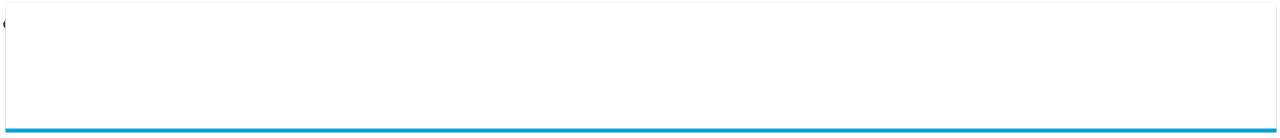
Sanyo CAR-5040 Series User Manual

1
Table Of Contents
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134



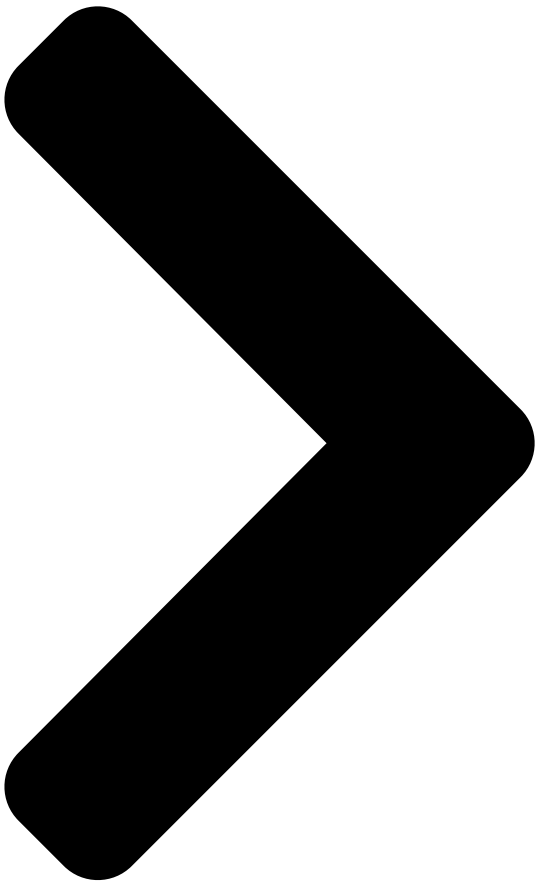
-

Table of Contents

Bookmarks

Quick Links

Download this manual



All manuals and user guides at all-guides.com
All manuals and user guides at all-guides.com

CAR-5040 Series

Communication Appliance

User□s Manual

Revision: 1.1

Table of Contents

Next Page

1
2
3
4
5

Related Manuals for Sanyo CAR-5040 Series

Freezer Sanyo MDF-593 Instruction Manual

Ultra low temperature freezer (30 pages)

Freezer Sanyo MDF-594 Instruction Manual

Ultra low temperature freezer (35 pages)

Freezer Sanyo MDF-394 Service Manual

Ultra-low temp. freezer (34 pages)

Freezer Sanyo MDF-594C Instruction Manual

Ultra-low temperature freezer (35 pages)

Freezer Sanyo MDF-136 Instruction Manual

Biomedical freezer (27 pages)

Freezer Sanyo MDF-193 Service Manual

Ultra-low temp. freezer (30 pages)

Freezer Sanyo MDF-594C Instruction Manual

Ultra-low temperature freezer (34 pages)

Freezer Sanyo MDF-394 Instruction Manual

Ultra-low temperature freezer (34 pages)

Freezer Sanyo MDF-U4186S Specifications

Hcfc-free ultra-low temperature freezer (2 pages)

Freezer Sanyo MDF-U74V Instruction Manual

Ultra-low temperature freezer (42 pages)

Freezer Sanyo MDF-U53V Service Manual

Ultra-low temperature freezer (68 pages)

Freezer Sanyo MDF-C2156VAN Instruction Manual

Ultra-low temperature freezer (45 pages)

Freezer Sanyo MDF-C2156VAN Service Manual

Ultra-low temperature freezer (43 pages)

Freezer Sanyo MDF-593C Instruction Manual

Ultra low temperature freezer (32 pages)

Freezer Sanyo SF-L6111 Instruction Manual

(21 pages)

Summary of Contents for Sanyo CAR-5040 Series

Page 1 All manuals and user guides at all-guides.com CAR-5040 Series Communication Appliance User□s Manual Revision: 1.1...

Page 2: Table Of Contents

All manuals and user guides at all-guides.com Table of Contents Chapter 1 Manual Overview .....3 About This Manual .....3 Intended Audience .....4 1.3 Manual Contents Descriptions .....4 1.4 Technical or Customer Support .....4 Chapter 2 Introduction .....

Page 3: Chapter 1 Manual Overview

All manuals and user guides at all-guides.com Boot 77 Save & Exit .....78 BIOS status and Beep codes .....79 Chapter 5 CAR-5040 IPMI .....83 Document control

.....83 Revision History .....83 LOM and System Management Overview .....83 Using LOM WebGUI .....

Page 4: Intended Audience

All manuals and user guides at all-guides.com 1.2 Intended Audience This manual is intended for use by engineer who are evaluating and developing their own application on the CAR-5040. 1.3 Manual Contents Descriptions This manual describes how to configure the CAR-5040 to meet various operating requirement, which is organized as follows: ...

