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IDAS™

ICOM DIGITAL ADVANCED SYSTEM

IDAS™ Quick Guide
“RC-FS10 Demonstration”

Version 1.0
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Foreword

This "RC-FS10 Demonstration" Quick Guide explains how to setup and demonstrate the IDAS™ Remote Communicator, RC-FS10 in a single channel repeater system and in a multichannel IP Network system. The UHF version of equipment has been used to prepare this document, thus model numbers and frequencies in the document are for UHF models and frequencies. However the same demonstration can be carried out using VHF repeaters and VHF radios with some programming changes (E.g. frequency range).

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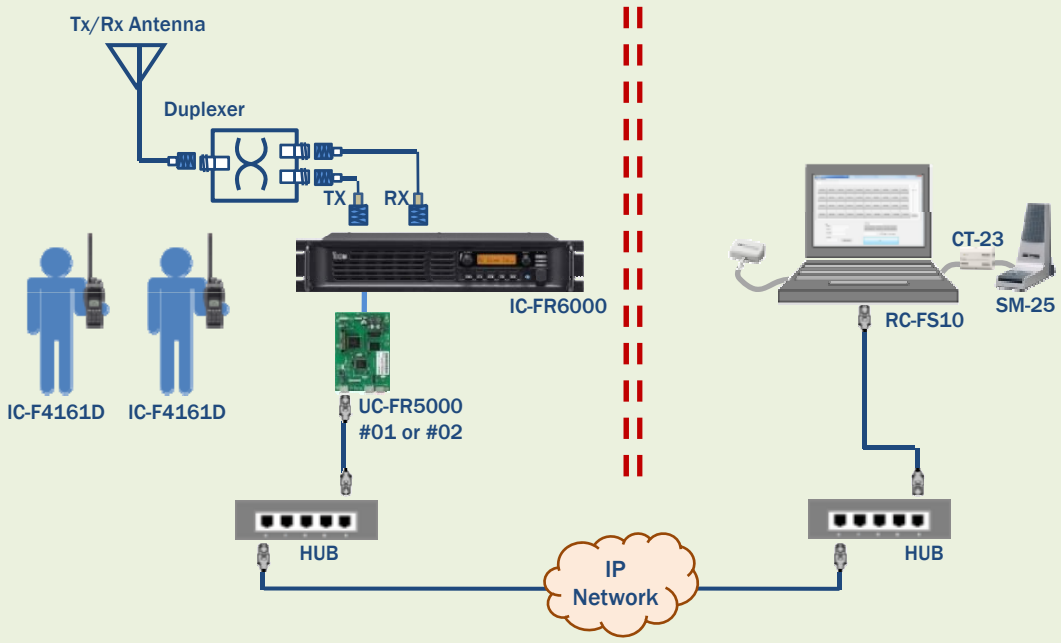
1-1 Single Channel Repeater Demonstration

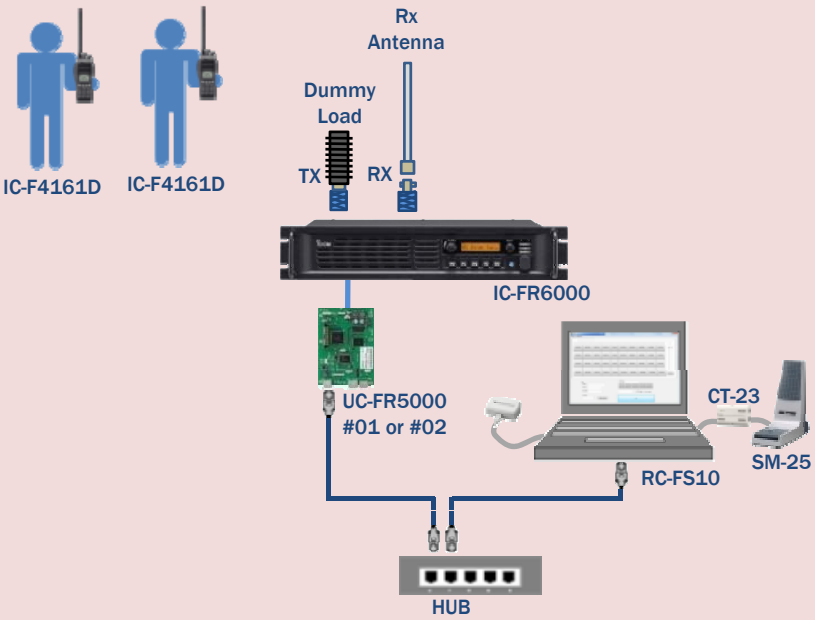
1-1-1 System Configuration

- Up to 3 RC-FS10 remote communicators can be virtually tied to a repeater with a UC-FR5000 #01.
- Up to 8 RC-FS10 remote communicators can be virtually tied to a repeater with a UC-FR5000 #02.
- The remote communicator works as a virtual radio or a remote base station.

Basic Configuration



Configuration for a Demonstration



1-1-2 Key Component List

Model No.	Description	Quantity	Pictures
Repeaters and Accessories			
IC-FR6000	UHF Digital Repeater	1	
UC-FR5000 #01	Trunking/Network Controller	1	
	Dummy Load for IC-FR6000 series (If required by local regulations)	1	
	RX Antenna	1	
	Adapter (N-M to BNC-F)	1	
	Ethernet Hub (5 ports)	1	
	Category 5 RJ45 Cable	2	
	AC Adapter for Repeater	1	
Remote Communicator and Accessories			
RC-FS10	Remote Communicator Application Software and CT-24	1	
	PC	1	
SM-25	Desktop Microphone	(1)	
CT-23	PTT Microphone Adapter	(1)	
Handheld Radios and Accessories			
IC-F4161DT	UHF Handheld Radio with Digital Unit	2	
	Dummy Load for IC-F4160 series (If required by local regulations)	(2)	
BC-160 / BC-145	Battery Charger	1	

1-1-3 Included System Configuration Files

RC-FS10_Demo_IC-F4160_Ver_1_0.icf for the IC-F4160 UHF Radio.

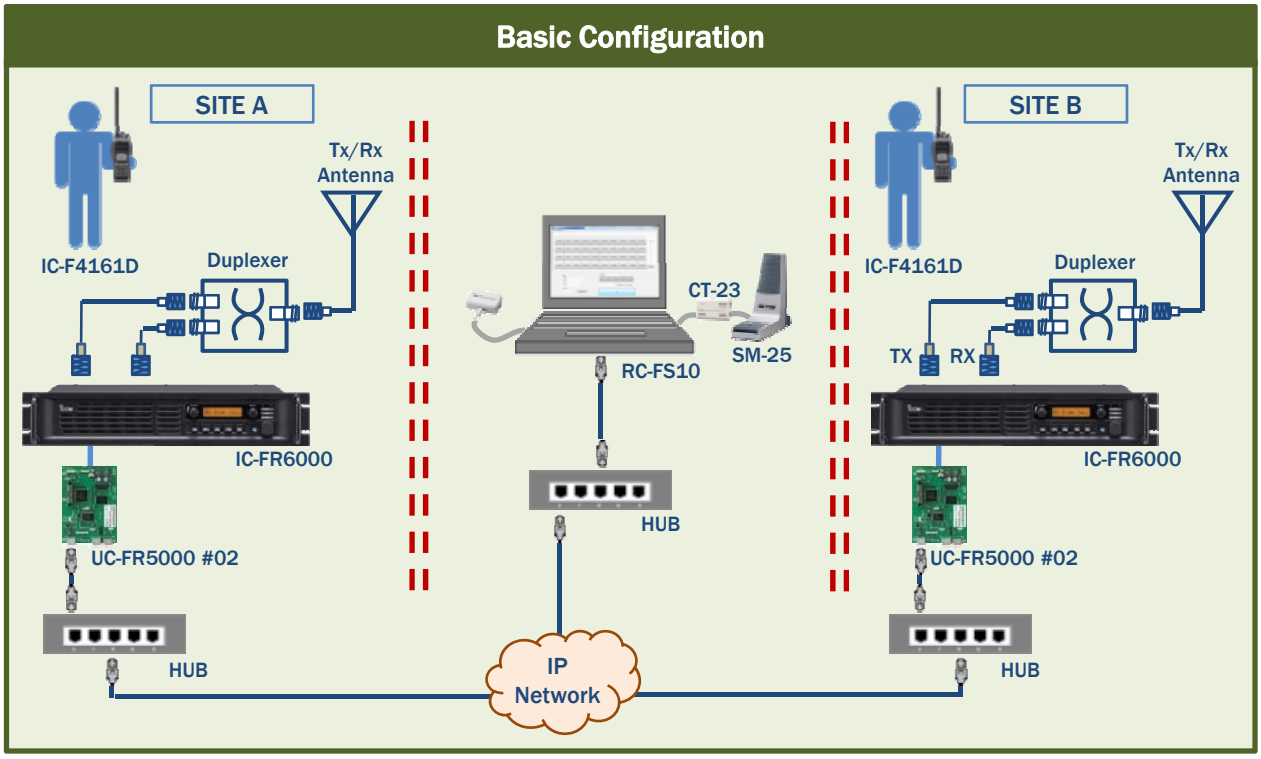
RC-FS10_Demo_IC-FR6000_Ver_1_0.icf for the IC-FR6000 UHF Repeater.

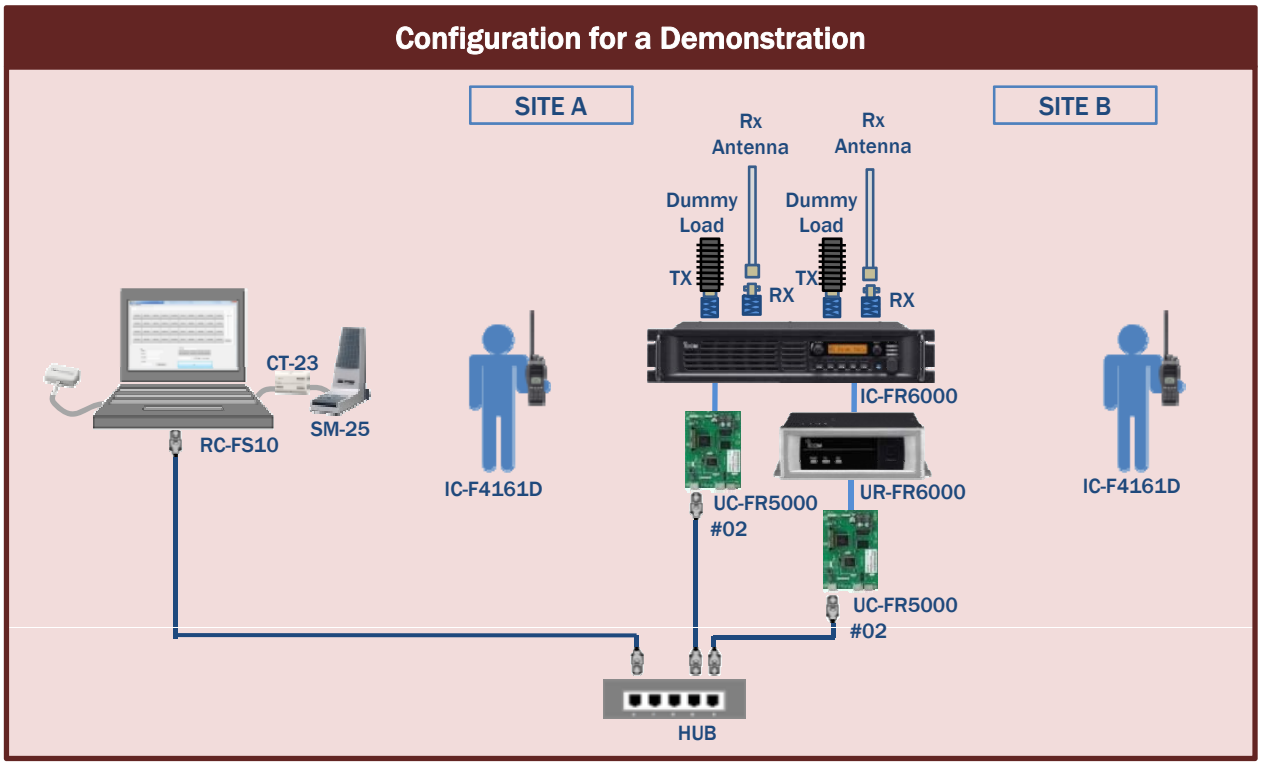
RC-FS10_Demo_RC-FS10_Ver_1_0.xml for the RC-FS10 Remote Communicator.

1-2 Multichannel IP Network Demonstration

1-2-1 System Configuration

- Up to 8 RC-FS10 remote communicators can be virtually-tied to a repeater with a UC-FR5000 #02.
- The RC-FS10 remote communicator works as a virtual radio or a remote base station.





1-2-2 Key Component List

Model No.	Description	Quantity	Pictures
Repeaters and Accessories			
IC-FR6000	UHF Digital Repeater	1	
UR-FR6000	UHF Channel Expansion Module	1	
UC-FR5000 #02	Network Controller	2	
	Dummy Load for IC-FR6000 series (If required by local regulations)	2	
	RX Antenna	2	
	Adapter (N-M to BNC-F)	2	
	Ethernet Hub (5 ports)	1	
	Category 5 RJ45 Cable	3	
	AC Adapter for Repeater	1	
Remote Communicator and Accessories			
RC-FS10	Remote Communicator Application Software and CT-24	1	
	PC	1	
SM-25	Desktop Microphone	(1)	
CT-23	PTT Microphone Adapter	(1)	
Handheld Radios and Accessories			
IC-F4161DT	UHF Handheld Radio with Digital Unit	2	
	Dummy Load for IC-F4160 series (If required by local regulations)	(2)	
BC-160 / BC-145	Battery Charger	1	

1-2-3 Included System Configuration Files

RC-FS10_Demo_IC-F4160_Ver_1_0.icf for the IC-F4160 UHF Radio.

RC-FS10_Demo_IC-FR6000_Ver_1_0.icf for the IC-FR6000 UHF Repeater and the UR-FR6000 UHF Channel Module.

RC-FS10_Demo_RC-FS10_Ver_1_0.xml for the RC-FS10 Remote Communicator.

2-1 Network Controller Setup Instructions

The trunking/network controller is programmed by using its own built-in programming software, which is set up using the following procedure.

There is no external software for programming the UC-FR5000. The trunking/network control board needs to be properly installed in the UR-FR5000/6000 or IC-FR5000/6000 repeater before attempting this procedure.

Please see the UC-FR5000 instruction manual for detailed installation instructions on how to put the UC-FR5000 into the IC-FR5000/IC-FR6000 series repeaters.

Either a UC-FR5000 01 or UC-FR5000 02 must be installed into the repeater.

2-1-1 Preparation

CAUTION : IP Connectivity must be installed by an IT professional.

Obtain the following IP information before starting this installation:

- Internet connection type (Static or Dynamic)
- IP address (static IP)
- Subnet mask (static IP)
- Default gateway (static IP)
- User name and Password

IMPORTANT : The IP address must be static for this demonstration configuration.

2-1-2 Network Connection

NOTE : If your computer is on a network, disconnect it from the network.

Ensure that your computer is connected to the repeater as described to the right.

Use category 5 Straight cable (purchase separately) when connecting through an Ethernet Hub.

Use category 5 Cross cable (stated just above... repetitive) when connecting directly to the repeater.

Be sure to cover the connected cable with a supplied dust protector. Even if the cable has its own cover, replace it with the supplied dust protector.

Keep the supplied connector caps attached when connectors are not in use to avoid bad contacts from dust and moisture.

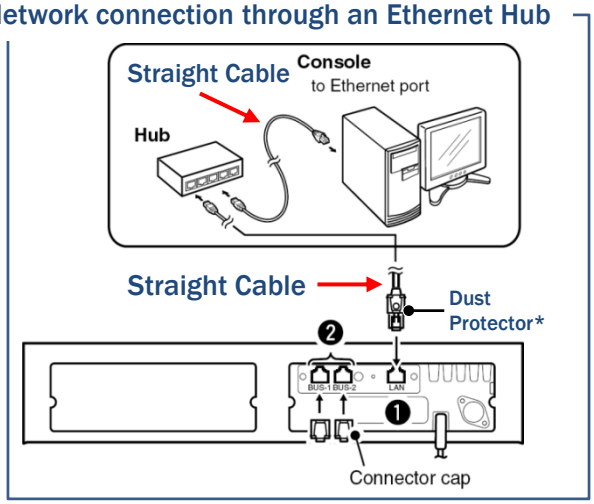
Each controller has a [LAN] connector and two [BUS] connectors.

❶ [LAN] connector
For an Ethernet connection. Connect the controller to an Ethernet (LAN) port of a console through a Hub (or a router).

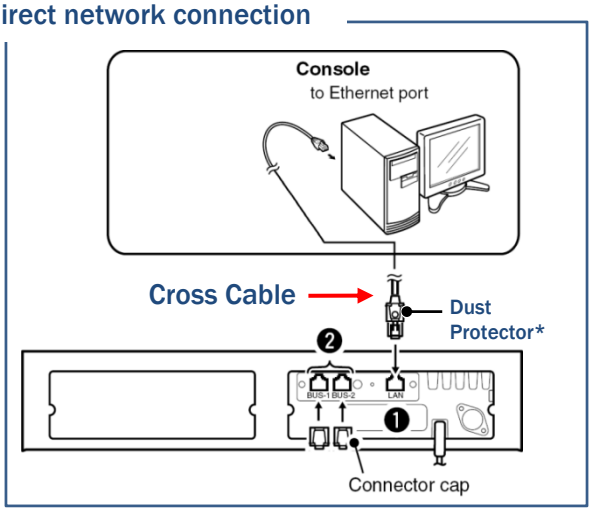
❷ [BUS] connectors (BUS-1, BUS-2)
The BUS connectors will not be used in conventional mode operations.

* The illustration below describes examples of connection for network controller setup.

Network connection through an Ethernet Hub



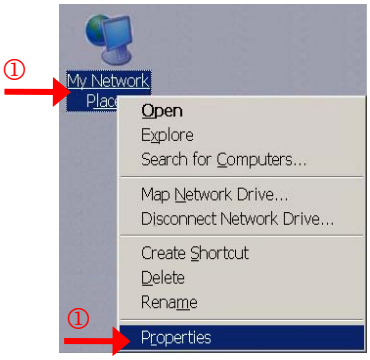
Direct network connection



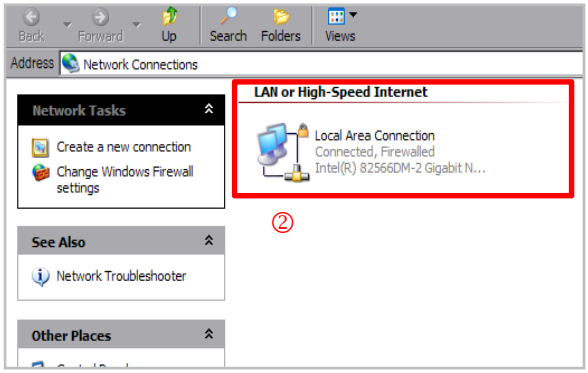
* Please use a proper type of Ethernet cable to connect to the UC-FR5000. The Dust Protector may not fit some types of connector.

