BUFFALO

AirStation
WLA-L11
User's Manual

This manual explains the procedure for communications between Ethernet LAN and wireless LAN, examples of AirStation settings, and remedies for troubleshooting problems. Refer to this manual as necessary.

Using this Manual

This section explains the symbols used in this manual.

■Symbols

Caution

⚠Caution Items to which you must pay attention when handling the product. Failure to follow this mark may result in personal injury and/or damage to the equipment.

Note

☐Note Supplementary information that you should know when handling the product.

Reference

▶Reference Refers to the page of related subject.

Next

↘Next Advises to which page you should continue next.

Column

Explanatory text with this mark explains convenient facts for you to know.

■Glossary and Diacritical Marks Within the Text

• Text in bold indicates the names of menu options, buttons, text boxes, check boxes, software, and dialog boxes, etc., that you can select to perform operations.

• The WLAR-L11 is referred as AirStation through this manual.

• The personal computer to be used with the wireless LAN card that as manufactured by MELCO INC. is called the wireless LAN personal computer.

• The personal computer to be used with the AirStation settings is referred as the Settings Personal Computer.

Precaution for the Usage

Be sure to read this manual before using the product because this product is refined highly. MELCO INC. is not responsible for accidents or damages to the personal computer as well as AirStation due to misuse. Misuse of our product will void the guarantee automatically that came with the purchase.

■ All rights for this manual are owned by MELCO INC. No part of this manual may be transmitted, reproduced, or revised without permission from MELCO INC.

■ Product name of other companies used in this manual are trademarks or registered trademarks of the respective companies. Trademark symbols (™, ®, ©, etc.) are not indicated in this manual.

■ Specifications, design, and other descriptions included in this manual are subject to change without notice.

■ This manual is carefully prepared, however, feel free to contact your nearest sales representative if you have any questions or problems.
In addition, note that MELCO INC. shall not be liable for any expenses incurred due to damage or loss arising from the use of the WLA-L11, although MELCO INC. has been advised of the possibility of such damage.
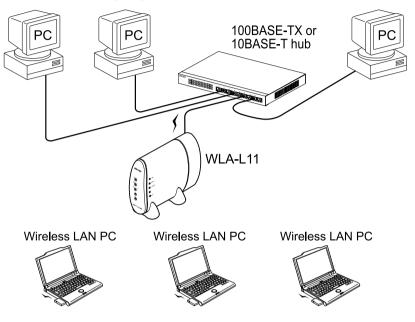
Communication between a wireless LAN and a wired LAN

This chapter describes how to use an AirStation when communicating between a wireless LAN and a wired LAN.

Network Configuration Illustration

Current Network Environment : Wired LAN Network
Desired Network : Network comprising wireless and wired LAN PCs.

Setup Flow

The setup flow for communication between wired LAN PCs and wireless LAN PCs is given below..
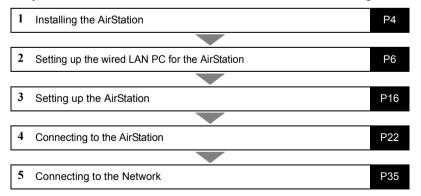
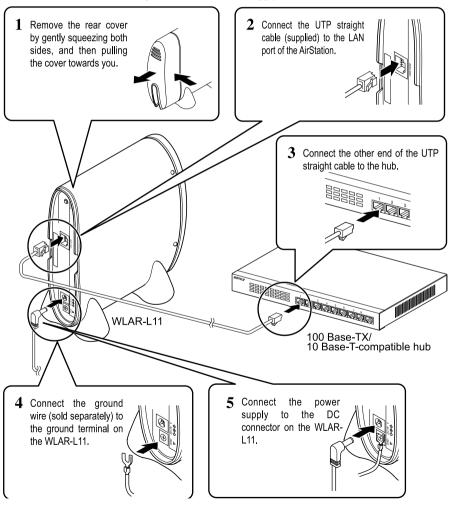|		
1	Installing the AirStation	P4
2	Setting up the wired LAN PC for the AirStation	P6
3	Setting up the AirStation	P16
4	Connecting to the AirStation	P22
5	Connecting to the Network	P35

Table of Contents

1

Communications Between Ethernet LAN and Wireless LAN

This section explains the procedure for enabling communication between personal computers on an Ethernet LAN and personal computers on a wireless LAN using AirStation.

Installation

Connection to the AirStation, hub, ground wire, and Power supply is shown below.

1 Remove the rear cover by gently squeezing both sides, and then pulling the cover towards you.

2 Connect the UTP straight cable (supplied) to the LAN port of the AirStation.

3 Connect the other end of the UTP straight cable to the hub.

WLAR-L11

100 Base-TX/
10 Base-T-compatible hub

4 Connect the ground wire (sold separately) to the ground terminal on the WLAR-L11.

5 Connect the power supply to the DC connector on the WLAR-L11.

⚠Caution Be sure to use the supplied AC adapter power supply.

Preparing the AirStation Settings
(on the Personal Computer)

The AirStation settings are preformed using a personal computer on the Ethernet LAN. For the proper AirStation setting, make sure that the following software are installed in the personal computer (hereafter called the settings personal computer) on the Ethernet LAN.

TCP/IP protocol . . . . . . Refer to the TCP/IP Protocol Setting.
AirStation manager. . . . Refer to Installing the AirStation Manager.
Web browser (Microsoft Internet Explorer version 4.0 or later, or Netscape Navigator 3.0 or later):
        Refer to the relevant Web browser manual. Microsoft Internet Explorer is installed as standard on Windows 98 and Windows 2000.

TCP/IP Protocol Setting

The procedure for setting the proper TCP/IP protocol is depending on the OS used in the PC. Please refer to the following for the proper settings.

☐Note Before the setting, check the LAN port drivers are properly installed in the personal computer and it is connected to the network.
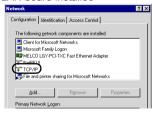
Windows 98/95:   Refer to *Windows 98/95* below.
Windows 2000:   Refer to *Windows 2000* below.
Windows NT 4.0:   Refer to *Windows NT* 4.0 below.

Windows 98/95

The TCP/IP protocol is set as follows.

1 Start your personal computer.

2 Click the **Start** button, and then select **Settings**, and then **Control Panel**.

3 Double-click the **Network** icon.

4 In the Network dialog box, check that **TCP/IP** is displayed in the following **network components are installed**: field.

Only 1 LAN board installed

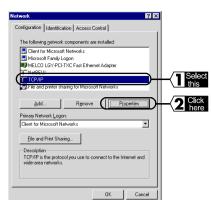The dial-up adapter and the LAN boards are installed.

TCP/IP (LAN board driver name) is normally displayed in The following network components are installed: field.
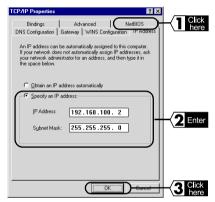[TCP/IP-> "LAN board driver name"]

☐Note If no TCP/IP is displayed, refer to *the Adding TCP/IP Protocols (Windows 98/95)* section *(Page 7)*.

5

Select TCP/IP, and then click the **Properties** button.

1 Select this

2 Click here

6

Click the **IP Address** tab, and set the IP address. When you enter the IP address, click the **OK** button.

1 Click here

⚠Caution Consult your network manager for the IP address settings of the personal computer.

IP Address: 192.168.100. 2

Subnet Mask: 255.255.255. 0

2 Enter

⚠Note If there is a DHCP server on the network, select "Obtain an IP address automatically".

▶Reference For IP address settings, refer to *"Allocating IP Addresses" (page 52)* in Chapter 3 Troubleshooting.

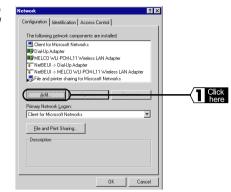**3** Click here

7 Restart Windows 98/95.

The TCP/IP protocol settings for the settings personal computer is completed.

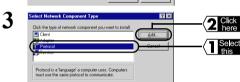▶Next Refer to *"Installing AirStation Manager" (page 14)*.

■Adding TCP/IP Protocols (Windows 98/95)

If the TCP/IP Protocol is not in added to the settings personal computer, add the protocol using the following procedure.
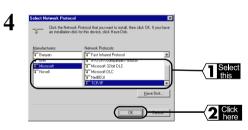
1 Click the **Start** button, and select **Settings**, **Control Panel**, and then **Network**.

