Toshiba PORTÉGÉ M700 Maintenance Manual

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

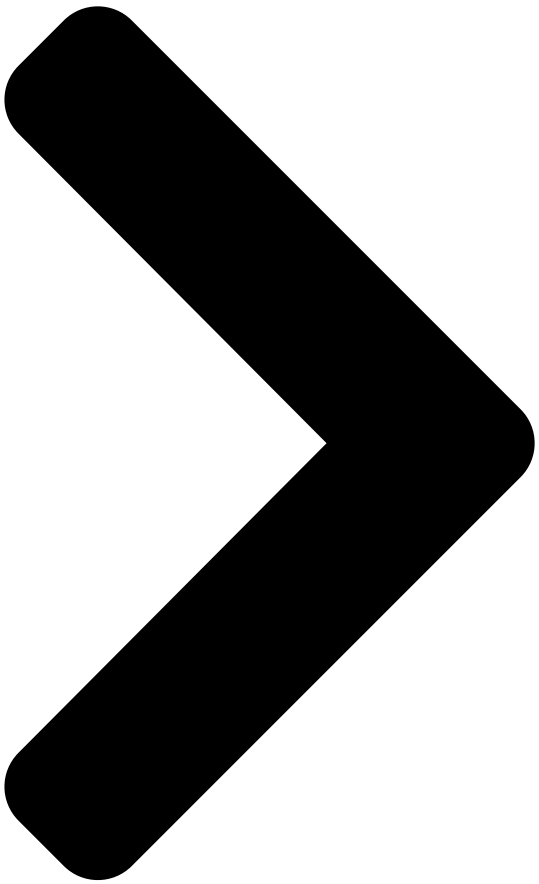
-

Table of Contents

-

Troubleshooting

Bookmarks



Toshiba Personal Computer
PORTÉGÉ M700
Maintenance Manual

3G & SmartCard (Rev B)

Degitizer utility(Rev C)

TOSHIBA CORPORATION

File Number 960-661

First Edition

[CONFIDENTIAL]

Table of Contents

Next Page

Chapters

Troubleshooting

Related Manuals for Toshiba PORTÉGÉ M700

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(427 pages)

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Laptop Toshiba PDR-M700 Specifications

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(262 pages)

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Maintenance manual (219 pages)

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(386 pages)

Desktop Toshiba Satellite M500 Maintenance Manual

(250 pages)

Desktop Toshiba Satellite M640 Maintenance Manual

(276 pages)

Desktop Toshiba M500D User Manual

(225 pages)

Desktop Toshiba Tecra A6 Maintenance Manual

(283 pages)

Summary of Contents for Toshiba PORTÉGÉ M700

Page 1 Toshiba Personal Computer PORTÉGÉ M700 Maintenance Manual 3G & SmartCard (Rev B) Degitizer utility(Rev C) TOSHIBA CORPORATION File Number 960-661 First Edition [CONFIDENTIAL]...

Page 2

Page 3 NOTE: “Note” contains general information that relates to your safe maintenance service. Improper repair of the computer may result in safety hazards. Toshiba requires service technicians and authorized dealers or service providers to ensure the following safety precautions are adhered to strictly.

Page 4 The manual is divided into the following parts: Chapter 1 Hardware Overview describes the T PORTÉGÉ M700. system unit and each FRU. Chapter 2 Troubleshooting Procedures explains how to diagnose and resolve FRU problems. Chapter 3 Test and Diagnostics describes how to perform test and diagnostic operations for maintenance service.

Page 5 Conventions This manual uses the following formats to describe, identify, and highlight terms and operating procedures. Acronyms On the first appearance and whenever necessary for clarification acronyms are enclosed in parentheses following their definition. For example: Read Only Memory (ROM) Keys Keys are used in the text to describe many operations.

Page 6: Table Of Contents

Table of Contents Chapter 1 Hardware Overview Features .....1-1 System Unit Block Diagram .....1-8 3.5-inch Floppy Disk Drive (USB External) .....1-13 2.5-inch Hard Disk Drive.....1-14 DVD-Super Multi Drive Optical Drive (ODD) .....1-17 Keyboard..... 1- 19 TFT Color Display.....

Page 7 2.16 Tablet pen Troubleshooting .....2-54 2.17 Touch screen Troubleshooting..... 2-56 2.18 Sound Troubleshooting..... 2-58 2.19 Bridge media Slot Troubleshooting ..... 2-60 2.20 Fingerprint sensor Troubleshooting..... 2-61 2.21 3G Troubleshooting .....2-65 2.22 SmartCard Slot Troubleshooting .....2-67 Chapter 3 Tests and Diagnostics The Diagnostic Test .....

Page 8 3.24 Floppy Disk Drive Utilities.....3-58 3.25 System Configuration .....3-63 3.26 Wireless LAN Test Program (Intel-made b/g, a/b/g Setting up of REF PC)..3-65 3.27 Wireless LAN Test Program on DUT PC(Intel-made)..... 3-70 3.28 LAN/Modem/Bluetooth/IEEE1394 Test Program .....3-78 3.29 Sound Test program.....

Page 9 4.23 MDC .....4-65 4.24 PC card slot .....4-67 4.25 Smart card slot (Smart card model only) .....4-69 4.26 Battery cable holder .....4-71 4.27 Pen holder assembly .....4-72 4.28 Sensor board.....4-73 4.29 Touch pad..... 4-74 4.30 Speaker.....

Page 10 [CONFIDENTIAL] PORTÉGÉ M700 Maintenance Manual (960-661)

Page 11: Chapter 1 Hardware Overview

Chapter 1 Hardware Overview [CONFIDENTIAL]...

Page 12 1 Hardware Overview 1-ii [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 13 1 Hardware Overview Chapter 1 Contents Features.....1-1 System Unit Block Diagram.....1-8 3.5-inch Floppy Disk Drive (USB External).....1-13 2.5-inch Hard Disk Drive .....1-14 DVD-Super Multi Drive Optical Drive (ODD).....1-17 Keyboard .....1- 19 TFT Color Display .....1- 20 1.8.1 LCD Module .....1- 20 Power Supply.....1- 21 Batteries.....1- 24 1.9.1...

Page 14 1 Hardware Overview Figures Figure 1-1 Front of the computer .....1- 6 Figure 1-2 System unit configuration.....1- 7 Figure 1-3 System unit block diagram .....1- 8 Figure 1-4 3.5-inch FDD (USB External) .....1- 13 Figure 1-5 2.5-inch HDD .....1- 14 Figure 1-6 Keyboard .....1- 19 Figure 1-7...

Page 15: Features

1 Hardware Overview Features The Toshiba PORTEGE M700 Personal Computer uses extensive Large Scale Integration (LSI), and Complementary Metal-Oxide Semiconductor (CMOS) technology extensively to provide compact size, minimum weight, low power usage and high reliability. This computer incorporates the following features.

Page 16 1 Hardware Overview The computer has a 2.5-inch SATA HDD. The following capacities are available. • 80/120/160/GB USB FDD A 3.5-inch USB FDD accommodates 2HD (1.44MB) or 2DD (720KB) disks. Optical Drive A DVD Super Multi drive (double layer) can be installed. Display LCD : Built-in 12.1inch, 16M colors, WXGA(1280×800dots) thin type low temperature poly-silicon TFT color display.

Page 17 1 Hardware Overview Touch pad A Touch Pad and control buttons in the palm rest enable control of the on-screen pointer and scrolling of windows. Batteries The computer has two batteries: a rechargeable Lithium-Ion main battery pack and RTC battery (that backs up the Real Time Clock and CMOS memory). Universal Serial Bus (USB2.0) Three USB ports are provided.

Page 18 1 Hardware Overview Docking interface port The docking interface port enables connection of an optional Express Port Replicator. It provides additional features as follows: • RJ45 LAN jack • External monitor port • DC IN 15V jack • Security lock slot •...

Page 19 1 Hardware Overview Rev B Wireless LAN The computer is equipped with PCI-Ex MiniCard type wireless LAN board that supports 802.11 b/g, 802.11 a/b/g or 802.11 a/b/g/n in the PCI-Ex MiniCard slot. This function can be switched on and off by a switch on the computer. Bluetooth The computer is equipped with Bluetooth (V2.0+EDR) communications standard enable wireless connection between electronic devices such as computers and printers.

Page 20: Figure 1-1 Front Of The Computer

1 Hardware Overview The front of the computer is shown in figure 1-1. Figure 1-1 Front of the computer [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 21: Figure 1-2 System Unit Configuration

1 Hardware Overview Rev B The system unit configuration is shown in figure 1-2. Figure 1-2 System unit configuration PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL]...

Page 22: System Unit Block Diagram

1 Hardware Overview System Unit Block Diagram Figure 1-3 is a block diagram of the system unit. Figure 1-3 System unit block diagram [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 23 1 Hardware Overview The system unit is composed of the following major components: Processor ® Intel Core 2 Duo(Merom-4M or 2M) Speed T7800 (2.60GHz, L2=4MB) T7700 (2.40GHz, L2=4MB) T7500 (2.20GHz, L2=4MB) T7250 (2.00GHz, L2=2MB) – Integrated L1 cache memory of 64KB (32KB +32KB) –...

Page 24 1 Hardware Overview North Bridge • Intel 965:Crestline-GM – Supports System Memory : DDR2-533/DDR2-667, 4GB(max) – Meorom Processor System Bus Supports – Internal Graphics Controller : Inter Generation 3.5 Accelerator X3100(500Mhz) – DMI(Direct Media Interface) – Power management control (ACPI3.0 conformity –...

Page 25 1 Hardware Overview Cardbus controller (TI PCI8412ZHK) − PCI Interface(PCI Rev.2.3) − CardBus / Ultra media Controller (1 socket) − IEEE1394 Controller(1 port) − SD/MMC, MemoryStick, xD card Controller − 216-ball 16×16×1.4□Max□mm BGA Package Graphics interface in North Bridge(Intel 965:Crestline-GM) is used Sound Controller •...

Page 26 1 Hardware Overview Rev B Internal LAN Controller • Ethernet LAN (10 megabits per second, 10BASE-T), Fast Ethernet LAN (100 megabits per second, 100BASE-TX) or Gigabit Ethernet LAN (1000 megabits per second, 1000BASE-T) is used. – Gigabit Ethernet is supported. –...

Page 27: Inch Floppy Disk Drive (Usb External)

1 Hardware Overview 3.5-inch Floppy Disk Drive (USB External) The 3.5-inch FDD is a thin, high-performance reliable drive that supports 720KB (formatted) 2DD and 1.44MB (formatted) 2HD disks. The FDD is shown in figure 1-4. The specifications for the FDD are listed in Table 1-1. Figure 1-4 3.5-inch FDD (USB External) Table 1-1 3.5-inch FDD specifications TEAC FD-05PUB-337...

Page 28: Inch Hard Disk Drive

The computer supports a 80GB, 120GB or 160GB. The HDD is shown in figure 1-5. Specifications are listed in Table 1-2. Figure 1-5 2.5-inch HDD Table 1-2 2.5-inch HDD specifications s (1/5) Items Specifications TOSHIBA TOSHIBA TOSHIBA HDD2D61BZL01 HDD2D62BZL01 HDD2D60BZL01...

Page 29 1 Hardware Overview Table 1-2 2.5-inch HDD dimensions (2/5) Specifications HITACHI GST Items HITACHI GST HITACHI GST G8BC0004D G8BC0004D080 G8BC0004D120 G8BC0004D160 69.85±0.25 Outline Width (mm) 9.5±0.2 dimensions Height (mm) Depth (mm) 100.2±0.25 95 max. 102 max. Weight (g) Storage size (formatted) 80GB 120GB 160GB...

Page 30 Table 1-2 2.5-inch HDD dimensions (4/5) Specifications Items FUJITSU FUJITSU FUJITSU G8BC0004E080 G8BC0004E120 G8BC0004E160 Outline Width (mm) 70.0(max) dimensions Height (mm) 9.5(max) Depth (mm) 100.0(max) Weight (g) 96(Max) Storage size (formatted) 80GB 120GB 160GB Speed (RPM) 5,400 Data transfer rate (Mb/s) 86.4 max To/From

media 1.5Gbps...

Page 31: Dvd-Super Multi Drive Optical Drive (Odd)

1 Hardware Overview DVD-Super Multi Drive Optical Drive (ODD) The DVD Super Multi drive accommodates either 12 cm (4.72-inch) or 8 cm (3.15-inch) CD-ROM, DVD-ROM, CD-R, CD-RW, DVD-R, DVD+R, DVD-RW, DVD+RW, DVD- RAM, DVD-R DL and DVD+R DL. The specifications are listed in Table 1-3. Table 1-3 DVD Super Multi drive specifications Item Specifications...

Page 32

1 Hardware Overview Supported Formats CD: Sound CD, CD-ROM, CD-R, CD-RW, Multi-session (Photo CD, CD extra) DVD:DVD-ROM, DVD-Video, DVD-R, DVD-R DL, DVD+R, DVD+R DL, DVD-RW, DVD+RW, DVD-RAM 1-18 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 33: Keyboard

1 Hardware Overview Keyboard The keyboard is mounted 85(US)/87(UK) keys that consist of character key and control key, and in conformity with JIS. The keyboard is connected to membrane connector on the system board and controlled by the keyboard controller. Figure 1-6 is a view of the keyboard.

Page 34: Tft Color Display

1 Hardware Overview TFT Color Display The TFT color display consists of 12.1-inch WXGA LCD module. 1.7.1 LCD Module The LCD module used for the TFT color display uses a white LED backlight as the light source and can display a maximum of 16M colors with 1,200 x 800 resolution. The VGA in North Bridge can control internal and external WXGA support displays simultaneously.

Page 35: Power Supply

1 Hardware Overview Power Supply The power supply supplies many different voltages to the system board and performs the following functions: 1. Judges that the DC power supply (AC adapter) is connected to the computer. 2. Detects DC output and circuit malfunctions. 3.

Page 36

1 Hardware Overview Table 1-6 Power supply output rating (1/2) Type Voltage Device Name Remarks AMT not supported supported M Power P Power It is distinguishable by whether parts are M-E3V Clock Gen line line carried in System board. M Power P Power It is distinguishable by whether parts are IR25M-E1V...

Page 37: Table

1 Hardware Overview Table 1-6 Power supply output rating (2/2) Type Voltage Device Name Remarks AMT not supported supported 3G-E3V E Power line SIM Card E Power line UIMPWR-E3V IR5-PIV P Power line Robson P Power line SPI Flash Memory(for LAN-E3V LAN- E Power line BIOS)

Page 38: Batteries

1 Hardware Overview Batteries The computer has three types of batteries as follows: Main battery pack RTC battery The battery specifications are listed in Table 1-7. Table 1-7 Battery specifications Battery name Material Output Capacity voltage Main battery G71C0007M510/G71C0007M61 4,700 mAh Lithium-Ion 10.8 V G71C0004S910/G71C0004SA10...

Page 39

1 Hardware Overview 1.9.2 Battery Charging Control Battery charging is controlled by a power supply microprocessor. The microprocessor controls whether the charge is on or off and detects a full charge when the AC adaptor and battery are attached to the computer. The system charges the battery. Battery Charge When the AC adaptor is attached, there are two types of charge: When the system is powered off and when the system is powered on.

Page 40

1 Hardware Overview 1.9.3 RTC battery The RTC battery provides power to keep the current date, time and other setup information in memory while the computer is turned off. Table 1-9 lists the charging time and data preservation period of the RTC battery. Table 1-9 RTC battery charging/data preservation time Status Time...

Page 41: Ac Adaptor

1 Hardware Overview 1.10 AC Adapter The AC adapter is also used to charge the battery. Table 1-10 lists the AC adapter specifications. Table 1-10 AC adapter specifications Parameter Specification G71C0006R210 (3-pin) / G71C0006Q210 (2-pin) Power Input voltage 100V/240V

Input frequency 50Hz to 60Hz Input current 5.0A or less (100V-240V 4Aload)

Page 42 1 Hardware Overview 1-28 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 43: Chapter 2 Troubleshooting Procedures

Chapter 2 Troubleshooting Procedures [CONFIDENTIAL]...

Page 44 2 Troubleshooting Procedures 2-ii [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 45 2 Troubleshooting Procedures Chapter 2 Contents Troubleshooting.....2-1 Troubleshooting Flowchart .....2-2 Power Supply Troubleshooting .....2-7 Procedure 1 Icons in the LCD Check.....2-7 Procedure 2 Error Code Check .....2-8 Procedure 3 Connection Check .....2-13 Procedure 4 Charge Check.....2-14 Procedure 5 Replacement Check.....2-15 System Board Troubleshooting .....2-16 Procedure 1 Message Check .....2-17...

Page 46 2 Troubleshooting Procedures Display Troubleshooting .....2-41 Procedure 1 Diagnostic Test Program Execution Check .....2-41 Procedure 2 Connector Check and Replacement Check.....2-41 Procedure 3 Replacement Check.....2-43 2.10 Optical Drive Troubleshooting.....2-44 Procedure 1 Diagnostic Test Program Execution Check .....2-44 Procedure 2 Connector Check and Replacement Check.....2-44 2.11 LAN Troubleshooting .....2-45 Procedure 1...