2-1-3 Network Connection Settings

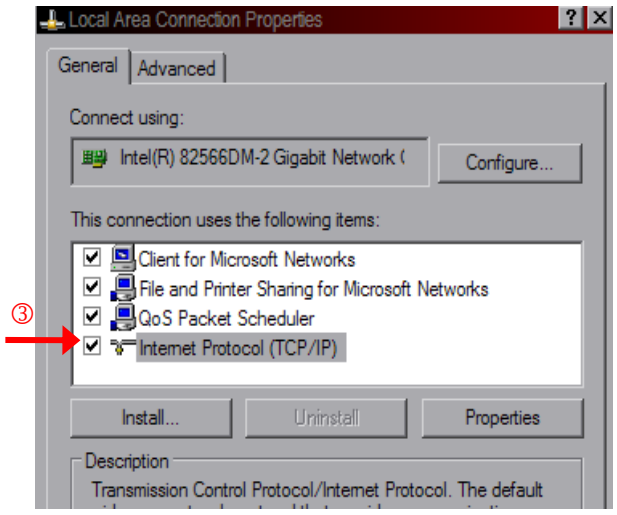
① On your desktop, right-click **My Network Places** and select **Properties**.



② In the **Network Connections** window, right click on **Local Area Connection** and select **Properties**.



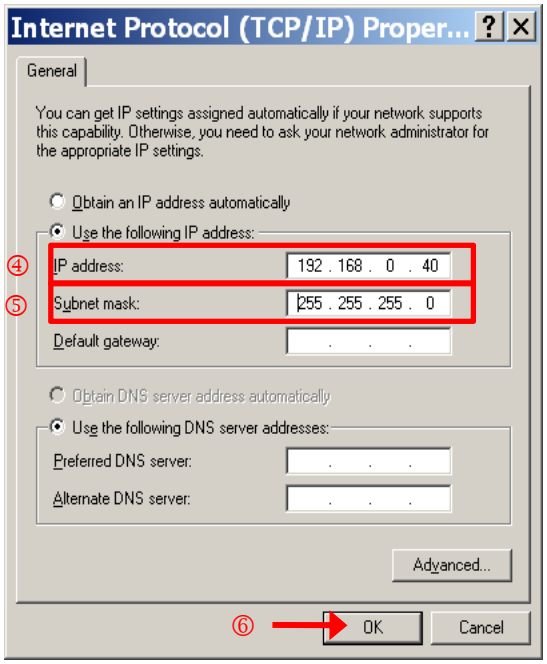
③ In the **Local Area Connection Properties** window, double-click on **Internet Protocol (TCP/IP)**.



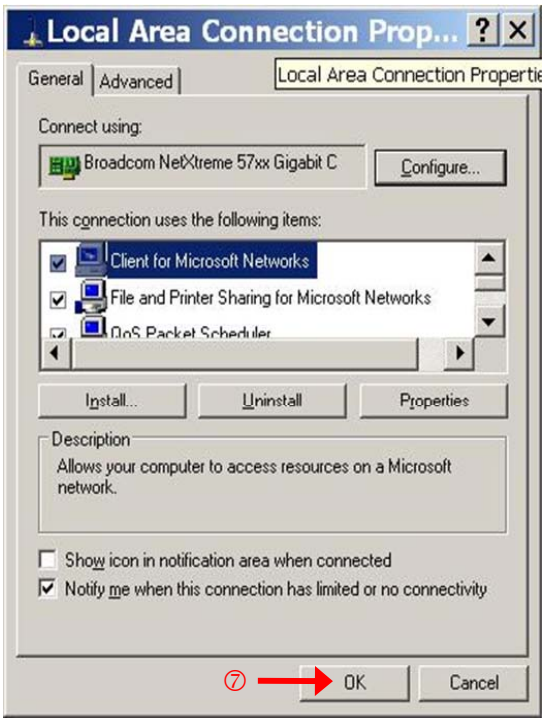
④ Click **Use the following IP address :** and manually enter the IP address

NOTE : The 1st, 2nd and 3rd octets should be the same as the IP address of the UC-FR5000. When the default IP address of the UC-FR5000 is used, it will be 192.168.0.XX

⑤ Click anywhere in the Subnet Mask field to automatically populate the field.



⑥ Click **OK**. The following window appears.



⑦ Click **OK**. You may have to wait several minutes for the settings to be applied to your computer.

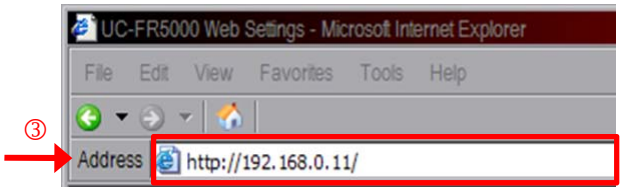
2-1-4 Accessing the Web Setting Screen

This window allows you to configure the control board with repeater settings.

① Connect the UC-FR5000 controller (labeled LAN on the back of the repeater) to your computer's Ethernet port with category 5 straight cable and then turn the repeater ON.

② Open your web browser.

③ Enter IP address 192.168.0.11 (default IP address of the UC-FR5000) in the address field and press Enter.



The following window appears.

④ In the Web Server Authentication fields, enter the following:

User name : cbadmin
Password : ucfr5000

⑤ Click **OK**.

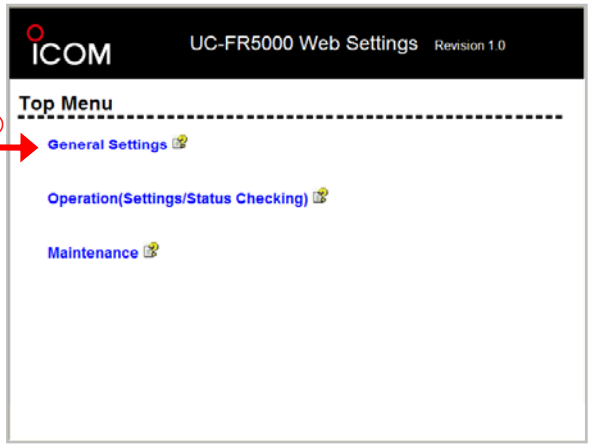
NOTE : If you want it to remember the username and password, check **Remember my password**.

NOTE : You can change the user name and password in the setting screen. Refer to the Step 2-2-6 of the setting screen for details.

2-2 Remote Controller Web Setting

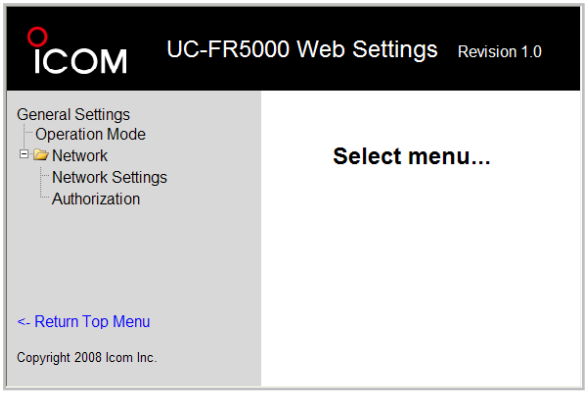
The following Top Menu window appears.

NOTE : Refer to the HELP file in the Web Settings application for feature definitions etc.

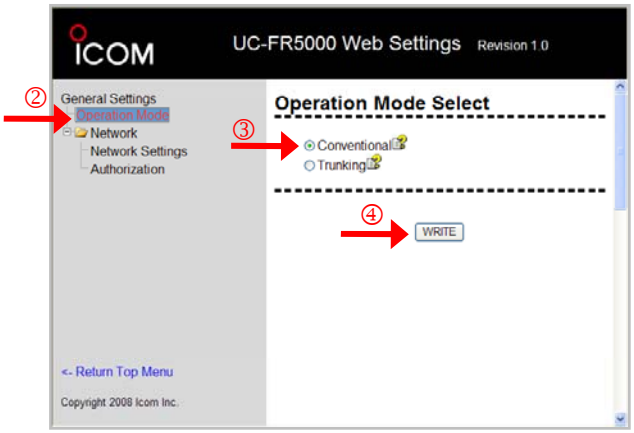


2-2-1 Operation Mode Settings

① Click on **General Settings.** The following window appears.



② Click **Operation Mode.** The following window appears.

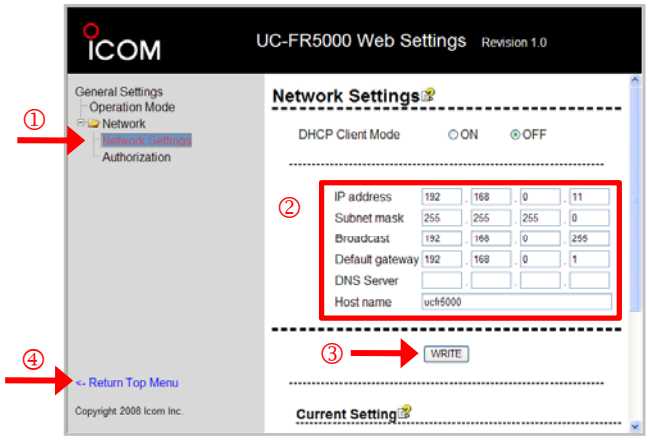


③ Select **Conventional**.

④ Click **WRITE**.

2-2-2 Network Settings

① Click **Network Settings**. The following window appears.



② Change the IP, Subnet Mask, broadcast, default gateway and DNS IP to the IPs for your site.

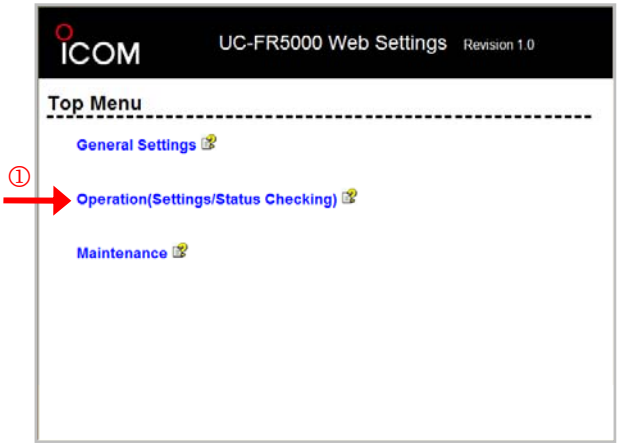
Factory Default Values;

IP address	: 192.168.0.11
Subnet mask	: 255.255.255.0
Broadcast	: 192.168.0.255
Default gateway	: 192.168.0.1
DNS server	: No setting
Host name	: ucfr5000

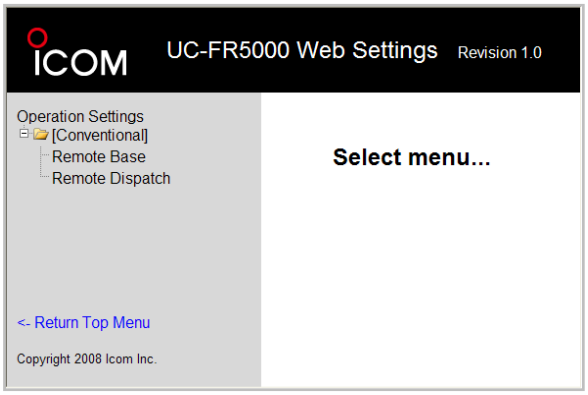
③ After inputting the settings, Click the **WRITE** button to determine the set contents.

④ Click **<- Return Top Menu** to go to the home page.

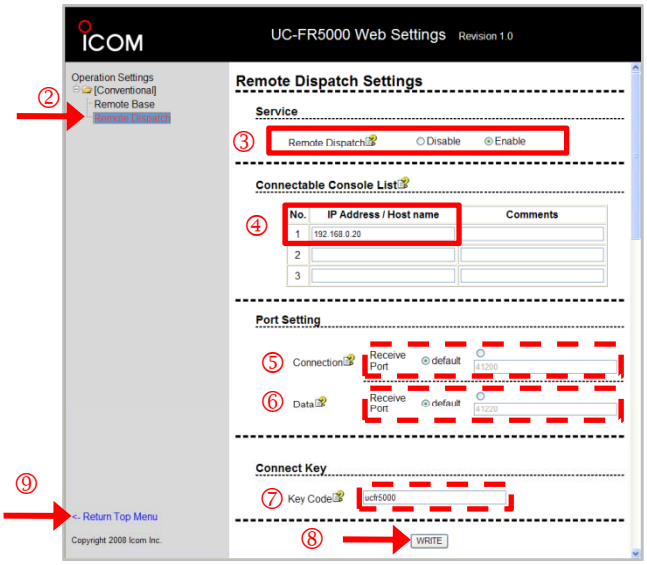
2-2-3 Operation Settings



① Click on **Operation (Setting/Status Checking)**. The following window appears.



② Click on [Conventional] **-> Remote Dispatch.** The following window appears.



③ Set "Service – Remote Dispatch" to Enable.

④ Enter the IP address or host name to specify a console.

⑤ Set the Receive Ports for Connection.

Range of value : 1024 to 65535
Default : 41200

⑥ Set the Receive Ports for Data.

Range of value : 1024 to 65535
Default : 41220

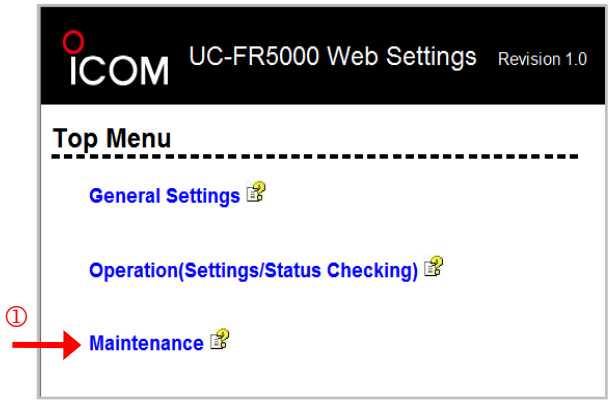
⑦ Enter the Connection Key Code.

Range of value : Up to 16 alphanumeric characters
Default : ucfr5000

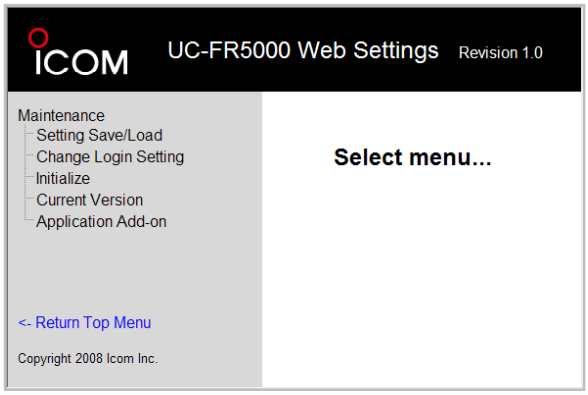
⑧ After inputting the settings, Click the **WRITE** button to determine the set contents.

⑨ Click **<- Return Top Menu** to go to the home page.

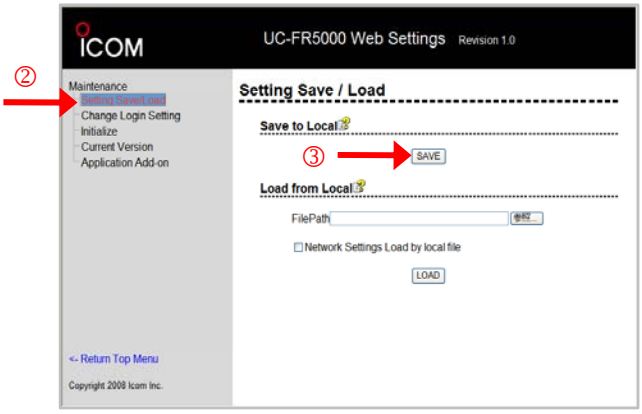
2-2-4 Saving Settings



① Click on **Maintenance**. The following window appears.



② Click **Setting Save / Load**. The following window appears.

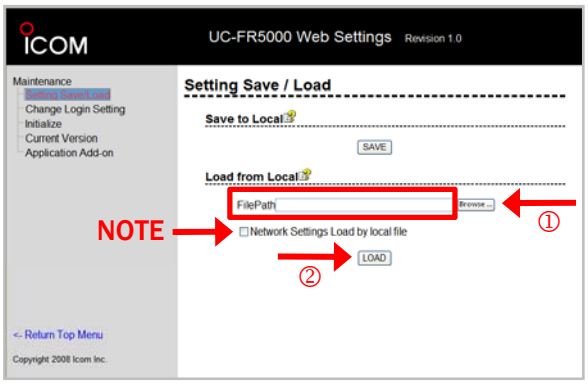


③ Click the [Save] button and enter the desired file name to save the settings

④ Before closing your browser window, ensure that all changes have been saved.

2-2-5 Loading Settings

You can load the settings from a saved local file.



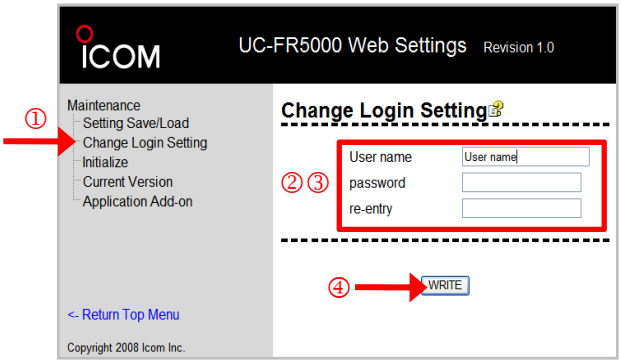
① Enter the file name and location file path in the File Path box, or click the [Browse ...] button to locate a desired file, and then click the [Open] button to select a saved file,

② Click the [Load] button to start reloading the settings.

NOTE : When you don't want to change the current network settings, uncheck the box, "Network settings load by local file".

2-2-6 Changing Login Settings

① Click **Change Login Settings**. The following window appears.



② Enter the user name and the password.

③ Enter the set password in the "re-entry" box again to confirm the setting.

④ Click the [Write] button to determine the set contents.

NOTE : Up to 16 alphanumeric characters can be used for both the user name and the password.

3-1 Network Controller Setup Instructions

The trunking/network controller is programmed by using its own built-in programming software which is set up using the following procedure.

There is no external software for programming the UC-FR5000. The trunking/network control board needs to be properly installed in the UR-FR5000/6000 or IC-FR5000/6000 repeater before attempting this procedure.

