MEMO

Chapter 4

Windows 2000 Settings

■ Overview

This chapter describes how to make the settings for connecting your Windows 2000 computer to a wireless LAN.

Windows2000　Operation Flow

Follow the procedure in the illustration below to connect your Windows 2000 computer to a wireless LAN.

Making the wireless LAN card available　(from page 78)

Step 1
Check the configuration of the drives on your Windows computer and confirm that its PC card driver operates normally.

Step 2
Install the wireless LAN card in the Windows computer.

Preparing for connecting to the network　(from page 91)

Step 5
Make the settings for connecting the Windows computer to the network.

Connecting to the network　(from page 95)

Step 7 -a, b
Make the settings for access to the network.
a...AirStation
b...Wireless LAN computers

Step 3
Install the wireless LAN card drivers in the Windows computer.

Step 4
Confirm that the installed wireless LAN card operates normally.

Step 6
Install Client Manager for communicating with other wireless LAN computers.

Step 8
Communicate with other computers on the network.

To make the Air-Station settings, refer to the AirStation manual.

4.1 Making the Wireless LAN Card Available

Install the wireless LAN card to connect your Windows 2000 computer to a wireless LAN.

Step 1 Before installing the wireless LAN card

Checking the configuration of your drives

Follow the procedure below to check the configuration of the drivers on your Windows computer in which the wireless LAN card will be installed.

1 Turn on the computer to boot Windows 2000. Log in with the log-in name having the administrator authority (Administrator, etc.).

2 Double-click [My Computer] on Desktop.

3

1 Select

Select [View]-[Detail].

2 Check

Check the drive names listed in the window.

These displayed drive names will be necessary in the subsequent procedures. Be sure to take note of these drive names in the table on the upper right of the next page.

Drive names on your computer

Drive Type	Icon	Drive Name (e.g.)
3.5" FDD	📇	(A:)
HDD (local disk)	💾	(C:)
CD-ROM	💿	(D:)

Checking the PC card driver

Follow the procedure below to verify that the PC card driver on the computer in which the wireless LAN card will be installed is operating normally.

1 Right-click [My Computer] on Desktop.
Click [Properties].

2 Click [Hardware]-[Device Manager].

3 Click the "+" mark on the left of [PCMCIA adapters].

4
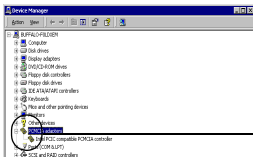
✓ Check
Confirm that the "x" mark is not indicated for the icon under [PCMCIA adapters].

Note The displayed PCMCIA controller name varies with the computer model.

If such an error mark as "!" or "x" is not indicated, the PC card driver is operating normally.

⚠Caution If the icon displayed under [PCMCIA adapters] appears with the ! or x mark, refer to the manual included in the computer and activate the PC card driver.

Checking the browser settings (only for using the AirStation)

When you use the AirStation, 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 [Internet Option].

3 Double-click the [Connections] tab.

4
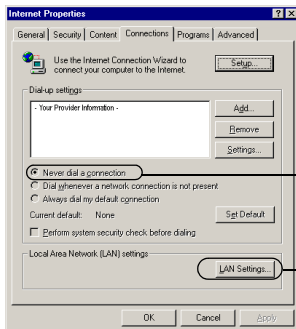
1 Click
When the provider information is listed in the [Dial-up settings] area, click the ○ mark on the left side of [Never dial a connection] below the area to put a dot mark.

2 Click
Click [LAN settings] in the "Local Area Network(LAN) settings" area.

5 Confirm the items with a checkmark.

For memorandum, put a checkmark 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.

Checking the network adapter

Confirm the current settings of the network function.

1 Select [Start]-[Settings]-[Control Panel].

2 Double-click [System].

3 Click [Hardware]-[Device Manager].

4 Click the "+" mark on the left side of [Network adapters], showing the current adapter as listed in the illustration.

5 Disable a LAN board or card if any name.

If there is no LAN board or card name listed, proceed to Step 6.
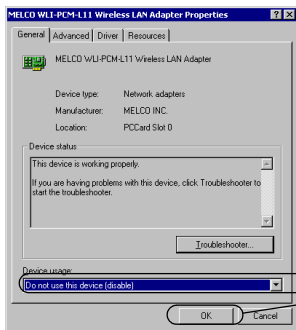
1 Select

Select "Do not use this device(disable)."

2 Click

Click [OK].

6 If any name beginning with "AOL" is found under [Device Manager]-[Network adapters], disable it in the same manner as Step 5.

7 Click [OK] to close the [Device Manager].

⚠Caution If you have disabled any driver in Steps 5 and/or 6, restart the computer.

Step 2 **Installing the wireless LAN card**

The wireless LAN card can be installed/removed in/from the computer which is in the ON state.

⚠Caution If your computer is equipped with a power management function that automatically cuts power supply to the computer when it is left idle for a certain period, turn the function off. The wireless LAN card may be disabled if the power management function starts.

Refer to the manual provided with the computer for details on the power management function.

⚠Caution Precautions for installation/removal
- Be sure to handle the computer and its peripherals in such a way as described in the manual of each unit.
- Completely remove any dust from the connectors.
- Never touch the connector portion of the wireless LAN card.
- Use great care for the connector location of the wireless LAN card when installing the card in the computer.
  The connector may be damaged if it is forced.
- The wireless LAN card can be inserted and removed with the computer turned on (Hot Swap feature). However, you should set the wireless LAN card in a safely removable state on Windows before removing it. See "When removing the wireless LAN card" on page 84.

Installing the wireless LAN card in a notebook computer

Follow the instructions in the illustration below when installing the wireless LAN card in a notebook computer.

