

Toshiba 6F3A4508 Instruction Manual

Maintenance tool for drive

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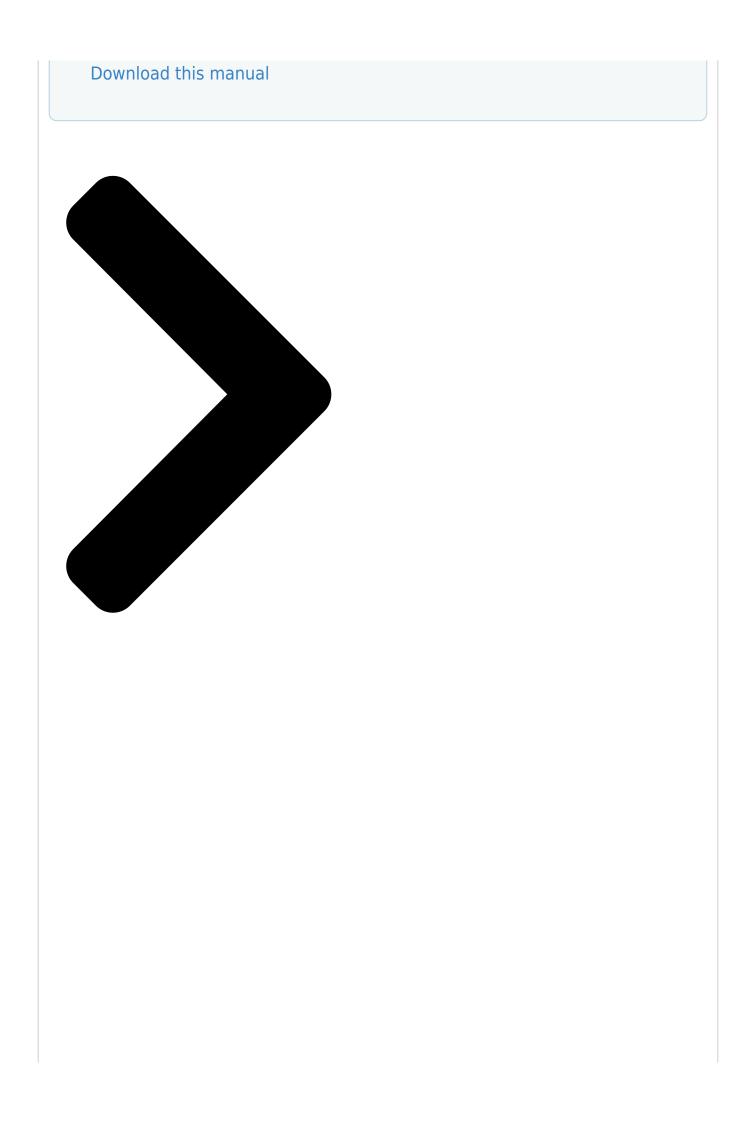
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# Maintermosered For Drive

Wi Tool

# Instruction manual

# Jun, 2002

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# Summary of Contents for Toshiba 6F3A4508

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# Page 2: Table Of Contents

[6-6] Snapshot detail description [6-7] Trend view detail description [6-8] Step response detail description [6-9] Password control detail description [6-10] Property detail description [6-11] Preparation detail description [6-12] Ending detail description [7] Wi Tool 1:N connection, 1:N RIO connection - 1 - 6F3A4508...

#### Page 3: Introduction

TOSHIBA [1] Introduction This document describes the Wi Tool which is a tool for the Toshiba Wi Series drive equipment. For information on how to install Wi Tool on your PC, refer to the "Installation manual" (6F3A4507). Note that the drive equipment cannot be connected unless the correct connection method and PC settings are used.

### Page 4: Wi Tool Connection

Normally, the network is connected through a device called the HUB. In this case, an IP address is required for the PC and each drive unit. Ethernet Figure 2 1:N connection 250Wi Ethernet 250Wi - 3 - 6F3A4508 Ethernet 250Wi 250Wi...

<u>Page 5</u> In this case, an IP address is required for the PC and each RIO. The drive equipment does not need an IP address because message is exchanged using the TL-S20. 250Wi T-250Wi Figure 2.3 RIO connection TL-S20 250Wi T-250Wi - 4 - 6F3A4508 Ethernet TL-S20...

