

Bluetooth™ PC Card Installation and User's Guide

I N S T R U C T I O N S

The Bluetooth™ PC Card allows you to use your Fujitsu computer to perform wireless communications with other Bluetooth-compatible computers and with the optional Fujitsu Modem Station.

This guide contains information on installing, removing, and using your BlueTooth PC Card with your computer.

Before using the PC Card, please read this user's guide carefully to familiarize yourself with the proper use of the card and Bluetooth technology. In addition to this manual, refer to the manual for your computer and the Fujitsu Modem Station, if used.

CAUTION

This device could malfunction in the event of a voltage sag or momentary drop in voltage because of lightning or electrical disturbance. To protect your personal computer against voltage sag, it is recommended to use an uninterruptible power supply (UPS).

The frequency band used for this device is the same as for some types of industrial, scientific, and medical equipment, including microwave ovens, as well as on-premises radio stations (subject to a license) for identification of mobile units, e.g., radio stations installed in production lines in factories, and other application-specific low-output radio stations (not subject to a license).

Before using this device, make sure that there is no on-premises radio stations for identification of mobile units or other application-specific low-output radio stations near the device.

In the event this device causes radio frequency interference to an on-premises radio station for identification of mobile units, immediately change the frequency used or break off connection, and consult FM Information Service about preventive measures against radio frequency interference (for example, installation of partitions).

If you encounter a problem using this device, including radio frequency interference from this device to an application-specific low-output radio station for identification of mobile units, contact FM Information Service for help.

About the warranty

Make sure the warranty card included with this product is filled out correctly. The warranty may not apply unless the warranty card is filled out correctly and completely. If you find it incorrect or incomplete, contact your seller immediately. Store the warranty card in a safe place.

Safety Instructions

For safe use of your PC Card, always follow the instructions below.

This guide uses graphical symbols to highlight instructions that you must follow to avoid personal injury or damage to property when using the PC Card. Before reading this guide, read the following explanations carefully to fully understand the meanings of these symbols.



WARNING

The warning icon highlights information that can be hazardous to you, your computer, or your files. Please read all warnings carefully.



POINT

The point icon highlights information that will enhance your understanding of the subject material.



CAUTION

The caution symbol highlights information that is important to your safety, to the safe operation of your computer, or to the integrity of your files. Please read all caution information carefully.

MANDATORY: * Remove the Bluetooth PC Card from your computer or turn off your computer in a hospital or near a medical electronic system. Don't bring your computer with the PC Card connected in an operating room, particularly in a CCU (cardiac care unit), otherwise radio waves transmitted by the PC Card could affect medial electric systems and cause an accident in the worst case.

MANDATORY: * Keep your computer at least 22 cm away from a pacemaker, otherwise Radio waves transmitted by the PC Card could affect its functioning and cause an accident by its malfunction.

MANDATORY: * Remove the Bluetooth PC Card from your computer or turn off your computer in any crowded place where there may be persons wearing a pacemaker, for example, in a jammed train. Radio waves transmitted by the PC Card could affect the functioning of pacemakers.

MANDATORY: * Remove the Bluetooth PC Card from your computer or turn off your computer on an airplane. The PC Card could impair the safe navigation of an airplane.

MANDATORY: * Don't use the Bluetooth PC Card during driving. Failure to do so could impair the safe driving and

result in an accident in the worst case. When using the PC Card, always park your car in a safe place.

MANDATORY: * Keep the plastic bag used for packing out of the reach of children. The plastic bag could choke a child if he or she put it in his or her mouth or put it over his or her face.

EXPLOSION: * Remove the Bluetooth PC Card from your computer where it can be exposed to flammable gases, for example, gas stations, otherwise it could cause an explosion or fire.

PROHIBITION: * Don't use the Bluetooth PC Card near an automatic door or fire alarm, otherwise radio waves transmitted by the PC Card could affect its automatic control unit and cause an accident by its malfunction.

DON'T DISASSEMBLE: * Never disassemble, repair, or modify the Bluetooth PC Card. Touching internal components could cause you to get an electric shock.

PROHIBITION: * Don't touch the Bluetooth PC Card unnecessarily when it is in use, otherwise it could fail or cause an electric shock.

PROHIBITION: * Don't place a glass or flower vase containing liquid near your computer. Liquid could cause an electric shock if it gets in the computer.

PROHIBITION: * Don't install your computer on a slanted or unsteady surface, or where it will be exposed to vibration, otherwise your computer could fall or topple over, causing bodily injury.

PROHIBITION: * When inserting the PC Card in a PC Card slot or ejecting the card from it, don't put your finger into the slot, otherwise you could get an injury to your finger.

PROHIBITION: * The PC Card may be heated up immediately after it was used for a long time. To avoid a burn, don't remove it from your computer immediately after use.

PROHIBITION: * Don't bring any magnetic cards, including floppy disks and credit cards, close to the PC Card, otherwise data recorded on them could be lost.

PROHIBITION: * Don't drop the PC Card or give a shock to it.

PROHIBITION: * To avoid damage to the PC Card, don't touch its terminal or don't insert anything into the PC Card.

PROHIBITION: * Don't use the PC Card in a damp, dusty, or smoky place, or near a fire, or where it can be splashed with water, otherwise it could fail, or cause an electric shock or fire.

Precautions

- The PC Card is a precision device; handle it with great care.
- Don't place the PC Card where it will be exposed to direct sunlight or don't bring it close to any heat generating device.
- Don't use or store the PC Card in an extremely hot or cold place, or where the temperature can greatly vary.
- Avoid shock or vibration to the PC Card; don't use or store the PC Card where it will be exposed to shock or vibration.
- Don't use or store the PC Card in a damp or dusty place.

BEFORE YOU GET STARTED

This chapter describes basic matters that you should fully understand before performing communication using the Bluetooth PC Card. Carefully review the safety and electrical information starting on page 2 prior to using the card.

