



Networking Appliance

User's Manual

Version 1.2

SCB-1803 2U Rack-mount Intel® 22nm Haswell Intel® core i3/i5/i7 and E3-1200V3 series with LGA1150 processors and 2 x GbE, SATA, CF, bypass function





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Date	Version	Modification	Editor	
2014/02/05	1.0	First Release	Denny Huang	
2014/02/10	1.1	1. Fixed some error information 2. Update R323、R324、R325 photos	Denny Huang	
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http://www.aewin.com.tw.

For technical supports or free catalog, please send your inquiry to info@aewin.com.tw



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1.1 Introducing

The SCB-1803 is a 2U rack-mounted hardware platform designed for network service applications. Built with Intel® Embedded IA components with warranty of longevity, the SCB-1803 Support Single Intel® 22nm Haswell core i3/i5/i7 and E3-1200V3 processors. The platform supports four un-buffered and non-ECC or ECC DDR3 1333/1600 MHz DIMM sockets with max capacity up to 32 GB. In order to provide the best network performance and best utilization, the powerful storage interfaces include one 2.5" SATA HDD and one CompactFlash™. The SCB-1803 also supports one PCIe x4 expansion slot and affords 2 GbE and max 48 GbE Ethernet ports on the front-panel. The front panel also has one USB 2.0 ports, one RJ-45 console port and LED indicators that monitor power and storage device activities for local system management, maintenance and diagnostics. In addition, the SCB-1803 is RoHS, FCC and CE compliant.

Processor	CPU	Intel® Haswell Core i7/i5/i3 and E3-1200V3	
System		Series, LGA1150	
	Chipset	Intel® C226 PCH	
	BIOS	AMI® 64Mbit SPI BIOS	
Memory	Technology	Dual-channel, DDR3 1333/1600 MHZ ECC,	
		un-buffered memory or none ECC UDIMM	
	Capacity	up to 32GB	
Expansion	Expansion	1.One SO-DIMM slot for IPMI card with VGA	
	Slots	support	
		2.One PCIe x8 slot	
Ethernet	Ethernet	R323: 4 x SFP GbE and 4 RJ45 GbE ports, Intel	
	Modules for	82580EB	
	Option	R324 : 8 x SFP GbE ports, Intel 82580EB	
		R325:8 x RJ45 GbE ports, Intel 82599ES	
Hardware	Cryptographic	NA	
Acceleration			
Module			

1.2 Specification



Storage	SATA HDD	One 2.5" SATA HDDs		
	RAID	Support Software RAID 0,1,5,10		
	Compact	One CompactFlash [™] Type I/II		
	Flash Socket			
Front	USB Port	One external USB 2.0		
Accessible I/O	Console Port	One RJ45 Console port (COM1, RS232)		
	Management	One GbE port, Intel i211-AT		
	Port	One IPMI port support, Intel i210-IS (Need plug in		
		R303)		
	Display Port	One VGA pin header via R303 (IPMI) (optional)		
		One VGA pin header via processor		
Power Supply	Watt	2U 300W ATX redundant power supply		
Mechanical and	Form Factor	2U rack-mount		
Environment	LCD Module	N/A		
Keypad N/A		N/A		
	LED	one Power LED (Green)		
	one HDD LED (Yellow)			
		one Status LED (Green/Yellow via		
		programmable GPIO)		
	Dimension (W	426mm (W) x 510mm (D) x 89mm (H)		
	x D x H)	(16.77"W x 20.07"D x 3.5"H)		
	Operating	Operating: 0 ~ 40°C (32 ~ 104°F)		
	Temperature			
	Storage	-20 ~ 75°C (-4 ~ 167°F)		
	Temperature			
	Humidity	10 ~ 85% relative humidity, non-operating,		
		non-condensing		
Weight	1pc/CTN, 20 kg	s		
Certification	CE/FCC			



1.3 Order Information

SCB-1803A-B	2U Rack-Mount, Intel Haswell processor with C226 PCH, DDR3, 6		
	PCIe slots for Expansion Module , 1 PCIe x4 slot, Console, USB,		
	2GbE, SATA, CF		
<u>_</u>	Expansion module with 4 x SFP ports and 4 x RJ45 GbE ports,		
RJZJA	Intel82580EB		
	Expansion module with 4 x SFP ports and 4 x RJ45 GbE ports,		
K323D	Intel82580EB with two pairs bypass function		
R324A	Expansion module with 8 SFP ports, Intel 82580EB		
R325A	Expansion module with 8 RJ45 GbE ports, Intel 82580EB		
D225P	Expansion module with 8 RJ45 GbE ports, Intel 82580EB with		
K525B	four pairs bypass function		
R303A	IPMI card with VGA support		
R318A	PCIe x4 to PCIe x4 Riser card		
	Cable development kit:		
	46L-CO5204-00 Cross over 2M		
	46L-DB9200-01 Null modem cable 2M		
	46L-EC5200-00 Ethernet cat.5 cable 2M		
	46L-IPS200-00 KBMS cable, 15CM		
	46L-IUSB2B-00 USB cable, 25CM		
	46L-IVGA01-00 VGA cable, 20CM		
	46L-RJDB91-00 RJ-45 to DB-9 cable 2M		

1.4 Packaging

Please make sure that the following items have been included in the package before installation.

- 1. SCB-1803 Appliance
- 2. Cables (Optional)
- 3. CD-ROM that contains the following folders :
 - 4.1 Manual
 - 4.2 System Driver
 - 4.3 Ethernet Driver
 - 4.4 Utility Tools



If any item of above is missing or damaged, please contact your dealer or retailer from whom you purchased the SCB-1803. Keep the box and carton when you probably ship or store SCB-1803 in near future. After you unpack the goods, inspect and make sure the packaging is intact. Do not plug the power adapter to the appliance of SCB-1803 if you already find it appears damaged.

Note: Keep the SCB-1803 in the original packaging until you start installation.

1.5 Precautions

Please make sure you properly ground yourself before handling the SCB-1803 appliance or other system components. Electrostatic discharge can be easily damage the SCB-1803 appliance.

Do not remove the anti-static packing until you are ready to install the SCB-1803 appliance.

Ground yourself before removing any system component from it protective anti-static packaging. To ground yourself, grasp the expansion slot covers or other unpainted parts of the computer chassis.

Handle the SCB-1803 appliance by its edges and avoid touching the components on it.