Page 5: Chapter 2 Introduction

All manuals and user guides at all-guides.com Chapter 2 Introduction 2.1 Processor and chipset Overview Built upon the functionality and the capability of the Intel ® Xeon® E5-2600 v3 series processors and the C612 chipset, the CAR-5040 provides the performance and feature required for dual processors based workstation platform.

Page 6: Serverboard Features

All manuals and user guides at all-guides.com 2.2 Serverboard Features Item Description Dual Grantley-EP, socket R3 120W Memory Up to Sixteen 1.2v DDR4 2133 ECC RDIMM/ LRDIMM/ slots Ethernet I/O Up to Six proprietary NIC swappable multiple slots and Two low profile standard NIC.

Page 7

All manuals and user guides at all-guides.com System Block Diagram...

Page 8: Jumper Setting

All manuals and user guides at all-guides.com 2.3 Jumper Setting CAPB-5040 Jumper Setting ˙Components Map TOP Layer...

Page 9

All manuals and user guides at all-guides.com (Lower) Thermal Sensor List RT17：CPU0 Temperature Sensor RT18：CPU1 Temperature Sensor RT19：Memory Temperature Sensor RT20： Memory Temperature Sensor RT21：System Temperature Sensor CPU SOCKET CPU0 CPU1 DIMM SOCKET CPU0 CPU 0, CH A DIMM0 CPU 0, CH B DIMM0 CPU 0, CH A DIMM1 CPU 0, CH B DIMM1 CPU 0, CH D DIMM0...

Page 10

All manuals and user guides at all-guides.com CPU1 CPU 1, CH E DIMM0 CPU 1, CH F DIMM0 CPU 1, CH E DIMM1 CPU 1, CH F DIMM1 CPU 1, CH H DIMM0 CPU 1, CH G DIMM0 CPU 1, CH H DIMM1 CPU 1, CH G DIMM1 Jumper &...

Page 11

All manuals and user guides at all-guides.com Front Panel Control CPLD JTAG Connector Open★ CPLD Hook1 Select Debug Port Open★ CPLD Debug Mode CPU0 Fan CPU1 Fan IPMI SMBus Connector Mini-SAS Connector-CPU0 IPMI Serial port Header PCI-E Slot H x8(Standard)-CPU1 SATA Port 0 (6Gb/s) HDD Board Connector NIP Module Fan...

Page 12

All manuals and user guides at all-guides.com PCI-E Slot B x8 (CASwell NIP)-CPU0 Support Tilera NIP module PCI-E Slot C x8 (CASwell NIP)-CPU1 Support Tilera NIP module PCI-E Slot D x8 (CASwell NIP)-CPU1 Support Tilera NIP module (Default Setting:“★”) ˙Pin Header definition ...

Page 13

All manuals and user guides at all-guides.com 3.3V ： J33：Front Panel Control 2 4 6 8 10 12 14 1 3 5 7 9 11 13 Pin No. Signal Description Pin No. Signal Description HDD LED+ PWR LED+ HDD LED- PWR LED- OPMA_LOCAL_LOCK_N OPMA_LOCAL_LOCK_N...

Page 14

All manuals and user guides at all-guides.com ： J42：CPU0 Fan ： J43：CPU1 Fan 1 2 3 4 Pin No. Signal Description NO SENSE Function ： J47：IPMI SMBus Connector 1 2 3 4 5 Pin No. Signal Description CLOCK DATA 3.3V 3.3V ...

Page 15

All manuals and user guides at all-guides.com ： J54：VGA 2 4 6 8 10 1 3 5 7 9 Pin No. Signal Description Pin No. Signal Description DDC_CLOCK GREEN BLUE DDC_DATA V-SYNC H-SYNC ： J56：TPM 2 4 6 8 10 12 14 16 18 20 1 3 5 7 9 11 13 15 17 19 Pin No.

Page 16

All manuals and user guides at all-guides.com ： J60：Smart Fan 1 2 3 Pin No. Signal Description PWM Control Sense ： J63：USB3.0 1 2 3 4 5 6 7 8 9 10 20 19 18 17 16 15 14 13 12

11 Pin No.

Page 17 All manuals and user guides at all-guides.com J67COM Port 2 4 6 8 10 3 5 7 9 Pin No. Signal Description Pin No. Signal Description J68GPIO 2 4 6 8 10 1 3 5 7 9 Pin No. Signal Description Pin No.

Page 18 All manuals and user guides at all-guides.com ATX1/ATX2/ATX3Power Connector 1 2 3 4 Pin No. Signal Description...

Page 19 All manuals and user guides at all-guides.com ABM-5040-0 Jumper Setting ˙Components Map TOP Layer BOT Layer...

Page 20 All manuals and user guides at all-guides.com ˙ Jumper & Connector List Connector Function Remark Standard PCIe x8 Slot USB 2.0 Connector USB 2.0 Connector Management Port 01 RJ45 Management Port 02 RJ45 IPMI connector (RJ45 Interface) Consol port (RJ45 Interface) Non Standard Spec PCIe x16 Golden Finger NCSI Pin Header LAN 01 Controller IC (I210AT)

Page 21 All manuals and user guides at all-guides.com NCSI_Tx0 NCSI_CLK NCSI_Tx1 NCSI_CRS_DV NCSI_Rx0 NCSI_TX_EN NCSI_Rx1...

Page 22 All manuals and user guides at all-guides.com CB-5040-0 Jumper Setting ˙Components Map TOP Layer BOT Layer...