<u>Page 6</u> Ethernet straight cable as with (2) 1:N connection. Cross cable and straight cable are available as Ethernet cable. Note that the correct cable must be used. A single cross cable is included with Wi Tool. Straight cables must be purchased separately. - 5 - 6F3A4508...

## Page 7: Starting Wi Tool

1) Click the START button at the bottom left corner of the screen. 2) Select Program/TOSHIBA Drive Tools. 3) When Wi Tool appears, click it. 4) If TOSHIBA Drive Tools or Wi Tool is not displayed: Wi Tool may not be installed. Install it.

<u>Page 8</u> If the User Name and Access Level do not match those registered in the drive equipment, the drive equipment returns access level 0. The User Name and Password are set to "TOSHIBA" at factory shipment. Access level 9 is allowed with this user name.

#### Page 9: Wi Tool Main Window

The standard 1:1 connection windows are described. The main window consists of five main components: 1) Title 2) Menu bar 3) Command buttons 4) Main 5) Status bar Figure 4.1 Main window Menu bar Title Main - 8 - 6F3A4508 Command buttons Status bar...

Page 10 (5) Test mode, simulation mode (6) Allowed access level (7) PC keyboard status (8) PC date (9) PC time (10) Online (communicating with drive unit) Click when online to change to offline. Click when offline to change to online. - 9 - 6F3A4508...

#### Page 11: Wi Tool Functions

(10) Property Displays and updates information in the drive equipment. The target data are, Panel Name, Toshiba Order No., Toshiba Item No., and drive internal clock data. (11) Preparation Displays the drive equipment operating conditions. Displays the missing condition if there is any.

#### Page 12: Wi Tool Function Detail Description

Figure 6.1.1 Word window To load the motor speed, first place the cursor on the symbol box on the left side and double click. (You can click any of the 12 lines.) Then the symbol input window appears. - 11 - 6F3A4508...

Page 13 TOSHIBA 6F3A4508 Figure 6.1.2 Input Symbol Next, enter "SP\_R" which is the motor speed symbol. If this symbol is registered in the computer, it appears in the box at bottom. Click this SP\_R in the bottom box and then click the OK button to select SP\_R and display SP\_R in the original window.

Page 14 TOSHIBA 6F3A4508 To rewrite the data, refer to "Chapter 1 Notes on Rewriting Drive Equipment Data." Saving and loading template Frequently used symbols can be registered to avoid repeated key entry. This is referred to as template. For example, Speed Reference (SP\_R), Motor Speed (SP\_F), and Motor Current (I1\_F) can be registered by first entering these data and then entering a name by clicking [Write].

# Page 15: String Detail Description

TOSHIBA 6F3A4508 [6-2] String detail description This function loads and writes character string data inside the drive equipment. Select Drive Tool/Data Control/Char String from the menu bar or click the command button to select. The following window appears. Figure 6.2.1 Char String window To load the drive equipment panel name, first place the cursor on the symbol box on the left side and double click.

Page 16 TOSHIBA 6F3A4508 Figure 6.1.2 Input Symbol Then click INF\_PANEL which is the

drive equipment panel name symbol. The panel name is selected and appears in the window. - 15 -...

Page 17 TOSHIBA 6F3A4508 Figure 6.2.3 Char String window The data displayed in the box under the data is the Char string data. In this example, it is empty. The description of INF\_PANEL appears on the right. To rewrite the data, place the cursor on the data box, click and enter the char string, and then press Enter to write the data.

#### Page 18: Bit Detail Description

The following window appears. Figure 6.3.1 Bit window To load the sequence data BLR1, first place the cursor on the ? symbol at the top left box and click. Then the symbol selection list appears. - 17 - 6F3A4508...

Page 19 TOSHIBA 6F3A4508 Figure 6.3.2 Symbol selection window Next click BLR1 in the symbol selection list to close the symbol selection list and display BLR1 in the box. Then press the select button to select BLR1 and display its data. - 18 -...

Page 20 TOSHIBA 6F3A4508 Figure 6.3.3 Bit window The name of each bit appears on the left side and its comment appears on the right side. The bit data of the symbol registered in the computer appears as a vertical column of 16 cells at the center (If BLR1 is selected, four columns of bit data appear as shown in the window above.

