



Ethernet Media Converter WLI-T1-S11G User's Manual

Chapter 1 Before using WLI-T1-S11G

1.1 Introducing the Ethernet Media Converter - WLI-T1-S11G

The WLI-T1-S11G is an Ethernet Media Converter that can create a wireless connection for a conventional Ethernet interface PC. A network printer and other network devices may also achieve a convenient wireless connection with this product.

Features of the WLI-T1-S11G are:

- Comply with IEEE802.11b standard realizing 11Mbps wireless communication.
- Effective range reaches 50m (Indoor Case 1), 25m (indoor case 2) or 160m (outdoor) under 11Mbps communication.
 - Indoor Case 1: Office with few obstructions
 - Indoor Case 2: Office with few obstructions

NOTE: The effective range is adversely affected by the operating environment.

- Roaming allows you to connect to a network while mobile.
- 11 wireless channels lighten network congestion
- Support for both 128(104)-bit and 64(40)-bit WEP. (Refer to "About WEP Encryption - Recommendation of encrypted secure system" (P10)).

NOTE: If you want to use 128(104)-bit WEP key, the access point must support 128(104)-bit WEP too. You cannot combine 128(104)-bit and 64(40)-bit WEP in the wireless network.

- An AirStation access point is required for this product.
- Connecting a WLI-T1-S11G and a hub is not guaranteed for operate correctly.

■ Required Environment

OS

- Windows XP/2000/ME/98/95/NT4.0

Web Browser

- Internet Explorer 4.0 or later
- Netscape Navigator 4.0 or later

NOTE: A Web browser is required when you configure this product from an HTTP interface.

■ Contents of this package

WLI-T1-S11G

AC Adapter

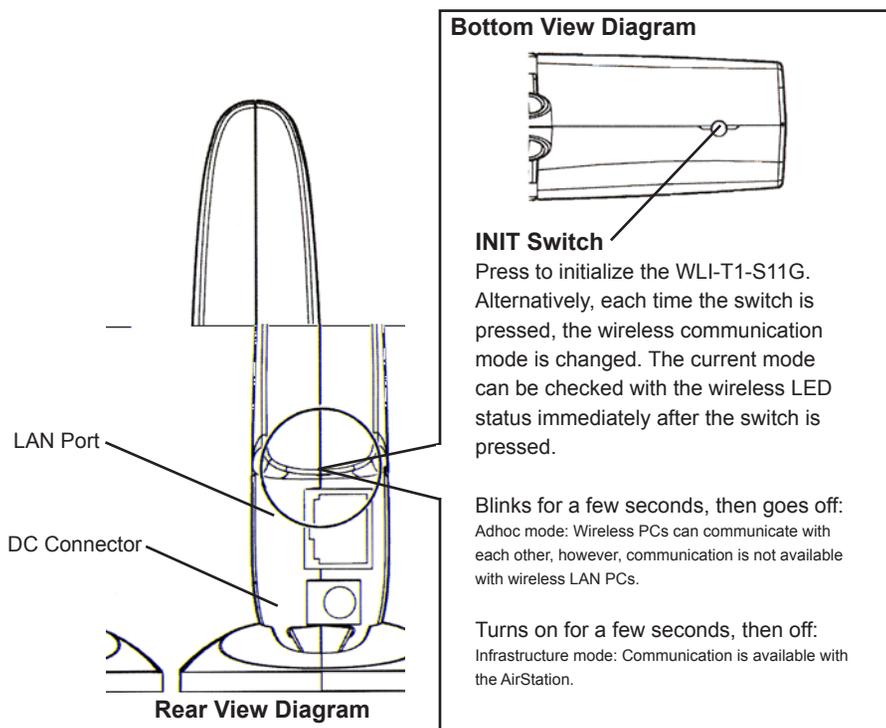
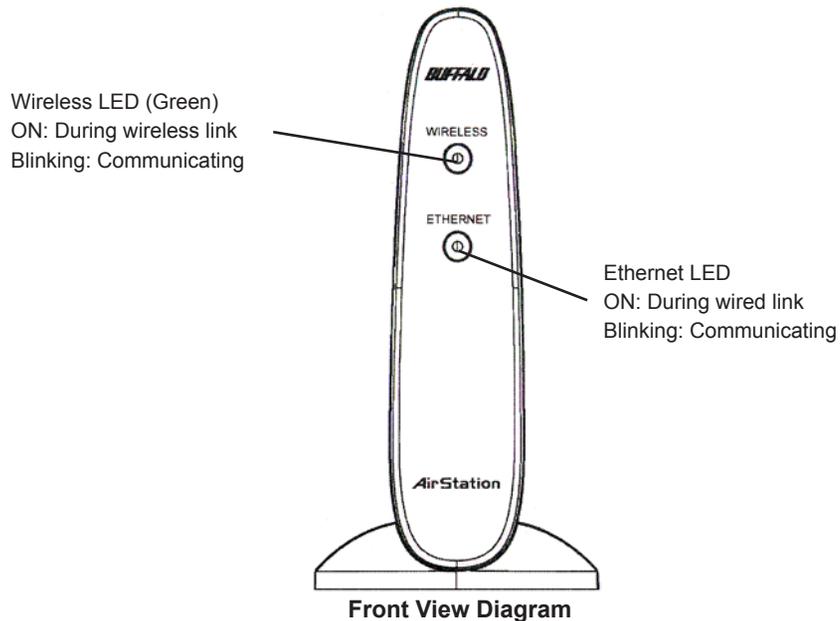
International AC Adapters

