

TOSHIBA

Toshiba ST-B10 Series Maintenance Manual

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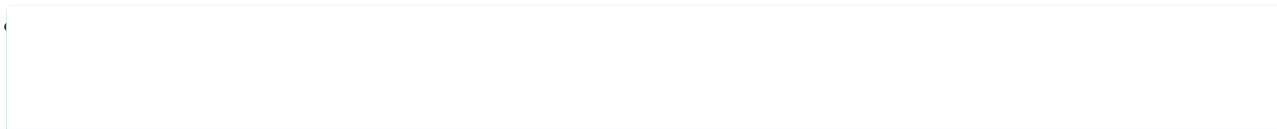
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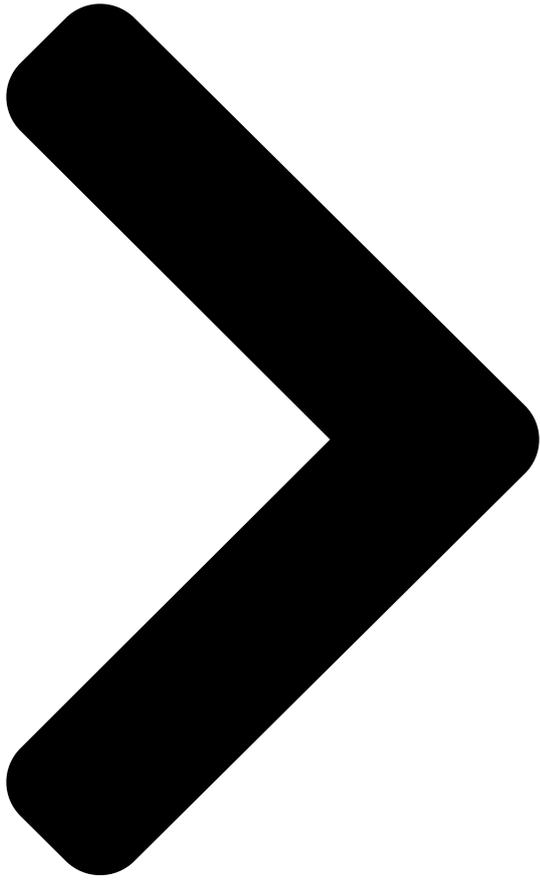
Troubleshooting

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TOSHIBA POS Terminal

ST-B10 **TOSHIBA** SERIES

Document No. E018-12017

Original

Mar., 2010



(Revised
)

PRINTED IN JAPAN

TOSHIBA

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Summary of Contents for Toshiba ST-B10 Series

[Page 1](#) TOSHIBA POS Terminal ST-B10 SERIES Maintenance Manual Document No. EO18-12017 Original Mar., 2010 (Revised PRINTED IN JAPAN...

[Page 2](#) WARNING! Follow all manual instructions. Failure to do so could create safety hazards such as fire or electrocution. NOTES: 1. Manual instructions must be followed when installing option kits or adding cables to avoid system failures and to insure proper performance and operation. 2.

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EO18-12017 TABLE OF CONTENTS Page 1. UNPACKING1- 1 Procedure
.....1- 1 Checks1- 2 Tapes 1- 2 Notes for
Installation1- 2 2. INSTALLATION PROCEDURE FOR OPTIONAL EQUIPMENT.....
2- 1 Removing/Attaching the Top Cover.....2- 2 Installing the Hard Disk Drive (HDD)
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[Page 4](#) Pictures in this manual show that body colour may differ from that of the original.

CAUTION! 1. This manual may not be copied in whole or in part without prior written permission of TOSHIBA TEC. 2. The contents of this manual may be changed without notification.

[Page 5: Unpacking](#)

1. UNPACKING EO18-12017 1.1 Procedure UNPACKING 1.1 Procedure Open the carton Take out the POS terminal and then remove the pads. Place the POS terminal on a level surface. ST-B10 OUTER CAB RIGHT ST-B10 OUTER CAB LEFT ST-B10 MACHINE ST-B10 CARTON 1- 1...

[Page 6: Checks](#)

1. UNPACKING EO18-12017 1.2 Checks 1.2 Checks Check for the damage or scratches on the machine. 1.3 Tapes Remove all the tapes from the POS terminal. 1.4 Notes for Installation Allow an 80 mm at the left side, rear side and front side of the POS terminal and 20 mm at the right side of the POS terminal so as not to block the ventilating slits and the fan.