To carry out communications properly

The PC Card may not function properly in some environments. Consider the following when installing your computer.

- Install your computer at a line-of-sight distance of 160 feet (50 m) or shorter from another Bluetooth device or Modem Station. Although clear line-of-sight is not required, the communication distance shortens depending on the use environment (e.g., presence of walls or furniture) and the structure of the building.
- Install your computer at least 6.5 feet (2 m) away from other electric or electronic systems. If you need to install your computer near a microwave oven, keep it at least 10 feet (3 m) away from the oven because the PC Card is susceptible to microwaves.
- If you have trouble communicating using the PC Card because of a nearby broadcast station or radio equipment, move your computer to another location or correct the orientation of the antenna.

What You Can Do Using the Bluetooth PC Card

The Bluetooth PC Card allows you to use your computer to perform wireless communications with other computers equipped with a Bluetooth-compatible device, and with the optional Fujitsu Modem Station. (Other personal computers are sometimes referred to as “the other party's Bluetooth Device” in this manual.)

Communicate with other personal computers

The Bluetooth PC Card allows your computer to communicate by radio with other Bluetooth-compatible computers for sharing files.

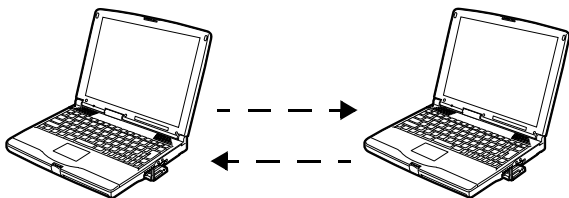


Figure 1. Communications between computers

Connect to the Internet or fax messages through a Modem Station

The Bluetooth PC Card allows you to access the Internet through an optional Fujitsu Modem Station. With this device, you can browse Web pages, and send or receive e-mails.

The Bluetooth PC Card/Modem Station combination is useful when you cannot connect your computer to a telephone line because a line is not nearby, or you need to frequently move your computer from location to location in a building.

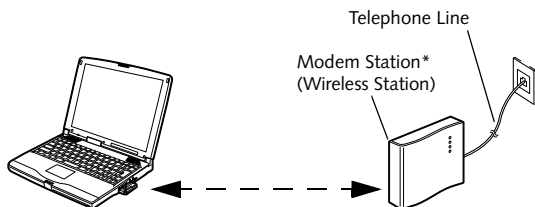
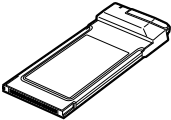
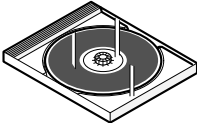
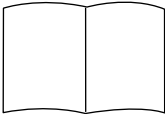
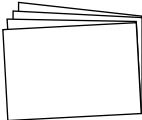
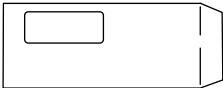
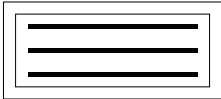


Figure 2. Communications using Fujitsu Modem Station

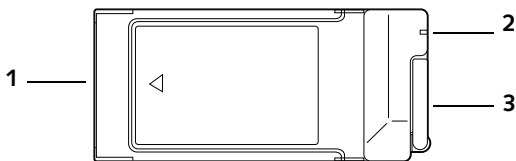
** For instructions about using a Modem Station, refer to its manual.*

Items Included with the Bluetooth PC Card

Make sure the following items are contained in the package. If an item is missing or damaged, contact your seller at once.

Bluetooth PC Card 	Driver CD-ROM 
User's Guide 	Service Network List 
Warranty Card 	Sticker 

Exterior Features of the Bluetooth PC Card



1. **Connector:** Insert this connector into a PC Card slot in your computer.
2. **Power Indicator:** Illuminated when the Bluetooth PC Card is connected securely to the computer. (If Windows 2000 is installed on your computer, it lights up when the Utility Software starts.)
3. **Antenna:** Orientation-adjustable antenna. When performing communication, raise it and adjust its orientation to optimize communications.

Basic Steps to Follow for Communications

You need to perform the following referenced procedures only once before working with the Bluetooth PC Card.

Preparing for communications

1. Install the Bluetooth PC Card Driver and Utility Software on your computer by:
"Installing the Driver" (See page 14)
"Installing the Utility Software" (See page 17)

2. Install software on the other party's Bluetooth Device. (Refer to the manual for the other party's Bluetooth Device installation procedure.)
3. Configure your computer:
"Configuring Your Computer" (*See page 18*)
4. Configure the Bluetooth Device with which you want to communicate. (Refer to the manual for the other Bluetooth Device configuration procedure.)

Performing communications

1. Make preparations to establish connection between your computer and the other Bluetooth Device:
"Preparations to make on your computer side" (*See page 20*) Refer to the manual for the other Bluetooth Device.
2. Connect your computer to the other Bluetooth Device:
"Establishing Connection" (*See page 21*)
3. Perform communication:
"Performing communication" (*See page 23*)
4. Break off connection:
"Breaking Off Connection" (*See page 23*)

PREPARING FOR COMMUNICATIONS

This chapter explains how to install and set up the Bluetooth PC Card Driver and Utility Software.



POINT

You need to make these preparations only once before using the PC Card for the first time.

Installing the Driver

To use the Bluetooth PC Card, you must first install the Bluetooth PC Driver and Utility Software on your computer. The steps to follow are determined by the operating system installed on your computer.

Prior to installation, verify that the following are available:

- Your Fujitsu computer
- Bluetooth PC Card
- Bluetooth Driver CD-ROM

Windows 98 Systems

1. Turn on your computer and wait until Windows starts.
2. After Windows has started, insert the Bluetooth PC Card into a PC Card slot in the computer. You will be prompted to specify the location of the PC Card drivers.