LAN Cable (UTP straight)

Ethernet Converter CD

User's Manual (this manual)

- Be sure to read additional information on the separate sheet included with the product



■ **Checking the browser settings (only for making detailed WLI-T1-S11G settings)**

Be sure to invalidate the dial-up settings and proxy settings under the browser settings. The following procedure uses Internet Explorer 5.0 or later for example.

1. Select [Start]-[Settings]-[Control Panel].
2. Double-click the "Internet Options" icon.
3. Click the "Connections" tab.
4. When the provider information is listed in the [Dial-up settings] area, click the O mark on the left side of [Never dial a connection] below the area to put a dot mark.
5. Click [LAN Settings] in the "Local Area Network [LAN] settings" area to confirm the items with a checkmark.
For memorandum, put a checkmark in the "☐" for the same items below.
 - Automatically detect settings
 - Use Automatic configuration script
 - Use a proxy server
 - Bypass proxy server for local addresses
6. Upon completion of confirming the items with the checkmark, remove the checkmark from all the items.

1.2 About WEP Encryption - Recommendation of encrypted secure systems

Since this Ethernet Converter WLI-T1-S11G communicates using radio waves, radio packets could be intercepted and analyzed outside. To ensure transmission security, it is recommended to set an encryption key called a "WEP Key" in the radio packets during communication.

This product allows for two types of WEP; 128(104)-bit and 64(40)-bit WEP. Setting 128(104)-bit WEP (13 alphanumeric ASCII characters or 26 hex digits) assures higher security. However, when communicating with a wireless LAN product compatible only with 64(40)-bit WEP (5 alphanumeric ASCII characters or 10 hex digits), it is necessary to use 64(40)-bit WEP in this product.

- There are two types of encryption keys of 40-bits and 104-bits for WEP. Since 24-bit data "initialization vector" is added to these keys during actual communication, 40-bit WEP and 104-bit WEP may also be referred to 64-bit WEP and 128-bit WEP,

Chapter 2 Installing WLI-T1-S11G

This chapter describes how to make the WLI-T1-S11G settings using a Windows PC.

2.1 Overview

There are two types of setting methods; from the wired or the wireless LAN card on the Windows PC. Select the applicable method according to your PC configuration.