[Page 7: Installation Procedure For Optional Equipment](#)

2. INSTALLATION PROCEDURE FOR OPTIONAL EQUIPMENT EO18-12017 2.1 Removing/Attaching the Top Cover INSTALLATION PROCEDURE FOR OPTIONAL EQUIPMENT WARNING! 1. Disconnect the power cord before installing the optional parts. 2. Be careful not to short-circuit the lithium battery on the ENGINE PC board. This section describes procedures to install optional equipments into the POS terminal.

[Page 8: Removing/Attaching The Top Cover](#)

2. INSTALLATION PROCEDURE FOR OPTIONAL EQUIPMENT EO18-12017 2.1 Removing/Attaching the Top Cover • Note when attaching the Top Cover Place the top cover on B10 PLT BTM, then fully slide the top cover frontward so that the ten hooks of the top cover (the six hooks on both sides and the four on the front side) fit into the base frame.

[Page 9](#) 2. INSTALLATION PROCEDURE FOR OPTIONAL EQUIPMENT EO18-12017 2.1 Removing/Attaching the Top Cover 1) Placed the top cover on the B10 PLT BTM 2) Align the top cover to this line 3) Press the top cover at left and right side and then slide it frontward 2- 3...

[Page 10: Installing The Hard Disk Drive \(Hdd\)](#)

1. For the specification of an HDD to be installed, please refer to the POS Optional Device (Document No. EO21-12001), POS OPTIONAL DEVICE BASIC SPECIFICATION. 2. Please use TOSHIBA TEC approved HDDs. Failure to do this may cause an error. Installation procedure for the HDD is shown below.

[Page 11](#) 2. INSTALLATION PROCEDURE FOR OPTIONAL EQUIPMENT EO18-12017 2.2 Installing the Hard Disk Drive (HDD) Put in HDD into the slot on the Front side of B10 machine. Put the HDD with B10 HDD Catch into this slot at the front side of machine Connect the HDD by pushing it frontward until hear the sound of "TICK".

[Page 12](#) 2. INSTALLATION PROCEDURE FOR OPTIONAL EQUIPMENT EO18-12017 2.2 Installing the Hard Disk Drive (HDD) 5) Turn these 2 pcs of plastic thumbscrews clockwise to lock B10 HDD Catch with HDD. Lock the plastic thumbscrews Close the front cover of ST-B10 machine. 2- 6...

[Page 13: Main Unit Replacement](#)

3. MAIN UNIT REPLACEMENT EO18-12017 3.1 Replacing the Main Board MAIN UNIT REPLACEMENT WARNING! 1. Disconnect the power cord before installing the main parts. 2. Be careful not to short-circuit the Lithium Battery on the ENGINE PC board. 3. Be careful not to injure your fingers when replacing the main parts. 3.1 Replacing the Main Board Open B10 PLT TOP COV by loosening the plastic thumbscrew.

[Page 14](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.1 Replacing the Main Board 3) Dismantle sata cable and power supply cable. Dismantle Sata cable and power supply cable 4) Slide B10 PLT PCB TRAY out and take it out from B10 PLT BTM. Slide B10 PLT PCB TRAY in this way out.

[Page 15](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.1 Replacing the Main Board Take it out from B10 PLT BTM 5) Unscrew 7 pcs of the screw. Replace the main board with the new part in the reverse order of removal. M3X6 PAN HEAD CUP FLG ZC 3- 3...

[Page 16: Replacing The Lvds Display Card](#)

3. MAIN UNIT REPLACEMENT EO18-12017 3.2 Replacing the LVDS Display Card 3.2 Replacing the LVDS Display Card 1) Open B10 PLT TOP COV by loosening the plastic thumbscrew. Loosen the thumbscrew 2) Slide B10 PLT TOP COV out from B10 PLT BTM. 1) Press Top Cov in these 2 directions Press Top Cov in...

[Page 17](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.2 Replacing the LVDS Display Card 3) Dismantle sata cable and power supply cable. Dismantle Sata cable and power supply cable 4) Slide B10 PLT PCB TRAY out and take it out from B10 PLT BTM. Slide B10 PLT PCB TRAY in this way out.

[Page 18](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.2 Replacing the LVDS Display Card Take it out from B10 PLT BTM 5) Unscrew 7 pcs of the screw from the main board. M3X6 PAN HEAD CUP FLG ZC 3- 6...

[Page 19](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.2 Replacing the LVDS Display Card 6) Unscrew 4 pcs of screws from LVDS Display card. Replace it with the new part in the reverse order of removal. M3X6 PAN HEAD CUP FLG ZC 3- 7...

