



# TOSHIBA

Toshiba nv-pack JTLI41 Instruction Manual

Unified controller tc-net i/o loop pci express card



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# Instruction Manual

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## Summary of Contents for Toshiba nv-pack JTLI41

[Page 1](#) 6F8C1601 Unified Controller nv-pack series TC-net I/O Loop PCI Express Card JTLI41 Instruction Manual...

[Page 2](#) (1) The technical information described in this document is for the explanation of the typical operation of the product and its application. It shall not be construed that Toshiba or third party will guarantee to use the intellectual property or other rights concerning the said

information or grant the license.

### [Page 3: Safety Precautions](#)

**Safety Precautions** The product and the instruction manual describe important information to prevent possible harm to users and damage to the property and to use the product safely. Understand the following description (signs and symbols), read the text and follow the instruction.

[Page 4](#) **Safety Precautions in Installation** **WARNING** Ground the device. **DO NOT** disassemble or adjust the optical module. Otherwise, it may cause an electric shock **Ground Prohibited** The module won't radiate harmful light but or fire. may cause eye injury if it is disassembled or adjusted by an unqualified person.

[Page 5](#) **Safety Precautions in Wiring** **WARNING** Install the terminal block cover **Connect** the cables while the power securely to the terminal block. is off. **Mandatory** **Mandatory** **Exposed** conducting parts may cause an **Otherwise**, it may cause an electric shock **electric shock**. or failure.

[Page 6](#) It may cause an electric shock, fire, injury, the device. or failure. Upon faulty operation or failure, contact **When** the ambient or internal **Toshiba's** branch office or service offices. temperature of the device rises abnormally or failure occurs in the **Prohibited** device, stop using.

[Page 7](#) **Safety Precautions in Maintenance and Inspection** **WARNING** When mounting or removing the **When** replacing the power fuse or card, module, unit, terminal block, or alarm fuse of the device, turn off the wiring cable, make sure that the device. **Mandatory** **Mandatory** external power supply is off.

[Page 8](#) 5. **Safety Precautions in Disposal** **CAUTION** Dispose of the unit and module of the nv-pack series as industrial **Mandatory** waste. Otherwise, it may cause environmental damage. 6F8C1601...

[Page 9](#) ■ **Toshiba** shall not be responsible for any damage caused by an earthquake, lightning and wind, fire for which **Toshiba** is not responsible for, acts of a third party, other accidents, the user's willful acts or negligence, misuse or use in abnormal conditions.

[Page 10](#) **Introduction** This manual describes the overview, storage, handling, and maintenance/inspection of the Unified Controller nv-pack series PCI Express Card JTLI41. Before using the device, be sure to read "Safety Precautions" for proper operation of the device. Keep this manual in a safe place so that you can read it whenever necessary. Repairs and replacements of this product due to the end of life or wear are charged even during the warranty period.

### [Page 11: Notational Conventions](#)

● **Notational conventions** The following are the notational conventions for better understanding of this document. **Important** Describes what the user should be particularly aware of to handle the product correctly. **Note** Describes what the user should observe to handle the product correctly. **Remark** Describes a remark.

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[Page 15](#) Chapter 1 Overview Chapter 1 covers the overview and system configuration of JTLI41. Overview ..... 2 System Configuration

**Page 16: Overview**

Chapter 1 Overview Overview Unified controller nv-pack series TC-net I/O loop PCI Express card JTLI41 is an interface card for connecting the typeFR controller to the TC-net I/O loop of the high-speed serial I/O system. The TC-net I/O loop consists of loop type transmission channels that can bypass a failed portion should a transmission error take place, allowing a highly reliable system configuration.

**Page 17: System Configuration**

(Please prepare by customer) Extended slot No.50,53 Extended card JTLI41 typeFR controller (Installed in extended slot) typeFR2 typeFR pre-install software □Toshiba dedicated LinuxOS nV-Tool □Support version : V4.14.0 or more Kernel 3.10 Keyboard Mouse (Please prepare by customer) (Please prepare by customer)

**Page 18** Chapter 1 Overview 6F8C1601...

**Page 19: Names And Functions Of Parts**

Chapter 2 Names and Functions of Parts Chapter 2 explains the appearance of JTLI 41 and the names and functions of parts. .... 6 Names and Functions of Parts...