1.6 System Layout

<Front panel features>



<Rear panel features>



2U Redundant 300W



1.7 Dimension



00	00
00	00



Advanced Embedded & Network Solutions Chapter 2. Connector/Jumper Configuration

2.1 CB-1803 Connector/Jumper Location and Definition

Model Number : CB-1803 Rev.A2



	Connector List				
Connector	Description	Connector	Description		
CN1	KB/MS PIN HEADER	FAN1	FAN CONNECTOR		
CN2	2X4 +12V POWER	FAN2	FAN CONNECTOR		
CN3	WAFER 1X2 POWER BUTTOM	FAN3	FAN CONNECTOR		
CN4	VGA BOX HEADER (IPMI)	FAN4	FAN CONNECTOR		
CN5	ATX POWER CONNECTOR	FAN5	FAN CONNECTOR		
CN7	80 PORT PIN HEADER				
CN8	COM2 BOX HEADER				
CN9	1X2 RESET PIN HEADER	SLOT1	PCIE X4 SLOT		
CN10	SATA CONNECTOR	SLOT2	PCIE X4 SLOT		
CN11	SATA CONNECTOR	DIMM1	IPMI SOCKET		



CN12	SATA CONNECTOR	CF1	CF SOCKET
CN13	SATA CONNECTOR		
CN14	LCM BOX HEADER		
CN15	2X4 SPI PIN HEADER		
CN16	WAFER 1X2 HDD LED		
CN17	WAFER 1X2 LCM		
	BACKLIGHT		
CN18	IO CONNECTOR		
CN19	VGA BOX HEADER		
CN20	GPI PIN HEADER		
CN21	PCIE X16 夾板式		
	CONNECTOR		
CN22	PCIE X16 夾板式		
	CONNECTOR		
CN23	PCIE X16 夾板式		
	CONNECTOR		
CN24	PCIE X16 夾板式		
	CONNECTOR		
CN25	USB2.0 PIN HEADER		

	Jumper List			
JP1	PCIE CONFIG SELECT	JP7	DDR Voltage SEL	
	(PEG)			
	1-2: Normal (NC)		CLOSE: 1.5V	
	2-3: PEG X8,X4,X4		OPEN: 1.35V	

JP2	PS-ON SELECT	JP8	PLTRST_LAN_I210
	1-2: Normal		1-2: PCIE
	2-3: Force PS_ON		2-3: NCSI

JP3	ATX/AT MODE SELECT	JP9	POWER ON/OFF
	1-2: ATX MODE		CLOSE: RESERVED
	2-3: AT MODE		OPEN: RESERVED



JP4	WDT FOR LAN	JP10	PCIE SWITCHING
	BY-PASS OR RESET		
	1-2: RESET		1-2: PCIE SWITCHING to
			R321
	2-3: WD_BY#		2-3: PCIE SWITCHING to
			1803

JP5 RESERVED

JP6	CLEAR CMOS	
	1-2: Normal	
	2-3: Clear CMOS	

Connectors Location & Define



CN2 : 2X4 +12V POWER CONNECTOR Standard ATX Power



CN3 : WAFER 1X2 POWER BUTTOM

$\bigcirc \bigcirc \\ 1 2$	
Pin	Define
1	GND
2	SIGNAL

CN4 : VGA BOX HEADER (IPMI)

	CN	4	25
	1 0 3 0 5 0 7 9 0 11 0 13 0 15 HEADEF	د ۲ 2X8	2 0 4 0 6 0 10 0 12 0 14 0 16 0 H(2.0mm)
Pin	Define	Pin	Define
1	DACRO_VGA_C	2	DACGO_VGA_C
3	DACBO_VGA_C	4	NC
5	GND	6	GND
7	GND	8	GND
9	V5P0_VGA_VIN	10	GND
11	NC	12	DDCDAT_VGA_C
13	HSY_VGA_C	14	VSY_VGA_C
15	DDCCLK_VGA_C	16	NC

CN5 : 2X4 +12V POWER CONNECTOR Standard ATX Power



CN7 : 80 PORT PIN HEADER

	CN7		
	1 3 5 7 9 11 HEADE	ER 2)	2 4 6 8 12 (6(2mm)_I
Pin	Define	Pin	Define
1	V3P3	2	L_AD0
3	L_AD1	4	L_AD2
5	L_AD3	6	L_FRAME_N
7	PLTRST_IO_N	8	V5P0
9	CLK_33M_PORT80	10	NC
11	GND	12	GND

CN8 : COM2 BOX HEADER

			CN	3
		1 2 3 4 5	2 (34) 14 (34) 34 (34) 34 (34) 34 (34) 34	6 7 8 9 10
	3.			
Pin	Define		Pin	Define
1	DCD#2		6	DSR#2
2	RXD#2		7	RTS#2
3	TXD#2		8	CTS#2
4	DTR#2		9	RIA#2



5	GND	10	NC

CN9 : 1X2 RESET PIN HEADER



CN10~13 : SATA CONNECTOR Standard SATA connector

CN14 P_AFD# P_ERR# P-STB# 1 14 P-PDR0 2 15 P INIT# P-PDR1 3 16 P-PDR2 P_SLIN# 4 17 P-PDR3 5 18 P-PDR4 6 19 P-PDR5 7 20 P-PDR6 8 21 P-PDR7 9 22 P ACK# 23 10 P BUSY 24 11 P_PE P_SLCT 25 12 13 26 BOX HEADER 2X13(2.0mm)/DIP

Pin	Define	Pin	Define
1	P-STB#	14	P_AFD#
2	P-PDR0 #	15	P_ERR#
3	P-PDR1 #	16	P_INIT#
4	P-PDR2 #	17	P_SLIN#
5	P-PDR3 #	18	GND
6	P-PDR4 #	19	GND

CN14 : LCM BOX HEADER



7	P-PDR5 #	20	GND
8	P-PDR6 #	21	GND
9	P-PDR7 #	22	GND
10	P_ACK#	23	GND
11	P_BUSY	24	GND
12	P_PE	25	GND
13	P_SLCT	26	GND

CN15 : 2X4 SPI PIN HEADER

	CN15		ar a
	0 1 0 3 0 5 7 HEADER 2 CNB8	2 4 6 8 2X4(2	.54m
	01120	21 (A)	
Pin	Define	Pin	Define
1	VCC3_SPI	2	GND
3	SPI_CS0_N	4	SPI_CLK
5	SPI_MISO	6	SPI_MOSI
7	NC	8	FLASH_IO

CN16 : WAFER 1X2 HDD LED





Advanced Embedded & Network Solutions CN17 : WAFER 1X2 LCM BACKLIGHT



CN18 : IO CONNECTOR

14

AOUT_CON3+

	CN18 2 1 4 3 6 5 8 7 10 9 12 11 14 13 16 15 18 17 20 19 22 21 18 17 20 19 22 22 21 24 23 26 25 28 27 30 29 32 31 34 33 36 35 38 37 40 39 DF 13A 400P	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Pin	Define	Pin	Define
2	AOUT_CON0+	1	ALINK100#
4	AOUT_CON0-	3	ALINK1000#
6	AOUT_CON1+	5	AACT#
8	AOUT_CON1-	7	BINK100#
10	AOUT_CON2+	9	BINK1000#
12	AOUT_CON2-	11	BACT#

