



Toshiba JTNl6 Series Instruction Manual

Tc-net 100 pci express card

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

Table Of Contents

18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

--

•

[Table of Contents](#)

-

Troubleshooting

•

Bookmarks

--

Quick Links

[1 Table of Contents](#)

[2 Overview](#)

[3 System Configuration](#)

[4 Names and Functions of the Parts](#)

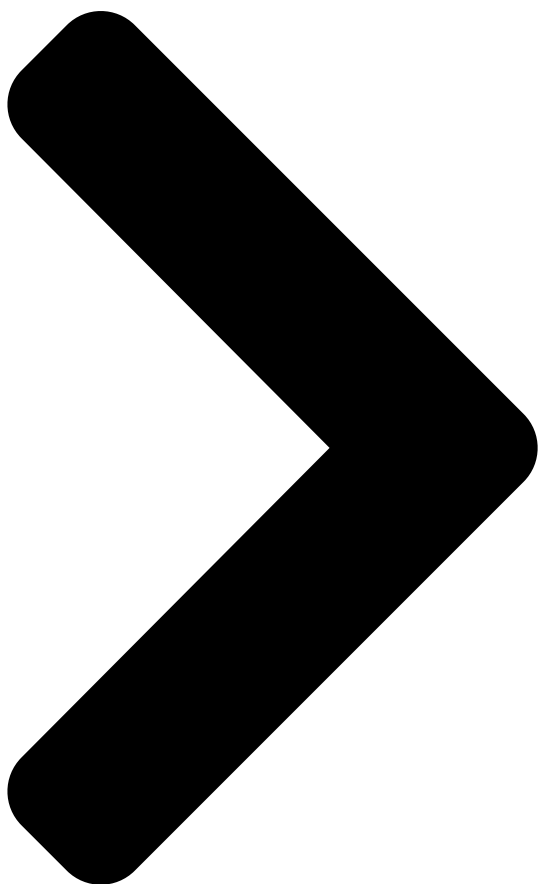
[5 Setting Switches](#)

[6 Before Starting](#)

[7 Installation](#)

[8 Connection](#)

[Download this manual](#)



6F8C1450

Unified Controller

TC-net 100 PCI Express Card JTN16

TOSHIBA
Leading Innovation >>>

Instruction Manual

[Table of Contents](#)

[Next Page](#)

1
2
3
4
5

Summary of Contents for Toshiba JTNi6 Series

[Page 1](#) 6F8C1450 Uni ed Controller TC-net 100 PCI express Card JTNi6 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 On the product and this instruction manual, important information for safe and correct use to prevent danger to the user and other people as well as property damage is described. Understand the following information (signs and symbols) before reading the text, and follow the described items.

[Page 4](#) Safety Precautions on Installation WARNING Be sure to ground the device Do not apply higher voltage with dedicated Type D than rated voltage into Mandatory Prohibited grounding for each connector. transmission path. It may cause electric shock or fire. Grounding must be 1 point grounding. Operation without grounding may cause transmission error, and electric shock or fire.

[Page 5](#) Safety Precautions on Maintenance and Inspection WARNING When installing or removing the module after wiring, make Mandatory sure that the external power supply is off. Otherwise, there will be live electric poles on the back of the external terminal block of the module, and it may cause an electric shock.

[Page 6](#) Mandatory Upon faulty operation or failure, contact internal temperature exceeds Toshiba's branch office or service offices. beyond normal range or if failure is occurred in the device. Contact one of Toshiba service representatives for repairing.

[Page 7](#) CAUTION Do not touch any components, Do not forcibly bend or pull or IC parts, terminals, connectors, distort the power cord and Prohibited Prohibited or printed circuit boards in the other cables. module. Otherwise, they can be cut off or cause overheat.

[Page 8](#) Dis claimer ■ Toshiba shall not be responsible for any damage caused by a fire or an earthquake 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 9](#) Introduction This manual is for the Interface Card JTNi Series that connect the Information and Control Network TC-net 100 to a general-purpose personal computer having a PCI Express™ (hereafter, called as "PCIe") bus. The JTNi Series includes the following cards. Card Connecting Cable Connector...

[Page 10](#) 3. If the ambient temperature or the internal temperature of the equipment has arisen too high, or if the equipment has developed a fault, stop using it, switch power off, and contact the nearest Toshiba service station. 4. Do not open the case of the equipment while it is in operation.