**Page 20** Chapter 2 Names and Functions of Parts Names and Functions of Parts The appearance of the panel and card of JTLI 41 is shown below. ■JTLI41 panel Standard size Status display TC-net I/O loop connector Low profile size Figure 2-1 JTLI41 panel appearance ■JTLI41 card Station address setting switch...

**Page 21** 2.1 Names and Functions of Parts ■Status display LED The status display LED has LP1 which displays the status of TC-net I/O loop 1 and LP2 which shows the state of TC-net I/O loop 2. LP1 and LP2 switch the state of ACT and LINK and display □...

**Page 22** Chapter 2 Names and Functions of Parts 6F8C1601...

**Page 23** Chapter 3 Settings Chapter 3 describes the station address setting switch of JTLI 41 and the setting with the engineering tool. Station Address Setting Switch..... 11 Engineering Tool Setting ..... 12...

**Page 24** Chapter 3 Settings For safety, check that the PC in which the card is installed has been switched off. WARNING Otherwise, it may cause electric shock. Mandatory For safety, do not disassemble the card. WARNING Otherwise, it may cause failer. Prohibited Discharge the static from the human body before setting the switches.

**Page 25** 3.1 Station Address Setting Switch Station Address Setting Switch ■Station address setting switch The station address setting switch is a hexadecimal rotary switch for deciding the station address on the TC-net I/O loop, STN-H for setting the upper digit address of the station address and STN-L for setting the lower digit address There is.

**Page 26: Station Address Setting Switch**

Chapter 3 Settings Engineering Tool Setting The procedure to register JTLI41 is explained below. Create a new station Select "Stations" under the system to register JTLI 41 and select "File" and "New" on the menu bar. Figure 3-1 Station Registration Screen Setting the station Select "nv pack station"...

**Page 27** 3.2 Engineering Tool Setting Add unit to the station Select "Units" under the created station and select "File" and "New" on the menu bar. Figure 3-3 Unit Registration Screen Setting the unit Select "typeFR" in the "Unit Catcode" list, and "0" in the "Unit No." list (Unit No. is in initial setting state).

**Page 28** Chapter 3 Settings Add extended card to the unit Select "Extended Card" under the added unit and select "File" and "New" on the Menu bar. Figure 3-5 Extended Card Registration Screen Setting extended card Select "TLI41" in the "Catcode" list and "50" in the "Card No." list



(Card No. is in the initial setting state).

[Page 29](#) 3.2 Engineering Tool Setting Figure 3-7 Example of registering JTLI41 in Extended card Figure 3-8 Example of registering SA912 in I/O Node Unified Controller nv-pack series TC-net I/O Loop PCI Express Card JTLI41 Instruction Manual...

[Page 30](#) Chapter 3 Settings 6F8C1601...

[Page 31](#) Chapter 4 Installation and Wiring Chapter 4 explains the mounting, wiring, and replace of JTLI 41. Before Starting ..... 18 Card Mounting ..... 19 Wiring ..... 23 Card Replacement ..... 24...

### [Page 32: Before Starting](#)

□ Be careful not to loose the removed screws, and not to drop them inside the computer. □ If you find an error or failure, Contact one of Toshiba service representatives. □ Be careful not to be injured by the sharp projections on the extension card.

### [Page 33: Card Mounting](#)

4.2 Card Mounting Card Mounting Mount the card in the following procedure. Turn off the PC. After that, turn off the AC power switch on the back of the PC and unplug the power cord Remove 2 screws (M 3 × 6) on the side of the PC, 2 screws on the top of the PC (M 3 × ...

[Page 34](#) Chapter 4 Installation and Wiring Mounting on the side of the slot 50 4.1 Remove 3 screws (M 3 × 6) on the side of the PC fixing the side cover and 1 screw on the back of the PC (M 3 × 6) and remove the side cover. Side cover Figure 4-3 Card mounting process 1 4.2 Remove one set screw (M 3 x 6) fixing the mask panel and remove the mask panel.

[Page 35](#) 4.2 Card Mounting Mounting on the side of the slot 53 5.1 Remove one set screw (M3 x 6) of the fixing bracket fixing the mask panel and remove the mask panel. Please keep the removed mask panel carefully. Fixing bracket Mask panel Figure 4-6 Card mounting process 4 5.2 Insert the card vertically into the connector of the extended slot and fix the fixing bracket...

[Page 36](#) Chapter 4 Installation and Wiring Important □ When mounting the card, take adequate measures against static. (by wearing gloves, for example) Note □ The current capacity of the extension slot is limited. Before mounting the card, make sure that the rated current meets the PC requirement.