Page 23 All manuals and user guides at all-guides.com ˙ Jumper & Connector List Connector Function Remark SATA#1 connector SATA#2 connector Standard Spec PCIe x4 Golden Finger RAID#1 card connector Header for EZIO and else signal RAID#2 card connector ˙1-2 SATA from CAR-5040★...

Page 24 PCIe Slot A (Port E) PCIe Slot B (Port F) PCIe Slot C (Port G) Board to Board connector (Slot F/G) Board to Board connector (Slot E) Receptacle Keying CAR-5040 Series User’s Manual 24...

Page 25: Chapter 3 Hardware Installation Procedures

4. Avoid short-circuiting the lithium battery; this can cause it to superheat and cause burns if touched. 5. Do not operate the processor without a thermal solution. Damage to the processor can occur in seconds. 6. Do not block air vents. Minimum 1/2-inch clearance required. CAR-5040 Series User’s Manual 25...

Page 26: Install A Different Processor

A. Locate the alignment keys on the motherboard CPU socket and the notches on the CPU. LGA2011 CPU Socket Alignment Key LGA2011 CPU Pin One Corrner of the CPU Socket Notch B. Follow the steps below to correctly install the CPU into the motherboard CPU socket. CAR-5040 Series User’s Manual 26...

Page 27 Hold the CPU with your thumb and index fingers. Align the CPU pin one marking (triangle) with the pin one corner of the CPU socket (or you may align the CPU notches with the socket alignment keys) and gently insert the CPU into position. CAR-5040 Series User’s Manual 27...

Page 28 Once the CPU is properly inserted, use one hand to hold the socket lever and use the other to lightly replace the load plate.. Step5 Push the CPU socket lever back into its locked position. Note Hold the CPU socket lever by the handle, not the lever base portion. CAR-5040 Series User’s Manual 28...

Page 29: Remove And Install Dimm

To install a DIMM 1. Unlock a DIMM socket by pressing the retaining clip outward. 2. Align a DIMM on the socket such that the notch on the DIMM matches the Break on the socket. CAR-5040 Series User’s Manual 29...

Page 30 3. Firmly insert the DIMM into the socket until the retaining clip snaps back in place and the DIMM is properly seated. Follow these steps to remove a DIMM. 1. Press the retaining clip outward to unlock the DIMM. 2. Remove the DIMM from the socket. CAR-5040 Series User’s

Manual 30...

Page 31: Remove And Install Battery

2. Replace it with a new one by pressing the battery with fingertip to restore the battery Eject the battery Restore the battery 3.5 Open the Chassis Please following step as below: 1. Remove all screws from top lead CAR-5040 Series User's Manual 31...

Page 32: Remove Front Penal And Bracket

All manuals and user guides at all-guides.com 3.6 Remove Front Penal and Bracket 1. Remove the NIP module 2. Remove the slot A bracket and HDD CAR-5040 Series User's Manual 32...

Page 33: Remove Psu

All manuals and user guides at all-guides.com 3. Remove all screw for front penal 3.7 Remove PSU 1. Remove system bracket CAR-5040 Series User's Manual 33...

Page 34

All manuals and user guides at all-guides.com 2. Remove LOM module 3. Remove system bracket CAR-5040 Series User's Manual 34...

Page 35

All manuals and user guides at all-guides.com 4. Remove Heatsink / CPU / RAM: CAR-5040 Series User's Manual 35...

Page 36

All manuals and user guides at all-guides.com CAR-5040 Series User's Manual 36...

Page 37

All manuals and user guides at all-guides.com 5. Remove PSU CAR-5040 Series User's Manual 37...

Page 38: Remove Hdd Tray And Slot E/F/G Riser

All manuals and user guides at all-guides.com 3.8 Remove HDD tray and slot E/F/G riser 1. Remove HDD tray bracket 2. Remove riser card and bracket CAR-5040 Series User's Manual 38...

Page 39: Remove Abm-5040

All manuals and user guides at all-guides.com 3.9 Remove ABM-5040 1. Remove ABM-5040 CAR-5040 Series User's Manual 39...

Page 40: Remove Fan Module

All manuals and user guides at all-guides.com 3.10 Remove Fan module 1. Remove Fan module CAR-5040 Series User's Manual 40...

Page 41: Remove Main Board

All manuals and user guides at all-guides.com 3.11 Remove Main Board 1. Remove main board CAR-5040 Series User's Manual 41...

Page 42: Chapter 4 Bios Settings

Increase/Decrease the numeric value or change item setting <F1> To show pop-up screen of general help <F2> Restore previous BIOS item setting value <F3> Restore optimized default value <F4> Execute Save and Reset <ESC> Execute Exit CAR-5040 Series User's Manual 42...

Page 43: Main

Display system date and allow you change the system date. System Time Display system time and allow you change the system time. Access Level Show up what access level has been chosen to enter the BIOS setup screen. CAR-5040 Series User's Manual 43...

Page 44: Advanced

PCI Subsystem Settings Configure the PCI, PCI-x and PCI Express settings. Network Stack Configuration Configure the Network Stack settings. CSM Configure Configure the Option ROM execution settings. Info Report Configure Configure Info Report parameters. CAR-5040 Series

User’s Manual 44...