2.2 Setup Procedure

■ Setting from a PC equipped with a wired LAN board/card

Step A1 Preparing for WLI-T1-S11G setup

1. Connect the WLI-T1-S11G to the PC's LAN port using the included straight cable.
2. Connect the AC adapter to the WLI-T1-S11G. Be sure to use the AC adapter included with this product.

Step A2 Installing Ethernet Converter Manager

1. Insert the "Ethernet Converter CD" into the CD-ROM drive of the Windows PC. The installer will start automatically.
2. Click [Next].
3. Confirm the License Agreement and click [Next].
4. Confirm the location to install the Ethernet Converter Manager and click [Next].
5. Confirm that a checkmark is placed for the Ethernet Converter and click [Next].
6. Click [Finish].

Step A3 Configuring the Ethernet Converter Settings

1. Select [Start]-[Programs]-[AirStation Utility]-[Ethernet Converter]-[Ethernet Converter Manager].
2. Select [File]-[Manual Setting].
3. Input the ESS-ID of the target AirStation into the "ESS-ID" area (Click [Scan] to show the AirStation list).
4. Select [Communication via the AirStation] and click [OK].
5. Set the same WEP as the selected AirStation and click [OK].
6. AirStation search will start.
7. When the selected AirStation is found, communication can be made between the WLI-T1-S11G and the AirStation.
8. Close Ethernet Converter Manager. The WLI-T1-S11G is complete.

The procedure for using your PC as a wireless PC is complete. You can use the WLI-T1-S11G as is. You can check the status of the connection with the AirStation by referencing "Checking the AirStation connection status" (on page 9).

Step A4 Installing the WLI-T1-S11G

Upon completion of settings, connect the WLI-T1-S11G to a network printer. Disconnect the LAN cable (UTP straight) between the PC and the WLI-T1-S11G, and reconnect the WLI-T1-S11G to the network printer.

Step A5 Verifying the WLI-T1-S11G settings

Upon completion of WLI-T1-S11G installation, verify that the WLI-T1-S11G is correctly configured.

1. Select [Start]-[Programs]-[AirStation Utility]-[Ethernet Converter]-[Ethernet Converter Manager]. Ethernet Converter Manager will be activated to automatically begin device searching.
2. The setting is correct and complete when the WLI-T1-S11G is displayed. Click [Close] to close the Ethernet Converter Manager.

■ Setting from a PC equipped with a wireless LAN board/card

Execute steps B1 and B2 before connecting the AC adapter to the WLI-T1-S11G.

Step B1 Installing Ethernet Media Converter Manager

Install Ethernet Converter Manager to set the WLI-T1-S11G.

Step B2 Disabling the AirStation WEP

The WLI-T1-S11G is preset to automatically connect to a nearby as the default setting, however, no communication can be made if any WEP is set on the AirStation. In this case, you need to disable the target AirStation WEP. By referencing the manual included with the AirStation, open the AirStation configuration screen via the web browser and disable WEP by removing the checkmark from the [Use WEP Key] box. This is a temporary setting and should be reset to use WEP after performing steps B3 and B4.

Step B3 Preparing for WLI-T1-S11G setup

1. Connect the AC adapter to the WLI-T1-S11G.
2. The Wireless LED illuminates for a few seconds and then goes off.

<<When the Wireless LED blinks immediately after the AC adapter is connected>>

1. Press the INIT switch on the WLI-T1-S11G only once.
2. Confirm that the Wireless LED illuminates for a few seconds and then goes off.
3. If the AirStation is near the WLI-T1-S11G, it is automatically connected and the Wireless LED illuminates again.

<<When the Wireless LED does not illuminate>>

1. Check that the AirStation operates normally.
2. Place the WLI-T1-S11G near the AirStation.

Step B4 Configuring the WLI-T1-S11G settings

Configuring the WLI-T1-S11G settings via the AirStation.