13

V3P3



16	AOUT_CON3-	15	RTS#1/CTS#1
18	GND_EARTH	17	DTR#1
20	BOUT_CON0+	19	TXD#1
22	BOUT_CON0-	21	RXD#1
24	BOUT_CON1+	23	DSR#1
26	BOUT_CON1-	25	-GP70
28	BOUT_CON2+	27	GP71
30	BOUT_CON2-	29	GP72
32	BOUT_CON3+	31	GP73
34	BOUT_CON3-	33	HDD_LED_N
36	3VDUAL	35	USB_PP0_CON
38	P80_CTRL	37	USB_PN0_CON
40	V5P0	39	GND

CN19 : VGA BOX HEADER

_	15		1
			00 00
	16		2
Pin	Define	Pin	Define
1	VGA_RED	2	VGA_RED
3	VGA_BLUE	4	NC
5	GND	6	GND
7	GND	8	GND
9	+5V	10	GND
11	NC	12	SDA
13	HSYNC	14	VSYNC
15	SCL	16	NC



Advanced Embedded & Network Solutions CN20 : GPI PIN HEADER

		۱.
	0	1
	0	2
	0	3
	0	4
	0	5
Pin	Defi	ine
Pin 1	Def i GPI	ine O2
Pin 1 2	Defi GPI GPI	ine 02 03
Pin 1 2 3	Defi GPI GPI	ine 02 03 04
Pin 1 2 3 4	Defi GPI GPI GPI	ine 02 03 04 05

CN21~24PCIE X16 *夾板式* CONNECTOR Standard Aewin PCIE connector

CN25 : USB2.0 PIN HEADER Standard USB2.0 connector

FAN1~5: FAN CONNECTOR Standard 4 wire fan connector

SLOT1: PCIE X4 SLOT Standard PCIE x4 connector

SLOT2: PCIE X4 SLOT



SLOT2				
	B1 B2 B3 B4 B5 B6 B7 B9 B10 B11 B11 B12 B13 B14 B15 B16 B17 B18 B19 B20		A1 A2 A3 A4 A6 A6 A7 A8 A0 A10 A10 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20	
	B21 B22 B23 B24 B25 B26 B27 B28 B29 B30 B31 B32 B32 PCI_EXPRESS_X4		A21 A22 A23 A24 A25 A26 A27 A28 A29 A30 A31 A32	
Pin	Define	Pin	Define	
B1	GPIO50	A1	EXT_SLOT_FANIN1	
B2	GPIO52	A2	EXT_SLOT_FANIN2	
B3	GPIO54	A3	EXT_SLOT_FANIN3	
B4	GP51	A4	WD_BY#_BUFF	
В5	GP52	A5	PLTRST_CHIP	
B6	GP53	A6	GND	
B7	SMB_DATA_RESUME	A7	EXT_CLK_PEG_100MP	
B8	SMB_CLK_RESUME	A8	EXT_CLK_PEG_100MN	
B9	GND	A9	GND	
B10	EXT_SLOTD_TXP0	A10	EXT_SLOTD_RXP0	
B11	EXT_SLOTD_TXN0	A11	EXT_SLOTD_RXN0	
B12	GND	A12	GND	
B13	EXT_SLOTD_TXP1	A13	EXT_SLOTD_RXP1	



B14	EXT_SLOTD_TXN1	A14	EXT_SLOTD_RXN1
B15	EXT_SLOTD_TXP2	A15	EXT_SLOTD_RXP2
B16	EXT_SLOTD_TXN2	A16	EXT_SLOTD_RXN2
B17	GND	A17	GND
B18	EXT_SLOTD_TXP3	A18	EXT_SLOTD_RXP3
B19	EXT_SLOTD_TXN3	A19	EXT_SLOTD_RXN3
B20	GND	A20	GND
B21	EXT_SLOTD_TX4	A21	EXT_SLOTD_RXP4
B22	EXT_SLOTD_TXN4	A22	EXT_SLOTD_RXN4
B23	GND	A23	GND
B24	EXT_SLOTD_TXP5	A24	EXT_SLOTD_RXP5
B25	EXT_SLOTD_TXN5	A25	EXT_SLOTD_RXN5
B26	GND	A26	GND
B27	EXT_SLOTD_TXP6	A27	EXT_SLOTD_RXP6
B28	EXT_SLOTD_TXN6	A28	EXT_SLOTD_RXN6
B29	GND	A29	GND
B30	EXT_SLOTD_TXP7	A30	EXT_SLOTD_RXP7
B31	EXT_SLOTD_TXN7	A31	EXT_SLOTD_RXN
B32	GND	A32	GND

DIMM1: IPMI SOCKET Standard AeWIN IPMI SOCKET



Connectors Location & Define

JP1

JP1 2 3 HEADER 1X3(2.54mm)			
Pin	Setting		
1	NC		
2	HSW_PCUDEBUG_6		
3	HSW_PCUDEBUG_6_PL		

Default (1-2)

JP2



Default (1-2)







Default (1-2)





Default (2-3)





Default (NC)







Pin	Setting	
1	NC	
2	PCH_RTCRST_PULLUP	
3	RTCRST#_PD	

Default (1-2)





Default (Close)





Default (1-2)





Default (NC)



	JP10 1 2 3 0	
Pin	Setting	
1	GND (R321)	
2	SIO-GP03	
3	M2_P45MERGEN (1803)	

Default (2-3)



Chapter 3. Optional Lan Module & Add-on Card

Setting

The SCB-1803 can offer various GbE and 10GbE module combinations to match various applications and market demand.

3.1 R323: Ethernet module with four GbE RJ45 and four SFP GbE



R323 is a four GbE RJ45 and four GbE SFP module. The PCIe x8 golden finger must be connected with CN22 CN23 CN24 or R321A backplane.

3.2 R324: Ethernet module with eight GbE fiber





R324 is a eight GbE SFP module. The PCIe x8 golden finger must be connected with CN22 \sim CN23 \sim CN24 or R321A backplane.

3.3 R325: Ethernet module with eight GbE copper







R324 is a eight GbE SFP module. The PCIe x8 golden finger must be connected with CN22 \ CN23 \ CN24 or R321A backplane.

3.4 R320: Riser Card for R321 R321: 1 PCIe x8 to 3 PCIe x8 in PCIe x16 slot backplane





3.5 R319: Front I/O module







2.0 port, one RJ45 console port(COM1, RS-232), two GbE port, The CN1 must be connected to CB-1803.