Please see the UC-FR5000 instruction manual for detailed installation instructions on how to put the UC-FR5000 into the IC-FR5000/IC-FR6000 series repeaters.

Either a UC-FR5000 01 or UC-FR5000 02 must be installed into the repeater. In case of the UC-FR5000 01, a CF-FR5000 needs to be installed into the UC-FR5000 01 for each repeater on the system.

3-1-1 Preparation

CAUTION : IP Connectivity must be installed by an IT professional.

Obtain the following IP information for both repeaters before starting this installation:

- Internet connection type (Static or Dynamic)
- IP address (static IP)
- Subnet mask (static IP)
- Default gateway (static IP)
- User name and Password

IMPORTANT : All IP addresses must be static for this demonstration configuration.

3-1-2 Network Connection

NOTE : If your computer is on a network, disconnect your computer network connection.

Ensure that your computer is connected to the repeater as shown to the right.

Use category 5 Straight cable (purchase separately) when connecting through an Ethernet Hub.

Be sure to cover the connected cable with a supplied dust protector. Even if the cable has its own cover, replace it with the supplied dust protector.

Keep the supplied connector caps attached when connectors are not in use to avoid bad contacts from dust and moisture.

Each controller has a [LAN] connector and two [BUS] connectors.

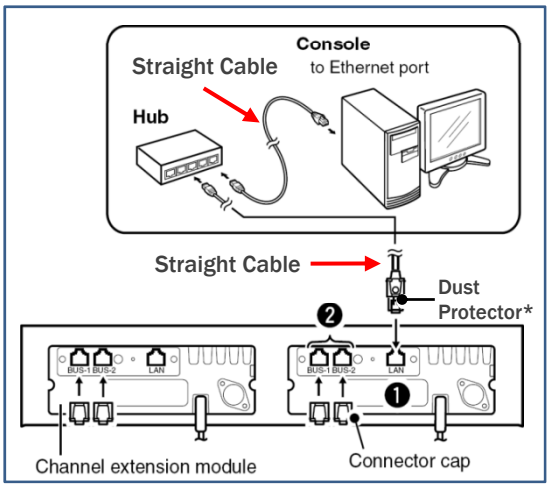
❶ [LAN] connector
For an Ethernet connection. Connect the controller to an Ethernet (LAN) port of a console through a Hub (or a router).

❷ [BUS] connectors (BUS-1, BUS-2)
BUS connectors will not be used in the conventional mode operation.

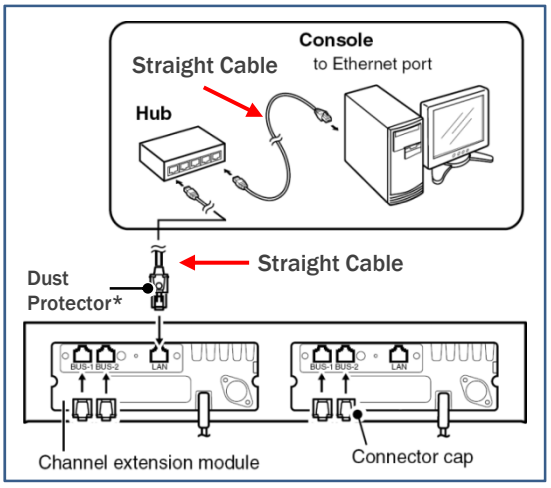
The illustration below describes connection examples for the network controller setup.

NOTE : Connect Ethernet cable one repeater at a time.

- Connect a Ethernet cable to first repeater.



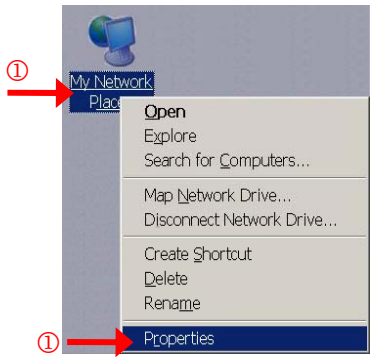
- After the completion of the first UC-FR5000, disconnect the Ethernet cable from the repeater and connect it to the second repeater.



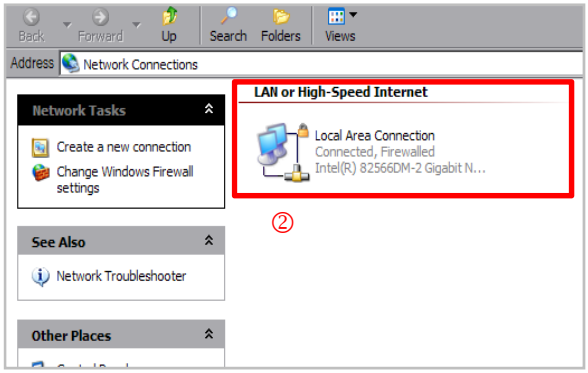
* Please use a proper type of Ethernet cable to connect to the UC-FR5000. The Dust Protector may not fit some types of connector.

3-1-3 Network Connection Settings

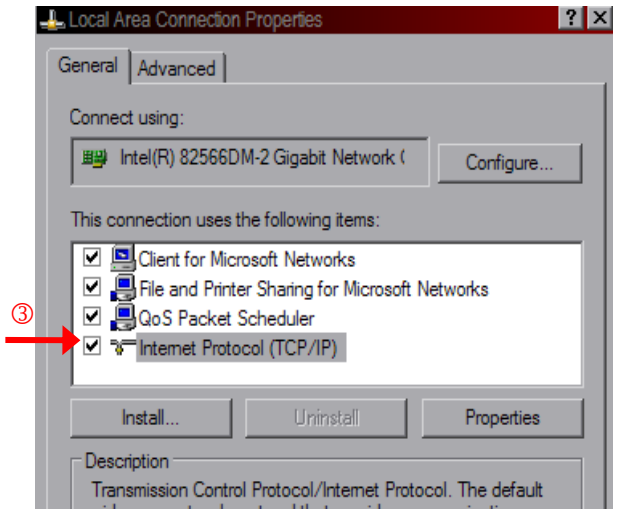
① On your desktop, right-click **My Network Places** and select **Properties**.



② In the **Network Connections** window, right click on **Local Area Connection** and select **Properties**.



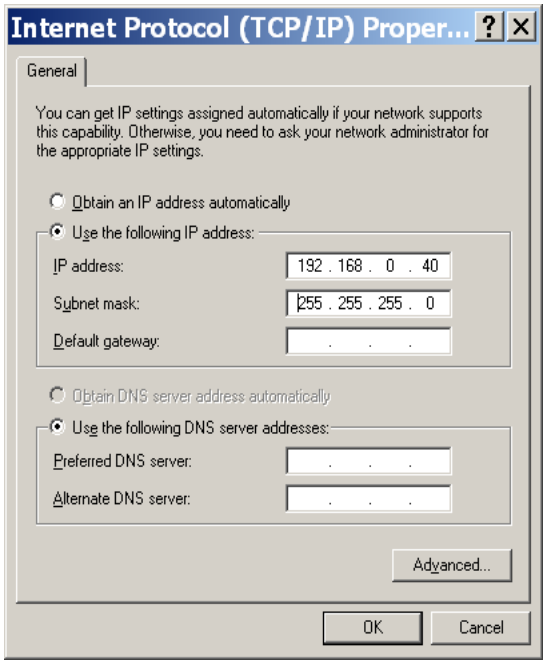
③ In the **Local Area Connection Properties** window, double-click on **Internet Protocol (TCP/IP)**.



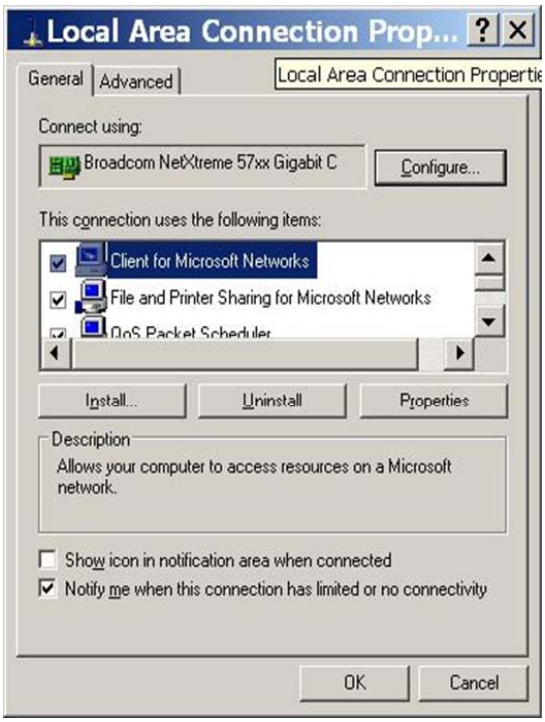
④ Click **Use the following IP address :** and manually enter the IP address

NOTE : The 1st, 2nd and 3rd octets should be the same as the IP address of the UC-FR5000. When the default IP address of the UC-FR5000 is used, it will be 192.168.0.XX

⑤ Click anywhere in the Subnet Mask field to automatically populate the field.



⑥ Click **OK**. The following window appears.



⑦ Click **OK**. You may have to wait several minutes for the settings to be applied to your computer.

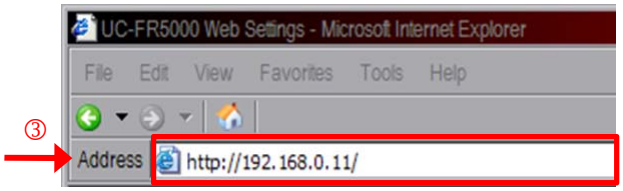
3-1-4 Accessing the Web Setting Screen

This window allows you to configure the control board with repeater settings.

① Connect the UC-FR5000 controller (labeled LAN on the back of the repeater) to your computer's Ethernet port with category 5 straight cable and then turn the repeater ON.

② Open your web browser.

③ Enter IP address 192.168.0.11 (default IP address of the UC-FR5000) in the address field and press Enter.



The following window appears.

④ In the Web Server Authentication fields, enter the following:

User name : cbadmin
Password : ucfr5000

⑤ Click **OK**.

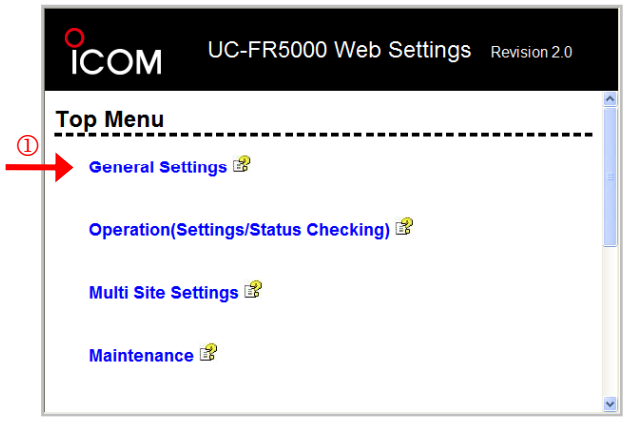
NOTE : If you want it to remember the username and password, check **Remember my password**.

NOTE : You can change the user name and password in the setting screen. Refer to the Step 3-2-7 of the setting screen for details.

3-2 Remote Controller Web Setting

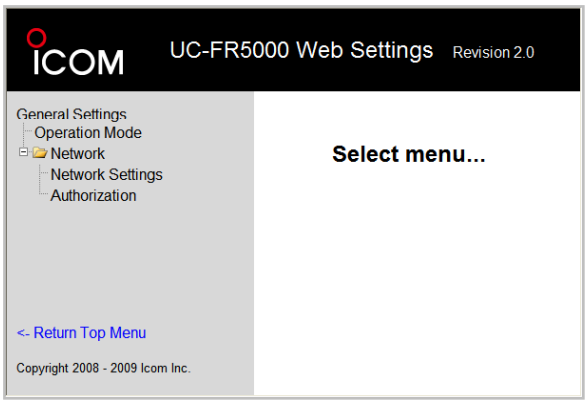
The following the Top Menu window appears.

NOTE : Refer to the HELP file in the Web Settings application for feature definitions etc.

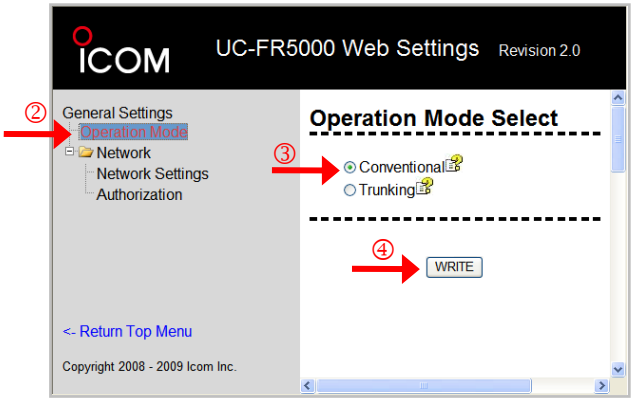


3-2-1 Operation Mode Settings

① Click on **General Settings.** The following window appears.



② Click **Operation Mode.** The following window appears.

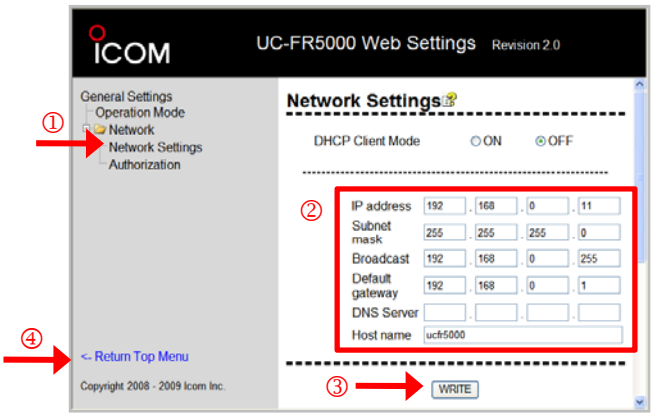


③ Select **Conventional**.

④ Click **WRITE**.

3-2-2 Network Settings

① Click **Network Settings**. The following window appears.



② Change the IP, Subnet Mask, broadcast, default gateway and DNS IP to the IPs for your site.

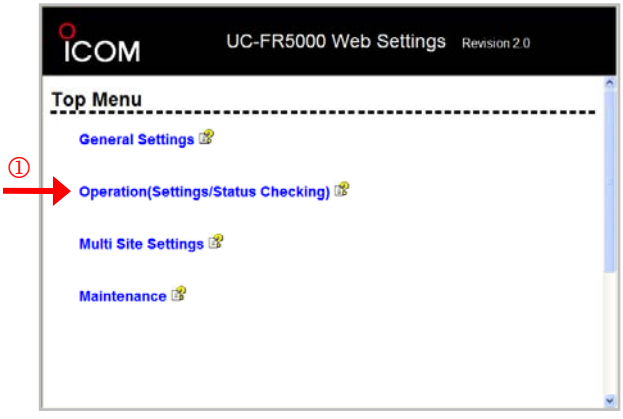
The factory default value;

IP address	: 192.168.0.11
Subnet mask	: 255.255.255.0
Broadcast	: 192.168.0.255
Default gateway	: 192.168.0.1
DNS server	: No setting
Host name	: ucfr5000

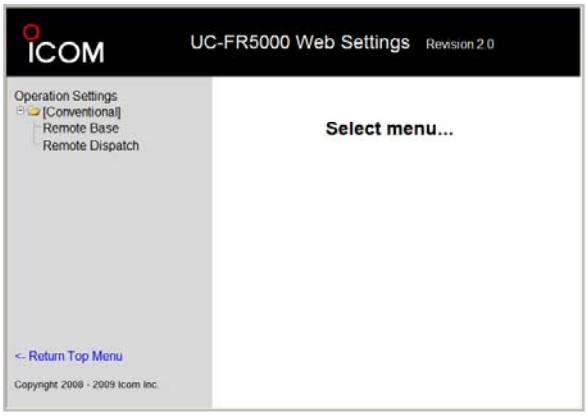
③ After inputting the settings, Click the **WRITE** button to determine the set contents.

④ Click **<- Return Top Menu** to go to the home page.

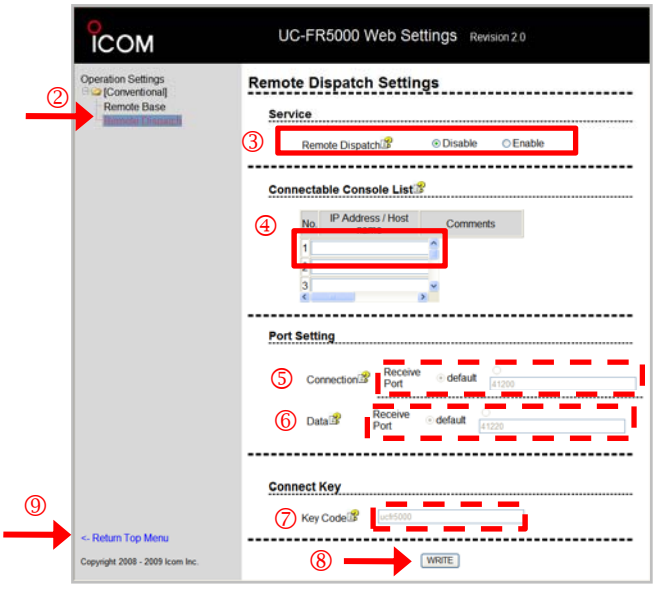
3-2-3 Operation Settings



① Click on **Operation (Setting/Status Checking)**. The following window appears.



② Click on [Conventional] **-> Remote Dispatch.** The following window appears.



③ Set “Service – Remote Dispatch” to Enable.

④ Enter the IP address or host name to specify a console.

⑤ Set the Receive Ports for Connection.

Range of value : 1024 to 65535
Default : 41200

⑥ Set the Receive Ports for Data.

Range of value : 1024 to 65535
Default : 41220

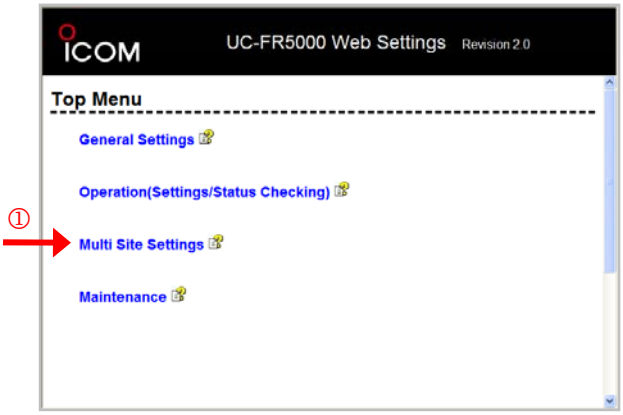
⑦ Enter the Connection Key Code.

