ICOM

Icom Inc.

IP REMOTE CONTROL SOFTWARE

RS-BA1

Icom Inc.

FOREWORD

Thank you for purchasing the RS-BA1. The RS-BA1 is designed to remotely control an Icom radio through a network.

This instruction manual contains detailed instructions on how to configure your own remote control system. Before reading this manual, please read the RS-BA1 Preparations and Installation guide ① that come with the RS-BA1, to install the software, and to connect a radio to the Base station's PC.

IMPORTANT

READ THIS INSTRUCTION MANUAL CAREFULLY before attempting to configure the software.

SAVE THIS INSTRUCTION MANUAL. This instruction manual contains important safety and operating instructions for the RS-BA1.

NOTE:
• This instruction manual based on RS-BA1 Version 1.0.
• In this manual, Microsoft® Windows® 7 Home Premium, Microsoft® Windows® 7 Professional, and Microsoft® Windows® 7 Ultimate are described as "Windows 7."

Microsoft® Windows Vista® Home Basic, Microsoft® Windows Vista® Home Premium, Microsoft® Windows Vista® Business and Microsoft® Windows Vista® Ultimate are described as "Windows Vista."

Microsoft® Windows® XP Professional and Microsoft® Windows® XP Home Edition are described as "Windows XP."

PRECAUTIONS

IMPORTANT! To remotely control radios using the RS-BA1, **BE SURE** that you comply with your local regulations.

The RS-BA1 is designed to remotely control radios that have a USB port (Type B).
RS-BA1 operation with the Base station's PC connected to the radio's ACC socket, MIC connector, or S/P DIF jack for audio communication cannot be guaranteed.

Depending on your radio, a few functions or modes cannot be used, or you will need to update the radio's firmware to operate the CW keyer, using the RS-BA1.

Depending on the PC performance (OS, environment, etc.), the USB audio may be interrupted, or a control by the PC software may get delayed.

If the CPU has a heavy load, the USB audio is easily interrupted.

The settings of the installed audio player may be changed after connecting a radio to the PC.

For the operation of PC and peripheral devices, follow the instructions provided in the manuals which come with the PC and peripheral devices.

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Unauthorized reproduction or transmission of this manual, or any part hereof, is prohibited.

The content of this manual and the software associated with the RS-BA1, and the appearance of the RS-BA1 are all subject to change without notice.

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■ Overview of the RS-BA1

❍ *The RS-BA1 consists of the Remote Utility, used to configure a remote control system, and the Remote Control-ler, used to send CI-V commands to a radio to remotely operate it.*

❍ *With the RS-BA1, you can configure a remote control system through the Internet, or a LAN.*

❍ *The RS-BA1 provides highly qualified audio communication between your PC and an Icom amateur radio through a USB port (Type B)*.*

　* You can also control Icom radios using an RS-232C interface.

About the remote control system

An RS-BA1 remote control system consists of at least one PC, which is used as a Base station (Server) and at least one PC, which is used as a Remote station (Client). Both PCs have to be connected with a network.
Radios are physically connected to the Base station, and the Remote station can operate the radios through the network.
In the remote control system, CI-V commands, control commands such as "Connect" and "Disconnect," and audio are exchanged between a Base station and a Remote station, through their Remote Utilities.

Remote control system
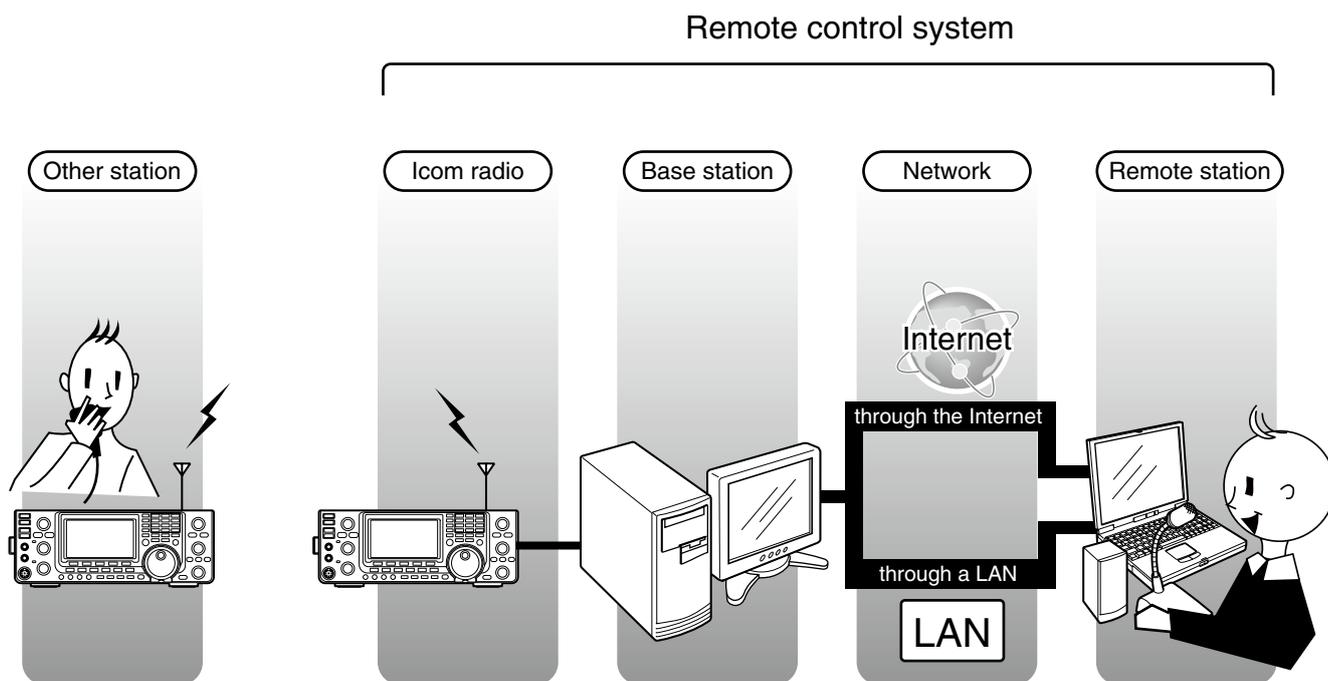
* In this illustration, routers or other devices are not described.

■ About the audio communication in the remote control system

In the remote control system, audio is exchanged between a radio which is connected to a Base station's PC and a speaker and a microphone which are connected to a Remote station's PC, through Remote Utilities, as illustrated below.
In this column, the audio settings needed for the audio communication are described.
For detailed explanation, please refer to each reference page.
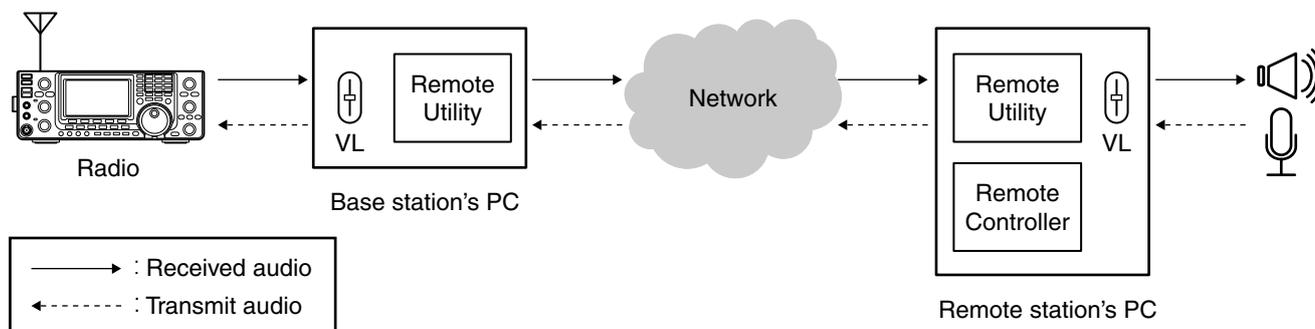
◇ Base station's audio settings

Setting the PC

Adjust the audio level of the audio device to which a radio is physically connected. (pp. 4 to 6)

Settings in the Remote Utility

➥ Select an audio device to which a radio is physically connected, for the audio communication between the radio and the Base station's PC. (p. 19)
➥ Limit the maximum level of the sound quality or audio codec that Remote stations can adjust. (p. 19)

◇ Remote station's audio settings

Setting the PC

Adjust the audio level of the audio device to which a speaker and a microphone, or a headset are connected. (pp. 4 to 6)

Settings in the Remote Utility

➥ Select an audio device to which a speaker and a microphone, or a headset are connected, for the audio communication through a network. (p. 25)
➥ Adjust the audio quality. (p. 24)
➥ Adjust the audio level of the received or transmit audio. (p. 26)
   • The Remote Utility's AF audio level volume, and the Remote Controller's [AF] dial move simultaneously.

Settings in the Remote Controller

➥ To use transmit audio input from the PC, select a radio's connector which is connected to the Base station's PC. (p. 31)
➥ Adjust the input level from the selected connector. (p. 31)

1 PREPARATION

■ Firewall setting

The Windows operating system includes a Firewall setting as standard; this is the security function that can prevent improper access through the Internet.
To let the Remote Utility work properly, add it as an exception in the Firewall.

Windows 7

① Click [Control Panel] in the <Start> menu.
② "Adjust your computer's settings" appears, then click [System and Security].

③ Click [Allow a program through Windows Firewall].

④ "Allowed Programs" appears, then click [Change settings].
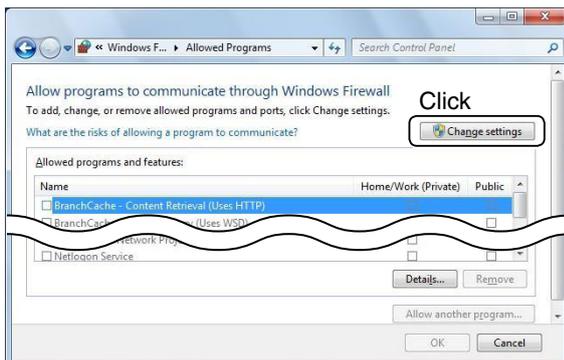
⑤ Click [Allow another program...].
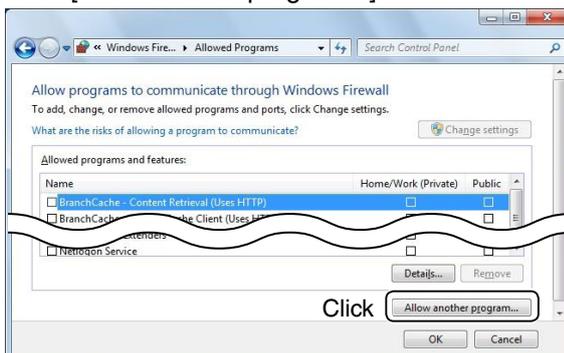
⑥ "Add a Program" appears, and click [Remote Utility] and then [Add].
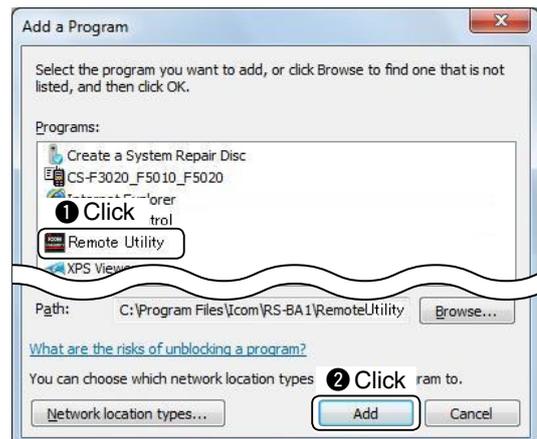
⑦ Returns to "Allowed Programs."
In the "Allowed programs and features" list, check that [Remote Utility] is displayed, and a check mark is in the box, and then click [OK].
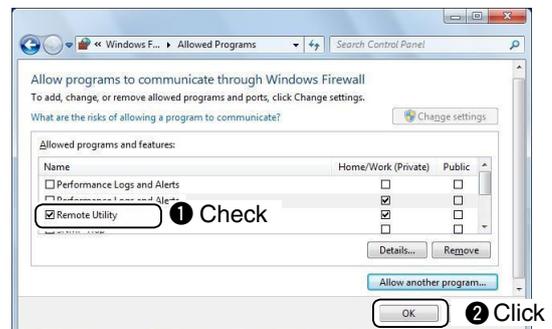
Windows Vista

① Click [Control Panel] in the <Start> menu.

② Click [Security].

Click

Security

③ Click [Turn Windows Firewall on or off].

Click

④ If "User Account Control" appears, click [Continue].

⑤ "Windows Firewall Settings" appears.
   If a check mark is inserted in "Block all incoming connections," click to remove it.

Remove the check mark

Block all incoming connections

⑥ Click the [Exceptions] tab, and then click [Add program...].
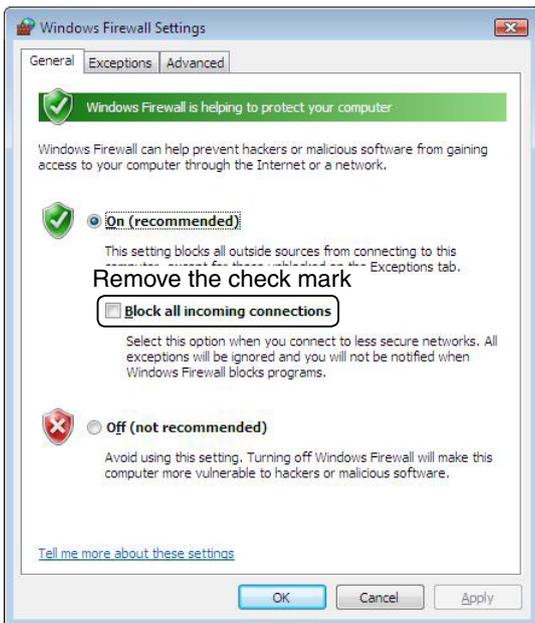
❶ Click

Exceptions

❷ Click

Add program...