When inserting the wireless LAN card into the PC card slot on your computer, attach the BUFFALO's PC card adapter WLI-CF-OP available separately.
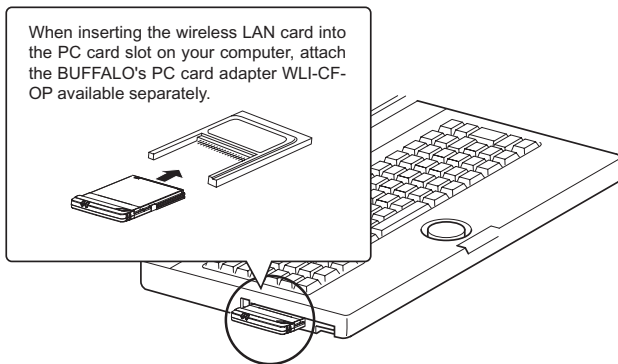
Note When removing the wireless LAN card

Follow the procedure below to remove the wireless LAN card when the Windows 2000 computer is running.

- When Client Manager is active, you must not remove the wireless LAN card. Be sure to terminate Client Manager before removing the card.

1 Click the removal icon 🛜 in the task tray, and select "Stop BUFFALO WLI-CF-S11G Wireless LAN Adapter."

※ If you cannot find the icon, see the Windows Help.

2 When the message "The 'BUFFALO WLI-CF-S11G Wireless LAN Adapter' device can now be safely removed from the system." is displayed, click [OK].

3 Remove the wireless LAN card from the computer.

⚠Caution Please check the configuration of the drives on your computer (page 78) before installing the drivers. In addition, confirm that the PC card driver is normally operating on your computer (page 79).

📝Note Turn on the computer to boot Windows 2000. Log in with the log-in name having the administrator authority (Administrator, etc.).

1 The installed wireless LAN card is recognized and the [Found New Hardware Wizard] window appears.

1 Click

Click [Next].

2
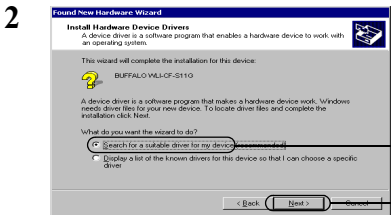
1 Select

When the installed wireless LAN card is recognized as "BUFFALO WLI-CF-S11G," select [Search for a suitable driver for my device[recommended]].

2 Click

Click [Next].

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3
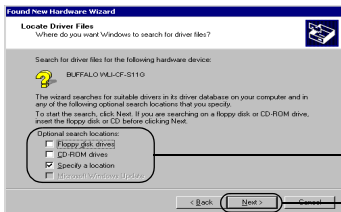
1 Select

Select the "Optional search locations" as shown below.

Floppy Drive :
  Not checked
CD-ROM Drive :
  Not checked
Specify a locations :
  Checked

2 Click

Click [Next].

4 Insert the "AirNavigato CD" into the CD-ROM drive.

⚠Caution Be sure to use the latest AirNavigato CD of version 3.62 or later. Note that the AirStation may include an AirNavigator CD of earlier version than 3.62.

⚠Caution   When you insert the "AirNavigato CD" into the CD-ROM
           drive, the AirNavigator menu window may automatically
           appear. In this case, click [Exit] to close the window.

5

1 Enter
Enter "D:\CFS11G\WIN2000"
to the "Copy manufacturers'
files from" field.

2 Click
Click [OK].

6

1 Check
Confirm that
"d:\cfs11g\win2000\nets11.in
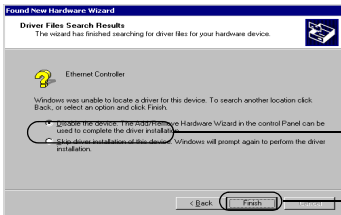f" is displayed.

2 Click
Click [Next].

⇒ Continued on next page

7
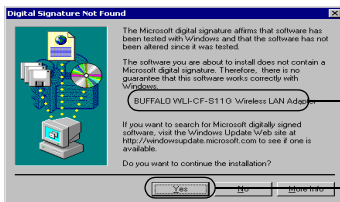
1 Check

Confirm that "BUFFALO WLI-CF-S11G Wireless LAN Adapter" is displayed.

2 Click

Click [Yes].

The message "there is no guarantee that this software works correctly with Windows " appears, but the operation has been verified in BUFFALO. Click [Yes] to proceed with the installation procedure.

8 Click [finish].

Now you have completed the wireless LAN card driver installation procedure. Proceed to the next step to confirm that the installed wireless LAN card is normally operating.

Step 4 Confirming that the installed wireless LAN card is normally operating

Upon completion of the installation of the wireless LAN card drivers, confirm that the wireless LAN card is normally installed by using the procedure below.

1 Select [Start]-[Settings]-[Control Panel].

2 Double-click [System].

3
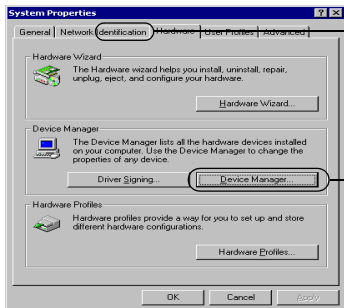
1 Click

Click the [Hardware]tab.

2 Click

Click the [Device Manager] button.

4 Confirm that "BUFFALO WLI-CF-S11G Wireless LAN Adapter" is displayed under [Network adapters] without any error mark ("x" or "!") indicated.

When "BUFFALO WLI-CF-S11G Wireless LAN Adapter" is displayed without any error mark ("x" or "!"), your wireless LAN card is normally operating.

If an error mark ("x" or "!") is indicated

See "I want to uninstall the wireless LAN card" on page 106 in Chapter 5, and then uninstall and re-install the wireless LAN cad drivers.

4

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To make the AirStation settings

Refer to the AirStation manual to make the AirStation settings.

4.2 Preparing for Connecting to the Network

Step 5 **Making the network settings**

Upon completion of confirming that the installed wireless LAN card is normally operating, make the settings for connecting to the network. For how to make the settings, refer to the Windows 2000 manual or Help file.

Step 6 **Installing Client Manager**

"Client Manager" is a tool for communicating with wireless LAN computers directly or via AirStation. It is necessary to install Client Manager in all wireless LAN computers.

Use the procedure below to install Client Manager.