3. Make sure that the [Yes (Recommended)] option under [Do you want Windows to search for your new hardware?] is activated, then click [Next].
4. Insert the Bluetooth Driver CD-ROM in the CD-ROM drive of your computer.
5. Click the [Specify the location to search] option to activate it, then enter [d:\win9x], and click [Next] (where “d:” is the drive letter of your CD-ROM drive.)
6. When the next window appears, click [Next] to continue.
7. When the next window appears, click [Finish]. Your system will reboot.

Windows Me Systems

1. Turn on your computer and wait for Windows to start.
2. After Windows has started, insert the Bluetooth PC Card into a PC Card slot in the computer.
3. Insert the Bluetooth Driver CD-ROM in the CD-ROM drive of the computer.
4. Make sure that the [Specify a location for the driver (For experts)] option is activated, then click [Next].
5. Click the [Yes (Recommended)] option under [Do you want Windows to search for your new hardware?] to activate it. Make sure that the [Removable media, such as floppy disks and CD-ROMs] option is unchecked and that the [Specify the location to search] option is selected.

6. Type [d:\win9x] in the text box, and click [Next] (where “d:” is the drive letter of your CD-ROM drive.)
7. When the next window appears, click [Next] to continue.
8. Click [Finish]. Your system will reboot.

Windows 2000 Systems

1. Turn on your computer and wait until Windows starts.
2. After Windows has started, log on as an administrator, and insert the Bluetooth PC Card into a PC Card slot in the computer.
3. Click [Next] to continue.
4. Make sure that the [Yes, select for new hardware] option under [Do you want Windows to search for your new hardware?] is activated, then click [Next].
5. Insert the Bluetooth Driver CD-ROM in the CD-ROM drive of the computer.
6. Make sure that the [Specify a location] option is activated, then click [Next].
7. Type [d:\win2k] in the text box, and then click [OK], (where “d:” is the drive letter of your CD-ROM drive.)
8. When the next window appears, click [Next] to continue.
9. When the next window appears, click [Finish].
10. When the next window appears, click [Yes].

Installing the Utility Software

After you have finished installing the driver, install the Bluetooth PC Driver Utility Software on your computer by following the steps below.

1. Turn on your computer and wait until Windows starts.



POINT

If you are using Windows 2000, you must log onto it as an administrator.

2. Insert the Bluetooth Driver CD-ROM in the CD-ROM drive of the computer.
3. Click [Start], and select [Run].
4. Type [d:\utility\setup] in the text box, then click [OK] (where “d:” is the drive letter of your CD-ROM drive.)
5. Click [Next] to continue.
6. Read the license agreement that appears. Click [OK].
7. Check the folder displayed to see whether it is the folder into which you want to install the utility. If you want to install to a different folder, enter it and click [Next] to continue.
8. When the next window appears, click [Finish].
9. When prompted to restart your computer, eject the Bluetooth Driver CD-ROM from the computer, and click [OK].

The installation of the Utility Software is now complete. Once installation is complete, the Bluetooth PC Driver Utility icon appears on the desktop.

Installing Software on Another Bluetooth Device

Install a driver and all necessary applications on the other party's Bluetooth Device, as required. For installation instructions, refer to the manual for the other party's Bluetooth Device.

Configuring Your Computer

This section explains how to configure your computer using the Bluetooth PC Driver Utility.

1. Turn on your computer and wait for Windows to start.



POINT

If you are using Windows 2000, you must log on to it as an administrator.

2. Insert the PC Card in a PC Card slot in the computer.



POINTS

- You may need to double-click the icon to launch the Bluetooth PC Driver Utility, depending upon the configuration of your system.
- You can also start the utility by selecting [Start], [Programs], and [Bluetooth PC Driver Utility].

3. Double-click the icon in the task tray. (The icon looks like a walkie-talkie).
4. Right-click the Device address under [Local Device], and click [Properties].

5. Enter a name for the device (Device name).



POINTS

- The device name refers to a name given by a user to the Bluetooth Device. The device name should be descriptive since it is displayed on the screen of the other party's computer when you connect to it.
- If you intend to communicate exclusively with a specific Bluetooth Device that has no name display function, (e.g., a Modem Station), you can omit the registration of a Device name.

6. Select the desired port by using the down arrow, and click [Add].

If you want to select two or more serial ports, repeat step 7 to add serial ports.

7. Click [OK], then click [Close].

Configuring the Other Party's Bluetooth Device

Configure the other party's Bluetooth Device, as required.

For instructions for configuring it, refer to the manual for the other party's Bluetooth Device.

ESTABLISHING COMMUNICATIONS

This section explains how to establish communications using a serial service supported by another party's Bluetooth Device. Before performing the operation described in this chapter, you must have finished all preparations described in the "Preparing for Communications" section on page 14.

Preparations to make on your computer side

1. Turn on your computer and wait for Windows to start.



POINT

If you are using Windows 2000, you must log on as an administrator.

2. Insert the PC Card into a PC Card slot in the computer.
3. Click the Bluetooth PC Driver Utility icon on the desktop. The Bluetooth PC Driver Utility starts.



POINTS

- You may need to double-click the icon to launch the Bluetooth PC Driver Utility, depending upon the configuration of your system.
- You can also start the utility by selecting [Start], [Programs], and [Bluetooth PC Driver Utility].

4. Click the Bluetooth icon in the desktop tray.

Preparations to Make on the Other Party's Device

Make preparations on the other party's Bluetooth Device side as required according to information contained in the other party's Bluetooth Device manual.



POINTS

- Install your computer at a line-of-sight distance within approximately 160 feet (50 m) from the other party's Bluetooth Device.
- There is no guarantee that the PC Card can communicate with all Bluetooth Devices.

Establishing Connection

This section explains how to send a connection request from your computer to the other party's Bluetooth Device to establish connection between them. To send a connection request from the other party's Bluetooth Device to your computer, refer to the manual for the other party's Bluetooth Device.