Chapter 4. BIOS Setup

The ROM chip of your CB-1803 board is configured with a customized Basic Input/Output System (BIOS) from AMI BIOS. The BIOS is a set of permanently recorded program routines that give the system its fundamental operational characteristics. It also tests the computer and determines how the computer reacts to instructions that are part of programs.

The BIOS is made up of code and programs that provide the device-level control for the major I/O devices in the system. It contains a set of routines (called POST, for Power-On Self Test) that check out the system when you turn it on. The BIOS also includes BIOS setup program, so no disk-based setup program is required CMOS RAM stores information for:

- Date and time
- Memory capacity of the appliance
- •Type of display adapter installed
- •Number and type of disk drives

The CMOS memory is maintained by battery installed on the SCB-8970 board. By using the battery, all memory in CMOS can be retained when the system power switch is turned off. The system BIOS also supports easy way to reload the CMOS data when you replace the battery of the battery power lose.

4.1 Quick Setup

In most cases, you can quickly configure the system by choosing the following main menu options:

- Choose "Exit" → "Load Optimal Defaults" from the main menu. This loads the setup default values from the BIOS Features Setup and Chipset Features Setup screens.
- 2. Choose "Main" & "Advanced" from the main menu. This option lets you



configure the date and time, hard disk type, floppy disk drive type, primary display and more.

3. In the main menu, press F4 ("Save and Exit") to save your changes and reboot the system.

4.2 Entering the BIOS Setup Utility

Use the BIOS setup program to modify the system parameters to reflect the options installed in your system and to customize your system. For example, you should run the Setup program after you:

- Received an error code at startup
- Install another disk drive
- Use your system after not having used it for a long time
- Find the original setup missing
- Replace the battery
- Change to a different type of CPU
- Run the AMI Flash program to update the system BIOS

Run the BIOS setup program after you turn on the system. On-screen instructions explain how to use the program.

\prod Enter the BIOS setup program's main menu as follows:

- Turn on or reboot the system. After the BIOS performs a series of diagnostic checks, the following message appears: "Press DEL to enter SETUP"
- 2. Press the key to enter BIOS setup utility. The main menu appears:



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Main Advanced Chipset Boot Security Save & Exit Server Mgmt			
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time	American Megatrends 4.6.5.4 UEFI 2.3.1; PI 1.2 C1803006 01/10/2014 13:38:43	Set the Date. Use Tab to switch between Date elements.	
System Date System Time Access Level	[Tue 01/01/2013] [19:28:30] Administrator	++: Select Screen †↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.			

3. Choose a setup option with the arrow keys and press <Enter>. See the following sections for a brief description of each setup option.

BIOS Information: Displays the BIOS related information.

Memory Information: Displays the total memory size.

System Language: Change the language display in BIOS setup utility.

System Date [Day mm/dd/yyyy]: This item allows you to set the system date.

SystemTime: [hour:min:sec]:

This item allows you to set the system time.

In the main menu, press F4 ("Save and Exit") to save your changes and reboot the system. Press F3("Optimized Defaults") to load the Optimal default configuration



values of the menu. Pressing <ESC> anywhere in the program returns you to the main menu.

4.3 Menu Options

The main menu options of the BIOS setup program are described in the following and the following sections of this chapter.

Main: For changing the basic system configurations.

Advanced: For changing the advanced system settings.

Chipset: For customize the Intel chipset function

Boot: For changing the system boot configurations.

Security: For setting User and Supervisor Passwords.

Save & Exit: For selecting the exit options and loading default settings.

Server Mgmt:For changing the Server Mgmt settings



4.4 Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

\bigcup Use the Advanced Setup option as follows:

1. Choose "Advanced" from the main menu. The following screen appears:

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Main Advanced Chipset Boot Security Save & Exit Server Mgmt		
 PCIe Subsystem Settings CPU Configuration SATA Configuration USB Configuration Platform Function NCT6791D Super IO Configuration System HW Monitor Serial Port Console Redirection 	PCI, PCI–X and PCI Express Settings.	
	++: Select Screen †↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.		

- Use the arrow keys to move between fields. Modify the selected field using the PgUP/PgDN/+/- keys. Some fields let you enter numeric values directly.
- 3. After you have finished with the Advanced setup, press the $\langle \leftrightarrow \rangle$ or $\langle \rightarrow \rangle$ key to switch to other setup menu or press $\langle F4 \rangle$ key to save setting.



Advanced Embedded & Network Solutions PCI Subsystem Settings

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Advanced		
PCI Express Device Register Settings No Snoop [Enabled] Maximum Payload [Auto] Maximum Read Request [Auto]	Enables or Disables PCI Express Device No Snoop option. ++: 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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No Snoop

Enables or Disables PCI Express Device No Snoop option.

Maximum Payload

Set Maximum Payload of PCI Express Device or allow System BIOS to select the value.

Maximum Read Request

Set Maximum Read Request Size of PCI Express Device or allow System BIOS to select the value.

CPU Configuration



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Main Advanced Chipset Boot Security Save & Exit Server Mgmt		
 PCIe Subsystem Settings CPU Configuration SATA Configuration USB Configuration Platform Function NCT6791D Super IO Configuration System HW Monitor Serial Port Console Redirection 	PCI, PCI-X and PCI Express Settings.	
	<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>	
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.		
Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.		

Huvanceu		
CPU Configuration	1	Enabled for Windows XP and Linux (OS optimized
Intel(R) Core(TM) i5–49	570TE CPU @ 2.70GHz	for Hyper-Threading
CPU Signature	306c3	Technology) and
Processor Family	6	Disabled for other OS
Microcode Patch	17	(OS not optimized for
FSB Speed	100 MHz	Hyper-Threading
Max CPU Speed	2700 MHz	Technology). When
Min CPU Speed	800 MHz	Disabled only one
CPU Speed	2700 MHz	
Processor Cores	2	++: Select Screen
Intel HT Technology	Supported	t↓: Select Item
Intel VT–x Technology	Supported	Enter: Select
Intel SMX Technology	Supported	+/-: Change Opt.
64-bit	Supported	F1: General Help
EIST Technology	Supported	F2: Previous Values
L1 Data Cache	32 kB x 2	F3: Optimized Defaults
L1 Code Cache	32 KB × 2	F4: Save & Exit
L2 Cache	256 kB x 2 🔹 🔻	ESC: Exit

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Aptio Setup Utility Advanced	y – Copyright (C) 2	2012 American Megatrends, Inc.
Intel VT-x Technology Intel SMX Technology 64-bit EIST Technology L1 Data Cache L1 Code Cache L2 Cache L3 Cache	Supported Supported Supported 32 kB x 2 32 kB x 2 256 kB x 2 4096 kB	Optimize between performance and power savings.
Hyper-threading Active Processor Core Limit CPUID Maximum Execute Disable Bit Intel Virtualization Hardware Prefetcher Adjacent Cache Line P EIST Turbo Mode Energy Performance	[Enabled] [A11] [Disabled] [Enabled] [Enabled] [Enabled] [Enabled] [Enabled] [Enabled] [Performance]	<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit V ESC: Exit</pre>
Version 2.15.1236.	Copyright (C) 20:	12 American Megatrends, Inc.