Range of value : Up to 16 alphanumeric characters
Default : ucfr5000

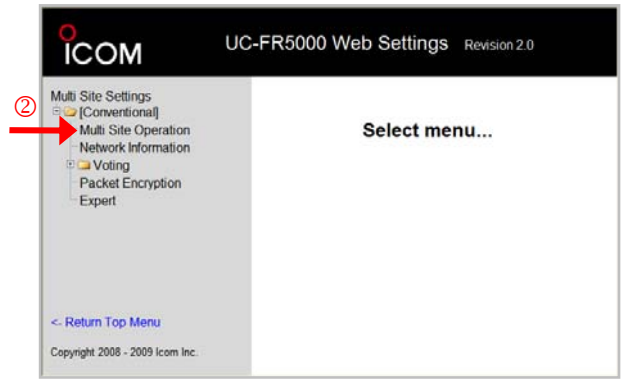
⑧ After inputting the settings, Click the **WRITE** button to determine the set contents.

⑨ Click **<- Return Top Menu** to go to the home page.

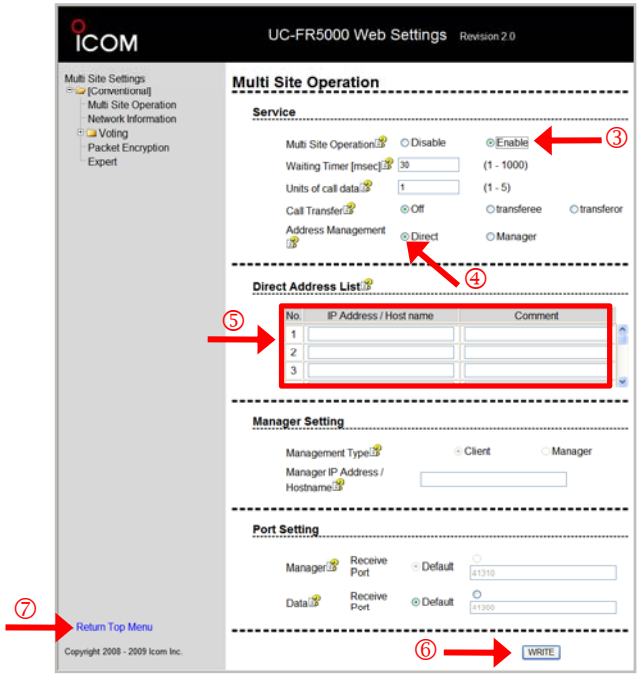
3-2-4 Multi Site Settings



① Click on **Multi Site Settings**. The following window appears.



② Click on [Conventional] **-> Multi Site Operation**. The following window appears.



③ Set "**Service - Multi Site Operation**" to Enable. The Multi Site Operation mode allows you to use the controller to configure a network of repeaters at multiple sites, using an IP network.

Selectable value :

Disable : Disables the Multi Site operation.
Enable : Enables the Multi Site operation.

Default : Disable

④ Set "**Address Management**" to Direct.

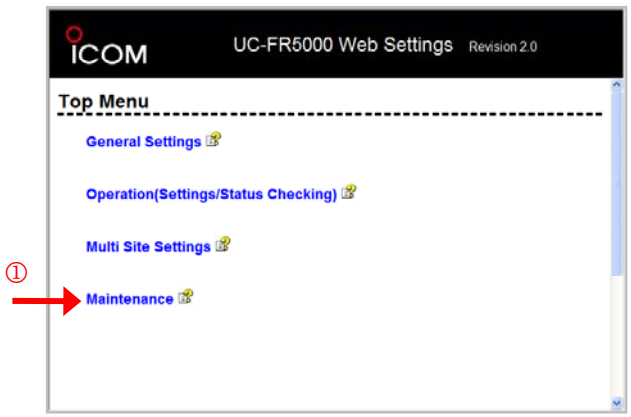
⑤ Enter the IP address of other "target" repeaters in the **Direct Address List**.

- This list allows you to directly designate the destination of frames.
- Enter the IP address of the controllers (UC-FR5000) that you want to transmit frames to.
- This list can store up to 15 destinations.
- You can enter a comment of up to 63 characters for each controller.

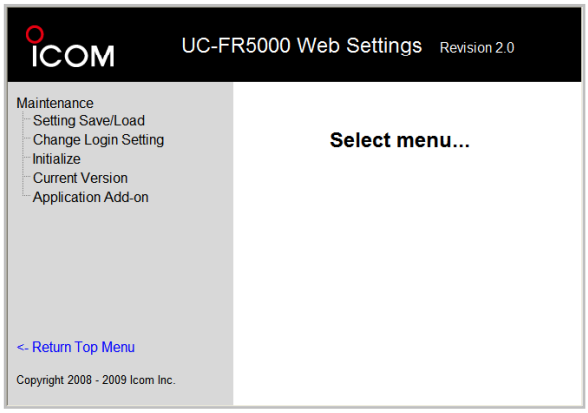
⑥ After inputting the settings, Click the **WRITE** button to determine the set contents.

⑦ Click **<- Return Top Menu** to go to the home page.

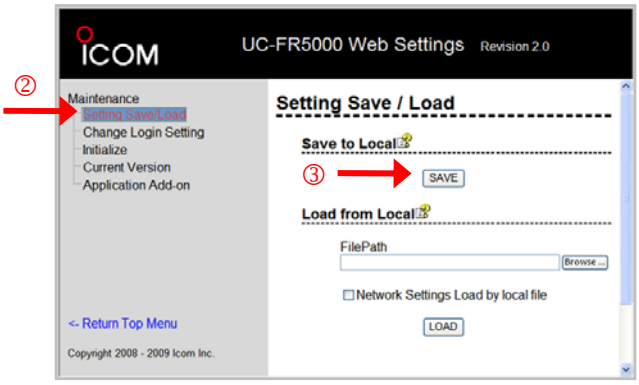
3-2-5 Saving Settings



① Click on **Maintenance**. The following window appears.



② Click **Setting Save / Load**. The following window appears.



③ Click the [Save] button and enter the desired file name to save the settings

④ Close your browser window. Be sure you have written in all changes.

NOTE : After the settings of first UC-FR5000 are complete, disconnect the ethernet cable from the first repeater. Then, connect it to the second repeater to start the settings of second UC-FR5000. Repeat the setting procedure from 3-1-4.

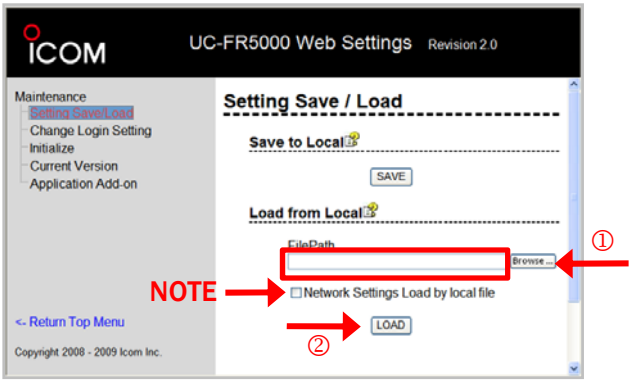
The IP address must be different from the first UC-FR5000.

Example of IP address are:

Factory Default	: 192.168.0.11
First UC-FR5000	: 192.168.0.21
Second UC-FR5000	: 192.168.0.22

3-2-6 Loading Settings

You can load the settings from a saved local file.



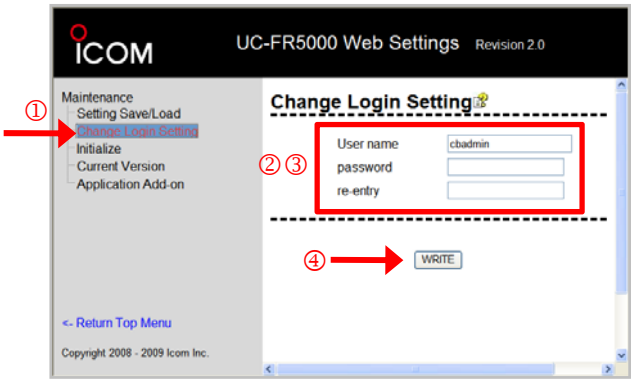
① Enter the file name and location file path in the File Path box, or click the [Browse ...] button to locate a desired file, and then click the [Open] button to select a saved file.

② Click the [LOAD] button to start reloading the settings.

NOTE : You need to uncheck the box “Network settings Load by local file” to perform these Loading Settings.

3-2-7 Changing Login Settings

① Click **Change Login Settings**. The following window appears.



② Enter the user name and the password.

③ Enter the password in the “re-entry” box again to confirm the setting.

④ Click the [Write] button to determine the set contents.

NOTE : Up to 16 alphanumeric characters can be used for both the user name and the password.

4-1 Repeater Programming

NOTE : The firmware of all IDAS™ repeaters for this demonstration must be **Revision 1.7** or higher. If the firmware of your repeater is older than above please update it before setup for this demonstration.

NOTE : The cloning software, **CS-FR5000 Revision 1.4** or later is required to use icf files mentioned below.

When conducting an RC-FS10 demonstration, copy the RC-FS10_Demo_IC-FR6000_ Ver1_0.icf data into the repeater/s.

The snap shots of cloning settings in this section are settings of RC-FR10_Demo_IC-FR6000_Ver_1_0.icf file. The figures in RED boxes are different from default condition.

4-1-1 Common – Other Settings

• Digital Function Setup

Common	
Others	
Beat Cancel	Auto
Wide Band Width	Wide
Front Speaker	ON
Digital Function	Enable

NOTE : Program the RX frequency first, otherwise no Memory CH setting can be done.

4-1-2 Memory CH Settings

• RX/TX Frequency and name Setup

Memory CH

CH	Frequency (MHz) RX	TX	TX Inh	Text
1- 1	468.637500	454.637500		FR6000 (A)
1- 2	469.137500	455.137500		FR6000 (B)

NOTE : The above frequencies are the defaults in the icf file included in this Quick Guide. You may program frequencies freely according to local regulations, if required.

• Operation Mode Setup

Memory CH

CH	Operation Mode
1- 1	Repeat

• CH Type Setup

Memory CH

CH	CH Type
1- 1	Digital

4-1-3 External I/O Option Settings

NOTE : These settings are necessary to use the BASE MR-CH selection command from the RC-FS10, Remote Communicator.

• RS-232C Setup

External I/O Option	
RS-232C	
Connection Speed	9600
Mode	PC CMD V2

4-2 Radio Programming

NOTE : The firmware of all IDAS™ radios for this demonstration must be **Revision 2.8** or later. If the firmware of your radio is older please update it before setup for this demonstration.

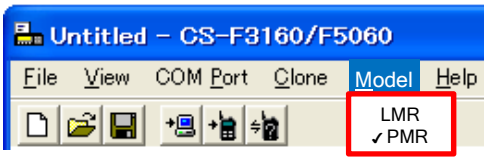
NOTE : The cloning software, **CS-F3160/ F5060 Revision 2.6** or later is required to use icf files mentioned below.

When conducting RC-FS10 demonstration, copy the RC-FS10_Demo_IC-F4160_Ver1_0.icf data into the radios.

NOTE : All cloning operations are done from the computer keyboard. On the IC-F3160/ F4160 series side, connect the OPC-966/966U cloning cable to the multi-pin connector. Then power on the radio by pushing and holding [P0] and rotating the [VOL] power ON.

The snap shots of the cloning settings in this section from the RC-FR10_Demo_IC-F4160_Ver _1_0.icf file. The figures in the RED boxes are different from the default. This file has been created in the PMR mode.

4-2-1 Model Menu – [Model]



4-2-2 Memory CH Settings

NOTE : Program the RX frequency first, otherwise no settings can be done.

- RX/TX Frequency Setup

Zone 1: Main (Left CH - 508)

CH	Frequency (MHz) RX	TX	TX Inh
1- 1	454.637500	468.637500	
1- 2	454.637500	468.637500	
1- 3	455.137500	469.137500	
1- 4	455.137500	469.137500	

NOTE : The above frequencies are the defaults in the icf file included in this Quick Guide. You may program frequencies freely according to local regulations, if required.

- CH Name and RF PWR Setup

Zone 1: Main (Left CH - 508)

CH	Text	Com-pander	TOT	RF PWR
1- 1	F4160 (A-1)		ON	L1
1- 2	F4160 (A-2)		ON	L1
1- 3	F4160 (B-1)		ON	L1
1- 4	F4160 (B-2)		ON	L1

- CH Type Setup

Zone 1: Main (Left CH - 508)

CH	CH Type	Signal	Auto Reset
1- 1	Digital	5T	Tim-B
1- 2	Digital	5T	Tim-B
1- 3	Digital	5T	Tim-B
1- 4	Digital	5T	Tim-B

- Unit ID Setup

Zone 1: Main (Left CH - 508)

CH	Digital RX RAN	TX RAN	Unit ID
1- 1	1	<-	1001
1- 2	1	<-	1002
1- 3	1	<-	1003
1- 4	1	<-	1004

- Individual ID List No., Talkgroup ID List No., Squelch Setup

4-2-3 Digital Settings

- Individual ID List Setup

Digital - Individual - Individual ID List

	ID	
No.	ID	ID Name
1	1001	F4160 (A-1)
2	1002	F4160 (A-2)
3	1003	F4160 (B-1)
4	1004	F4160 (B-2)
5	2001	RC-FS10-1

- Talkgroup ID List Setup

Digital - Talkgroup - Talkgroup ID List

	ID	
No.	ID	ID Name
1	1	Group 1
2	2	Group 2
3	65535	All Call

- Status List – RX Status Setup

Digital - Status - Status List

	RX Status
No.	Display Text
1	In Seivice
2	Out to Lunch
3	South Side
4	North Side
5	Out of Serv.

- Status List – TX Status Setup

Digital - Status - Status List

	TX Status
No.	Display Text
1	In Service
2	Out to Lunch
3	South Side
4	North Side
5	Out of Serv.

- SDM List Setup

Digital - SDM - SDM List

No.	SDM
1	Accepted
2	Noted
3	On the way
4	5min Later

- SDM Setup

Digital - SDM - SDM Setting

RX	Enable
Ringer	PiPi
Log for SDM	Inhibit
Request Ack	Enable

- Call Alert Setup

Digital - Call Alert

RX	Enable
TX	Enable

- Radio Check Setup

Digital - Radio Check

RX	Enable
TX	Enable

- Stun Setup

Digital - Stun

RX	Enable
TX	Enable

- Revive Setup

Digital - Revive

RX	Enable
TX	Enable

- Remote Monitor Setup

Digital - Remote Monitor

RX	Enable
TX	Enable

- Expert – All Call Setup

Digital - Expert

All Call	
TX All Call	Enable
RX All Call	Enable

4-2-4 Memory Channel Settings (2)

- Individual ID List No., Talkgroup ID List No., Squelch Setup

NOTE : This setting can be made after entering the Individual ID List and the Talkgroup ID List in the Digital Settings.

Zone 1: Main (Left CH - 508)

CH	Individual ID List No.	Talkgroup ID List No.	Squelch Type
1- 1	2	1	Sel
1- 2	1	1	Sel
1- 3	5	2	Sel
1- 4	5	2	Sel

4-2-5 Common Settings

- Key & Display Assign Setup

Key & Display Assign

Key

Mobile / Portable	Conventional
P0 / P0	Digital Button
P1 / P1	Moni(Audi)
P2 / P2	Null
P3 / P3	Null
P4 / Side1	User Set Mode
Up / Side2	CH Up
Down / Side3	CH Down
OPF0 / Emer	Emergency
OPF1 / —	Null
OPF2 / —	Null
— /Ext.Emer	Disable

4-2-6 Assigned Functions

4-3 Common Setting Status

4-3-1 Memory Channel Settings

IC-F4160 Series Radios

MR CH	Screen Text	Programmed Condition	Rx*1	Tx*1
CH1	F4160 (A-1)	CH1 of IC-F4160, Rx=f1, Tx=f2	f1	f2
CH2	F4160 (A-2)	CH2 of IC-F4160, Rx=f1, Tx=f2	f1	f2
CH3	F4160 (B-1)	CH3 of IC-F4160, Rx=f3, Tx=f4	f3	f4
CH4	F4160 (B-2)	CH4 of IC-F4160, Rx=f3, Tx=f4	f3	f4

IC-FR6000 Series Repeaters

MR CH	Screen Text	Programmed Condition	Rx*1	Tx*1
CH1	FR6000 (A)	CH1 of FR6000, Rx=f2, Tx=f1	f2	f1
CH2	FR6000 (B)	CH2 of FR6000, Rx=f4, Tx=f3	f4	f3

*1 f1=454.6375MHz, f2=468.6375MHz, f3=455.1375MHz, f4=469.1375MHz (Defaults in the icf files included in this Quick Guide.)
You may program frequencies freely, according to local regulations, if required.

4-3-2 Unit ID

Unit ID	ID Name	Description
1001	F4160 (A-1)	CH1 of IC-F4160, Rx=f1, Tx=f2
1002	F4160 (A-2)	CH2 of IC-F4160, Rx=f1, Tx=f2
1003	F4160 (B-1)	CH3 of IC-F4160, Rx=f3, Tx=f4
1004	F4160 (B-2)	CH4 of IC-F4160, Rx=f3, Tx=f4
2001	RC-FS10-1	RC-FS10
7001	FR6000 (A)	CH1 of FR6000, Rx=f2, Tx=f1
7002	FR6000 (B)	CH2 of FR6000, Rx=f4, Tx=f3

4-3-3 Group ID

Group ID	ID Name	Description
5001	Group 1	
5002	Group 2	

4-3-4 Status List

No.	RX Status	TX Status
1	In Service	In Service
2	Out to Lunch	Out to Lunch
3	South Side	South Side
4	North Side	North Side
5	Out of Serv.	Out of Serv.

4-3-5 Short Data Message List

No.	SDM
1	Accepted
2	Noted
3	On the way
4	5min Later

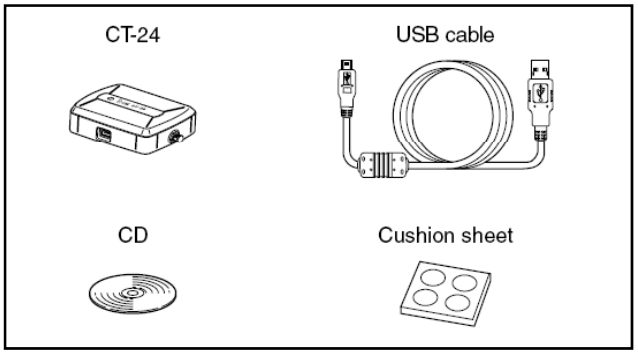
The RC-FS10 Remote Communicator creates a virtual radio/simple dispatcher control panel on a Windows PC. This allows you to access and communicate with repeaters and transceivers on your IDAS™ IP Network.
Before installation, please read these instructions carefully.