1. Double click the Bluetooth icon in the task tray.
2. Click the [Device Discovery] button in the Bluetooth PC Driver Utility window. The window displays the addresses and names of all devices you can access under the Remote Device directory.



POINT

When you connect to the device you accessed last, information about the last connection (service name of the remote device) is displayed. In this case, you can skip steps 1 through 5 and start at step 6.

3. Click the address of the device you want to access, and click the [Service Browse] button.

The window displays information about the services supported by the other party's Bluetooth Device. (See table TBD on page TBD - was 83)

4. Click [Serial Service (XX)], then click the [Bind] button.



POINT

- The X in (XX) varies depending on the configuration of your computer.
- For instructions about the use of NDIS Service, see the "NDIS Service" section on page 24.

5. Select the service you want to use, using the down arrow, then click [OK].

[Local: Serial Service (XX)] is displayed under [Serial Service (XX).]

6. Click [Serial Service (XX)], then click [Connect].



POINT

- The X in (XX) varies depending on the configuration of your computer.
- For instructions about the use of NDIS Service, see the "NDIS Service" section on page 24.

If a window appears requesting a pin code appears, enter the passkey for the other party's Bluetooth Device, and click [OK].

The appearance of this window depends on the type and configuration of the other party's Bluetooth Device. This window may appear on the screens of both your computer and the other party's Bluetooth Device. If it does, enter the same Bluetooth passkey.

7. [Local: Serial Service (XX)] is displayed under [Serial Service (XX)] and the form of the icon changes, which indicates that connection has been established successfully.

Performing communication

You can now communicate with the other party's device.

For other applications of the Bluetooth PC Card, refer to the manual and Help for the application software used, and the manual for the other party's Bluetooth Device.

Breaking Off Connection

1. Exit the application software that is currently used for communication.
2. Click the [Disconnect] button.
[Local: Serial Service (COMx)] changes to [No Connection].



POINT

If you want to keep the Bluetooth PC Driver Utility in the task tray until the next connection, click [Close]. If you do so, you can start the Bluetooth PC Driver Utility next time by simply double-clicking the icon in the task tray. For instructions for completely terminating the Bluetooth PC Driver Utility, see "See "Closing the Bluetooth PC Driver Utility" on page 39.

COMMUNICATING WITH NDIS SERVICE

This chapter describes how to communicate using NDIS (Network Driver Interface Specification) Service supported by a Bluetooth device. Read this chapter, as required.

Connecting to a Network using NDIS Service

To connect to a network using NDIS Service, you need to make the following preparations.

This section describes how to make a peer-to-peer connection.

Making preparations for communications

1. Set up a network configuration. (See “Network Setup” on page 25)
2. Set up a sharing configuration. (See “Sharing Setup” on page 28 and “File Sharing Setup” on page 30)

Performing communication

1. Establish connection between your computer and the other party's Bluetooth device using NDIS Service. (See “Establishing Connections Using NDIS Service” on page 32)
2. Perform communication. (See “Accessing a Drive or Folder on the Connected Computer” on page 34)
3. Break off connection. (See “Breaking Off NDIS Service” on page 37)

Network Setup

This section describes how to configure TCP/IP and to check the computer name and workgroup to see whether they are what you want. The steps you need to follow vary, depending on the operating system installed on your computer.

If Windows 98 or Windows Me is installed:

1. Select [Start], [Settings], and [Control Panel] to open the [Control Panel] window.
2. Double-click the (Network) icon.
3. Highlight TCP/IP -> Fujitsu Bluetooth Card (Network), then click the [Properties] button.
4. Click the [IP Address] tab, then click [Specify an IP address] to activate it. Enter the IP address and subnet mask for your computer, then click [OK].



POINT

If you are puzzled about how to assign IP addresses to computers, follow the example shown below to assign them.

The numbers in parentheses refer to subnet masks.

Computer A: 192.168.100.2(255.255.255.0)

Computer B: 192.168.100.3(255.255.255.0)

Computer C: 192.168.100.4(255.255.255.0)

Computer X: 192.168.100.254(255.255.255.0)

5. Click the [Identification] tab.

6. Check the computer name and workgroup displayed to see whether they are what you want. Note that the computer names should be unique, but the workgroups should be the same.

Item	Description
Computer Name	The name given to your computer for identification on the network. A name of 15 one-byte characters or less can be given to each computer.
Workgroup	The name of the group to which your computer belongs on the network. All computers on a network must bear the same workgroup name of 15 one-byte characters or less.
Workgroup / Comment	Supplemental explanation of your computer. This item may be omitted.

7. Click [OK].
8. When prompted to restart your computer, click [Yes].

If Windows 2000 is installed:

1. Select [Start], [Settings], and [Control Panel] to open the [Control Panel] window.
2. Double-click the Network and Dial-up Connections icon.
3. Double-click [Local Area Connection.]

4. Select [Internet Protocols (TCP/IP)], then click [Properties].
5. Click [Use the following IP address] to activate it, then enter the IP address and subnet mask for your computer, and click [OK].



POINT

If you are puzzled about how to assign IP addresses to computers, follow the example shown below to assign them.

The numbers in parentheses refer to subnet masks.

Computer A: 192.168.100.2(255.255.255.0)

Computer B: 192.168.100.3(255.255.255.0)

Computer C: 192.168.100.4(255.255.255.0)

Computer X: 192.168.100.254(255.255.255.0)

6. Click [OK].
7. When prompted to restart your computer, click [Yes].
After your computer has restarted, check the computer name and the workgroup to see whether they are what you want.
8. Select [Start], [Settings], and [Control Panel] to open the [Control Panel] window.
9. Double click the System icon.
10. Click the [Network ID] tab.
11. Check the [full computer name] and [workgroup name] displayed.