⑦ "Add a Program" appears, and click [Remote Utility] and then [OK].
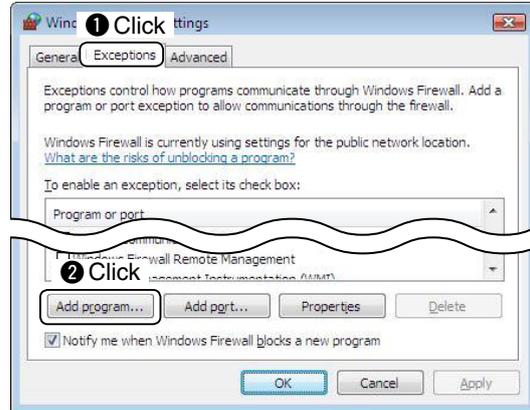
Remote Utility ❶ Click
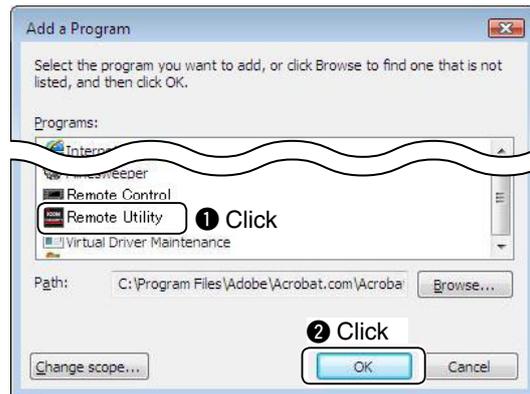
❷ Click OK

⑧ Returns to "Windows Firewall Settings" on the [Exceptions] tab.
   In the "Program or port" list, check that [Remote Utility] is displayed, and a check mark is in the box, and then click [OK].

❶ Check

Remote Utility

❷ Click OK

■ Firewall setting

Windows XP

① Click [Control Panel] in the <Start> menu.
② Double-click [Windows Firewall].

Double-click

③ "Windows Firewall" appears.
If a check mark is inserted in "Don't allow exceptions," click to remove it.

Remove the check mark

☐ Don't allow exceptions
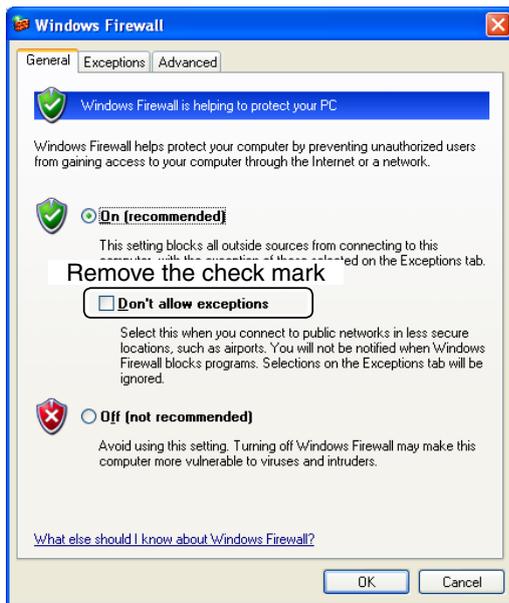
④ Click the [Exceptions] tab, and then click [Add Program...].
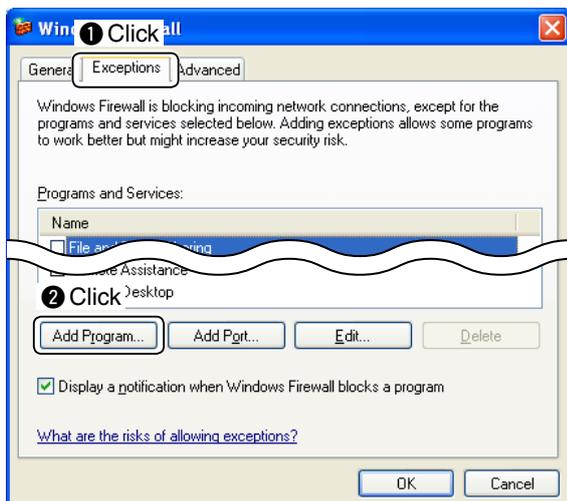
❶ Click

❷ Click

⑤ "Add a Program" appears, and then click [Remote Utility] and then [OK].
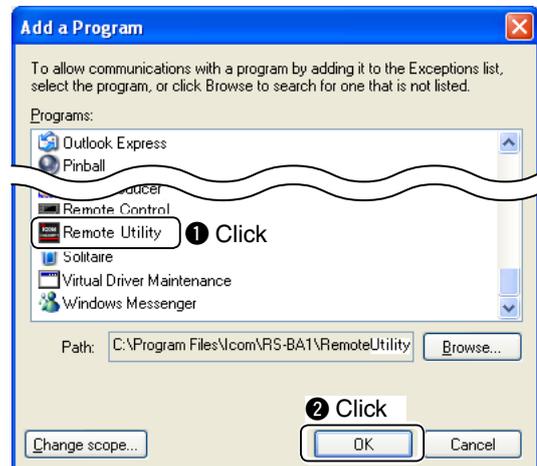
❶ Click

❷ Click

⑥ Returns to "Windows Firewall" on the [Exceptions] tab.
In the "Programs and Services" list, check that [Remote Utility] is displayed, and a check mark is in the box, and then click [OK].

❶ Check

❷ Click
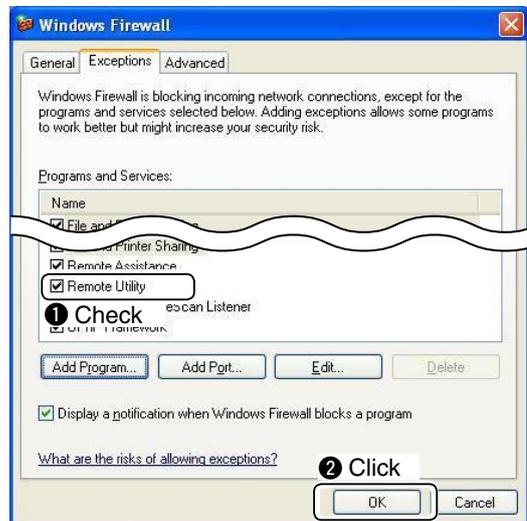
■ Volume adjustment for audio device

Before you start communicating using the RS-BA1, the PC's audio volume must be set to a proper level.
When several audio devices are used, you have to set each one individually.
• Configurable items, displayed screens and used terms differ, depending on your PC.

When your PC is used as a Base station
Adjust the audio level of the device that is connected to your radio.
The "Playback" setting is to adjust the modulation input level to the radio, and the "Recording" setting is to adjust the received audio level from the radio.
Before adjusting, connect the radio and your PC, and turn ON the radio. (See the RS-BA1 Installation guide ① that comes with the RS-BA1.)

When your PC is used as a Remote station
Adjust the audio level of the device that your microphone, speaker or headset are connected to.
The "Playback" setting is to adjust the listening level of the speaker, and the "Recording" setting is to adjust the transmit modulation level to the radio.

Windows 7/ Windows Vista

(This description is based on Windows 7.)

① Right-click the speaker icon on the taskbar, and click "Playback devices" or "Recording devices."

② "Sound" appears, and then click [Playback].
Select an audio device that you will use, in the list that appears, and then click [Properties].
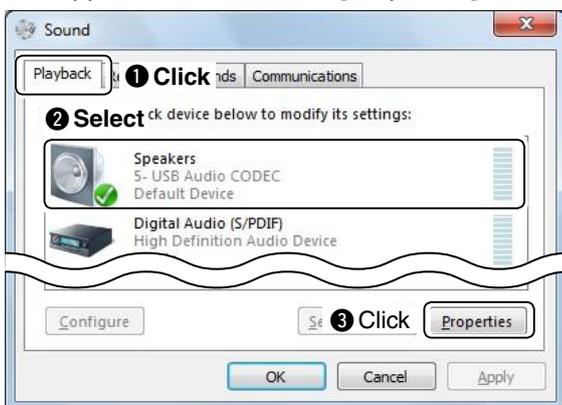
③ "Speaker Properties" appears, and then confirm "Use this device (enable)" is displayed in the **Device Usage** menu on the [General] tab.
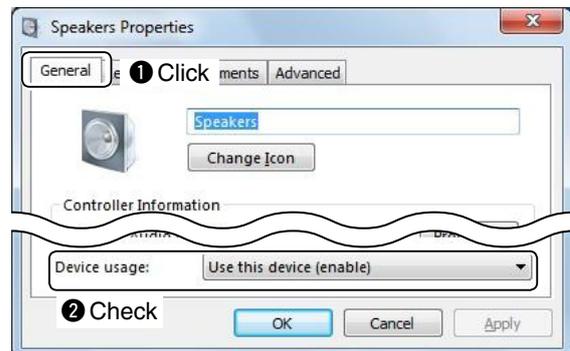
④ Click the [Levels] tab.
Adjust the speaker's audio level by moving the slide control to the right or left.
After adjusting, click [OK] to close "Speaker Properties."
• When the mute setting is turned ON in "Speakers" ( ), click the icon to turn OFF.
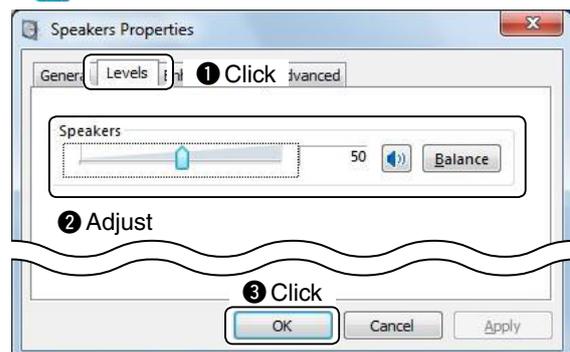
■ Volume adjustment for audio device

Windows 7/ Windows Vista (Continued)

⑤ Click the [Recording] tab on "Sound."
Select an audio device that you will use, in the list that appears, and then click [Properties].
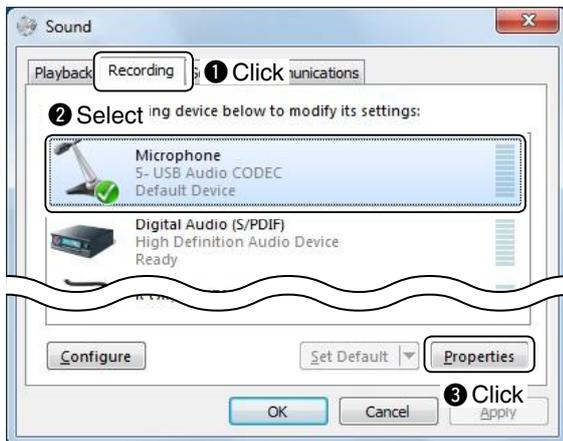
⑥ "Microphone Properties" appears, and then confirm "Use this device (enable)" is displayed in the **Device Usage** menu on the [General] tab.
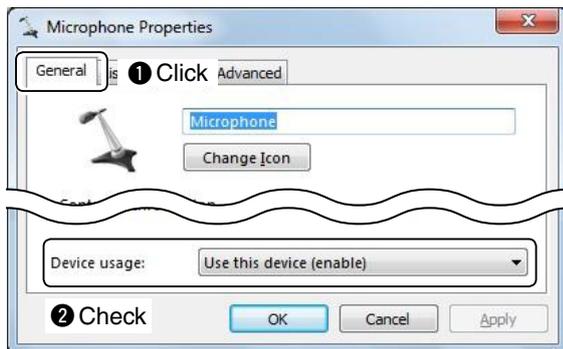
⑦ Click the [Listen] tab.
Confirm that a check mark is not inserted in "Listen to this device."
• If you use the Windows Vista, the [Listen] tab does not appear.

⑧ Click the [Levels] tab.
Adjust the microphone's audio level by moving the slide control to the right or left.
After adjusting, click [OK] to close "Microphone Properties."
• When the mute setting is turned ON in "Microphone" (🔇), click the icon to turn OFF.
• If you use the Windows Vista without any Service Pack installed, and use "USB Audio CODEC" as the audio device, the [Levels] tab's sheet is not displayed.
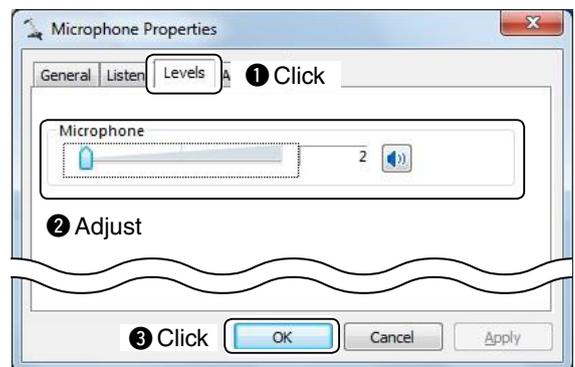
NOTE:
If you use the Windows 7 and use "USB Audio CODEC" as the audio device, set the audio level to 2. Setting the level to 3 or higher can distort the audio.

Windows XP

① Click [Control Panel] in the <Start> menu.
② Click [Sounds, Speech, and Audio Devices].

③ Click [Sounds and Audio Devices].

④ "Sounds and Audio Device Properties" appears, and then click the [Audio] tab.
Select an audio device you will use, in the **Default device** menu in the Sound playback, and then click [Volume...].