2

1 Click here

Click the **Add** button.

3

2 Click here

1 Select this

Select **Protocol**, and click the **Add** button.

4

1 Select this

2 Click here

In the Manufacturers field, select Microsoft, and in the Network Protocols field, select TCP/IP and click the **OK** button.
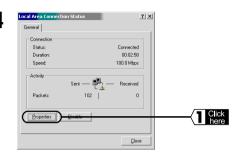
5

The TCP/IP protocol is added.

This completes the TCP/IP protocol installation.

▶Next Continue to the *"TCP/IP Protocol Settings" (Windows 98/95)* section procedure Step 5.
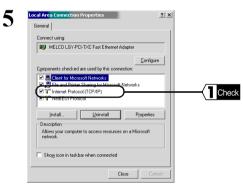
Windows 2000

The TCP/IP protocol is set on the settings personal computer using the following procedure.

1 Start Windows 2000, and log on using your logon name (e.g., Administrator with administrator access).

2 Click the **Start** button. Then select **Settings** and **Network and Dial-up Connections**.

3 Double-click the **Local Area Connection** icon.

4 Click the **Properties** button.
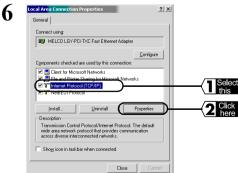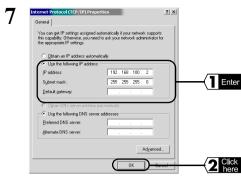
5 Check it Internet Protocol (TCP/IP) is displayed.

Note If Internet Protocol (TCP/IP) is not displayed, refer to *the Adding TCP/IP Protocols (Windows 2000) section (page 10)*.

6 Select **Internet Protocol (TCP/IP)**, and click the **Properties** button.

7

Set the IP address, and click the **OK** button.

Note If there is a DHCP server on the network, select "Obtain an IP address automatically".

Reference For IP address settings, refer to *"Allocating IP Addresses" (page 52)* in Chapter 3 Troubleshooting.

1 Enter

2 Click here

8

Click the **OK** button.

1 Click here

9

Click the **Close** button.

1 Click here

Next Refer to *"Installing AirStation Manager" (page 14)*.

right

Communications Between Ethernet LAN and Wireless LAN

1

WLA-L11 User's Manual 9

■Adding the TCP/IP Protocols (Windows 2000)

If the TCP/IP Protocol is not in added to the settings personal computer, add the protocol using the following procedure.

1 Click the **Start** button, and then select **Settings** and **Network** and **Dial-up Connections**.

2 Double-click the **Local Area Connection** icon.

3 Click the **Properties** button.

1 Click here

4 Click the **Install** button.

1 Click here

5 Select **Protocol**, and click the **Add** button.

1 Select this

2 Click here

6 Select Internet Protocol (TCP/IP), and click the **OK** button.

1 Select this

2 Click here

7

Check if the Internet Protocol (TCP/IP) is added.

1 Check

This completes the TCP/IP protocol installation.

1

Communications Between Ethernet LAN and Wireless LAN

WindowsNT4.0

Make the TCP/IP protocol settings on the settings personal computer using the following procedure.

1 Start the personal computer.

2 Click the **Start** button, and then select **Settings** and **Control Panel**.

3 Double-click the **Network** icon.

4

① Click here

② Check
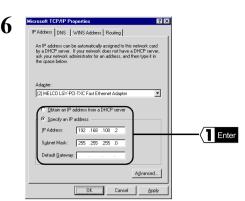
Click the **Protocols** tab, and make sure that TCP/IP Protocol is displayed in the Network Protocols field.

> **Note** If Internet Protocol (TCP/IP) is not displayed, refer to *the Adding TCP/IP Protocols (Windows NT 4.0) section (page13).*

5

① Select this

② Click here

Select TCP/IP Protocol, and click the **Properties** button.

Continue to next page

6

Set the IP address. When you have entered the IP address, click the **OK** button.

⚠Caution Consult your network manager for the IP address setting of the settings personal computer.

📝Note If there is a DHCP server on the network, select Obtain an IP address from a DHCP server.

▶Reference For IP address settings, refer to *"Allocating IP Addresses" (page 52)* in Chapter 3, Troubleshooting.

1 Enter

---

7 Restart Windows NT 4.0.
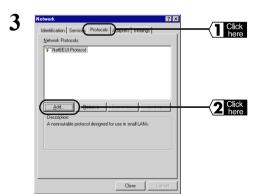
The TCP/IP protocol is set the settings personal computer.

◀Next Refer to *"Installing AirStation Manager" (page 14)*.

Adding the TCP/IP Protocol (Windows NT 4.0)

If the TCP/IP Protocol is not in the settings personal computer, add the protocol using the following procedure.

1 Click the **Start** button, and then select **Settings**, and **Control Panel**.

2 Double-click the **Network** icon.

3

Click the **Protocols** tab, and then click the **Add** button.

1 Click here

2 Click here

4

Select TCP/IP Protocol, and click the **OK** button.

1 Select this

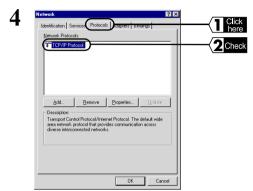**2** Click here

5

The TCP/IP protocol is added.

This completes the TCP/IP protocol installation.

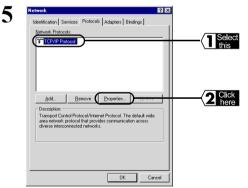▶Next Continue to the *"TCP/IP Protocol Settings"* (Windows NT 4.0) section procedure Step 5.

Installing AirStation Manager

Install the AirStation Manager in the settings personal computer using the following procedure.

1 Insert the AirStation Series Driver CD in the CD-ROM drive.

2 Click the **Start** button, and select Run...

3

Enter D:\WLEASY.EXE (where D is the CD-ROM drive), and click the **OK** button.

1 Enter
2 Click here

4
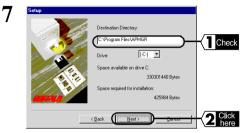
Select Install the AirStation Manager, and click the **Next** button.

1 Select this
2 Click here

5

Make sure all other applications are closed, then click the **OK** button.

1 Click here

6   Click the **Next** button.

 1 Click here

7   Select the directory in which you want to install AirStation Manager, and click the **Next** button.

1 Check

2 Click here

Note   To change the default installation directory, select a new directory, and then click the **Next** button.

8   Check the installation directory displayed, and then click the **Start** button.
Windows will copy the file to the directory.

1 Check

2 Click here

9   Click the **OK** button.
Installation of the AirStation Manager is completed.

AirStation Manager Installer ☒

Installation completed successfully!

OK

1 Click here

Next   Refer to *"AirStation Settings (Settings Personal Computer)" (page 16)*.

Note   To remove AirStation Manager, click the **Start** button, and select **Programs**, **MELCO AirStation**, and **Uninstall AirStation Manager**, and then follow the instruction on screen.

AirStation Settings (Settings Personal Computer)

Note Make sure a Web browser is installed before making the AirStation settings. For the installation procedure, refer to the manual supplied with the Web browser. (Microsoft Internet Explorer is installed as standard on Windows 98 and Windows 2000.)

Setting Procedure.

The AirStation is set in the settings personal computer using the following procedure.

Note When the AirStation is set for Windows 2000 and Windows NT 4.0 the procedure may be different. Please refer to *"Windows 2000/NT 4.0" (page 19)*.

1 Insert the AirStation Series Driver CD in the CD-ROM drive.

2 Click the **Start** button, and select **Run...**

3

Enter D:\WLEASY.EXE (where D is the CD-ROM drive), and click the **OK** button.

1 Enter

2 Click here

4

Select Easy Installation Wizard, and click the **Next** button.

1 Select this

2 Click here

5

Make sure all other applications are closed, then click the **Execute** button.

1 Click here

6

Click the **Next** button.

Note If the WEB browser field is empty, the Web browser may not be installed. Check it the Web browser is correctly installed. If the Web browser is installed, enter the path name for the Web browser from the WEB browser field.

1 Click here

7

In the Network adapter field, enter the name of the LAN card to be used, and then click the **Next** button.