If you want to modify these names, click [Properties].

Item	Description
Full Computer Name	The name given to your computer for identification on the network. A name of 15 one-byte characters or less can be given to each computer.
Workgroup	The name of the group to which your computer belongs on the network. All computers on a network must bear the same workgroup name that consists of 15 one-byte characters or less.

12. Click [OK].

Sharing Setup

This section describes how to configure Microsoft Network Sharing Service and your computer to share a drive or folder. The steps to follow depends on the operating system installed on your computer.

If Windows 98 or Windows Me is installed:

1. Select [Start], [Settings], and [Control Panel] to open the [Control Panel] window.
2. Double-click the (Network) icon.
3. Click the [File and Print Sharing] button.
4. Click the box that says "I want to be able to give others access to my files", then click OK.
[File and Printer Sharing for Microsoft Networks] is added to the Network Component List.
5. Click [OK].

6. When prompted to restart your computer, click [Yes].
7. Click (Close) in the [Control Panel] window.

If Windows 2000 is installed:

1. Select [Start], [Settings], and [Control Panel] to open the [Control Panel] window.
2. Double-click the (Network and Dial-Up Connections) icon.
3. Double-click [Local Area Connection.]
4. Make sure that [File and printer sharing for Microsoft Networks] is activated, then click [OK].

If the check box is unchecked, click it to check it.

If [File and printer sharing for Microsoft Networks] is not displayed, perform the following steps before proceeding to step 4.

1. Click [Install].
2. Select [Services], then click [Add].
3. Select [File and printer sharing for Microsoft Networks], then click [OK].
4. Click [OK].
5. Click (Close) in the [Control Panel] window.

File Sharing Setup

This section describes how to share a folder to make it available to all computer connected to your computer.

As an example of sharing a folder, this section describes the steps to follow to share the [Work] folder in [drive C].

If Windows 98 or Windows Me is installed:

1. Click the My Computer icon on the desktop. To open the [My Computer] window, you may need to double-click its icon, depending on the configuration of your computer.
2. Right-click the drive C icon, and select Sharing from the menu that appears.
3. Click the [Shared As] option to activate it, and set all necessary items, as defined in the following table.
4. Click [OK].

Item		Description
Share Name		Specify a name for the drive or folder you want to share.
Access Type	Read-Only	Choose this option to give all users read-only access to the drive or folder you want to share.
	Full	Choose this option to give all users read-and-write access to the drive or folder you want to share.
	Depends on Password*	Choose this option to permit users read-and-write access to the drive or folder you want to share, provided they enter the password required to access the drive or folder.
Password	Read-Only Password	Specify the password that users must enter to read files.
	Full Access Password	Specify the password that users must enter to read or write files.

* If Windows 98 is installed on your computer, [Distinguishes by password] may be displayed instead of [Depends on Password], both of which have the same meaning.

If Windows 2000 is installed:

1. Select [Start], [Programs], [Accessories], and [Explorer] to open the [Explorer] window.
2. Right-click the [Work] folder in [drive C], and click the [Settings] tab in the dialog box that appears.
3. Click the [Share this folder] option to activate it (@), and set all necessary items.

Item	Description
Share Name	Specify a name for the drive or folder you want to share.
Comment	Enter a comment about the drive or folder you want to share.
User Limit	Limits the number of users who are permitted to access the drive or folder.
Permissions	Check this button to set conditions required to access the folder.
Caching	Check this button to set up a cache for the folder.

- Click [OK].

The [Work] folder has been set up as a shared folder, and its appearance changes.

Establishing Connections Using NDIS Service

This section describes how to connect to the other party's Bluetooth device using NDIS Service. To send a connection request from the other party's Bluetooth device to your computer, refer to the manual for the other party's Bluetooth device.

- Click the Bluetooth PC Driver Utility icon to activate the taskbar icon.

The Bluetooth PC Driver Utility starts.



POINTS

- You may need to double-click the icon to launch the Bluetooth PC Driver Utility, depending upon the configuration of your system.
- You can also start the utility by selecting [Start], [Programs], and [Bluetooth PC Driver Utility].

2. Double-click the icon in the task tray.
3. Click the [Device Discovery] button in the [Bluetooth PC Driver Utility] dialog box.

The Bluetooth PC Driver Utility displays the addresses and names of all devices you can access.

4. Click the address of the device you want to access, then click the [Service Browse] button.

The service supported by the other party's Bluetooth device is displayed.

5. Click the address of the device you want to access, then click [Properties] button.
6. Click [NDIS/AUDIO Binding] to activate it, then click [OK].

NDIS is added as a service supported by the device you want to access.

7. Click [NDIS], then click [Connect].
8. If a window appears requesting the passkey, enter the passkey for the other party's Bluetooth device, then click [OK].



POINT

NDIS is added as a service supported by the other party's device even if NDIS Service is not installed on the device. For more information, refer to the manual for the other party's Bluetooth device.

The appearance of this window depends on the type and configuration of the other party's Bluetooth device. If this window appears on the screens of both your computer and the other party's Bluetooth device, enter the same Bluetooth passkey.

8. The address of the device you want to access is displayed under [NDIS] and the form of the icon changes, which indicates that connection has been established successfully.

Accessing a Drive or Folder on the Connected Computer

This section explains how to access a drive or folder on the computer connected using NDIS.

If Windows 98 is installed:

1. Click the Network Neighborhood icon on the desktop.



POINT

You may need to double-click the Network Neighborhood icon to open the [Network Neighborhood] window, depending on the configuration of your computer.

2. Double-click the computer you want to access.

The drives and folders you specified in the "Sharing Setup" section (See "Sharing Setup" on page 28) are displayed.



POINT

Only shared drives and folders are displayed.

3. Double-click the drive or folder you want to access.

All files and folders in the selected drive or folder are displayed, and they are now available to you.