5-1 Setting Conditions

5-1-1 Minimum System Requirements

Operating System	Microsoft® Windows® XP SP2 or later (32-bit) Microsoft® Windows Vista® (32-bit)
CPU	Intel Pentium 4 1.6 GHz CPU or better, or equivalent CPU
Memory	512 MB of available memory or more (for Windows XP)
	1 GB of available memory or more (for Windows Vista)
HDD	100 MB of available disk space
Audio	DirectSound compatible sound card that covers the frequency response range of up to 20 kHz, with a sampling rate of 48 kHz.
Display Resolution	1024 × 768 or greater
Other Hardware	CD-ROM drive 10 Mbps or greater Ethernet interface USB 1.1 or 2.0 port Speaker or headset Microphone

5-1-2 Supplied Items

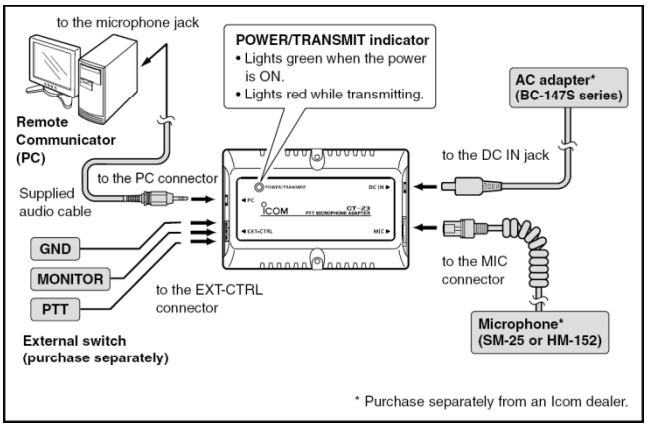


NOTE : These Instructions are based on using Windows XP.
The displayed screens, indications or operations may differ slightly from the instructions, depending on your system configuration or Windows operating system.

5-1-3 Optional Accessory, the CT-23 PTT Microphone Adapter.

The CT-23 enables you to connect an Icom microphone to a Remote Communicator (PC) in your IDAS system.
Please read an instruction manual thoroughly before using the CT-23.

- Connection



- Precautions

Be sure to connect the CT-23 and external speakers to a PC after shutting down the PC and then restart the PC, otherwise a microphone and speakers may not be recognized by the RC-FS10 application software on some PCs.

If the microphone interface on your PC has a sound volume boost feature then it must be turned off, otherwise the PTT function may malfunction.

If the microphone interface on your PC has a noise filter, a Microphone filter or any other filter, it must be turned off, otherwise the PTT function may not work.

Please set the audio volume at appropriate level by the microphone volume controller which is standard accessory of MS Windows on your PC. The sound may be distorted if boosted too much.

5-1-4 Precautions

CAUTION: NEVER expose the CT-24 to rain, snow or any liquids. This will damage the CT-24.

DO NOT use or place the CT-24 in areas with temperatures below 0°C (+32°F) or above +40°C (+104°F).

DO NOT use harsh solvents such as benzine or alcohol to clean the CT-24, because they can damage it's surfaces.

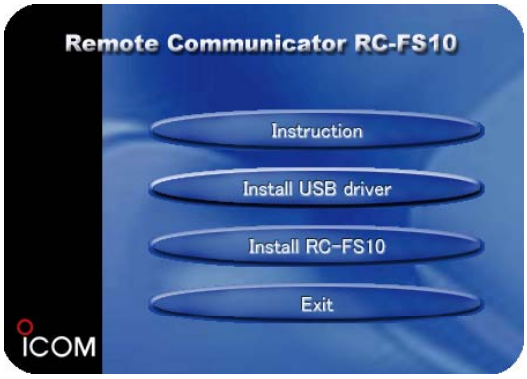
DO NOT allow the PC to go into the sleep or standby mode while using the RC-FS10. Otherwise, it might not work properly after the PC resumes normal activity.

CONNECT the CT-24 to only the PC or an adequate self powered USB hub. Otherwise, it may not work properly.

5-1-5 Menu Screen

When the CD is inserted into the CD drive, the menu screen automatically appears.

- If no menu screen appears, double-click the "AutoRun.exe" on the CD.
- To read the instructions on the CD, Adobe® Reader® is required. If you have not installed the reader, please download it from Adobe Systems Incorporated's website.
- When you want to close the menu screen, click "Exit."



5-2 USB Driver Installation

The order in which the screens in steps ⑦ and ⑧ appear may vary, depending on your system configuration or Windows operating system. Simply follow the instructions in the order the screens appear, but complete both **BEFORE** connecting the CT-24 to the PC.

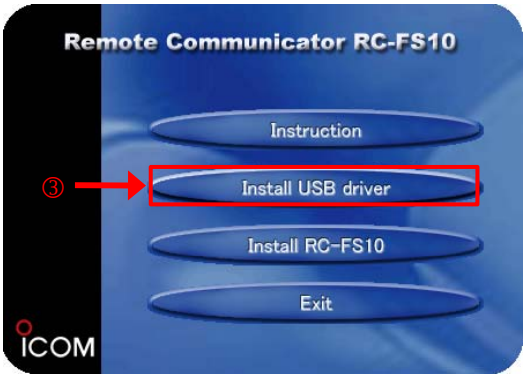
When installing the USB driver, log in as the administrator.

① Make sure Windows has completed it's start-up, and no other applications are running.

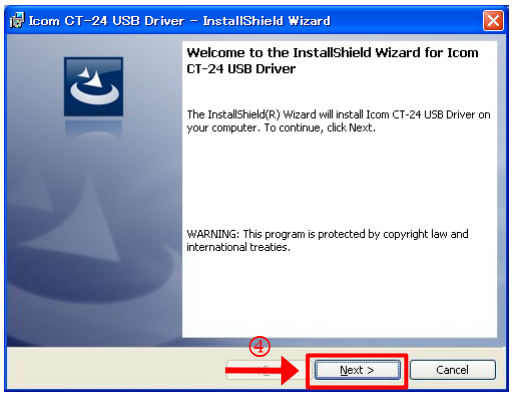
② Insert the CD into the CD drive.

③ Click "Install USB driver" on the menu screen.

– If "Open File-Security Warning" appears, click [Run].

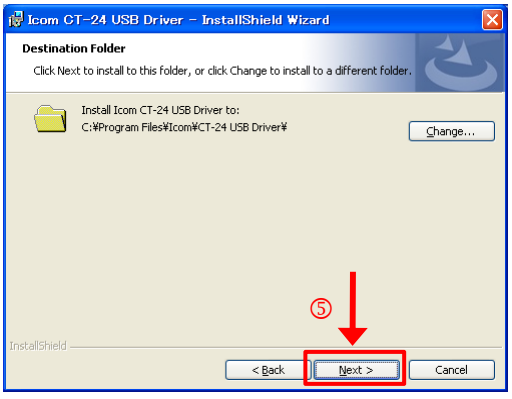


④ "Welcome to USB InstallShield Wizard for Icom CT-24 USB Driver Setup" appears.
Click [Next>].

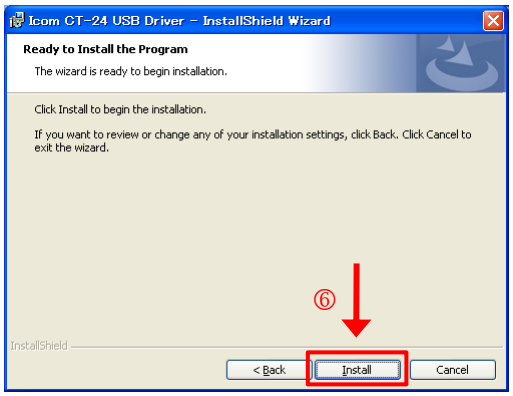


⑤ "Destination Folder" appears.
Click [Next>].

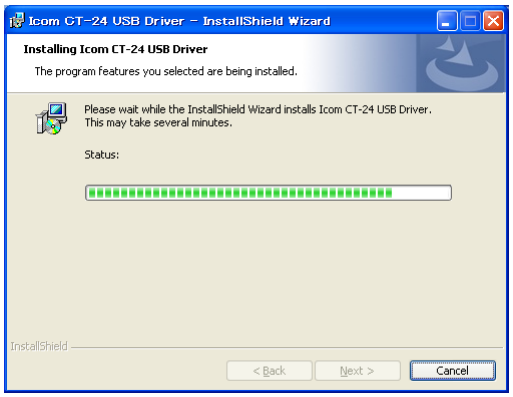
- If desired, click [Change...] to select another destination folder before clicking [Next>].



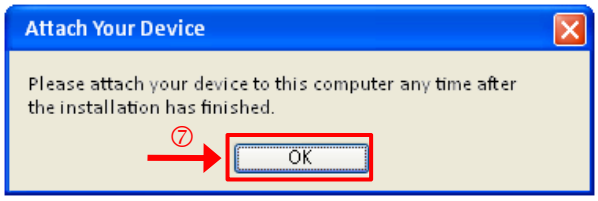
⑥ "Ready to Install the Program" appears.
Click [Install] to start the installation.



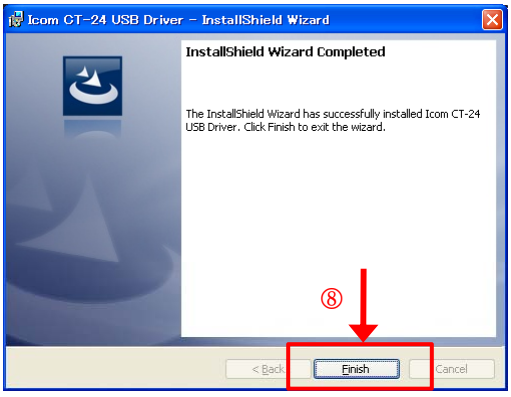
"Installing Icom CT-24 USB Driver" appears.
Wait for several minutes.



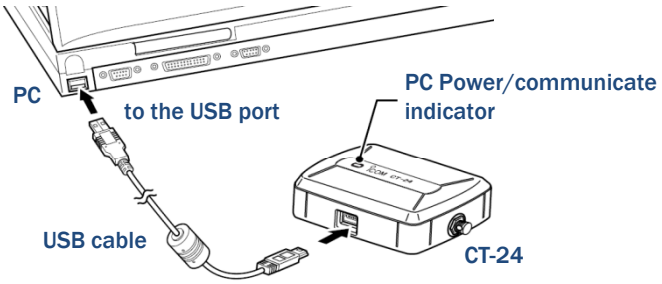
⑦ "Attach Your Device" appears.
Click [OK].



⑧ "InstallShield Wizard Completed" appears.
Click [Finish].



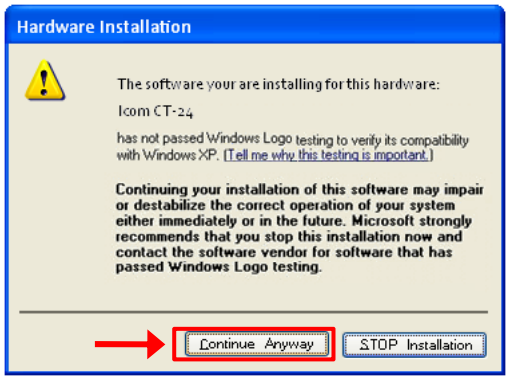
❑ After the InstallShield Wizard is complete, connect the CT-24 to the PC through the USB cable.
- The power/communicate indicator lights green.

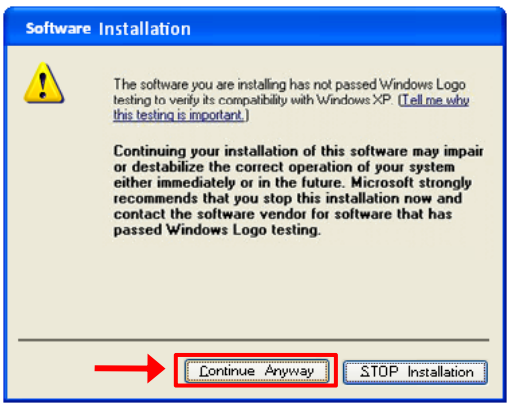


NOTE :
- Restarting the PC may be required, depending on your configuration.
- You can uninstall the USB driver using the "Add/Remove Program" in the Windows Control Panel.

If "User Account Control" appears, click [Allow].

If "Windows Security" appears, click [Continue Anyway].





5-3 RC-FS10 Application Installation

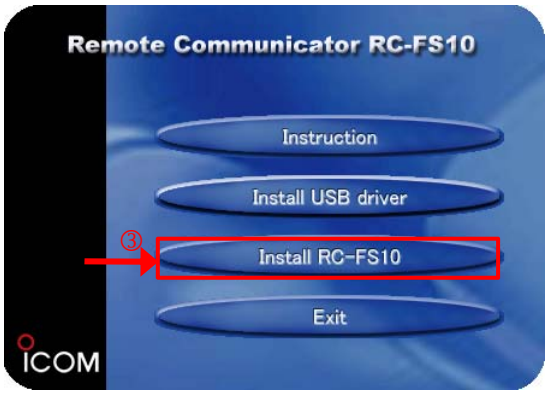
When installing the application, log in as the administrator.

① Make sure Windows has completed it's start-up, and no other applications are running.

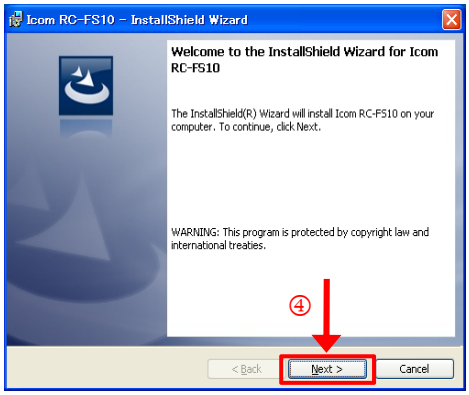
② Insert the CD into the CD drive.

③ Click "Install RC-FS10" on the menu screen.

– If "Open File-Security Warning" appears, click [Run].

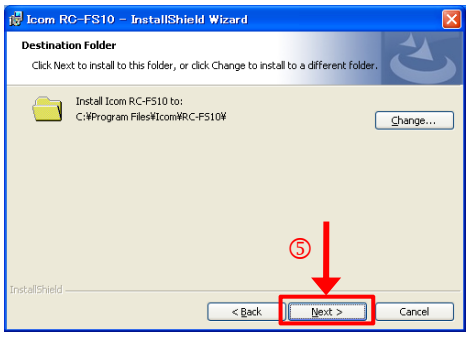


④ "Welcome to the InstallShield Wizard for Icom RC-FS10" appears.
Click [Next>].

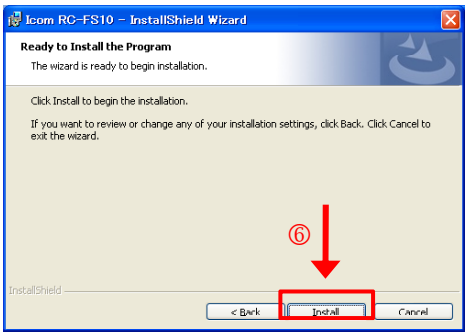


⑤ "Destination Folder" appears.
Click [Next>].

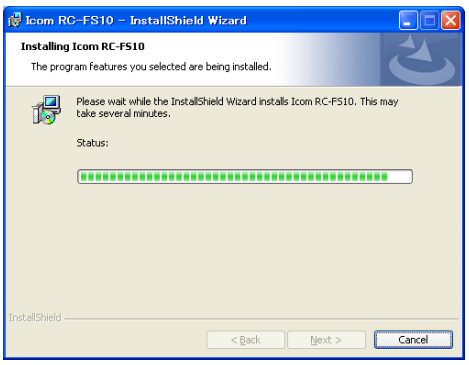
- If desired, click [Change...] to select another destination folder before clicking [Next>].



⑥ "Ready to Install the Program" appears.
Click [Install] to start the installation.



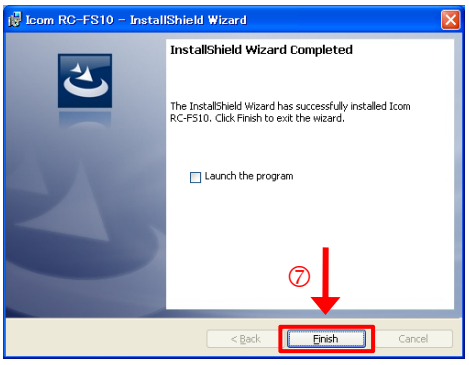
"Installing Icom RC-FS10" appears. Wait for several minutes.



If "User Account Control" appears, click [Allow].

⑦ After the installation has been completed, the "InstallShield Wizard Completed" appears.
Click [Finish].

- If desired, check the "Launch the program" box to start the application, before clicking [Finish].



⑧ Eject the CD.

⑨ 'RC-FS10' appears in the Icom folder, which is on the program menu, and an 'RC-FS10' shortcut icon appears on the desktop.

- You can uninstall the application using the "Add/Remove Program" in the Windows Control Panel.

5-4 Basic Operation

5-4-1 Launching the Remote Communicator

1. Click [Start], and then select [All Programs].
2. Select the "RC-FS10" in the "Icom" folder, and then click the "RC-FS10" icon.

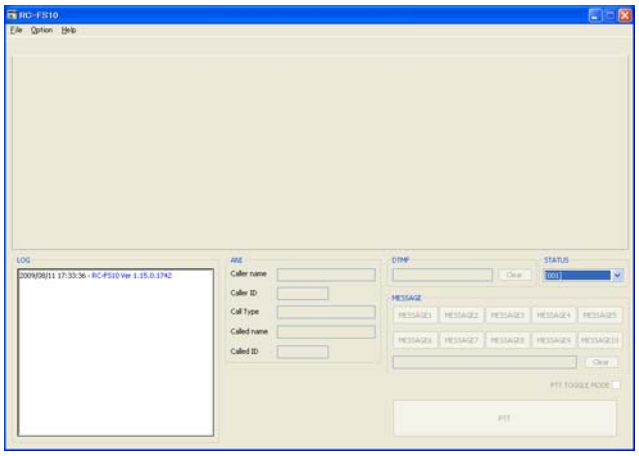
You can also start the Remote Communicator simply by double clicking the short cut, "RC-FS10," which is automatically created on the desktop during the application installation.

5-4-2 Closing the Remote Communicator

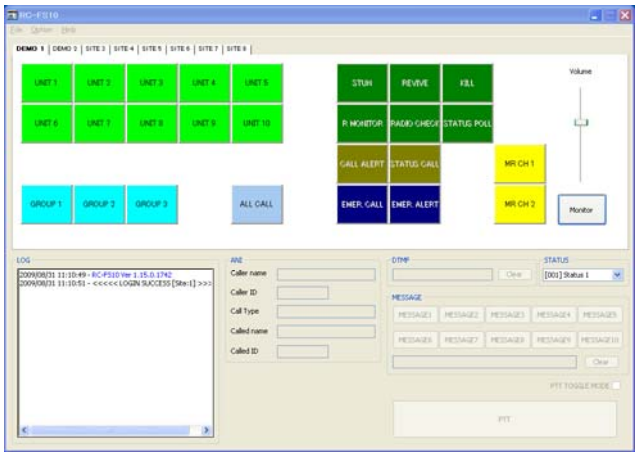
Select <Exit> in the [File] menu, or click the close button ( ) on the title bar of the screen.