Page 47 2 Troubleshooting Procedures 2.18 Sound Troubleshooting .....2-58 Procedure 1 Diagnostic Test Program Execution Check .....2-58 Procedure 2 Connector Check.....2-58 Procedure 3 Replacement Check.....2-59 2.19 Bridge media Slot Troubleshooting.....2-60 Procedure 1 Check on Windows OS .....2-60 Procedure 2 Connector Check and Replacement Check.....2-60 2.20 Fingerprint sensor Troubleshooting .....2-61 Procedure 1...

Page 48: Tables

2 Troubleshooting Procedures Figures Figure 2-1 Troubleshooting flowchart .....2-3 Figure 2-2 Debug port (Boot mode) error status.....2-19 Tables Table 2-1 Battery icon.....2-7 Table 2-2 DC IN icon.....2-7 Table 2-3 Error code .....2-8 Table 2-4 Result code .....2-14 Table 2-5 Debug port (Boot mode) error status.....2-21 Table 2-6 FDD error code and status .....2-31 Table 2-7 HDD error code and status .....2-36 2-vi...

Page 49: Troubleshooting

2 Troubleshooting Procedures Rev B Troubleshooting Chapter 2 describes how to determine if a Field Replaceable Unit (FRU) in the computer is causing the computer to malfunction. The FRUs covered are: 1. Power Supply 2. System Board 3. USB Floppy Disk Drive 4.

Page 50: Troubleshooting Flowchart

Ask the user if a password is registered and, if it is, ask him or her to enter the password. Make sure that Toshiba Windows is installed on the hard disk. Non-Toshiba operating systems can cause the computer malfunction. Make sure all optional equipment is removed from the computer.

Page 51 2 Troubleshooting Procedures Figure 2-1 Troubleshooting flowchart (1/2) PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL]...

Page 52 2 Troubleshooting Procedures Figure 2-1 Troubleshooting flowchart (2/2) [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 53 2 Troubleshooting Procedures If the diagnostics program cannot detect an error, the problem may be intermittent. The Running Test program should be executed several times to isolate the problem. Check the Log Utilities function to confirm which diagnostic test detected an error, then perform the appropriate troubleshooting procedures as follows: 1.

Page 54 2 Troubleshooting Procedures Rev B 15. If an error is detected on the sound test, perform the Sound Troubleshooting Procedures in Section 2.18 16. If an error is detected on Bridge Media, perform the Bridge Media slot Troubleshooting Procedures in Section 2.19. 17.

Page 55: Power Supply Troubleshooting

2 Troubleshooting Procedures Power Supply Troubleshooting The power supply controls many functions and components. To determine if the power supply is functioning properly, start with Procedure 1 and continue with the other Procedures as instructed. The procedures described in this section are: Procedure 1: Icons in the LCD Check Procedure 2: Error Code Check Procedure 3: Connection Check...

Page 56 2 Troubleshooting Procedures Procedure 2 Error Code Check If the power supply microprocessor detects a malfunction, it indicates the error code as shown below. The error code begins with the least significant digit. Table 2-3 Error code Error code Where Error occurs AC Adaptor 1st Battery 2nd Battery...

Page 57 2 Troubleshooting Procedures Check 1 Compare the patterns in the hexadecimal error code to the tables below. AC Adaptor Error code Meaning AC Adaptor output voltage is over 16.5V. Express Port Replicator voltage is over 16.5V. Current from the DC power supply is over 7.70A. Current from the DC power supply is over 0.5A when there is no load.

Page 58 2 Troubleshooting Procedures E5V output Error code Meaning E5V voltage is over 6.00V when the computer is powered on/off. E5V voltage is under 4.50V when the computer is powered on. E5V voltage is under 4.50V when the computer is booting up. E5V voltage is under 4.50V when EV power is maintained and OUTV1=EV is designated.

Page 59 2 Troubleshooting Procedures PPV output Error code Meaning PPV voltage is over 1.80V when the computer is powered on/off. PPV voltage is under 0.32V when the computer is powered on. PPV voltage is under 0.32V when the computer is booting up. 1R05-P1V output Error code Meaning...

Page 60 2 Troubleshooting Procedures 1R05-P1V output Error code Meaning 1R05-P1V voltage is over 1.26V when the computer is powered on/off. 1R05-P1V voltage is under 0.89V when the computer is powered on. 1R05-P1V voltage is under 0.89V when the computer is booting up. Miscellaneous Error code Meaning...

Page 61 2 Troubleshooting Procedures Procedure 3 Connection Check The power supply wiring diagram is shown below: Any of the connectors may be disconnected. Perform Check 1. Check 1 Disconnect the AC power cord from the wall outlet. Check the power cable for breaks.

Page 62: Table

2 Troubleshooting Procedures Procedure 4 Charge Check The power supply may not charge the battery pack. Perform the following procedures: 1. Reinstall the battery pack. 2. Attach the AC adaptor and turn on the power. If you cannot turn on the power, go to Procedure 5.

Page 63 2 Troubleshooting Procedures Procedure 5 Replacement Check The system board processor module may be disconnected or damaged. Disassemble the computer following the steps described in Chapter 4, Replacement Procedures. Check the connection between the AC adaptor and system board and connection. After checking the connections, perform the following Check 1: Check 1 Replace the AC adaptor with a new one.

Page 64: System Board Troubleshooting

2 Troubleshooting Procedures System Board Troubleshooting This section describes how to determine if the system board and CPU are defective or not functioning properly. Start with Procedure 1 and continue with the other procedures as instructed. The procedures described in this section are: Procedure 1: Message Check Procedure 2: Printer Port LED Check on Boot Mode Procedure 3: Diagnostic Test Program Execution Check...

Page 65 2 Troubleshooting Procedures Procedure 1 Message Check When the power is turned on, the system performs the Initial Reliability Test (IRT) installed in the BIOS ROM. The IRT tests each IC on the system board and initializes it. If an error message is shown on the display, perform Check 1. If there is no error message, go to Procedure 2.

Page 66 2 Troubleshooting Procedures Check 2 The IRT checks the system board. When the IRT detects an error, the system stops or an error message appears. If one of the following error messages (1) through (17), (22) or (23) appears, go to Procedure 4.

Page 67 2 Troubleshooting Procedures Procedure 2 Debugging Port Check (Boot Mode) Check the D port status by a serial port test. The tool for serial port test is shown below. Figure 2-2 Debug port (Boot mode) error status The test procedures are follows: 1.

Page 68 2 Troubleshooting Procedures 4. Boot the computer in DOS mode. 5. Execute GETDPORT.COM in the text menu in CPU REAL mode. (Insert the FD for starting D port into FDD and input “FD starting drive:>dport”.) The D port status is displayed in the following form; 5.

Page 69 2 Troubleshooting Procedures Table 2-5 Debug port error status (1/6) D port Inspection items Target device IC number status System BIOS Boot block processing setup of CPU , IS1050 (CPU Socket) Initialization of MCH , CPU, MCH(Register) IC1200 (MCH) Initialization of ICH , IC1600 (ICH) ICH(Register PIT EC access check,...

Page 70 2 Troubleshooting Procedures Table 2-5 Debug port error status (2/6) D port Inspection items Target device IC number status System BIOS IRT processing setup of CPU , IS1050 (CPU Socket) Initialization of ICH, CPU, ICH(PCI Register, IC1200 (MCH) IC1600 (ICH) MCH and Super I/O, PIT Controller), MCH(PCI F100...

Page 71 2 Troubleshooting Procedures Table 2-5 Debug port error status (3/6) D port Inspection items Target device IC number status Initialization of ICH (PIT), PIT initialization error, check of CPU, IC1000 (CLKGEN) check of ROM data, CPU, ICH(PIT Controller, IS1050 (CPU Socket) setup of SMI, F106 MEM I/O, CMOS, I/O),...

Page 72 2 Troubleshooting Procedures Table 2-5 Debug port error status (4/6) D port Inspection items Target device IC number status setup of PCI Express Card, ICH(PCI Register, MEM IC1600 (ICH, HDD Cont.) F10B I/O, IDE Controller), CN1900 (HDD Conn.) setup of HDD EC/KBC(EC), HDD IC3200 (EC/KBC) CN1400, CN1410 (RAM...

Page 73 2 Troubleshooting Procedures Table 2-5 Debug port error status (5/6) D port Inspection items Target device IC number status F118 setup of ICH (DMAC) ICH(DMAC) IC1600 (ICH) F119 setup of ICH (DMAC) ICH(DMAC) IC1600 (ICH) F11A setup of ICH (DMAC) ICH(DMAC) IC1600 (ICH) F11B...

Page 74 2 Troubleshooting Procedures Table 2-5 Debug port error status (6/6) D port Inspection items Target device IC number status HDD, ICH(IDE IC1600 (ICH, HDD Cont.) F125 setup of HDD Controller) CN1900 (HDD Conn.) F126 setup of a display IC1200 (VGA) CN1400, CN1410 (RAM F127 setup of RAM data...

Page 75 2 Troubleshooting Procedures NOTE: Status outputted by the test means the last error detected in the debug port test. PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL] 2-27...

Page 76 2 Troubleshooting Procedures Procedure 3 Diagnostic Test Program Execution Check Execute the following tests from the Diagnostic Test Menu. Refer to Chapter 3, Tests and Diagnostics, for more information on how to perform these tests. 1. System test 2. Memory test 3.

Page 77 2 Troubleshooting Procedures Procedure 4 Replacement Check The system board connectors may be disconnected. Disassemble the computer following the steps described in Chapter 4, Replacement Procedures and perform Check 1. Check 1 Visually check for the following: a) Cracked or broken connector housing b) Damaged connector pins If their connectors are in good condition, but there is still a problem, go to Check Check 2...

Page 78: Usb Fdd Troubleshooting

2 Troubleshooting Procedures USB FDD Troubleshooting This section describes how to determine if the USB FDD is functioning properly. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required. Procedure 1: USB FDD Head Cleaning Check Procedure 2: Diagnostic Test Program Execution Check Procedure 3: Connector Check and Replacement Check Procedure 1...

Page 79 2 Troubleshooting Procedures Procedure 2 Diagnostic Test Program Execution Check Insert the Diagnostics Disk in the USB FDD, turn on the computer and run the test. Refer to Chapter 3, Tests and Diagnostics, for more information about the diagnostics test procedures. Floppy disk drive test error codes and their status names are listed in Table 2-6.

Page 80 2 Troubleshooting Procedures Procedure 3 Connector Check The USB FDD is connected to the System Board. Check 1 When using the USB port, make sure the USB FDD cable is firmly connected to CN4612 , CN4611 or CN4610 on the System board. If any of the connections are loose, reconnect firmly and repeat Procedure 2.

Page 81: Hdd Troubleshooting

2 Troubleshooting Procedures HDD Troubleshooting This section describes how to determine if the HDD is functioning properly. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required. Procedure 1: Message Check Procedure 2: Partition Check Procedure 3: Format Check Procedure 4: Diagnostic Test Program Execution Check Procedure 5: Connector Check and Replacement Check...

Page 82 Procedure 2 Partition Check Insert the Toshiba DOS system disk and restart the computer with U key holding down. Perform the following checks: Type C: and press Enter. If you cannot change to drive C, go to Check 2. If you Check 1 can change to drive C, go to Check 3.

Page 83 Check 1 following message appears on the display, the HDD is formatted. Format complete If an error message appears on the display, refer to the Toshiba DOS Manual for more information and perform Check 2. Check 2 Using the Diagnostics Disk, format the HDD with a low level format option.

Page 84 2 Troubleshooting Procedures Procedure 4 Diagnostic Test Program Execution Check The HDD test program is stored in the Diagnostics Disk. Perform all of the HDD tests in the Hard Disk Drive Test. Refer to Chapter 3, Tests and Diagnostics, for more information about the HDD test program.

Page 85 2 Troubleshooting Procedures Procedure 5 Connector Check and Replacement Check The HDD may be disconnected, or the HDD, HDD cable or system board may be damaged. Disassemble the computer following the steps described in Chapter 4, Replacement Procedures and perform the following checks: Check 1 Make sure the HDD is firmly connected to CN1900 on the system board.

Page 86: Keyboard Troubleshooting

2 Troubleshooting Procedures Keyboard Troubleshooting To determine if the computer’s keyboard or touch pad is functioning properly, perform the following procedures. Start with Procedure 1 and continue with the other procedures as instructed. Procedure 1: Diagnostic Test Program Execution Check Procedure 2: Connector Check and Replacement Check Procedure 1 Diagnostic Test Program Execution Check...

Page 87 2 Troubleshooting Procedures Check 3 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4, Replacement Procedures. PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL] 2-39...

Page 88: Touch Pad Troubleshooting

2 Troubleshooting Procedures Touch pad Troubleshooting To check if the computer’s touch pad is malfunctioning or not, follow the troubleshooting procedures below as instructed. Procedure 1: Diagnostic Test Program Execution Check Procedure 2: Connector Check and Replacement Check Procedure 1 Diagnostic Test Program Execution Check Execute the Touch pad test (ONLY ONE TEST) in the Diagnostic Program.

Page 89 2 Troubleshooting Procedures Check 2 Touch Pad or the cable may be faulty. Replace it with a new one following the instructions in Chapter 4, Replacement Procedures. If the problem still occurs, perform Check 3. Check 3 Touch pad board or the cable may be faulty. Replace it with a new one following the instructions in Chapter 4, Replacement Procedures.

Page 90: Display Troubleshooting

2 Troubleshooting Procedures Display Troubleshooting This section describes how to determine if the computer’s display is functioning properly. Start with Procedure 1 and continue with the other procedures as instructed. Procedure 1: Diagnostic Test Program Execution Check Procedure 2: Connector Check and Cable Check Procedure 3: Replacement Check Procedure 1 Diagnostic Test Program Execution Check...

Page 91 2 Troubleshooting Procedures Procedure 3 Replacement Check The LCD module and system board are connected to display circuits. Any of these components may be damaged. Refer to Chapter 4, Replacement Procedures. Check 1 Replace the LCD cable with a new one following the instructions in Chapter 4, Replacement Procedures and test the display again.

Page 92: Optical Drive Troubleshooting

2 Troubleshooting Procedures 2.10 Optical Drive Troubleshooting To check if the optical drive (each CD-ROM, CD-R/RW+DVD-ROM drive) is defective or malfunctioning, follow the troubleshooting procedures below as instructed. Procedure 1 Diagnostic Test Program Execution Check Procedure 2 Connector Check and Replacement Check Procedure 1 Diagnostic Test Program Execution Check Execute the CD-ROM/DVD-ROM Test in the Diagnostic Program.

Page 93: Lan Troubleshooting

2 Troubleshooting Procedures 2.11 LAN Troubleshooting This section describes how to determine if the computer’s LAN is functioning properly. Perform the steps below starting with Procedure 1 and continue with the other procedures as required. Procedure 1: Diagnostic Test Program Execution Check Procedure 2: Connector Check and Replacement Check Procedure 1 Diagnostic Test Program Execution Check...

Page 94: Bluetooth Troubleshooting

2 Troubleshooting Procedures 2.12 Bluetooth Troubleshooting This section describes how to determine if the computer’s Bluetooth is functioning properly. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required. Procedure 1: Diagnostic Test Program Execution Check Procedure 2: Connection Check and Replacement Check Procedure 1 Diagnostic Test Program Execution Check...

Page 95 2 Troubleshooting Procedures Check 2 The Bluetooth module may be damaged. Replace it with a new one following the instructions in Chapter 4, Replacement Procedures and check the operation. If the problem still exists, perform Check 3. Check 3 The Bluetooth cable may be damaged. Replace it with a new one following the instructions in Chapter 4, Replacement Procedures.

Page 96: Wireless Lan Troubleshooting

2 Troubleshooting Procedures 2.13 Wireless LAN Troubleshooting This section describes how to determine if the computer’s Wireless LAN is functioning properly. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required. Procedure 1: Transmitting-Receiving Check Procedure 2: Antenna Connection Check Procedure 3: Replacement Check Procedure 1...

Page 97 2 Troubleshooting Procedures Check 1 Make sure the wireless LAN board is firmly connected to CN2600 on the system board. If the connector is disconnected, connect it firmly. If the wireless LAN board is still not functioning properly, perform Check 2. Check 2 Make sure the wireless LAN antenna cables are firmly connected to the wireless LAN board.

Page 98: Modem Troubleshooting

2 Troubleshooting Procedures 2.14 Modem Troubleshooting To check if modem is malfunctioning or not, follow the troubleshooting procedures below as instructed. Procedure 1: Diagnostic Test Program Execution Check Procedure 2: Connector Check and Replacement Check Procedure 1 Diagnostic Test Program Execution Check Execute Modem test in the LAN/Modem/Bluetooth/IEEE1394 test program.