1 Insert the "AirNavigato CD" into the CD-ROM drive.

⚠Caution Be sure to use the latest AirNavigato CD of version 3.62 or later. Note that the AirStation may include an AirNavigator CD of earlier version than 3.62.
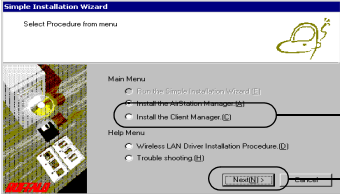
⚠Caution When you insert the "AirNavigato CD" into the CD-ROM drive, the AirNavigator menu window may automatically appear. In this case, proceed to Step 4.

2 Double-click [My Computer] on Desktop.

3 Double-click the CD-ROM icon (🖴) .
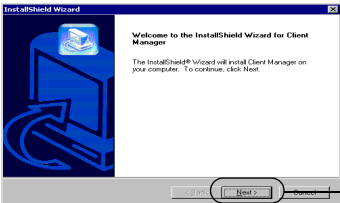
4

1 Select

Select [Install the Client Manager].

2 Click

Click [Next].

5

Welcome to the InstallShield Wizard for Client Manager

The InstallShield® Wizard will install Client Manager on your computer. To continue, click Next.

1 Click

Click [Next].

6

Choose Destination Location
Select folder where Setup will install files.

Setup will install Client Manager in the following folder.

To install to this folder, click Next. To install to a different folder, click Browse and select another folder.

Destination Folder
C:\Program Files\BUFFALO\Client Manager   Browse...

1 Click

Click [Next].

7

InstallShield Wizard

Select Components
Choose the components Setup will install.

Select the components you want to install, and clear the components you do not want to install.

☑ Client Manager

Description
This utility configure both wireless LAN card and the AirStation settings.

Space Required on C: 2048 K
Space Available on C: 112032 K

< Back   [Next >]   Cancel

1 Select
Select "Client Manager."

2 Click
Click [Next].

8

InstallShield Wizard

Start Copying Files
Review settings before copying files.

Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.

Current Settings:
Selected component:
    Client Manager

< Back   [Next >]   Cancel
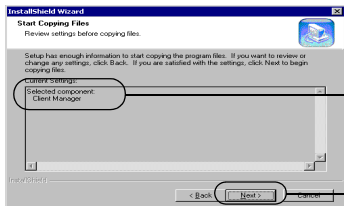
1 Check
Reconfirm the component to be installed.

2 Click
Click [Next]. Copying the files required for the installation will start.

9

Question

❓ Will you add the Client Manager to Startup menu?

[Yes]   No
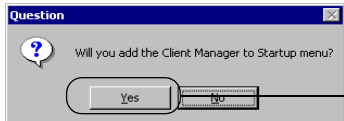
1 Click
Click [Yes]. Client Manager will be registered in the Startup menu.

Click [No] when you do not wish to add Client Manager to the Startup menu.

4

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10
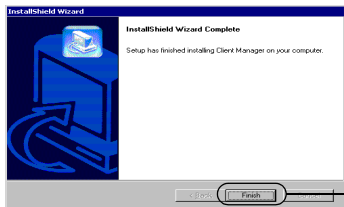
Click

Click [Finish].

Now you have completed the Client Manager installation process.

To uninstall Client Manager

1 Select [Start]-[Settings]-[Control Panel].

2 Double-click "Add/Remove Programs."

3 Select "Client Manager" and click [Add/Remove].

4 Select "Remove" and click [Next].

5 When the message "Do you want to completely " appears, click [OK].

6 When the "InstallShield Wizard Complete" window opens, click [Finish].

4.3 Connecting to the Network

Upon completion of computer settings, you can connect your computer to the network. There are two methods for connecting the computer to the network as shown below.

- Communicating via AirStation **Step 7** -a
- Communicating with wireless LAN computers **Step 7** -b
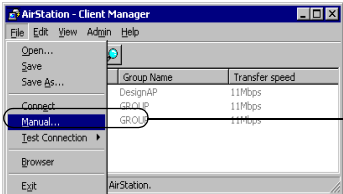
Step 7 -a Communicating via AirStation

To make communications using the AirStation, set the ESS-ID using Client Manager.

1 Select [Start]-[Programs]-[AirStation Utility]-[Client Manager].

If the icon below appears in the task tray in the lower right on the screen, you can double-click that icon to start Client Manager.

📶 or ✕

2
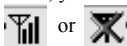
1 Select

Select [File]-[Manual].

⇒ Continued on next page

3　1. Select "11Mbps Communication over AirStation" in the "Network Mode" field.

2. Enter the AirStation ESS-ID to the "ESS-ID" field.

3. Click [OK].

The initial setting of the AirStation ESS-ID shows the last six digits of the MAC address of the AirStation plus "GROUP" (upper-case).

4

1 Click
Click [OK].
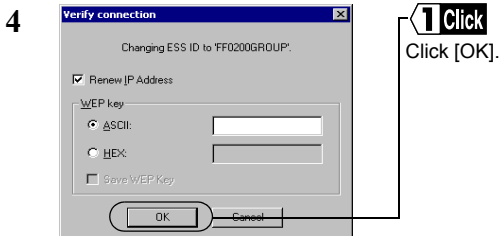
Enter an "WEP Key" if encryption with WEP is used in the network. If the AirStation is used in the initial state, no encryption is set. Leave the area empty in this case.

5

AirStation retrieval will be started.

6

When this window appears, the access to the AirStation is successful.

AirStation Name	Group Name	Transfer speed
Design	DesignAP	11Mbps
APFF0200	GROUP	11Mbps
AP730332	GROUP	11Mbps

Could not connect to the AirStation.

> **Note** When the access to the AirStation is successful, the AirStation indication turns from gray to black so that the antenna mark (Υ) appears. If the AirStation indication does not change to black, check the AirStation ESS-ID and WEP settings, and then repeat from Step 2.

> **Note** After the computer has succeeded in connecting to the AirStation, a slower data rate such as "2Mbps" may be displayed in the "Transfer speed" column. In this case, the correct data rate will appear when the practical communication starts.