If Windows Me is installed:

1. Click the My Network Places icon on the desktop.



POINT

You may need to double-click the Network Neighborhood icon to open the [Network Neighborhood] window, depending on the configuration of your computer.

2. Double-click [Entire Network.]
3. Double-click the workgroup you specified.
4. Double-click the computer you want to access.
5. Double-click the drive or folder you want to access.

The drives and folders you specified in the "Sharing Setup" section (see "Sharing Setup" on page 28) are displayed.



POINT

Only shared drives and folders are displayed.

All files and folders in the selected drive or folder are displayed, and they are now available to you.

If Windows 2000 is installed:

1. Click the (My Network Places) icon on the desktop.



POINT

You may need to double-click the Network Neighborhood icon to open the [Network Neighborhood] window, depending on the configuration of your computer.

2. Double-click [Computers Near Me.]
3. Double-click the computer you want to access.
4. Double-click the drive or folder you want to access.

The drives and folders you specified in the "Sharing Setup" section (see page 28) are displayed.

Breaking Off NDIS Service

This section explains how to break off NDIS Service from the computer connected using NDIS Service.

1. Double-click the icon in the task tray.
2. Select the [NDIS] connected, then click [Disconnect].

The address of the device connected changes to [Not connected.]



POINT

If you want to keep the Bluetooth PC Driver Utility in the task tray until the next connection, click [Close]. If you do so, you can start the Bluetooth PC Driver Utility next time by simply double-clicking the icon in the task tray. For instructions for closing the Bluetooth PC Driver Utility, see "Closing the Bluetooth PC Driver Utility" on page 39

BLUETOOTH PC DRIVER UTILITY

This chapter describes the function of the Bluetooth PC Driver Utility.

Starting the Bluetooth PC Driver Utility

When you start the Bluetooth PC Driver Utility, the Bluetooth PC Driver Utility icon is put into a task tray. When you double-click the icon, the setting screen is displayed.

1. Turn on the power to your computer and wait until Windows starts.



POINT

If you are using Windows 2000, you must log onto it as an administrator.

2. Insert a PC card into the personal computer.
3. Click the Bluetooth PC Driver Utility icon on the desktop. The Bluetooth PC Driver Utility starts.



POINTS

- You may need to double-click the icon to launch the Bluetooth PC Driver Utility, depending upon the configuration of your system.
- You can also start the utility by selecting [Start], [Programs], and [Bluetooth PC Driver Utility].

4. Double-click the icon in the task tray.

Closing the Bluetooth PC Driver Utility

Right-click the icon in a task tray and then click [Closing the Bluetooth Task Manager] from the displayed menu.

Setting the [Bluetooth Device] Tab

Device Information Display

Displays the user's personal computer information and the information on Bluetooth equipment in the range where data can be communicated. The following fields of information are displayed:

- Local device information
- Device address
- Remote device information
- Service type and connection state



POINT

To hide the detailed information, click [-]. To re-display the detailed information, click [+].

Device Discovery

Searches whether Bluetooth equipment exists in the range where data can be communicated.

Service Browse

Browses the service that can be utilized in a remote device. Click the device address of the remote device you want to browse and then click this button.

Connect

Connected to the service in the bind state. The preparation for communication using this utility is completed by this operation. After that, you can actually communicate data using each application. Click the service you want to connect and then click this button.

Disconnect

Disconnects the connected service. Click the service you want to disconnect and then click this button.

Properties

Sets and displays the detailed information of a local device (user's personal computer) or remote device. Click the device address of the device you want to set and display and then click this button.

Bind

Bound with a remote device. The service or port used is determined by this operation. Click the service of the remote device you want to bind and then click this button.

Add Device

Click this button. The [Add Remote Device] dialog box is displayed and a remote device can be added manually. You can use this function when no remote device can be found due to some trouble during device search.

The [Add Remote Device] dialog box is the same as a [Remote Device Property] dialog box (-> P. 77) except that a device address can be entered manually.

Remove Device

Deletes the remote device. Click the device address of the remote device you want to delete and then click this button.

Exit

Closes the Bluetooth PC Driver Utility. The Bluetooth PC Driver Utility is put into a task tray without being closed. Data can be consecutively communicated when it is in the communication state.

Setting the [Device Mode] Tab

Setting the response to device search

Select the response method when a device is searched on the remote device side.

Item	Description
General Discoverable	Responds to all devices.
Non-Discoverable	<p>Responds to no device. If this response method is selected, the user's device address or service information cannot be acquired from the remote device. Data cannot be communicated according to the request from the remote device.</p> <p>If the user's device address is known to the remote device (for example, a device has been searched before you set [Non-Discoverable]), the service browse or connection request from the remote device cannot be rejected even if you set [Non-Discoverable].</p>

Setting the response to connection request

Select the response method when a connection request is issued from the remote device.

Item	Description
Connectable	Accepts the request from all devices
Limited Connectable	Accepts the request only from the previously specified device. To specify a device, see the procedure below.
Non-Connectable	Rejects the request from all devices. If this response method is selected, the user's address is displayed on the remote device side. Data cannot be communicated in response to the connection request from the remote device. Communication can be done according to the connection request from the user.

To specify a device that accepts a request

1. Select Limited Connectable.
2. Enter the device address or select the device class.
3. Click [Add].

To delete a device

1. Select the device address or device class, you want to delete, from a list.
2. Click [Delete].

Apply

Enables the contents of the information set in the [Device Mode] tab. To cancel the set information, click [End] or another tab without clicking on this button.

Exit

Closes the Bluetooth PC Driver Utility. When you change the response setting, click [Apply] before clicking on this button. If you do not click [Apply], the setting change is canceled. The Bluetooth PC Driver Utility is put into a task tray without being closed even if you click [Exit]. Data can be consecutively communicated when it is in the communication state.