1 Click here

> **Note**
> - If "Network Adapter Is Not Installed is displayed", the drivers for the wireless LAN card have not been installed. Refer to the LAN board manual, and install the drivers.
> - If "Network Adapter Settings Error is displayed", the TCP/IP settings have not been set correctly. Refer to the *"TCP/IP Protocol Setting" section (page 5)* in the Preparing AirStation Settings, and correct the TCP/IP setting.

8

Windows will search for the AirStation.

9

Select the AirStation, and click the **Next** button.

> **Note** If the AirStation cannot be found, refer to *""Cannot Find AirStation" Is Displayed When Starting the Easy Installation Wizard" section (page 43)* in Chapter 3 Troubleshooting.

1 Select this

2 Click here

10

Click the **Don't Set** button.

1 Click here

11

Your Web browser will start and the settings screen will be displayed.

Note When the settings screen comes up, click the **Exit** button in the Easy Installation Wizard Screen to close the Easy Installation Wizard.

12

Click the **Standard Settings** button.

13

Click the **Yes** button.

Note If using Netscape Navigator, the following message will be displayed: Send data cannot be protected from here.

14

The "Enter Network Password screen" will be displayed. Enter the user name and password given below, and click the **OK** button.
User name   :"root"
Password   :Leave blank

15

Click the **Settings** button.

16 Settings Completed will be displayed. Close the Web browser.

This completes the AirStation settings.

Windows 2000/NT 4.0

The AirStation is set in the settings personal computer using the following procedure.

1 Click the **Start** button, and select **Programs**, **MELCO AirStation**, and then **AirStation Manager**.
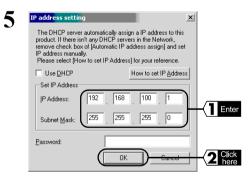
2

Select **Edit**, and **Search AirStation**.

3

Windows will search for the AirStation.

4

Select the AirStation once it has been found and then select Admin, and Set IP Address.

5

The IP address settings is set and click the **OK** button.

Note

- Change the IP address and net mask depending on the environment.
- Consult your network manager for the IP address settings.
- When making the initial IP address settings, leave the Password field blank.

►Reference For IP address settings, refer to *"Allocating IP Addresses" (page 52)* in Chapter 3 Troubleshooting.

6

The AirStation IP address will be changed.

7

Your Web browser will start automatically, and the settings screen will be displayed.

[Note] When the settings screen is not displayed after the Web browser starts, refer to the *"Setting Screen Is Not Displayed" (page 44)* section in Chapter 3 Troubleshooting.

8 Repeat from step 11 onwards in the *Settings Procedure(page 16)*, for completion of the AirStation setting.

Connecting To the AirStation

After the AirStation setting is completed the following procedure is need to connect the wireless LAN to the AirStation.

• Create the AirStation information files.
• Set the wireless LAN personal computer settings.
• Install the Client Manager.
• Set the AirStation connection settings.
• Check the AirStation connections.

Creating the AirStation Information Flies (in the Settings Personal Computer)

Create the AirStation information files from the settings personal computer using the following procedure.
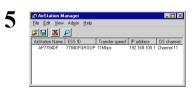
1 Format a floppy disk or use a ready-formatted disk. Affix a label reading AirStation Information Files to the disk.

2 Click the **Start** button, and select **MELCO AirStation**, and **AirStation Manager**.

3 Select **Edit**, and **Search AirStation**.

4 Windows will search for the AirStation.

5 The AirStation name will be detected, and displayed in black.

⌐Note⌐ If the AirStation cannot be found, refer to '"Cannot Find AirStation" Is Displayed When Starting the Easy Installation Wizard' section (page 43) in Chapter 3 Troubleshooting.

6 On the Menu Bar, select **File**, and then **Save As...**

7 Insert the AirStation Information Files Disk created in step 1 in the floppy disk drive.

8

In the Save In: field, select 3½" Floppy (A:), and enter a suitable name such as Airstation.Apd in the File Name: field. Next, click the **Save** button.

Creation of the application information file is completed.

Setting the Wireless LAN Personal Computer

In order to make the communication between the Ethernet LAN and the wireless LAN possible, you must set the wireless LAN personal computer settings. The wireless LAN personal computer is set using the following procedure.

1 Refer to the manual supplied with the wireless LAN card install the drivers and try to set the network settings.

2 Refer to TCP/IP Protocol Settings in the Preparing AirStation Settings the TCP/IP is set.

> Note The procedure for TCP/IP Protocol Set explains the settings for the Ethernet LAN on the settings personal computer. The following subjects can be substituted:

> LAN board to the wireless LAN card

> Settings personal computer to the Wireless LAN personal computer
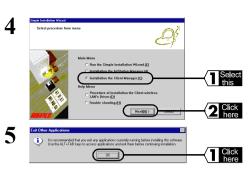
Installing Client Manager

It is necessary to install Client Manager to communicate with the AirStation. Follow the steps below to install Client Manager.

1 Insert the "AirStation Series Drive CD" into the CD-ROM drive.

2 Click the **Start** button, and select **Run**.

3

Enter "D:\WLEASY.EXE (When the CD-ROM drive is "D") and click **OK**.

4

Select **"Client Manager Installation"** and click **Next**.

1 Select this

2 Click here

5

Quit any other applications that are running and then click **OK**.

1 Click here

6

Click **NEXT**.

1 Click here

7

Check that the destination directory for Client Manager is correct and click **NEXT**. If you want to change the directory, enter the path, select the appropriate drive and click **NEXT**.

1 Click here

8

Check that the correct destination directory is specified and click **Start**.
Necessary files are copied.

1 Click here

9

Click **OK** to include the Client Manager icon in the start-up menu.

Note If you do not want to include the Client Manager icon in the Start-up menu, click **No**.

1

Communications Between Ethernet LAN and Wireless LAN

10

Client Manager Installer

Installation completed successfully!

OK

1 Click here

Click **OK**. This completes Client Manager installation.

Next Go to "AirStation Connection Settings" on page 25.

Note To uninstall the Client Manager, click **Start** and select MELCO Wireless LAN and then Uninstall Client Manager and follow the screen prompts.

AirStation Connection Settings
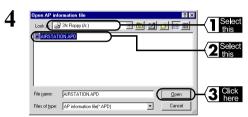
Connect the AirStation using the following procedure.

1 From the wireless LAN personal computer, click the **Start** button, and select **Programs**, **MELCO Wireless LAN**, and then **Client Manager**.

2

Select **File**, and **Open**.
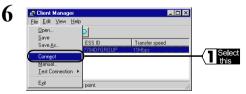
3 Insert the AirStation Information Files Disk into the floppy disk drive.

4

In the Look In: field, select 3½" Floppy (A:), the file name (e.g., Airstation.Apd), and then click the **Open** button.

5

"The AirStation applications" will be displayed as unavailable.

6

With the AirStation applications displayed as unavailable, select the AirStation to which you want to connect, and then select **File**, and **Connect**.

7

Click the **OK** button.

▼Note If you have set a password using the WEP key, enter your password in the Password field.

8

Windows will search for the AirStation.

Communications Between Ethernet LAN and Wireless LAN

9

Connection to the AirStation is completed.

📝Note When connecting to AirStation is completed, the application name in the AirStation display will change from gray to black, and an antenna mark (ᵞ) will also be displayed. If the AirStation application is not displayed in black, refer to *"Cannot Connect to the AirStation Using Client Manager (Unavailable Even When Found)" (page 52)* in Chapter 3 Troubleshooting.

📝Note After connecting to the AirStation, a slow baud rate of 2 Mbps or similar may be displayed. When communications actually begin, the correct baud rate will be displayed.

Checking AirStation Connection

Use the client manager to check the connection between the AirStation and the wireless LAN personal computer.

1 From the wireless LAN personal computer, click the **Start** button, and select **Programs**, **MELCO Wireless LAN**, and then select **Client Manager**.

2

Select File, Test Connection, and Diagnostic.

📝Note Perform the connection test only for the AirStation applications with the antenna mark (ᵞ).

3

Check the connection status.

4

The connection test results will be displayed.

Connection Test Results

The connection test result display the connection status and the radio status. The following table shows the test result in detail

Connection status		Radio status	
	Very good		Very good
	Good		Good
	Poor		Questionable
	Very poor		Poor
		No Signal	Communications not possible

The overall diagnosis results are displayed as a combination of connection status and radio status.