[Page 11: Table Of Contents](#)

CONTENTS Overview	2
Chapter 1 System Configuration	3
Overview ...1	2.1 Names and Functions of the Parts
6	Chapter 2 Names of Parts and Their Functions ...5
3.1	Setting Switches
11	Chapter 3 Switch Setting ...9
Before Starting	14
Chapter 4 Installation	15
Installation and...	

Page 12 General Specifications	24
100 Specifications	26
Dimensions	28
MT-RJ Connector Socket	30
Socket	30
Appendix E Hexadecimal Conversion...	
Appendix A TC-net	23
B.1 Outside	
Appendix B Dimensions	27
2-Core	
Appendix C EN 8-pin Modular Connector	
Appendix D Related Products	31

Page 13 Chapter 1 Overview Overview	2
System Configuration	3...

[Page 14: Overview](#)

Ethernet. The standard transmission line configuration of the TC-net 100 is dual, which permits highly reliable system configuration. The JTNi6 series comes in two models: JTNi62 with a transmission line interface of optical fiber cord (GI 62.5/125 or GI 50/125). Models JTNi61 (optical) for single transmission line configuration are also available.

[Page 15: System Configuration](#)

1.2 System Configuration System Configuration Figure 1-2 shows the example of system configuration with TC-net 100 applied. Host System network JTNi6 JTNi6 Information and control network UTH23A/B TC-net 100 Unified controller nv series TC-net I/O System Figure 1-2 Example of System Configuration Unified Controller TC-net 100 PCI express Card JTNi6 Instruction Manual...

[Page 16](#) Chapter 1 Overview 6F8C1450...

[Page 17](#) Chapter 2 Names of Parts and Their Functions Names and Functions of the Parts..... 6...

[Page 18: Names And Functions Of The Parts](#)

Chapter 2 Names of Parts and Their Functions Names and Functions of the Parts Names of each part and their functions of JTNi6 are described here. □ JTNi61 panel □ JTNi62 panel DIP-SW STN-L STN-H Ethernet TN-A □T/R TN-B □T/R Note: The JTNi61 for single systems have the TN-A connector only;...

[Page 19](#) (1) LED ■ TN-A connector (TC-net 100 line A) • ACT Indicates TC-net 100 transmission. Turned on and off by the hardware. It lights when transmission is made to line A. It blinks or remains lit during normal operation. • LINK Indicates that line A is linked to the hub.

[Page 20](#) Chapter 2 Names of Parts and Their Functions Table 2-1 Status Indicating LEDs Normal Name Description Indication EN-LINK Ethernet port linkage (green) ON: Connected normally to Ethernet card of PC OFF: Not connected to Ethernet card of PC EN-ACT Ethernet port frame transmission/reception Blink or ON (yellow) ON: Ethernet frame being transmitted/received...

[Page 21](#) Chapter 3 Switch Setting Setting switches 11...

[Page 22](#) • Be sure to set station addresses. Do not connect the card to the network before setting station addresses. • If you have any question, Contact one of Toshiba service representatives. • Perform a power supply setup of PC as follows.

[Page 23: Setting Switches](#)

3.1 Setting Switches Before installing the card in a personal computer, set the station address of the card, using the switches on the side of the card. (Refer to Figure 2-1 The card appearance) Use a small flat-blade screwdriver for this purpose. Setting Switches •...

[Page 24](#) Chapter 3 Switch Setting 6F8C1450...

[Page 25](#) Chapter 4 Installation and Wiring The procedures for mounting the card in a personal computer (PC) and connecting transmission cables are described here, referring to an example showing a general PC. To install the card, carefully read the manual supplied with your personal computer.

[Page 26: 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 board.

[Page 27: Installation](#)

4.2 Installation Installation Follow the steps below to install the card. (1) Remove the front panel if necessary. For details, refer to the instruction manual of the PC which you are installing the card to. (2) Remove the computer cover. For the procedure of removing the computer cover, refer to the instruction manual of the PC which you are installing the card to.

[Page 28](#) Chapter 4 Installation and Wiring Extension card panel Insert the extension card into the Extension card extension slot as shown in the figure, and fasten the extension card panel with the screw (M3x6) that was removed in Step 1 (4) Placing the personal computer cover back on For the procedure of placing the computer cover back on, refer to the instruction manual of the PC which you are installing the cord to.

[Page 29: Connection](#)

4.3 Connection Connection The card has TC-net 100 port for TN-A and TN-B (with MT-RJ optical connector), and EN for Ethernet port (with RJ-45 modular connector) on the front panel. Connect transmission cables to the TN-A, TN-B, and EN connectors as shown below.

