TOSHIBA

Toshiba WIRELESS LAN MODULE GN-1050 Operator's Manual

Multifunctional digital systems wireless lan module

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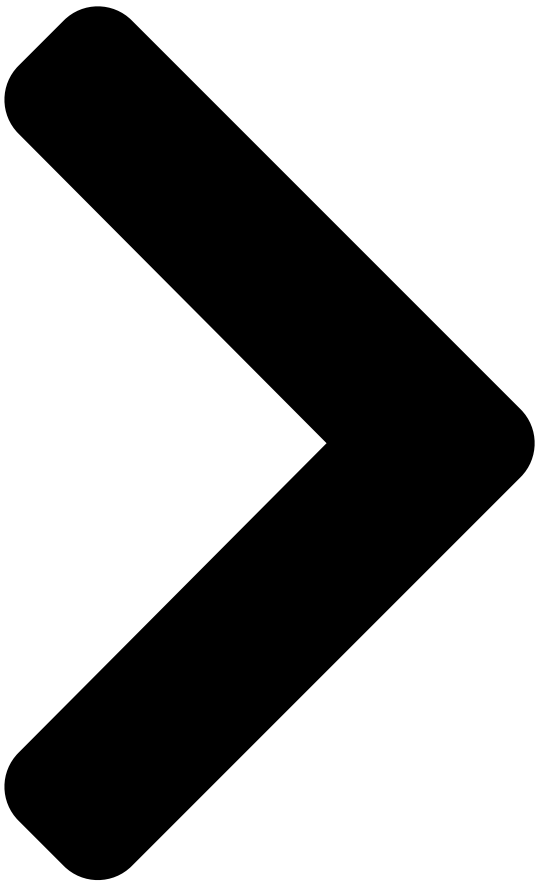

MULTIFUNCTIONAL DIGITAL SYSTEMS

TOSHIBA
Leading Innovation

Operator's Manual for

Wireless LAN Module

GN-1050

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Summary of Contents for Toshiba WIRELESS LAN MODULE GN-1050

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Page 3: Preface

Thank you for purchasing TOSHIBA Multifunctional Digital Systems or Multifunctional Digital Color Systems. This manual explains the instructions for Wireless LAN Module GN-1050. Read this manual before using your Multifunctional Digital Systems or Multifunctional Digital Color Systems. Keep this manual within easy reach, and use it to configure an environment that makes best use of the e-STUDIO’s functions.

Page 4 IBM, AT and AIX are trademarks of International Business Machines Corporation. NOVELL, NetWare, and NDS are trademarks of Novell, Inc. TopAccess is a trademark of Toshiba Tec Corporation. Other company names and product names in this manual are the trademarks of their respective companies.

Page 5: Precautions

LANs (Revision B/G). Wireless Interoperability The TOSHIBA Wireless LAN products are designed to be interoperable with any Wireless LAN products that is based on Direct Sequence Spread Spectrum (DSSS)/Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to: The IEEE 802.11 Standard on Wireless LANs (Revision B/G), as defined and approved by the Institute of Electrical...

Page 6 WARNING Keep this product away from a cardiac pacemaker at least 22 cm. Radio waves can potentially affect cardiac pacemaker operation, thereby causing respiratory troubles. Do not use the product inside a medical facility or near medical electric equipment. Radio waves can potentially affect medical electric equipment, thereby causing an accident due to malfunction.

Page 7: Regulatory Information

Regulatory Information The TOSHIBA Wireless LAN must be installed and used in strict accordance with the manufacturer’s instructions as described in the user documentation that comes with the product. This device complies with the following radio frequency and safety standards.

Page 8 Con la presente TOSHIBA TEC dichiara che questo GN-1050 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE. Por medio de la presente TOSHIBA TEC declara que el GN-1050 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/ TOSHIBA TEC declara que este GN-1050 está...

Page 9 Notwithstanding the foregoing, the manufacturer is unable to accept any claims for losses or lost profits, etc. Resulting from the use of this product. TOSHIBA TEC will not guarantee the machine performance if you perform any setting other than specified in this manual.

Page 11: Table Of Contents

CONTENTS Preface... 1 Precautions ... 3 Chapter 1 SETTING UP WIRELESS NETWORK Before Setting Up Wireless Network ... 12 Planning for installation ... 12 Determine the network type ... 12 Determine the SSID ... 13 Determine the security mode ... 13 Setting Up the Infrastructure Mode ...

Page 12 CONTENTS...

Page 13 SETTING UP WIRELESS NETWORK This chapter describes about the preparations before setting up the wireless settings of the equipment. Before Setting Up Wireless Network ... 12 Planning for installation ...12 Setting Up the Infrastructure Mode ... 15 Select network type ...15 Specify SSID ...18 Select security mode ...21 Setting up the Ad Hoc Mode ...