[Page 20: Replacing The Ps Unit](#)

3. MAIN UNIT REPLACEMENT EO18-12017 3.3 Replacing the PS Unit 3.3 Replacing the PS Unit Open B10 PLT TOP COV by loosening the plastic thumbscrew. Loosen the thumbscrew 2) Slide B10 PLT TOP COV out from B10 PLT BTM. 1) Press Top Cov in these 2 directions Press Top Cov in these 2 directions...

[Page 21](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.3 Replacing the PS Unit 3) Dismantle sata cable and power supply cable. Dismantle Sata cable and power supply cable 4) Slide B10 PLT PCB TRAY out and take it out from B10 PLT BTM. Slide B10 PLT PCB TRAY in this way out.

[Page 22](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.3 Replacing the PS Unit Take it out from B10 PLT BTM 5) Unscrew 5 pcs of screws from PS board and unplug the earth wire, HDD power cable and fan cable from PS board. Replace the PS unit with the new part in the reverse order of removal. Unplug these cable M3X6 PAN HEAD CUP FLG ZC...

[Page 23: Replacing The Fan Motor](#)

3. MAIN UNIT REPLACEMENT EO18-12017 3.4 Replacing the Fan Motor 3.4 Replacing the Fan Motor Open B10 PLT TOP COV by loosening the plastic thumbscrew. Loosen the thumbscrew Slide B10 PLT TOP COV out from B10 PLT BTM. 1) Press Top Cov in these 2 directions Press Top Cov in these 2 directions...

[Page 24](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.4 Replacing the Fan Motor 3) Dismantle sata cable and power supply cable. Dismantle Sata cable and power supply cable 4) Slide B10 PLT PCB TRAY out and take it out from B10 PLT BTM. Slide B10 PLT PCB TRAY in this way out.

[Page 25](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.4 Replacing the Fan Motor Take it out from B10 PLT BTM 5) Unplug the fan cable from PS board. Unplug this fan motor cable 3-13...

[Page 26](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.4 Replacing the Fan Motor 6) Unscrew 2 pcs of screw from B10 PLT FAN and 1 pc of screw from B10 PLT BTM. M3X6 PAN HEAD CUP FLG ZC M5X10 PAN P TITE (BF-P-P 5x10 3BC) 7) Unscrew again 2 pcs of screw from B10 PLT FAN and replace it with the new part in reverse order of removal.

[Page 27: Replacing The Panel Card](#)

3. MAIN UNIT REPLACEMENT EO18-12017 3.5 Replacing the Panel Card 3.5 Replacing the Panel Card Open B10 PLT TOP COV by loosening the plastic thumbscrew. Loosen the thumbscrew 2) Slide B10 PLT TOP COV out from B10 PLT BTM. 1) Press Top Cov in these 2 directions Press Top Cov in these 2 directions...

[Page 28](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.5 Replacing the Panel Card 3) Pull out B10 COV HDD in the following way. 2) Pull out another side of B10 COV HDD 1) Slowly pull out the side of B10 COV HDD in this way 4) Unscrew and pull out B10 CATCH HDD.

[Page 29](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.5 Replacing the Panel Card 5) Unlatch B10 COV FRONT from B10 PLT BTM. Unlatch these 3 latches Push the latch of B10 COV FRONT out from B10 PLT BTM 3-17...

[Page 30](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.5 Replacing the Panel Card 6) Take out B10 COV FRONT from B10 PLT BTM. Pull out the bottom latch from B10 PLT 7) Unplug ST-B10 PANEL FFC from main board. Unplug ST-B10 PANEL FFC from main board 3-18...

[Page 31](#) 3. MAIN UNIT REPLACEMENT EO18-12017 3.5 Replacing the Panel Card 8) Unscrew the Panel Card and replace it with the new part in reverse order of removal. M3X6 PAN HEAD CUP FLG 3-19...

[Page 32: Bios Setup](#)

4. BIOS SETUP EO18-12017 4.1 General BIOS SETUP 4.1 General To change the setup programming procedure for the ROM-BIOS, press the [F2] key when the BIOS is started up (after completing the memory check). 4.2 Basic Operation and Keys Used 4.2.1 How to Enter Phoenix Award BIOS Setup Press the [F2] key immediately after the memory capacity and the cache memory capacity are displayed at the system start up.

[Page 33](#) 4. BIOS SETUP EO18-12017 4.2 Basic Operation and Keys Used 4.2.3 Setup Menu Configuration The BIOS setup Menu consists of Main Menu, Advanced Menu, Security, PC Health, Clk/Voltage, and Exit Menu. Each menu includes sub menu. The setup menu configuration is as shown below. 1) Main Menu Menu 1st line Menu 2nd line...