Setting the [Search for Device Setting] Tab

Inquiring Settings > Inquiring Time

Specifies how many seconds to execute the search for device. Specify the search time in the range of 5 to 30 seconds. The default value is **10 seconds**.

Inquiring Settings > Discover specified devices

Specifies how many devices to search at a time during the search for device. Specify the number of searched device in the range of 1 to 30. The default value is **5**.

Discovery Settings

Only the device of the specified class can be manipulated for the search for device. The default value is **Discover all devices**.

Item	Description
Discover all devices	Searches all devices
Discover specified device	Searches only the device of the previously specified class. To specify a device, see the procedure below.

To specify the searched device class

1. Select the Device.
2. Click [Add].

To delete a device class

1. Select the Device you want to delete from the list.
2. Click [Remove].

Apply

Enables the contents of the information set in the [Device Procedure] tab. To cancel the set information, click [Exit] or another tab without clicking on this button.

Exit

Closes the Bluetooth PC Driver Utility. When you change the device search setting, click [Apply] before clicking on this button. If you do not click [Apply], the change is canceled. The Bluetooth PC Driver Utility is put into a task tray without being closed even if you click [Exit]. Data can be consecutively communicated when it is in the communication state.

Setting the Device Properties

Select a device address in a [Bluetooth Device] tab and click [Properties]. The screen for displaying and setting the property of a device is then displayed. The displayed screen differs if selected device is local or remote.

The [Local Device Property] dialog box

In this dialog box, you display and set the detailed information of a local device (your personal computer). Part of the detailed information is reported to the remote device (Bluetooth equipment used as a communication partner, such as a Modem Station or other computer) during communication.



POINT

If communication cannot be normally done for some reason, displaying this dialog box and clicking [Reset Device] may solve this problem.

Device Address

Displays the device address. The device address cannot be changed.

Device Name

Displays the device name (the default value is blank). The device name can be changed.

Device Class

Displays the device class. The default value is **Computer**. The Device Class is usually not changed.

Power Class

Displays the power class. (The power class is fixed in [Non-setting].)

Country Code

Displays the country code. The default value is **Japan**. The country code is not usually changed.

Trust All Devices

Set when accepting the connection request from all remote devices (when using no Bluetooth passkey). In this case, all the security settings in a [Remote Device Property] dialog box are disabled. Notice that others can access a personal computer without permission without entering a Bluetooth passkey that plays the part of a password.

Default Bluetooth Passkey (PIN Code) Setting

Enter any alphanumeric characters not exceeding 16 characters when you want to set a common Bluetooth passkey for any connection. The default value is blank.



POINTS

- The Bluetooth passkey is a password set to prevent others from unauthorized use of Bluetooth equipment.
- Bluetooth equipment has been pre-set so that you must manually enter a Bluetooth passkey every time during connection so as to improve security. To use a common (default) Bluetooth passkey, change [Setting of Bluetooth Passkey (PIN Code) Used] in the [Remote Device Property] dialog box.

Reset

Resets the device forcibly. Click this button if communications cannot be established normally. This may solve the problem.

Pause

Cannot be used.

Serial Port

Displays the serial port to be used. The serial port can be added and deleted. To specify a serial port, see the procedure below.

To add a port: Select a port from the dropdown list, then click [Add].

To delete a port: Select the port which you want to delete from the list, then click [Delete].

OK

Enables the contents of the set information and returns the display to a [Bluetooth Device] tab.

Cancel

Cancels the contents of the set information and returns the display to a [Bluetooth Device] tab.

[Remote Device Property] dialog box

In this dialog box, you can display the detailed information of a remote device (Bluetooth equipment used as a communications partner, such as a Modem Station or other computer) or set the way to communicate with a remote device.

Device Address

Displays the device address. The device address cannot be changed.

Device Name

Displays the device name. Device name cannot be changed.

Device Class

Displays the device class. The device class cannot be changed.

Comms State

Displays the communication state. The communication state cannot be changed.

Comms Quality

Displays the communication quality. The communication quality cannot be changed.

Trust This Device

Check when accepting the connection request from this remote device (using no Bluetooth passkey). Uncheck when using a Bluetooth passkey. **Setting of Bluetooth Passkey (PIN Code)** Setting is disabled when you set.

Setting of Bluetooth Passkey (PIN Code) Setting

Specifies the type of the Bluetooth passkey used. Uncheck **Rely on Connection Request from This Device** when specifying this item.

Item	Description
Default Bluetooth passkey	Use the common Bluetooth passkey entered in a [Local Device Property] dialog box. Bluetooth equipment is connected without the entry of a Bluetooth passkey when the common Bluetooth passkey is not entered.
Manual entry Bluetooth passkey	Enter a Bluetooth passkey manually every time during connection when connecting to this remote device.

Device Mode

Use in the Active state.

Set NDIS/AUDIO Bind

Click NDIS when you want to bind to the NDIS service. The AUDIO service cannot be used.

Info Expire

Specifies the period for holding the information on a remote device. When this period is exceeded, the contents of the information set in this dialog box are also cleared. Specify the period in the range of 0 (not held) to an indefinite term. The default value is **1 day**.



POINT

No service browse or binding is required for the connected remote device while information is being held.

OK

Enables the contents of the set information and returns the display to a [Bluetooth Device] tab.

Cancel

Cancels the contents of the set information and returns the display to a [Bluetooth Device] tab.

APPENDIX A - TROUBLESHOOTING

If you have any problems when using your Bluetooth card, reference this section. If you cannot find the cause of your trouble, contact your reseller.