⑤ "Speaker" appears.
To adjust the audio volume level, move the Speaker bar that adjusts the whole audio volume level, and move the Wave bar that adjusts the program's audio volume level, up or down.
• When the "Mute all" or "Mute" setting is turned ON (☑), remove all the check marks to turn OFF.
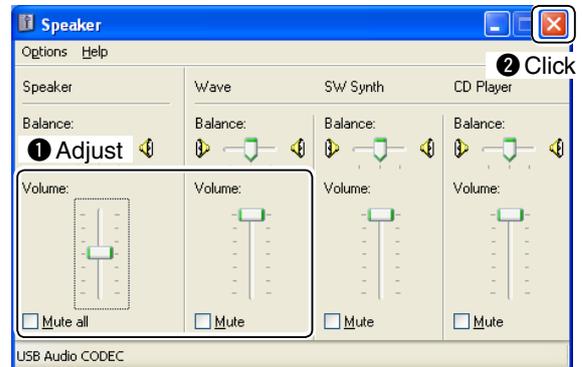
⑥ Return to the [Audio] tab in "Sounds and Audio Device Properties".
Select an audio device that you will use, in the **Default device** menu in the Sound recording.
When "USB Audio CODEC" is used:
[Volume...] is deactivated, and the recording audio volume level cannot be changed.
When other than "USB Audio CODEC" is used:
Click [Volume...] to go to step ⑦.

⑦ "Recording Control" appears.
Insert a check mark in the "Select" box of the audio control item, that audio data will be input into. Then move the bar up or down to adjust the audio volume level.
After adjusting, click [✕] to close the screen.
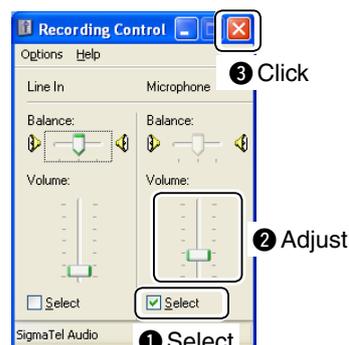
■ To allow access from the Internet

⧙ Only when you configure the remote control system through the Internet, you need the following settings on your router.

If you configure the remote control system through the Internet, whether you are operating as a Base station or a Remote station, you need to configure your router to allow access from the Internet.
Configure the port forwarding settings, and IP filter settings on your router, for port numbers 50001, 50002, and 50003.
Please refer to your router's manual for details of how to configure the settings.

■ Remote Utility's screen description

Describes the Remote Utility's screen contents.
Regarding the Remote Controller, see the chapter 4, "REMOTE CONTROLLER'S BASIC OPERATION." (p. 28)
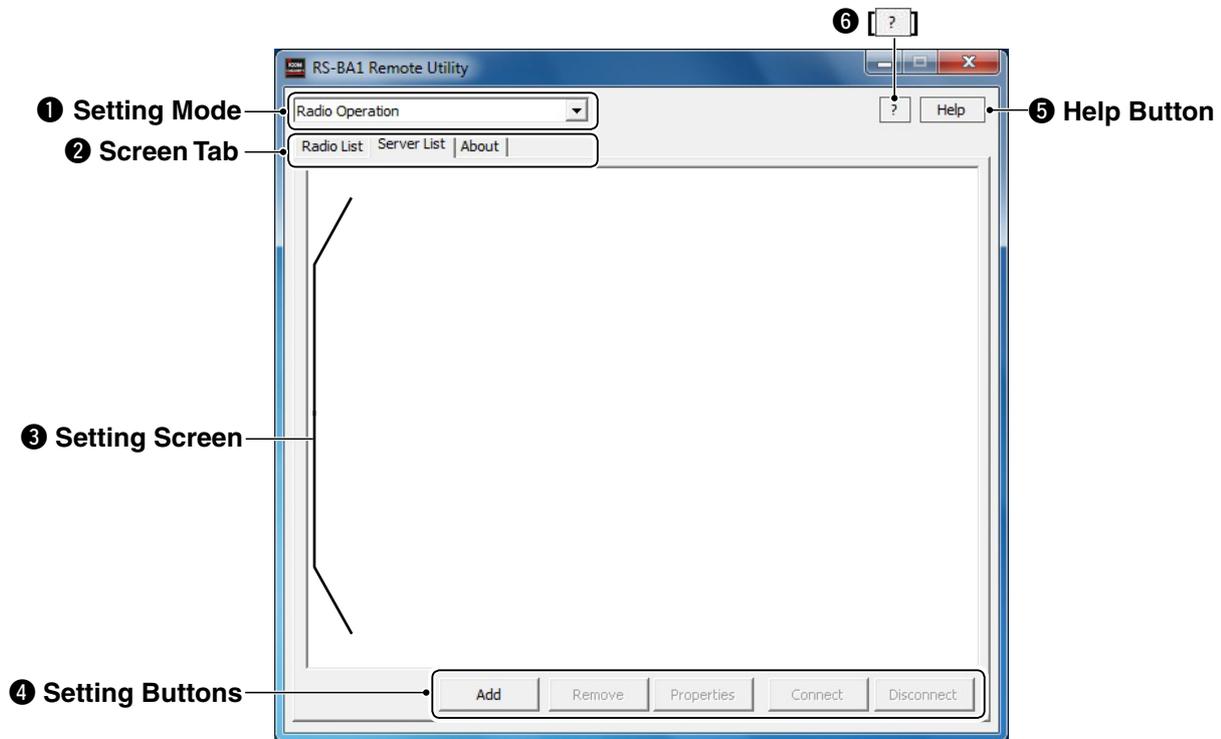
❶ Setting Mode
Select either Radio Operation, Server Setting or Network Setting mode, in the drop-down list.

❷ Screen Tab
Click a tab to select its setting screen.

❸ Setting Screen
Displays various settings you can make.

❹ Setting Buttons
Click to store the settings, open a different screen, or for other functions.

❺ Help Button
Click to open the Remote Utility help file.
Pushing your keyboard's [F1] key also opens the file.

❻ [?]
After clicking the button, move the "**?**" cursor over a button or an item, then click to display its help window.

Screen Contents

Setting Mode	Description
Radio Operation	**Radio List** Shows your accessible radios.
	Server List When you are configuring a Remote station (client), register Base stations (Server) to access.
Server Setting	**User List** When you are configuring a Base station, register users to allow them to access the Base station.
	Radio List When you are configuring a Base station, register radios which are physically connected to your PC.
Network Setting	**Network** Configure your PC's network environment.
Common	**About** Shows registration and production information, version number of the Remote Utility and the drivers.

2 OPERATING AS A BASE STATION

■ To configure the remote control system through the Internet

If you configure the remote control system through the Internet, Remote stations can access the Base station using its public IP address. If you utilize a Dynamic DNS service, Remote stations can access the Base station by not only its public IP address, but also by its domain name.

◇ To let Remote stations access the Base station using its public IP address

A public IP address is an address that is accessible over the global Internet. If you use a dynamic public IP address, it is chosen from a pool of available addresses and changes each time you connect to the Internet. Because of this, Remote stations will have to match the IP address each time to access the Base station.

If you use a dynamic public IP address, we recommend that you utilize the Dynamic DNS service to allow the Remote stations to access the Base station using its domain name, or use a static public IP address.

Please refer to your router's manual for details of how to configure your router to set the public IP address.
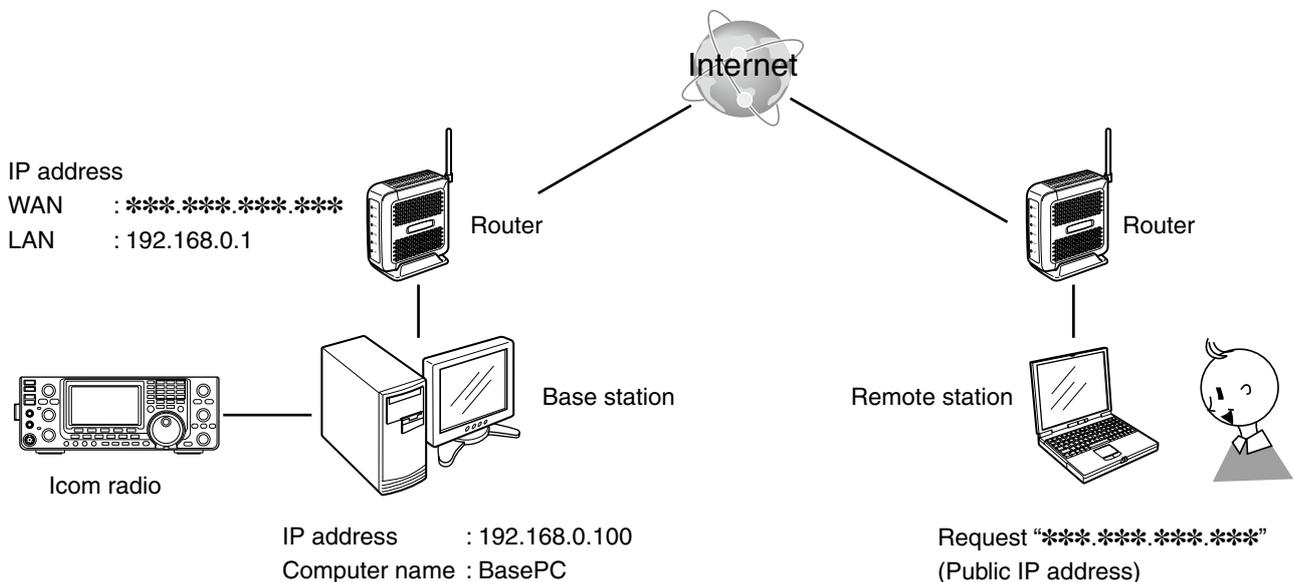
◇ To let Remote stations access the Base station by its domain name

If you set up an account for a Dynamic DNS server, you can configure your router to update the Dynamic DNS server with your dynamically changing IP address. Even if you don't have a static public IP address, you can allow Remote stations to access the Base station through the Internet, using its domain name.
Please refer to your router's manual for details of how to configure your router to use the Dynamic DNS services.

Dynamic DNS server

Update with your dynamically changing IP address

Internet

IP address
WAN   : ✱✱✱.✱✱✱.✱✱✱.✱✱✱
LAN   : 192.168.0.1
Domain name
Icom-rsba1.com

Router

Router

Icom radio

Base station

Remote station

IP address   : 192.168.0.100
Computer name : BasePC

Request "Icom-rsba1.com"
(Domain name)
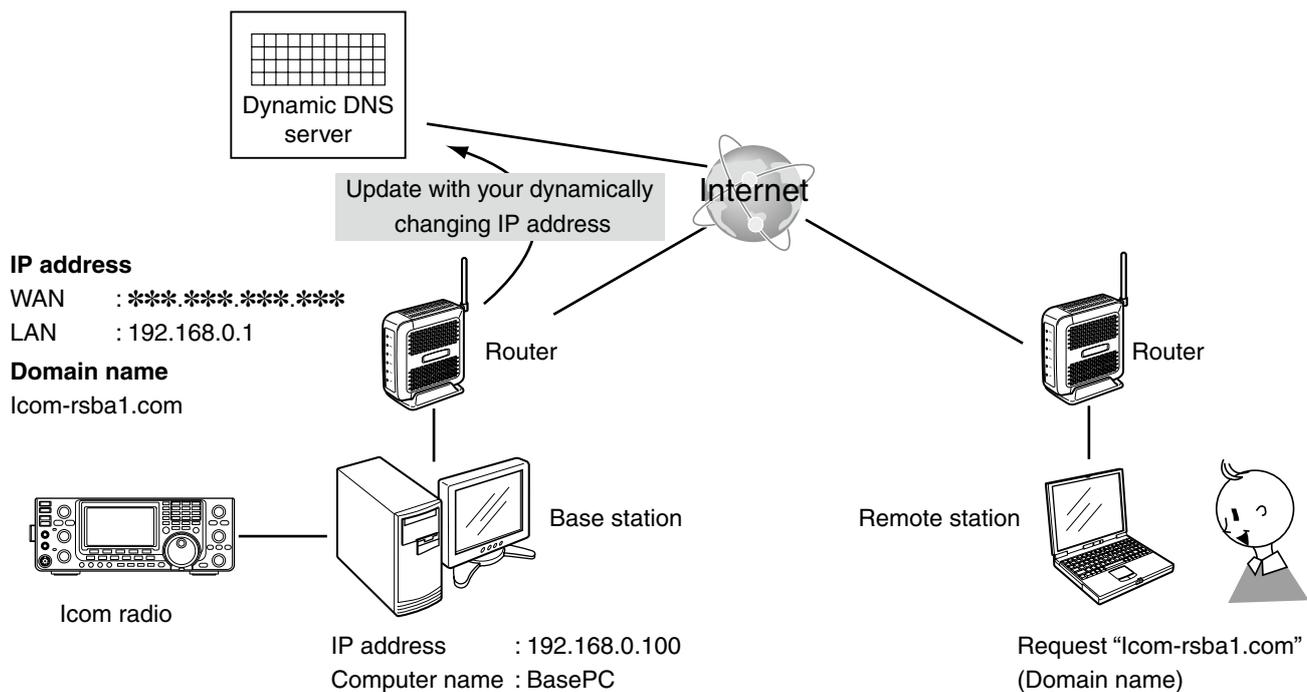
■ To configure the remote control system through a LAN

If you configure the remote control system through a LAN, Remote stations can access the Base station using its computer name or IP address.

This column describes how to find out the Base station's computer name, or IP address, to be requested by Remote stations, with an example illustrated below.