Page 99 2 Troubleshooting Procedures Check 2 Modem cable or MDC cable may be faulty. Replace it with a new one. If the problem still occurs, perform Check 3. Check 3 MDC may be faulty. Replace it with a new one following the steps in Chapter 4, Replacement Procedure.

Page 100: Web Camera Troubleshooting

2 Troubleshooting Procedures 2.15 Web camera Troubleshooting To check if the computer’s web camera is malfunctioning or not, follow the troubleshooting procedures below as instructed. Procedure 1: Check on Windows OS Procedure 2: Connector Check and Replacement Check Procedure 1 Check on Windows OS The web camera checks operating normally using the software of Windows OS attachment.

Page 101 2 Troubleshooting Procedures Check 3 The web camera/digitizer/fingerprint sensor /sw board cable may be damaged. Replace it with a new one following the instructions in Chapter 4, Replacement Procedures. If the problem still exists, perform Check 4. Check 4 The system board may be damaged. Replace it with a new one following the instructions in Chapter 4, Replacement Procedures.

Page 102: Tablet Pen Troubleshooting

2 Troubleshooting Procedures 2.16 Tablet Pen Troubleshooting To check if the Tablet Pen is defective or not, follow the troubleshooting procedures below as instructed. CAUTION: Use the Tablet Pen supplied to this model. Procedure 1: Check on Windows Vista Procedure 2: Tablet pen replacement Check Procedure 3: Connector Check and Replacement Check Procedure 1 Check on Windows Vista...

Page 103 2 Troubleshooting Procedures Procedure 3 Connector Check and Replacement Check The Digitizer is connected to the system board as below. Check 1 If any of the connections are loose, reconnect firmly and repeat Procedure 1and 2. If there is still an error, go to Check 2. Check 2 The Digitizer may be damaged.

Page 104: Touch Screen Troubleshooting

2 Troubleshooting Procedures 2.17 Touch screen Troubleshooting To check if the touch screen is defective or not, follow the troubleshooting procedures below as instructed. CAUTION: Use the touch screen supplied to this model. Procedure 1: Check on Windows Vista Procedure 2: Touch screen connector Check and Replacement Check Procedure 1 Check on Windows Vista This procedure checks if the touch screen is working properly by using the function of...

Page 105 2 Troubleshooting Procedures Procedure 2 Connector Check and Replacement Check The Digitizer is connected to the system board as below. Check 1 If any of the connections are loose, reconnect firmly and repeat Procedure 1. If there is still an error, go to Check 2. Check 2 The touch screen may be damaged.

Page 106: Sound Troubleshooting

2 Troubleshooting Procedures 2.18 Sound Troubleshooting This section describes how to determine if the computer’s sound functions are functioning properly. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required. Procedure 1: Diagnostic Test Program Execution Check Procedure 2: Connector Check Procedure 3: Replacement Check Procedure 1...

Page 107 2 Troubleshooting Procedures Procedure 3 Replacement Check If headphone does not work properly, perform check 1. If external microphone does not work properly, perform check 2. If speaker does not work properly, perform check 3. If internal microphone does not work properly, perform check 4. Check 1 Headphone may be faulty.

Page 108: Bridge Media Slot Troubleshooting

2 Troubleshooting Procedures 2.19 Bridge media Slot Troubleshooting This section describes how to determine if the computer's Bridge media functions are functioning properly. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required. Procedure 1: Check on Windows OS Procedure 2: Connector Check and Replacement Check Procedure 1 Check on Windows OS...

Page 109: Fingerprint Sensor Troubleshooting

2 Troubleshooting Procedures 2.20 Fingerprint sensor Troubleshooting CAUTION: To delete the account for confirming the fingerprint operation, it is necessary to log on by the account with the management authority. If the password has been set to log on, ask the Log-ON password to the user. To check if the Fingerprint sensor works correctly or not, follow the troubleshooting procedures below as instructed.

Page 110 2 Troubleshooting Procedures Procedure 1 Setting Windows Log-ON password 1. Open [User Account] from [Control Panel]. 2. Click [User Account]. 3. Click the icon of the account (user's name) that you want to set the password. 4. Click "Create Account". 5.

Page 111 2 Troubleshooting Procedures 7. When the Store to Sensor screen is displayed, check Store fingerprint to Sensor. Click Finish to complete fingerprint registration. Procedure 3 Authentication of fingerprint 1. Turn on the computer to start up Windows. 2. In the Windows logon window, put lightly the first joint of your finger registered and slide your finger sideways.

Page 112 2 Troubleshooting Procedures Procedure 4 Connector Check and Replacement Check The Fingerprint sensor is connected to the system board as below. Check 1 If any of the connections are loose, reconnect firmly and repeat Procedure 1 to 3 . If there is still an error, go to Check 2. Check 2 The Fingerprint sensor may be damaged.

Page 113: Troubleshooting

2 Troubleshooting Procedures 2.21 3G Troubleshooting This section describes how to determine if the computer's 3G is functioning properly. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required. Procedure 1: Transmitting-Receiving Check Procedure 2: Antenna Connection Check Procedure 3: Replacement Check Procedure 1 Transmitting-Receiving Check...

Page 114 2 Troubleshooting Procedures Procedure 2 Antenna Connection Check The 3G wiring diagram is shown below: Any of the connections may be disconnected. Disassemble the computer following the steps described in Chapter 4, Replacement Procedures, and perform the following checks: Check 1 Make sure the 3G antenna cables are firmly connected to the 3G card and FWGAN board.

Page 115: Smartcard Slot Troubleshooting

2 Troubleshooting Procedures 2.22 SmartCard Slot Troubleshooting (SmartCard model only) This section describes how to determine if the computer's SmartCard functions are functioning properly. Perform the steps below starting with Procedure 1 and continuing with the other procedures as required. Procedure 1: Check on T&D Procedure 2: Connector Check and Replacement Check Procedure 1...

Page 116 2 Troubleshooting Procedures 2-68 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 117: Chapter 3 Tests And Diagnostics

Chapter 3 Tests and Diagnostics [CONFIDENTIAL]...

Page 118 3 Tests and Diagnostics 3-ii [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 119 3 Tests and Diagnostics Chapter 3 Contents The Diagnostic Test .....3-1 3.1.1 Diagnostics menu ..... 3-1 3.1.2 H/W (Hardware) initial information setting tool.....3-4 3.1.3 Heatrun test program.....3-4 Executing the Diagnostic Test ..... 3-5 3.2.1 Diagnostics menu (T&D) .....3-6 3.2.2 H/W initial information setting tool .....

Page 120 3 Tests and Diagnostics Subtest 3 Wireless communication switch ..... 3-44 Subtest 4 .....3-44 Port Select menu Subtest 5 .....3-45 Subtest 7 Acceleration sensor ..... 3-49 Subtest 8 Docker Dock/Undock .....3-51 Subtest 9 Fan control .....3-51 Subtest A E2PROM (MAC/GUID) .....

Page 121 3 Tests and Diagnostics 3.289.2 Modem test .....3-81 3.28.3 Bluetooth test.....3-82 3.28.4 IEEE1394 test.....3-84 3.29 Sound Test program.....3-85 3.30 3G Test program ..... 3-85 3.31 BIOS SETUP .....3-86 3. 31.1 Function Description .....3-86 3. 31.2 Accessing the BIOS SETUP Program .....

Page 122: Table

3 Tests and Diagnostics Tables Table 3-1 Subtest names .....3-12 Table 3-2 Error codes and error status names .....3-35 Table 3-3 Hard disk controller status register

contents.....3-38 Table 3-4 Error register contents.....3-39 3-vi [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 123: The Diagnostic Test

3 Tests and Diagnostics Rev B Repair test program This chapter explains how to use the Repair test programs to test the functions of the computer's hardware modules. The Repair test programs are stored on some Diagnostic Disks. There are Service Program Modules (DIAGNOSTIC MENU) and the Test Program Modules (The Repair test program) on the Diagnostic Disk.

Page 124 A USB test module (USB test) A USB cable (USB test) An external CRT monitor (Expansion test) A CD test media TOSHIBA CD-ROM TEST DISK or ABEX TEST CD-ROM (Sound test) A DVD test media (DVD-ROM TEST DISK TSD-1) (Sound test)

Page 125 3 Tests and Diagnostics Headphones (Sound test) A cleaning kit to clean the floppy disk drive heads (Head Cleaning) An exclusive modem test jig (Nitto Electric Manufacture Co.,Ltd-made QE2000P01) (Modem test) A module cable and RJ11 connector checker (Modem test) A LAN wraparound connector (LAN test) PC card wraparound connector (Expansion test) A display with monitor ID function (Expansion test)

Page 126 3 Tests and Diagnostics Rev B 3.1.2 H/W (Hardware) initial information setting tool The H/W initial information setting tool consists of the following programs. Eentry of the DMI infomation DMI information save DMI information recovery You will need the following equipment to perform some of the programs. Repair test program Disk (Main T&D) 3.1.3 Heatrun test program The heatrun test starts automatically after the selection.

Page 127 3 Tests and Diagnostics Rev B Executing the Repair test program To start the Repair test program, follow these steps: 1. Insert the Repair test program disk in the USB floppy disk drive or Optical disk drive. 2. Turn on the computer while pressing U key. The following menu appears. The following menu is an example when Repair test program is performed from NOTE: the floppy disk.

Page 128 Enter in the startup menu, press Repair Main Enter. The following menu appears. TOSHIBA personal computer XXXXXX DIAGNOSTICS version X.XX (c) copyright TOSHIBA Corp. 20XX DIAGNOSTICS MENU : 1 - DIAGNOSTIC TEST 2 – ONLY ONE TEST 4 - HEAD CLEANING...

Page 129 Set the highlight bar to 1, and press Enter. The following DIAGNOSTIC TEST MENU will appear: TOSHIBA personal computer XXXXXX DIAGNOSTICS version X.XX (c) copyright TOSHIBA Corp. 20XX DIAGNOSTIC TEST MENU : 1 - SYSTEM TEST 2 - MEMORY TEST...

Page 130 3 Tests and Diagnostics Select the option you want to execute and press Enter. When you select 1- SYSTEM TEST, the following message will appear: SYSTEM TEST NAME XXXXXX xxxxxxx DIAGNOSTIC TEST VX.XX [Ctrl]+[Break] : test end [Ctrl]+[C] : key stop SUB-TEST : XX PASS COUNT : XXXXX...

Page 131 3 Tests and Diagnostics Rev B Selecting YES of ERROR STOP stops the test program when an error is found and displays the operation guide on the right side of the display screen as shown below: ERROR STATUS NAME [[HALT OPERATION]] 1: Test end 2: Continue 3: Retry...

Page 132: Setting Of The Hardware Configuration

3 Tests and Diagnostics Rev B Setting of the hardware configuration To execute this program, 1, Repair Initial config set and press Enter in the startup menu, press Enter and follow the directions on the screen. The H/W initial information setting tool consists of three subtests.

Page 133 3 Tests and Diagnostics Rev B 7. "Create DMIINFO TXT (Y/N) ?" is displayed. Press Y, then the DMI information (text data) is written to the Floppy disk, etc. Setting of the HWSC • Setting of the UUID • Display of the DMI information (including UUID) •...

Page 134: Heatrun Test

3 Tests and Diagnostics Rev B Heatrun Test To execute this program, press 2, Repair Heatrun and press Enter in the startup menu, press Enter. After selecting this test, the same subtests as 3.23 Running Test are executed successively. For more details on the procedure and test

content, refer to Running Test. When the heatrun test ends normally, following message appears in the display.

Page 135: Subtest Names

3 Tests and Diagnostics Subtest Names Table 3-1 lists the subtest names for each test program in the DIAGNOSTIC TEST MENU. Table 3-1 Subtest names (1/2) Test Name Subtest No. Subtest Name SYSTEM ROM checksum Fan ON/OFF Geyserville Quick charge DMI read Conventional memory MEMORY...

Page 136

3 Tests and Diagnostics Table 3-1 Subtest names (2/2) Test Name Subtest No. Subtest Name PRINTER Ripple pattern Function □It is not supported □ Wraparound FIR/SIR Point to point (send) ASYNC FIR/SIR Point to point (receive) Wraparound (board) HARD DISK Sequential read Address uniqueness Random address/data...

Page 137: System Test

3 Tests and Diagnostics System Test To execute the System Test, select 1 from the DIAGNOSTIC TEST MENU, press Enter and follow the directions on the screen. Move the highlight bar to the subtest you want to execute and press Enter. Subtest 01 ROM checksum This subtest executes a checksum test of the BIOS ROM (range: F0000h to...

Page 138

3 Tests and Diagnostics Subtest 04 Quick charge This subtest checks the status for the quick charge. Subtest 05 DMI read This subtest displays the information in the Flash-ROM in the following format. *** DMI Data Display Ver X.XX *** Model Name : XXXXXXXXXXX Version Number...

Page 139: Memory Test

3 Tests and Diagnostics Memory Test To execute the Memory Test, select 2 from the DIAGNOSTIC TEST MENU, press Enter and follow the directions on the screen. Move the highlight bar to the subtest you want to execute and press Enter. Subtest 01 Conventional memory This subtest writes a constant data to conventional memory (0 to 640 KB),...

Page 140: Keyboard Test

3 Tests and Diagnostics Keyboard Test To execute the Keyboard Test, select 3 from the DIAGNOSTIC TEST MENU, press Enter and follow the directions on the screen. Move the highlight bar to the subtest you want to execute and press Enter. Subtest 01 Pressed key code display When a key is pressed, the scan code, character code, and key top name are...

Page 141: Display Test

3 Tests and Diagnostics Display Test To execute the Display Test, select 4 from the DIAGNOSTIC TEST MENU, press Enter and follow the directions on the screen. Move the highlight bar to the subtest you want to execute and press Enter. Subtest 01 VRAM read/write for VGA This subtest writes the constant data (AAh and 55h) to the video RAM.

Page 142

3 Tests and Diagnostics Subtest 04 Gradation & Mode test for VGA This subtest displays gradations for following modes. To change the mode, press Enter. [Mode 12] [Mode 13] [Mode 3] [Mode 111 640*480 64K] [Mode 112 640*480 16M] [Mode 114 800*600 64K] [Mode 115 800*600 16M]...

Page 143

3 Tests and Diagnostics Subtest 06 “H” pattern display This subtest displays a full screen of “H” patterns.

HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
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HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH To exit this subtest and return to the DISPLAY TEST menu, press Enter. NOTE: The last row may not be completely filled.

Page 144: Floppy Disk Test

3 Tests and Diagnostics 3.10 Floppy Disk Test CAUTION: Before running the floppy disk test, prepare a formatted work disk. Remove the Diagnostics Disk and insert the work disk into the FDD because the contents of the floppy disk will be erased. To execute the Floppy Disk Test, select 5 from the DIAGNOSTIC TEST MENU, press Enter and follow the directions displayed on the screen.

Page 145

3 Tests and Diagnostics Select the number of the subtest you want to execute and press Enter. The following message will appear during the floppy disk test. xxx DIAGNOSTIC TEST VX.XX FLOPPY DISK IN PROGRESS XXXXXXX [Ctrl]+[Break] : test end [Ctrl]+[C] key stop SUB-TEST...

Page 146: Printer Test

3 Tests and Diagnostics 3.11 Printer Test NOTE: Printer Test is not supported for this model. To execute the Printer Test, select 6 from the DIAGNOSTIC TEST MENU, press Enter and follow the directions on the screen. NOTE: An IBM compatible printer must be connected to the system to execute this test. Also, printer port wraparound connector must be connected.

Page 147

3 Tests and Diagnostics Subtest 02 Function This subtest is for IBM compatible printers, and tests the following functions: Normal print Double-width print Compressed print Emphasized print Double-strike print All characters print This subtest prints the various print types shown below: Subtest 03 Wraparound NOTE: To execute this subtest, a printer wraparound connector must be connected to the...

Page 148: Async Test

3 Tests and Diagnostics 3.12 Async Test NOTE: Async Test is not supported for this model. To execute the Async Test, select 7 from the DIAGNOSTIC TEST MENU, press Enter and follow the directions displayed on the screen. Move the highlight bar to the subtest you want to execute and press Enter.

Page 149: Hard Disk Test

3 Tests and Diagnostics 3.13 Hard Disk Test To execute the Hard Disk Test, select 8 from the DIAGNOSTIC TEST MENU, press Enter, and follow the directions on the screen. CAUTION: The contents of the hard disk will be erased when subtest 02, 03, 04, 06, 08 or 09 is executed.

Page 150

3 Tests and Diagnostics 3. The Hard Disk Test message will appear after you respond to the Detail Status prompt. Select the number of the subtest you want to execute and press Enter. The following message will appear during each subtest. XXX DIAGNOSTIC TEST VX.XX HARD DISK TEST XXXXXXX [Ctrl]+[Break] :...

Page 151

3 Tests and Diagnostics Subtest 04 Cross talk & peak shift This subtest writes eight types of worst pattern data (listed below) to a cylinder and then reads the data while moving from cylinder to cylinder. (Tests the data interference in the neighbor track.) Worst pattern data Cylinder ‘B5ADAD’...