[Page 34](#) 4. BIOS SETUP EO18-12017 4.2 Basic Operation and Keys Used Menu 1st line Menu 2nd line Menu 3rd line Menu 4th line • Video RAM Cacheable Advanced Chipset • Init Display First Features • Current FSB Frequency DRAM Clock/Drive Control •...

[Page 35](#) 4. BIOS SETUP EO18-12017 4.2 Basic Operation and Keys Used Menu 1st line Menu 2nd line Menu 3rd line Menu 4th line • ACPI Function Power management • ACPI Suspend type Setup • Power Management Option • HDD power down •...

[Page 36](#) 4. BIOS SETUP EO18-12017 4.2 Basic Operation and Keys Used 3) Security Menu 1st line Security • Set Supervisor Password • Set User Password 4) PC Health Menu 1st line • Current CPU Temperature • Current System Temp • Smart CPU Temperature •...

[Page 37: Bios Setup Screen Configuration And Default Setting](#)

4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting 4.3 BIOS Setup Screen Configuration and Default Setting The following shows the BIOS setup menu and other setup items when "Load Setup Defaults" is selected in the Exit menu. 4.3.1 Main Menu (1) Main Menu Phoenix - AwardBIOS CMOS Setup Utility...

[Page 38](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting SATA HDD0 Menu Phoenix - AwardBIOS CMOS Setup Utility Main SATA HDD Item Help SATA Auto-Detection [Press Enter] Menu Level ►► audio-detect SATA Drive [Auto] the HDD's size, Access Mode [Auto] head

[Page 39](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting 4.3.2 Advanced Menu (1) Advanced Menu Phoenix - AwardBIOS CMOS Setup Utility Main Advanced Security PC Health Clk/Voltage Exit Advanced BIOS Features Item Help Advanced Chipset Features Menu Level ► Integrated Peripherals Power Management Setup Virus Protection,...

[Page 40](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting (2) Advanced BIOS Features Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced Advanced BIOS Features Item Help CPU Feature [Press Enter] Menu Level ► ▼ Hard Disk Boot Priority ▼...

[Page 41](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting (3) CPU Feature Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced CPU Feature Item Help Delay Prior to Thermal [16 Min] Menu Level ►► Thermal Management [Thermal Monitor 1] Thermal Monitor Bus Ratio x...

[Page 42](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting

(4) Hard Disk Boot Priority Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced Hard Disk Boot Priority Item Help 1. SATA HDD : WDC WD800BEVS-22VAT0 Menu Level ►► 2.

[Page 43](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting (5) Advanced Chipset Features Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced Advanced Chipset Features Item Help DRAM Clock/Drive Control Menu Level ► ▼ AGP & P2P Bridge Control ▼...

[Page 44](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting (6) DRAM Clock/Drive Control Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced DRAM Clock/Drive Control Item Help Current FSB Frequency 100MHz Menu Level ► Current DRAM Frequency 266MHz DRAM Clock [By SPD] DRAM Timing...

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[Page 47](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting (9) Integrated Peripherals Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced Integrated Peripherals Item Help VIA OnChip PCI Device Menu Level ► ▼ SuperIO Device ▼ USB Device Setting [Press Enter] ▼...

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[Page 49](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting (11) SuperIO Device Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced SuperIO Device Item Help Onboard Serial Port 1 [3F8/IRQ4] Menu Level ►► Onboard Serial Port 2 [2F8/IRQ3] Onboard Serial Port 3 [3E8/IRQ10] Onboard Serial Port 4...

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[Page 51](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting (13) Power Management Setup Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced Power Management Setup Item Help ACPI function Enabled Menu Level ► ACPI Suspend Type S1(POS) Power Management Option [User Define] HDD Power Down [Disable]...

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[Page 53](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting (15) PnP / PCI Configurations Menu Phoenix - AwardBIOS CMOS Setup Utility Advanced PnP/PCI Configurations Item Help PNP OS Installed [No] Menu Level ► Reset Configuration Data [Disabled] Select Yes if you are Resources Controlled By [Manual]...

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[Page 55](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting

4.3.3 Security Menu Phoenix - AwardBIOS CMOS Setup Utility Main Advanced Security PC Health Clk/Voltage Exit Set Supervisor Password Item Help Set User Password Menu Level ► Change/Set/Disable password Enter:Select +/-/PU/PD:Value...

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[Page 58](#) 4. BIOS SETUP EO18-12017 4.3 BIOS Setup Screen Configuration and Default Setting 4.3.6 Exit Menu Phoenix - AwardBIOS CMOS Setup Utility Main Advanced Security PC Health Clk/Voltage Exit Save & Exit Setup Item Help Exit Without Saving Menu Level ► Load Setup Defaults Save Data to CMOS Enter:Select...