### [Page 37: Wiring](#)

4.3 Wiring Wiring On the front panel of the card, there are TC-net I / O loop connectors (LP1 and LP2). Wire the transmission cable to LP1 and LP2 as shown below. LP1 LP2 LP2 LP1 Slot 51 Slot 52 Slot 50 Slot 53 Optical fiber cable...

### [Page 38: Card Replacement](#)

Chapter 4 Installation and Wiring Card Replacement Replace the card in the following procedure. Turn off the PC. Then turn off the AC power switch on the back of the PC and unplug the power cord. Pull out the cable of the TC-net I/O loop connected to the card by pinching the lock of the connector with your fingers.

[Page 39](#) Chapter 5 Maintenance and Inspection Chapter 5 explains the maintenance and inspection of JTLI41. Inspection ..... 27 Troubleshooting ..... 28 Life Limited Parts ..... 29...

[Page 40](#) Careless touch of the cables may strain them to Prohibited possibly cause operation errors and accidents. Do not remove the optical module CAUTION Life limited parts will be exchanged at Toshiba service staff. Do not disassemble or remove Prohibited When abnormality occurs stop using immediately CAUTION...

## [Page 41: Inspection](#)

Periodic inspection is recommended at least once a year to prevent accidents and keep the product in good operating condition for a long period of time. For periodic inspection, consult your nearest Toshiba service representatives. Unified Controller nv-pack Series TC-net I/O Loop PCI Express...

## [Page 42: Troubleshooting](#)

Chapter 5 Maintenance and Inspection Troubleshooting If the status indicating LEDs show a different status from those listed in Table 2-1, Chapter 2, or if the system detects an error, stop operating the product and contact your nearest Toshiba service representative. 6F8C1601...

## [Page 43: Life Limited Parts](#)

Recommended Replacement Cycle Optical module The recommended replacement cycle is 10 years. Contact your nearest Toshiba service representative for the measurement of the optical power of optical module, or replacing the optical module after 10 years of operation. Switches, connectors The recommended replacement cycle is 10 years.

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Appendix A Specifications General Specifications Table A-1 General Specifications Item Specification Environmental conditions Operating temperature 5 to 40°C Storage humidity 20 to 80%RH (without condensation) Dust density 0.3mg/m or less (equivalent to JEITA-IT-1004A Class B) Corrosion resistance Should not be detected (equivalent to JEITA-IT-1004A Class A) Mechanical operating conditions Vibration resistance Operating 4.9m/s...

## [Page 47: Card Specifications](#)

A.2 Card Specifications Card Specifications Table A-2 Card Specifications Item Specification Dedicated slot 1 slot Interface standard PCI Express Ver1.1 compliant PCI operation mode EndPoint mode PCI transmission mode PIO access mode DMA access mode Power down detection Hard reset from PC 3.3V voltage drop detection PC monitoring Continuous operation monitoring API...

## [Page 48: Tc-Net I/O Loop Specifications](#)

Appendix A Specifications TC-net I/O Loop Specifications Table A-3 TC-net I/O Loop Specifications Item Specification System Optical system Topology Loop Data transmission rate 100Mbps Media access method DDMA□Deterministic Ordered Multiple Access□ Redundancy Dual loop Number of nodes connected Max. 254 nodes per system Number of I/O adaptors connected Max.

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Appendix B Outside Dimensions JTLI41 ■JTLI41 card 132.0 STN-L STN-H STN-L STN-H MODE unit : mm Figure B-1 Outside dimensions of JTLI41 card ■JTLI41 panel Standard size 120.02 Law profile size unit : mm 79.20 Figure B-2 Outside dimensions of JTLI41 panel 6F8C1601...

## [Page 51](#) Appendix C Related Products...

## [Page 52](#) Appendix C Related Products Table C-1 Related Products Product Description Remarks Optical fiber cable Both ends with duplex LC connector Internal cable Multimode GI type (Core/Clad diameter : 50/125 μm, 62.5/125 μm) 6F8C1601...

## [Page 53](#) Appendix D Decimal-Hex Conversion Table...

[Page 54](#) Appendix D Decimal-Hex Conversion Table Table D-1 Decimal-Hex Conversion Table (1) Decimal Decimal Decimal Decimal 6F8C1601...

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This manual is also suitable for:

[Nv-pack series](#)