Step 7 -b Communicating with wireless LAN computers

When communicating with wireless LAN computers, manually set a radio channel using Client Manager.

1 Select [Start]-[Programs]-[AirStation Utility]-[Client Manager].

If the icon below appears in the task tray in the lower right on the screen, you can double-click that icon to start Client Manager.
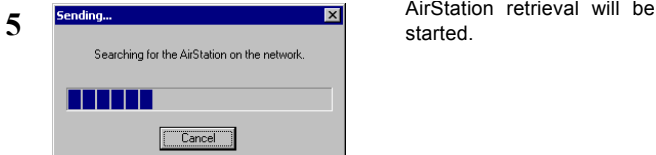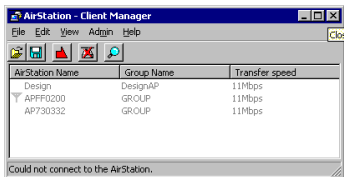
 or
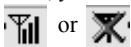
⇒ Continued on next page

2
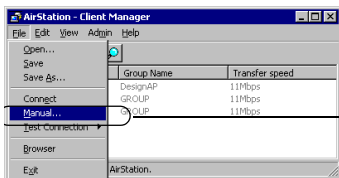
1 Select

Select [File]-[Manual].
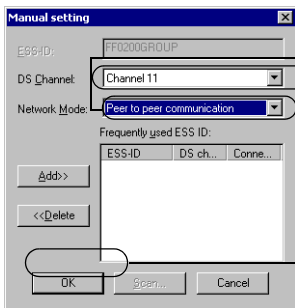
3

1 Select

Select "Peer to peer communication" in the "Network Mode" field.

2 Select

Select the same channel as the other computers that you wish to communicate with in the "DS Channel" field.

3 Click

Click [OK].

4
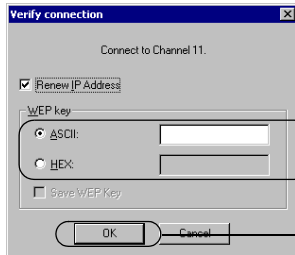
1 Enter

Enter an "WEP Key" if encryption with WEP is used in the network. If the initial settings are used, no encryption is set. Leave the area empty in this case.

2 Click

Click [OK].

Now you have completed the radio channel configuration procedure.

Step 8 **Starting communication**

Upon completion of the radio channel configuration, you can access a computer on the network.

For how to make the network settings and how to make communications, refer to the Windows 2000 manual or Help file.

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Chapter 5

Trouble shooting

This chapter describes problems that may occur during operation of the wireless LAN card, possible causes, and solutions for these problems.

· · · · · · · · · · · · · · · · ·

| **AirStation Related Problems** | Refer to the manual included in AirStation. |

5.1 Trouble in the Wireless LAN Card Setting

■ Wireless LAN card installation window does not appear.

You have verified with the confirmation procedure shown below that the PC card driver is operating normally, but the installation window does not appear after the wireless LAN card is installed.

• Windows Me/98: "Confirming the PC card driver" on page 36 in Chapter 3
• Windows 2000: "Confirming the PC card driver" on page 79 in Chapter 4

Possible cause ① :   The wireless LAN card is not firmly inserted to the PC card slot on the computer. Alternatively, it is inserted in the reverse direction.

Solution ① :   After confirming the connector side of the wireless LAN card, completely insert the card.

Possible cause ② :   The wireless LAN card drivers are not correctly installed.

Solution ② :   Uninstall the wireless LAN card drivers, and re-install them according to the instructions.

《Re-installing the wireless LAN card drivers》

The following describes the procedure for re-installing the wireless LAN card drivers.

1 Carefully read the section "I want to uninstall the wireless LAN card" on page 106, and uninstall the wireless LAN card drivers.

2 Remove the installed wireless LAN card from your computer.

3 Follow the instruction below according to your Windows type, and confirm that the PC card driver is operating normally.

WindowsCE :
> You do not have to check the PC card driver.

WindowsMe/98 :
> "Checking the PC card driver" on page 36.

Windows2000 :
> See "Checking the PC card driver" on page 79.

4 Install the wireless LAN card drivers. See the appropriate page shown below according to you Windows type.

WindowsCE :
> See " Step 2 Installing the wireless LAN card drivers" on page 18 in Chapter 2.

WindowsMe/98 :
> See " Step 3 Installing the wireless LAN card drivers" on page 43 in Chapter 3.

Windows2000 :
> See " Step 3 Installing the wireless LAN card drivers" on page 85 in Chapter 4.

■ **The ! mark is attached to the wireless LAN card icon.**

When the procedure shown below is executed, the ! mark appears next to the wireless LAN card icon.

• "Capter 3　Windows Me/98Settings" at " Step 4 　4 Confirming that the wireless LAN card is normally operating" on page 50 in Chapter 3

• "Capter 4　Windows 2000 Settings" at " Step 4 　Confirming that the wireless LAN card is normally operating" on page 88 in Chapter 4

Solution： See Solution (2) for the problem "The wireless LAN card installation window does not appear" on page 102.

■ **The wireless LAN card cannot be removed from the Windows 2000 computer.**

When you try to remove the wireless LAN card from your Windows 2000 computer, the message " Couldn't stop 'BUFFALO WLI-CF-S11G Wireless LAN Adapter' device due to accessing from a program." appears.

Possible cause： Client Manager is active.

Solution： Quit Client Manager before removing the wireless LAN card.

■ **Communication is disabled when the wireless LAN card is re-installed after removal.**

Solution： Make the connection settings using Client Manager.

■ When Client Manager is started, the message "missing wireless LAN adapter" appears.

Possible cause :　　　You are using an old version of Client Manager.

Solution :　　　Uninstall the current Client Manager. Then, install Client Manager from the "AirNavigator CD" of version 3.62 or later.

■ The wireless LAN card drivers cannot be installed.

Possible cause :　　　You are using an old version of the "AirNavigato CD".