[Page 59: Notes And Restrictions](#)

4. BIOS SETUP EO18-12017 4.4 Notes and Restrictions 4.4 Notes and Restrictions 4.4.1 Start-up Screen <- (2) Phoenix -AwardBIOS v6.00PG, An Energy Star Ally Copyright (C) 1984-2009, Phoenix Technologies, LTD (1) -> CN7_S10 Vx.xx xx/xx/xxxx Main Processor : VIA C7 1.50GHz(100x15.0) Memory Testing : 457664K OK + 64M shared memory DDR DIMM Speed : 533 DDR DIMM Data Width : 64-Bit, Single Channel...

[Page 60](#) 4. BIOS SETUP EO18-12017 4.4 Notes and Restrictions 4.4.2 Other Notes for Operation (1) When the RTC Jumper has been set to the clearance side, the POS terminal will not boot. (2) When deleting the information of BIOS Plug & Play, select [Enabled] for "Reset Configuration Data" and save this setting by "Save &..."

[Page 61](#) 4. BIOS SETUP EO18-12017 4.4 Notes and Restrictions 4.4.3 BIOS Watch Dog Timer (WDT) Function BIOS WDT function starts the WDT immediately before booting the OS. If the WDT does not stop on the OS side within the time specified in the BIOS setup, the WDT function triggers a hardware reset to avoid a system hang-up during the OS boot.

[Page 62: Appendix-1 Bios Error Message List](#)

4. BIOS SETUP EO18-12017 Appendix-1 BIOS Error Message List Appendix-1 BIOS Error Message List (1) Error Message Error Message Error Contents BIOS ROM checksum error BIOS ROM's checksum check error Keyboard controller error Keyboard controller error Keyboard error or no keyboard present Keyboard error or no keyboard present Started up with the key-lock enabled.

[Page 63: Diagnostic Test Operation](#)

5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.1 Outline DIAGNOSTIC TEST OPERATION This chapter describes the Diagnostic Test Program provided to check for proper operation of the POS I/O devices of ST-B10. 5.1 Outline As the ST-B10 diagnostic test program, Serviceman Diagnostic Test Program performed with a USB memory is provided.

[Page 64: Serviceman Diagnostic Test Program Setup Procedure](#)

5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.2 Serviceman Diagnostic Test Program Setup Procedure 5.2.1 Workflow (1) Format the USB memory. Format the USB memory, on which the Serviceman Diagnostic Test Program will be set up, in FAT32 filesystem.

[Page 65](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.2 Serviceman Diagnostic Test Program Setup Procedure Method 2: Formatting the USB memory on Linux The operation below is in the case that the USB memory is assigned with /dev/sda1. This operation is performed on the Linux installed into the PC. Also it can be executed on 1CD-Linux such as KNOPPIX.

[Page 66](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.2 Serviceman Diagnostic Test Program Setup Procedure (3) Boot loader setup To boot the Linux, a

boot loader should be set up into the USB memory. The file "syslinux" is used as the boot loader. (This file can be downloaded from <http://syslinux.zytor.com/iso.php>.) Method 1: Setup on Windows XP Boot the command prompt.

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LIUST-51 Serial Test (Check the original screen) WD-111 Serial Test (new function for ST-B10) Scanner Test.....5-45 RS Scanner Test Printer Test.....5-47 TRST-A1x Parallel Printer Test (The ST-B10 series is not supported) TRST-A1x Serial Printer Test TRST-A1x USB Printer Test System Information5-53 Time Setup...

[Page 68: Serviceman Diagnostic Test Program](#)

5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4 Serviceman Diagnostic Test Program Insert the USB memory which has been set up in Section 5.2 Serviceman Diagnostic Test Program Setup Procedure to the USB connector provided for the POS terminal, and then boot the POS terminal. The following start menu screen is displayed.

[Page 69](#) By selecting this button, Scanner Test Menu screen appears. The following test is contained in this menu. • RS Scanner Test (The ST-B10 series doesn't support the scanner made by TTEC.) Printer Test By selecting this button, Printer Test Menu screen appears.

[Page 70](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program How to select each menu in the DIAG TEST MENU Each menu in the DIAG TEST MENU can be selected in one of the following ways. •...

[Page 71](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.2 Sub Menu Dialog Box By selecting a test button on the DIAG TEST MENU screen, the sub menu dialog box corresponding to the selected button will appear. Details of each item are as shown below. Result Edit Box Test Edit Box Error Code Edit Box...