Router

Base station

Remote station

Icom radio

IP address   : 192.168.0.10
Computer name : BasePC

Request "192.168.0.10" (IP address)
or "BasePC" (Computer name)
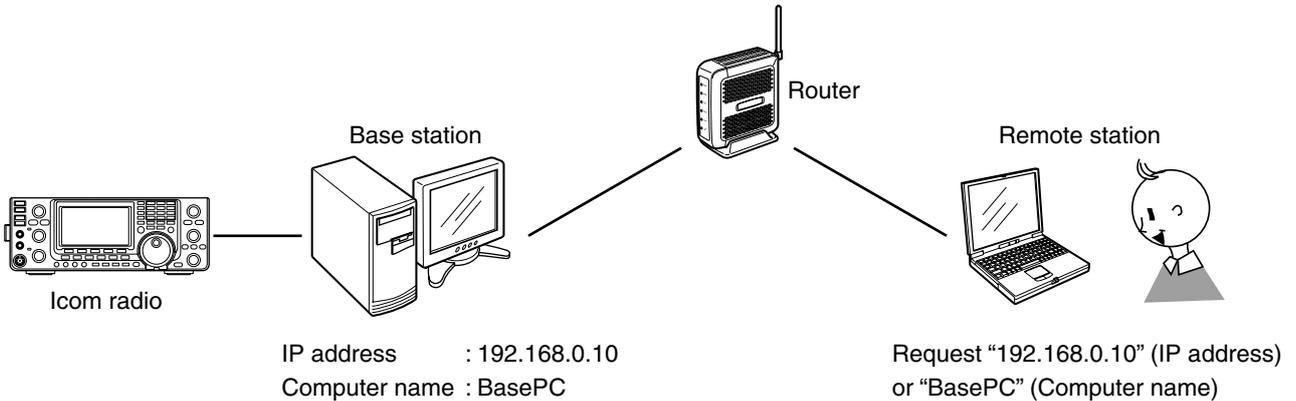
◇ To let Remote stations access the Base station using its computer name

A computer name is used on networks to identify a particular workstation on the network.
Find out your PC's computer name to let Remote stations access the Base station using it.

Windows 7/ Windows Vista

(This description is based on Windows 7.)

① Right-click [Computer] in the <Start> menu, and then click [Properties].

❷ Right-click

Map network drive...
Disconnect network drive...

Show on Desktop
Rename

Properties

All Programs

❶ Click   *ams and files*
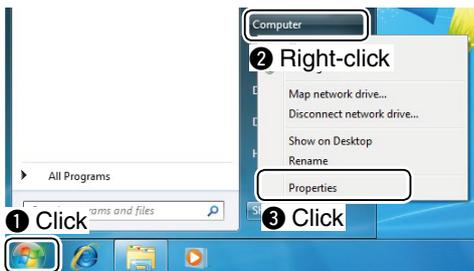
❸ Click

② "System" appears, and then check the name which is displayed in the **Computer name** field.

Control Panel Home

System

Device Manager
Remote settings
System protection
Advanced system settings

Rating: Windows Experience Index
Processor: Intel(R) Core(TM)2 CPU   6400 @
                   2.13GHz   2.13 GHz
Installed memory (RAM): 1.00 GB
System type: 32-bit Operating System
Pen and Touch: No Pen or Touch Input is available for
                   this Display

Computer name, domain, and workgroup settings

See also

Action Center
Windows Update
Performance Information and
Tools

Check   Computer name: Base PC   Change settings
         Full computer name: Base PC
         Computer description:
         Workgroup:

Windows activation

Windows XP

① Right-click [My Computer] in the <Start> menu, and then click [Properties].

My Computer

❷ Right-click

Search...
Manage

Map Network Drive...
Disconnect Network Drive...

Show on Desktop
Rename

Properties

❸ Click

All Programs

❶ Click   Log Off   Turn Off Computer

start

② "System Properties" appears, and then click the [Computer Name] tab.
Check the name which is displayed in the **Full computer name** field.

System Properties

System Restore   Automatic Updates   Remote
General   Computer Name   Hardware   Advanced

Windows ❶ Click g information to identify your computer
on the network.

Computer description:

❷ Check   For example: "Kitchen Computer" or "Mary's
           Computer"

Full computer name: Base PC

Workgroup:

To use the Network Identification Wizard to join a
domain and create a local user account, click Network
ID.   Network ID
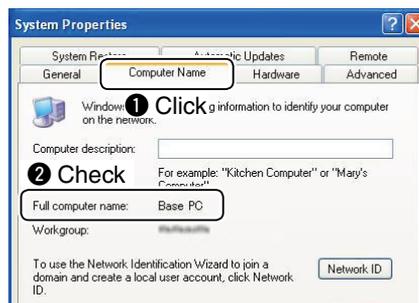
◇ To let Remote stations access the Base station using its IP address

An IP address is a numerical label that is assigned to devices participating in a computer network.
Find out your PC's IP address to let Remote stations access the Base station using it.

Windows 7

① Right-click the Network icon on the taskbar, and then click [Open Network and Sharing Center].

❷ Click ubleshoot problems
Open Network and Sharing Center
9:52 AM
9/15/2010
❶ Right-click
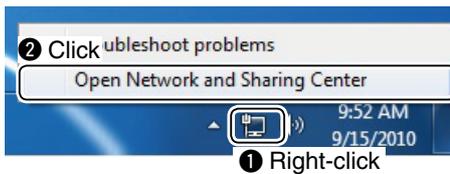
② "Network and Sharing Center" appears, then click [Local Area Connection].

Control Panel Home
Change adapter settings
Change advanced sharing settings

View your basic network information and set up connections
See full map
WINDOWS7-PC
(This computer)
Network
Internet

View your active networks
Connect or disconnect
Network
Work network
Access type: Internet
Connections: Local Area Connection
Click

See also
HomeGroup
Internet Options
Windows Firewall

Change your networking settings
Set up a new connection or network
Set up a wireless, broadband, dial-up, ad hoc, or VPN connection; set up a router or access point.

③ "Local Area Connection Status" appears, then click [Details...].

Local Area Connection Status
General
Connection
IPv4 Connectivity: Internet
IPv6 Connectivity: No Internet access
Media State: Enabled
Duration: 00:05:01
Click   100.0 Mbps
Details...

Activity
Sent —   — Received
Bytes: 558,677 | 1,360,265

Properties   Disable   Diagnose
Close

④ "Network Connection Details" appears, then check an IP address which is displayed in the **Address** field.
Click [Close] to close the window.
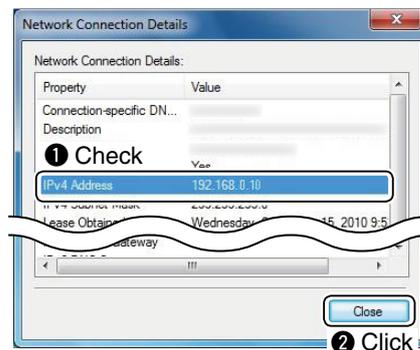
Network Connection Details
Network Connection Details:
Property   Value
Connection-specific DN...
Description
❶ Check   Yes
IPv4 Address   192.168.0.10
IPv4 Subnet Mask   255.255.255.0
Lease Obtained   Wednesday ... 15, 2010 9:5
Gateway
Close
❷ Click

When the **DHCP Enabled** field reads "Yes" in the "Network Connection Details" window, the DHCP server assigns a dynamic changing IP address to your PC.
Because of this, Remote stations will have to match the IP address each time to access the Base station.
If the **DHCP Enabled** field reads "Yes," we recommend that you let Remote stations access the Base station using its computer name. (p. 11)

■ To configure the remote control system through a LAN

◇ To let Remote stations access the Base station using its IP address (continued)

Windows Vista

① Right-click [Computer] in the <Start> menu, and then click [Properties].

Network

❷ Right-click

Map Network Drive...
Disconnect Network Drive...

Properties

❶ Click   ❸ Click

All Programs

② "Network and Sharing Center" appears, then click [View status].
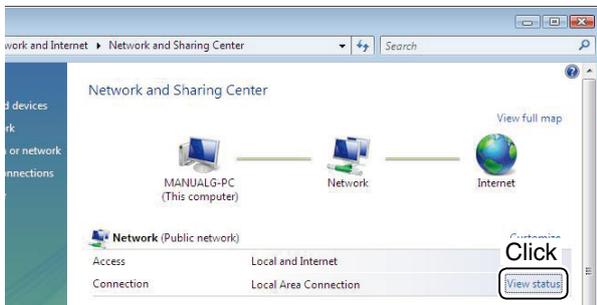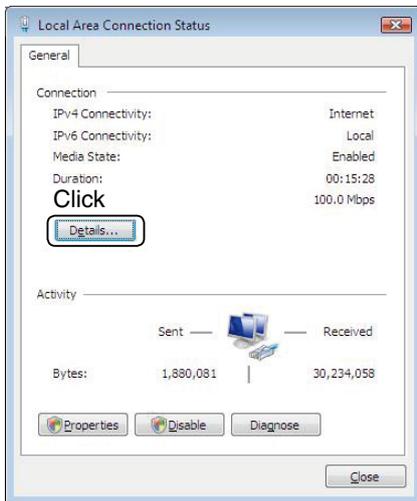
work and Internet ▸ Network and Sharing Center   Search

Network and Sharing Center

View full map

MANUALG-PC
(This computer)   Network   Internet

Network (Public network)

Access   Local and Internet   Click

Connection   Local Area Connection   View status

③ "Local Area Connection Status" appears, then click [Details...].

Local Area Connection Status

General

Connection
IPv4 Connectivity: Internet
IPv6 Connectivity: Local
Media State: Enabled
Duration: 00:15:28
Click   100.0 Mbps

Details...

Activity
Sent —— —— Received

Bytes: 1,880,081 | 30,234,058

Properties   Disable   Diagnose

Close

④ "Network Connection Details" appears, then check an IP address which is displayed in the **IP Address** field.
Click [Close] to close the window.

Network Connection Details

Network Connection Details:

Property   Value
Description
❶ Check
IPv4 IP Address   192.168.0.10
IPv4 Subnet Mask   255.255.255.0
Lease Obtain   Monday, Se   010 3:32:08

Close

❷ Click
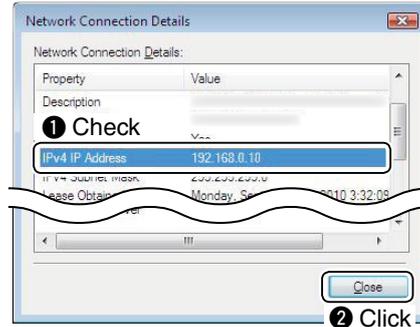
When the **DHCP Enabled** field reads "Yes" in the "Network Connection Details" window, the DHCP server assigns a dynamic changing IP address to your PC.
Because of this, Remote stations will have to match the IP address each time to access the Base station.
If the **DHCP Enabled** field reads "Yes," we recommend that you let Remote stations access the Base station using its computer name. (p. 11)

Windows XP

① Right-click [My Network Places] in the <Start> menu, and then click [Properties].

When the **Address Type** field reads "Assigned by DHCP" in the "Local Area Connection Status" window, the DHCP server assigns a dynamic changing IP address to your PC.
Because of this, Remote stations will have to match the IP address each time to access the Base station.
If the **Address Type** field reads "Assigned by DHCP," we recommend that you let Remote stations access the Base station using its computer name. (p. 11)

② "Network Connections" appears.
Right-click [Local Area Connection], and then click [Status].
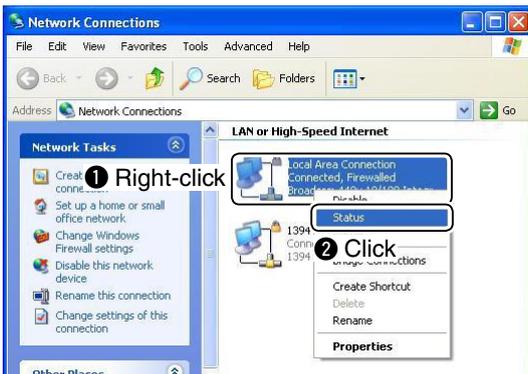
③ "Local Area Connection Status" appears, then click the [Support] tab.
Check an IP address which is displayed in the **IP Address** field, and then click [Close] to close the window.

■ Network setting

Configure your PC's network environment in the Remote Utility.
The settings will take effect after rebooting the Remote Utility.
When you first open the Remote Utility, the Network Setting screen appears.
After configuring your network environment, you can display other setting screens.

① In the Remote Utility, select the Network Setting mode. Then, click [Network] tab to display the Network screen.
② Enter a name for your PC in the **PC Name** field, of up to 16 characters.
DO NOT set the same name to more than one PC on your network.
③ Check the port numbers of the Control, Serial and Audio ports.
You should use the default port numbers for these ports.
④ Select your internet access line type in the **Internet Access Line** menu.
⑤ Click [Apply] to save the network settings.
After clicking, the "Take effect after restarting the application" screen appears, then click [OK].
The settings will take effect after rebooting the Remote Utility.

NOTE:
If you configure the remote control system through the Internet, and change the port number of the Control, Serial or Audio port, you should configure the port forwarding settings and the IP filter settings on your router once again. (p. 7)

■ User registration

In the Remote Utility, register users to allow them to access the Base station.
The Base station verifies the user ID and password when Remote stations attempt to access the Base station. If the User ID or password is incorrect, the Remote station cannot access the Base station.

◇ To register a user

① In the Remote Utility, select the Server Setting mode. Then, click the [User List] tab to display the User List screen.

② Enter a user ID in the **User ID** field, of up to 16 characters, case-sensitive.
You cannot register an already registered ID.

③ Enter a password in the **Password** field, of 8 to 16 characters, case-sensitive.
At least two different characters must be used.

④ To set the user as an administrator, click the **Administrator** box to insert a check mark.
Administrator Remote stations can terminate a connection between another Remote station and a radio. (p. 20)

⑤ Click [Add] to save the settings.
After clicking, the User Registration screen appears. Select radios which you allow the Remote station to use.
After selecting, click [OK] to save the settings and close the screen.