Page 14: Before Setting Up Wireless Network

1 SETTING UP WIRELESS NETWORK Before Setting Up Wireless Network This product is a Wireless LAN Module using the 2.4 GHz spectrum diffusion system, and is compatible with IEEE Standard 802.11g and 802.11b for wireless LAN. When the Wireless LAN is enabled, users can perform the following printing through the Wireless LAN: Raw TCP Printing from Windows computers LPR Printing from Windows computers LPR Printing from Macintosh computers...

Page 15: Determine The Ssid

1.SETTING UP WIRELESS NETWORK Determine the SSID In the wireless network, the same SSID (Service Set ID) must be assigned in each wireless device. Only wireless devices that have the same SSID assigned to them can communicate with each other through the wireless network. In the Infrastructure Mode, the SSID is usually set in the Access Point.

Page 16 1 SETTING UP WIRELESS NETWORK The WEP is a data encryption method using the WEP key between the Access Point and other wireless devices. Compared with WPA/WPA2 and WPAPSK/WPA2PSK, the WEP is less security. If the wireless network is configured in the Infrastructure Mode and the Access Point supports WPA/WPA2 or WPAPSK/WPA2PSK, it is recommended to use WPA/ WPA2 or WPAPSK/WPA2PSK rather than WEP.

Page 17: Setting Up The Infrastructure Mode

Setting Up the Infrastructure Mode The wireless settings can be operated from the Control Panel of this equipment. When setting up the equipment for the wireless network in the Infrastructure Mode, follow the steps below. 1. Select the network type P.15 “Select network type”...

Page 18 1 SETTING UP WIRELESS NETWORK Press the [WIRELESS SETTINGS]. The WIRELESS SETTINGS menu is displayed. Press the [WIRELESS SETTINGS]. The WIRELESS SETTINGS screen is displayed. It may take a time to display the WIRELESS SETTINGS screen. Press the [ON] and press the [NEXT]. The NETWORK TYPE screen is displayed.

Page 19 1.SETTING UP WIRELESS NETWORK Press the [INFRASTRUCTURE] and press the [NEXT]. The SSID SETTINGS screen displayed. Continue to the procedure for specifying the SSID. P.18 “Specify SSID” 1 SETTING UP WIRELESS NETWORK Setting Up the Infrastructure Mode...

Page 20: Specify Ssid

1 SETTING UP WIRELESS NETWORK Specify SSID When you select the Infrastructure Mode for the network type, you can specify the SSID by selecting the available network list or manually entering the SSID. P.18 “Selecting the SSID from the available network list” P.19 “Entering the

SSID manually”...

Page 21: Entering The Ssid Manually

1.SETTING UP WIRELESS NETWORK Press the [NEXT]. The WIRELESS LAN SECURITY SETTINGS screen is displayed. Continue to the procedure for specifying the security mode. P.21 “Select security mode” Entering the SSID manually Press the [SSID]. The letter entry screen is displayed. 1 SETTING UP WIRELESS NETWORK Setting Up the Infrastructure Mode...

Page 22 1 SETTING UP WIRELESS NETWORK Enter the SSID using the keyboard and digital keys and press the [OK]. The screen returns to the SSID SETTINGS screen. Press the [NEXT]. The WIRELESS LAN SECURITY SETTINGS screen is displayed. Continue to the procedure for specifying the security mode. P.21 “Select security mode”...

Page 23: Select Security Mode

1.SETTING UP WIRELESS NETWORK Select security mode After specifying the SSID, you must select the security mode for your wireless network. The procedure to configure the security mode varies depending on the security mode that you select. P.21 “Selecting WPA/WPA2 security mode with EAP-TLS protocol” P.27 “Selecting WPA/WPA2 security mode with PEAP protocol”...

Page 24 Enter the EAP user name using the keyboard and digital keys and press the [OK]. The screen returns to the WIRELESS AUTHENTICATION (EAP-TLS) screen. In the EAP USER NAME, enter the user name in “User Name@FQDN” format. Example: wlanuser@toshiba.com Setting Up the Infrastructure Mode...

Page 25 1.SETTING UP WIRELESS NETWORK Press the [NEXT]. The WIRELESS AUTHENTICATION - USER CERTIFICATION screen is displayed. Specify the following items and press the [NEXT]. [USER CERTIFICATE] Press this to enter the file name of the user certification file that you install in the equipment using TopAccess. If the specified certification file is not installed in the equipment, the error message to input correct file name will be displayed.