Page 152: Real Timer Test

3 Tests and Diagnostics 3.14 Real Timer Test To execute the Real Timer Test, select 9 from the DIAGNOSTIC TEST MENU, press Enter and follow the directions on the screen. Move the highlight bar to the subtest you want to execute and press Enter.

Page 153

3 Tests and Diagnostics Subtest 03 Real time carry CAUTION: When this subtest is executed, the current date and time are erased. This subtest checks the real time clock increments, making sure the date and time are displayed in the following format: Current date : 12-31-1999 Current time : 23:59:58 The real time increments are automatically executed and the following is...

Page 154: Ndp Test

3 Tests and Diagnostics 3.15 NDP Test To execute the NDP test, select 10 from the

DIAGNOSTICS TEST MENU, press Enter and follow the directions on the screen. Subtest 01 This test checks the following functions of NDP: Control word Status word Addition Multiplication...

Page 155: Expansion Test

3 Tests and Diagnostics 3.16 Expansion Test To execute the expansion test, select 11 from the DIAGNOSTICS TEST MENU, press Enter and follow the directions on the screen. Subtest 01 PCMCIA wrap around [It is not supported] CAUTION: PCMCIA wraparound test is not supported for this model. NOTE: To execute this subtest, the PC card wraparound connector is required.

Page 156

3 Tests and Diagnostics Subtest 02 RGB monitor ID NOTE: To execute this subtest, an external monitor with monitor ID function is required. Connect the external monitor to the PC for the test of ID acquisition. The judgment of acquisition is based on the panel data. In simultaneous display mode or internal display mode, in which the panel data is acquired, this subtest will fail.

Page 157: Cd-Rom/Dvd-Rom Test

3.17 CD-ROM/DVD-ROM Test NOTE: CD-ROM/DVD-ROM Test is not supported for this model. NOTE: For the subtest 01, 02 and 03, use the TOSHIBA CD-ROM TEST DISK TDY-01 or ABEX TEST CD-ROM TCDR-702 and DVD-ROM TEST DISK TSD-1. For the subtest 04, use a CD-RW on the market.

Page 158: Error Code And Error Status Names

3 Tests and Diagnostics 3.18 Error Code and Error Status Names Table 3-2 lists the error codes and error status names for the DIAGNOSTIC TEST. Table 3-2 Error codes and error status names (1/3) Device name Error code Error status name (Common) Data Compare Error ROM - CHECKSUM ERROR...

Page 159

3 Tests and Diagnostics Table 3-2 Error codes and error status names (2/3) Device name Error code Error status name FDD - BAD COMMAND ERROR FDD - ADDRESS MARK NOT FOUND FDD - WRITE PROTECTED FDD - RECORD NOT FOUND FDD - DMA OVERRUN ERROR FDD - DMA BOUNDARY ERROR FDD - CRC ERROR...

Page 160

3 Tests and Diagnostics Table 3-2 Error codes and error status names (3/3) Device name Error code Error status name (HDD) HDD - WRITE FAULT HDD - STATUS ERROR HDD - BAD SECTOR HDD - ACCESS TIME ERROR HDD - NO HDD HDD - DMA CRC ERROR NDP - NO CO-PROCESSOR NDP - CONTROL WORD ERROR...

Page 161: Hard Disk Test Detail Status

3 Tests and Diagnostics 3.19 Hard Disk Test Detail Status When an error occurs in the hard disk test, the following message is displayed: HDC status = XXXXXXXX Detailed information about the hard disk test error is displayed on the screen by an eight-digit number.

Page 162

3 Tests and Diagnostics Table 3-4 Error register contents Name Description “0” ... Not used. (Bad block mark) “1” ... A bad block mark is detected. “0” ... There is no uncorrectable data error. (Uncorrectable) “1” ... Uncorrectable data error has been detected. ——...

Page 163: Only One Test

3 Tests and Diagnostics Rev B 3.20 ONLY ONE TEST 3.20.1 Program Description This program tests the unique functions of this model. 3.20.2 Operations Select test 2 from the DIAGNOSTIC MENU and press Enter. The following menu appears in the display. ## ######## ######## ONLY ONE TEST Menu (XXXXXXXXX)

Page 164

3 Tests and Diagnostics Subtest 1 Pressed key display When you execute this subtest, the keyboard layout is drawn on the display as shown below. When any key is pressed, the corresponding key on the screen changes to the key character that was pressed. Holding a key down enables the auto-repeat function that causes the key’s display character to blink.

Page 165

3 Tests and Diagnostics Subtest 2 Touch Pad This subtest checks the functions of the touch pad as shown below. A) Direction and parameter B) Switching function check. This test displays the response from the touch pad and touch pad switch. When moving your finger

on the touch pad towards the upper left, the <...

Page 166 3 Tests and Diagnostics Subtest 3 Wireless communication switch This subtest checks if the Wireless communication switch works properly. If the test is started with the switch ON, following message appears in the display. Wireless communication switch is set to a start position (OFF) Slide the switch to OFF position.

Page 167 3 Tests and Diagnostics Subtest 5 This subtest checks if each LED lights properly. The following message appears in the display in order. Follow the instructions in the display to execute the test. [HDD Access LED test] Press any key and following message appears in the display. [Caps/Num/Overlay BT/W-LAN LED test] Press [Caps Lock] key ! ...Caps (on/off)

Page 168 3 Tests and Diagnostics Subtest 6 Button This subtest checks if the buttons in the following figure work properly. The following message appears in the display. Presses in the direction of 4 corner and the center X 1 2 3 4 5 * * * * * Press Function button! 3-46...

Page 169 Press any key return to each Steps if NG! or Press any key message apprears. Step 4 Press TOSHIBA Presentation button. OK message appears in the display if the test ends without an error. Press any key return to each Steps if NG! or Press any key message apprears...

Page 170 3 Tests and Diagnostics The following message appears in the display. < ------ Volume Down -------- > Volume Up! Step5 Volume dial is turned to the left. OK message appears in the display if the test ends without an error. Press any key return to each Steps if NG! or Press any key message apprears <...

Page 171 3 Tests and Diagnostics Subtest 7 Acceleration sensor This subtest detects and corrects the each axis (X, Y, Z). NOTE: Make sure that this subtest is executed on the following condition: 1. Flat desk with vertical plane to get the stability of machine. 2.

Page 172 3 Tests and Diagnostics When this subtest is selected, the following message appears in the display. The heaven surface establishes in the upper direction Press [Enter] key NOTE: Be sure to execute the test with the display panel opened. Set the machine on the flat desk. Then press Enter to detect the data on this setting of machine.

Page 173 3 Tests and Diagnostics Rev B Subtest 8 Docker Dock/Undock This subtest is executed with an Slim Port Replicator II. installed. Press Enter while pushing the eject button of the Slim Port Replicator II. the following message appears. Pushing Eject-SW, and press [Enter] Key Press Enter without pushing the eject button of the Slim Port Replicator II.

Page 174 3 Tests and Diagnostics Rev C Subtest B Intel AMT It checks whether the Intel AMT corde versions information are written. is required for an AMT check. Intel Kedron Intel BIOS should be AMT correspondence. Intel Subtest C Degitizer utility NOTE: 1.

Page 175 3 Tests and Diagnostics Rev C Then the test returns to the ONLY ONE TEST menu automatically after a while. Don't turn off the power by any means until the ONLY ONE TEST menu appears again. The following error message is displayed when the digitizer is out of order. “Press any key!”...

Page 176: Head Cleaning

3 Tests and Diagnostics 3.21 Head Cleaning 3.21.1 Function Description This function cleans the heads in the FDD by executing a series of head load/seek and read operations. A cleaning kit is necessary to perform this program. 3.21.2 Operations 1. Selecting test 4 from the DIAGNOSTIC MENU and pressing Enter displays the following messages: DIAGNOSTICS - FLOPPY DISK HEAD CLEANING : VX.XX Mount cleaning disk(s) on drive(s).

Page 177: Log Utilities

3 Tests and Diagnostics 3.22 Log Utilities 3.22.1 Function Description This function logs error information generated while a test is in progress and stores the results in RAM. This function can store data on a floppy disk, or output the data to a printer or the display.

Page 178 3 Tests and Diagnostics 3.22.2 Operations 1. Select 5 and press Enter in the DIAGNOSTIC MENU, the error information is displayed in the following format: XXXXX ERRORS

TS-NO PASS STS ADDR WD RD HSTS [ERROR STATUS NAME] FDD 02 0000 103 00001 00 00 0000 FDD-WRITE PROTECTED FDD 01 0000 180...

Page 179: Running Test

3 Tests and Diagnostics 3.23 Running Test 3.23.1 Function Description This function automatically executes the following tests in sequence: 1. System test (subtest 01) 2. Memory test (subtests 01, 02) 3. Display test (subtest 01) 4. Real timer test (subtest 02) 5.

Page 180: Floppy Disk Drive Utilities

1. FORMAT NOTE: This program is only for testing a floppy disk drive. It is different from the Toshiba DOS FORMAT command. This program can format a floppy disk in the following formats: (a) 2DD: Double-sided, double-density, double-track, 96/135 TPI, MFM mode, 512 bytes, 9 sectors/track.

Page 181 3 Tests and Diagnostics 3.24.2 Operations 1. Selecting 7 from the DIAGNOSTIC MENU and pressing Enter displays the following message. [FDD UTILITIES] 1 - FORMAT 2 - COPY 3 - DUMP 4 – HDD-ID READ 9 - EXIT TO DIAGNOSTICS MENU 2.

Page 182 3 Tests and Diagnostics 3. COPY program (a) When COPY is selected, the following message appears. FLOPPY DISK FORMAT & COPY : VX.XX Type select (0:2DD,3:2HD) ? (b) Selecting a media/drive type number will display a message similar to the one below.

Page 183 3 Tests and Diagnostics 4. DUMP program (a) When DUMP is selected, the following message appears. DIAGNOSTICS-HARD DISK & FLOPPY DISK DUMP : VX.XX Drive type select (1:FDD, 2:HDD) ? (b) Select a drive type. If is selected, the display will go to step (h). If 2:HDD is selected, the following message will appear.

Page 184 3 Tests and Diagnostics (k) The following message will appear. To finish the dump, select 3. Press number key (1:up,2:down,3:end) ? (l) The following message will appear. Selecting 2 returns to the FDD UTILITIES MENU. Another dump (1:Yes,2:No) ? 5. HDD ID READ program Selecting HDD ID displays the following HDD ID configuration.

Page 185: System Configuration

3 Tests and Diagnostics 3.25 System Configuration 3.25.1 Function Description NOTE: To display the system configuration, the write protect tab should be OFF position. If the tab is ON position, move the tab to OFF position and restart the test. Otherwise the correct information cannot be acquired. The System Configuration program contains the following configuration information for the computer: 1.

Page 186 3 Tests and Diagnostics 3.25.2 Operations Select 8 from the DIAGNOSTIC MENU and press Enter. Then, the following system configuration appears in the display. System Configuration Display : Ver X.XX [Machine Name ???] - Processor Type = XXXXXX-XXXXXMHz Code = XX L2 Cache = XXXXXKB - Chip set = XXXXXX...

Page 187: Wireless Lan Test Program (Intel-Made B/G, A/B/G Setting Up Of Ref Pc)

3 Tests and Diagnostics 3.26 Wireless LAN Test Program (Intel-made b/g, a/b/g Setting up of REF PC) For the test of Intel-made wireless LAN cards, configure the test environment as shown below with the following equipment. □ AP □which can operate on Windows XP and is corresponding to access point 11a, 11b and 11g□...

Page 188 3 Tests and Diagnostics 2. Open “My Computer” window and click “My Network places” on the left column. 3. Click “View network connections” on the left column. 4. The “Network Connections” window appears. Double-click “Local Area Connection”. Network Connections window 3-66 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 189 3 Tests and Diagnostics 5. Click “Install...” button on the “Local Area Connection Properties” window. Local Area Connection Properties window 6. Select “Protocol” on the “Select Network Component Type” window and click “Add...” button. Select Network Component Type window 7. Click “Have Disk...” button on the “Select Network Protocol” window. Select Network Protocol window PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL]...

Page 190 3 Tests and Diagnostics 8. When “Install From Disk” window appears, click “Browse...” and specify the created “Clx_Res” folder. Then Click “OK”. (For the test, “PACKET.INF” file is used.) Install From Disk window 9. The “Select Network Protocol” window appears again. In the “Network Protocol”, “DDK PACKET Protocol”...

Page 191 3 Tests and Diagnostics After the completion of REF PC setup, restart the WINDOWS. Then perform the Responder test program for Windows (WTWINSVR.EXE) in the Clx_Res folder. WTWINSVR.EXE Function : Transmitting/receiving of data to/from DUT via AP OS available : Windows XP only How to start : Double-click WTWINSVR icon.

Page 192: Wireless Lan Test Program On Dut Pc(Intel-Made)

3 Tests and Diagnostics 3.27 Wireless LAN Test Program on DUT PC (Intel-made) 3.27.1 Wireless LAN Test Program (Intel-made : Golan) on DUT PC This section describes how to perform the wireless LAN transmitting-receiving test (Intel- made 802.11 b/g or 802.11 a/b/g Golan). To execute the wireless LAN test, use the Diagnostics disk for wireless LAN test.

Page 193 3 Tests and Diagnostics Press any key and return to the test menu. If a defective is found during the test, NG message will appear in the display. Press any key and return to the test menu. When a defective is detected in the test, following typical cause is considered. •...

Page 194 3 Tests and Diagnostics Subtest03 Antenna check & communication test of 11b mode This subtest execute transmitting/receiving test in 802.11b mode using the main antenna first. If a defective is not found during the test, transmitting/receiving test in 802.11b mode using the AUX antenna is automatically executed.

Page 195 3 Tests and Diagnostics Subtest05 Communication test of 11g mode This subtest execute transmitting/receiving test in 802.11g mode using the main antenna. If a defective is not found during the test, OK message will appear in the display. Press any key and return to the test menu. If a defective is found during the test, NG message will appear in the display.

Page 196 3 Tests and Diagnostics 3.27.2 Wireless LAN Test Program (Intel-made:Kedron) on DUT PC This section describes how to perform the wireless LAN transmitting-receiving test (Intel- made 802.11 a/b/g or 802.11 a/b/g/n: kedron). To execute the wireless LAN test, use the Diagnostics disk for wireless LAN test.

Page 197 3 Tests and Diagnostics Press any key and return to the test menu. When a defective is detected in the test, following typical cause is considered. • Connection of wireless LAN card • Using a wrong wireless LAN card (Using unspecified card) •...

Page 198 3 Tests and Diagnostics This subtest execute transmitting/receiving test in 802.11a mode using the main antenna. If a defective is not found during the test, OK message will appear in the display. Press any key and return to the test menu. If a defective is found during the test, NG message will appear in the display.

Page 199 3 Tests and Diagnostics Subtest05 Communication test of 11g mode This subtest execute transmitting/receiving test in 802.11g mode using the main antenna. If a defective is not found during the test, OK message will appear in the display. Press any key and return to the test menu. If a defective is found during the test, NG message will appear in the display.

Page 200: Lan/Modem/Bluetooth/Ieee1394 Test Program

3 Tests and Diagnostics 3.28 LAN/Modem/Bluetooth/IEEE1394 Test Program This section describes how to perform the LAN/Modem/Bluetooth/IEEE1394 test with the test program. Insert the test program disk for LAN/Modem/Bluetooth/IEEE1394 test in FDD and turn on the power. The following message will appear: Microsoft Windows XX Startup Menu ---------- Not used...

Page 201 3 Tests and Diagnostics Subtest01 (i82562 + ICHx) This subtest checks the operation of mini-PCI I/F by the loopback test in the chip. The following message will appear: [LAN transmit & receive test !] COMPLETED Repeat count = 00000 Error count 00000 LOOPBACK TEST 100Mbps Auto-negotiation TxRx Test...

Page 202 3 Tests and Diagnostics Subtest02 (GbE) This subtest checks the operation of mini-PCI I/F by the loopback test in the chip. Select 2 to execute and press Enter. The following

message will appear: Testing adaptor...hit <ESC> to abort. External Loopback Test...PASSED Testing completed.

Page 203 3 Tests and Diagnostics 3.28.2 Modem test NOTE: Modem Test is not supported for this model. For this subtest, connect the modem PCB and RJ11 connector with a harness. Use the dedicated “FAT-MODE inspection device (product code: QE2000P01 made by Nitto Denki Seisakusyo)”...

Page 204 (A mobile phone with the Bluetooth function is also available.) A Bluetooth card should be installed on the target computer. Install the Bluetooth function by clicking [All Programs] -> [TOSHIBA] -> [Bluetooth] -> [Bluetooth Settings]. Test procedure 1.

Page 205 3 Tests and Diagnostics 5. Select “Diagnostics” tab and click “Run”. 6. Check the “Log” to confirm the test result. BT address of test computer BT address of responder device 7. When the BT (Bluetooth) address of the responder device appears, the Bluetooth card and antenna connection are OK.