Very good: No overall problem

Bad: Indicates an unstable status

If the diagnosis is unstable, perform the following corrective measures.

1. Move the wireless LAN personal computer closer to the AirStation. (Be sure to maintain the distance of 30 cm min.)
2. Change the AirStation position.
3. Improve conditions between the AirStation and the wireless LAN personal computer by rotating units.
4. Check if there is a source of electrical interference such as microwave ovens are near the AirStation or the wireless LAN personal computer.

Communications With Other Personal Computers
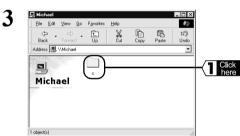
After check the connection to the AirStation use the following procedure to connect personal computers on the Ethernet LAN using the wireless LAN computers.

1 Double-click the **Network Neighborhood** icon on the Desktop.

The personal computers connected to the Ethernet LAN and the wireless LAN network will be displayed.

2
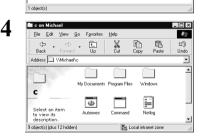
Double-click the personal computer you want to connect to.

▶Reference If the personal computer you want to connect to is not displayed, refer to the *"Cannot Connect to PCs on the Ethernet LAN" section (page 49)* in Chapter 3 Troubleshooting.

3

The drive that has the Shared PC Settings will be displayed. Double-click the drive to which you want to connect.

4

The details on the drive will be displayed, and access will be enabled.

▶Next Connecting from the wireless LAN personal computer to the Ethernet LAN network is completed. Use the personal computer in the optimum environment for wireless LAN and Ethernet LAN.

2 What is Next?

This section explains how to change the AirStation settings, and their various uses.

Displaying AirStation Setting Screen

The AirStation setting screen can be displayed using the following procedure.
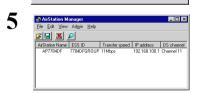
1 Refer to the *"Installing AirStation Manager" (page 14)* section in Chapter 1, Communications Between Ethernet LAN and Wireless LAN, and install the AirStation Manager.

2 Click the **Start** button, and select **Programs**, **MELCO AirStation**, and **AirStation Manager**.

3 Select **Edit**, and **Search AirStation**.

4 Windows will search for the AirStation.

5 The AirStation Manager will be displayed.

6 Select the AirStation name and select **Admin** and **Configure AS**.

7 Your Web browser will start and the setting screen will be displayed.

Enabling and Disabling Roaming Function

While moving from one room to another using one roaming function, you can switch AirStations without new setting automatically. Set the roaming function can be set using the following procedure.

⚠Caution Be sure to set the roaming function from a personal computer on the Ethernet LAN. If you set the roaming function from a personal computer on the wireless LAN, you cannot to connect to the AirStation. If it is the case, please refer to *Chapter 3 Troubleshooting*.

The AirStation Setting

1 Refer to the *"Displaying AirStation Setting Screen" section (page 29)* in Chapter 2, What is Next?, and display the AirStation setting screen.

2

Click the **Custom Setup** button.

3

The followings are set and click the **Set** button.

Group Name: Enter the same group name for all the AirStations in the same roaming network.

Roaming: Use.
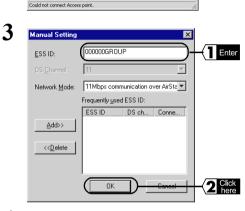
Follow the on-screen instructions to complete the settings.

Setting the Wireless LAN Personal Computer

1 From the wireless LAN personal computer, click the **Start** button, and select **Programs**, **MELCO AIRCONNECT**, and then **Client Manager**.

2

Select **File**, and **Manual...**.

1 Click here

3
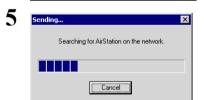
When you set the roaming function to be enable, the ESS ID of the AirStation will be changed to "000000" + group name.

Enter "000000" + group name in the ESS ID field, and then click the **OK** button.
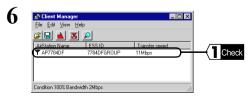
1 Enter

2 Click here

4

Click the **OK** Button.

☐Note If you have set a password using the WEP key, enter your password in the Password field.

1 Click here

5

Windows will search for the AirStation.

6

Check the connection to the AirStation is completed.

☐Note The name of the AirStation which you can connect with the roaming function, will be displayed with an antenna mark (▼).

1 Check

Limiting Connections from Wireless LAN Personal Computers

To limit connections to the AirStation from a wireless LAN personal computer, use following procedure. After setting only wireless LAN personal computers that have been registered can communicate with Ethernet LAN personal computers.
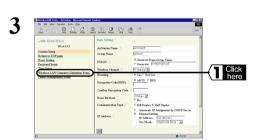
Setting Procedure

1 Refer to the *"Displaying AirStation Setting Screen" section (page 29)* in Chapter 2, What is Next?, and display the AirStation setting screen.

2

Click the **Custom Setup** button.

3
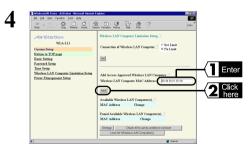
Click the **Wireless LAN Computer Limitation Setup** hyperlink.

4
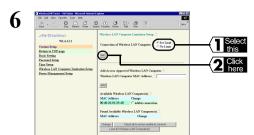
Enter the MAC address of wireless LAN personal computers that can connect to the network in the Wireless LAN Computer MAC Address field. Then click the **Add** button.

> **Note**
> • Refer to the manual enclosed with the wireless LAN personal computer for the MAC address.
> • When entering the MAC address, separate each two-digit group by entering a colon (:) between them.

Note If the wireless LAN card of your choice on the network is displayed in the Table of Wireless LAN PCs for which Connection Is Disabled, select the **Enable Connection** check box for the relevant MAC address and click the **Change** button.

5 "Add MAC Address" will be displayed. Click the **Return** button.

6

In the Connection of Wireless LAN Computer field, select the Set Limit option and click the **Set** button.

📄Note If you make the settings using a wireless LAN personal computer, check that the wireless LAN personal computer is registered in Wireless LAN Computers that can be connected before you click the Set button. If you made the settings before registering the wireless LAN personal computer, refer to the *"Reset the AirStation Setting to the Factory Settings" section (page 38)*, and reset the settings to the factory settings.

7 Complete Setting will be displayed. Click the **Back** button on the Tool Bar.

8

The added MAC address will be displayed in the Available Wireless LAN Computer(s) field.

📄Note You can register up to 256 MAC addresses maximum.

This way, only wireless LAN personal computers that are registered in the Available Wireless LAN Computers field will be able to communicate with personal computers on the Ethernet LAN.

📄Note To disable a personal computer with a registered MAC address, clear the **Inhibit Connection** check box for the relevant MAC address in the Available Wireless LAN Computer(s) field, and click the **Change** button.

2

What is Next?

Strengthening Security Using the WEP (Encoding) Function

You can prevent the external decryption of wireless packets by encoding the packets using the WEP function. The AirStation is set using the following procedure.

Note If the WEP function is already set, communications with Macintosh computers will be disabled as the WEP function is not compatible with the Airport WEP function.

⚠ Caution Be sure to set the WEP (encoding) using a personal computer on the Ethernet LAN network. If you set using a personal computer on the wireless LAN, communications with the AirStation may be disabled. If communication with the AirStation is disabled, refer to Chapter 3 Troubleshooting.

Setting Procedure

1 Refer to the *"Displaying AirStation Setting Screen" section (page 29)* in Chapter 2, What is Next?, and display the AirStation setting screen.

2 Click the **Custom Setup** button.

3 Enter the 5-digit number (password) in the Encryption Code (WEP) field, and then enter the same password in the Confirm Encryption Code field to confirm.
Next, click the **Set** button.

4 Settings Completed will be displayed. Close the Web browser.

Note When WEP setting is enabled, you will be prompted to enter your password whenever you try to connect to the AirStation from the client manager. If no password is entered, communications with the AirStation will be disabled.

Multiple AirStation Groups
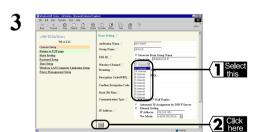
When multiple AirStations are used to communicate with the wireless LAN personal computers on the same floor, the baud rate may be reduced. This is because the AirStations are using the same frequency to communicate simultaneously. If this happens, you can enable communications regardless of other LAN networks by making settings to use different frequencies (wireless channels) in each LAN network (i.e., grouping). Change the wireless channels and group the networks is done using the following procedure.