Solution :　　　When installing the wireless LAN card drivers, be sure to use the "AirNavigato CD" of version 3.62 or later. Note that the AirStation may include an AirNavigator CD of earlier version than 3.62.

5

困ったときは

■ **I want to uninstall the wireless LAN card.**

《WindowsCE》

⚠️Caution   Be sure to remove the wireless LAN card from your Windows CE device before staring the procedure below.

1   Select [Start]-[Settings]-[System]-[Add/Remove Programs].

2   1. Tap [BUFFALO WLI-CF-S11G].
2. Tap [Delete].

3   When the message " Will you remove this device?" appears, tap [Yes].

4   Reset the Windows CE device.

📝Note   For how to reset the Windows CE device, refer to the manual provided with your Windows CE device. Never reset your Windows CE device to the initial setting state as it will delete all data.

《WindowsMe/98》

⚠️Caution   Confirm that the wireless LAN card is firmly inserted in your Windows computer before starting the procedure below.

1   Select [Start]-[Settings]-[Control Panel].

2   Double-click the [System] icon in [Control Panel].

3 1. Click the [Device Manager] tab.
   2. Select "BUFFALO WLI-CF-S11G Wireless LAN Adapter" in [Network Adapters].
   3. Click [remove].

⚠Caution If the driver name is not listed in the [Network Adapters], check the [Other devices] list.
   If "BUFFALO WLI-CF-S11G Wireless LAN Adapter" is listed in [Other devices], follow the steps below.

   1. Select "BUFFALO WLI-CF-S11G Wireless LAN Adapter."
   2. Click [Remove].

4 Click [OK].

5 Click [No].

6 Double-click the "Network" icon in "Control Panel."

7 When "BUFFALO WLI-CF-S11G Wireless LAN Adapter" appears, delete it.

8 Click [OK].

   • If the message "Do you want to restart your computer now?" appears, click "No."

9 Select [Start]-[Programs]-[Accessories]-[Windows Explorer].

10 Select [Tools]-[Folder Options], and then click the "View" tab.

11 1. Select "Show hidden files and folders."
2. Click [OK].

12 Open the folders "Windows," "INF," and "OTHER" in that order on the drive with Windows Me/98 installed.

13 1. Select "MELCO INC.NETS11."
2. Click [Delete].

14 Exit Windows Me/98. Turn off your computer.

《Windoes2000》

1 Select [Start]-[Settings]-[Control Panel].

2 Double-click [System].

3 Click [Hardware].

4 Click [Device Manager].

5 Double-click [Network Adapters].

6 Right-click "BUFFALO WLI-CF-S11G Wireless LAN Adapter" and select [uninstall].

7 When "Confirm Device Removal" appears, click [OK].

8 Select [Start]-[Programs]-[Accessories]-[Windows Explorer] to start Explorer.

9 Select [Tools]-[Folder Options].

10 Double-click [View].

11 Select [Show hidden files and folders].

12 Click the checkbox for [Hide file extensions for known file types] to remove a check mark.

13 Click [OK].

14 Double-click the OEM?.INF files ("?" for a number such as OEM1.INF) to open in the \WINNT\INF folder on the drive with Windows 2000 installed. Find the file containing the character string "WLI-CF-S11G" from those OEM?.INF files.

15 The OEM?.INF file with the character string "WLI-CF-S11G" and the OEM?.PNF ("?" for the same number) are the wireless LAN card drivers. Delete these files.

5

困ったときは

■ **AirStation cannot be found by AirStation Manager (when you are using AirStation).**

AirStation Manager does not allow selecting "File"-"Connect"

Possible cause :   You are using an old version of AirStation Manager.

Solution :   Uninstall AirStation Manager. Then, install AirStation Manager from the "AirNavigator CD" of version 3.62 or later.

■ **AirStation cannot be found during execution of the Simple Installation Wizard.**

No window appears to set the MAC address, group name, encryption key, and roaming function for AirStation.

Possible cause :   You are using an old version of the Simple Installation Wizard.

Solution :   Start the Simple Installation Wizard using the "AirNavigator CD" of version 3.62 or later.

4.2 Trouble in Communication With Wireless LAN Computers

■ **The wireless LAN card drivers are successfully configured in the computer, but the AirStation is not detected.**

Possible cause ① : • The wireless LAN card is not firmly inserted.
 • The wireless LAN card driver installation has failed.

Solution ① : See "The wireless LAN card installation window does not appear" on page 102, and refer to the AirStation manual.

Possible cause ② : You are using an old version of Client Manager.

Solution ② : Uninstall the current Client Manager. Then, install Client Manager from the "AirNavigator CD" provided with the WLI2-CF-S11.

Note When uninstalling the current Client Manager, see the procedure in "To uninstall Client Manager" on page 65 for Windows ME/98 or on page 94 for Windows 2000.

■ Other computers are not listed (during communication without the AirStation).

You have confirmed on Device Manager that the wireless LAN card is operating normally, but other computers on the network are not listed.

⚠Caution If you are using the AirStation, take measures with the AirStation manual.

Possible cause ① : The wireless LAN card is not operating normally.

Solution ① : See "The wireless LAN card installation window does not appear" on page 102.

Possible cause ② : No password was entered during Windows startup. (It is assumed that you clicked [Cancel] in the user name/password entry window or pressed the <ESC> key on the keyboard during display of that window.)

Solution ② : Be sure to click [OK] in the user name/password entry window displayed during Windows Me/98 startup.
If you forget your password, enter another user name, so that a new user name and a new password will be registered in your computer.
The password field may be empty, but be sure to click [OK].

Possible cause ③ :   The network settings are not correctly made.

Solution ③ :   Check the protocol, workgroup name, and sharing settings according to your Windows type.

   WindowsMe/98 :
      See "3.2 Preparing for connecting to the network" on page 52 in Chapter 3.

   Windows2000 :
      Refer to the Windows 2000 manual.

Possible cause ④ :   It takes much time to list connected computers by searching the network.

Solution ④ :   Use the procedure below to search for the computers.