Page 45 Configure the Trusted Computing settings. USB Configuration Configure the USB configuration parameters. ˙4.3.1 ACPI Settings Enable ACPI Auto Configuration Enables or Disables BIOS ACPI Auto Configuration. Lock Legacy Resources Enables or Disables Lock of Legacy Resources. CAR-5040 Series User’s Manual 45...

Page 46 All manuals and user guides at all-guides.com ˙4.3.2 NCT6779D Super IO Configuration Serial Port1/2 Configuration Set parameters of Serial Port 1/2 (COMA/B) 4.3.2.1 Serial Port1/2 Configuration CAR-5040 Series User’s Manual 46...

Page 47 Change SettingsGSIO600 Select an optimal setting for Super IO Device. ˙4.3.3 NCT6779D HW Monitor Display CPU/system temperature, fan speed and voltage. Fan Speed Control Mode Configure Fan Speed Control Mode. ˙4.3.4 Serial Port Console Redirection CAR-5040 Series User’s Manual 47...

Page 48 All manuals and user guides at all-guides.com Console Redirection Console Redirection Enable or Disable. ˙4.3.5 PCI Subsystem Settings CAR-5040 Series User’s Manual 48...

Page 49 Enables or Disables 64bit capable Devices to be decoded in above 4G Address Space (Only if System Supports 64 bit PCI Decoding). SR-IOV Support If system has SR-IOV capable PCIe Devices, this option Enables or Disables Single Root IO Virtualization Support. 4.3.5.1 PCI Express Settings CAR-5040 Series User’s Manual 49...

Page 50 Defines number of Microseconds software will wait before polling 'Link Training' bit in Link Status register. Value range from 10 to 10000 uS. Unpopulated Links In order to save power, software will disable unpopulated PCI Express links, if this option set to 'Disable Link'. CAR-5040 Series User’s Manual 50...

Page 51 All manuals and user guides at all-guides.com ˙4.3.6 Network Stack Network Stack Enable/Disable UEFI Network Stack. ˙4.3.7 CSM Configuration CAR-5040 Series User’s Manual 51...

Page 52 Control the execution of UEFI and Legacy Storage OpROM. Video Control the execution of UEFI and Legacy Video OpROM. Other PCI devices Determine OpROM execution policy for devices other than Network, Storage or Video. ˙4.3.8 Info Report Configuration CAR-5040 Series User’s Manual 52...

Page 53 All manuals and user guides at all-guides.com Post Report Post Report Support Enabled/Disabled. ˙4.3.9 Trusted Computing Security Device Support CAR-5040 Series User’s Manual 53...

Page 54 All manuals and user guides at all-guides.com 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. ˙4.3.10 USB Configuration USB Support CAR-5040 Series User’s Manual 54...

Page 55 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. CAR-5040 Series User’s Manual 55...

Page 56: Intelrcsetup

Displays and provides option to change the PCH Settings. Server ME Configuration Configure Server ME Technology Parameters. Runtime Error Logging Press <Enter> to view or change the runtime error log configuration. ˙4.4.1 Processor Configuration CAR-5040 Series User’s Manual 56...

Page 57 Hardware Prefetcher = MLC Streamer Prefetcher (MSR 1A4h Bit[0]). Adjacent Cache Prefetch = MLC Spatial Prefetcher (MSR 1A4h Bit[1]). DCU Streamer Prefetcher DCU streamer Prefetcher is an L1 data cache prefetcher (MSR 1A4h [2]). CAR-5040 Series User’s Manual 57...

Page 58 CPU P State Control Controls CPU frequency. CPU C State Control Control CPU idle

states CPU T State Control Control CPU throttling. DRAM RAPL Configuration DRAM RAPL Control Sub Menu ˙4.4.2.1 CPU P State Control CAR-5040 Series User's Manual 58...

Page 59 When enabled, OS sets CPU frequency according load. When disabled, CPU frequency is set at max non-turbo. Turbo Mode Enable or Disable CPU Turbo mode P-state coordination HW_ALL (hardware) coordination is recommended over SW_ALL and SW_ANY (software coordination). ˙4.4.2.2 CPU C State Control CAR-5040 Series User's Manual 59...

Page 60 Package C State limit CPU C3 report Enable/Disable CPU C3(ACPI C2) report to OS. Recommended to be disabled. CPU C6 report Enable/Disable CPU C6(ACPI C2) report to OS Recommended to be enabled. ˙4.4.2.3 CPU T State Control CAR-5040 Series User's Manual 60...

Page 61 All manuals and user guides at all-guides.com ACPI T-States Enable/Disable CPU throttling by OS. Throttling reduces power consumption. ˙4.4.2.4 DRAM RAPL Configuration DRAM RAPL Baseline CAR-5040 Series User's Manual 61...

Page 62 ˙4.4.3 Common RefCode Configuration MMIOHBase MMIOH Base [63:32]; must be between 4032 – 4078. MMIO High Size Select MMIO High Size. Isoc Mode Isoc: Disable,Enable. Numa Enable or Disable Non uniform Memory Access (NUMA). CAR-5040 Series User's Manual 62...

Page 63 Link Frequency Select Allows for selecting the CPU Frequency. Link L0p Enable Link L0p Enable: Disable, Enable, Auto (Default). Link L1 Enable Link L1 Enable: Disable, Enable, Auto (Default). Early Snoop Enable / Disable Early Snoop. CAR-5040 Series User's Manual 63...