NOTE:
• To remove a Remote station from the User List, select its user ID, and then click [Remove].
The Remote station will not be able to access the Base station.
• If you select radios to allow a Remote station to use in the User Registration screen, the Remote station's user ID is automatically registered in the radio's Permitted Users list. (p. 18)
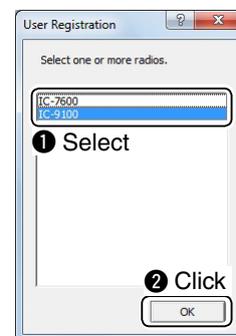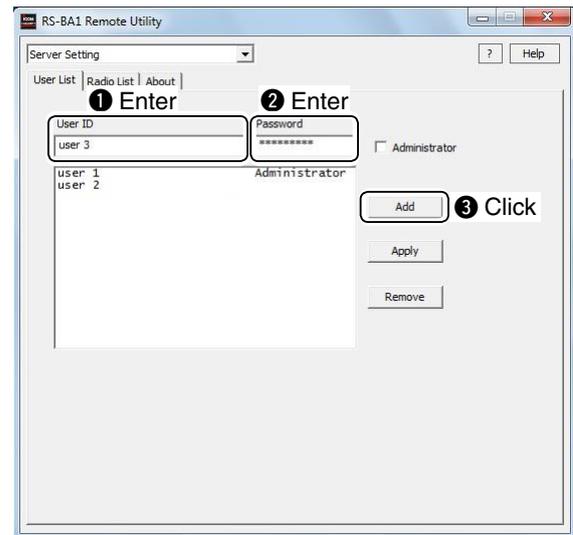
To prevent unauthorized access:
Set a long and strong password so that no one can possibly guess it.
Mix upper and lower case letters, numbers or characters.

■ Radio registration

In the Remote Utility, register the radios which are physically connected to your PC.
Please read the RS-BA1 Installation guide ①, to connect a radio to your PC.

• Radio Registration screen

◇Radio's basic information
  setting (p. 18)

◇Radio's Remote station
  registration (p. 18)

◇Adjust limitation setting
  (p. 19)

◇COM port and audio
  device setting (p. 19)
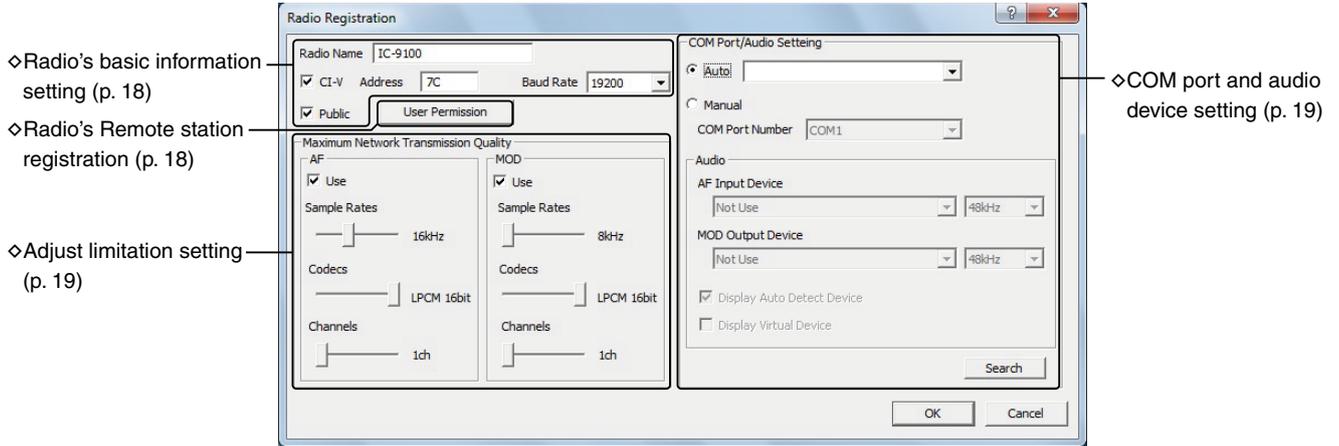
◇ To register a radio

Procedure

Step 1:
Open the Radio Registration screen
- -
Server Setting mode ➜ Radio List screen ➜ [Add]

Step 2:
Configure the radio's basic information
- -
◇Radio's basic information setting (p. 18)

Step 3:
Register remote stations to allow them to access the radio
- -
◇Radio's Remote station registration (p. 18)

Step 4:
Limit the maximum level of the Remote station's audio quality adjustment
- -
◇Adjust limitation setting (p. 19)

Step 5:
Set the COM port and audio devices
- -
◇COM port and audio device setting (p. 19)

Step 6:
Save the settings
- -
Radio Registration screen ➜ [OK]

NOTE:
To remove a radio from the Radio List screen, select it in the list, and then click [Remove].

◇ Radio's basic information setting

① In the Remote Utility, select the Server Setting mode. Then, click the [Radio List] tab to display the Radio List screen.
② Click [Add] to display the Radio Registration screen.
③ Enter a name for the radio in the **Radio Name** field, of up to 16 characters.
④ Check a check mark in the **CI-V** box, and then enter the radio's CI-V address in the **Address** field.
⑤ Select the radio's baud rate in the **Baud Rate** menu.
⑥ Click the **Public** box to insert a check mark.
⑦ Click [OK] to save the settings, and close the screen.
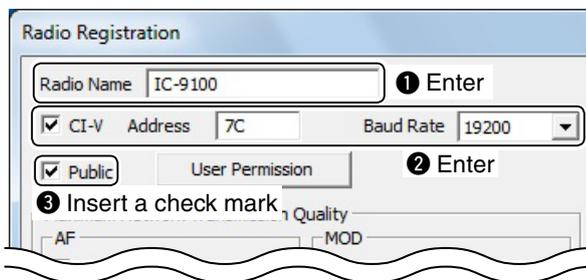
NOTE:
• Be sure to set the same CI-V address and the baud rate that are programmed into the radio.
 If the radio's baud rate is set to "Auto," select "19200" in the **Baud Rate** menu.
 See the radio's instruction manual for details on how to confirm the radio's CI-V address and baud rate, or how to change them.
• To not allow Remote stations to access a radio, remove the check mark from the **Public** box.

◇ Radio's Remote station registration

Of the Remote stations that can access the Base station, you can select Remote stations to allow them to access the radio.

① In the Remote Utility, select the Server Setting mode. Then, click the [Radio List] tab to display the Radio List screen.
② Select a radio, and then click [Properties] to display the Radio Registration screen.
③ Click [User Permission].
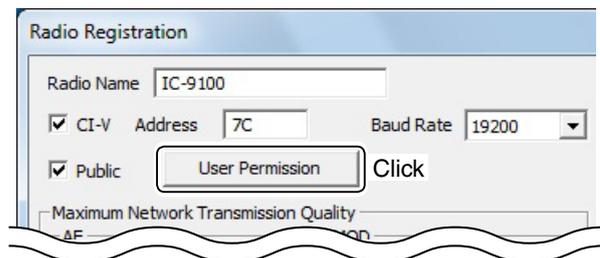
④ The Radio User Permission screen appears.
 Select Remote stations in the **Registered Users** list, and then click [Permit].
 Check the selected Remote stations are displayed in the Permitted Users list, and then click [OK] to close the screen.
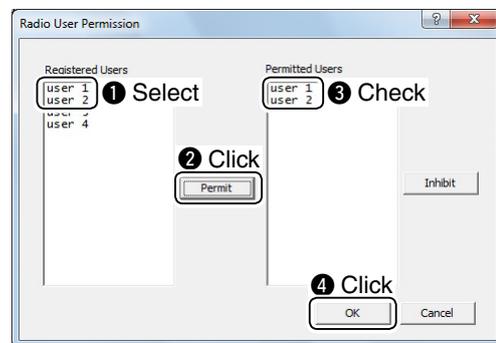
⑤ Click [OK] in the Radio Registration screen to save the settings and close the screen.

NOTE:
• To remove a Remote station from the Permitted Users list, select it in the list, and then click [Inhibit].
• When you newly register a Remote station, you can select radios in the User Registration screen, to allow the Remote station to use them. (p. 16)

■ Radio registration

◇ Adjust limitation setting

Remote stations can adjust the sound quality or audio codec. Higher audio qualities will increase the amount of data, which may overload the Base station's PC, and may influence other application on the PC.
The Base station can limit the maximum level of the sound quality or audio codec.
Remote stations cannot program higher values than the values programmed here.

① In the Remote Utility, select the Server Setting mode. Then, click the [Radio List] tab to display the Radio List screen.
② Select a radio, and then click [Properties] to display the Radio Registration screen.
③ Check that a check mark is in the **AF - Use** and **MOD-Use** box.
④ Limit the received or transmit audio sampling rate that Remote stations can adjust, in the **Sample Rates** bar.
  Higher sampling rates will improve the audio quality. However, they also increase the amount of data, which can cause voice delay or jumpiness, depending on the network condition.
  Lower sampling rates will decrease the audio quality. However, they also decrease the amount of data.
⑤ Limit the received or transmit audio codec that Remote stations can adjust, in the **Codecs** bar.
⑥ Select whether or not to allow Remote stations to select stereo sound, in the **Channels** bar.
  When you select "1 ch" (monaural), Remote stations cannot program "2 ch" (stereo).
⑦ Click [OK] to save the settings and close the screen.
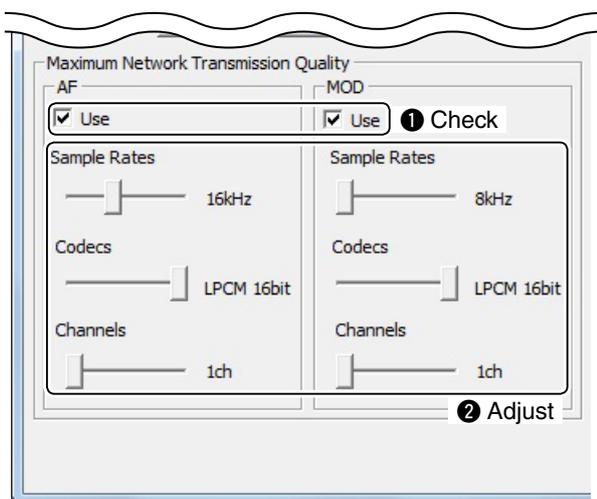
◇ COM port and audio device settings

Set the COM port which is used to transmit CI-V commands, or audio devices which are used for the audio communication.
The explanation is based on when you connect a radio to your PC using a USB cable.
After connecting and turning ON the radio, make the following settings.

① In the Remote Utility, select the Server Setting mode. Then, click the [Radio List] tab to display the Radio List screen.
② Select a radio, and then click [Properties] to display the Radio Registration screen.
③ Click the **COM Port/Audio Setting - Auto** radio button.
  Radios which are connected to your PC using a USB cable are displayed in the drop-down list.
  Select an appropriate one from the list, then the COM port and audio device are automatically set.
④ Click [OK] to save the settings and close the screen.
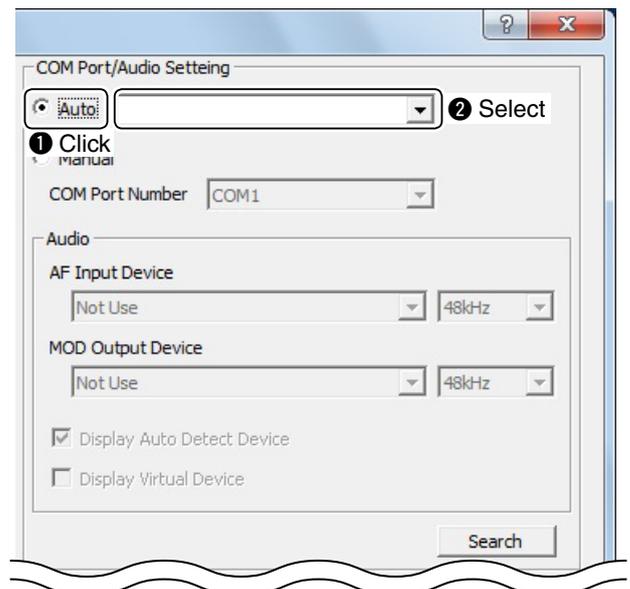
NOTE:
When you physically connect a radio to your PC using other than a USB cable, select "Manual."
In this case, you should manually select a COM port to which the radio is connected in the **COM Port Number** menu.
You should also select an appropriate audio device to which the radio is connected in the **AF Input Device** and **MOD Output Device** menus.

■ To monitor, or disconnect a Remote station

When you are operating as a Base station, and a Remote station is accessing a radio which is physically connected to your PC, you can monitor the received and transmitted audio.
• To monitor, you should connect a speaker to your PC.
Moreover, you can terminate the connection between the Remote station and the radio.
Besides Base stations, administrator Remote stations can also terminate a connection between another Remote station and a radio.

◇ To monitor the received or transmitted audio

① In the Remote Utility, select the Radio Operation mode. Then, click the [Radio List] tab to display the Radio List screen.
② Select a radio with "Busy" under its name, and then click [Monitor].
The operating user's name (**PC Name** that the Remote station set in the Network Setting screen), and its IP address are displayed under "Busy."
③ The Monitor screen appears.
Click [TX Monitor] to turn the Transmit Monitor function ON or OFF.
Click [RX Monitor] to turn the Receive Monitor function ON or OFF.
Slide the adjustment bar on the **Volume** field up or down to adjust the monitoring audio volume level.
④ Click [Close] to close the screen.
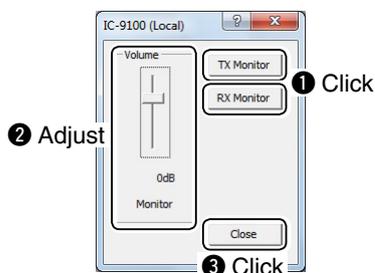
◇ To terminate a connection

① In the Remote Utility, select the Radio Operation mode. Then, click the [Radio List] tab to display the Radio List screen.
② Select a radio with "Busy" under its name, and then click [Disconnect].
The operating user's name (**PC Name** that the Remote station set in the Network Setting screen), and its IP address are displayed under "Busy."
③ "The radio is in use by a client. Do you want to disconnect?" appears. Click [Yes] to terminate the connection.
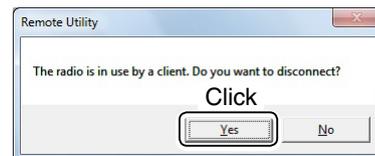
NOTE:
Even if you terminate a connection, no dialog appears on the disconnected Remote station's Remote Utility.