Hyper-threading

Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one thread per enabled core is enabled.

Active Processor Cores

Number of cores to enable in each processor package.

Limit CPUID Maximum

Disabled for Windows XP.

Execute Disable Bit

XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)

Intel Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by



Vanderpool Technology.

Hardware Prefetcher

Enable the Mid Level Cache (L2) streamer prefetcher.

Adjacent Cache Line Prefetch

Enable the Mid Level Cache (L2) prefetching of adjacent cache lines.

EIST

Enable Enhanced Intel SpeedStep Technology

Turbo Mode

Enable Turbo Mode

Energy Performance

Optimize between performance and power savings.

SATA Configuration

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Main Advanced Chipset Boot Security Save & Exit Server Mgmt		
 PCIe Subsystem Settings CPU Configuration SATA Configuration USB Configuration Platform Function NCT6791D Super IO Configuration System HW Monitor Serial Port Console Redirection 	PCI, PCI-X and PCI Express Settings.	
	<pre>++: Select Screen tl: 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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	Aptio Setup Utility Advanced	– Copyright (C) 2012 Ameri	can Megatrends, Inc.
•	SATA Controller(s) SATA Mode Selection SATA Controller Speed Software Feature Mask C	[Enabled] [AHCI] [Default] onfiguration	Enable or disable SATA Device.
	Serial ATA Port 0 Software Preserve Port 0 SATA Device Type Serial ATA Port 1	Empty Unknown [Enabled] [Hard Disk Drive] Empty	
	Software Preserve Port 1 SATA Device Type	Unknown [Enabled] [Hard Disk Drive]	++: Select Screen ↑↓: Select Item Enter: Select
	Serial ATA Port 2 Software Preserve Port 2 SATA Device Type Serial ATA Port 3 Software Preserve	Empty Unknown [Enabled] [Hard Disk Drive] Empty Unknown	+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit FSC: Exit

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Aptio Setup Utility Advanced	y – Copyright (C) 2012	American Megatrends, Inc.
Software Preserve Port O SATA Device Type Serial ATA Port 1 Software Preserve	Unknown [Enabled] [Hard Disk Drive] Empty Unknown [Enabled]	▲ Identify the SATA port is connected to Solid State Drive or Hard Disk Drive.
SATA Device Type Serial ATA Port 2 Software Preserve Port 2	[Enabled] [Hard Disk Drive] Empty Unknown [Enabled]	
SATA Device Type Serial ATA Port 3 Software Preserve Port 3	[Hard Disk Drive] Empty Unknown [Enabled]	<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt.</pre>
SATA Device Type Serial ATA Port 4 Software Preserve Port 4 SATA Device Type	[Hard Disk Drive] Empty Unknown [Enabled] [Hard Disk Drive]	F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit V ESC: Exit
United in 10, 45, 4000		



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Advanced			
RAIDO RAID1 RAID10 RAID5 OROM UI and BANNER OROM UI Delay	[Enabled] [Enabled] [Enabled] [Enabled] [Enabled] [2 Seconds]	Enable or disable RAIDO feature.	
		<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>	
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SATA Mode

(1) IDE Mode. (2) AHCI Mode. (3) RAID Mode.

SATA Port0 ~ 4 This information is auto-detected by BIOS and is not user-configurable. It will show "Not Present" if no IDE device is installed in the system.

SATA Controller(s)

Enable or disable SATA Device.

SATA Mode Selection

Determines how SATA controller(s) operate.

SATA Controller Speed

Indicates the maximum speed the SATA controller can support.



Enable or disable RAIDO feature.

RAID1 Enable or disable RAID1 feature.

RAID10 Enable or disable RAID10 feature.

RAID5

Enable or disable RAID5 feature.

OROM UI and BANNER

If enabled, then the OROM UI is shown. Otherwise, no OROM banner or information will be displayed if all disks and RAID volumes are Normal.

OROM UI Delay

If enabled, indicates the delay of the OROM UI Splash Screen in a normal status.



USB Configuration

Main Huvanceu Chipse	t Boot Security Save & E	can Megatrends, Inc. xit Server Mgmt
 PCIe Subsystem Settings CPU Configuration SATA Configuration USB Configuration Platform Function NCT6791D Super IO Confi System HW Monitor Serial Port Console Red 	guration irection	PCI, PCI-X and PCI Express Settings.
		++: Select Screen ++: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1236.	Copyright (C) 2012 America	n Megatrends, Inc.
Antio Setun Utilitu	- Conuciant (C) 2012 Ameri	can Megatrends Inc
Aptio Setup Utility Advanced	– Copyright (C) 2012 Ameri	can Megatrends, Inc.
Aptio Setup Utility Advanced USB Configuration	– Copyright (C) 2012 Ameri	Enables Legacy USB
Aptio Setup Utility Advanced USB Configuration USB Devices: 1 Drive, 1 Keyboa	- Copyright (C) 2012 Ameri nd, 2 Hubs	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected _DISABLE
Aptio Setup Utility Advanced USB Configuration USB Devices: 1 Drive, 1 Keyboa Legacy USB Support USB Mass Storage Driv	- Copyright (C) 2012 Ameri rd, 2 Hubs [Enabled] [Enabled]	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.
Aptio Setup Utility Advanced USB Configuration USB Devices: 1 Drive, 1 Keyboa Legacy USB Support USB Mass Storage Driv USB hardware delays a USB transfer time-out	- Copyright (C) 2012 Ameri rd, 2 Hubs [Enabled] [Enabled]	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.
Aptio Setup Utility Advanced USB Configuration USB Devices: 1 Drive, 1 Keyboa Legacy USB Support USB Mass Storage Driv USB hardware delays a USB transfer time-out Device reset time-out Device power-up delay	- Copyright (C) 2012 Ameri rd, 2 Hubs [Enabled] [Enabled] [20 sec] [20 sec] [Auto]	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. ++: Select Screen 14: Select Item Enter: Select



Advanced Embedded & Network Solutions Legacy USB Support

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.

USB Mass Storage Device Configuration

Configure the USB Mass Storage Devices.

USB transfer time-out

The time-out value for Control, Bulk, and Interrupt transfers.