Page 26 When the [ON] is selected, press the [RADIUS SERVER NAME] to enter the RADIUS server name. In the RADIUS SERVER NAME, enter the user name in “Server Name@FQDN” format. Example: wlanserver@toshiba.com ENCRYPTION INTENSITY Select the encryption intensity.

Page 27 1.SETTING UP WIRELESS NETWORK Specify the following items and press the [NEXT]. ENCRYPTION BETWEEN AP AND STA. Select the encryption type that is used for the communication between Access Point and this equipment. [TKIP] — Select this to use TKIP encryption. The TKIP provides a different key for per packet with a message integrity check.

Page 28 1 SETTING UP WIRELESS NETWORK Confirm the settings and press the [FINISH]. The shutdown screen is displayed. If you want to change the settings, press the [PREV] to move back to the screen that you want to change and then repeat the operation. Press the [YES] to shutdown the equipment.

Page 29: Selecting Wpa/Wpa2 Security Mode With Peap Protocol

1.SETTING UP WIRELESS NETWORK Selecting WPA/WPA2 security mode with PEAP protocol Using the WPA/WPA2 with the PEAP protocol, you must install the CA certification file in the equipment. This equipment uses the user name and password to authenticate the access rights to the wireless network, and the RADIUS server authenticate this equipment using the CA certification file.

Page 30 Press this to enter the EAP user name that is used for the authentication. In the EAP USER NAME, enter the user name in “User Name@FQDN” format. Example: wlanuser@toshiba.com [EAP PASSWORD] Press this to enter the EAP password that is used for the authentication.

Page 31 When the [ON] button is selected, press the [RADIUS SERVER NAME] to enter the RADIUS server name. In the RADIUS SERVER NAME, enter the user name in “Server Name@FQDN” format. Example: wlanserver@toshiba.com ENCRYPTION INTENSITY Select the encryption intensity. When the PEAP protocol is selected, only [LOW] can be selected.

Page 32 1 SETTING UP WIRELESS NETWORK Specify the following items and press the [NEXT]. TRANSMIT POWER Select the low transmit power if you want to limit the area that the wireless communication is enabled. If you do not have to limit the area, select [100%]. TRANSMIT RATE Select the transmit data capacity for wireless communication.

Page 33: Selecting Wpapsk/Wpa2Psk Security Mode

1.SETTING UP WIRELESS NETWORK Selecting WPAPSK/WPA2PSK security mode The WPAPSK/WPA2PSK is an authentication method using the PSK (Pre-Shared Key) between the Access Point and other wireless devices. To access the wireless network using the WPAPSK/WPA2PSK authentication, the same PSK Path Phrase must be assigned in both the Access Point and other wireless devices.

Page 34 1 SETTING UP WIRELESS NETWORK Specify the following items and press the [NEXT]. TRANSMIT POWER Select the low transmit power if you want to limit the area that the wireless communication is enabled. If you do not have to limit the area, select [100%]. TRANSMIT RATE Select the transmit data capacity for wireless communication.

Page 35: Selecting Wep Security Mode

1.SETTING UP WIRELESS NETWORK Selecting WEP security mode The WEP is a data encryption method using the WEP key between the Access Point and other wireless devices. Compared with WPA/WPA2 and WPAPSK/WPA2PSK, the WEP is less security. If the wireless network is configured in the Infrastructure Mode and the Access Point supports WPA/WPA2 or WPAPSK/WPA2PSK, it is recommended to use WPA/ WPA2 or WPAPSK/WPA2PSK rather than WEP.

Page 36 1 SETTING UP WIRELESS NETWORK Specify the following items and press the [NEXT]. TRANSMIT POWER Select the low transmit power if you want to limit the area that the wireless communication is enabled. If you do not have to limit the area, select [100%]. TRANSMIT RATE Select the transmit data capacity for wireless communication.

Page 37: Selecting No Security Mode

1.SETTING UP WIRELESS NETWORK Selecting no security mode You can also set no security for wireless access. If you do not set no security, anyone how knows the SSID can connect to the wireless network. Therefore, it is recommended to set the security if it is possible. Press the [NONE] and press the [NEXT].

Page 38 1 SETTING UP WIRELESS NETWORK Confirm the settings and press the [FINISH]. The shutdown screen is displayed. If you want to change the settings, press the [PREV] to move back to the screen that you want to change and then repeat the operation. Press the [YES] to shutdown the equipment.

Page 39: Setting Up The Ad Hoc Mode

Setting up the Ad Hoc Mode The wireless settings can be operated from the Control Panel of this equipment. When setting up the equipment for the wireless network in the Infrastructure Mode, follow the steps below. 1. Select the network type P.37 “Select network type”...