Setting Procedure

1 Refer to the "Displaying the AirStation Setting Screen" section in Chapter 2, What is Next?, and display the AirStation setting screen.

2 Click the **Custom Setup** button.

3 "In the Wireless Channel field", select the wireless channel setting for the AirStation, and click the **Set** button.

4 "Settings Completed" will be displayed. Close the Web browser.

Note Using neighboring channels or other frequencies close to each other may result in mutual interference. To make sure that there is no interference, set each channel at least four channels apart. (Changing wireless channels may result in interference with other wireless equipment.)
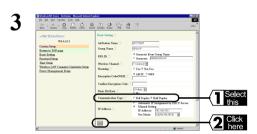
Setting Send Mode

Set the AirStation's LAN board send mode using the following procedure.

1 Refer to the *"Displaying AirStation Setting Screen" section (page 29)* in Chapter 2, What is Next?, and display the AirStation setting screen.

2

Click the **Custom Setup** button.

3

In the "Communication Type" field, select either full duplex or half duplex, and click the **Set** button.

Note When the AirStation's send mode is set to full duplex, make sure that the send mode for the connected hub is also set to full duplex. When the send mode for the connected hub is set to Auto Negotiation and half duplex, and the AirStation's send mode is set to full duplex, communications will be disabled.

Follow the screen instructions to complete the settings.

Connecting to the AirStation Using an AirPort-compatible Personal Computer

Getting Started

The following software is required when the Macintosh AirPort-compatible personal computer is used to share files with Windows personal computers.

•Software that supports shared files (e.g., DAVE).

☐ Note   Refer to the manual supplied with your software for details of settings to enable file sharing.

Setting Method

To connect to the AirStation using an AirPort-compatible computer, use the following procedure.

☐ Note   Before setting, check if the AirPort software has been installed, or not. (For the procedure for installing AirPort software, refer to the manual supplied with the AirPort.)

1   Display the AirStation setting screen using the settings personal computer (Windows personal computer).
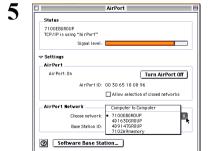
▶ Reference   Refer to the *"Displaying AirStation Setting Screen" section (page 29)* in Chapter 2, What is Next?

2   Click the **Device Diagnostic** button.

3   The AirStation ESS-ID should be displayed in the ESS-ID field.

4   Start the AirPort-compatible computer. Select Apple Menu on the menu Bar, and select AirPort. The AirPort setting tool will start.

5   From the pull-down menu in the Network Selection field of AirPort Network, select the AirStation ESS-ID that was identified in step 3.

Checking AirStation's IP Address

You can check AirStation's IP address validity using the following procedure.

1 Refer to the *"Installing AirStation Manager" section (page 14)* in Chapter 1, Communications Between Ethernet LAN and Wireless LAN

2 Click the **Start** button, and then select **Programs**, **MELCO AirStation**, and **AirStation Manager**.

3 On the Menu Bar, select **Edit**. Then select **Search AirStation**.

4 Windows will search for the AirStation.

5 AirStation's IP address will be displayed.

AirStation's IP address will be displayed in the IP Address field.

Reset the AirStation Setting to the Factory Settings

1 Turn ON the power supply to the AirStation.

2 Press and hold the factory setting switch on the back of the AirStation for 3 seconds minimum. The DIAG lamp on the side (bottom) will flash. When the DIAG lamp stops flashing, the AirStation is reset to the factory setting.

⬛Note For the factory setting switch, refer to the *"Package Details and Parts Nomenclature and Functions" section* in the separate Install manual.

Checking the Wireless Frequency Status
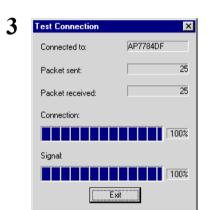
The status of the wireless frequency between the wireless LAN personal computer and the AirStation can be checked using the following procedure.

1 Click the **Start** button, and then select **Programs**, **MELCO Wireless LAN**, and **Client Manager**.

2
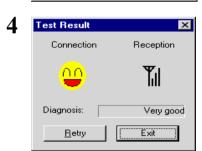
On the Menu Bar, select **File.** Then select **Test Connection and Diagnostic**.

Note: Perform the connection test only for the AirStations with the antenna mark(⊼).

3

Check the connection status.

4

The connection test results will be displayed.

Connection Test Result

The connection test results displaies the connection status and the radio status. The following table shows the test result in detail.

Connection status		Radio status	
	Very good		Very good
	Good		Good
	Poor		Questionable
	Very poor		Poor
		No Signal	Communications not possible

The overall diagnosis results are displayed as a combination of connection status and radio status.

Very good: No overall problem
Bad: Indicates an unstable status

If the diagnosis is unstable, perform the following corrective measures.
1. Move the wireless LAN personal computer closer to the AirStation. (Be sure to maintain the distance of 30 cm min.)
2. Change the AirStation position.
3. Improve conditions between the AirStation and the wireless LAN personal computer by rotating units.
4. Check if there is a source of electrical interference such as microwave ovens are near the AirStation or the wireless LAN personal computer.

3 Troubleshooting

This section explains the possible causes and remedies of a problem that may occur when using this product.

Making AirStation Settings

"Network Card Is Not Installed" Is Displayed When Starting the Easy Installation Wizard

Cause

The network adapter drivers are not installed.

Remedy

Refer to the network adapter manual and install the proper drivers.

▶ Reference For the driver installation procedure, please refer to the manual supplied with the network adapter.

"Network Card Is Configured Incorrect" Is Displayed When Starting the Easy Installation Wizard

Cause

- Network adapter drivers are not installed correctly.
- A "!" mark or a "X" mark is attached to the network adapter.

Remedy

Refer to the network adapter manual and install the proper drivers.

▶ Reference For the driver installation procedure, please refer to the manual supplied with the network adapter.

"The Network Protocol Setup Is Incorrect" Is Displayed When Starting the Easy Installation Wizard

Cause

- TCP/IP setting are incorrect.
- Cannot obtain an IP from the DHCP server automatically.

Remedy

Check if TCP/IP is correctly installed and set.

Refer to the *"TCP/IP Protocol Setting" section (page 5)* in Chapter 1, Communications Between Ethernet LAN and Wireless LAN

.

"Cannot Find AirStation" Is Displayed When Starting the Easy Installation Wizard

Cause (1)
The entered MAC address is incorrect when the AirStation is set from the wireless LAN personal computer.

Remedy (1)
Check and reenter the AirStation's MAC address.

▶Reference For the MAC address, refer to the *Parts Nomenclature* and *Functions* section in Install Manual.

▢Note The factory-set group name is "Group". If you are setting for the first time, or have not changed the group name, check if it is set to "Group" or not.

Cause (2)
The hub and the AirStation are not connected when the AirStation is set from the Ethernet LAN personal computer.

Remedy (2)
• Check that the hub and the AirStation are firmly connected using a UTP straight cable. (Insert the cable until you hear a click.)
• Be sure to use a UTP straight cable to connect the AirStation and personal computers to the hub.

Cause (3)
The cable is broken.

Remedy (3)
Reconnect using good UTP straight cable.

Cause (4)
The hub is malfunctioning.

Remedy (4)
• Check if the AirStation and the hub Link lamps are flashing.
• Try connecting the another port on the hub.

Cause (5)
The communication mode for the connected hub and the AirStation is different.

Remedy (5)
Some hubs may not be able to connect correctly to the network using the Auto Negotiation setting. If this occurs, you must set the communications mode manually. Change the setting to other than Auto Negotiation. If you change the setting and there is still a communications problem, and you can change the hub communications mode, change the hub communications mode manually to be the same as the AirStation's mode.
To change the AirStation's communications mode, refer to the *"Setting Method" section (page 37)* in Chapter 2, What is Next?

3

Troubleshooting

Setting Screen Is Not Displayed

Cause (1)
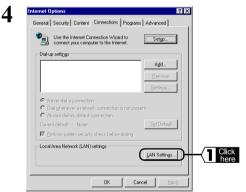
• When a proxy server is set using the Web browser settings, the setting screen is not displayed.
• Dial up using a modem is set.