Device reset time-out

USB mass storage device Start Unit command time-out.

Device power-up delay

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.

Platform Function

Aptio Setup Utili Advanced	ty – Copyright (C) 201	2 American Megatrends, Inc.
SOL Switch	[Disabled]	Switch Console for COM1 or SOL
Watch Dog Function Watch dog Mode	[Sec]	
Watch dog Timer Watch dog count	0 : N/A	
LAN Bypass Function		
		→++: Select Screen
		↑↓: Select Item Enter: Select
		+/−: Change Opt. F1: General Help
		F2: Previous Values F3: Optimized Defaults
		F4: Save & Exit ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.		

SOL Switch



Switch console for COM2 or SOL.

Watch dog Mode

Watch dog Mode ($\mbox{Sec/Min}$) .

Watch dog Timer

Watch dog Mode $(\,\mbox{Sec/Min}\,)\,$.

NCT6791D Super IO Configuration

Aptio Setup Utility – Copyright (C Advanced	2012 American Megatrends, Inc.
NCT6791D Super IO Configuration NCT6791D Super IO Chip > Serial Port 0 Configuration > Serial Port 1 Configuration	Set Parameters of Serial Port O (COMA)
	++: Select Screen fJ: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1236. Copyright (C) :	2012 American Megatrends, Inc.



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Advanced			
Serial Port O Configura	tion	Enable or Disable Serial Port (COM)	
Serial Port Device Settings Change Settings	[Enabled] IO=3F8h; IRQ=4; [Auto]		
		++: Select Screen †4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.			

Aptio Setup Utili Advanced	ity – Copyright (C) 2012	American Megatrends, Inc.
Serial Port 1 Configu	ration	Enable or Disable Serial Port (COM)
Serial Port	[Enabled]	
Device Settings	IO=2F8h; IRQ=3;	
Change Settings	[Auto]	
		→+: Select Screen
		↑↓: Select Item
		Enter: Select
		+/-: Change Opt.
		F1: General Help
		F2: Previous Values
		E4. Save & Evit
		ESC. Evit
		LOO. LAIT
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Serial Port 0/1 Configuration

Serial Port

Enable or Disable Serial Port (COM)

Change Settings

Select an optimal setting for Super IO device.

Pc Health Status

This screen shows the motherboard voltage and system temperature.

Aptio Setup Utility Advanced) – Copyright (C) 2012 Amer	ican Megatrends, Inc.
Pc Health Status		
CPU temperature System temperature CN24 temperature CN23 temperature CN22 temperature CN21 temperature CPU FAN Speed(FAN5) Connector FAN1 Speed Connector FAN2 Speed Connector FAN3 Speed Connector FAN4 Speed CN24 FAN Speed CN23 FAN Speed CN22 FAN Speed Slot2 CN4 FAN Speed Slot2 CN3 FAN Speed	: +36 C : +39 C : N/A : N/A : N/A : N/A : 1776 RPM : N/A : N/A	<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ■ ESC: Exit</pre>
Version 2.15.1236.	Copyright (C) 2012 Americ	an Megatrends, Inc.



Aptio Setup Utility Advanced	y – Copyright (C) 201	2 American Megatrends, Inc.
Connector FAN2 Speed	: N/A	
Connector FAN3 Speed	: N/A	
Connector FAN4 Speed	: N/A	
CN24 FAN Speed	: N/A	
CN23 FAN Speed	: N/A	
CN22 FAN Speed	: N/A	
CN21 FAN Speed	: N/A	
Slot2 CN4 FAN Speed	: N/A	
Slot2 CN3 FAN Speed	: N/A	
Slot2 CN2 FAN Speed	: N/A	
+12 V	: +12.288 V	++: Select Screen
+5 V	: +5.120 V	↑↓: Select Item
VDIMM	: +1.496 V	Enter: Select
PCH 1.05 V	: +1.056 V	+/-: Change Opt.
PCH 1.5 V	: +1.568 V	F1: General Help
CPU VTT	: +1.002 V	F2: Previous Values
CPUVCORE	: +1.744 V	F3: Optimized Defaults
VCC3	: +3.392 V	F4: Save & Exit
5VSB	: +5.120 V	▼ ESC: Exit
Version 2 15 1236	Conucidat (C) 2012	American Megatrends Inc

Console Redirection Settings (COMO)

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Advanced			
COMO Console Redirection [Enabled] Console Redirection Settings COM1/SOL Console Redirection [Disabled] Console Redirection Settings	Console Redirection Enable or Disable.		
	++: Select Screen fJ: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		
Version 2.15.1236. Copyright (C) 2012 America	n Megatrends, Inc.		



Console Redirection

Console Redirection Enable or Disable.

Aptio Setup Utility Advanced	– Copyright (C) 2012 Amer	ican Megatrends, Inc.	
COMO Console Redirection Set Terminal Type Bits per second Data Bits Parity Stop Bits Flow Control VT-UTF8 Combo Key Sup Recorder Mode Resolution 100x31 Legacy OS Redirection Putty KeyPad Redirection After BIO	tings [VT100+] [115200] [8] [None] [1] [None] [Enabled] [Disabled] [Disabled] [80x24] [VT100] [Always Enable]	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more ++: Select Screen tJ: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
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Terminal Type

Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.

Bits per second

Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.

Data Bits

Data Bits.

Parity

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. They can be used as an additional data bit.

Stop Bits

Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.

Flow Control

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 two wires to send start/stop signals.

VT-UTF8 Combo Key Support

Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.

Recorder Mode

With this mode enabled only text will be sent. This is to capture Terminal data.

Resolution 100x31

Enables or disables extended terminal resolution.

Legacy OS Redirection Resolution

On Legacy OS, the Number of Rows and Columns supported redirection.

Putty KeyPad

Select FunctionKey and KeyPad on Putty.

Redirection After BIOS POST

The Settings specify if BootLoader is selected than Legacy console redirection is disabled before booting to Legacy OS. Default value is Always Enable which means Legaacy console Redirection is enabled for Legacy OS.



Advanced Embedded & Network Solutions Serial On Lan

Serial On Lan Emm Console Redirection Settings ASC Terminal Type [VT100+] Bits per second [115200] Data Bits [8] Use	mulation: ANSI: Extended SCII char set. VT100: ASCII han set. VT100+: Extends
Farity [None] Unit Stop Bits [1] byt Flow Control [None]	T100 to support color, unction keys, etc. VT-UTF8: Uses UTF8 encoding to map Inicode chars onto 1 or more Bytes.
VT-UTF8 Combo Key Support [Enabled] Recorder Mode [Disabled] Resolution 100x31 [Disabled] Legacy OS Redirection Resolution [80x24] Putty KeyPad [VT100] Redirection After BIOS POST [Always Enable] F1: F2: F3: F3: F4: ESC	 ★: Select Screen ↓: Select Item inter: Select -/-: Change Opt. 1: General Help 2: Previous Values 3: Optimized Defaults :4: Save & Exit :SC: Exit

Terminal Type

Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.