《WindowsMe/2000》

1   Right-click [My Computer] on Desktop.

2   Select [search].

3   1. Enter the target computer name to the "Computer Name" field.
   2. Click [Find Now].

4   Double-click the icon of the found computer to access it.

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困ったときは

《Windows98》

1 Select [Start]-[Find]-[Computers].

2 1. Enter the target computer name to the "Name" field.
   2. Click [Find Now].

3 Double-click the icon of the found computer to access it.

Possible cause ⑤ :   The signal condition is so poor that other computers
                        are out of effective signal range.

Solution ⑤ :   Reduce the distance or remove obstacles between the
                        wireless LAN computers, and then retry to connect.

Possible cause ⑥ :   The radio channel and WEP encryption key settings
                        differ from those of the computers to be connected.

Solution ⑥ :   Check the radio channel and WEP encryption key
                        settings of the target computers, and then set the
                        same values in your computer.

Follow the steps below to set the radio channel.

1 Select [Start]-[Programs]-[AirStation Utility]-[Client Manager].

If the icon below appears in the task tray in the lower right on the
screen, you can double-click that icon to start Client Manager.

 or

2

AirStation - Client Manager

File Edit View Admin Help

Open...
Save
Save As...
Connect
Manual...
Test Connection ▶
Browser
Exit

Group Name	Transfer speed
DesignAP	11Mbps
GROUP	11Mbps
GROUP	11Mbps

AirStation.
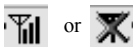
① Select

Select [File]-[Manual].

3 1. Select "Peer to Peer Communication" in the "Network Mode" field.

2. In the "DS Channel" field, select the same channel as the other computers equipped with a wireless LAN card of another company.

3. Click [OK].

4

Verify connection

Connect to Channel 11.

☑ Renew IP Address

WEP key
- ⊙ ASCII: [   ]
- ○ HEX: [   ]
- ☐ Save WEP Key

[OK] [Cancel]

① Enter

Enter an "WEP Key" if encryption with WEP is used in the network. If the initial settings are used, no encryption is set. Leave the area empty in this case.

② Click

Click [OK].

When a 128-bit encryption key cannot be entered, re-install Client Manager using the "AirNavigator CD" of version 3.62 or later.

Possible Cause ⑦ :   Client Manager is incorrectly configured. The communication mode is not set to "Peer to Peer Communication"

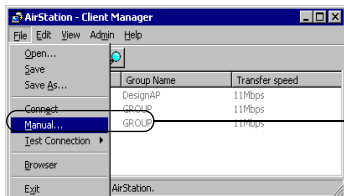Solution ⑦ :   Set the communication mode to "Peer to Peer Communication" using Client Manager Use the steps below to set the communication mode.

1 Select [Start]-[Programs]-[AirStation Utility]-[Client Manager].

    If the icon below appears in the task tray in the lower right on the screen, you can double-click that icon to start Client Manager.

    📶 or ✖
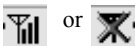
2 1. Select [File]-[Manual].
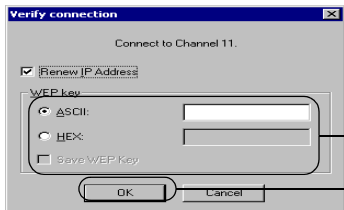
3

1 Select
Select "Peer to Peer Communication" in the "Network Mode" field.

2 Select
Select the same channel as the other computers that you wish to communicate with in the "DS Channel" field.

3 Click
Click [OK].

■ **I want to check the IP address/MAC address.**

Solution :   If the TCP/IP protocol is installed, you can check the IP address/MAC address using the procedure below.

《WindowsMe/98》

1 Select [Start]-[Run].

2 Enter "WINIPCFG."
Click [OK].
The "IP SET" dialog box appears.

3 1. Select "BUFFALO WLI-CF-S11G."
    2. The MAC address appears in the "Adapter Address" field.
    3. The IP address appears in the "IP Address" field.

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困ったときは

《Windows2000》

1 Select [Start]-[Programs]-[Accessories]-[Command Prompt].

2 When "C:\>" appears on the screen, type "IPCONFIG/ALL."
Press the <ENTER> key.

3
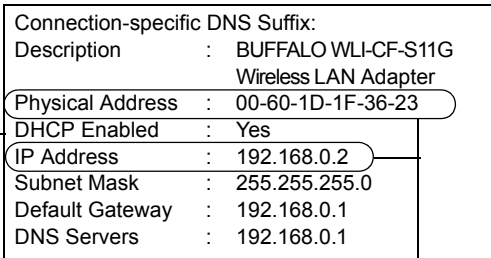
Connection-specific DNS Suffix:		
Description	:	BUFFALO WLI-CF-S11G Wireless LAN Adapter
Physical Address	:	00-60-1D-1F-36-23
DHCP Enabled	:	Yes
IP Address	:	192.168.0.2
Subnet Mask	:	255.255.255.0
Default Gateway	:	192.168.0.1
DNS Servers	:	192.168.0.1

Check The MAC address appears in the "Physical Address" field.
The IP address appears in the "IP Address" field.

Solution : Set the IP address using the following for reference.

When a DHCP server (*) exists on the network:

Select the following option.

WindowsCE :" Use server-assigned IP address"

WindowsMe/98 : "Obtain an IP address automatically"
Windows2000 : "Obtain an IP address automatically"

When the IP address is already assigned in other computers on the network

Check with the network administrator the IP address to be set in your computer.

When no IP address is assigned in the computers on the network

Set the IP address in the computers and AirStation as shown below.

<Example>

		IP Address	Net mask
AirStation	:	192.168.0.1	(255.255.255.0)
Computer A	:	192.168.0.2	(255.255.255.0)
Computer B	:	192.168.0.3	(255.255.255.0)
Computer C	:	192.168.0.4	(255.255.255.0)
.			
Computer X	:	192.168.0.254	(255.255.255.0)

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困ったときは

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※ The DHCP server automatically assigns the IP address to the computers on the network. (Some models of AirStation have this function.)