Page 40 1 SETTING UP WIRELESS NETWORK Press the [WIRELESS SETTINGS]. The WIRELESS SETTINGS menu is displayed. Press the [WIRELESS SETTINGS]. The WIRELESS SETTINGS screen is displayed. Press the [ON] and press the [NEXT]. The NETWORK TYPE screen is displayed. Setting up the Ad Hoc Mode...

Page 41 1.SETTING UP WIRELESS NETWORK Press the [AD HOC] and press the [NEXT]. You can specify the between 1 to 11 for the channel. However, if there is a channel that has already been used for Ad Hoc network, use the same channel. The SSID SETTINGS screen displayed.

Page 42: Specify Ssid

1 SETTING UP WIRELESS NETWORK Specify SSID When you select the Ad Hoc Mode for the network type, you can specify the SSID by entering the SSID manually. If you are not sure how the SSID must be specified, see the following section to determine the SSID. P.13 “Determine the SSID”...

Page 43 1 SETTING UP WIRELESS NETWORK 1.SETTING UP WIRELESS NETWORK The

WIRELESS LAN SECURITY SETTINGS screen is displayed. Continue to the procedure for specifying the security mode. P.21 “Select security mode” Setting up the Ad Hoc Mode...

Page 44: Select Security Mode

1 SETTING UP WIRELESS NETWORK Select security mode After specifying the SSID, you must select the security mode for your wireless network. The procedure to configure the security mode varies depending on the security mode that you select. P.42 “Selecting WEP security mode” P.44 “Selecting no security mode”...

Page 45

1.SETTING UP WIRELESS NETWORK Select the transmit power and press the [NEXT]. Select the low transmit power if you want to limit the area that the wireless communication is enabled. If you do not have to limit the area, select [100%]. Confirm the settings and press the [FINISH].

Page 46: Selecting No Security Mode

1 SETTING UP WIRELESS NETWORK Selecting no security mode You can also set no security for wireless access. If you do not set no security, anyone how knows the SSID can connect to the wireless network. Therefore, it is recommended to set the security if it is possible. Press the [NONE] and press the [NEXT].

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1 SETTING UP WIRELESS NETWORK 1.SETTING UP WIRELESS NETWORK Press the [YES] to shutdown the equipment. The wireless settings apply after restarting the equipment. Setting up the Ad Hoc Mode...

Page 48: Disabling Wireless Network

1 SETTING UP WIRELESS NETWORK Disabling Wireless Network When you enable the wireless network, the on-board NIC (Network Interface Card) will be disabled. If you want to connect the equipment to wired network via the on-board NIC, you must disable the wireless network. Press the [USER FUNCTIONS] button on the control panel to enter the User Functions menu.

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1.SETTING UP WIRELESS NETWORK Press the [WIRELESS SETTINGS]. The WIRELESS SETTINGS screen is displayed. Press the [OFF] and press the [NEXT]. The NETWORK TYPE screen is displayed. Press the [FINISH]. The shutdown screen is displayed. Press the [YES] to shutdown the equipment. The wireless settings apply after restarting the equipment.

Page 51: Chapter 2 Appendix

APPENDIX This chapter describes the specification and glossary of terms. Specification ... 50 Troubleshooting ... 51 Glossary ... 52...

Page 52: Specification

2 APPENDIX Specification Item Transmission Format IEEE 1802.11g standard Direct Sequence Spread Spectrum (DSSS) Orthogonal Frequency Division Multiplexing (OFDM) Data Transmission Speed 54, 24, 11, 5.5, 2, 1 Mbps (fixed/automatic) Access Method CSMA/CA Transmission Packet IEEE 802.11g frame Wireless Category Low-power data transmission system (2400 to 2472 MHz) Aerial Power 10 mW/MHz or below...

Page 53: Troubleshooting

Unsupported certificate Unknown ca Unable to connect When Cannot Connect to TOSHIBA MFP When you cannot connect to this equipment, reboot it *. If you still cannot, check the following requirements: The user certificate is not expired. The access point settings and network settings are correctly set.

Page 54: Glossary

2 APPENDIX Glossary Ad hoc mode A type of network for wireless LAN communications. In this mode a network is easily built because no access point is required. However, this mode is not available for multiple simultaneous communications due to its poor extensibility; in other words, it is unsuitable for wireless LAN communication connecting many devices.

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2 APPENDIX 2.APPENDIX SSID (Service Set ID) A network ID for wireless LAN communications. To identify terminals or access points that belong to the same wireless LAN network, the same SSID must be set for each device. Communications among devices with

different SSIDs are not available.

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