1. Select [Start]-[Programs]-[AirStation Utility]-[Ethernet Converter]-[Ethernet Converter Manager]. Ethernet Converter Manager will be activated to automatically begin device searching.
2. When the WLI-T1-S11G is displayed, select it and click [Connect].
3. Input the ESS-ID of the target AirStation into the “ESS-ID” area. (Click [Scan] to show the AirStation list).
4. Select [Communication via the AirStation] and click [OK].
5. Set the same WEP as the selected AirStation and click [OK].
6. AirStation search will start.
7. An error message is displayed to indicate “Logon failure” due to differences in the WEP settings between the WLI-T1-S11G and the AirStation. Click [OK] anyway.
8. Close Ethernet Converter Manager. The WLI-T1-S11G is complete.

Step B5 Re-enabling the AirStation WEP

Re-enable the AirStation WEP disabled in Step B2.

Open the AirStation configuration screen via the web browser and enable WEP by inserting a checkmark in the [Use WEP Key] box.

Step B6 Installing the WLI-T1-S11G

Connect the WLI-T1-S11G to shared devices such as the network printer using the LAN cable (UTP straight).

Step B7 Verifying the WLI-T1-S11G settings

Upon completion of WLI-T1-S11G installation, verify that the WLI-T1-S11G is correctly configured.

1. Select [Start]-[Programs]-[AirStation Utility]-[Ethernet Converter]-[Ethernet Converter Manager]. Ethernet Converter Manager will be activated to automatically begin device searching.
2. The setting is complete when the WLI-T1-S11G is complete. Click [Close] to close the Ethernet Converter Manager.

Chapter 3 Detailed Setting

3.1 Setting the Communication Environment

■ Displaying the setting page

1. Install Ethernet Converter Manager by referencing “Installing Ethernet Converter Manager” (on page 5).
2. Select [Start]-[Programs]-[AirStation Utility]-[Ethernet Converter]-[Ethernet Converter Manager]. Device search will be automatically started.
NOTE: When the WLI-t1-s11g is directly connected to the PC’s LAN port, select [Edit]-[Search for an Ethernet Converter] to search for the WLI-T1-S11G.
3. Select the indicated WLI-T1-S11G and then select [Settings]-[IP Setting]. Of more than one WLI-T1-S11G is displayed, specify your WLI-T1-S11G by checking the MAC address.
4. Enter the IP address of your WLI-T1-S11G and click [OK].
5. Select your WLI-T1-S11G with its IP address set and then select [Settings]-[WEB Setting].
6. When the network password input window appears, enter as shown below and click [OK].
 - User name: root
 - Password: leave blank (default setting)(If you changed the password, be sure to input the correct password).
7. The WEB browser opens to display the settings page.

3.2 Changing and checking the settings

■ Displaying the setting page

Use the following procedure to set the encryption (WEP Key) in the WLI-T1-S11G.

1. Open the setting page
2. Click [Detailed Settings].
3. Select [On], and enter the WEP Key according to the AirStation’s WEP Key settings. Upon completion of the setting, click [Set].
NOTE: To communicate with a wireless LAN device for which only one encryption (WEP Key) can be set, enter the WEP Key to #1 only.
4. When “Setting is complete...” is displayed, setting is complete.

■ Setting the access restriction for the setting

You can set the restriction to prevent opening the setting page for wireless and wired communications, respectively. (No search is available even from the Ethernet Converter Manager.

1. Open the settings page.
2. Click [Detailed Settings].
3. Click “Setting Function Access.” Click [Set].
4. When “Setting is complete...” is displayed, setting is complete.

■ Checking the AirStation connection status

You can check the connection between the PC and the AirStation with the WLI-T1-S11G connected.

1. Install Ethernet Converter Manager
2. Select [Start]-[Programs]-[AirStation Utility]-[Ethernet Converter]-[Ethernet Converter Manager].
3. Select [Edit]-[Search for an AirStation].
4. Confirm that the AirStation is indicated in black characters.
5. Select [File]-[Test Connectio]-[Diagnosis].
6. Connection test will be started. Wait until "Packets sent" reaches 100.
7. Results of connection test are displayed.