[Page 72](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.3 Display Test Menu By selecting the Display Test(1) button on the DIAG TEST MENU screen, the Display Test Menu screen appears as shown below. The following tests are contained in this menu. •...

[Page 73](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.3.1 VGA Test In this test, 4 types of image test patterns are displayed individually. With these test patterns, display position and image quality are checked. ...

[Page 74](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program Image Test Pattern 1: Monochrome check with red-colour frame Image Test Pattern 2: Black squares in the white screen with red-colour frame 5- 12...

[Page 75](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program Image Test Pattern 3: White screen Image Test Pattern 4: Color 5- 13...

[Page 76](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.3.2 Touch Panel Test When connecting the display unit equipped with the touch panel (LKBST-65, TFTST-56, TFTST-76, etc.), whether to perform proper input through the touch panel and whether to indicate accurate input position are checked in this test.

[Page 77](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.3.3 Calibration Misalignment of the input position and the coordinate position are corrected here. This operation is applied for the touch panel controllers shown below. (Whether the diagnostic test program supports the touch panel controller is distinguished automatically at the Linux start-up time.) •...

[Page 78](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.4 Keyboard Test Menu (Check the original screen) By selecting the Keyboard Test 1(2) button on the DIAG TEST MENU screen, the Keyboard Test

Menu screen appears as shown below.

[Page 79](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program 5.4.4.1 PKBST-52 Test (Check the original screen) For the
POS keyboard (PKBST-52), the Control Lock operation and the key entry are checked in this test.
It is performed based on the keyboard layout of the standard PKBST-52.

[Page 80](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program (2) Error code *** Check the original screen **** Result
Error Code Error Code Ex Remarks Click the [OK] button to terminate the test. Click the [NG]
button to terminate the test.

[Page 81](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program 5.4.4.2 LKBST-65 Test For the POS keyboard, the Control
Lock operation and the key entry are checked in this test. It is performed based on the
keyboard layout of the standard LKBST-65. Test Result LKBST-65 Test...

[Page 82](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program LKBST-65 Standard Hardware Key Code Table Left Down
Right (2) Error code Result Error Code Error Code Ex Remarks Click the [OK] button to terminate
the test. Click the [NG] button to terminate the test.

[Page 83](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program 5.4.4.3 POS-K/B Setting In this test, POS keyboard key
code setting for the PKBST-50 series is performed. The key code setting will be written into the
EEPROM installed into the POS keyboard. For key allocation setting, DAT file storing the key
allocation setting is required.

[Page 84](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program 6. Select the END button to perform the test. Then, make
sure the key code layout is correct. NOTE: This test can be performed continuously after the
POS K/B setting. (Rebooting the POS terminal is not required.) (2) Error code Result...

[Page 85](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program 5.4.4.4 PKBST-50/LKBST-65 IDCR Test In this test, it is
checked if the IDCR installed into the POS keyboard such as PKBST-50 and LKBST-65 reads the
data stored in the magnetic card correctly. Test Result IDCR Test...

[Page 86](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program IDCR Device Control Function Error Code Table Value Error
Parameter error (driver) NAK receive response Time out error IO busy error Parameter error
(function) Device file open error Another error (3) Corrective action Error...

[Page 87](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program 5.4.4.5 USB IDCR Test In this test, it is checked if the IDCR
installed into the PKBST-52 reads the data stored in the magnetic card correctly. (1) Operation
procedure 1.

[Page 88](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program IDCR Device Control Function Error Code Table Value Error
Parameter error (driver) NAK receive response Time out error IO busy error Parameter error
(function) Device file open error Another error (3) Corrective action Error...

[Page 89](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program 5.4.4.6 ST-A20 IDCR Test In this test, it is checked if the
IDCR installed into the POS terminals reads the data stored in the magnetic card correctly.

[Page 90](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program IDCR Device Control Function Error Code Table Value Error
Parameter error (driver) NAK receive response Time out error IO busy error Parameter error
(function) Device file open error Another error (3) Corrective action Error...

[Page 91](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4
Serviceman Diagnostic Test Program 5.4.5 I/O Communication Test Menu *** Check the original

screen **** By selecting the I/O Communication Test1(3) button on the DIAG TEST MENU screen, the I/O Communication Test Menu screen appears as shown below.

[Page 92](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.5.1 Drawer Test In this test, the drawer operation is checked. (1) Operation procedure 1. Select the Drawer Test(1) button on the I/O Communication Test Menu screen. 2.

[Page 93](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.5.2 LAN Test In this test, the programmed MAC address is read out and the PING test is performed. Prior to performing this test, LAN address setting should be performed. For procedures, please refer to Section 5.4.9.2 LAN Setting. (1) Operation procedure Reading the MAC address 1.