5-4-3 Initial Screen Image

When you start the Remote Communicator for the first time, you will see the screen below;

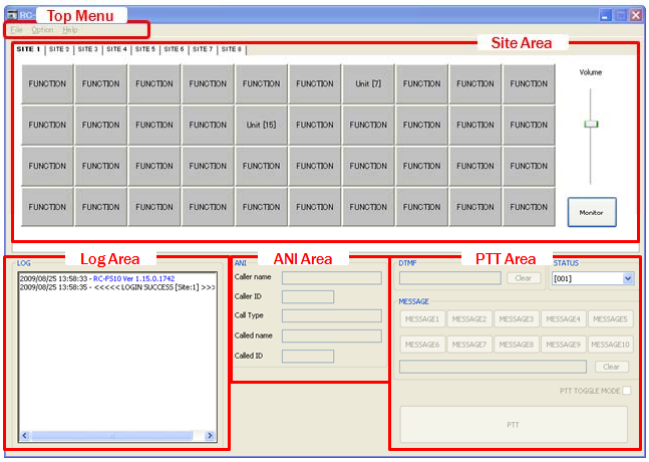


NOTE : When you restart the Remote Communicator, you will see the screen as it was before it was closed.



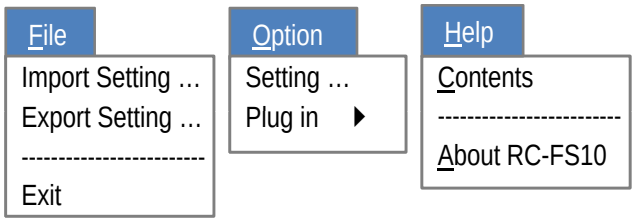
5-4-4 Screen Description

The operating screen of the RC-FS10 consists of the Top Menu, the Site Area, the Log Area, the ANI Area and the PTT Area.



5-4-5 Top Menu Accesses

Click one of the items in the Top menu to open selectable items on pull down menus.



5-4-6 User Authority Level

Access to “Import Setting ...” and “Export Setting ...” under “File”, and “Setting ...” under “Option” are required authentication. The configurable settings differ, depending on the user authority.

User authority	Default user name and password	Configurable settings
Super User	super_user	All settings.
Power User	Power user	All settings except for Network and IP Command.
User	user	Only ANI settings.

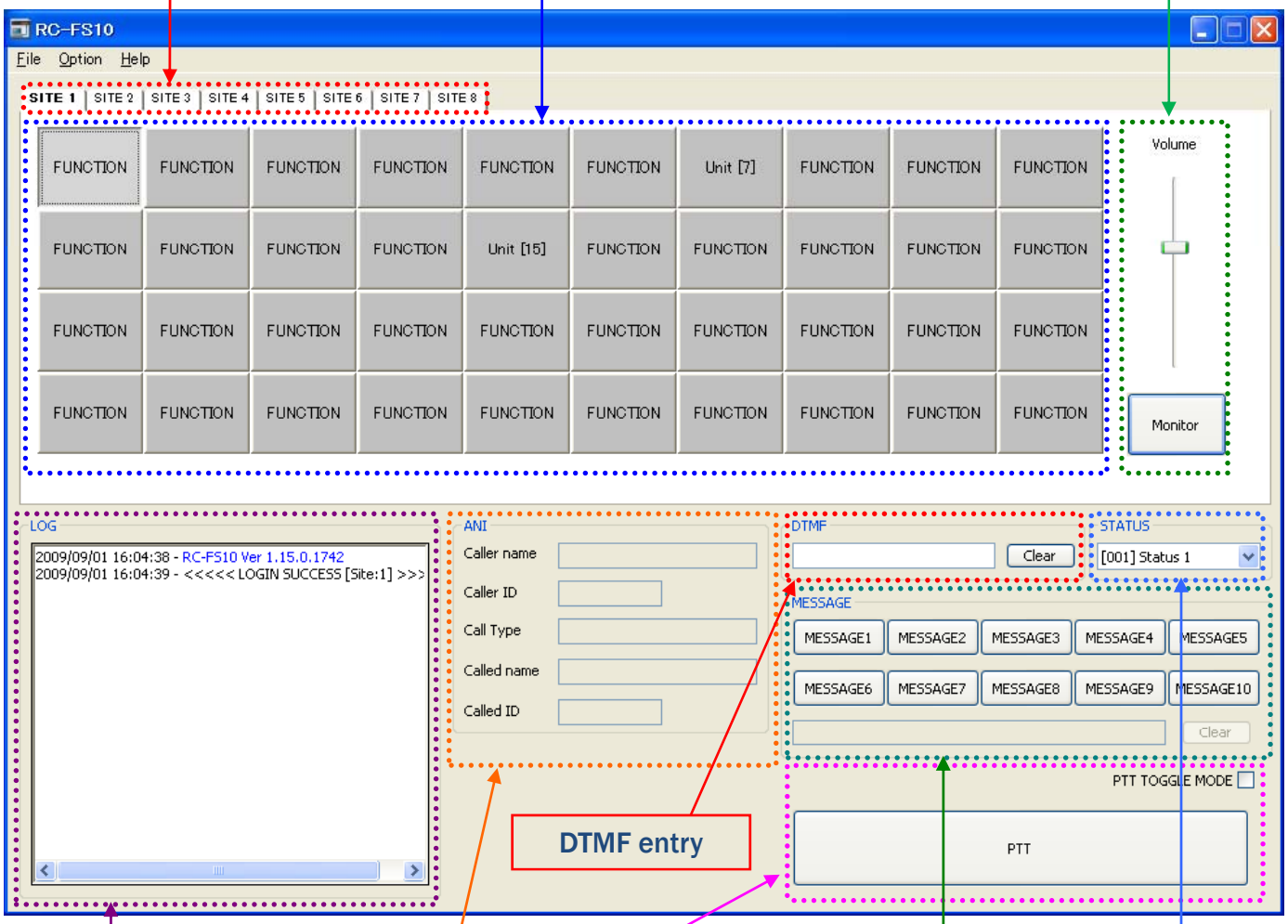
- The user name and password can be changed in the Common Setting screen.

5-4-7 Screen Description

Each tab can be programmed to a specific setting for a repeater (Total 8 settings = 8 repeater/sites)

Function
You can position many different types of calls.
You can customize the type of call, destination ID, button color or label, etc

Volume/Monitor
Adjust the volume of the received audio or use the Monitor Function. Audio will be output from the PC.



DTMF entry

Log
History of received/transmitted calls

ANI
Summary of Call information

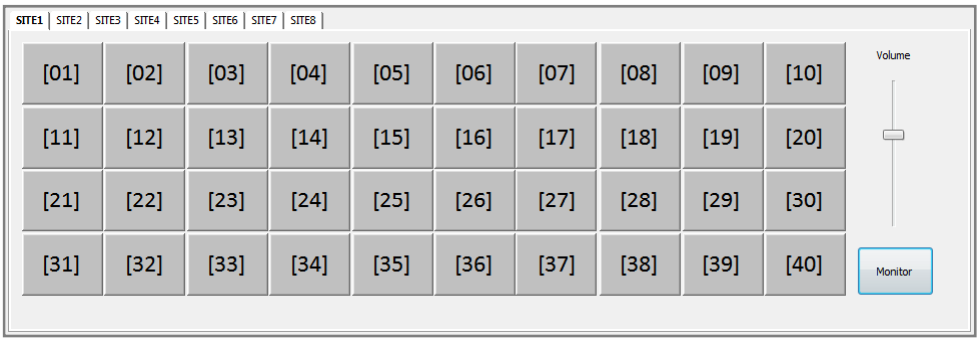
PTT
With Toggle Mode checked you can switch between receiving / transmitting by clicking the PTT

MESSAGE
Choose the SDM to send

STATUS
Choose the status to send

5-4-8 Preparing Button Layout

- Each button is assigned a number and can have a function setting set to it. Each button can be assigned one of the following functions including NONE. No button will appear in the site area. if NONE is assigned.



- The assignable functions are Unit, Group, All Call, Stun, Revive, Kill, Remote Monitor, Radio Check, Call Alert, Status Call, Status Polling, Emergency Call, Emergency Alert, BASE MR-CH and NONE.
- The default setting is NONE. The color and function of each button can be set individually

Name	Description
Unit	Individual Calls: Set a Unit ID of the target unit in the Destination ID.
Group	Group Calls: Set a Talkgroup ID of the target group in the Destination ID.
All Call	All Calls: Communicate with all the units and groups in the site.
Stun	Stun Calls: Transmits a signal that will stun the target unit.
Revive	Revive Calls: Transmits a signal that will revive the target (stunned) unit.
Kill	Kill Calls: Transmits a signal that will disable the target unit.
Remote Monitor	Remote Monitor Calls: Transmits a signal that causes the target unit to transmit the audio from it's microphone.
Radio Check	Radio Check Calls: Determines whether the target unit is turned on, within the communication range, and on channel without requiring any action from the targeted unit's user.
Call Alert	Call Alert Calls: Notifies another user that may be away that you want to talk.
Status Call	Status Calls: Transmits a selected status number.
Status Polling	Status Polling Calls: Transmits a signal that causes the targeted unit to automatically transmit its current status.
Emergency Call	Emergency Calls: Transmits an emergency signal.
Emergency Alert	Emergency Alert Calls: Transmits an emergency status number and cause the target unit to sound an alert.
BASE MR-CH	BASE MR-CH Selection: Sends a command to change the connecting repeater's operating channel.
NONE	No function. No button will appear on the screen.

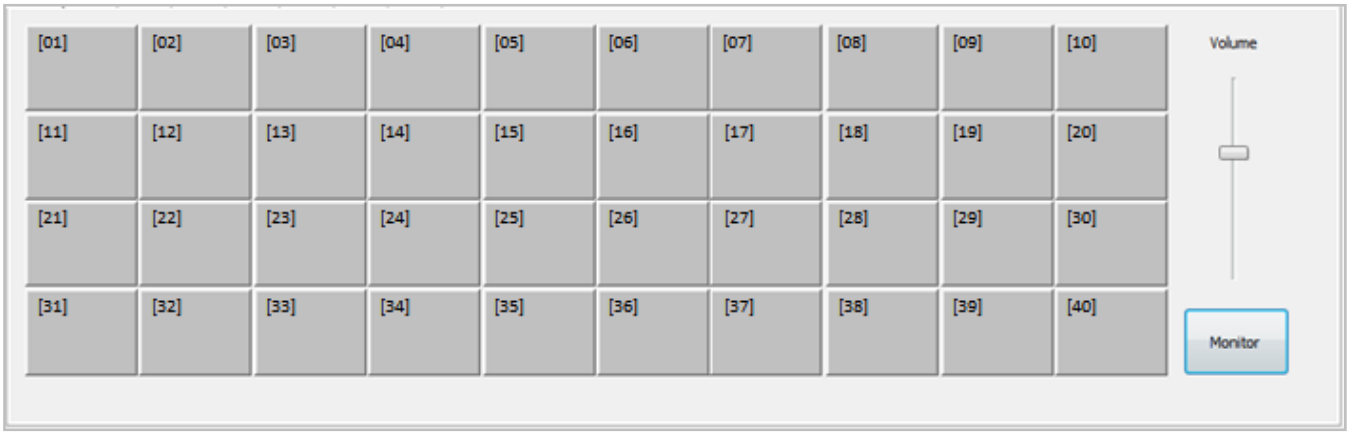
5-4-9 Button Layout Design Worksheets

- Decide what functions will be used for each site
- Decide the number of buttons per function to be used (Total number cannot be exceed 40 buttons)
- Assign a name for each button (Up to 12 characters)
- Assign a color for each function name and button

Function	Apply	Quantity	Name (Up to 12 characters)	Font Color	Background Color	Button Image
Unit						
Group						
All Call						
Stun						
Revive						
Kill						
Remote Monitor						
Radio Check						
Call Alert						
Status Call						
Status Polling						
Emergency Call						
Emergency Alert						
BASE MR-CH						

Worksheet (1)

- Set the function for each button corresponding to the button number.
- Assign all buttons within a 4 by 10 button area.



Worksheet (2)

Number	Function	Name
[01]		
[02]		
[03]		
[04]		
[05]		
[06]		
[07]		
[08]		
[09]		
[10]		
[11]		
[12]		
[13]		
[14]		
[15]		
[16]		
[17]		
[18]		
[19]		
[20]		

Number	Function	Name
[21]		
[22]		
[23]		
[24]		
[25]		
[26]		
[27]		
[28]		
[29]		
[30]		
[31]		
[32]		
[33]		
[34]		
[35]		
[36]		
[37]		
[38]		
[39]		
[40]		

Worksheet (3)

5-5 Example Setup (1) – Utilizing a limited number of functions

5-5-1 Design buttons

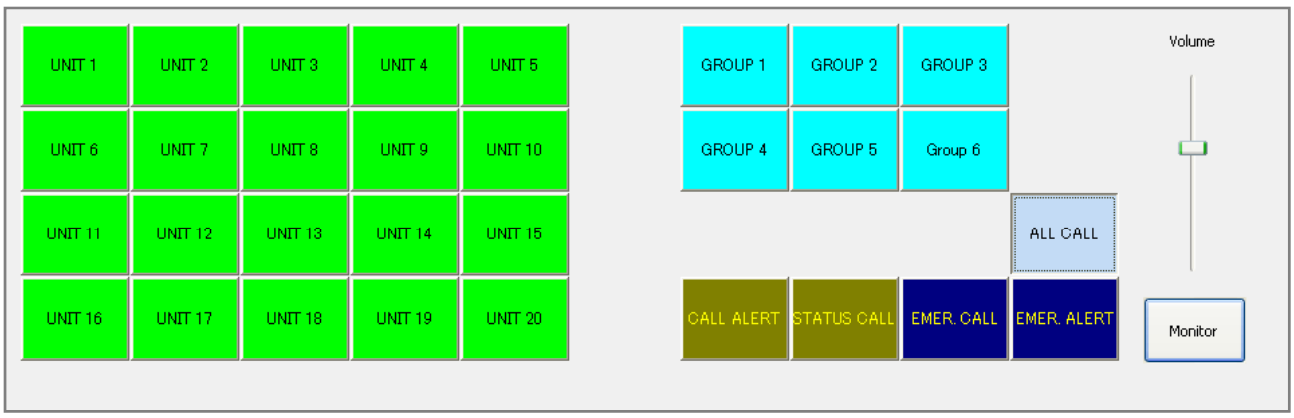
- Decide what functions will be used for each site.
- Decide the number of buttons per function to be used (Total number cannot be exceed 40 buttons).
- Assign a name for each button (Up to 12 characters).
- Assign a color for each function name and button.

NOTE : At least one destination button (Unit, Group or All Call) must be assigned to make a Call. If you want to make an Emergency Call or an Emergency Alert Call, must be assigned Group or All Call.

Function	Apply	Quantity	Name (Up to 12 characters)	Font Color	Background Color	Button Image
Unit	YES	20	UNIT			UNIT
Group	YES	6	GROUP			GROUP
All Call	YES	1	ALL CALL			ALL CALL
Stun	No					
Revive	No					
Kill	No					
Remote Monitor	No					
Radio Check	No					
Call Alert	YES	1	CALL ALERT			STATUS POLL
Status Call	YES	1	STATUS CALL			CALL ALERT
Status Polling	No					
Emergency Call	YES	1	EMER. CALL			EMER. CALL
Emergency Alert	YES	1	EMER. ALERT			EMER. ALERT
BASE MR-CH	No					

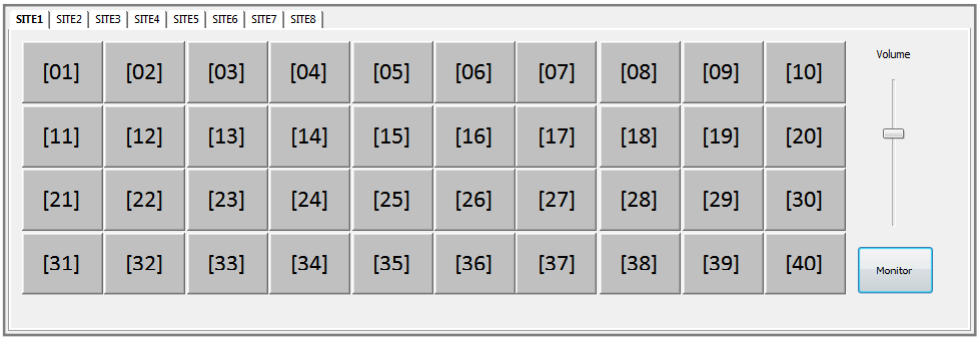
5-5-2 Design the Button Layout

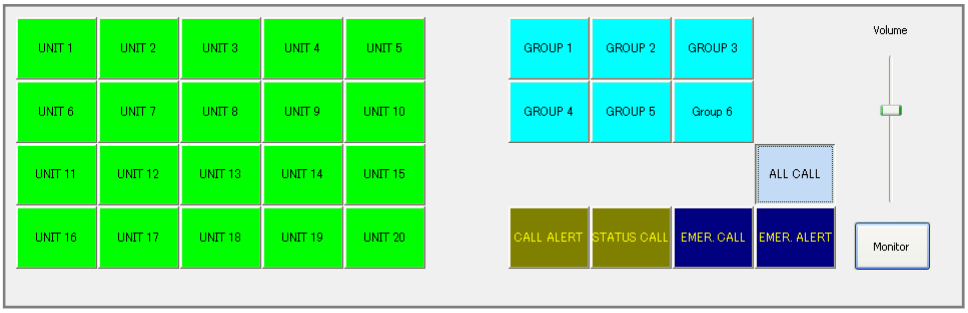
- Assign all buttons within a 4 by 10 button area.



5-5-3 Setting Button Functions

- Set a function of each button corresponding to the button number.