After the connection status and radio signal status are determined, the diagnosis results are displayed.

- Satisfactory: No problem in total
- Non-Satisfactory: Status is unstable

When the diagnosis results are Non Satisfactory, try the following measures.

1. Place the wireless LAN PC closer to the AirStation. (Be sure to keep a minimum distance of 30cm).
 2. Change the AirStation location.
 3. Remove any object between the AirStation and the wireless LAN PC.
 4. Confirm that there is no electromagnetic interference source such as a microwave oven near the AirStation or wireless LAN PC.
- Communication status indication = Excellent/Good/Poor/Bad
 - Signal status indication = Excellent/Good/Poor/Bad/No Signal

■ Setting the setting page password

1. Open the setting page
2. Click [Detailed Settings].
3. Click [Password].
4. Input a new password into the [New Password] field and again in the [Password confirmation] field.

Even if a password is currently set, nothing is displayed in the password field of this page. Click [Set] only to change the password. If you click [Set] with this field blank, the current password will be deleted.

For the password, you can enter up to eight alphanumeric characters and the underscore. These characters are case sensitive.

If you lost your password, you can press the INIT button on the AirStation to reset it to the default password. If the INIT button is used, all other settings will be reset to the default factory settings, changing the wireless communication mode.

For more information about the INIT switch, see "Component names and Functions."

NOTE: If you have set a new password, you will be prompted to enter the password each time the setting page is opened.

See Section 3.1, number about inputting the password.

■ Setting the IP address of the WLI-T1-S11G

For making detailed WLI-T1-S11G settings, it is necessary to set the IP address.

1. Select [Start]-[Programs]-[AirStation Utility]-[Ethernet Converter]-[Ethernet Converter Manager]. Device search will be automatically started.

NOTE: When the WLI-t1-s11g is directly connected to the PC's LAN port, select [Edit]-[Search for an Ethernet Converter] to search for the WLI-T1-S11G.

2. Select the indicated WLI-T1-S11G and then select [Settings]-[IP Setting].
3. Enter the IP address of your WLI-T1-S11G and click [OK].
4. Confirm that the correct IP address is set.
5. Click [Close] to close the Ethernet Converter Manager.
Enter the IP address of your WLI-T1-S11G.

■ Restoring the WLI-T1-S11G settings to the default values

1. Open the setting page
2. Click [Device Diagnostics].
3. Click [Reset].
4. Click [Reset].
5. Follow the instructions on the subsequent pages on the computer screen.

Chapter 4 Specifications

Product Specifications

Wireless LAN Interface	Conforming Standards	IEEE802.11b (Wireless LAN Standard Protocol) FCC 15.247 ETS300-328
	Data Transfer Method	DS-SS Simplex (Half Duplex)
	Data Transfer Rate	1, 2, 5.5, 11Mbps (Auto Sense)
	Access Method	Infrastructure Mode / Adhoc Mode
	Frequency Range (Mid-Frequency)	2,412 to 2,484 MHz *No conflict with cell or cordless phones, Radio or Television.
	Communications Distance (Depending on ambient conditions)	25m indoors, 50m outdoors at 11Mbps 35m indoors, 70m outdoors at 5.5Mbps 40m indoors, 90m outdoors at 2Mbps 50m indoors, 115m outdoors at 1Mbps
LAN Interface	Conforming Standards	IEEE802.3 (10 Base-T)
	Data Transfer Rate	10Mbps
	Data Transfer Mode	Half Duplex
	Port	RJ-45
Power / Current consumption	3W(Max) / 700mA(Max)	
Operating Temperature / Humidity	0°C to 40°C / 20% to 80% (no condensation)	
Weight	120g (without AC Adapter)	
Dimensions	58mm x 120mm x 89mm (W x D x H)	

Notes