Page 21 TOSHIBA 6F3A4508 Figure 6.3.4 Bit Write window When the data to write is determined, click [Write]. Then the data in the cell is written to the drive equipment. If you do not click, the data is not written. To rewrite the data, refer to "Chapter 1 Notes on Rewriting drive equipment Data."...

#### Page 22: Set Point Control Detail Description

TOSHIBA 6F3A4508 [6-4] Set point control detail description This function saves set points in the drive equipment to a file or loads the data saved in file to the drive equipment and compares the set point in the drive equipment with the data saved in file.

Page 23 TOSHIBA 6F3A4508 Figure 6.4.1 Set Point Control The set points in the drive equipment are processed together. The set points in the drive equipment are in internal RAM. The internal RAM is saved in EEPROM because it is erased when the power is turned off.

Page 24 9) Write data in drive equipment internal EEPROM to set point file 10) Load set point file to drive equipment internal RAM 11) Compare set point file with set point file Figure 6.4.2 Set Point Control (10) (11) - 23 - 6F3A4508...

Page 25 Set point data is read from the drive equipment and displayed. 3) Display set point file Click the Select File button (3). Select a set point file and then click Show File Data below button (3). The content of the file is displayed. - 24 - 6F3A4508...

Page 26 TOSHIBA 4) Compare drive equipment internal RAM with EEPROM Click arrow (4). Figure 6.4.4 The Start Compare with EEPROM button appears at bottom left of the window. Click this to start compare and display the result. - 25 - 6F3A4508...

Page 27 TOSHIBA 6F3A4508 Figure 6.4.5 Set Point Compare 5) Compare drive equipment internal RAM with set point file First, select a set point file. Click the Select File (3) button and select a set point file. Then click arrow (5) to display the Compare File button at bottom left of the screen and click this button to start compare.

<u>Page 28</u> TOSHIBA 6F3A4508 Figure 6.4.6 Write EEPROM A new EEPROM comment appears. Enter the comment (up to 32 characters) to write in EEPROM and then click the Write EEPROM button that appears at bottom left of the window to start transfer to EEPROM.

Page 29 TOSHIBA 6F3A4508 10) Load set point file to drive equipment internal RAM First, select a set point file. Click the Select File (3) button and select a set point file. Then click arrow (10) to display the Load from File button at bottom left of the screen and click this button to start load to file.

# Page 30: Traceback Detail Description

TOSHIBA 6F3A4508 [6-5] Traceback detail description Reads, displays as graph, prints, and saves to file the control data (motor speed, motor current, etc.) when there is a drive equipment fault. Select Drive Tool/Traceback from the menu bar or click the command button to select.

<u>Page 31</u> TOSHIBA 6F3A4508 Figure 6.5.2 Fault selection This list contains a list of fault data in the drive equipment. (Up to 16 faults) Click the down arrow to display the data list and click an item to select. Then click the Display button.

<u>Page 32</u> TOSHIBA 6F3A4508 Figure 6.5.3 Traceback window When data read completes, a graph similar to the one above appears. Control data is obtained with different sampling data depending on the drive equipment and a graph is displayed for each sampling data.

<u>Page 33</u> TOSHIBA 6F3A4508 Figure 6.5.4 Traceback print Then click the Write button to save this data to file with the specified file name. You can also click the Print button to print this data. In addition to the graph, the detected fault signals (first faults) are also displayed.

<u>Page 34</u> TOSHIBA 6F3A4508 Figure 6.5.5 First faults The First Faults window shows the sequence data for up to 9 faults in the order of detection. The sequence signal abbreviation appears on the left and a simple description appears on the right.

Page 35 TOSHIBA 6F3A4508 Next, click the Setting tab on the graph to change the graph settings. Figure 6.5.6 Select traceback signal 1) The number at top center is the number of graphs per window. You can select 1, 2, 4, 8, or 12 signals per window.

<u>Page 36</u> TOSHIBA 6F3A4508 Figure 6.5.7 Select Signal The names of signals that can be displayed as graph appears as a list. Click one of the signal names in the list. Then double click to confirm the signal name. The number on the right of the signal name is the graph no. Specify the display order from top of the window for the selected signal.

## Page 37: Snapshot Detail Description

The following window appears. Figure 6.6.1 Snapshot Set the snapshot condition in this window. 1) Number of Signals: Specify the number of signals to save. For snapshot, you can select from 2 signals 1024 samples - 36 - 6F3A4508...