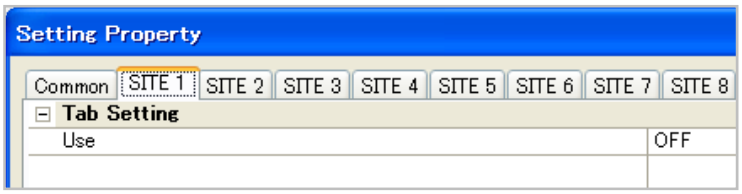


Number	Function	Name
[01]	Unit	UNIT 1
[02]	Unit	UNIT 2
[03]	Unit	UNIT 3
[04]	Unit	UNIT 4
[05]	Unit	UNIT 5
[06]	NONE	
[07]	Group	GROUP 1
[08]	Group	GROUP 2
[09]	Group	GROUP 3
[10]	None	
[11]	Unit	UNIT 6
[12]	Unit	UNIT 7
[13]	Unit	UNIT 8
[14]	Unit	UNIT 9
[15]	Unit	UNIT 10
[16]	NONE	
[17]	Group	GROUP 4
[18]	Group	GROUP 5
[19]	Group	GROUP 6
[20]	None	

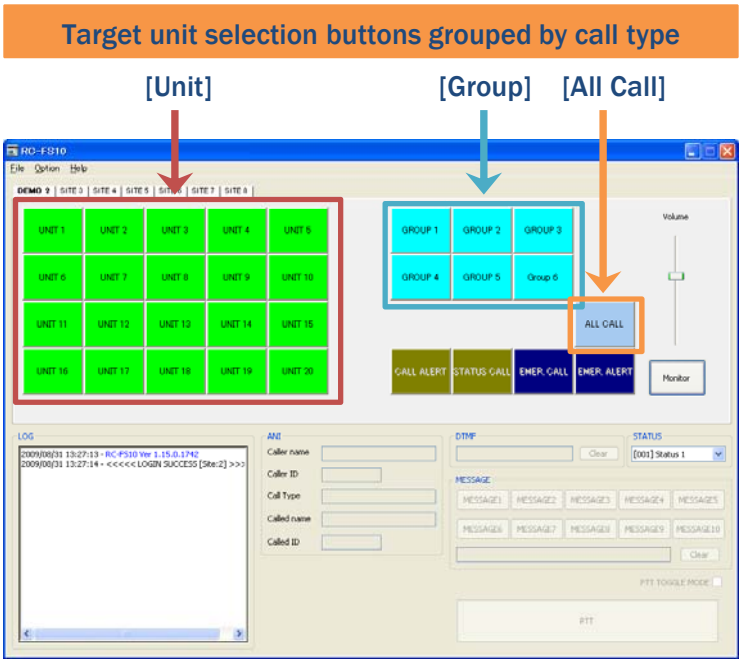
Number	Function	Name
[21]	Unit	UNIT 11
[22]	Unit	UNIT 12
[23]	Unit	UNIT 13
[24]	Unit	UNIT 14
[25]	Unit	UNIT 15
[26]	NONE	
[27]	NONE	
[28]	NONE	
[29]	NONE	
[30]	All Call	ALL CALL
[31]	Unit	UNIT 16
[32]	Unit	UNIT 17
[33]	Unit	UNIT 18
[34]	Unit	UNIT 19
[35]	Unit	UNIT 20
[36]	NONE	
[37]	Call Alert	CALL ALERT
[38]	Status Call	STATUS CALL
[39]	Emergency Call	EMER. CALL
[40]	Emergency Alert	EMER. ALERT

5-5-4 Operation of Example Setup (1)

NOTE : This Example (1) has been configured at SITE 2 of the included configuration file, RC-FS10_Demo_RC-FS10_Ver_1_0.xml. To enable the Example 1 operation, SITE 1 Tab Setting set **Use** to "OFF".

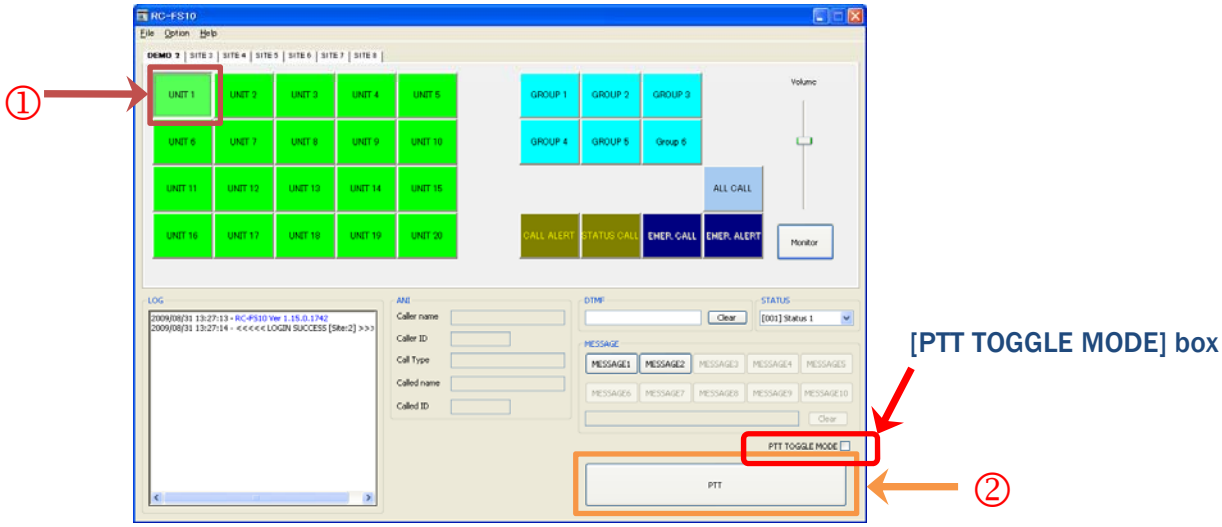


NOTE : All Destination Buttons must be properly setup as similar to memory channel settings of radios.



- Make an individual call (Unit Call)
  ① Select a desired target with the selection buttons.
  ② Click the [PTT] button to make the call.
  ③ The Remote Communicator transmits a signal while holding down the [PTT] button.

NOTE : To switch between transmitting and receiving with each click of the [PTT] button, check the [PTT TOGGLE MODE] box.



5-6 Example Setup (2) – Utilizing all functions

5-6-1 Design buttons

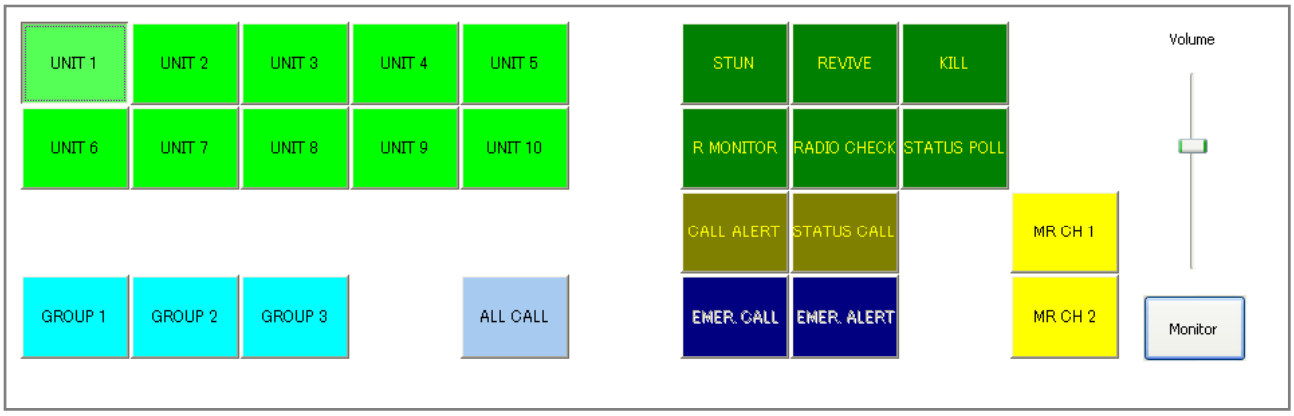
- Decide what functions will be used for each site.
- Decide the number of buttons per function to be used (Total number cannot be exceed 40 buttons).
- Assign a name for each button (Up to 12 characters).
- Assign a color for each function name and button.

NOTE : At least one destination button (Unit, Group or All Call) must be assigned to make a Call. If you want to make an Emergency Call or an Emergency Alert Call, must be assigned Group or All Call.

Function	Apply	Quantity	Name (Up to 12 characters)	Font Color	Background Color	Button Image
Unit	YES	10	UNIT			UNIT
Group	YES	3	GROUP			GROUP
All Call	YES	1	ALL CALL			ALL CALL
Stun	YES	1	STUN			STUN
Revive	YES	1	REVIVE			REVIVE
Kill	YES	1	KILL			KILL
Remote Monitor	YES	1	R MONITOR			R MONITOR
Radio Check	YES	1	RADIO CHECK			RADIO CHECK
Call Alert	YES	1	CALL ALERT			STATUS POLL
Status Call	YES	1	STATUS CALL			CALL ALERT
Status Polling	YES	1	STATUS POLL			STATUS CALL
Emergency Call	YES	1	EMER. CALL			EMER. CALL
Emergency Alert	YES	1	EMER. ALERT			EMER. ALERT
BASE MR-CH	YES	2	MR CH			MR CH

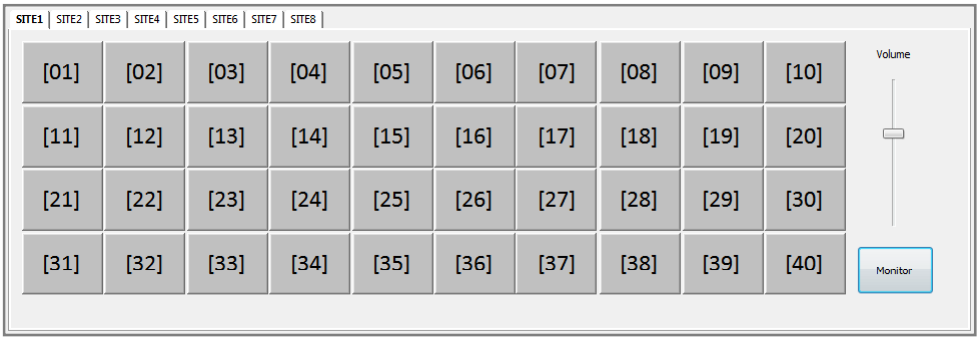
5-6-2 Design the Button Layout

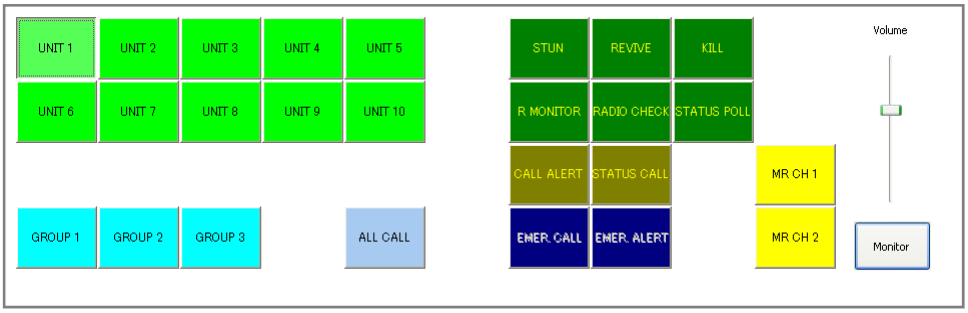
- Assign all buttons within a 4 by 10 button area.



5-6-3 Setting Button Functions

- Set a function of each button, corresponding to the button number.





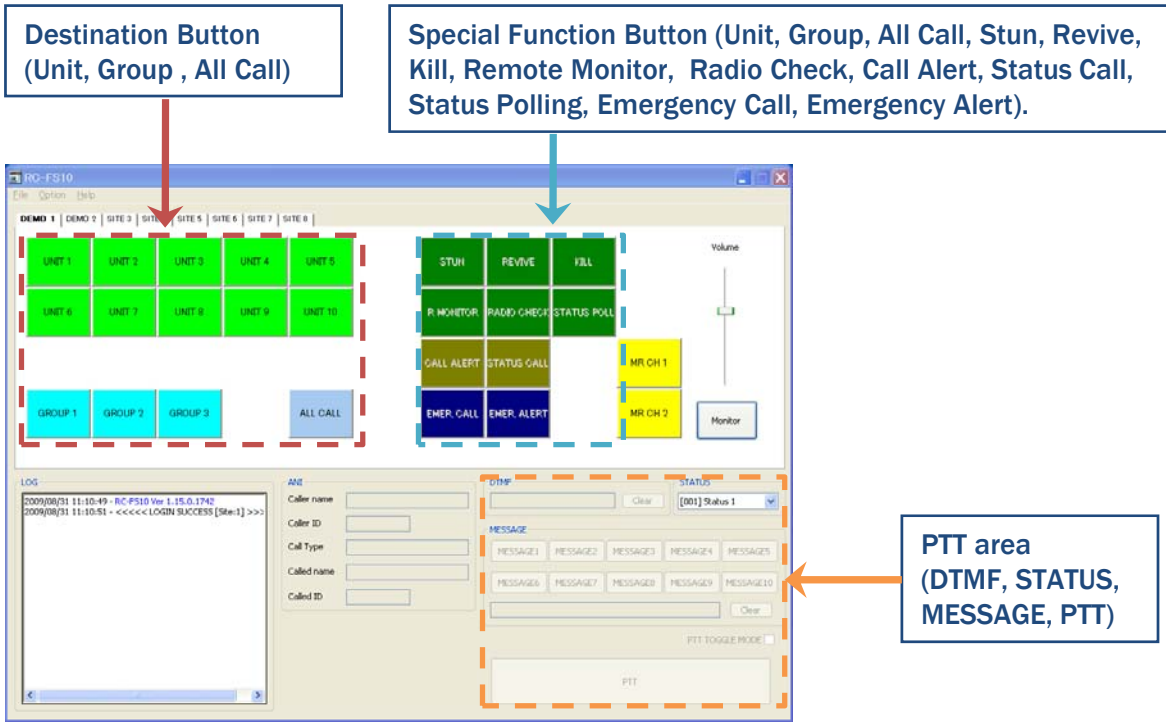
Number	Function	Name
[01]	Unit	UNIT 1
[02]	Unit	UNIT 2
[03]	Unit	UNIT 3
[04]	Unit	UNIT 4
[05]	Unit	UNIT 5
[06]	NONE	
[07]	Stun	STUN
[08]	Revive	REVIVE
[09]	Kill	KILL
[10]	NONE	
[11]	Unit	UNIT 6
[12]	Unit	UNIT 7
[13]	Unit	UNIT 8
[14]	Unit	UNIT 9
[15]	Unit	UNIT 10
[16]	NONE	
[17]	Remote Monitor	R MONITOR
[18]	Radio Check	RADIO CHECK
[19]	Status Polling	STATUS POLL
[20]	NONE	

Number	Function	Name
[21]	NONE	
[22]	NONE	
[23]	NONE	
[24]	NONE	
[25]	NONE	
[26]	NONE	
[27]	Call Alert	CALL ALERT
[28]	Status Call	STATUS CALL
[29]	NONE	
[30]	BASE MR-CH	MR CH 1
[31]	Group	GROUP 1
[32]	Group	GROUP 2
[33]	Group	GROUP 3
[34]	NONE	
[35]	All Call	ALL CALL
[36]	NONE	
[37]	Emergency Call	EMER. CALL
[38]	Emergency Alert	EMER. ALERT
[39]	NONE	
[40]	BASE MR-CH	MR CH 2

5-6-4 Operation of Example Setup (2)

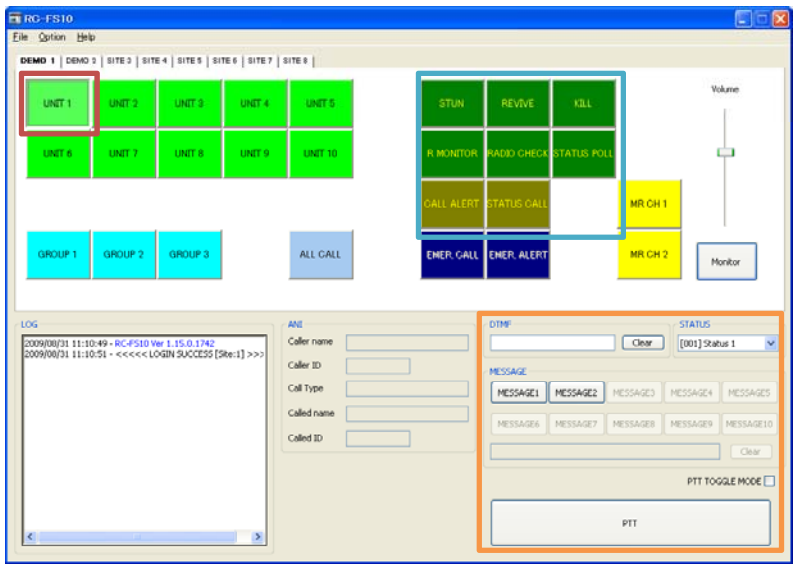
- Special functions and PTT area functions will not operate without the selection of a Unit, Group or All Call button (Destination Button).

NOTE : All Destination Buttons must be properly setup as similar to memory channel settings of radios.

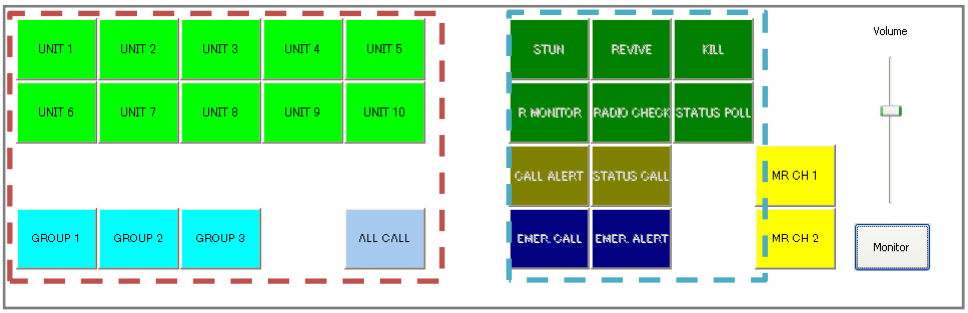


- The button display

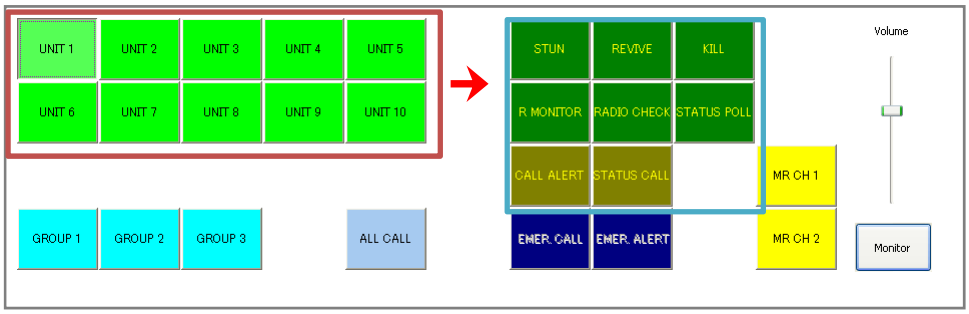
- After clicking a [Unit] button, [Stun], [Revive], [Kill], [Remote Monitor], [Radio Check], [Call Alert], [Status Call] and [Status Polling] buttons can be used if programmed. The [PTT] button can also be clicked to make a call.