■ Connecting a Base station to a radio

When you are operating as a Base station, you can access a radio which is physically connected to your PC through a network.
• For audio communication, you should connect a speaker and microphone, or headset to your PC.
• To control the radio, connect to it using a control software.

◇ Connecting to a radio

① In the Remote Utility, select the Radio Operation mode. Then, click the [Radio List] tab to display the Radio List screen.
② Select a radio, and then click [Settings] to display the Connection Setting screen.
③ Select an audio device in the **AF Output Device** menu to which your speaker is connected.
Radio's received audio will be output from the device.
④ Select an audio device in the **MOD Input Device** menu to which your microphone is connected.
You can input transmit audio in the device to transmit to the radio.
⑤ Click [Connect].
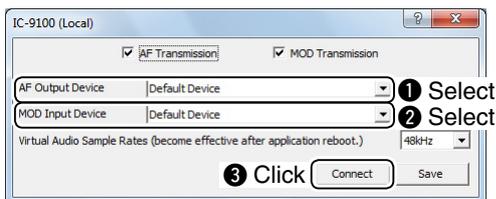
⑥ A dialog showing a port number, which is used to exchange CI-V commands between your PC and a radio, appears.
Click [OK] to save the settings and access the radio.
• "<<CONNECT>>" appears under the radio name when the connection has succeeded.
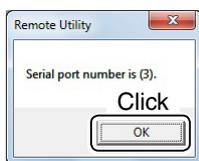
• When you connect to the radio using a control software, you have to set the port number.

◇ Disconnecting from a radio

① In the Remote Utility, select the Radio Operation mode. Then, click the [Radio List] tab to display the Radio List screen.
② Select a radio with "<<CONNECT>>" under its name, and then click [Disconnect].
③ "Do you want to disconnect the radio?" appears. Click [Yes] to disconnect the radio.

NOTE:
Be sure to disconnect from the radio when not using the radio. Otherwise, other Remote stations cannot connect to it.

■ Network setting

Configure your PC's network environment in the Remote Utility.
The settings will take effect after rebooting the Remote Utility.
When you first open the Remote Utility, the Network Setting screen appears.
After configuring your network environment, you can open other setting screens.

① In the Remote Utility, select the Network Setting mode. Then, click [Network] tab to open the Network screen.
② Enter a name for your PC in the **PC Name** field, of up to 16 characters.
    DO NOT set the same name to more than one PC on your network.
③ Check the port numbers of the Control, Serial and Audio ports.
    You should use the default port numbers for these ports.
④ Select your internet access line type in the **Internet Access Line** menu.
⑤ Click [Apply] to save the network settings.
    After clicking, the "Take effect after restarting the application" screen appears, then click [OK].
    The settings will take effect after rebooting the Remote Utility.

NOTE:
If you configure the remote control system through the Internet, and change the port number of the Control, Serial or Audio port, you should configure the port forwarding settings and the IP filter settings on your router once again. (p. 7)

■ Connecting to a Base station

To connect to a radio through the network, Remote stations should first use the Remote Utility to connect to a Base station to which the radio is connected.
Before connecting, register the Base station information.

◇ Base station registration

Before registering the Base station information, be sure to confirm the following data;
• IP address, domain name or computer name of the Base station's PC. (pp. 9 to 14)
• Your user ID and password, which are registered in the Base station's Remote Utility. (p. 16)

① In the Remote Utility, select the Radio Operation mode. Then, click the [Server List] tab to display the Server List screen.
② Click [Add] to display the Server Registration screen.
③ Enter a name for the Base station in the **Server Description** field.
④ Enter the IP address, domain name or computer name of the Base station's PC in the **Server Address or Computer Name** field.
⑤ Enter your user ID and password which are registered in the Base station, in the **User ID** and **Password** fields.
⑥ Click [OK] to save the data, then close the screen.
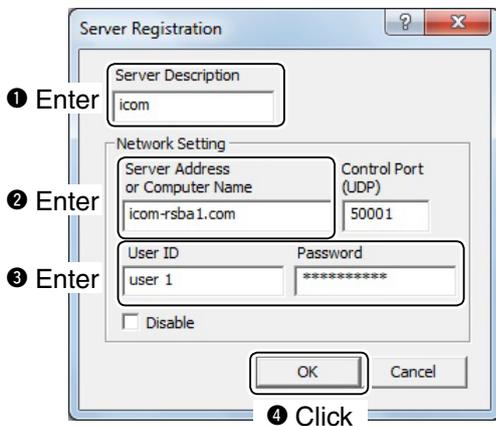
NOTE: To remove a Base station from the Server List, select it in the list, then click [Delete].

◇ Connecting to a Base station

① In the Remote Utility, select the Radio Operation mode. Then, click the [Server List] tab to display the Server List screen.
② Select a Base station, then click [Connect].
• "CONNECTING" appears under the Base station name when the connection has succeeded.

If the connection fails, and an error screen is displayed, solve the problem using the Troubleshooting section. (p. 32)

◇ Disconnecting from a Base station

① In the Remote Utility, select the Radio Operation mode. Then, click the [Server List] tab to display the Server List screen.
② Select the Base station with "CONNECTING" under its name, then click [Disconnect].

■ Connecting to a radio

When the connection to the Base station has succeeded, the radios which are physically connected to the Base station are displayed on the Radio List screen.
Select a radio from the list, then connect to it through the network using the Remote Utility.
You have to configure the network audio quality and devices to connect.
• To control the radio, connect to the radio using the Control software.

◇ Connecting to a radio
Procedure

Step 1:
Display the Connection Setting screen
- -
Radio Operation mode ➜ Radio List Screen (select a radio) ➜ [Settings]

Step 2:
Set the network audio quality
- -
◇ Network audio quality setting

Step 3:
Select a virtual COM port number and an audio device
- -
◇ Device setting (p. 25)

Step 4:
Save the settings, and connect to the radio
- -
Connection Setting screen→[Connect]
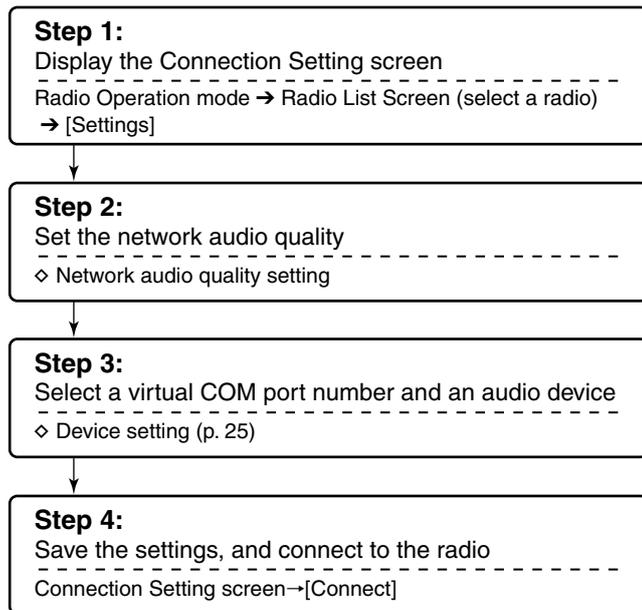
NOTE:
• If the connection setting is finished, you can simply connect to the radio by selecting it in the Radio List screen and then clicking [Connect].
• "<<CONNECT>>" appears under the radio name when the connection has succeeded.
• If the connection fails, and an error screen is displayed, solve the problem using the Troubleshooting section. (p. 33)

◇ Network audio quality setting
① In the Remote Utility, select the Radio Operation mode. Then, click [Radio List] tab to display the Radio List screen.
② Select a radio, then click [Settings] to display the Connection Setting screen.
③ Click [Recommended].
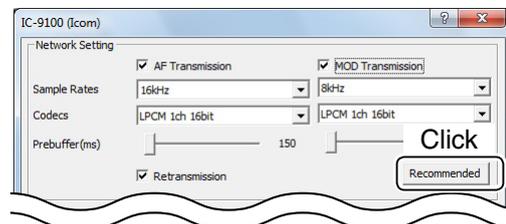
④ The Select Network screen appears.
Select the connection to a radio either through a LAN, or the Internet, and then click [Next].
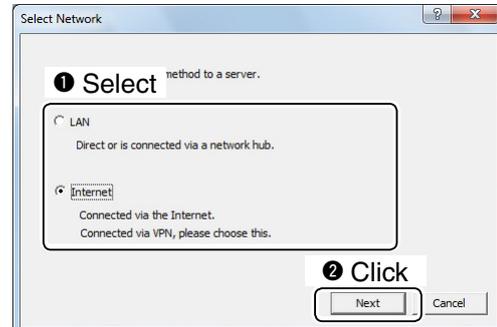
⑤ The recommended values for your network are displayed. Click [Yes] to automatically set the displayed values in each field of the Network Setting, then close the Select Network screen.
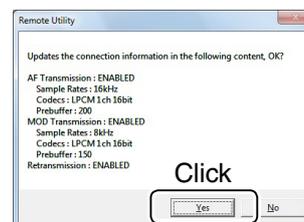
⑥ Click [Save] in the Connection Setting screen to save the settings, and close the screen.

■ Connecting to a radio

◇ Device setting

① In the Remote Utility, select the Radio Operation mode. Then, click [Radio List] tab to display the "Radio List" screen.

② Select a radio, then click [Settings] to display the Connection Setting screen.

③ Select a COM port number in the **Virtual COM Port Number** menu.
  • The selected COM port number is used for CI-V operation with the radio.

  ⁓When you connect to the radio with a control ⁓software, you have to set the COM port number.

④ Select an audio device in the **AF Output Device** menu to which your speaker is connected, to output the received audio from the network.

⑤ Select an audio device in the **MOD Input Device** menu to which your microphone is connected, to transmit the input audio to the network.

⑥ Click [Save] to save the settings, and close the screen.
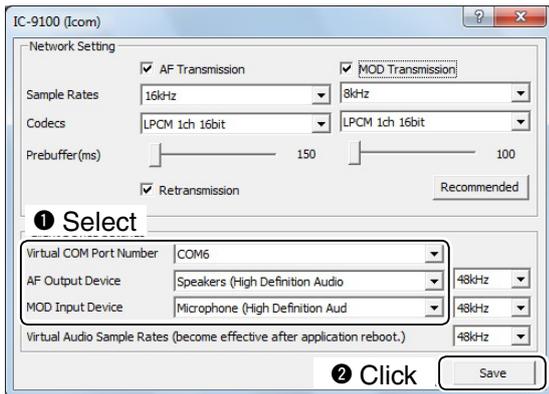
◇ Disconnecting from a radio

① In the Remote Utility, select the Radio Operation mode. Then, click [Radio List] tab to display the Radio List screen.

② Select a radio with "<<CONNECT>>" under its name, and click [Disconnect].

③ "Do you want to disconnect the radio?" appears. Click [Yes] to disconnect the radio.

NOTE:
• Be sure to disconnect when not using the radio. Otherwise, other Remote stations cannot connect to it.
• The Base station or administrator Remote stations can terminate a connection between another Remote station and a radio. If "<<CONNECT>>" disappears while connecting to a radio, the Base station or authorized Remote station may terminate the connection.

■ Audio adjustment using the Remote Utility

While connected to a radio, you can adjust the received and transmit audio volume through the network using the Remote Utility.
The description on this section is based on the assumption that the connection to the radio has succeeded ("<<CONNECT>>" is displayed under the radio name).

◇ Received audio volume adjustment

① In the Remote Utility, select the Radio Operation mode. Then, click [Radio List] tab to display the Radio List screen.
② Select a radio with "<<CONNECT>>" under its name, and click [AF].
③ Slide the adjustment bar on the **Volume** field up or down to adjust the received audio volume level.
  • Click [Mute] to mute the audio, and click once again to hear the audio.
④ Click [Close] to close the screen.
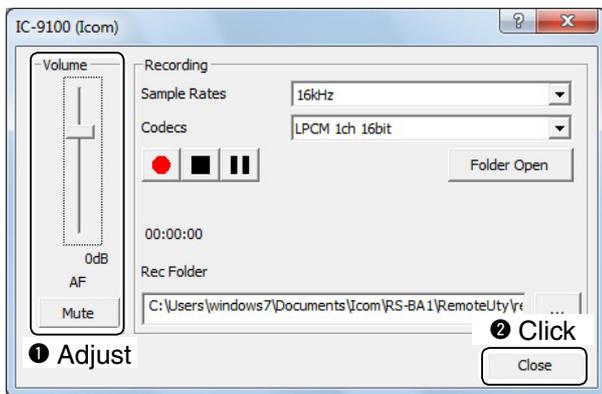
NOTE:
• The AF adjustment bar on the Volume field moves together with the [AF] control of the Remote Controller. However, if you use another control software, the audio volume level on the network can only be adjusted with the Remote Utility.
• You cannot adjust the received audio volume level of the radio's speaker, with the Remote Utility. Use the [AF] control on the radio to adjust it.