Page 206 3 Tests and Diagnostics 3.28.4 IEEE1394 test To execute this test, press 4 and Enter. NOTE: Use another computer that can communicate by IEEE1394 (i. Link) cable as a reference machine to perform this test. The following menu will appear: ********** ******** IEEE1394[XXXXX] Diagnostics program...

Page 207: Sound Test Program

Sound TEST disk cannot be used in PORTEGE M700. Therefore, please test the sound on Windows OS. 1) Play a music file. 2) click TOSHIBA-> utility -> "PC diagnostic tool." to test the sound Please check operation of speakers by one of methods. 3.31 3G Test program Therefore, please test the sound on Windows OS.

Page 208: Bios Setup

Tests and Diagnostics 3.32 BIOS SETUP 3.32.1 Function Description This program displays the current system setup information as listed below: 1. Memory 2. System Date/Time 3. Password (a) User Password (b) Supervisor Password 4. HDD Password (a) HDD (b) HDD Password Mode (c) User Password (d) Master Password 5.

Page 209 Tests and Diagnostics (b) SATA Controller Mode 10. PCI Bus 11. Display (a) Power On Display 12. Peripheral (a) Internal Pointing Device 13. Legacy Emulation (a) USB KB/Mouse Legacy Emulation (b) USB-FDD Legacy Emulation (c) USB Memory BIOS Support 14. PCI LAN (a) Built-in LAN 15.

Page 210 Tests and Diagnostics 3.32.2 Accessing the SETUP Program While pressing ESC, turn on the power. Then press F1. The following display appears. 3-88 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 211 Tests and Diagnostics PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL] 3-89...

Page 212 Tests and Diagnostics Moving Within the SETUP Menu and Changing Values to move between the two columns. Press ↑ and ↓ to move between 1. Press items in a column. Press PGUP and PGDN to move between the two pages. 2.

Page 213 Tests and Diagnostics SETUP Options The SETUP screen is divided into 14 functionally related groups. This section describes each group and its options. 1. Memory This group of options displays the computer’s memory. This field displays the total amount of memory installed and is automatically calculated by the computer.

Page 214 Tests and Diagnostics (b) HDD Password Mode This item registers HDD password and can be selected only for registering HDD password. To change HDD Password Mode when HDD password is registered, delete the registered HDD password first, and then register new password.

Page 215 Tests and Diagnostics (b) HDD Priority This option enables to select the priority for the Built-in HDD, Second HDD or USB. Built-in HDD→ Second HDD→ USB (Default) Second HDD→

Built-in HDD→ USB USB →Built-in HDD→ Second HDD USB → Second HDD→Built-in HDD 6.

Page 216 Tests and Diagnostics This option set the Execute-Disable Bit function of CPU to the operation system. Execute-Disable Bit gives higher security function preventing the PC from the computer viruses and buffer overflow problem on unauthorized access. Available Enable the Execute-Disable Bit function. Not Available Disable the Execute-Disable Bit function.

Page 217 Tests and Diagnostics On Battery The following settings can be changed when the Wake-up on LAN is Enabled. Enabled Wake-up on LAN function whenoperating from the battery. Disabled Wake-up on LAN function whenoperating from the battery (Default). NOTE: 1. Do not remove the AC adaptor and battery pack at the same time when you use this feature.

Page 218 Tests and Diagnostics 7. Configuration (a) Device config. This option lets you set the device configuration. All Devices BIOS sets all devices. Setup by OS Initializes devices, which is needed to load an operating system. Operating system initializes other devices. (Default) NOTE: 1.

Page 219 Tests and Diagnostics Battery Save Options Processing Speed This feature changes the CPU processing speed. High CPU operates at high speed. (Default in Full Power Mode) CPU operates at low speed. (Default in Low Power Mode) CPU Sleep Mode Use this option to enable or disable the CPU sleep function. Enabled Enables sleep mode.

Page 220 Tests and Diagnostics Auto PCI Express devices are not used while battery operation. (Default) Disabled Disable the Power-saving function and drive with maximum performance. Enabled PCI Express devices are not used. (c) Enhanced C-States This option set the power-saving function of Enhanced C-States on the following conditions.

Page 221 Tests and Diagnostics 10. PCI Bus This option displays the interrupt level for the Card Bus in the computer. It is for information only and cannot be changed. PCI BUS = Serial IRQ10, IRQ11 11. Display This group of options configures the computer’s display. (a) Power On Display This option is used to select the display when booting up.

Page 222 Tests and Diagnostics (b) USB-FDD Legacy Emulation This option sets the Legacy support condition of the USB floppy disk drive. When a computer is FDD built-in model, this option is not displayed. Enabled Enables support. (Default) LEGACY USB floppy disk is available without the driver. Disabled Disables LEGACY support (c) USB Memory BIOS Support...

Page 223: Chapter 4 Replacement Procedures

Chapter 4 Replacement Procedures [CONFIDENTIAL]...

Page 224 4. Replacement Procedures 4-ii [CONFIDENTIAL] PORTÉGÉ M700 Maintenance Manual (960-661)

Page 225 4. Replacement Procedures Chapter 4 Contents Overview.....4-1 Battery pack .....4-10 PC card/Smart card/Bridge media .....4-12 4.3.1 PC card..... 4-12 4.3.2 Smart card .....4-13 4.3.3 Bridge media..... 4-14 Tablet PC pen.....4-15 Reserve pen case ..... 4-16 HDD.....

Page 226 4. Replacement Procedures 4.28 Sensor board.....4-73 4.29 Touch pad..... 4-74 4.30 Speaker.....4-78 4.31 Hinge assembly..... 4-80 4.32 LCD unit/Touch panel/Digitizer .....4-84 4.33 Switch board/Fingerprint sensor board.....4-105 4.34 Web camera board .....4-107 4.35 Wireless antenna/Internal microphone/Web camera cable.....4-108 4-iv [CONFIDENTIAL] PORTÉGÉ...

Page 227 4. Replacement Procedures Figures Figure 4-1 Removing the battery pack.....4-10 Figure 4-2 Removing the PC card .....4-12 Figure 4-3 Removing the Smart card..... 4-13 Figure 4-4 Removing the Bridge media.....4-14 Figure 4-5 Removing the tablet PC pen.....4-15 Figure 4-6 Removing the reserve pen case .....

Page 228 4. Replacement Procedures Figure 4-31 Removing the front panel.....4-53 Figure 4-32 Removing the heat sink (with fan) .....4-55 Figure 4-33 Removing the fan ..... 4-56 Figure 4-34 Removing the CPU .....4-57 Figure 4-35 Installing the CPU .....4-58 Figure 4-36 Applying silicon grease.....

Page 229: Overview

4.1 Overview 4 Replacement Procedures Rev B Replacement Procedures Overview This chapter describes the procedure for removing and replacing the field replaceable units (FRUs) in the PC. It may not be necessary to remove all the FRUs in order to replace one. The chart below provides a guide as to which other FRUs must be removed before a particular FRU can be removed.

Page 230 Please read the following safety instructions before disassembling the computer and always follow the instructions while working on the computer. DANGER: 1) Always use the genuine battery that is authorized by Toshiba or compatible with the unit. Since other battery packs have different specifications, they may be incompatible with the unit, and may burst or explode.

Page 231 4.1 Overview 4 Replacement Procedures Before You Begin Take note of the following points before starting work. Always remove the AC adapter and battery pack before commencing any of the procedures. The procedure for removing the battery pack is described in section “4.2. Battery Pack”. Do not disassemble the computer unless it is operating abnormally.

Page 232 4 Replacement Procedures 4.1 Overview Disassembly Procedure Four main types of cable connector are used. • Pressure plate connector • Spring connector • Back flip connector • Normal pin connector When disconnecting a pressure plate connector, lift up the tag on one side of the plastic pressure plate on the connector and pull the cable out from the connector.

Page 233 4.1 Overview 4 Replacement Procedures Assembly Procedure After the computer has been disassembled and the part that caused the fault has been repaired or replaced, the computer must be reassembled. Take note of the following general points when assembling the computer. •...

Page 234 4 Replacement Procedures 4.1 Overview Rev B NOTE: When assembling the computer, follow the gap standard in the figure below. COVER - FACE SHEET COVER - T-PAD BUTTON COVER - T- PAD BUTTON LCD COVER - LCD TOP COVER ODD - BASE ODD - BASE BASE - HINGE REARCOVER [CONFIDENTIAL]...

Page 235: Tools And Equipment

4.1 Overview 4 Replacement Procedures Rev B Mark Gap standard Mark Gap standard Mark Gap standard LCD COVER – LCD TOP COVER LCD COVER – LCD TOP COVER BASE – FRONT COVER (Around) BASE – BATTERY BASE – HDD COVER (Around) COVER - BASE BASE –...

Page 236 CAUTION: Overtightening can damage components and screws; undertightening can result in electrical shorts or other damage if screws or components come loose. NOTE: Toshiba recommends that you use an electric screwdriver for quick and easy operations. • 0.167 N•m (1.7 kgf •cm) M2 (2mm) •...

Page 237 4.1 Overview 4 Replacement Procedures Grip Color Some screws have a colored grip area to help you determine the length of the screw. • Even numbered length screws: Brown • Odd numbered length screws: White • Special length screw: Blue “Special length screw”...

Page 238: Battery Pack

4 Replacement Procedures 4.2 Battery pack Battery pack Removing the battery pack The following describes the procedure for removing the battery pack. (See Figure 4-1.) CAUTION: Take care not to short circuit the terminals when removing the battery pack. Similarly, do not drop, knock, scratch, disassemble, twist, or bend the battery pack.

Page 239 Dispose always the used batteries pack in accordance with the laws and ordinances of your local authority. Use only the batteries approved by Toshiba. NOTE: Check visually the battery terminals and clean off any dirt with a dry cloth.

Page 240: Pc Card/Smart Card/Bridge Media

4 Replacement Procedures 4.3 PC card/Smart card/Bridge media PC card/Smart card/Bridge media 4.3.1 PC card Removing the PC card The following describes the procedure for removing the PC card. (See Figure 4-2.) CAUTION: Insert or remove the PC card in accordance with any

instructions in the PC card manual or the manuals of the computer system you are using.

Page 241 4.3 PC card/Smart card/Bridge media 4 Replacement Procedures 4.3.2 Smart card Removing the Smart card The following describes the procedure for removing the Smart card. (See Figure 4-3.) CAUTION: Insert or remove the Smart card in accordance with any instructions in the Smart card manual or the manuals of the computer system you are using.

Page 242 4 Replacement Procedures 4.3 PC card/Smart card/Bridge media 4.3.3 Bridge media Removing the Bridge media (SD Card/Memory Stick/xD Picture Card/ MultiMediaCard) The following describes the procedure for removing the Bridge media. (See Figure 4-4.) CAUTION: Insert or remove the Bridge media in accordance with any instructions in the Bridge media manual or the manuals of the computer system you are using.

Page 243: Tablet Pc Pen

4.4 Tablet PC pen 4 Replacement Procedures Tablet PC pen Removing the Tablet PC pen The following describes the procedure for removing the tablet PC pen. (See Figure 4-5.) 1. Push the tablet PC pen in the tablet PC pen slot, so that it protrudes slightly. 2.

Page 244: Reserve Pen Case

4 Replacement Procedures 4.5 Reserve pen case Reserve pen case Removing the Reserve pen case The following describes the procedure for removing the reserve pen case. (See Figure 4-6.) 1. Close the display and turn over the computer 2. Push slightly the point shown by the arrow using an object with a thin tip. 3.

Page 245 4.6 HDD 4 Replacement Procedures Removing the HDD The following describes the procedure for removing the HDD. (See Figure 4-7 to 4-9.) CAUTION: Take care not to press on the top and bottom of the HDD. Pressure may cause data loss or damage to the device. 1.

Page 246 4 Replacement Procedures 4.6 HDD 2. Hold the tab to raise the HDD assembly straight and pull out the HDD assembly from the connector of the HDD cable. NOTE: When removing the HDD assembly, be careful not to tear the tab. If the tab is torn, replace the HDD holder with a new one.

Page 247: Hdd

4.6 HDD 4 Replacement Procedures 3. Place the HDD assembly on a flat surface and remove the following screws fixing the HDD holder. • M3.0×4.0C ×4 FLAT HEAD screw 4. Separate the HDD holder and HDD. HDD holder (HDD frame and tab) M3.0x4.0C FLAT HEAD M3.0x4.0C FLAT HEAD...

Page 248 4 Replacement Procedures 4.6 HDD Installing the HDD The following describes the procedure for installing the HDD. (See Figure 4-7 to 4-9.) CAUTION: Do not hold the HDD by its top and bottom flat surfaces. It may damage the HDD. 1.

Page 249: Slim Select Bay Module

4.7 Slim select bay module 4 Replacement Procedures Slim select bay module Removing the slim select bay module The following describes the procedure for removing the slim select bay module. (See Figure 4-10 and 4-11.) The explanation and figure shown below indicate the optical drive removing/installing. CAUTION: Do not put fingers in the slim select bay slot.

Page 250 4 Replacement Procedures 4.7 Slim select bay module 4. Remove the following screws, connector cover and connector from the optical drive assembly. • M2.0×6.0C ×2 BIND screw 5. Remove the following screw and connector base from the optical drive assembly. •...

Page 251 4.7 Slim select bay module 4 Replacement Procedures Installing the slim select bay module The following describes the procedure for installing the slim select bay module. (See Figure 4-10 and 4-11.) 1. Install the ODD side assembly to the optical drive assembly and secure it with the following screws.

Page 252: Memory Module (Slot B)

4 Replacement Procedures 4.8 Memory module (slot B) Memory module (slot B) CAUTION: The power must be turned off when you remove the memory module. Removing the memory module with the power on risks damaging the module or the computer itself. Do not touch the

memory module terminals.

Page 253 4.8 Memory module (slot B) 4 Replacement Procedures 2. Open the left and right latches and remove the memory module. Latch Latch Memory module Figure 4-13 Removing the memory module (slot B) PORTÉGÉ M700 Maintenance Manual (960-661) [CONFIDENTIAL] 4-25...

Page 254 4 Replacement Procedures 4.8 Memory module (slot B) Installing the memory module To install the memory module, make sure the computer is in boot mode and powered off. Then perform the following procedure. (See Figure 4-12 and 4-13.) 1. Insert the memory module into the connector slantwise (terminal side first) and press it to connect firmly.

Page 255: Fan Hood

4.9 Fan hood 4 Replacement Procedures Fan hood NOTE: When repairing the PC, clean the fan hood and heat sink with a vacuum cleaner and cotton sticks, and remove dusts with tweezers. Removing the Fan hood The following describes the procedure for removing the fan hood. (See Figure 4-14.) 1.

Page 256 4 Replacement Procedures 4.9 Fan hood Installing the Fan hood The following describes the procedure for installing the fan hood. (See Figure 4-14.) 1. Install the fan hood into the slot. 2. Set the fan hood cover with the guide under the base and secure it with the following screw.

Page 257: Keyboard

4.10 Keyboard 4 Replacement Procedures 4.10 Keyboard Removing the keyboard The following describes the procedure for removing the keyboard. (See Figure 4-15 to 4-18.) 1. Turn the computer face up. 2. Open the display and make it flat. 3. Insert your finger into the slit and lift up the keyboard holder to remove. 4.

Page 258 4 Replacement Procedures 4.10 Keyboard 5. Lift the top edge of the keyboard while releasing latch and turn it face down on the palm rest while releasing the guides from the slits. Guide Keyboard Slit Guide Latch Figure 4-16 Removing the screw 4-30 [CONFIDENTIAL] PORTÉGÉ...

Page 259: Figure 1-6 Keyboard

4.10 Keyboard 4 Replacement Procedures 6. Remove the following screw and keyboard cover. • M2.5×3.0C ×1 S-THIN HEAD screw M2.5x3.0C S-THIN HEAD Keyboard cover Figure 4-17 Removing the keyboard cover 7. Disconnect the keyboard cable from the connector CN3230 on the system board and remove the keyboard.

Page 260 4 Replacement Procedures 4.10 Keyboard Installing the keyboard The following describes the procedure for installing the keyboard. (See Figure 4-15 to 4-18.) 1. Place the keyboard face down on the palm rest. 2. Connect the keyboard cable to the connector CN3230 on the system board. CAUTION: Extra portion of the keyboard cable must be put under the palm rest.

Page 261: Memory Module (Slot A)

4.11 Memory module (slot A) 4 Replacement Procedures 4.11 Memory module (slot A) CAUTION: The power must be turned off when you remove the memory module. Removing the memory module with the power on risks damaging the module or the computer itself. Do not touch the memory module terminals.