[Page 94](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program NOTE: Regarding the Send IP Address to be listed in the drop-down list box, it is programmable by changing the data of the file "ping.txt" stored in the directory "/root/base/diag" of the USB memory. Format of the file "ping.txt"...

[Page 95](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.5.3 Buzzer Test In this test, the operation of the buzzer installed into the POS terminal is checked. (1) Operation procedure 1. Select the Buzzer Test(3) button on the I/O Communication Test Menu screen. 2.

[Page 96](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.5.4 COM Loopback Test CAUTION! 1. A loopback connector is required for performing this test. Connect a loop back connector to the COM port to be tested beforehand. 2.

[Page 97](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program (2) Error code Result Error Code Error Code Ex Remarks Click the [OK] button to terminate the test. Click the [NG] button to terminate the test. COM Port Number Loopback error Timeout error...

[Page 98](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.5.5 iButton Test In this test, it is checked if the iButton installed into the POS Terminal reads the data stored in the iButton correctly. (1) Operation procedure 1.

[Page 99](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program (3) Corrective action Error Cause & Measure • The device is not connected. Device open error • The device may be damaged. iButton error • A data storing the different data from the master one was read. Data comparison error •...

[Page 100](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.6 LIU Test Menu By selecting the LIU Test(4) button on the DIAG TEST MENU screen, the LIU Test Menu screen appears as shown below. The following tests are contained in this menu. •...

[Page 101](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.6.1 LIUST-51 Serial Test Check the original screen In this test, the display test for the LIUST-51 Serial type is performed. If selecting Port No. to which another device is connected, performing the "Character Display Test"...

[Page 102](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program LIU Library Error Code Table Value Error Remarks 1003 device.ini read error The file "device.ini" does not exist. Or necessary items are not contained in this file. 1004 liu.ini read error The file "liu.ini"...

[Page 103](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.6.2 WD-111 Serial Test Check the original screen In this test, the display test for the WD-111 Serial type is performed. If selecting Port No. to which another device is connected, performing the "Character Display Test"...

[Page 104](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program (2) Error code Result Error Code Error Code Ex Remarks
The test is terminated successfully. Or it is terminated by selecting the [OK] button when no error occurs. The test is terminated by selecting the [NG] button when no error occurs.

[Page 105](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.6.3 WD-111 Serial Test (Check the original screen) In this test, the display test for the WD-111 Serial type is performed. If selecting Port No. to which another device is connected, performing the "Character Display Test"...

[Page 106](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program LIU Library Error Code Table Value Error Remarks 1003 device.ini read error The file "device.ini" does not exist. Or necessary items are not contained in this file. 1004 liu.ini read error The file "liu.ini"...

[Page 107](#) 5.4 Serviceman Diagnostic Test Program 5.4.7 Scanner Test Menu The ST-B10 series doesn't support the scanner made by TTEC. Therefore, the scanner test is not registered to the test menu. By selecting the Scanner Test(5) button on the DIAG TEST MENU screen, the Scanner Test Menu screen appears as shown below.

[Page 108](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.7.1 RS Scanner Test In this test, the test for RS-232C type scanner is performed. If selecting Port No. to which another device is connected, clicking the Set PortNo button may cause the POS terminal to lock up. Please be sure to specify the Port No.

[Page 109](#) • TRST-A00/A10/A15 Parallel Printer Test • TRST-A00/A10/A15 Serial Printer Test • TRST-A00/A10/A15 USB Printer Test NOTE: The ST-B10 series doesn't provide the parallel port function. Therefore, a Parallel Printer cannot be tested. By selecting a button of your desired test, it will be performed.

[Page 110](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.8.1 TRST-A1x Parallel Printer Test In this test, printing and error detection of the printer connected to the POS terminal are checked. (1) Operation procedure 1. Select the TRST-A1x-P Test(5) button on the Printer Test Menu screen. 2.

[Page 111](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.8.2 TRST-A1x Serial Printer Test In this test, printing and error detection of the printer connected to the POS terminal are checked. If selecting Port No. to which another device is connected, performing the "Sample Printing" or the "Receipt Cut" may cause the POS terminal to lock up.

[Page 112](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program (3) Corrective action Error Cause & Measure Print error Possible causes of the error are as shown below. • Out of paper • The printer is shut down. Receipt cut error Possible causes of the error are as shown below.

[Page 113](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.8.3 TRST-A1x USB Printer Test In this test, printing and error detection of the printer connected to the POS terminal are checked. (1) Operation procedure 1. Select the TRST-A1x-U Test(7) button on the Printer Test Menu screen. 2.