When such equipment with the DHCP server function as the Windows 2000/NT server or dial-up router exists on the network, the DHCP server function may be operating. Refer to the manual included in the Windows 2000/NT or dial-up router to check whether the DHCP server function is active on the Windows 2000/NT server or dial-up router. Alternately, inquire to the manufacturer.

When the network includes only Windows Me/98 computers, no DHCP server exists.

MEMO

Chapter 6

Glossary

6.1 Terms Related to the Network

■ **The following lists and describes the network-related terms in alphabetic order.**

Client

The party which receives services in the client-server system is called "client" while the party which provides services is called "server." Information and services in the server can be used from a client computer.

DHCP server (Dynamic Host Configuration Protocol server)

When configuring a network using TCP/IP, the IP address must be set in equipment including computers involved in the network.

When the DHCP server exists on the network, the IP address can automatically be assigned to the computers and AirStation on the network. When such equipment with the DHCP server function as the Windows 2000 server or dial-up router exists on the network, the DHCP server function may be operating.

Refer to the manual included in the Windows 2000 or dial-up router to check whether the DHCP server function is active on the Windows 2000 server or dial-up router. Alternately, inquire to the manufacturer. When the network includes only Windows Me/98/95 computers, no DHCP server exists.

ESS-ID (Extended Service Set ID)

The ESS-ID is an identification code required to avoid interference during communication between wireless LAN computers and the AirStation. Only the wireless LAN computers with the same ESS-ID as the AirStation can communicate with the AirStation. (The ESS-ID is not used in communication between wireless LAN computers.)

The initial setting of ESS-ID in the AirStation shows the "last six digits of the MAC address" plus "GROUP" (upper-case). The ESS-ID is case-sensitive and can consist of up to 32 alphanumeric characters and symbols.

Firmware

Firmware is software (programs) incorporated in such hardware as a router, modem, and terminal adapter (TA). Due to software integrated into hardware, it is assumed as being intermediate between hardware and software.

I/O port address (Input/Output port address)

Input and output ports for receiving and sending information are provided between CPU and peripheral equipment. The I/O port address is a number assigned to each equipment to distinguish which input/output ports are used by which peripheral equipment.

IRQ (Interrupt Request)

The CPU in a computer carries out processing in accordance with a request from peripheral equipment. However, it is impossible to predict when a request is issued from which equipment. If the CPU constantly monitors all equipment to receive a request, the monitoring time will be longer than the processing time. Thus, when peripheral equipment wants the CPU to execute a certain routine, a request interrupts the processing currently performed by the CPU. The CPU then specifies the equipment which issued the request using the IRQ number, and starts the requested processing. Upon completion of the interrupt request processing, the CPU returns to the interrupted processing.

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用語集

LAN (Local Area Network)

LAN is a network established in a comparatively small area such as in one building or on the premises of a campus. LAN generally uses transmission speeds of 10 Mbps to 100 Mbps.

MAC address (Media Access Control address)

The MAC address is a physical address specific to each piece of network equipment. The MAC address consists of six bytes including the most significant three bytes for the vendor code and the least significant three bytes for the user code. The vendor code is managed/assigned by the IEEE while the user code is controlled by the network equipment manufacturer using its original number (without duplication). Namely, the MAC address is a unique physical address. Based on this address, Ethernet sends and receives packets (frames).

Microsoft Network Client

Microsoft Network Client is software installed on client computers to use Windows Me/98/2000 server services in a LAN. It usually uses "NetBEUI" or "TCP/IP" for the protocol. The TCP/IP protocol is used to connect to the Internet.

NetBEUI protocol

NetBEUI protocol is a network transport protocol for exchanging data in a small-scale or mid-scale LAN.

NetBEUI is equivalent to the transport and network layer protocols of the OSI protocol model. These are integrated with NetBEUI to implement an efficient communication system in the workgroup LAN environment. This is supported in Windows Me/98/95/2000.

Peer-to-peer connection

Peer-to-peer connection is communication carried out by computers in an equal relationship with each other via LAN or WAN.

Unlike a server-client system, the settings can be made to use resources (drives and folders) in other computers from any computer on the network.

Protocol

Protocol is a procedure or a set of rules used to transmit data between network terminals.

For example, when communicating between two computers, the conditions required for communication can be established in a procedure to assure correctly ordered information transmission. Such requirements include which first starts sending what kind of message, what kind of message should respond to the received message, what data should be in, what format data should be in, what should be done in case of an error, and so on.

Radio channel

If several types of wireless LAN are used with different ESS-IDs on the same floor, the transfer speed of the local wireless network may be affected when communication is performed on other wireless LANs. This is because radio signals with the same frequency are being used. To avoid this problem, a different frequency (radio channel) can be set for each type of wireless LAN to communicate without mutual interference with other wireless LANs.

* When communicating between wireless LAN computers, the same radio channel must be used in all the wireless LAN computers involved.

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Resource (system resource)

Resource is a generic name for IRQ and I/O port addresses assigned to the computer's peripheral equipment (mouse, keyboard, etc.), PCI bus adapter, wireless LAN card, and such.

TCP/IP (Transmission Control Protocol/Internet Protocol)

TCP/IP is equivalent to the network layer and transport layer of the OSI reference model, and is defined by the RFC. Therefore, execution of TCP/IP enables different terminals to communicate each other.

- Normally, application protocols such as TELNET and FTP are also included.
- TCP/IP is the Internet standard protocol

USB (Universal Serial Bus)

USB is a new standard for connecting computers and peripheral equipment. Its features include data transfer capability at a maximum speed of 12 Mbps, compatibility with the Hot Swap feature allowing insertion and removal to/from the USB port with the computer or peripheral equipment turned on, no conflict with other devices due to no IRQ. The USB is supported in Windows Me/98/2000.

WECA (Wireless Ethernet Compatibility Alliance)

WECA is an organization which promotes the IEEE 802.11b High-Rate standard for propagation of the unified wireless LAN and ensures the mutual operation of compliant products. It was established in 1999 by six companies of Lucent Technologies, Intersil, Nokia, 3com, Symbol Technologies, and Aironet Wireless Communications that played a leading role in development of the IEEE 802.11 standard.