Page 262 4 Replacement Procedures 4.11 Memory module (slot A) 2. Open the left and right latches and remove the memory module. Latch Latch Memory module Figure 4-20 Removing the memory module (slot A) 4-34 [CONFIDENTIAL] PORTÉGÉ M700 Maintenance Manual (960-661)

Page 263 4.11 Memory module (slot A) 4 Replacement Procedures Installing the memory module To install the memory module, make sure the computer is in boot mode and powered off. Then perform the following procedure. (See Figure 4-19 and 4-20.) 1. Insert the memory module into the connector slantwise (terminal side first) and press it to connect firmly.

Page 264: Wireless Lan Card/Robson Card

4 Replacement Procedures 4.12 Wireless LAN card/Robson card 4.12 Wireless LAN card/Robson card Removing the Wireless LAN card/Robson card To remove the wireless LAN card/Robson card, follow the steps below. (See Figure 4-21 to 4-23.) CAUTION: Do not try to remove the wireless LAN card/Robson card with the computer turned on.

Page 265 4.12 Wireless LAN card/Robson card 4 Replacement Procedures 2. Remove the following screws and disconnect the Robson card from the connector on the system board. • M2.0×4.0B ×2 S-THIN HEAD screw M2.0×4.0B S-THIN HEAD Robson card Figure 4-22 Removing the Robson card PORTÉGÉ...

Page 266 4 Replacement Procedures 4.12 Wireless LAN card/Robson card 3. Disconnect the wireless LAN antenna cables (black, white and gray) from the wireless LAN card using an antenna coaxial cable disconnector. 4. Remove the following screws and disconnect the wireless LAN card from the connector on the system board.

Page 267 4.12 Wireless LAN card/Robson card 4 Replacement Procedures Installing the Wireless LAN card/Robson card To install the wireless LAN card/Robson card, follow the steps below. (See Figure 4-21 to 4- 23.) CAUTION: Be sure to switch the computer off before installing the wireless LAN card. Otherwise, the computer or the wireless LAN card may be damaged.

Page 268: Card (3G Model Only)

4 Replacement Procedures 4.13 3G card (3G model only) Rev B 4.13 3G card (3G model only) Removing the 3G card To remove the 3G card, follow the steps below. (See Figure 4-3G.) CAUTION: Do not try to remove the 3G card with the computer turned on. The computer or the 3G card can be damaged.

Page 269 4.13 3G card (3G model only) 4 Replacement Procedures Installing the 3G card To install the 3G card, follow the steps below. (See Figure 4-3G) CAUTION: Be sure to switch the computer off before installing the 3G card. Otherwise, the computer or the3G card may be damaged. 1.

Page 270: Base Assembly And Cover Assembly

4 Replacement Procedures 4.14 Base assembly and Cover assembly 4.14 Base assembly and Cover assembly Removing the base assembly and cover assembly The following describes the procedure for removing the base assembly and cover assembly. (See Figure 4-24 to 4-26.) 1.

Page 271 4.14 Base assembly and Cover assembly 4 Replacement Procedures 3. Stand the display 90 degrees. 4. Turn the display clockwise 90 degrees and remove the following screws. • M2.5×10.0B ×2 FLAT HEAD screw 5. Remove the hinge rear cover. M2.5×10.0B FLAT HEAD Hinge rear cover Figure 4-25 Removing the base assembly and cover assembly (2) PORTÉGÉ...

Page 272 4 Replacement Procedures 4.14 Base assembly and Cover assembly 6. Return the display counterclockwise in the original position, close the display and turn over the computer. 7. Remove the following screws. • M2.5×16.0B ×3 (“16” in the figure below) FLAT HEAD screw •...

Page 273 4.14 Base assembly and Cover assembly 4 Replacement Procedures Installing the base assembly and cover assembly The following describes the procedure for installing the base assembly and cover assembly. (See Figure 4-24 and 4-26.) 1. Place the base assembly onto the cover assembly and secure them with the following screws.

Page 274: Slim Select Bay Latch

4 Replacement Procedures 4.15 Slim select bay latch Replacement Procedures 4.15 Slim select bay latch Removing the Slim select bay latch The following describes the procedure for removing the slim select bay latch. (See Figure 4- 27.) 1. Remove the slim select bay cap on the bottom while pushing two latches inside to release them.

Page 275 4.15 Slim select bay latch 4 Replacement Procedures Installing the Slim select bay latch The following describes the procedure for installing the slim select bay latch (See Figure 4-27). 1. Set the spring to the slim select bay latch. 2.

Page 276: Battery Lock Assembly

4 Replacement Procedures 4.16 Battery lock assembly 4.16 Battery lock assembly Removing the Battery lock assembly The following describes the procedure for removing the battery lock assembly. (See Figure 4-28.) 1. Remove the battery lock assembly from the slot while pushing it in the direction in the figure below.

Page 277: Rtc Battery

4.17 RTC battery 4 Replacement Procedures 4.17 RTC battery CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the laws and ordinances of your local authority. Removing the RTC battery The following describes the procedure for removing the RTC battery. (See Figure 4-29.) 1.

Page 278 4 Replacement Procedures 4.17 RTC battery Installing the RTC battery The following describes the procedure for installing the RTC battery. (See Figure 4-29.) 1. Connect the RTC battery cable to the connector CN9300 on the system board. 2. Set the RTC battery to the slot and stick the insulator in place. 4-50 [CONFIDENTIAL] PORTÉGÉ...

Page 279: Bluetooth Module

4.18 Bluetooth module 4 Replacement Procedures 4.18 Bluetooth module Removing the Bluetooth module The following describes the procedure for removing the Bluetooth module. (See Figure 4- 30.) CAUTION: Do not try to remove the Bluetooth module with the computer turned on. You can damage the computer or Bluetooth module.

Page 280 4 Replacement Procedures 4.18 Bluetooth module Installing the Bluetooth module The following describes the procedure for installing the Bluetooth module. (See Figure 4-30.) 1. Turn up the black sheet. 2. Connect the Bluetooth cable to the connector on the Bluetooth module. 3.

Page 281: Front Panel

4.19 Front panel 4 Replacement Procedures 4.19 Front panel Removing the Front panel The following describes the procedure for removing the front panel. (See Figure 4-31.) 1. Remove the front panel from the base assembly while lifting the system board up slightly.

Page 282: Fan/Heat Sink/Cpu

4 Replacement Procedures 4.20 Fan/Heat sink/CPU 4.20 Fan/Heat sink/CPU Removing the Fan/Heat sink/CPU The following describes the procedure for removing the fan/heat sink/CPU. (See Figure 4-32 to 4-34.) 1. Remove the following screws, metal plate and CPU hold plate. • M2.0×4.0B ×3 BIND screw 2.

Page 283 4.20 Fan/Heat sink/CPU 4 Replacement Procedures M2.0x4.0B BIND Metal plate Fan hood M2.0x4 .0B BIND Fan cable CPU hold plate Heat sink CN8771 M2.0x4.0B BIND Cooling sheet Figure 4-32 Removing the heat sink (with fan) PORTÉGÉ M700 Maintenance Manual (960-661) [CONFIDENTIAL] 4-55...

Page 284 4 Replacement Procedures 4.20 Fan/Heat sink/CPU 6. Set the flat plate under the fan so that stress is not given to the assembly while disassembling and assembling. 7. Remove the following screws and separate the fan and heat sink. • M2.5×4.0B ×2 FLAT HEAD screw NOTE: Remove/Install the fan on the flat plate.

Page 285 4.20 Fan/Heat sink/CPU 4 Replacement Procedures 8. Unlock the CPU by rotating counterclockwise the cam on the CPU socket by 90 degrees with a flat-blade driver. Figure 4-34 Removing the CPU 9. Remove the CPU. CAUTION: When removing the CPU, lift it up right above. Otherwise, pins of CPU may be damaged.

Page 286 4 Replacement Procedures 4.20 Fan/Heat sink/CPU Installing the Fan/Heat sink/CPU The following describes the procedure for installing the fan/heat sink/CPU. (See Figure 4-32 to 4-36.) 1. Make sure that the cam of the CPU socket is in the unlock (OPEN) position. 2.

Page 287 4.20 Fan/Heat sink/CPU 4 Replacement Procedures 4. If there is already silicon grease on the CPU and heat sink, clean it with a cloth. Using a special applicator, apply silicon grease (DENKA GFC-F1) so that the CPU chip on the CPU is completely covered. Figure 4-36

Applying silicon grease 5.

Page 288 4 Replacement Procedures 4.21 System board 4.21 System board Removing the System board The following describes the procedure for removing the system board. (See Figure 4-37 and 4-38.) 1. Turn up the insulator and disconnect the speaker cable and microphone cable from the connector CN6150 and CN6060 on the system board.

Page 289: System Board

4.21 System board 4 Replacement Procedures 3. Turn up the black sheet and peel off the acetate tape. 4. Lift up the system board and disconnect the sensor cable from the connector CN9530 on the system board. NOTE: Do not try to remove the system board with the sensor cable being connected. 5.

Page 290 4 Replacement Procedures 4.21 System board Installing the system board The following describes the procedure for installing the system board. (See Figure 4-37 and 4-38.) 1. Set the system board to the cover assembly. 2. Lift up the system board and connect the sensor cable to the connector CN9530 on the system board.

Page 291 4.21 System board 4 Replacement Procedures Rev B 8. Turn up the insulator and connect the speaker cable and microphone cable to the connector CN6150 and CN6060 on the system board. NOTE: When installing a new system board, stick new keyboard supports on the system board according to the model.

Page 292: Hdd Cable/Bluetooth Cable

4 Replacement Procedures 4.22 HDD cable/Bluetooth cable 4.22 HDD cable/Bluetooth cable Removing the HDD cable/Bluetooth cable The following describes the procedure for removing the HDD cable/Bluetooth cable. (See Figure 4-39.) 1. Peel off the insulator and disconnect the HDD cable from the connector CN1900 on the system board.

Page 293: Mdc

4.23 MDC 4 Replacement Procedures 4.23 MDC Removing the MDC The following describes the procedure for removing the MDC. (See Figure 4-40.) 1. Remove the following screws securing the MDC. • M2.0×4.0B ×2 BIND screw 2. Turn up the insulator. 3.

Page 294 4 Replacement Procedures 4.23 MDC Installing the MDC The following describes the procedure for installing the MDC. (See Figure 4-40.) 1. Connect the MDC cable to the connector on the MDC. 2. Connect the MDC to the connector CN3010 on the system board. 3.

Page 295: Pc Card Slot

4.24 PC card slot 4 Replacement Procedures Rev B 4.24 PC card slot Removing the PC card slot The following describes the procedure for removing the PC card slot. (See Figure 4- PCCARD.) 1. Remove the following screws securing the PC card slot. •...

Page 296 4 Replacement Procedures 4.24 PC card slot Rev B Installing the PC card slot The following describes the procedure for installing the PC card slot. (See Figure 4- PCCARD.) 1. Set the PC card slot while engaging the latch and secure it with the following screws. •...

Page 297: Smart Card Slot (Smart Card Model Only)

4.25 Smart card slot (Smart card model only) 4 Replacement Procedures Rev B 4.25 Smart card slot (Smart card model only) Removing the Smart card slot The following describes the procedure for removing the Smart card slot. (See Figure 4- SMART.) 1.

Page 298 4 Replacement Procedures 4.25 Smart card slot (Smart card model only) Rev B Installing the Smart card slot The following describes the procedure for installing the Smart card slot. (See Figure 4- SMART.) 1. Set the Smart card slot in place and connect the Smart card slot cable to the connector CN2170 on the system board.

Page 299: Battery Cable Holder

4.26 Battery cable holder 4 Replacement Procedures 4.26 Battery cable holder Removing the Battery cable holder The following describes the procedure for removing the battery cable holder. (See Figure 4- 41.) 2. Remove the following screw and battery cable holder from the

slot. •...

Page 300: Pen Holder Assembly

4 Replacement Procedures 4.27 Pen holder assembly 4.27 Pen holder assembly Removing the Pen holder assembly The following describes the procedure for removing the pen holder assembly. (See Figure 4- 42.) 1. Remove the pen holder assembly from the slot. Hole Pen holder assembly Guide...

Page 301: Sensor Board

4.28 Sensor board 4 Replacement Procedures 4.28 Sensor board Removing the Sensor board The following describes the procedure for removing the sensor board. (See Figure 4-43.) 1. Remove the sensor board from the slot. 2. Disconnect the sensor cable from the connector on the sensor board. Sensor cable Sensor board Hole...

Page 302: Touch Pad

4 Replacement Procedures 4.29 Touch pad 4.29 Touch pad Removing the Touch pad The following describes the procedure for removing the touch pad. (See Figure 4-44 to 4-46.) 1. Peel off the glass tapes. 2. Disconnect the relay cable from the connector on the touch pad. 3.

Page 303 4.29 Touch pad 4 Replacement Procedures 4. Disconnect the touch pad cable and relay cable from the connector on the button board. 5. Turn over the touch pad assembly and peel off the button board. CAUTION: Do not reuse the removed button board. Cable Connector Button board...

Page 304 4 Replacement Procedures 4.29 Touch pad 6. Peel off the touch pad. CAUTION: Do not reuse the removed touch pad. Touch pad Figure 4-46 Removing the touch pad (3) 4-76 [CONFIDENTIAL] PORTÉGÉ M700 Maintenance Manual (960-661)

Page 305 4.29 Touch pad 4 Replacement Procedures Installing the Touch pad The following describes the procedure for installing the touch pad. (See Figure 4-44 to 4-46.) 1. Stick a new touch pad on the palm rest cover in place. CAUTION: When installing a new touch pad, follow the steps below. 1.

Page 306: Speaker

4 Replacement Procedures 4.30 Speaker 4.30 Speaker Removing the speaker The following describes the procedure for removing the speaker. (See Figure 4-47.) 1. Remove the speaker covers while releasing latches. 2. Peel off the acetate tapes and take the speakers out from the speaker slots. Speaker cover Latch Acetate tape...

Page 307 4.30 Speaker 4 Replacement Procedures Installing the speaker The following describes the procedure for installing the speaker. (See Figure 4-47.) 1. Place the speakers to the slots on both sides. 2. Install the speaker covers to the slots on both sides while hooking the latches. 3.

Page 308: Hinge Assembly

4 Replacement Procedures 4.31 Hinge assembly 4.31 Hinge assembly Removing the Hinge assembly The following describes the procedure for removing the hinge assembly. (See Figure 4-48 and 4-49.) 1. Release the cables from the guides of the cable holder. Cable Figure 4-48 Removing the hinge assembly (1) 4-80 [CONFIDENTIAL]...

Page 309 4.31 Hinge assembly 4 Replacement Procedures Rev B W-LAN Antenna Cable(Black) 3G Antenna Cable (Red) W-LAN Antenna Cable(Gray) 3G Antenna Cable (Blue) W-LAN Antenna Cable(White) W-LAN Antenna Cable(Gray) 3G Antenna Cable (Blue) FWGAN PCB 3G Antenna Cable (Blue) Figure 4-49a Removing the hinge assembly (1) (3G model only) PORTÉGÉ...

Page 310 4 Replacement Procedures 4.31 Hinge assembly 2. Remove the following screws and cable holder. • M2.5×10.0B FLAT HEAD screw ×2 3. Open the display at the right angle to the palm rest covers and turn the display clockwise 90 degrees and remove the hinge assembly. 4.

Page 311 4.31 Hinge assembly 4 Replacement Procedures Installing the Hinge assembly The

following describes the procedure for installing the hinge assembly. (See Figure 4-48 and 4-49.) 1. Set the hinge spacer, hinge assembly and cable holder in place and secure them with the following screws.

Page 312: Lcd Unit/Touch Panel/Digitizer

4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer 4.32 LCD unit/Touch panel/Digitizer Removing the LCD unit/Touch panel/Digitizer The following describes the procedure for removing the LCD unit/touch panel/digitizer. (See Figure 4-50 to 4-54.) 1. Turn the display clockwise180 degrees and close the display on the palm rest cover. 2.

Page 313 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures 4. Remove the following screws securing the LCD assembly. • M2.0×4.0B ×4 S-THIN HEAD screw 5. Raise the top edge of the LCD assembly on the display cover. M2.0x4.0B S-THIN HEAD M2.0x4.0B S-THIN HEAD LCD assembly M2.0x4.0B S-THIN HEAD...

Page 314 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer 6. Turn up the insulator and peel off the glass tapes. 7. Disconnect the LCD cable and digitizer cable from the connectors on the back of the LCD unit. CAUTION: When removing the cables, be careful not to damage the connectors. 8.

Page 315 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures CAUTION: Read the following instructions before handling the touch panel. Touch panels are made of glass having sharp edges and corners; workers must wear gloves not to cut their fingers or skin when handling. Touch panels are made of glass;...

Page 316 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer The LCD mask must not touch any part of the transparent area; it will cause unexpected input. Inside edge of the LCD mask must be between the transparent area and the operation guaranteed active area. The LCD mask must not touch film in the transparent area. We recommend the part that secures the touch panel to be an elastic material.

Page 317 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures 9. Peel off the glass tape and disconnect the touch panel cable from the connector on the LCD assembly. CAUTION: When removing the cable, be careful not to damage the connectors. 10. Peel off the acetate tapes and separate the touch panel and LCD unit/digitizer. LCD unit/digitizer Acetate tape Glass tape...