Remedy (1)

• When the AirStation is set on a network environment with a proxy server, you must change the Web browser's proxy settings.
• Change the setting to disable dial-up from the Web browser settings.

Setting by the following procedure.
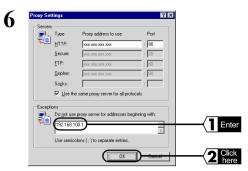
■ Internet Explorer 5 or Later

1 Start Internet Explorer.

2 On the Menu Bar, select **Tools.** Then select **Internet Options**.

3 Click the Connections tab.

4

Select "Never Dial a Connection", and then click the **LAN Settings** button.

5

Click the **Advanced** button.
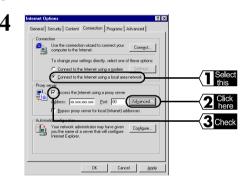
Note There should be no problem with the Web browser settings when the Use a Proxy Server check box is not selected.
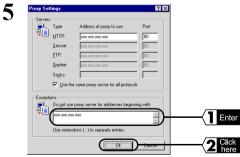
6

Enter the AirStation's IP address in the "Do Not Use Proxy Server for Addresses Beginning With:" field, and click the **OK** button.

⬛Note If you do not know the AirStation's IP address, search for the AirStation using the AirStation Manager. For AirStation Manager details, refer to the *"Installing AirStation Manager" section (page 14)* in Chapter 1, Communications Between Ethernet LAN and Wireless LAN.

⬛ Internet Explorer 4.0

1 Start Internet Explorer.

2 On the Menu Bar, select **View**. Then select **Internet Options**.

3 Click the Connection tab.

4

Select "Connect to the Internet using a local area network", and click the **Advanced** button in the Proxy server group box.
If the "Access the Internet using a proxy server" check box is not selected, there should be no problem for the Web browser setting.

5

Enter the AirStation's IP address in the "Do not use proxy server for addresses beginning with:" field, and click the **OK** button.

⬛Note If you do not know the AirStation's IP address, search for the AirStation using the AirStation Manager. For AirStation Manager details, refer to the *"Installing AirStation Manager" section (page 14)* in Chapter 1, Communications Between Ethernet LAN and Wireless LAN.

■ Netscape Navigator 4.0 or Later

1 Start Netscape Navigator.

2 On the Menu Bar, select **Edit**, and then select **Preferences**

3

In the Category field, select Proxies.

⟦Note⟧ If Proxies is not displayed, click the **+** symbol to the left of the Advanced option.

4
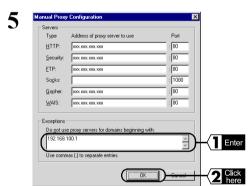
If Manual proxy configuration is selected, click the **View** button.

⟦Note⟧ If "Direct connection to the Internet" or "Automatic proxy configuration" is selected, there should be no problem with the Web browser settings.

5

Enter the AirStation's IP address in the "Do not use proxy servers for domains beginning with:" field, and click the **OK** button.

⟦Note⟧ If you do not know the AirStation's IP address, search for the AirStation using the AirStation Manager. For the AirStation Manager details, refer to the *"Installing AirStation Manager" section (page 14)* in Chapter 1, Communications Between Ethernet LAN and Wireless LAN.

After making the setting though the wireless LAN personal computer, communication with the AirStation is disabled.

Cause (1)

The following AirStation function can be set through the wireless LAN personal computer.
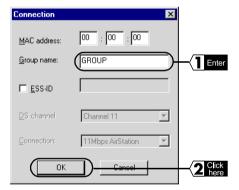
1. Changes to the roaming function setting.
2. Changes to the group name.
3. Changes to the password (WEP) setting.

Remedy (1)

If the communication is disabled because of changes described above, connect to the AirStation using the following procedure.

⚠Caution Make the following settings for all wireless LAN personal computers.

1. Using the wireless LAN personal computer click the **Start** button. Then select either one of **Programs**, **MELCO WirelessLAN**, and **Client Manager**.
2. Select **File**. Then select **Connections**.
3. In the MAC Address, Group Name, and Destination fields, either as shown below. Then click the **OK** button.

In the MAC Address screen field:

• If the roaming function is selected: Enter 00:00:00.

• If the roaming function is not selected: Enter the last six digits of the AirStation's MAC address.

In the Group Name field:

Enter the name of the group to which the AirStation belongs.

4. Enter the following in the Password field, and click the **OK** button.

• If you changed the password (WEP):

Enter the password (WEP) set in the AirStation.

• If you did not changed the password:

Click the **OK** button without entering anything in the Password field.

Check it you can connect to the AirStation and if it does the setting is complete.

Wireless LAN PC Communications

If the "Error Message" is Displayed

When you start Client Manager using the wireless LAN personal computer, the error message wireless LAN card cannot be found, is not displayed.

Cause (1)
The wireless LAN card drivers are not installed correctly.

Remedy (1)
Refer to the wireless LAN card manual, check that the drivers are installed correctly.

Cause (2)
The ESS-ID setting drivers are not installed (Windows 2000 and Windows NT 4.0 only).

Remedy (2)
Install the ESS-ID setting drivers.

▶Reference For details, refer to the manual supplied with the wireless LAN card.

Cause (3)
You are not trying to log in as a user with Administrator privileges (Windows 2000 and Windows NT 4.0 only).

Remedy (3)
Log in as a user with Administrator privileges.

Cannot Connect to PCs on the Ethernet LAN

Cause (1)
Installation of the Ethernet LAN card (WLI-PCM-L11, etc.) drivers failed.

Remedy (1)
Refer to the wireless LAN card manual, and check that the drivers are installed correctly.

Cause (2)
The Ethernet LAN personal computer network is not set properly (i.e., personal computers on the same Ethernet LAN are not connected).

Remedy (2)
Refer to the manual supplied with the LAN cards for the Ethernet LAN personal computers, get the Ethernet LAN personal computers network.

3

Troubleshooting

Cause (3)

When you search the network, the connected computers are displayed, but the search process is slow.
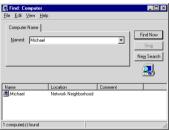
Remedy (3)

Search the computer using the following procedure.

(1) Click the Start button, and then select Find, and Computer...

(2) In the Named: field, enter the name of the computer connected to the network, and click the **Find Now** button.

(3) Double-click the icon for the connected computer to connect.

Cause (4)

The TCP/IP Protocol is not installed, or it is not set correctly.

Remedy (4)

Check the wireless LAN personal computer, Ethernet LAN personal computer, and the AirStation IP address setting validity using the following procedure.

Procedure for Checking the wireless LAN personal computer and the Ethernet personal computer IP addresses

Windows 98/95

1. Click the **Start** button, and then select **Run...** In the Open: field, enter WINIPCFG, and click the **OK** button.

2. Select the network adapter you are using. Check the value in the IP address field.

If the IP address displayed is incorrect, refer to the *TCP/IP Protocol Settings* section in Chapter 2, Preparing AirStation Settings of the separate Internet Connection Manual.

Windows 2000

If the TCP/IP Protocol is installed, you can check the IP address using the following procedure.

1.Click the **Start** button, and select **Programs**, **Accessories**, and **Command** Prompt.

2.C:\> will be displayed on screen. Enter IPCONFIG/ALL, and press the Enter key.

3.The IP address and sub-network will be will be displayed in the IP Address/Subnet Mask field.

Ethernet adapter Local Area Connection	
IP address.....................................	:192.168.100.2
Subnet Mask.................................	:255.255.255.0
Connection-specific DNS Suffix	:
Description...................................	:MELCO WLI-PCM-L11 Wireless LAN
Physical Address..........................	:00-60-1D-1F-36-23
DHCP Enabled............................	:No
Default Gateway..........................	:
DNS Servers................................	:

If the IP address displayed is incorrect, refer to the *TCP/IP Protocol Settings* section in Chapter 2, Preparing AirStation Settings in the separate Internet Connection Manual.

Windows NT 4.0

1.Click the **Start** button, and select **Programs**, and **Command** Prompt.

2.Enter IPCONFIG, and press the **Enter** key. Check the IP address value.