The organization has been developing activities for wireless LAN propagation on world-wide basis. We have currently participated in the organization. The latest information about the participating companies and Wi-Fi certified products can be obtained from the web site below.

  http://www.wi-fi.org/certified_products.asp

WEP [encryption] (Wired Equivalent Privacy)

Setting an encryption key in the AirStation enables protecting wireless packets from being externally analyzed.   To communicate with the AirStation with the encryption key set, it is necessary to input an encryption key set on Client Manager.

Wi-Fi (the standard for Wireless Fidelity)

Wi-Fi is a brand name of the wireless LAN standard "IEEE 802.11b High-Rate" specified by WECA for marketing purposes. Wi-Fi is provided only to products that pass the WECA mutual operability test. The Wi-Fi products are assured in mutual operability with each other by WECA.

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"Wired LAN" and "Wireless LAN"

The following terms are used in this manual to distinguish between a 10BASE-T/100BASE-TX LAN connected by cables and a LAN using no cables.

Wired LAN……LAN connected by cables

Wireless LAN…LAN using wireless communication

Note that these are not general terms and are used only for descriptions in this manual.

Wired LAN

Hub

PC

PC   PC

Wireless LAN

AirStation

Wireless LAN computer*

Wireless LAN computer*
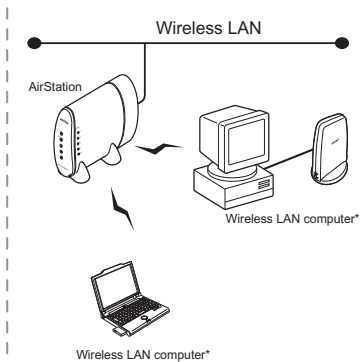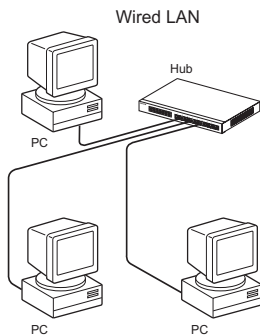
* A computer with BUFFALO's wireless LAN card is generally referred to as a "wireless LAN computer" in this

6.2 Terms in Windows Screens Related to the Network

■ Sharing settings windows in Windows Me/98

Right-click the icon of the drive to be shared and select "Sharing" from the menu, and the window shown below appears.

■ User name and password entry window in Windows Me/98

When you restart your computer after completing the driver installation, the "Enter Network Password" dialog box appears.

- To use the network, be sure to enter your user name and password. You do not have to do so when not using the network.
- The user name and password are set in the process of Windows Me/98 setup. When you log in to Windows for the first time, enter the same user name and password as those set during Windows Me/98 setup.
- More than one user can use the same Windows computer by changing the multiple operating environments. Therefore, you can log in as a new user by entering a new user name and password.
- Not shared . . . . : Select to cancel the drive sharing.
- Shared As . . . . : Select to share the drive.
- Share Name ....: You can change the name of the shared drive.
- Access Type......................: You can select from the following three access options.
- Read-Only ....: Sets the shared drive to a read-only drive.
- Full ....: Allows reading/writing from/to the shared drive.
- Passwords ....: Allows reading/writing from/to the shared drive with a password.
- Passwords ....: Password for "Access Type."

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- Read-Only Passwords...... : Set a password for reading from the shared drive.
- Full Access Passwords .... : Set a password for reading/writing from/to the shared drive.

■ **Identification information window in Windows Me/98**

Double-click the "Network" icon, and then click the "Identification" tab. The following window appears.

Computer name	:	Name for identifying the local computer on the network. Set a unique name for each computer.
Workgroup	:	Name for grouping the computers on the network. When it is not necessary to group the computers, use the same name for all the computers on the network.
Computer Description	:	Supplementary explanation of the "Computer name." No entry necessary.

☐ **Note** It is recommended to use alphanumeric characters for the [Computer name] and [Workgroup].

⚠ Caution If the entered character string contains a special character such as a period (.), the computer may be disabled from connecting to the network.

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Chapter 7

Specifications

■ Overview

This chapter describes the specifications of the wireless LAN card WLI2-CF -S11.

7.1 Product Specifications

7.1 Product Specifications

Wireless LAN interface	Conforming standards	FCC Part15.247
		ETS300-328
		IEEE802.11b (wireless LAN standard protocol)
	Transmission method	DS-SS (IEEE802.11 compliant)
		Half-duplex
	Max. distance between terminals	11 Mbps transmission 100 m outdoors (estimated)
		2 Mbps transmission 200 m outdoors (estimated)
		1 Mbps transmission 250 m outdoors (estimated)
		* The effective range is adversely affected by the operating environment. • Within a reinforced concrete building such as a condo, or a house with a metal frame • Near large metal furniture
Host interface	Transmission method	CompactFlash compliant

Applicable PC	Personal computers equipped with a CompactFlash slot (type II) or PC card slot (type II) listed below. • Pocket PC • Handheld PC • IBM AT compatible PC (OADG compliant)	
Operating System	Windows CE3.0 (Handheld PC 2000, Packet PC), Windows ME, Windows 98, Windows 2000	
Frequency range (central frequency)	2412 to 2462 MHz (total 11 channels)	
Data transmission rate	11M /5.5M/2M/1M (bps)	
Security	40-/128-bit WEP	
Operating voltage	3.3V	
Power consumption	Max. 660mW	
Current consumption	Standby: Max. 200mA Sending: Max. 340mA	
Operating environment	Temperature	0 ～ 55 ℃
	Humidity	20 to 80% (no condensation)
Weight	18.5g	
Dimensions	43.0mm (W) x 5.0mm (H) x 62.0mm (D) (not including 8mm antenna)	

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仕様

Note For the latest product information and applicable PC models, refer to the BUFFALO's catalog, brochure, or Internet homepage (http://www.buffalotech.com).

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.   End-users must follow the specific operating instructions for satisfying RF exposure compliance.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.