Page 38 Trigger button is clicked to enter the Trigger Ready status. The button becomes Reset Trigger. When there is a trigger, the status becomes Data Triggered and the Display button is enabled. At this point, click the Display button to display the graph. - 37 - 6F3A4508...

#### Page 39: Trend View Detail Description

TOSHIBA 6F3A4508 [6-7] Trend view detail description This function collects drive equipment data from the PC and displays them on the PC. Select Drive Tool/Local Tool/Trend Display from the menu bar or click the command button to select. The following window appears.

Page 40 TOSHIBA 6F3A4508 This window is similar to the traceback graph. However, in the case of Trend Display, the user must specify the signal to display. Also, the user must set the graph scale. In addition, the sampling time must be set in Trend Display.

## Page 41: Step Response Detail Description

Select Drive Tool/Local Tool/Test/Step Response from the menu bar or click the command button to select. The following window appears. Figure 6.8.1 Step response First, determine which test mode to select. Click the Mode Select down arrow and select a mode. - 40 - 6F3A4508...

<u>Page 42</u> TOSHIBA 6F3A4508 Figure 6.8.2 Select Test Mode If the drive equipment is already in test mode as in the window on the previous page, the Select button is disabled. To cancel test mode, click the End Test button. After selecting the test mode, click the Start Step button to automatically add step reference to the drive equipment and display the resulting graph.

### Page 43: Password Control Detail Description

TOSHIBA 6F3A4508 [6-9] Password control detail description This function adds/deletes User Name, Access Level, and Password recorded in the drive equipment. This window opens only

when the access level is 9. Select Drive Tool/Local Tool/PassWord Control from the menu bar to select.

Page 44 TOSHIBA 6F3A4508 Then enter the password and security level if entering an operator name. These are not necessary when deleting. Click the Add or Delete button to display the following window. Figure 6.9.2 Password control verification Click OK to execute.

# Page 45: Property Detail Description

This window displays the Panel Name, Drive Type, Data Base Version, Toshiba Order Number, Item Number, and Tag of the drive equipment. The Panel Name, Toshiba Order Number, Item Number, and Tag are rewritable. To rewrite, click the item to change, enter the new item, and then click the Write button.

Page 46 TOSHIBA 6F3A4508 1) Comments Click the Comments tab to display comments stored in the drive equipment. Comments can also be rewritten. Figure 6.10.2 Comments - 45 - ...

Page 47 Click Set Current Time to synchronize the drive equipment time with the PC time. Figure 6.10.3 Time 3) Rating Click the Rating tab to display the drive equipment and motor rating. This window is read only. Figure 6.10.4 Rating - 46 - 6F3A4508...

<u>Page 48</u> Figure 6.10.5 Trouble records 5) Event counter Click the Event Counter tab to display the drive equipment event counts. Event counts are items, such as contact open/close count, that depend on the drive equipment type. Figure 6.10.6 Event counter - 47 - 6F3A4508...

#### Page 49: Preparation Detail Description

Select Drive Tool/Local Tool/Data Control/ Preparation from the menu bar or click Fault/Alarm drive status display on the status bar to select. The following window appears. Figure 6.11.1 Preparation Click Fault Reset in this window to reset faults. - 48 - 6F3A4508...

# Page 50: Ending Detail Description

TOSHIBA 6F3A4508 [6-12] Ending detail description Click x at top right of the main window to end Wi Tool. The following window appears. If set points are changed, but not transferred to EEPROM, click Cancel and transfer the set points to EEPROM.

#### Page 51: Wi Tool 1:N Connection, 1:N Rio Connection

TOSHIBA 6F3A4508 [7] Wi Tool 1:N connection, 1:N RIO connection [1:N connection] The following window appears when Wi Tool is started after connecting to the drive equipment by 1:N connection via Ethernet. Figure 7.1 1:N connection The network connection appears on the left side of the window.

Page 52 TOSHIBA 6F3A4508 [1:N RIO connection] The following window appears when Wi Tool is started after connecting to the drive equipment by 1:N connection through RIO (remote I/O). Figure 7.3 RIO connection The network connection appears on the left side of the window.

# This manual is also suitable for:

Wi tool