Bits per second

Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.

Data Bits

Data Bits

Parity

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. They can be used as an



additional data bit.

Stop Bits

Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.

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VT-UTF8 Combo Key Support

Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.

Recorder Mode

With this mode enabled only text will be sent. This is to capture Terminal data.

Resolution 100x31

Enables or disables extended terminal resolution.

Legacy OS Redirection Resolution

On Legacy OS, the Number of Rows and Columns supported redirection.

Putty KeyPad

Select FunctionKey and KeyPad on Putty.

Redirection After BIOS POST

The Settings specify if BootLoader is selected than Legacy console redirection is disabled before booting to Legacy OS. Default value is Always Enable which means Legaacy console Redirection is enabled for Legacy OS.



4.5 Chipset

PCH-IO Configuration



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Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Chipset	
 PCI Express Configuration USB Configuration 	PCI Express Configuration settings
SLP_S4 Assertion Widt [1-2 Seconds] Restore AC Power Loss [Power On]	
	<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt.</pre>
	F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1236. Copyright (C) 2012 America	an Megatrends, Inc.



SLP_S4 Assertion Width

Select a minimum assertion width of the SLP_S4# signal

Restore AC Power Loss

Select AC power state when power is re-applied after a power failure.

USB Configuration USB Ports Per-Port Di [Enabled]	Control each of the USB
USB Port #1 [Enabled] USB Port #2 [Enabled] USB Port #3 [Enabled] USB Port #4 [Enabled] USB Port #5 [Enabled]	
	<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>



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Chipset		
VT-d Enhanced I/O Mode NB PCIe Configuration Memory Configuration	[Enabled] [Enabled]	Check to enable VT-d function on MCH. ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1236.	Copyright (C) 2012 America	an Megatrends, Inc.

Intel(R) VT-d

Enable/Disable Intel(R) Virtualization Technology for Directed I/O.

Enhance IO Mode

Enable/Disable Enhance IO Mode



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Chipset		
NB PCIe Configuration PEGO PEGO - Gen X PEG1 PEG1 - Gen X PEG2 PEG2 - Gen X Enable PEG PEG0 De-emphasis Cont PEG1 De-emphasis Cont PEG2 De-emphasis Cont	<pre>x8 Gen2 [Auto] x8 Gen2 [Auto] Not Present [Auto] [Enabled] [-3.5 dB] [-3.5 dB] [-3.5 dB]</pre>	Configure PEGO BO:D1:FO Gen1-Gen3 ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1236.	Copyright (C) 2012 Americ	an Megatrends, Inc.

PEGO - Gen X

Configure PEG0 B0: D1: F0 Gen1-Gen3

PEG1 - Gen X

Configure PEG1 B0: D1: F1 Gen1-Gen3

PEG2 - Gen X

Configure PEG2 B0: D1: F2 Gen1-Gen3

Enable PEG

To enable or disable the PEG.

PEGO De-emphasis Control

PEG0: Configure the De-emphasis control on PEG

PEG1 De-emphasis Control

PEG1: Configure the De-emphasis control on PEG



PEG2 De-emphasis Control

PEG2: Configure the De-emphasis control on PEG

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Chipset		
Memory Information		Maximum Memory Frequency Selections in
Memory Frequency Total Memory DIMM#0 DIMM#1 DIMM#2 DIMM#3 CAS Latency (tCL) Minimum delay time	1333 Mhz 2048 MB (DDR3) Not Present Not Present 2048 MB (DDR3) 9	Mhz.
CAS to RAS (tRCDm Row Precharge (tR	9 9	++: Select Screen ↑↓: Select Item
Active to Prechar	24	Enter: Select +/-: Change Opt.
Memory Frequency Limi	[Auto]	F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Memory Frequency Limitation

Maxium Memory Frequency Selections in Mhz



4.6 Boot

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Main Advanced Chipset <mark>Boot</mark> Security Save & Exit Server Mgmt		
Boot Configuration Setup Prompt Timeout Bootup NumLock State	<mark>1</mark> [0n]	Number of seconds to wait for setup activation key. 65535(0xFFFF) means
Quiet Boot	[Disabled]	indefinite waiting.
1st Boot 2nd Boot 3rd Boot 4th Boot 5th Boot 6th Boot 7th Boot	[Hand Disk] [USB Hand Disk] [USB KEY:IBM-DARA-21] [CD/DVD] [USB CD/DVD] [USB Floppy] [Network]	++: Select Screen †↓: Select Item Enter: Select +/-: Change Opt.
CSM16 Parameters		F1: General Help
CSM parameters		F2: Previous Values F3: Optimized Defaults
USB KEY Drive BBS Prior	rities	F4: Save & Exit ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.		

Setup Prompt Timeout

Use the <+> and <-> keys to adjust the number of seconds to wait for setup activation key.

Bootup NumLock State

This item allows you to select "On" or "Off" power-on state for the NumLock.

Quiet Boot

If this option is set to Disabled, the BIOS displays normal POST messages. If Enabled, an OEM Logo is shown instead of POST messages.

Boot Option Priorities

Choose boot priority from boot device.

Hard Disk Drive BBS Priorities



Specifies the Boot Device Priority sequence from available Hard Drives.

CD/DVD ROM Drive BBS Priorities

Specifies the Boot Device Priority sequence from available CD/DVD Drives.

NETWORK Device BBS Priorities

Specifies the Boot Device Priority sequence from available NETWORK Drives.

CSM16 Parameters

Enable/Disable, Option ROM execution settings, etc.

Aptio Setup Utilit	y – Copyright (C) 2012 Ame Boot	erican Megatrends, Inc.
CSM16 Parameters		UPON REQUEST - GA20 can be disabled using BIOS
CSM16 Module Version	78.e0	services. ALWAYS – do not allow disabling
GateA20 Active Option ROM Messages	[Upon Request] [Force BIOS] [Immodiate]	GA20; this option is useful when any RT code
INTIS TRAP Response	[Immediate]	IS executed above IMB.
		++: Select Screen
		Enter: Select +/-: Change Opt.
		F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1236	. Copyright (C) 2012 Ameri	ican Megatrends, Inc.

GateA20 Active

UPON REQUEST - GA20 can be disabled using BIOS services. ALWAYS - do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.

Option ROM Messages

Set display mode for Option ROM.



INT19 Trap Response

BIOS reaction on INT19 trapping by Option ROM: IMMEDIATE - execute the trap right away; POSTPONED - execute the trap during legacy boot.