Trouble	Remedy
Card does not communicate	<ul style="list-style-type: none">■ Use the following procedures to confirm that the driver and utility are properly installed: "Installing the Driver", page TBD. "Installing the Utility Software", page TBD■ Confirm that the operating environment is set properly: "Configuring Your Computer", page TBD■ Confirm that the power of remote Bluetooth equipment is turned on. Also, confirm that the preparation for communication is properly made using remote Bluetooth equipment. See the manual of the remote Bluetooth equipment.■ Confirm that the local device is not too away from remote Bluetooth equipment. Bring the remote Bluetooth equipment near the local device. A sight distance of about 50 m is the range in which data can be communicated (if you use our company's products). The distance may become short depending on the place of the installed device.■ Confirm that the antenna is properly adjusted in direction. The adjustment of the antenna direction may improve the communication state.

Trouble	Remedy
Device search or service browse not completed.	<ol style="list-style-type: none"> 1. Display the [Local Device Property] dialog box and click [Reset Device]. 2. Close the [Local Device Property] box, then close the Bluetooth PC Driver Utility. 3. Restart the personal computer. 4. Start the Bluetooth PC Driver Utility and search a device again.
Any desired remote device not found during device search.	Search a device repeatedly several times. If you cannot find, click the [Device Search Set] tab, change Device Search Time and Maximum Number of Searched Devices (see page TBD), and search a device again.
Cannot be connected from remote device without entry of Bluetooth passkey.	Set Rely on Connection Request from All Devices in the [Local Device Property] dialog box (see page TBD) to @. Notice that others can access a personal computer without permission without entering a Bluetooth passkey that plays the part of a password.
Previously specified Bluetooth passkey cannot be continuously used without specifying Bluetooth passkey every time during connection from remote device.	<ol style="list-style-type: none"> 1. Enter Common (default) Bluetooth passkey (PIN code) in the [Local Device Property] dialog box (See page TBD). 2. Set Rely on Connection Request from This Device to @ in the [Remote Device Property] dialog box (see page TBD) of a remote device in which a common passkey is used. Then, set iCommon (default) Bluetooth passkey (PIN code) to @.
Window for entering Bluetooth passkey displayed without any operation.	The window for entering a passkey is displayed when this computer accepts a connection request from other Bluetooth device. Enter a Bluetooth passkey when you want to connect, or [Cancel] when you do not want to connect.

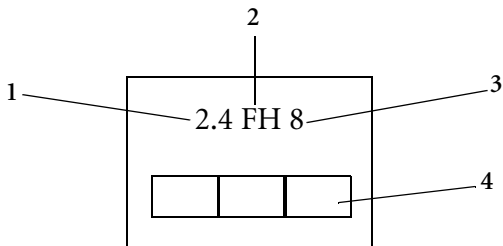
APPENDIX B - SPECIFICATIONS

Item	Specification
Interface	PCMCIA interface
Communication System	Bluetooth Specification Ver. 1.0B
Transmission Rate	<ul style="list-style-type: none">▪ Approximately 720 kbps during asymmetric-type communications.▪ Approximately 430 kbps during symmetric-type communications
Communication Distance	Approximately 160 feet (50m), depending upon the wave state and operating environment.
Output	10dBm (maximum), Power Class 1. (The efficiency of the antenna is not contained here).
Outer Dimensions	4.5"W x 2.3"D x .35"H (113.8 x 54 x 8.9mm)
Weight	Approximately 45g
Supported Operating Systems	Windows Me Windows 2000 Windows 98

APPENDIX C - OPERATING FREQUENCY BAND

The frequency band that this device uses is described on the label at the back of a PC card.

The label can be interpreted as follows:



1. The "2.4" indicates that this device is radio equipment that uses a 2.4 GHz band.
2. "FH": Indicates that the modulation system is an FH-SS system.
3. The "8" indicates that the given interference distance is less than 80 m.
4. The three blank rectangles indicate that the entire band of 2,400 MHz to 2,483.5 MHz is used, and that the band of a movable body's identification unit is unavoidable.

APPENDIX D - PROFILES SUPPORTED

This device supports the following profiles.

- Generic Access
- Service Discovery Application
- Serial Port
- Dial-up Networking
- Fax
- Generic Object Exchange
- Synchronization
- LAN Access
- Object Push
- File Transfer

APPENDIX E - GLOSSARY

Bind

Operation required when using a serial service. Binding determines that which serial port (COM number) of a local device (user's personal computer) or remote device (remote Bluetooth equipment) should be used.

Bluetooth passkey

Password set to prevent others from using Bluetooth equipment without permission. (The password can consist of any alphanumeric characters, not to exceed 16 characters.)

Connection

State in which the preparation for communication in the specified service is completed. After connection, you can communicate data using each application.

Device

Bluetooth-compatible equipment

Device address

Number that is assigned to a device. The device address is recorded inside each device and cannot be changed.

Disconnection

State in which connection is completed

Local device

User's personal computer

NDIS

Network Driver Interface Specification

Service that enables the connection with a remote device via LAN using NDIS. A local device can communicate with multiple remote devices using one NDIS connection.

Peer-to-peer connection

Bluetooth equipment connected at a ratio of one-to-one (as in personal computer to personal computer).

Remote device

Bluetooth equipment to which a local device is connected

Serial service

Service that enables the connection with a remote device using a virtual serial port. A local device can communicate with one remote device using one virtual serial port. Multiple virtual serial ports can be set.

Service

Function that can be executed in Bluetooth. The service that can be utilized varies, depending on the equipment used. This product can use NDIS service as well as serial service.

APPENDIX F - ADDITIONAL INFORMATION

Bluetooth PC card driver

The Bluetooth PC card driver is constantly being improved to offer better performance to our customers. We recommend that you periodically browse the Fujitsu Personal Computer Home Page FM WORLD (<http://www.fmworld.net/>), and download the latest information.

5200 Patrick Henry Drive,
Santa Clara, California 95054

For more information, call
1-877-FPCDIRECT (1-877-372-3473)
or visit our Web site at:
www.fujitsupc.com

For technical support call:
1-800-8fujitsu (1-800-838-5487)
or e-mail us at: 8fujitsu@fujitsupc.com

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