[Page 114](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program (3) Corrective action Error Cause & Measure Open error Possible causes of the error are as shown below. • The printer is not connected to the POS terminal. •...

[Page 115](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.9 System Information Menu *** Check the original screen **** By selecting the System Information(7) button on the DIAG TEST MENU screen, the System Information Menu screen appears as shown below. The following settings are contained in this menu.

[Page 116](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4

Serviceman Diagnostic Test Program 5.4.9.1 Time Setup Date and time setting is performed here. This setting will be activated in the BIOS also. (1) Operation procedure 1. Select the Time Setup(1) button on the System Information Menu screen. 2.

[Page 117](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.9.2 LAN Setting LAN setting is performed here. (1) Operation procedure 1. Select the LAN Setting(2) button on the System Information Menu screen. 2. IP Address, Subnet Mask, Default Gateway, and Broadcast Address of the LAN currently performed are read and displayed.

[Page 118](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program (2) Error code Result Error Code Error Code Ex Remarks The test is terminated successfully. Or it is terminated by selecting the [OK] button when no error occurs. Click the [Cancel] button to terminate the test.

[Page 119](#) 5. DIAGNOSTIC TEST OPERATION << Preliminary version >> EO18-12017 5.4 Serviceman Diagnostic Test Program 5.4.9.3 Sensor Information (Check the original screen) Information about CPU sensor and HDD sensor is displayed here. (1) Operation procedure 1. Select the Sensor Info(3) button on the System Information Menu screen. 2.

[Page 120: Periodic Maintenance](#)

6. PERIODIC MAINTENANCE EO18-12017 6.1 Procedure of Periodic Maintenance PERIODIC MAINTENANCE To help retain the quality and performance of this unit and prevent unexpected troubles, the following maintenance should be performed periodically. CAUTION! Turn the power off when performing the maintenance #1 to #3. 6.1 Procedure of Periodic Maintenance Check item Procedure/Check point...

[Page 121: Troubleshooting](#)

7. TROUBLESHOOTING EO18-12017 7. TROUBLESHOOTING TROUBLESHOOTING Problems Cause Solution Power is not turned ON. 1. The fuse in the PS unit has 1. Replace the fuse. blown. 2. Input voltage to the POS terminal 2. Replace the power cord or power inlet. is not within the rated voltage.

[Page 122: Appendix](#)

8. APPENDIX EO18-12017 8.1 Serial Interface COM1 to COM6 APPENDIX POWERED USB 12V POWERED USB 24V LVDS (OPTION) 8.1 Serial Interface COM1 to COM6 COM1, COM2 Connector: 9-pin D-sub, male Pin No. Signal COM3 to COM4 Connector: 9-pin D-sub, female Pin No.

[Page 123: Vga Connector](#)

8. APPENDIX EO18-12017 8.2 VGA Connector 8.2 VGA Connector Connector: 15-pin D-sub, female Pin No. Signal AGND AGND AGND HSYNC VSYNC SPCLK 8.3 DRW1 (Cash Drawer 24V Type) Connector: 4-pin (Modular Jack Type) Signal Pin No. +24V 8.4 LAN Connector: RJ-45 Modular Connector Pin No.

[Page 124: Usb](#)

8. APPENDIX EO18-12017 8.5 USB 8.5 USB USB Connector Pin No. Signal 5V VBus DATA- DATA+ 8.6 PS/2 (Keyboard, Mouse) Connector: Miniature DIN 6-pin female Pin No. Signal DATA CLOCK 8.7 LINEOUT (Factory Option) Connector: HSJ6061-01-410 or equivalent Pin No. Signal Left channel audio...

[Page 125: Lvds Connector](#)

8. APPENDIX EO18-12017 8.10 Powered USB (12V) Connector 8.8 LVDS Connector Connector: 10226-1A10JL (3M) Signal Signal CLK1N CLK_1P GND8 ENA_INVERTER 38 LCDID2 LCDID0 LCDID3 LCDID1 PW_BN LCD_VDDON HD_LED TX5_MSR PWR_LED RX5_MSR RXD6 TXD6_TOUCH CTS6 RTS6_TOUCH_GND9 USB1_M USB1_P 8.9 Powered USB (24V) Connector Connector: 55917-201 (FCI) or equivalent Pin No.

[Page 126: Powered Usb \(12V\) Connector](#)

8. APPENDIX EO18-12017 8.10 Powered USB (12V) Connector 8.10 Powered USB (12V) Connector Connector: 55917-101 (FCI) or equivalent Pin No. Signal -DATA +DATA +12V +12V Shell Shield 8- 5...