Page 64 0-7),each node supports up to 2 channels(0&1) and 3 DIMM's per channel(0,1&2) on EP platforms. Memory Thermal Set memory thermal settings. Memory Map Set memory mapping settings. Memory RAS Configuration Displays and provides option to change the Memory RAS Settings. CAR-5040 Series User's Manual 64...

Page 65 Enable / Disable Patrol Scrub. Patrol Scrub Interval Selects the number of hours (1-24) required to complete full scrub. A value of zero means auto! Demand Scrub Enable/Disable Demand Scrub. Device Tagging Enable/Disable Device Tagging. CAR-5040 Series User's Manual 65...

Page 66 EV DFX Features Set this option to allow DFX Lock Bits to remain clear. Intel VT for Directed I/O (VT-d) Press <Enter> to bring up the Intel VT for Directed I/O (VT-d) Configuration menu. CAR-5040 Series User's Manual 66...

Page 67 IOU0 (IIO PCIe Port 2) Selects PCIe port Bifurcation for selected slot(s). IOU1 (IIO PCIe Port 3) Selects PCIe port Bifurcation for selected slot(s). Socket 0/1 PcieD0xFx – Port x Settings related to PCI Express Ports (0/1A/1B/2A/2B/2C/2D/3A/3B/3C/3D) CAR-5040 Series User's Manual 67...

Page 68 All manuals and user guides at all-guides.com 4.4.6.2 IOAT Configuration Enable IOAT Control to enable/disable IOAT device. No Snoop No Snoop Enable/Disable for each CB device. Relaxed Ordering Relaxed Ordering Enable/Disable. CAR-5040 Series User's Manual 68...

Page 69 Enable/Disable Intel Virtualization Technology for Directed I/O (VT-d) by reporting the I/O device assignment to VMM through DMAR ACPI Tables. Interrupt Remapping Enable/Disable VT_D Interrupt Remapping Support. Coherency Support (Non-Isoch) Enable/Disable Non-Isoch VT_D Engine Coherency support. Coherency Support (Isoch) Enable/Disable Isoch VT_D Engine Coherency support. CAR-5040 Series User's Manual 69...

Page 70 All manuals and user guides at all-guides.com ˙4.4.7 PCH Configuration AC Power Loss Determines the state of the system after the return of power from an AC power loss. 4.4.7.1 PCH sSATA/SATA Configuration CAR-5040 Series User's Manual 70...

Page 71 SATA Mode options SATA mode related options like as RAID 0, 1, 10, 5 modes. Support Aggressive Link Power Management Enables/Disables SALP. 4.4.7.2 USB Configuration CAR-5040 Series User's Manual 71...

Page 72 All manuals and user guides at all-guides.com xHCI Mode Mode of operation of xHCI controller. EHCI1/2 Control the USB EHCI (USB 2.0) functions. One EHCI controller must always be enabled. ˙4.4.8 Server ME Configuration CAR-5040 Series User's Manual 72...

Page 73 2's complement signed integer. Provide the 80000000 value if the altitude is unknown. MCTP Bus Owner MCTP bus owner location on PCIe: [15:8] bus, [7:3] device, [2:0] function. If all zeros sending bus owner is disabled. ˙4.4.9 Runtime Error Logging CAR-5040 Series User's Manual 73...

Page 74 System Error enabling and logging setup option. McBankErrorInjectionSupport Enables or Disables McBank Error Injection Support. Clear McBankErrors Enables or Disables clearing MCBank errors on warm reset. System Poison Enable/Disable Core, Uncore and IIO Poison CAR-5040 Series User's Manual 74...

Page 75: Server Management

All manuals and user guides at all-guides.com 4.5 Server Management BMC Support Enable/Disable interfaces to communicate with BMC. IPMI BMC Reset to def System BIOS will set IPMI BMC to default seting value on next boot CAR-5040 Series User's Manual 75...

Page 76: Security

All manuals and user guides at all-guides.com 4.6 Security Administrator Password Set Administrator Password. Password Check Mode Setup: check password when enter setup screen; Power on: check password on every time system power on. CAR-5040 Series User's Manual 76...

Page 77 Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting. Bootup NumLock State Select the keyboard NumLock state. Quiet Boot Enables or disables Quiet Boot option. NETWORK Drive BBS Priorities Specifies the Boot Device Priority sequence from available NETWORK Drives. CAR-5040 Series User's Manual 77...

Page 78: Save & Exit

Restore Defaults Restore/Load Default values for all the setup options. 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. CAR-5040 Series User's Manual 78...

Page 79: Bios Status And Beep Codes

0x36 PEI_CPU_SMM_INIT 0x37 PEI_MEM_NB_INIT 0x3B PEI_MEM_SB_INIT 0x4F PEI_DXE_IPL_STARTED 0x60 DXE_CORE_STARTED 0xF0 PEI_RECOVERY_AUTO 0xF1 PEI_RECOVERY_USER 0xF2 PEI_RECOVERY_STARTED 0xF3 PEI_RECOVERY_CAPSULE_FOUND 0xF4 PEI_RECOVERY_CAPSULE_LOADED 0xE0 PEI_S3_STARTED 0xE1 PEI_S3_BOOT_SCRIPT 0xE2 PEI_S3_VIDEO_REPOST 0xE3 PEI_S3_OS_WAKE 0x50 PEI_MEMORY_INVALID_TYPE 0x50 PEI_MEMORY_INVALID_SPEED 0x51 PEI_MEMORY_SPD_FAIL CAR-5040 Series User's Manual 79...