◇ Transmit audio volume adjustment

① In the Remote Utility, select the Radio Operation mode. Then, click [Radio List] tab to display the Radio List screen.
② Select a radio with "<<CONNECT>>" under its name, and click [MOD].
③ Select "Mic" on the **MOD Select** field.
④ Slide the adjustment bar on the Volume field up or down to adjust the transmit audio volume level.
⑤ Click [Close] to close the screen.
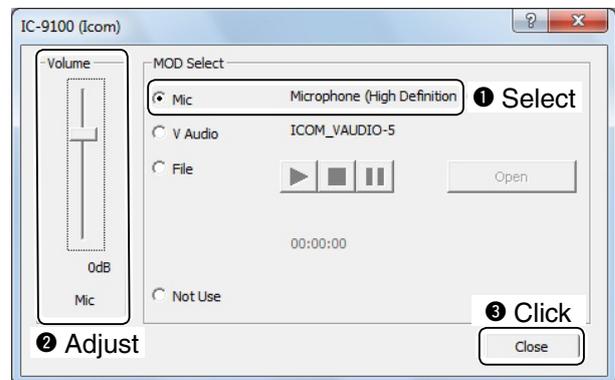
NOTE:
You cannot adjust the modulation input level of the radio, with the Remote Utility. Adjust the modulation input level of the radio in the radio's Set mode, or using the Remote Controller. (p. 31)

■ Recording and playback functions

While connected to a radio, you can record the received audio, and save it into the PC's hard disc, using the Remote Utility.
Also, you can transmit an audio file to the radio, using the Remote Utility.
The description on this section is based on the assumption that the connection to the radio has succeeded ("<<CONNECT>>" is displayed under the radio name).

◇ Recording a received audio

Follow the steps below to record the received audio.

① In the Remote Utility, select the Radio Operation mode. Then, click [Radio List] tab to display the Radio List screen.
② Select a radio with "<<CONNECT>>" under its name, and click [AF].
③ Click [●] to start recording.
   • While recording, click [II] to pause.
④ Click [■] to stop recording.

Record button
Stop button
Pause button

Open the folder
Recording file name
Elapsed time

Recording folder name   Folder browse button
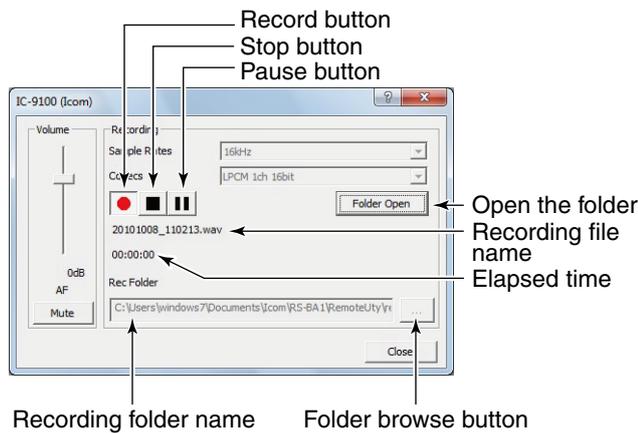
NOTE:
• When you click [Folder Open], the folder in which the recording file is stored will be displayed.
• If you want to change the recording folder, click the [...] button, then select a folder in the Browse For Folder screen.
• Adjust the sample rate frequency and codec to record the audio according to the recording purpose. When you record the received audio from the network, we recommend that you set the same sample rate frequency and codec that are programmed in the Connection Setting screen.

◇ Playing back/transmitting an audio file

Follow the steps below to play back/transmit an audio file.

① In the Remote Utility, select the Radio Operation mode. Then, click [Radio List] tab to display the Radio List screen.
② Select a radio with "<<CONNECT>>" under its name, and click [MOD].
③ Select "File" on the **MOD Select** field.
④ Click [Open] to select an audio file* to play or transmit.
   * Only uncompressed, linear, PCM WAV files are supported.
⑤ Click [▶] to start playing/transmitting.
   • While playing/transmitting, click [II] to pause.
⑥ Click [■] to stop playing/transmitting.

Playback button
Stop button
Pause button

Open the folder
Audio file name
Elapsed time
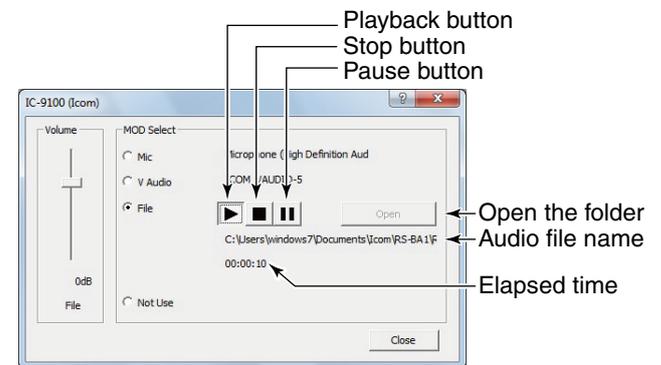
NOTE:
You can also use the Remote Controller's Voice Memory function to play back or transmit an audio file.
See the Remote Controller's help file for details. To display the help file, click "Contents" in the Help menu on the Remote Controller, or push the [F1] key on your PC's keyboard.

■ Connecting to a radio with the Remote Controller

This chapter describes how to connect to a radio and remotely control it using the Remote Controller.
There are two ways to connect to the radio with the Remote Controller:
1. Connecting to the radio through a network using the Remote Utility (p. 29)
2. Directly connecting to the radio that is physically connected to your PC, instead of using the Remote Utility (p. 30)

Connects to the radio (pp. 29, 30)

◇ About the Remote mode (p. 31)

Displays the Connect Setting screen (pp. 29, 30)

◇ To use transmit audio input from the PC (p. 31)
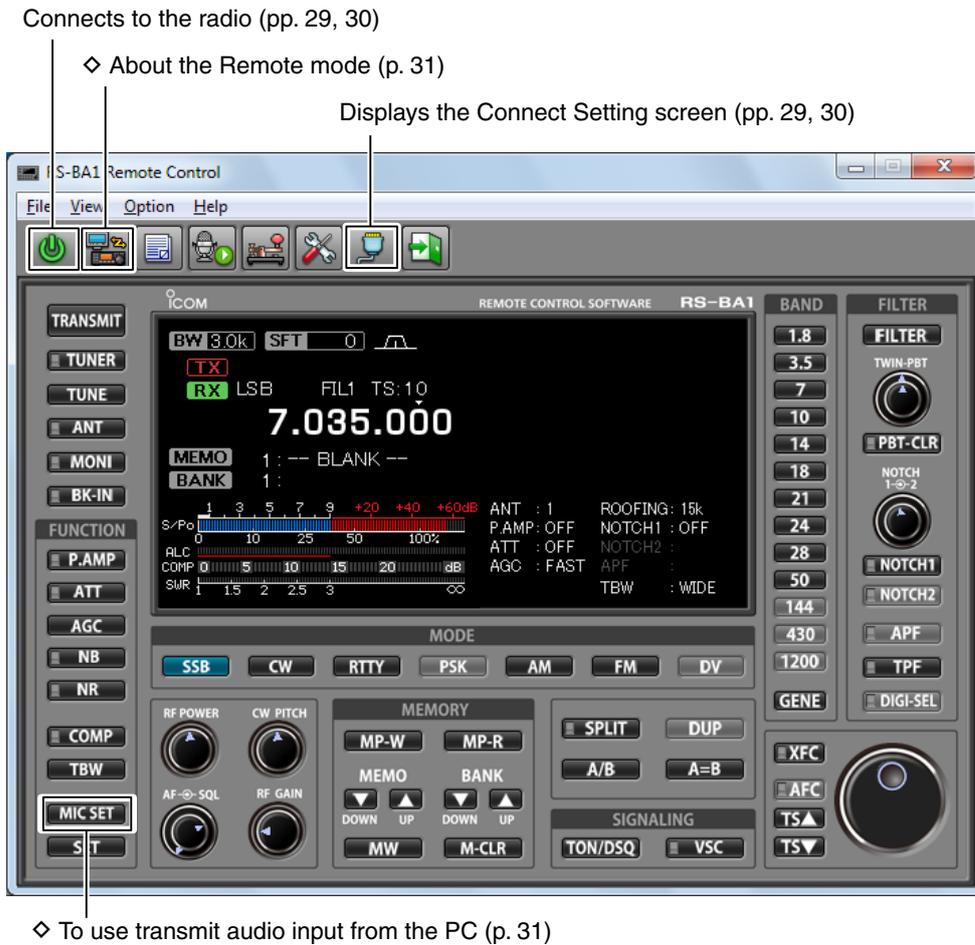
NOTE:
See the RS-BA1 Remote Controller's help file for remote operation details, such as how to change the frequency, or turn ON each function.
To display the help file, click "Contents" in the Help menu on the Remote Controller, or push the [F1] key on your PC's keyboard.

4 REMOTE CONTROLLER'S BASIC OPERATION

■ Connecting to a radio with the Remote Controller

◇ **Connecting to a radio through a network**

To connect to a radio through a network using the Remote Controller, first you have to access the radio using the Remote Utility.
To connect the radio using the Remote Utility, see page 21 when you are operating as a Base station, or see page 24 when you are operating as a Remote station.

① Open the Remote Controller.
② Click the right icon in the toolbar, or click "Connect Setting..." in the [Option] menu, to display the Connect Setting screen.
③ Select a radio that you want to control in the **Model** menu.
  • The items, buttons or dials that cannot be used in the selected model will be grayed out.
④ Select a radio that you are accessing with the Remote Utility, in the **Remote Utility** menu.
  • The CI-V settings are automatically loaded from the Remote Utility to the **CI-V** field. The settings include the virtual COM Port number, radio's CI-V address and baud rate and the virtual audio device for the Voice Memory function.

  ⁄⁄ If the desired radio is not displayed in the **Remote Utility** menu, click [Search] to load the radios' information from the Remote Utility.

⑤ Click [OK] to save the settings, and close the Connect Setting screen.
⑥ Click the right icon in the toolbar, or click "Connect ON" in the [File] menu, to connect to the radio.
  • When the connection has succeeded, the radio's current data will be displayed on the main panel.
  • If the connection fails, and an error screen is displayed, solve the problem using the Troubleshooting section. (p. 34)
  • To disconnect from the radio, click the right icon, or click "Connect OFF" in the [File] menu.
  • Even if you disconnect from the radio, it does not turn OFF the radio.

Connect Setting

Model: IC-9100 — ❶ **Select**
Remote Utility: IC-9100 — ❷ **Select**
Search

CI-V
COM Port: 1   Baud rate(bps): 19200
CI-V address (Radio): 7C   CI-V address (RS-BA1): E0

Audio Device (Voice Memory): ICOM_VAUDIO-1 (Icom Virtual Aud

☐ IC-PW1 is connected.   OK — ❸ **Click**
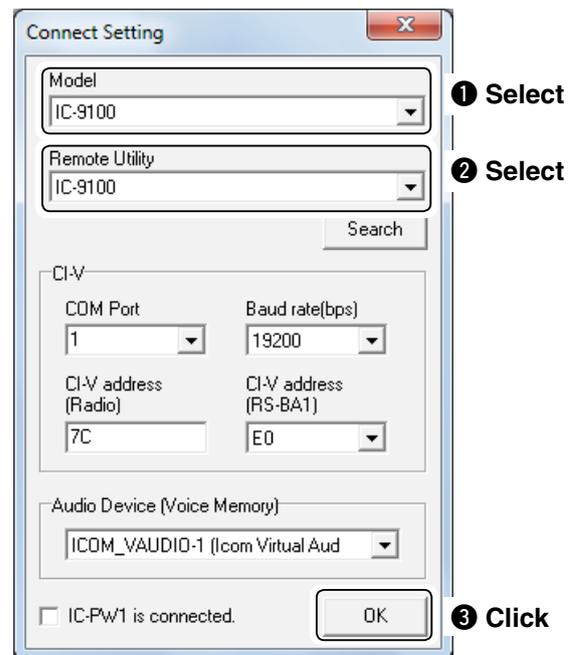
◇ Directly connecting to a radio

If a radio is physically connected to your PC, you can directly access the radio using the Remote Controller, instead of using the Remote Utility.
• When you are operating a radio on the remote control system with the Remote Controller, without having used the Remote Utility to connect, let other users know that the radio is being used.

① Open the Remote Controller.
② Click the right icon in the toolbar, or click "Connect Setting..." in [Option] menu, to display the Connect Setting screen.
③ Select a radio that you want to control in the **Model** menu.
  • The items, buttons or dials that cannot be used in the selected model will be grayed out.
④ Select "Not Use" in the **Remote Utility** menu.
⑤ Select the COM port number to which the radio is connected, in the **COM Port** menu.
⑥ Enter the radio's CI-V address in the **CI-V address (Radio)** field, and select the radio's baud rate in the **Baud rate (bps)** menu.
  If the radio's baud rate is set to "Auto," select "19200" in the **Baud Rate (bps)** menu.
  • To check or change the radio's CI-V address and baud rate settings, see the instruction manual that comes with the radio.
⑦ Click [OK] to save the settings, and close the Connect Setting screen.
⑧ Click the right icon in the toolbar, or click "Connect ON" in the [File] menu, and connect to the radio.
  • When the connection has succeeded, the radio's current data will be displayed on the main panel.
  • If the connection fails, and an error screen is displayed, solve the problem using the Troubleshooting section. (p. 34)
  • To disconnect from the radio, click the right icon, or click "Connect OFF" in the [File] menu.
  • Even if you disconnect from the radio, it does not turn OFF the radio.

Connect Setting

Model
IC-9100   ❶ **Select**

Remote Utility   ❷ **Select**
Not Use

Search

CI-V
COM Port   Baud rate(bps)
1   19200   ❸ **Enter**

CI-V address   CI-V address
(Radio)   (RS-BA1)
7C   E0

Audio Device (Voice Memory)

☐ IC-PW1 is connected.   OK   ❹ **Click**
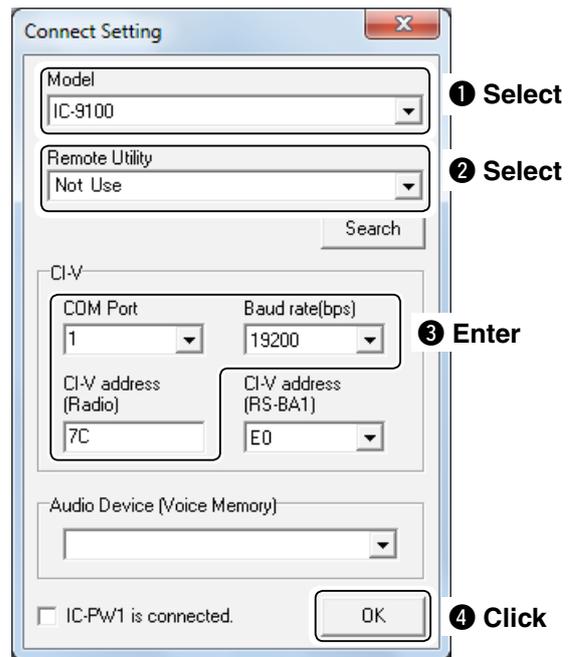
■ Connecting to a radio with the Remote Controller

◇ **To use transmit audio input from the PC**

In order to use transmit audio input when remotely controlling the radio from the Remote Controller, configure the following settings, depending on the radio's connector which is connected to a PC.