Ethernet adapter wlipcm1	
IP address	:192.168.100.188
Subnet Mask	:255.255.255.0
Default Gateway	:192.168.100.1

If the IP address displayed is incorrect, refer to the *TCP/IP Protocol Settings* section in Chapter 2, Preparing AirStation Settings, of the separate Internet Connection Manual.

Cause (5)

You did not enter your password when starting Windows 98/95. (On the *Network Password* screen, you clicked the **Cancel** button, or pressed the **ESC** key without entering your password.)

Remedy (5)

When you start Windows 98/95, be sure to enter your password in the *Network Password* screen, and click the **OK** button. If you have forgotten your password, enter another user name. The user name and password will be registered in the computer.

Cause (6)

The Ethernet LAN personal computer setting and the wireless LAN personal computer setting are incorrect.

Remedy (6)

Check the IP/TCP protocol validity for the Ethernet LAN personal computer and the wireless LAN personal computer.

Cause (7)

TCP/IP protocol is installed, but the IP address setting is incorrect.

Remedy (7)

Check if the IP address setting is correct.

▶Reference Refer to the *"Allocating IP Addresses" section (page 52)* in Chapter 3, Troubleshooting.

Roaming Function Is Not Operating Correctly

Cause

The AirStation settings are incorrect.

Remedy

• Check that the same AirStation group name has been set for all personal computers performing roaming.
• When setting WEP (encryption), set all AirStation WEP settings to the same.
• After enabling the AirStation's roaming function, reconnect using the wireless LAN personal computer.

Cannot Connect to the AirStation Using Client Manager (Unavailable Even When Found)

Cause (1)

Installation of the wireless LAN card drivers is failed.

Remedy (1)

Refer to the wireless LAN card manual and check if the driver is installed correctly. Also check if the AirStation's Wireless lamp is lit.

Cause (2)

It is difficult to communicate with the AirStation due to poor radio transmission.

Remedy (2)

Move the wireless LAN personal computer around and making the AirStation closer. Also check if there are obstacles preventing good communications. Remove the obstacles and connecting again.

Allocating IP Addresses

The following procedure to set the IP address is introduced.

There Is a DHCP Server on the Network (*)

The IP address can be set as follows:

Windows 98/95: Read the IP address automatically.

Windows 2000: Read the IP address automatically.

Windows NT 4.0: Read the IP address from the DHCP server.

An IP Address Is Already Allocated to the Personal Computers on the Network

Check if the IP address is set in the personal computer by the network manager.

An IP Address Is Not Allocated to the Personal Computers on the Network

Set the IP address on the personal computers as well as the AirStation using the following procedure. (Setting example)

Personal computer A:192.168.100.2 (255.255.255.0)

Personal computer B:192.168.100.3 (255.255.255.0)

Personal computer C:192.168.100.4 (255.255.255.0)

•

Personal computer X:192.168.100.254 (255.255.255.0)

*The server automatically allocates IP addresses to the personal computers and the AirStation on the network. If the device with built-in DHCP server function such as the Windows NT server and dial-up router exists on the network, the DHCP server function may start automatically. Refer to the Windows NT manual or the dial-up router manual if the DHCP server function is operating, or consult the manufacturer. There is no DHCP server if you are using Windows 98/95 personal computers only on the network.

3

Troubleshooting

4 Self-Diagnostic Function

AirStation will perform self-diagnosis when the power supply is turned ON, or when the AirStation is restarted.

If an error occurs, you can identify the error by the DIAG lamp flash number. The DIAG lamp keeps flashing until the power is turned OFF or the AirStation is restarted.

⚠Caution If the front panel DIAG lamp and the side panel DIAG lamp are flashing alternately, the data is being written. Do not turn OFF the power supply to the AirStation while this is happening.

* The data is written when the firmware is replaced.

Error Details when DIAG Lamp Flashes

No. of flashes	Status	Explanation
1	RAM check error	Cannot read or write to the internal memory.
2	ROM check error	Cannot read or write to the flash ROM
3	Ethernet LAN error	The Ethernet LAN controller is broken.
4	Wireless LAN error	The Wireless LAN controller is broken.
5	Clock error	The Clock is not set correctly, or the clock battery may be depleted.
9	Error other than the above	

If one of the above errors is displayed, try removing the AC adapter from the socket to restart.
If the error is still displayed, send the AirStation directly to TECHWORKS INC./Buffallo Technology repair center. Please call to TECHWORKS INC./Buffalo Technology obtain RMF#.

5 Setting Screen Tables

This section explains details of the setting screen tables.

Bridge Mode
(Communications Between the Ethernet LAN and the Wireless LAN)

Setting Screen Configuration

```
Main menu ────── Standard Setup

          ────── Custom Setup ────── Basic Setting(P56)

                                ────── Password Setup(P56)

                                ────── Time Setup

                                ────── Wireless LAN Personal Computer Limit Setting(P56)

                                ────── Power Management Setup

          ────── Diagnosis ────── Information of the Main Unit(P57)

                              ────── Transfer Packet Condition(P57)

                              ────── Wireless LAN Computer Information

                              ────── Ping Test

                              ────── Set to Default
```

Setting Screens Explanation

• Items marked with an asterisk (*) can be set using the Standard Setup screen.
• For details of the setting items, refer to the on-screen setting Help.

Detailed Settings (Bridge Mode)

Item	Explanation	Factory setting
Basic Setting		
AirStation Name*	Set the AirStation name. (See note 1)	Last six digits of "AP" + MAC address
Group Name*	Set the group name. (See note 2)	GROUP
ESS ID	Set ESS ID.	Last six digits of MAC address + group name
Wireless Channel	Set the wireless channel (1 to 11).	Channel 11
Roaming	Enable/disable wireless roaming function.	Not used
Encryption Code (WEP)	Set the keyword for encryption. (See note 3)	Not used
Confirm Encryption Code	Reenter the keyword for encryption. (See note 3)	-
Bit Rate	Set the bit rate.	Do not fix bit rate.
Communication type	Set the LAN board communications type	Half Duplex
IP Address	Set the AirStation IP address.	1.1.1.1
Password Setup		
Administrator's Name	User name to log on to the AirStation's setting screens	root (cannot be changed)
New Password	Set password to log on to the AirStation's setting screens.	None
Confirm Password	Reenter the password to confirm.	None
Wireless LAN Personal Computer Limit Setting		
Connection to the Wireless LAN Computer	Enable the AirStation connection only from the specified LAN personal computer.	No Limit

Note 1: Enter a maximum of 32 alphanumeric characters (case sensitive), and the underbar "_".
Note 2: Enter a maximum of 16 alphanumeric characters (case sensitive), and the underbar "_".
Note 3: Enter a maximum of 5 alphanumeric characters (case sensitive), and the underbar "_".

5

Setting Screen Tables

Machine Diagnostics

Item	Explanation
Information of the Main Unit	
Model name	Display the AirStation product name.
AirStation name	Display the AirStation name.
Wireless module firmware	Display the wireless firmware name and version.
Group name	Display the group name.
MAC address of wired LAN	Display the AirStation's Ethernet MAC address.
MAC address of wireless LAN	Display the AirStation's wireless MAC address.
ESS-ID	Display ESS-ID.
Wireless roaming function	Display whether wireless roaming function is enabled or disabled.
Encryption (WEP) function	Display whether Encryption (WEP) function is enabled or disabled.
DS channel	Display the wireless channel.
IP address Setting	Display the IP address setting method.
IP address	Display the AirStation's IP address
Net mask	
Transfer Packet Condition	
Send number of packets	Display the number of packets sent.
Send number of error packets	Display the number of packets with send errors.
Receive number of packets	Display the number of packets received.
Receive number of error packets	Display the number of packets with receive errors.

6 Glossary

This section explains the glossary of terms used in this manual that are required to configure the network.

■ Wireless Channel

If there is more than one Wireless LAN network with different ESS-ID on the same floor, and they are communicating with each other, the baud rate may be slowed, due to the same radio frequency being used. If this happens, you can still communicate regardless of other LAN networks by using to use different frequencies (wireless channels).

Note: If they are communications using the wireless LAN, be sure to set all the Units the same wireless channel.