Page 80 0xE8 PEI_MEMORY_S3_RESUME_FAILED 0xE9 PEI_S3_RESUME_PPI_NOT_FOUND 0xEA PEI_S3_BOOT_SCRIPT_ERROR 0xEB PEI_S3_OS_WAKE_ERROR DXE Phase Code Description 0x60 DXE_CORE_STARTED 0x61 DXE_NVRAM_INIT 0x62 DXE_SBRUN_INIT 0x63 DXE_CPU_INIT 0x68 DXE_NB_HB_INIT 0x69 DXE_NB_INIT 0x6A DXE_NB_SMM_INIT 0x70 DXE_SB_INIT 0x71 DXE_SB_SMM_INIT 0x72 DXE_SB_DEVICES_INIT 0x78 DXE_ACPI_INIT CAR-5040 Series User's Manual 80...

Page 81 0xA5 DXE_SCSI_RESET 0xA6 DXE_SCSI_DETECT 0xA7 DXE_SCSI_ENABLE 0xA8 DXE_SETUP_VERIFYING_PASSWORD 0xA9 DXE_SETUP_START 0xAB DXE_SETUP_INPUT_WAIT 0xAD DXE_READY_TO_BOOT 0xAE DXE_LEGACY_BOOT 0xAF DXE_EXIT_BOOT_SERVICES 0xB0 RT_SET_VIRTUAL_ADDRESS_MAP_BEGIN 0xB1 RT_SET_VIRTUAL_ADDRESS_MAP_END 0xB2 DXE_LEGACY_OPROM_INIT 0xB3 DXE_RESET_SYSTEM 0xB4 DXE_USB_HOTPLUG 0xB5 DXE_PCI_BUS_HOTPLUG 0xB6 DXE_NVRAM_CLEANUP 0xB7 DXE_CONFIGURATION_RESET CAR-5040 Series User's Manual 81...

Page 82 7 times PEI_RESET_NOT_AVAILABLE 4 times PEI_RECOVERY_FAILED 4 times PEI_S3_RESUME_FAILED DXE Phase Beep Times Description 4 times DXE_ARCH_PROTOCOL_NOT_AVAILABLE 5 times DXE_NO_CON_OUT 5 times DXE_NO_CON_IN 1 time DXE_INVALID_PASSWORD 6 times DXE_FLASH_UPDATE_FAILED 7 times

DXE_RESET_NOT_AVAILABLE 8 times DXE_PCI_BUS_OUT_OF_RESOURCES CAR-5040 Series User's Manual 82...

Page 83: Chapter 5 Car-5040 Ipmi

LOM includes the following components: ■ Service Processor This is the hardware. It consists of a dedicated processor board that communicates through the system serial port and a dedicated Ethernet port ■ WebGUI CAR-5040 Series User's Manual 83...

Page 84: Using Lom Webgui

Users can perform basic software provisioning after log in WebGUI, Intelligent Platform Management Interface (IPMI) tasks, and system monitoring. LOM user accounts include a role which defines what can do. Administrator - Enables access to full functions, and commands. CAR-5040 Series User's Manual 84...

Page 85 Step 1. To log in to the WebGUI, user needs to type the IP address of the LOM into web browser. https://192.168.1.1 User will see the security alert message as Fig. 5.4.1-1 first, press "Yes" to continue. After that, user will see WebGUI login screen as Fig. 5.4.1-2. Fig. 5.4.1-1 Security alert message CAR-5040 Series User's Manual 85...

Page 86 All manuals and user guides at all-guides.com Fig. 5.4.1-2 WebGUI login screen CAR-5040 Series User's Manual 86...

Page 87 As Fig. 5.4.2, the default user name and password are in lowercase characters. To increase secure access to the LOM, change the default password to a new, unique password. Fig. 5.4.2 First Login WebGUI with default user name and password CAR-5040 Series User's Manual 87...

Page 88 All manuals and user guides at all-guides.com Step 3. Click "OK" to Log In. After login to WebGUI, user will see the screen as Fig.5.4.3. Fig.5.4.3 First screen log in the WebGUI CAR-5040 Series User's Manual 88...

Page 89 Step 4. To log out of the WebGUI, click the "Logout" button at the top right of the WebGUI. After users click the logout button, the WebGUI will logout to login screen automatically as Fig.5.4.4. Fig. 5.4.4 After logout WebGUI, the web page return to Login screen CAR-5040 Series User's Manual 89...

Page 90: System Configuration From Webgui

Current status of Power Control (OFF or ON). Power On System Turns on the system when it is in the "off" state. Power Off System Turns off the system when it is in the "on" state. CAR-5040 Series User's Manual 90...

Page 91 Click vKVM enable button then click Apply Changes. As Fig. 5.5.2, users need to click the Enabled checkbox to enable vKVM function. The detail description of Remote KVM Configuration will show in Table 5.5.2. CAR-5040 Series User's Manual 91...

Page 92 Notice: This feature requires that Java 1.5.7 or later is installed on the host system. Java Web Start 1.6 is required to launch the KVM over an IPv6 network. Step 4. Select Remote KVM to enter Remote KVM page. The screen is showed as Fig. 5.5.3. CAR-5040 Series User's Manual 92...