[Page 30: Card Replacement](#)

Chapter 4 Installation and Wiring Card Replacement • Before replacing the card, switch off the personal computer and make sure that power is off. CAUTION (1) Switch off the personal computer and check the LED to make sure that power is off.

[Page 31](#) Chapter 5 Maintenance and Inspection Inspection
..... 21 Troubleshooting
..... 22 Life Limited Parts
22...

[Page 32](#) • When something abnormal occurs, such as failure to turn on the power, stop using the equipment and contact one of Toshiba service representatives. • If you have any question, contact one of Toshiba service representatives. 6F8C1450...

[Page 33: Inspection](#)

Periodic replacement of expendable parts is recommended. For periodic inspection, consult one of Toshiba's service representatives. Unified Controller TC-net 100 PCI express Card JTNi6 Instruction Manual...

[Page 34: Troubleshooting](#)

5.3 Life limited parts It is necessary to periodically replace life limited parts to keep the product in good, safe condition for a long period of time. Contact one of Toshiba service representatives for advice on their replacement. Table 5-1...

[Page 35](#) Appendix A Specifications A.1 General Specifications
..... 24 A.2 TC-net 100 Specifications
..... 26...

[Page 36](#) Appendix A Specifications A.1 General Specifications (1) General Specifications Table A-1(1) General Specifications Specifications Item JTNi6 Operating temperature 5 to 40°C (Ambient temperature) Operating humidity 20 to 80%RH (without condensation) Storage temperature -40 to 70°C Storage humidity 5 to 90%RH (without condensation) Working altitude 2000 m Dust density...

[Page 37](#) A.1 General Specifications (2) Card Specifications Table A-1(2) Card Specifications Specifications Item JTNi6 MT-RJ optical connector Communication interface RJ-45 modular connector Optical fiber cord/cable Transmission cable (GI, 62.5/125 (or 50/125), long wavelength) Power source voltage 3.3Vdc \pm 5% Current consumption (at rated voltage input) 3.0A or less (at 3.3Vdc) Power consumption (at rated voltage input) 10W or less...

[Page 38](#) Appendix A Specifications A.2 TC-net 100 Specifications Table A-2 TC-net 100 Specifications Item Specifications Media access DOMA (Deterministic Ordered Multiple Access) Data transmission rate 100 Mbps Topology Star Maximum length between nodes: 8 km Transmission distance Optical fiber: 2km No. of nodes 254 nodes maximum per system Scan

transmission High-speed cycle:...

[Page 39](#) Appendix B Dimensions B.1 Outside Dimensions28...

[Page 40](#) Appendix B Dimensions B.1 Outside Dimensions (Unit : mm) 166.65 121.02 121.02
Figure B-1 Outside Dimensions 6F8C1450...

[Page 41](#) Appendix C External Connectors C.1 2-Core MT-RJ Connector Socket
..... 30 C.2 EN 8-pin Modular Connector Socket 30...

[Page 42](#) Appendix C External Connectors C.1 2-Core MT-RJ Connector Socket Table C-1 TC-
net 100 MT-RJ Connector Pin Assignments Signal Description Transmission Reception C.2 EN 8-
pin Modular Connector Socket Table C-2 EN Connector Pin Assignments Signal Description
Transmission + Transmission - Reception + Unused Unused Reception -...

[Page 43](#) Appendix D Related Products...

[Page 44](#) Appendix D Related Products Table D-1 Related Products Product Description
Remarks Optical fiber cord Optical fiber cord with MT-RJ optical connector at both ends Electric
twisted-pair cable Category 5 twisted-pair straight cable 6F8C1450...

[Page 45](#) Appendix E Hexadecimal Conversion Tables...

[Page 46](#) Appendix E Hexadecimal Conversion Tables Table E-1 Decimal - Hexadecimal
Conversion Table Decimal Hexadecimal Decimal Hexadecimal Decimal Hexadecimal Decimal
Hexadecimal 6F8C1450...

[Page 47](#) Table E-2 Decimal - Hexadecimal Conversion Table Decimal Hexadecimal Decimal
Hexadecimal Decimal Hexadecimal Decimal Hexadecimal Unified Controller TC-net 100 PCI
express Card JtNI6 Instruction Manual...

[Page 48](#) Appendix E Hexadecimal Conversion Tables 6F8C1450...

[Page 49](#) First Edition Social Infrastructure Systems Company Automation Products & Facility
Solution Division 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan © Toshiba
Corporation 2012 No part of this document may be reproduced All Right Reserved. without the
prior written consent of Toshiba.

[Page 50](#) 1450.1.1203...

This manual is also suitable for:

JtNI61JtNI62