■ DHCP Server

When configuring the network TCP/IP, be sure to set the IP address in each personal computer and other devices. When there is a DHCP server on the network, you can assign IP addresses automatically to the personal computers and the AirStation on the network. If there is Windows 2000, Windows NT, dial-up router, or other device with built-in DHCP server function on the network, the DCHP server function may start to operate. For the Windows NT server and dial-up router, or other DCHP server function, refer to the Windows 2000, Windows NT, or dial-up router manual, or consult the manufacturer. There should be no DHCP server problems for Windows 98/95 personal computers only on the network.

■ ESS-ID

This ID is used to prevent cross-communication during communication between the AirStation and personal computers within the wireless LAN. The Wireless LAN personal computers that have the same ESS-ID as the AirStation can communicate with the AirStation. (ESS-ID is disabled when wireless LAN personal computers are communicating each other.) Set the AirStation ESS-ID as follows: Last six digits of MAC address + Group name. The ESS-ID is case sensitive. You can enter a maximum of 32 alphanumeric characters, and the underbar "_".

■ LAN (Local Area Network)

Read as one word. A LAN is a network in a comparatively small area, such as campus or within a single building. The LAN baud rate varies from 10 Mbps to 100 Mbps.

■ MAC Address (Media Access Control Address)

The MAC address is a physical address specific to each network card. The MAC address is configured from a total of six bytes as follows: A vendor code comprising the lead three bytes and a 3-byte user code. The vendor code is managed and assigned by IEEE. The user code is managed using a unique (unduplicated) number from the network card manufacturer. That is, the MAC address is assigned as a physical address unique throughout the world. In an Ethernet LAN, the MAC address is used as a base to create a frame for sending and receiving.

■ TCP/IP(Transmission Control Protocol/Internet Protocol)

TCP/IP is a protocol equivalent to the network and transport levels of the OSI reference model, and it is defined using RFC. Consequently, different terminals can communicate with each other using TCP/IP.

- Normally, TCP/IP includes the application protocols TELNET and FTP.
- TCP/IP is the standard internet protocol.

■ WEP (Encryption)

By setting an encryption key in the AirStation, you can prevent wireless packets from being decrypted externally. When connecting to the AirStation with the encryption key you must enter the encryption key from the client manager.

■ Windows 98/95 User Name and Password

When you have completed installing the drivers and restarted your computer, the "Enter Network Password" dialog box will be displayed.

- Enter your user name and password to use the network. You do not need to enter your user name and password, however, when not using the network.
- Set your user name and password during Windows 98/95 setup. When you log on for the first time, enter the user name and password you created during the setup.
- Using the network, multiple users can switch between multiple environments. Consequently, you can log on by entering a new user name and password.

■ Windows 98/95 Shared Setting Screens

Right-click the icon for the drive you want to share, and select "Sharing" from the menu. The following screen will be displayed.

The boxes within the screen are as follows:

Not shared	: Select to clear shared drives.
Shared As	: Select to share drives.
Share Name	: You can change the name of the shared drive.
Access Type	: You can read and write to the shared drive.
Read Only	: You can only read the shared drive.
Full	: You can both read and write to the shared drive.
Depends on Password	: Use a password to determine access type.
Passwords	: You can both read and write depending on the password.
Read-Only Password	: Set the password to permit the shared drive to be read only.
Full Access Password	: Set the password to permit both reading and writing to the shared drive.

■ Windows 98/95 Identification Screen

Displayed Screen

Double-click the Network icon and click the "Identification" tab. The following screen will be displayed.

Explanation of Screen Fields

The boxes within the screen are as follows:

Computer name : The name used to identify the computer on the network. Set a unique name for each personal computer.

Workgroup : The name used to identify the computer workgroup on the network. If there is no particular need to identify separate workgroups, set the same workgroup name for all the personal computers on the network.

Computer Description : Use this box to enter additional explanation of the computer name. You can also leave this box blank.

■ Firmware

Firmware is the name given to the software (programs) built into hardware such as the router, modem, and terminal adapter. This software is built into the hardware, so it can be said to be in-between hardware and software.

■ Protocol

Protocols are the procedures and regulations for sending and receiving data between the network terminals. For example, if two computers are communicating, you can send the correct information according to the regulations by formatting all required information. The protocol such as which terminal sends first, what type of message, what type of message the receiving terminal should send in reply, the data format, and responses to communications errors are same of examples.

■ Roaming Function

If using the roaming function and moving from one room to another room, you can switch the AirStation automatically. With the roaming function, you can easily move from the office to the conference room while maintaining access to the network.

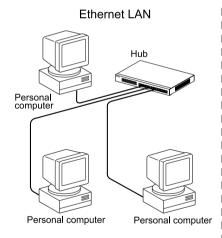Office   AirStation switches automatically   Conference room
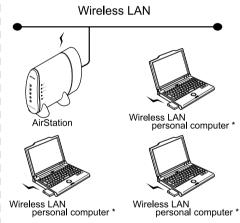
■ Ethernet LAN and Wireless LAN

The following terms are used in this manual to clarify the distinction between the wired 10/100 base LAN, and the wireless LAN.
Ethernet LAN: LAN connected using cables
Wireless LAN: LAN that uses wireless communications
The above terms are used for explanatory in this manual and they are not used generally.

Ethernet LAN

Hub

Personal computer

Personal computer   Personal computer

Wireless LAN

AirStation

Wireless LAN personal computer *

Wireless LAN personal computer *

Wireless LAN personal computer *

*: In this manual, as a rule, a personal computer with the wireless LAN card manufactured by MELCO INC. is called the wireless LAN personal computer.

6

Glossary

7 Product Specifications

This section explains the AirStation specifications and the LAN port connector specifications.

Specifications

Wireless LAN interface	Conforming standards	IEEE802.11b (wireless LAN standard protocol)
		RCR STD-33, ARIB STD-T66 (low-power data communications system standard)
	Communications method	DS-SS simplex (half duplex) operation
	Data Baud Rate	1, 2, 5.5, 11 Mbps (autosense)
	Access method	Infrastructure mode
	Frequency range (mid-frequency)	2412 to 2483.5 MHz
	Communications distance (depending on ambient conditions)	25 m indoors, 50 m outdoors at 11 Mbps 35 m indoors, 70 m outdoors at 5.5 Mbps 40 m indoors, 90 m outdoors at 2 Mbps 50 m indoors, 115 m outdoors at 1 Mbps
	Antenna	Diversity type (built-in)
Ethernet LAN interface	Conforming standards	IEEE802.3 (10Base-T) IEEE802.3u (100Base-TX)
	Data baud rate	10 Mbps/100 Mbps (automatic identification only)
	Data communications mode	Half duplex/full duplex (set manually)
Power consumption and current consumption	6.9 w (max.)/0.1 A (max.)	
Weight	510 g	
Dimensions	76 x 170 x 205 mm (W x H x D)	

LAN Port Connector Specifications

Use the RJ-45 8-pole connector, specified by ISO/IEC8877:1992.

■ MDI Signal Assignment

12345678

Pin number	MDI signal	Signal function
1	TD+	Send data (+)
2	TD-	Send data (-)
3	RD+	Receive data (+)
4	(Not Use)	Not used
5	(Not Use)	Not used
6	RD-	Receive data (-)
7	(Not Use)	Not used
8	(Not Use)	Not used

7

Product specifications

MEMO

Notice

The information in this manual is subject to change without notice.

TECHWORKS INC. / Buffalo Technology SHALL NOT BE LIABLE FOR TECHNICAL OR EDITO-RIAL ERRORS OR OMISSIONS CONTAINED HEREIN OR FOR INCIDENTAL OR CONSE-QUENTAL DAMAGES RESULTING FROM THE USE OF THIS MANUAL.

This manual contains information protected by copyright. No part of this manual may be pho-tocopied or reproduced in any form without prior written consent from TECHWORKS INC./Buffalo Technology.

All rights reserved. Printed in Japan.

Windows and Windows NT are trademarks of Microsoft Corporation.

Federal Communications Commission Notice

This equipment has been tested an found to comply with the limits for a Class B digital device, pur-suant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residental instration. 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 interfer-ence to radio or television, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and the 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.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by MELCO INC. (the manufacturer) may void the user's authority to operate the equipment.

*11 Mbps is the IEEE 802.11g standard theoretical maximum data transfer rate. Actual wireless network throughput is limited by environmental and system factors and will be less.