CSM parameters

OpROM execution , boot Option filter, etc.

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Boot		
Launch CSM Boot option filter Launch PXE OpROM poli Launch Storage OpROM Launch Video OpROM po Other PCI device ROM	<pre>[Enabled] [Legacy only] [Do not launch] [Legacy only] [Legacy only] [UEFI OpROM]</pre>	This option controls if CSM will be launched ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1236.	Copyright (C) 2012 Amer	rican Megatrends, Inc.

Launch CSM

This option controls if CSM will be launched.

Boot option filter

This option controls what devices system can boot to.

Launch PXE OpROM policy

Controls the execution of UEFI and Legacy PXE OpROM.

Launch VI deo OpROM policy

Controls the execution of UEFI and Video OpROM.



Launch Storage OpROM policy

Controls the execution of UEFI and Legacy Storage OpROM.

Other PCI device ROM priority

For PCI devices other than Network, Mass storage or Video defines which OpROM to launch

4.7 Server Mgmt

Aptio Setup Main Advanced Chipset	Utility – Copyright (C) 2012 Server Mgmt Boot Security	American Megatrends, Inc. Save & Exit
BMC Self Test Status	PASSED	Enable/Disable interfaces to
BMC Support	[Enahled]	Sommarized to with bits
Wait For BMC	[Disabled]	
BMC Network Config	[Disabled]	
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Vancian 2.4	E 1229 Conjuniant (C) 2012 Am	anicon Magathanda Tha

BMC Support

Enable/Disable interfaces to communicate with BMC

Wait For BMC

Wait For BMC response for specified time out. In PILOTII, BMC starts at the same time when BIOS starts during AC power ON. It takes around 30 seconds to initialize Host to BMC interfaces.

BMC Network Config



BMC Network Config

Aptio Setup Utility Server I	– Copyright (C) 2012 Amer Mgmt	ican Megatrends, Inc.
BMC network configuration Lan channel 1 Configuration Address source Station IP address Subnet mask Station MAC address Router IP address	[Unspecified] 192.168.1.100 255.255.255.0 00-0d-48-26-79-eb 0.0.0.0	Select to configure LAN channel parameters statically or dynamically(by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase ++: Select Screen
		Enter: Select Field +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

4.8 Security Menu

${iguplus}$ Use the Security Setup option as follows:

- 1. Choose "Security" from the main menu. The following screen appears:
- Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. Please press the <F1> key for information on the various options.
- 3. After you have finished with the Security setup, press the $\langle \leftarrow \rangle$ or $\langle \rightarrow \rangle$ key to switch to other setup menu or press $\langle F4 \rangle$ key to save setting.



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Main Advanced Chipset Boot <mark>Security</mark> Save & Exit Server Mgmt		
Password Description	Set Administrator Password	
If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup. If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights. The paceword length must be	5	
in the following range:	++: Select Screen	
Minimum length 3	T4: Select Item	
Administrator Password	+/-: Change Opt. F1: General Help F2: Previous Values	
USEL FASSWUFU	F4: Save & Exit ESC: Exit	
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.		

Administrator Password:

This item allows you to set or change the administrator password. The Administrator Password item on top of the screen shows the default Not Installed. After you have set a password, this item shows Installed.

4.9 Save & Exit

The item allows you to save or discard your changes to the BIOS items, and load the optimal defaults or user defaults for the BIOS items.

1. Choose "Exit" from the main menu, the following screen appears.



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. Main Advanced Chipset Boot Security <mark>Save & Exit</mark> Server Mgmt			
Save Changes and Reset Discard Changes and Reset Restore Defaults	Reset the system after saving the changes. ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults E4: Save & Exit		
Version 2.15.1236. Copyright (C) 2012 Americ	ESC: Exit		

- Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. For information on the various options, please press <F1> key.
- 3. Press the $\langle \leftrightarrow \rangle$ or $\langle \rightarrow \rangle$ key to switch to other setup menu or press $\langle F4 \rangle$ key to save setting.

Save Changes and Reset:

Store all changes you made into CMOS and reboot system. F4 key can be used for this operation.

Discard Changes and Reset:

Discard all changes you made and reboot system. ESC key can be used for this operation.

Restore Defaults:

This item allows you to load optimal defaults for each setting on the



Setup Utility menus, which will provide the best performance settings for system. F3 key can be used for this operation.

Chapter 5. Utility & Driver Installation

Please install the GbE modules properly before you install the OS, driver or other software.

5.1 Operation System Supporting

SCB-1803 can support Windows® and Linux® operation system as follows. Before installation, please check your OS version. If your OS is not in the following list, please upgrade your OS version.

OS	Version
DOS	DOS 6.22
Windows®	Microsoft Windows Server 2008R2 Enterprise (x64)
	Microsoft Server 2008 Enterprise (x32 and x64)
	Microsoft Windows Server 2012 (x64)
	Microsoft Windows 7 (x32/x64)
Linux®	Red Hat Enterprise Linux Server* (x32 and x64)

5.2 System Driver Installation

SCB-1803 offers the system driver in the setup CD. Please install the driver following the procedures.

stracting Files		
The contents of this package	are being extracted.	
Please wait while the InstallSh Intel(R) Chipset Software Inst moments.	ield(R) Wizard extracts the file allation Utility on your compute	s needed to install r. This may take a few
Extracting ich2br.cat		
,		
Shield		



5.3 LAN Driver Installation

SCB-1803 offers the LAN driver in the setup CD. Please click the Autorun file and install the driver following the procedures.

- 1. Insert the setup CD of SCB-1803 into your CD-ROM drive.
- 2. Choose the Drivers file to click the Autorun icon.
- 3. Follow the procedures to finish the installation.

Appendix A: DOS / Linux Sample Code

We offer some sample code for SCB-1803 appliance for customer need that sample code is putted into the Driver CD for software development use.

Appendix B: Cable Development Kit

The SCB-1803 offers some cables for development use.

<u>DK002</u>

Item & Description	Part No.	Qty
Ethernet Cat.5 Cable 2M/ RoHS	46L-EC5200-00	1
Cross Over 2M Color/ RoHS	46L-CO5202/4-00	1
RJ45 to DB9 2M Cable/ RoHS	46L-RJDB91-00	1
2m null modem cable/ RoHS	46L-DB9200-01	1
VGA CABLE (2mm) 15CM/ RoHS	46L-IVGA01-00	1
KB/MS CABLE 15CM/ RoHS	46L-IPS200-00	1
USB CABLE/ RoHS	46L-IUSB01-00	1



46L-EC5200-00



46L-DB9200-00



46L-IPS200-00



46L-CO5202/4-00



46L-IVGA01-00







46L-IUSB01-00