Page 318 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer CAUTION: Read the following instructions before handling the Digitizer. Do not disassemble or modify the digitizer sensor unit; it may damage sensitive parts inside the digitizer sensor unit, and dusts or scratches may mar the device. Be careful of sharp edges of the sensor board;...

Page 319 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures To attain maximum performance, abide by the following precautions. a. Attach the digitizer sensor unit flat on the bottom surface of LCD panel. b. Affix three sides of the digitizer sensor unit to corners securely using single-coated or double-coated adhesive tape.

Page 320 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer The CMOS LSIs used in the digitizer sensor unit are very sensitive to ESD (Electro-Static Discharge). Person handling the digitizer sensor unit shall be grounded with wristband. Tools such as a soldering iron, screwdriver and working benches shall be grounded. Do not apply excessive mechanical forces to install the digitizer sensor unit;...

Page 321 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures There is a portion where the bezel is sticking out because of the digitizer guide. Do not press and rub the portion with bare hands or it may result cut your finger. Do not make any scratches on the B/L and TAB by the edge of the digitizer when installing the digitizer because it may result to break the TAB or make scratches on the B/L and cause display function failure.

Page 322 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer Do not pull up the PCB hardly when installing the digitizer because it may result to give stress on the TAB or PCB and cause the display function failure. Make sure that three latches fit the digitizer securely. If the latches are not locked securely, it may result to move the digitizer and give stress on the TAB or PCB and cause the display function failure.

Page 323 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures Do not put any instrument on the LCD module because it may result to make scratch on the cell, polarization sheet or B/L and break the TAB and may cause the display function failure.

Page 324 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer Do not hold, press and rub the TAB because it may result to break the TAB and cause the display function failure. 4-96 [CONFIDENTIAL] PORTÉGÉ M700 Maintenance Manual (960-661)

Page 325 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures Make sure to put the LCD module on the flat place. If the LCD module is put on the uneven place, it may result to break the TAB, make scratch on the B/L or polarization sheet and cause the display function failure.

Page 326 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer 11. Slide out the digitizer toward the arrow pointing while peeling off the digitizer of the LCD unit. (The digitizer is stuck on the LCD unit with double-sided tapes.) CAUTION: Do not reuse the removed digitizer. Digitizer Figure 4-55 Removing the digitizer 4-98...

Page 327 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures Installing the LCD unit/Touch panel/Digitizer The following describes the procedure for installing the LCD unit/touch panel/digitizer. (See Figure 4-50 to 4-54.) CAUTION: When installing the LCD unit/touch panel/digitizer, be careful of the followings. Standards of dirt of the digitizer and dirt between the digitizer and LCD are followings.

Page 328 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer 1. Peel off separators of double-sided tapes on the back of a new digitizer. 2. Slide a new digitizer into the back pocket of the LCD and fix it with the double-sided tape. NOTE: When installing a new digitizer, follow the instructions below.

Page 329 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures Make sure the digitizer is inserted under the metal guides. Do not make a gap between the digitizer and LCD. Guide Guide Guide Guide 3. Set the LCD unit/digitizer on the touch panel and stick the acetate tapes in place. 4.

Page 330 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer 7. Place the LCD assembly to the display cover and secure it with the following screws. • M2.0×4.0B ×4 S-THIN HEAD screw NOTE: For models with a digitizer and touch panel, be careful not to put the LCD cable under the metal plate of the touch panel.

Page 331 4.32 LCD unit/Touch panel/Digitizer 4 Replacement Procedures 8. Set the LCD mask to the display cover while securing the latches. NOTE: When setting the LCD mask, wipe the LCD with a soft cloth and make the back of the LCD mask clean with an ionizer. NOTE: For models with a LCD/digitizer (without touch panel), set the protection board to the LCD mask and secure them with the double-sided tape.

Page 332 4 Replacement Procedures 4.32 LCD unit/Touch panel/Digitizer NOTE: When replacing the LCD mask with a new one, stick a new black sheet in place. There are two types of black sheet, one type (for web camera model) masks the web camera portion, and the other (for no web camera model) does not mask the web camera portion.

Page 333: Switch Board/Fingerprint Sensor Board

4.33 Switch board/Fingerprint sensor board 4 Replacement Procedures 4.33 Switch board/Fingerprint sensor board Removing the Switch board/Fingerprint sensor board The following describes the procedure for removing the switch board/fingerprint sensor board. (See Figure 4-55.) 1. Remove the following screw securing the switch board and pull up the switch board. •...

Page 334 4 Replacement Procedures 4.33 Switch board/Fingerprint sensor board Installing the Switch board/Fingerprint sensor board The following describes the procedure for installing the switch board/fingerprint sensor board. (See Figure 4-55.) 1. Connect the fingerprint sensor cable to the connector on the back of the fingerprint sensor board.

Page 335: Web Camera Board

4.34 Web camera board 4 Replacement Procedures 4.34 Web camera board Removing the Web camera board The following describes the procedure for removing the web camera board. (See Figure 4- 56.) 1. Disconnect the web camera cable from the connector on the web camera board and remove the web camera board.

Page 336: Wireless Antenna/Internal Microphone/Web Camera Cable

4 Replacement Procedures4.35 Wireless LAN antenna/Internal microphone/Web camera cable 4.35 Wireless LAN antenna/Internal microphone/Web camera cable Removing the Wireless LAN antenna/Internal microphone/Web camera cable Wireless LAN antennas/internal microphone/web camera cable are included in a LCD cover assembly (hinge assembly is also included). When the wireless LAN antennas or internal microphone or web camera cable are/is defective, replace with a new LCD cover assembly.

Page 337 4.35 Wireless LAN antenna/Internal microphone/Web camera cable4 Replacement Procedures LCD cover assembly M2.5x6.0B FLAT HEAD M2.5x6.0B FLAT HEAD Hinge assembly Figure 4-59a Removing the wireless LAN antenna/3G antenna/Internal microphone/webcamera cable(3G model only) Installing the Wireless LAN antenna/Internal microphone/Web camera cable The following describes the procedure for installing the LCD cover assembly.

Page 338: Appendices

Appendices [CONFIDENTIAL]...

Page 339 Appendices App-ii [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 340: Appendix A Handling The Lcd Module

Appendices Appendix Contents Appendix A Handling the LCD Module .....A-1 Appendix B Board Layout .....B-1 *) Front View.....B-1 FWGSY System board (*) Back View .....B-3 FWGSY System board ((FWGSW*) View SW board .....B-5 *) View Finger Sensor board (FWGFS .....B-6 Touch Pad board (FWGTP*) View .....B-7 Antenna board (FWGAN*) View .....B-8...

Page 341 Appendices C.18 CN5080 CRT interface connector (15-pin).....C-20 C.19 CN5601 LCD interface connector (34-pin) .....C-21 C.20 CN6060 Int MIC connector (2-pin) .....C-22 C.21 CN6150 Speaker connector (4-pin) .....C-22 C.22 CN8771 FAN interface connector (4-pin) .....C-22 C.23 CN8810 Battery connector(10-pin) .....C-22 C.24 CN9300 RTC battery connector(3-pin) .....C-23 C.25 CN9530 FWGPN* board interface connector(4-pin) .....C-23...

Page 342 Appendices Appendix D Keyboard Scan/Character Codes .....D-1 Appendix E Key Layout.....E-1 United Kingdom (UK) Keyboard .....E-1 United States (US) Keyboard..... E-1 Appendix F Wiring Diagrams ..... F-1 RGB Monitor Loopback Connector ..... F-1 RS-232C Loopback Connector .....F-1 RS-232C direct connection cable (9-pin to 9-pin) .....

Page 343: Table

Appendices Figures Figure B-1 System board (FWGSY*) layout (front) .....B-1 Figure B-2 System board (FWGSY*) layout (back).....B-3 Figure B-3 SW board (FWGSW*) layout (front/back).....B-5 Figure B-4 Finger Sensor board (FWGFS*) layout (front/back) .....B-6 Figure B-5 Touch Pad board (FWGTP*) layout (front/back).....B-7 Figure B-6 Antenna board (FWGAN*) layout (front/back) .....B-8 Figure B-7...

Page 344 Appendices System board Table C-1 SO-DIMM connector (200-pin) .....C-1 Table C-2 SO-DIMM connector (200-pin) .....C-4 Table C-3 SELECT BAY interface connector (72-pin) .....C-7 Table C-4 HDD interface connector (11-pin) .....C-8 Table C-5 PC Card interface connector (70-pin) .....C-9 Table C-6 Smart Card interface connector (10-pin).....C-10 Table C-7 Docking interface connector (133-pin) .....

Page 345 Appendices Table C-31 Media Bridge interface connector (42-pin).....C-26 Table C-32 SIMM CARD SLOT (12-pin) .....C-27 SW board Table C-33 System board interface connector (15-pin) .....C-28 Finger Sensor board Table C-34 System board interface connector (6-pin) .....C-29 Touch Pad board Table C-35 Touch PAD interface connector (12-pin) .....C-30 Table C-36 System board internal connector (8-pin).....C-30

Antenna board Table C-37 ANT interface connector (3-pin).....C-31...

Page 346: Appendix A Handling The Lcd Module

Appendix A Handling the LCD Module Appendices Appendix A Appendix A Handling the LCD Module Precautions for handling the LCD module The LCD module can be easily damaged during assembly or disassembly. Observe the following precautions when handling the LCD module: 1.

Page 347 Appendices Appendix A Handling the LCD Module 3. If the panel's surface gets dirty, wipe it with cotton or a soft cloth. If it is still dirty, try breathing on the surface to create a light condensate and wipe it again. If the surface is very dirty, we recommend a CRT cleaning agent.

Page 348 Appendix A Handling the LCD Module Appendices 5. Glass is used in the panel, so be careful not to drop it or let it strike a hard object, which could cause breakage or cracks. 6. CMOS-LSI circuits are used in the module, so guard against damage from electrostatic discharge.

Page 349 Appendices Appendix A Handling the LCD Module 7. Do not expose the module to direct sunlight or strong ultraviolet rays for long periods. 8. Do not store the module at temperatures below specifications. Cold can cause the liquid crystals to freeze, lose their elasticity or otherwise suffer damage. [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 350 Appendix A Handling the LCD Module Appendices 9. Do not disassemble the LCD module. Disassembly can cause malfunctions. 10. If you transport the module, do not use packing material that contains epoxy resin (amine) or silicon glue (alcohol or oxime). These materials can release gas that can damage the panel's polarization.

Page 351 Appendices Appendix A Handling the LCD Module [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 352: Appendix B Board Layout

Appendix B Board Layout Appendices Appendix B Board Layout B.1 System board (FWGSY*) Front View Figure B-1 System board(FWGSY*) layout (front) PORTEGE M700 Maintenance Manual (960-661)

Page 353 Appendices Appendix B Board Layout and ICs Table B-1 System board(F SY*) connectors (front) Number Name CN1400 Memory connector CN1900 HDD I/F connector CN2110 PC CARD I/F connector CN2170 Smart Card I/F connector(not used) CN2600 Mini PCI Express I/F connector (WLAN/WiMAX) CN2610 Mini PCI Express I/F connector (3G/Robsoan) CN3010...

Page 354 Appendix B Board Layout Appendices B.2 System board (FWGSY*) Back View Figure B-2 System board(F SY*) layout (back) [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 355 Appendices Appendix B Board Layout Table B-2 System board (F SY*) connectors and ICs (back) Number Name CN1410 Memory connector CN1820 SELECT BAY I/F connector CN2300 Docking I/F connector CN4230 1394 I/F connector CN4610 USB (Port6) I/F connector CN4611 USB (Port4) I/F connector CN4612 USB (Port0) I/F connector CN5080...

Page 356 Appendix B Board Layout Appendices B.3 SW board (FWGSW*) View (front) (back) Figure B-3 SW board (FWGSW*) layout (front/back) WGSW Table B-3 board (F *) connector (front) Number Name System board I/F connector CN9542 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 357 Appendices Appendix B Board Layout B.4 Finger Sensor board (FWGFS*) View (front) (back) 4 Finger Sensor board (FWGFS Figure B- *) layout (front/back) 4 Finger Sensor board WGFS Front Table B- *) connector (Number Name CN9541 System board I/F connector [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661))

Page 358 Appendix B Board Layout Appendices B.5 Touch Pad board (FWGTP*) View (front)

(back) Touch Pad board WGTP Figure B-5 *) layout (front/back) Touch Pad board WGTP Table B-5 *)connector (front) Number Name CN3241 Touch PAD I/F connector CN9570 System board I/F connector [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 359 Appendices Appendix B Board Layout Rev B B.6 Antenna board (FWGAN*) View (3G model only) (front) (back) WGAN Figure B- Antenna board(F *) layout (front/back) 6 Antenna board WGAN back Table B- *) connector (Number Name CN2661 ANT I/F connector CN2662 3G I/F connector CN2663...

Page 360 Appendix B Board Layout Appendices B.7 Panel Sensor board (FWGPN*) View (front) (back) WGPN /back Figure B- Panel Sensor board(F *) layout (front 7 Panel Sensor board WGPN back Table B- *) connector (Number Name CN9531 System board I/F connector [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 361: Appendix C Pin Assignments

Appendix C Pin Assignments Appendices Appendix C Pin Assignments System board (FWGSY□) CN1400 SO-DIMM connector (200-pin) Table C-1 SO-DIMM connector (200-pin) (1/3) Pin No. Signal Name Pin No. Signal Name MRVREF-B0V ADQ04-B1P ADQ00-B1P ADQ06-B1P ADQ05-B1P ADM0-B1P ADQS0-B1N ADQS0-B1P ADQ07-B1P ADQ01-B1P ADQ03-B1P ADQ02-B1P ADQ08-B1P...

Page 362 Appendices Appendix C Pin Assignments Table C-1 SO-DIMM connector (200-pin) (2/3) Pin No. Signal Name Pin No. Signal Name ADQ28-B1P ADQ25-B1P ADQ29-B1P ADQ24-B1P ADM3-B1P ADQS3-B1N ADQS3-B1P ADQ30-B1P ADQ31-B1P ADQ27-B1P ADQ26-B1P MCKE0-B1P MCKE1-B1P 1R8-B1V 1R8-B1V ABS2-B1P AMA14-B1P 1R8-B1V 1R8-B1V AMA12-B1P AMA11-B1P AMA09-B1P AMA07-B1P AMA08-B1P...

Page 363 Appendix C Pin Assignments Appendices Table C-1 SO-DIMM connector (200-pin) (3/3) Pin No. Signal Name Pin No. Signal Name ADQ37-B1P ADQ39-B1P ADQ38-B1P ADQ34-B1P ADQ41-B1P ADQ45-B1P ADQ43-B1P ADQ44-B1P ADQS5-B1N ADM5-B1P ADQS5-B1P ADQ40-B1P ADQ42-B1P ADQ47-B1P ADQ46-B1P ADQ49-B1P ADQ48-B1P ADQ52-B1P ADQ53B1P XMCK1-B1P XMCK1-B1N ADQS6-B1N ADQS6-B1P ADM6-B1P...

Page 364 Appendices Appendix C Pin Assignments CN1410 SO-DIMM connector (200-pin) Table C-2 SO-DIMM connector (200-pin) (1/3) Pin No. Signal Name Pin No. Signal Name MRVREF-B0V BDQ01-B1P BDQ04-B1P BDQ05-B1P BDQ00-B1P BDM0-B1P BDQS0-B1N BDQS0-B1P BDQ02-B1P BDQ03-B1P BDQ07-B1P BDQ06-B1P BDQ13-B1P BDQ08-B1P BDQ09-B1P BDQ12-B1P BDM1-B1P BDQS1-B1N XMCK3-B1P BDQS1-B1P...

Page 365 Appendix C Pin Assignments Appendices Table C-2 SO-DIMM connector (200-pin) (2/3) Pin No. Signal Name Pin No. Signal Name BDQ24-B1P BDQ29-B1P BDQ25-B1P BDQ28-B1P BDM3-B1P BDQS3-B1N BDQS3-B1P BDQ30-B1P BDQ27-B1P BDQ31-B1P BDQ26-B1P MCKE3-B1P MCKE4-B1P 1R8-B1V 1R8-B1V BBS2-B1P BMA14-B1P 1R8-B1V 1R8-B1V BMA12-B1P BMA11-B1P BMA09-B1P BMA07-B1P BMA08-B1P...

Page 366 Appendices Appendix C Pin Assignments Table C-2 SO-DIMM connector (200-pin) (3/3) Pin No. Signal Name Pin No. Signal Name BDQ34-B1P BDQ35-B1P BDQ32-B1P BDQ33-B1P BDQ45-B1P BDQ46-B1P BDQ40-B1P BDQ41-B1P BDQS5-B1N BDM5-B1P BDQS5-B1P BDQ43-B1P BDQ42-B1P BDQ44-B1P BDQ47-B1P BDQ52-B1P BDQ53-B1P BDQ48-B1P BDQ49-B1P XMCK4-B1P XMCK4-B1N BDQS6-B1N BDQS6-B1P BDM6-B1P...