When you are operating as a Remote station, check the radio's connector which is connected to the Base station's PC.

① Connect to a radio with the Remote Controller. (pp. 29, 30)
② Click [MIC SET] to open the MIC SET screen.
③ Select an appropriate connector in the **MOD Select (Remote ON)** menu, to input transmit audio from the PC to the radio.

The options differ, depending on the radio selected in the **Model** menu in the Connect Setting screen.

• Right click [MOD LEVEL] to rotate clockwise, or left click it to rotate counterclockwise, to adjust the input level from the connector.

④ Click [✕] to close the screen.

❸ Click

MIC SET

MOD Select
(Remote ON)
USB ▼   **❶ Select**

MOD LEVEL

❷ Adjust
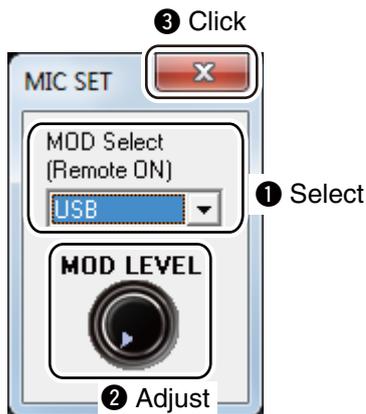
◇ **About the Remote mode**

When connected to the radio, the Remote Controller automatically turns ON the Remote mode.

While the Remote mode is ON, the Remote Controller transmits CI-V commands not only to check the radio's current state, but also to remotely control it.

When you want the Remote Controller to only check the radio's current state, or when you want to inhibit the Remote Controller from transmitting CI-V commands, while you manually operate the radio, turn OFF the Remote mode.

To turn OFF the Remote mode
Click the right icon on the toolbar, or click "Remote OFF" in the [File] menu.

To turn ON the Remote mode
Click the right icon on the toolbar, or click "Remote ON" in the [File] menu.

The following descriptions are possible causes and solutions for the problem you are experiencing.
If you cannot solve the problem after trying these solutions, please contact your nearest Icom Dealer or Service Center.

Problem: Cannot access a Base station from a Remote station with the Remote Utility
You can configure the Base station information in the Server Registration screen (Radio Operation mode ➜ Server List screen ➜ [Add] or [Properties]).

❍ "CONNECT NG" is displayed under the Base station name

"CONNECT NG"

Possible cause 1
An incorrect IP address, domain name or computer name is entered to request a connection to the Base station.
If the Remote Utility cannot find out the Base station's IP address using the domain name or computer name that you entered, "Cannot resolve the name" is displayed next to the name.

Solution
①Check the Base station's IP address, domain name or computer name. (pp. 9 to 14)
②Enter the Base station's correct IP address, domain name or computer name in the **Server Address or Computer Name** field in the Server Registration screen.

Possible cause 2
The control port number is different than that of Base station's Remote Utility.

Solution
①Check the Base station's control port number*. (p. 15)
②Enter the correct port number in the **Control Port (UDP)** field in the Sever Registration screen.
  * The default number is "50001."

❍ "LOGON NG" is displayed under the Base station name

"LOGON NG"

Possible cause
The user ID or password is different than that of the Base station's Remote Utility.

Solution
①Check the Remote station information registered in the Remote Utility. (p. 16)
②Enter the correct user ID and password into the **User ID** and **Password** fields in the Sever Registration screen.

❍ "DISABLED" is displayed under the Base station name
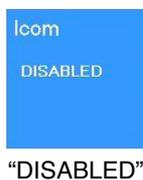
"DISABLED"

Possible cause
The Base station is set to "Disable," to inhibit connecting to it.

Solution
Enable the Base station by removing a check mark from the **Disable** box in the Sever Registration screen.

NOTE:
If you could not solve the problem after trying these solutions, check the following on the Base station side.
• Is the Remote Utility activated?
• Is the Remote Utility added as an exception in the Firewall? (pp. 1 to 3)
• Is your Remote station information registered in the Remote Utility's User List screen? (p. 16)

Problem: Cannot access a radio with the Remote Utility
The description in this part is based on the assumption that the connection to the Base station has succeeded ("CONNECTING" is displayed under the Base station name).

❍ **"BUSY" is displayed under the radio name**

"BUSY"

Possible cause
Another user is currently operating the radio.

Solution
Wait for "BUSY" to disappear.

⫽ If you are operating as a Base station, or as an administrator Remote station, you
⫽ can terminate a connection between another Remote station and a radio. (p. 20)

- -

❍ **"CONNECTING ERROR" is displayed under the radio name**

"CONNECTING ERROR"

Possible cause 1
Access to the selected radio is inhibited by the Base station.

Solution
Allow the Remote station to access the radio with the Base station's Remote Utility. (p. 18)

Possible cause 2
The virtual driver is not installed in the Remote station's PC.

Solution
Install the virtual driver in the Remote station's PC. (See the RS-BA1 Preparations for details.)

⫽ **NOTE:**
⫽ If you could not solve the problem after trying these solutions, check the following on the Base station side.
⫽ • Is the radio turned ON?
⫽ • Are the correct COM port number and audio device to which the radio is connected selected in the Radio Registration screen (Server Setting mode ➜ Radio List screen ➜ [Properties])?
⫽ • Is not the Base station directly accessing the radio using the Remote Controller, without having used the Remote Utility to connect to the radio?

Problem: Cannot access a radio with the Remote Controller

To access a radio with the Remote Controller, configure the connection settings in the Connect Setting screen. (pp. 29, 30)
Click the Connect Setting icon ( ) on the toolbar, or click "Connect Setting..." in the [Option] menu to open the screen.

❍ **When connecting to the radio through the network using the Remote Utility**

Possible cause 1
Connecting to the radio is unsuccessful using the Remote Utility.

Solution
Try again to connect to the radio in the Radio List screen (Radio Operation mode). (pp. 21, 24)
• "<<CONNECT>>" appears under the radio name when the connection has succeeded.

Possible cause 2
In the **CI-V** field of the Remote Controller's Connect Setting screen, the CI-V settings are different than that of the Remote Utility.

Solution
In the Connect Setting screen, click [Search], and then select the correct radio in the **Remote Utility** menu.
• The CI-V settings are automatically loaded from the Remote Utility.

NOTE:
If you could not solve the problem after trying these solutions, check the following on the Base station side.
• Are the same CI-V address and baud rate that are programmed into the radio set in the Radio Registration screen (Server Setting mode ➜ Radio List screen ➜ [Properties])?

❍ **When directly accessing the radio without using the Remote Utility**

Possible cause 1
An incorrect COM port number is selected in the Remote Controller's Connect Setting screen.

Solution
①Check the COM port to which the radio is connected, on your PC's Device Manager.
②Select the correct COM port number in the **COM Port** menu in the Remote Controller's Connect Setting screen.

Possible cause 2
The CI-V address or baud rate is different than that are programmed into a radio.

Solution
①Check the radio's CI-V address and baud rate.
   See the radio's instruction manual to check them.
②Enter the radio's correct CI-V address in the **CI-V address (Radio)** field, and select the radio's correct baud rate in the **Baud rate (bps)** menu, in the Remote Controller's Connect Setting screen.
   If the radio's baud rate is set to "Auto," select "19200" in the **Baud rate (bps)** menu.

Problem: Cannot properly control the radio with the Remote Controller

Possible cause 1
The same CI-V address is being used by a control software other than the Remote Controller.
Solution
Select an address other than "E0" in the **CI-V Address (RS-BA1)** menu in the Remote Controller's Connect Setting screen. However, this solution does not always solve the problem.

Possible cause 2
In the Remote Controller's Connect Setting screen, a different model name is selected for the radio that you attempt to control.
Solution
Select a proper model name in the **Model** menu in the Connect Setting screen.

NOTE:
If you could not solve the problem after trying the solution, check the following on the Base station side.
• Is there any radio that has the same CI-V address in the system?

Problem: The received audio cannot be heard
The description in this part is based on the assumption that the connection to the radio has succeeded ("<<CONNECT>>" is displayed under the radio name).

Possible cause 1
The speaker is not turned ON, or the volume level is too low.
Solution
Turn ON the speaker, or adjust the volume level.

Possible cause 2
An earphone or other device is connected to the computer in place of the speaker.
Solution
Disconnect the device.

Possible cause 3
The appropriate audio device is not selected in the Remote Utility.
Solution
Select the appropriate audio device in the **AF Output Device** menu in the Connection Setting screen (Radio Operation mode ➜ Radio List screen ➜ [Settings]). (pp. 21, 25)
If you connect a new USB audio device to your PC, the audio device which is selected as a default device in your PC can be changed. If you select "Default Device" in the **AF Output Device** menu, please keep that in mind.

Possible cause 4
The volume level of the audio device is set to too low on your PC.
Solution
Adjust the volume level of the audio device. (pp. 4 to 6)
Windows 7 and Windows Vista have the Volume Mixer function that can adjust each application's audio level. If you use Windows 7 or Windows Vista, please check that the Remote Utility or the control software is not muted, or set to an appropriate volume level.

Possible cause 5
Audio output is disabled in the Remote Utility.
Solution
Insert a check mark in the **AF Transmission** box in the Connection Setting screen (Radio Operation mode ➜ Radio List screen ➜ [Settings]).

Possible cause 6

The volume level is too low, or the mute is turned ON in the Remote Utility.

Solution

Adjust the volume level in the Received Audio Adjustment screen (Radio Operation mode ➔ Radio List screen ➔ [AF]). (p. 26)

NOTE:

If you could not solve the problem after trying these solutions, check the following on the Base station side.

• Is the volume level of the audio device to which the radio is connected set to an appropriate level?

• Is there a check mark in the **AF - Use** box in the Radio Registration screen (Server Setting mode ➔ Radio List screen ➔ [Properties])?

Problem: The transmit audio cannot be output

- The description in this part is based on the assumption that the connection to the radio has succeeded ("<<CON-NECT>>" is displayed under the radio name).
- To check the Remote station's transmit IF signals, use the Transmit Monitor function with the Base station's Remote Utility, or place a receiver near the Remote station's or Base station's PC.

Possible cause 1

The microphone is not turned ON, or the input level is too low.

Solution

Turn the microphone ON and adjust the input level.

Possible cause 2

The appropriate audio device is not selected in the Remote Utility.

Solution

Select the appropriate audio device in the **MOD Input Device** menu in the Connection Setting screen (Radio Operation mode ➔ Radio List screen ➔ [Settings]). (pp. 21, 25)

If you connect a new USB audio device to your PC, the audio device which is selected as a default device in your PC can be changed. If you select "Default Device" in the **MOD Input Device** menu, please keep that in mind.

Possible cause 3

The input level of the audio device is set to too low on your PC.

Solution

Adjust the input level of the audio device. (pp. 4 to 6)

Possible cause 4

Audio input is disabled in the Remote Utility.

Solution

Insert a check mark in the **MOD Transmission** box in the Connection Setting screen (Radio Operation mode ➔ Radio List screen ➔ [Settings]).

Possible cause 5

The input level is too low in the Remote Utility.

Solution

Adjust the input level in the Transmit Audio Adjustment screen (Radio Operation mode ➔ Radio List screen ➔ [MOD]). (p. 26)

Possible cause 6

An incorrect connector is selected in the Remote Controller.

Solution

Select the proper radio's connector which is connected to the Base station's PC, in the **MOD Select (Remote ON)** menu in the Remote Controller's MIC SET screen. (p. 31)

NOTE:

If you could not solve the problem after trying these solutions, check the following on the Base station side.

• Is the input level of the audio device to which the radio is connected set to an appropriate level?

• Is there a check mark in the **MOD - Use** box in the Radio Registration screen (Server Setting mode ➔ Radio List screen ➔ [Properties])?

Problem: The received audio is interrupted

Possible cause 1

The network data transfer is too excessive.

Solution

Select a lower sampling rate value in the **Sample Rates** menu, or a different codec in the **Codecs** menu, in the Connect Settings screen (Radio Operation mode ➔ Radio List screen ➔ [Settings]).

First, select the lowest value. If the received audio is not interrupted with the setting, try a higher value, and adjust to an appropriate value.

Possible cause 2

The capacity of the prebuffer is not enough.

Solution

Select a longer value in the **Prebuffer (ms)** field in the Connection Setting screen (Radio Operation mode ➔ Radio List screen ➔ [Settings]).

Select as short a value as possible, because longer prebuffers can cause a delay, and make it difficult to adjust the audio level.

Possible cause 3

Your PC is overloaded.

Solution 1

Shutdown other applications, if running.

Solution 2

Reduce the number of radios you are accessing with the Remote Utility.

NOTE:
• If you are accessing the radio through a network, removing a check mark from the **Retransmission** box in the Connection Setting screen (Radio Operation mode ➔ Radio List screen ➔ [Settings]) can solve the problem.
• You can check the simplified packet round trip time, and the average packet loss in the Remote Utility's Server List screen.

Packet round trip time   Average packet loss

5

Count on us!

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