
Discard Changes and Reset		Reset system setup without saving and changes.			
Save Changes		Save Changes done so far to any of the setup options.			
Discard Changes		Discard Changes done so far to any or the setup options.			
Default Options					
Restore Defaults		Restore/Load Default values for all the setup options.			



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Setup Item	Options	Help Text	Comments	
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.		
Boot Override				
Shows the Device can boot.			Note : Showed When boot devices existed.	



第四章 故障问题排除

故障	排除		
	1、开机时按 DEL 进 BIOS 设置选 Advanced。		
	2、选 CSM Configuration 回车。		
	3、选 CSM Support 打开 Enabled。		
	4、选 Boot option filter 回车。		
硬盘启动项设置	5、UEFl and Legacy 是两种不同的系统引导方式,可以实现网络启动,		
	UEFI 只支持 64 位操作系统。		
	6、Legacy only Legacy 启动是 BIOS 之前的启动方式,不能实现网络启		
	动。但它可以引导 32 位操作系统,也可以引导 64 位操作系统。		
	开机时按 DEL 进 BIOS 设置 Chipset→PCH-Io Configuration 回车。		
设置来电开机	1) AC Power loss 将 Power off→Power ON 上电开机。		
	2) State After G3 选 S5 State S0 State 上电开机。		
	开机时按 DEL 进 BIOS 设置选 Chipset。		
	1、选 System Agent(SA) Configuration 回车。		
开机时核显可以正常显示,但独显 不显示	2、选 Graphics Configuration 回车。		
	3、选 Primary Display 回车。		
拼接设置	3.1)Auto 独显。		
	3.2)IGFX 核显。(做分屏拼接选 IGFX 模式)		



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