Page 367 Appendix C Pin Assignments Appendices CN1820 SELECT BAY interface connector (72-pin) Table C-3 SELECT BAY interface connector (72-pin) Pin No. Signal Name Pin No. Signal Name PLTRS0-E3N PDD07-P3P PDD06-P3P PDD09-P3P PDD05-P3P PDD10-P3P PDD04-P3P PDD08-P3P PDD03-P3P PDD11-P3P PDD02-P3P PDD12-P3P PDD13-P3P PDD01-P3P PDD14-P3P PDD00-P3P PDD15-P3P...

Page 368 Appendices Appendix C Pin Assignments CN1900 HDD interface connector (11-pin) Table C-4 HDD interface connector (11-pin) Pin No. Signal Name Pin No. Signal Name ZSATT0-P1P ZSATT0-P1N ZSATR0-P1N ZSATR0-P1P [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 369 Appendix C Pin Assignments Appendices CN2110 PC Card interface connector (70-pin) Table C-5 PC Card interface connector (70-pin)(1/2) Pin No. Signal Name Pin No. Signal Name ACAD00-PYP ACAD01-PYP ACAD03-PYP ACAD05-PYP ACAD07-PYP ACCBE0-PYN ACAD09-

PYP ACAD11-PYP ACAD12-PYP ACAD14-PYP ACCBE1-PYN ACPAR-PYP ACPERR-PYN ACGNT-PYN ACINT-PYN MCVCCA-PYV MCVPPA-PYV...

Page 370 Appendices Appendix C Pin Assignments CN2170 Smart Card interface connector (10-pin): not used Table C-6 Smart Card interface connector (10-pin) Pin No. Signal Name Pin No. Signal Name SCVCC-PYV SCRST-PYN SCCLK-PYD SCC4-PYD SCIO-PYD EGATE-P3N SCDET-P3N C-10 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 371 Appendix C Pin Assignments Appendices CN2300 Docking interface connector (133-pin) Table C-7 Docking interface connector (133-pin) (1/3) Pin No. Signal Name Pin No. Signal Name DCOUT DCOUT DOCDT1-S3N BT2VD BT2VD PSCL-S5P PSDA-S5P ZUSBDC-E3P ZUSBDC-E3N ZDVTX2-P3P ZDVTX2-P3N ZDVTX1-P3P ZDVTX1-P3N DVIDET-P3N DCOUT DCOUT DBT2OV-S5N BTMP2...

Page 372 Appendices Appendix C Pin Assignments Table C-7 Docking interface connector (133-pin) (2/3) Pin No. Signal Name Pin No. Signal Name ZBIDCN-EXN ZBIDCP-EXP DCOUT DCOUT PWRSW-S3N DDCON-P5P DILSON-S3P IDSDA-P3P IDSCL-P3P ACT-E3N ZBIDBN-EXN ZBIDBP-EXP ZBIDAN-EXN ZBIDAP-EXP DCOUT DCOUT EJCTRQ-S3N DHSYNC-P3P DVSYNC-P3P ZDTPA-P3P ZDTPA-P3N ZDTPB-P3N ZDTPB-P3P...

Page 373 Appendix C Pin Assignments Appendices Table C-7 Docking interface connector (133-pin) (3/3) Pin No. Signal Name Pin No. Signal Name DSKDC PVBAT2 PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL] C-13...

Page 374 Appendices Appendix C Pin Assignments C.8 CN2600 Mini PCI Express interface connector (52-pin) Table C-8 Mini PCI Express interface connector (52-pin) Pin No. Signal Name Pin No. Signal Name PEWAKE-E3N WLAN-E3V WCHDA2-P3P WCHCL2-P3P WLAN-P1V MPEXRQ-P3N WIMPWR-E3V WIMDAT-E3P XPEMPE-P0N WIMCLK-E3P XPEMPE-P0P WIMRST-E3P WIM-GND WLRFON-S3N...

Page 375 Appendix C Pin Assignments Appendices C.9 CN2610 Mini PCI Express interface connector (52-pin) Table C-9 Mini PCI Express interface connector (52-pin) Pin No. Signal Name Pin No. Signal Name 3G-E3V 1RS-P1V ROBXRQ-P3N UIMPWR-E3V UIMDAT-E3P XPEROB-P0N UIMCLK-E3P XPEROB-P0P UIMRST-E3P UIM-GND 3GRFON-S3N PLTRS1-E3N ZERROB-P1N 3G-E3V...

Page 376 Appendices Appendix C Pin Assignments C.10 CN3010 MDC interface connector (12-pin) Table C-10 MDC interface connector (12-pin) Pin No. Signal Name Pin No. Signal Name AZSDO1-P3P AZSYC1-P3P ASDI1-E3P AZRST1-E3N XAZBC1-P3P C-16 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 377 Appendix C Pin Assignments Appendices C.11 CN3230 Keyboard interface connector (34-pin) Table C-11 keyboard interface connector (34-pin) Pin No. Signal Name Pin No. Signal Name KBSC15-S3N KBSC14-S3N KBRT07-S3N KBRT06-S3N KBSC13-S3N KBSC12-S3N KBRT05-S3N KBRT04-S3N KBSC11-S3N KBSC10-S3N KBRT03-S3N KBRT02-S3N KBRT01-S3N KBSC09-S3N KBSC08-S3N KBSC07-S3N KBRT00-S3N KBSC06-S3N...

Page 378 Appendices Appendix C Pin Assignments C.13 CN4230 1394 interface connector (4-pin) Table C-13 1394 interface connector (4-pin) Pin No. Signal Name Pin No. Signal Name ZTPB0-P3N ZTPB0-P3P ZTPA0-P3N ZTPA0-P3P C.14 CN4440 Bluetooth interface connector (10-pin) Table C-14 Bluetooth interface connector (10-pin) Pin No.

Page 379 Appendix C Pin Assignments Appendices C.15 CN4610 USB (Port6) interface connector (4-pin) Table C-15 USB (Port6) interface connector (4-pin) Pin No. Signal Name Pin No. Signal Name USB1PS-E5V ZUSBP6-E3N ZUSBP6-E3P C.16 CN4611 USB (Port4) interface connector (4-pin) Table C-16 USB (Port4) interface connector (4-pin) Pin No.

Page 380 Appendices Appendix C Pin Assignments C.18 CN5080 CRT interface connector (15-pin) Table C-18 CRT interface connector (15-pin) Pin No. Signal Name Pin No. Signal Name MRED-PXP MGREEN-PXP MBLUE-PXP CRTSDA-P5P MHSYNC-P3P MVSYNC-P3P CRTSCL-P5P C-20 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 381 Appendix C Pin Assignments Appendices C.19 CN5601 LCD interface connector (34-pin) Table C-19 LCD interface connector (34-pin) Pin No. Signal Name Pin No. Signal Name PNL-P2V PNL-P2V PNL-P2V PNL-P2V TSCL-P3P TSDA-P3P ZTXDA0-PYN ZTXDA0-PYP ZTXDA1-PYN

ZTXDA1-PYP ZTXDA2-PYN ZTXDA2-PYP ZTXCKA-PYN ZTXCKA-PYP LEDBL0-GND LEDBL1-GND LEDBL2-GND LEDBL3-GND...

Page 382 Appendices Appendix C Pin Assignments C.20 CN6060 Int MIC connector (2-pin) Table C-20 Int MIC connector (2-pin) Pin No. Signal Name Pin No. Signal Name IMICIN-PXP C.21 CN6150 Speaker connector (4-pin) Table C-21 Speaker connector (4-pin) Pin No. Signal Name Pin No.

Page 383 Appendix C Pin Assignments Appendices C.24 CN9300 RTC battery connector (3-pin) Table C-17 RTC battery connector (3-pin) Pin No. Signal Name Pin No. Signal Name ZS_PWCHKF C.25 CN9530 FWGPN* board interface connector (4-pin) Table C-25 FWGPN* board interface connector (4-pin) Pin No.

Page 384 Appendices Appendix C Pin Assignments C.26 CN9540 FWGFS* board interface connector (41-pin) Table C-26 FWGFS* board interface connector (41-pin) Pin No. Signal Name Pin No. Signal Name FGSPON-S3N ZUSBFS-E3N ZUSBFS-E3P GPBTNA-S3N GPBTNB-S3N PWRSW-S3N KBRT00-S3N KBRT01-S3N KBRT02-S3N KBRT03-S3N KBRT04-S3N KBRT05-S3N KBRT06-S3N KBSC16-S3N TPNLDT-P3N DGDTR-P3N...

Page 385 Appendix C Pin Assignments Appendices C.28 J6070 Ext MIC connector (6-pin) Table C-28 EXT MIC connector (6-pin) Pin No. Signal Name Pin No. Signal Name EMICIN-PXP EMICB-P2V DETCTA-P4N EMICB-P2V C.29 J6310 HP JACK (6-pin) Table C-29 HP JACK (6-pin) Pin No. Signal Name Pin No.

Page 386 Appendices Appendix C Pin Assignments C.31 IS2140 Media Bridge interface connector (42-pin) Table C-31 Media Bridge interface connector (42-pin) Pin No. Signal Name Pin No. Signal Name MSDAT2-P3P MSDAQT3-P3P MSBS-P3P FM-P3V MSCLK-P3P MSDAT3-P3P MSCD-P3N MSDAT2-P3P MSSDIO-P3P MSDAT1-P3P MSBS-P3P FM-P3V MSCLK-P3P MSSDIO-P3P MSDAT1-P3P FM-P3V...

Page 387 Appendix C Pin Assignments Appendices C.32 IS2630 SIMM CARD SLOT (12-pin) : not used Table C-32 SIMM CARD SLOT (12-pin) Pin No. Signal Name Pin No. Signal Name UIPWRL-E3V UIRSTL-E3P UICLKL-E3P UIML-GND UIDATL-E3P 3GSLCH-E2N PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL] C-27...

Page 388 Appendices Appendix C Pin Assignments SW board (FWGSW*) C.33 CN9542 System board interface connector (15-pin) Table C-33 System board interface connector (15-pin) Pin No. Signal Name Pin No. Signal Name GPBTNA-S3N GPBTNB-S3N PWRW-S3N KBRT00-S3N KBRT01-S3N KBRT02-S3N KBRT03-S3N KBRT04-S3N KBRT05-S3N KBRT06-S3N KBSC16-S3N C-28 [CONFIDENTIAL]...

Page 389 Appendix C Pin Assignments Appendices Finger Sensor board (FWGFS*) C.34 CN9541 System board interface connector (6-pin) Table C-34 System board interface connector (6-pin) Pin No. Signal Name Pin No. Signal Name FGSPON-S3N ZUSBFS-E3N ZUSBFS-E3P PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL] C-29...

Page 390 Appendices Appendix C Pin Assignments Touch Pad board (FWGTP*) C.35 CN3241 Touch PAD interface connector (12-pin) Table C-35 Touch PAD interface connector (12-pin) Pin No. Signal Name Pin No. Signal Name IPDCLK-P5P IPDCLK-P5P C.36 CN9570 System board interface connector (8-pin) Table C-36 System board interface connector (8-pin) Pin No.

Page 391 Appendix C Pin Assignments Appendices Rev B Antenna board (FWGAN*): (3G model only) C.37 CN2661 ANT interface connector (3-pin) Table C-37 ANT interface connector (3-pin) Pin No. Signal Name Pin No. Signal Name (FL2660-2) C.38 CN2662 3G interface connector (3-pin) Table C-38 3G interface connector (3-pin) Pin No.

Page 392 Appendices Appendix C Pin Assignments Panel Sensor board (FWGPN*) C.40 CN9531 System board interface connector (4-pin) Table C-40 System board interface connector (4-pin) Pin No. Signal Name Pin No. Signal Name TPLOFR-S3N PNLOFR-S3N C-32 [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 393 Appendix D Keyboard Scan/Character Codes Appendices Appendix D Appendix D Keyboard Scan/Character Codes Table D-1 Scan codes (set 1 and set 2) (1/4) Code set 1 Code set 2 Keytop Note Make Break Make Break ‘ ~ 7 & BkSp M700 PORTEGE Maintenance Manual

(960-6...

Page 394 Appendices Appendix D Keyboard Scan/Character Codes Table D-1 Scan codes (set 1 and set 2) (2/4) Code set 1 Code set 2 Keytop Note Make Break Make Break \ ¦ Caps Lock ‘ “ Enter Shift (L) No.102 , < .

Page 395 Appendix D Keyboard Scan/Character Codes Appendices Table D-1 Scan codes (set 1 and set 2) (3/4) Code set 1 Code set 2 Keytop Note Make Break Make Break Ctrl Alt (L) Space ALT (R) ← Home ↑ ↓ PgUp PgDn →...

Page 396: Appendix D Keyboard Scan/Character Codes

Appendices Appendix D Keyboard Scan/Character Codes Table D-1 Scan codes (set 1 and set 2) (4/4) Code set 1 Code set 2 Keytop Note Make Break Make Break PrintSc Refer to table 2-25 Pause Refer to table 2-25 Notes: 1. * Scan codes differ by overlay function. 2.

Page 397: Table

Appendix D Keyboard Scan/Character Codes Appendices Table D-2 Scan codes with left Shift key Code set 1 Code set 2 Make Break Make Break E0 AA E0 35 E0 B5 E0 2A E0 F0 12 E0 4A E0 F0 4A E0 12 E0 AA E0 52 E0 D2 E0 2A E0 F0 12 E0 70 E0 F0 70 E0 12 E0 AA E0 53 E0 D3 E0 2A E0 F0 12 E0 71 E0 F0 71 E0 12 ←...

Page 398: Table

Appendices Appendix D Keyboard Scan/Character Codes Table D-3 Scan codes in Numlock mode Code set 1 Code set 2 Make Break Make Break E0 2A E0 52 E0 D2 E0 AA E0 12 E0 70 E0 F0 70 E0 F0 12 E0 2A E0 53 E0 D3 E0 AA E0 12 E0 71 E0 F0 71 E0 F0 12 ←...

Page 399: Table

Appendix D Keyboard Scan/Character Codes Appendices Table D-5 Scan codes in overlay mode Code set 1 Code set 2 Keytop Make Break Make Break (–) Table D-6 No.124 key scan code Code set 1 Code set 2 Shift Make Break Make Break Prt Sc Common E0 2A E0 37 E0 B7 E0 AA E0 12 E0 7C E0 F0 7C E0 F0...

Page 400 Appendices Appendix D Keyboard Scan/Character Codes Table D-7 No.126 key scan code Shift Code set 1 Code set 2 Make Make Pause Common E1 1D E1 F0 Ctrl* E0 46 7E E0 F0 *: This key generates only make codes. M700 [CONFIDENTIAL] PORTEGE Maintenance Manual (960-6...

Page 401: Appendix E Key Layout

Appendix E Key Layout Appendices Appendix E Key Layout United Kingdom (UK) Keyboard Figure E-1 UK keyboard United States (US) Keyboard Figure E-2 US keyboard PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL]...

Page 402 Appendices Appendix E Key Layout Canadian French Keyboard Figure E-4 Canadian French keyboard [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 403: Appendix F Wiring Diagrams

Appendix F Wiring diagrams Appendices Appendix F Wiring diagrams RGB Monitor Loopback Connector Figure F-1 RGB Monitor Loopback Connector LAN Loopback Connector Figure F-2 LAN Loopback Connector PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL]...

Page 404 Appendices Appendix F Wiring diagrams [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 405: Appendix Gbios Rewrite Procedures

Appendix G BIOS rewrite procedures Appendices Appendix G BIOS rewrite procedures This Appendix explains how to rewrite the system BIOS program when you update the system BIOS. Tools To rewrite the BIOS, you need the following tool: BIOS/EC/KBC rewriting disk for the computer that has renewed BIOS data. Rewriting the BIOS 1.

Page 406 Appendices Appendix G BIOS rewrite procedures [CONFIDENTIAL] PORTEGE M700

Page 407: Appendix Hec/Kbc Rewrite Procedures

Appendix H EC/KBC rewrite procedures Appendices Appendix H EC/KBC rewrite procedures This Appendix explains how to rewrite the EC/KBC system program when you update the EC/KBC system. Tools To rewrite the EC/KBC, you need the following tool: EC/KBC rewriting disk for the computer Rewriting the EC/KBC NOTE: 1.

Page 408

Appendices Appendix H EC/KBC rewrite procedures [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)

Page 409: Appendix I Reliability

Appendix I Reliability Appendices Appendix I Reliability The following table shows MTBF (Mean Time Between Failures). Table I-1 MTBF Time (hours) MTBF 6,272.78* * In the case of the model corresponding to AMT and Robson PORTEGE M700 Maintenance Manual (960-661) [CONFIDENTIAL]...

Page 410

Appendices Appendix I Reliability [CONFIDENTIAL] PORTEGE M700 Maintenance Manual (960-661)