Page 93 Fig. 5.5.6, please click the Run button to allow this verification again. After the java application is finished to run, you can see the remote console as Fig. 5.5.7. Fig. 5.5.4 Warning –Virtual KVM Security screen CAR-5040 Series User's Manual 93...

Page 94 All manuals and user guides at all-guides.com Fig.5.5.5 Java Web Start Fig. 5.5.6 Warning - Security screen. Click "Run" to continue. Fig. 5.5.7 Remote console screen CAR-5040 Series User's Manual 94...

Page 95 OK to close the Session Options window. The mouse tab provides Mouse Acceleration. iii. Video Quality: The compression modes allow for a low quality (420) or high quality (444) compression configuration. The Luminance and Chrominance settings allow CAR-5040 Series User's Manual 95...

Page 96 Media Session screen as Fig. 5.5.8, user can click the Details button to display a list of virtual devices and the read/write activity for each device as Fig. 5.5.9. Fig.5.5.8 Virtual Media Session screen CAR-5040 Series User's Manual 96...

Page 97 Mapped column of the table as Fig.5.5.10. The device will be mapped to the server. After that, the remote server can be booting up base on the system of removable storage from local as Fig.5.5.11. CAR-5040 Series User's Manual 97...

Page 98 Fig.5.5.11 Remote server is booting up base on the system of removable storage from local. NOTE: User must have Access Virtual Media permission to virtualize or disconnect a drive. ■ 5.5.6 Serial over LAN console CAR-5040 Series User's Manual 98...

Page 99 Enable IPMI Over LAN Indicates Serial Over LAN is enabled when checked or disabled when checked. Baud Rate Sets the Baud Rate from a drop-down list(9600 bps, 19.2 kpbs, 38.4 kpbs, 57.6 kpbs or 115.2 kbps) CAR-5040 Series User's Manual 99...

Page 100: System Monitoring And Maintenance From Webgui

With Administrator and Operator privilege level, user can see and click the Clear Log button to clear events from the log. The detail description of System Event Log format will show in Table 5.6.1.1. CAR-5040 Series User's Manual 100...

Page 101 5.6.1.2 Platform Event Setting This page displays the platform event filters that are dynamically generated from the IPMI and the preset response that will be performed when each event occurs. The event list CAR-5040 Series User's Manual 101...

Page 102 Example event traps could help a management station with load balancing between nodes or by issuing an alert if an authentication failure occurs. CAR-5040 Series User's Manual 102...

Page 103 (IPv4 Destination 1, 2, 3 or 4) is checked. Test Sends a test trap to the corresponding email address. The Test button will be enabled when IPv4/ IPv6 Destination Address and IPv4/ IPv6 Network are CAR-5040 Series User's Manual 103...

Page 104 Edit the destination email IP for the alert. User can also edit the email description if need. Step 5. Edit the SMTP Server IP. Step 6. Edit the SMTP Authentication field if user have security requirement. Step 7. Click "Apply Changes" button to save setting. CAR-5040 Series User's Manual 104...

Page 105 Configures the SMTP email server IP address. Allows only numerical values Server IP Address between 0-255 and is validated against the IP segmented pattern NNN.NNN.NNN.NNN. This field is required only if the corresponding checkbox (email alert N enable) is checked. CAR-5040 Series User's Manual 105...

Page 106 Unable to retrieve the voltage probe sensor information. The system is powered off. The detail description of Voltages table format will show in Table 5.6.2.1. Fig. 5.6.2.1 The sensor of system board and power supply voltage CAR-5040 Series User's Manual 106...

Page 107 Unable to retrieve the fan probe sensor information. The system is powered off. The detail description of Fans Probe List format will show in Table 5.6.2.2. Fig. 5.6.2.2 The sensors of Case (System), CPU Fan status CAR-5040 Series User's Manual 107...

Page 108 Values are measured in degrees centigrade. If the power to the system is off, the following message is displayed: Unable to retrieve the temperature probe sensor information. The system is powered off. The detail description of Temperatures table format will show in Table 5.6.2.3. CAR-5040 Series User's Manual 108...

Page 109 Minimum Failure Minimum threshold, measured in degrees centigrade, at which a failure Threshold alert is issued. Maximum Failure Maximum threshold, measured in degrees centigrade, at which a failure Threshold alert is issued. CAR-5040 Series User's Manual 109...

Page 110: System Bmc Management From Webgui

User will see the Network Interface Configuration page screen as Fig. 5.7.2. In this page, user

can set LOM network configuration. The detail description of Network Interface Configuration field will show in Table 5.7.1. Click Apply Changes to execute any changes. CAR-5040 Series User's Manual 110...

Page 111 All manuals and user guides at all-guides.com Fig. 5.7.1 LOM Network General Settings screen CAR-5040 Series User's Manual 111...

Page 112 All manuals and user guides at all-guides.com Fig. 5.7.2 LOM Network Interface Configuration screen CAR-5040 Series User's Manual 112...

Page 113 192.168.1.254. Use DHCP to obtain If enabled (checked), the DNS server address is obtained from the DHCPv4 DNS server server. Use DHCP must be checked before you enable the Use DHCP to obtain CAR-5040 Series User's Manual 113...

Page 114 Displays the IP address of the alternate DNS server. To change this setting, you Server must first uncheck the Use DHCP to obtain DNS Server Addresses option. VLAN Settings Enable VLAN ID If enabled, only matched Virtual LAN (VLAN) ID traffic is accepted. CAR-5040 Series User's Manual 114...

Page 115 User will see the Network Security page screen as Fig. 5.7.3. In this page, user can configure the relative parameter of network security. The detail description of Network Security field will show in Table 5.7.2. Fig. 5.7.3 Network Security configuration screen CAR-5040 Series User's Manual 115...

Page 116 User will see the Services Configuration page screen as Fig. 5.7.4. In this page, user can configure the relative parameter of LOM Web GUI service. The detail description of Network Security field will show in Table 5.7.3. CAR-5040 Series User's Manual 116...

Page 117 Maximum Sessions. ■ 5.7.4 Session Configuration This section allows user to view information about the active sessions. The screen is showed as Fig. 5.7.5. Click the Refresh button to refresh the Sessions screen. CAR-5040 Series User's Manual 117...

Page 118 Operator privilege level, user can click the Generate Certificate button and enter the data needed to generate a CSR (Certificate Signing Request). To ensure a secure system, generate a CSR, submit the CSR to a CertAgent and upload the certificate returned from the Certificate Authority (CA). CAR-5040 Series User's Manual 118...

Page 119 User ID number in the Users list, change the settings for a user and click Refresh to refresh the User list. The detail description of Users information field will show in Table 5.7.4. CAR-5040 Series User's Manual 119...

Page 120 Select a number of user ID button to modify user account. User will see the Users information page screen as Fig. 5.7.8. This page enables user to configure user information and privileges for a new or existing user. With Administrator CAR-5040 Series User's Manual 120...

Page 121 New Password for selected user. A checked box enables user to enter a new password using up to 16 printable US-ASCII (Code: 33-126) characters. After changes are made, click the Apply Changes button. If validation fails, the CAR-5040 Series User's Manual 121...

Page 122 From the Event Management tab, select LDAP. User will see the LDAP page screen as Fig. 5.7.9. In this page, user can configure the relative parameter of LDAP. The detail description of LDAP field will show in Table 5.7.6. CAR-5040 Series User's Manual 122...

Page 123 This is used to specify the service name when doing DNS SRV requests. Domain Controller 1 Fully qualified host name or IP Address for the first configured domain controller. Domain Controller 1's Port to connect with for the first configured domain controller. CAR-5040 Series User's Manual 123...

Page 124 From the Event Management tab, select RADIUS. User will see the RADIUS page screen as Fig. 5.7.10. In this page, user can configure the relative parameter of RADIUS. The detail description of Network Security field will show in Table 5.7.7. CAR-5040 Series User's Manual 124...

Page 125 IPMI Serial attributes and IPMI LAN Settings values and then click Apply Changes to execute validation against the Encryption key field and send all data to the server. CAR-5040 Series User's Manual 125...

Page 126 Sets the maximum privilege level that can be accepted on the LAN Limit channel (Administrator, Operator or User). Encryption Key Sets the Encryption Key. This field allows from 0 to 20 two-digit Hex characters and no spaces. CAR-5040 Series User's Manual 126...

Page 127: Utilities

As Fig. 5.8.2, this page allows user to reboot the LOM Service Processor or to reset the LOM Service Processor configuration to factory default. Click "Reboot" button to reboot the Service Processor or click "Factory Default" button to reset Service Processor to default. CAR-5040 Series User's Manual 127...

Page 128 LOM firmware from WebGUI: Step 1. Log in to the LOM as Administrator to reach the WebGUI. Step 2. From the Utilities tab, select Firmware Update User will see the Firmware Update page screen as Fig. 5.8.3. CAR-5040 Series User's Manual 128...

Page 129 All manuals and user guides at all-guides.com Fig. 5.8.3 Firmware update file browser Step 3. To upload and update the embedded software: Step 3.1. As Fig. 5.8.4, browse to or enter the path where the firmware image file resides. CAR-5040 Series User's Manual 129...

Page 130 Step 3.3. As Fig. 5.8.5, for a successful upload, the current firmware version and the version of the new file will be displayed, as well as the Preserve Configuration checkbox, Update button and Cancel button. The detail description of Firmware Update field will show in Table 5.8.1. CAR-5040 Series User's Manual 130...

Page 131 When the update is completed, the Status will show 100% Completed message as Fig. 5.8.6 and the embedded software will reboot automatically. If click the Cancel button, the process will be terminated and the embedded software will reboot. CAR-5040 Series User's Manual 131...

Page 132: Software Design Specification Of Fan Control Algorithm

Note: 1. The default fan speed control mode is "Performance" mode 2. The initial fan speed duty cycle is 30% when BMC is ready. And then BMC control fan speed with choose algorithm. CAR-5040 Series User's Manual 132...

Page 133 In this mode, BMC will set the fan duty cycle with table 5.9.3. Table 5.9.4 is showed the mapping between fan duty cycle and fan speed. Table 5.9.3: The fan duty cycle rule of Balanced mode Duty cycle CPU0 temperature < 50 ℃ ℃ ℃ ℃ ℃ ℃ ℃ ℃ ℃ CAR-5040 Series User's Manual 133...

Page 134 100% > 70 ℃ Table 5.9.6: The mapping between fan duty cycle and fan speed Duty cycle Fan speed ≒6556 rpm ≒8704 rpm ≒10368 rpm ≒12160 rpm ≒13696 rpm ≒14976 rpm ≒16640 rpm 100% CAR-5040 Series User's Manual 134...