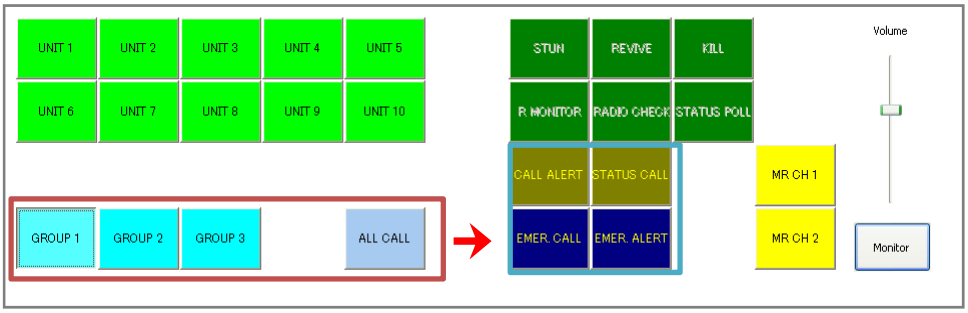
- Until clicking the [Unit], [Group] or [All Call] button, the following buttons cannot be accessed: [Stun], [Revive], [Kill], [Remote Monitor], [Radio Check], [Call Alert], [Status Call], [Status Polling], [Emergency Call] and [Emergency Alert].



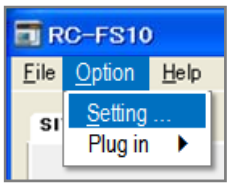
- After clicking a [Unit] button, the following buttons can be accessed, if programmed: [Stun], [Revive], [Kill], [Remote Monitor], [Radio Check], [Call Alert], [Status Call] and [Status Polling].



- After clicking the [Group] button or [All Call] button, the following buttons can be accessed if programmed: [Call Alert], [Status Call], [Emergency Call] and [Emergency Alert].

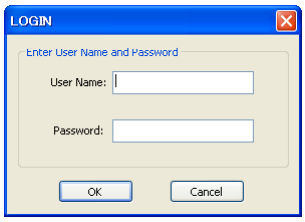


5-7 Option – Settings



1) Click to access the **Common Setting** screen and **Site Area Setting** screen.
2) Login authentication is required.
3) Enter User Name and password, and then click **OK**.

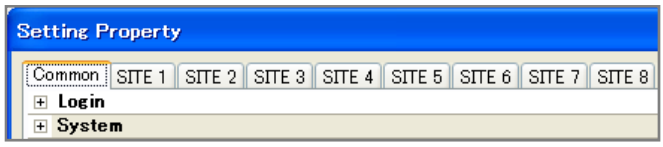
NOTE : The configurable settings differ, depending on the user's authority.



5-7-1 Common Settings

The Common Setting screen allows you to configure settings that are commonly used throughout the system.

NOTE : If your user authority is "user," you cannot access the Common Setting screen.



➢ Log in

Common	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8
Login								
Super User Name	super_user							
Super User Password	super_user							
Power User Name	power_user							
Power User Password	power_user							
User Name	user							
User Password	user							

You can change the user name and password in the Common Setting screen.

User authority	Default user name and password
Super User	super_user
Power User	power_user
User	user

➢ System

Common	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8
Login								
System								
Input Plugin	In_DxMic.dll							
Output Plugin	Out_DxSpeaker.dll							
Message Text								
Status Call Text								
Voting [×100(mSec)]	0							
TX Mute	OFF							
DTMF								
DTMF Span [×80(mSec)]	1							
DTMF Interval [×80(mSec)]	1							
Locale								
Date Format	yyyy/MM/dd							
Time Format	HH:mm:ss							
Log								
Save Folder								

- **Input Plugin**

  Default figure : In_DxMic.dll

  Do not change the settings for normal operation.

- **Output Plugin**

  Default figure : Out_DxSpeaker.dll

  Do not change the settings for normal operation.

- **Message Text (01 to 10)**

  You can assign a total of 10 messages to the [MESSAGE] buttons for quick selection in the operating screen.
  Enter a message of up to 12 characters for each button.

- **Status Call Text (001 to 100)**

  You can set a total of 100 status messages in the status list.
  Enter a message of up to 12 characters for each status number.

- **Voting [X100 (mSec)]**

  NOTE : This function does not select the highest RSSI signal.

  When the Remote Communicator receives packets that have the same ID from more than one repeater, the voting function limits the Remote Communicator's reception to the first repeater.
  Set the time period for the Voting function to between 1 and 255 (100 msec.) (in 100 msec. steps)
  When the Remote Communicator receives a packet, it rejects any other packets that have the same ID as the first one, from any other repeaters, for the selected time period.

  Enter "0" to disable the voting function.

• **TX Mute**
This setting is for Multi Site mode operation. While the Remote Communicator is transmitting, the TX mute function mutes all incoming signals from other sites.

OFF	Disables the TX mute function.
ON	Enables the TX mute function.

• **DTMF**
– **DTMF Span [X80 (mSec)]**
Set the length of each digit of a DTMF code to between 1 and 255 (80 msec.) (in 80 msec. steps).

– **DTMF Interval [X80 (mSec)]**
Set the DTMF code transmission interval to between 0 and 255 (80 msec.) (in 80 msec. steps).

• **Locale**
– **Date Format**
Set the date format for logs.
Enter "yyyy" or "yy" for year, "MM" for month and "dd" for date.

Example

yyyy/MM/dd	2009/07/31
MM/dd/yy	07/31/09

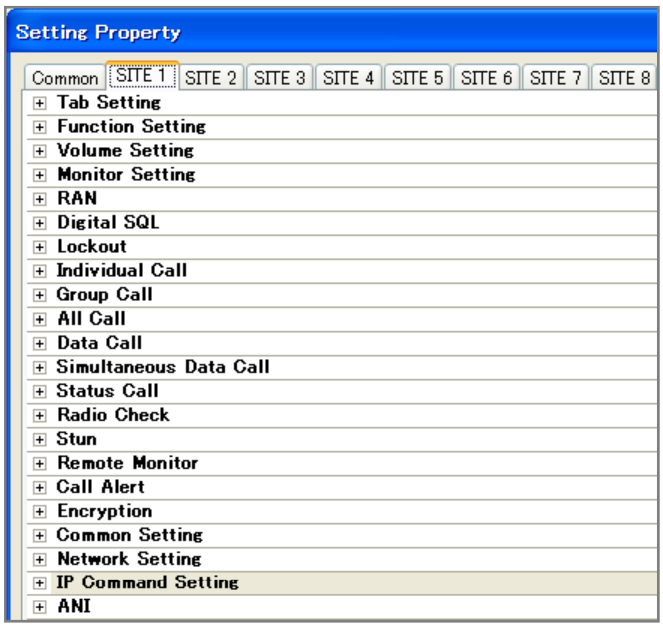
– **Time Format**
Set the time format for logs.
Enter "HH" for hour, "mm" for minute and "ss" for second.

Example

HH/mm/ss	12/25/03
ss/mm/HH	03/25/12

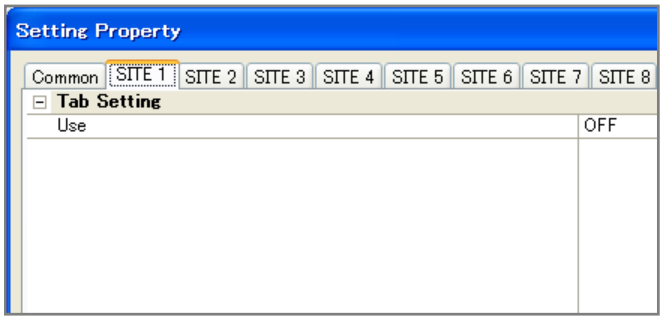
• **Log**
– **Save Folder**
When a folder is designated, the Remote Communicator automatically stores the log files in the folder.
Click " ..." (Browse) to select a folder to store the log files.

5-7-2 Site Area Settings



You can individually configure the settings for up to 8 sites.

NOTE : To enable the Tab Setting, first set **Use** to "ON", then, the other settings will appear.



NOTE : Before closing the setting screen, be sure to click the [OK] button to save the settings.

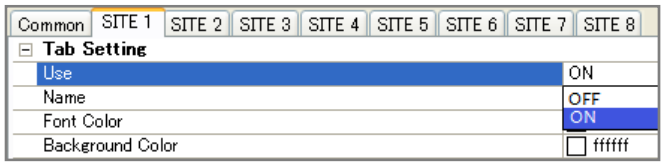
NOTE : If your user authority is "power user", you cannot access the Network and IP Command settings.

NOTE : If your user authority is "user," you can access only ANI in the screen.

➢ Tab Settings

• Use

Select whether to enable the Remote Communicator to access the site or not.



OFF	The Remote Communicator cannot access the site. The site will not appear on the operating screen.
ON	The Remote Communicator can access the site. The site will appear on the operating screen.

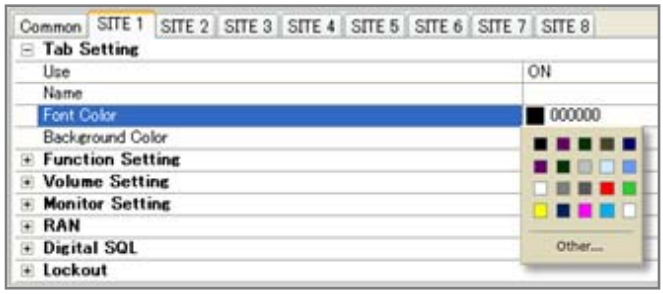
• Name

You can change the site tab name from the default setting.
Enter a name of up to 12 characters for the site.

NOTE : Although you change the site tab name to appear on the operating screen, the tabs in the Site Area Setting screen remain labeled with the default site number.

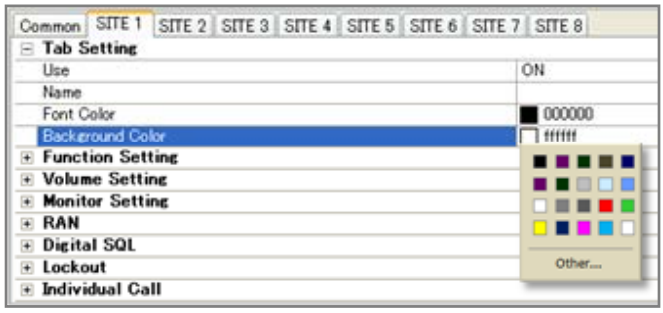
• Font Color

You can select the font color of the Site Area.



• Background Color

You can select the background color of the Site Area.

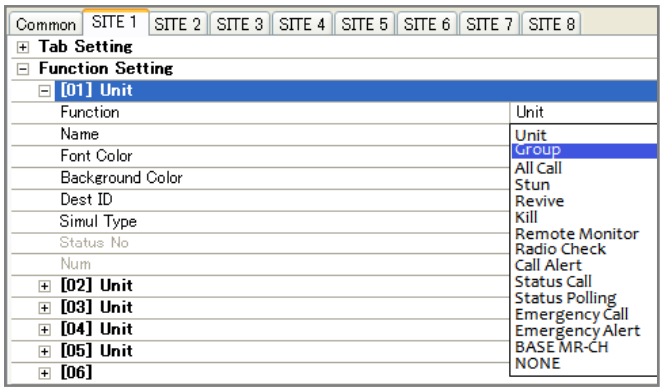


➢ Function Settings

The buttons are arranged in 4 rows of 10 buttons across.
Each button has a number, so you can assign a function to the desired location with the aid of the number.

• Button [01] to [40]

Assign one of the following 14 functions to the buttons.
Refer 5-4-8 for detailed descriptions.



• Name

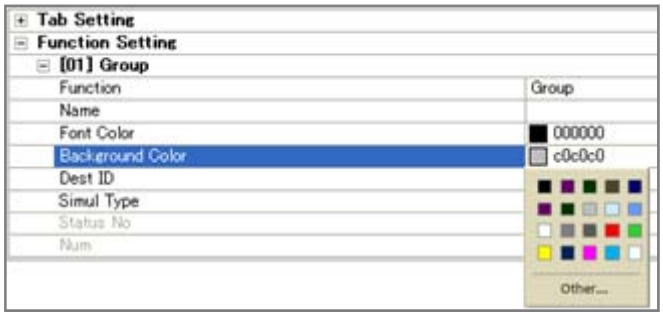
Enter a name of up to 12 characters for the button.

• Font Color

You can select the font color of the button.

• Background Color

You can select the background color of the button.



- **Destination ID**
  The item can only be accessed when "Unit" or "Group" is assigned to the button.
  Set the Individual ID of the target unit, or the Talkgroup ID of the target group.

  Value Range : 1 to 65519

- **Simultaneous Data Call Type**
  The item can only be accessed when "Unit," "Group" or "All Call" is assigned to the button.
  Select whether to enable the Remote Communicator to transmit the selected status number at the end of the communication.

OFF	Disables the Remote Communicator from transmitting the selected status number.
STATUS	Enables the Remote Communicator to transmit the selected status number at the end of the communication.

- **Status No**
  The item can only be accessed when "Emergency Alert" is assigned to the button.
  Enter a number of the emergency status message to transmit.
  When the Remote Communicator makes an Emergency Alert call, it transmits the emergency status number.

Number	Message
1	Emergency
2	Emergency by Man down
3	Emergency Termination

- **Num**
  The item can only be accessed when "BASE MR-CH" is assigned to the button.
  Enter a channel number you want to select.
  When the Remote Communicator transmits a BASE MR-CH signal, it can changes the repeater's operating channel.

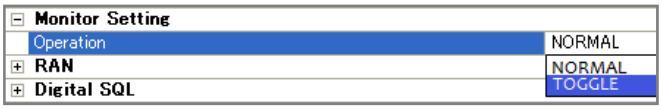
➢ Volume Setting

- **Min**
  Set the minimum audio level at the lower limit position of the volume bar.

Value Range : -36 dB to 0 dB

➢ Monitor Setting

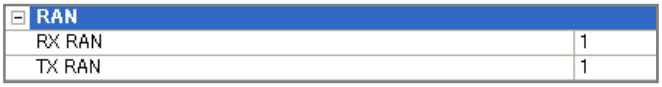
- **Operation**
  Select the operation of the [Monitor] button to use the monitor function.



NORMAL	Click and hold down the [Monitor] button to turn the monitor function ON. Release the button to turn the function OFF.
TOGGLE	Click the [Monitor] button to turn the monitor function ON or OFF.

➢ RAN

- **RX/TX RAN**
  Set the desired receive and transmit RAN (Radio Access Number) for accessing the repeater or digital code squelch function.

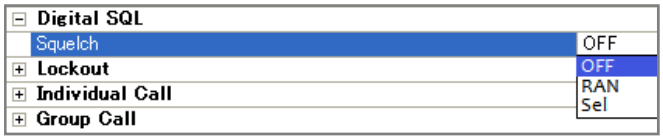


Value Range : 0 to 63

NOTE : "0" is a special code. When the received signal includes a RAN of "0", that RAN is handled the same as any other RAN. Therefore, if the RX RAN is set to "0", it is always matched, and the mute will always be disabled.

➢ Digital SQL

- **Squelch**
  Select the squelch type.

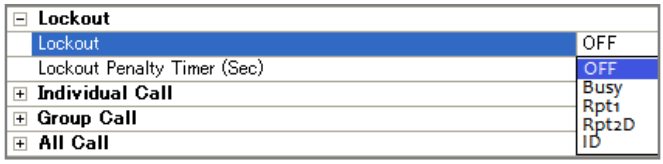


OFF	The Remote Communicator opens the squelch when an audio signal is received. (The respective RAN and ID codes do not need to match to open the squelch.)
RAN	The Remote Communicator opens the squelch, only when the received signal includes a matched RAN.
Sel	The Remote Communicator opens the squelch, only when the received signal includes a matched RAN and either a Talkgroup ID (Group call) or a Unit ID (Individual call) that matches.

➢ Lockout

• Lockout

The lockout function inhibits the Remote Communicator from transmitting, when the channel is busy.



OFF	Allows the Remote Communicator to transmit, even while receiving a signal.
Busy	Allows the Remote Communicator to transmit when no signal is received.
Rpt1	Allows the Remote Communicator to transmit when either: - No signal is received. - A signal is received that includes a matched RAN.
Rpt2D	Allows the Remote Communicator to transmit when either: - No signal is received. - A signal is received that includes an unmatched RAN.
ID	Allows the Remote Communicator to transmit when either: - No signal is received. - A signal is received that includes an unmatched RAN or either a Talkgroup ID (Grounp call) or a Unit ID (Individual call) that matches.

• Lockout Penalty Timer (Sec)

Set the lockout penalty time to between 0 (OFF) and 255 sec. (in 1 sec. steps).
This timer inhibits the user from transmitting for this lockout period. The transmission is inhibited during the lockout penalty time, even if the lockout condition is cleared.
A warning beep sounds if the user attempts to transmit while this timer is activated.

➢ Individual Call

• Unit ID

A Unit ID is the unique ID which is assigned to each unit in a system. The ID is 16 bits long, and distinguishes it's unit from another unit in the system.
Set a Unit ID for the Remote Communicator to between 1 and 65519.

➢ Group Call

• Talkgroup ID

A Talkgroup ID is the unique ID which is assigned to each group in a system. The ID is 16 bits long and distinguishes it's group from the other groups in the system.
Set an Talkgroup ID for the Remote Communicator to between 1 and 65519.

• Block Decode Enable

The block decode function enables the Remote Communicator to decode the Talkgroup IDs in the block decode range.

Inhibit	Disables the block decode function.
Enable	Enables the block decode function.

• Block Decode Min/Max

Set the block decode range for the block decode function.
If the block decode function is ON, the Remote Communicator can decode the Talkgroup IDs within the range.

Value Range : 1 to 65519

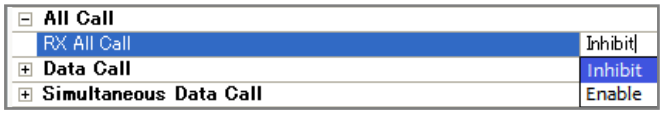
NOTE : Be sure to set the number for the Block Decode Max larger than the Block Decode Min.

➢ All Call

All Call enables a caller to communicate with all the units and groups in a system, opening any mutes, regardless of Unit ID or Talk group ID, by setting them to "65535".

• RX All Call

Select whether to allow the Remote Communicator to receive All Calls, or not.
"ALL CALL" is displayed on the screen, when receiving an All Call.



Inhibit	Inhibits the Remote Communicator from accepting All Calls.
Enable	Enables the Remote Communicator to receive All Calls.

➢ Data Call

Data calls enable a caller to transmit messages to a unit or group.

- **RX**
  Select whether to allow the Remote Communicator to receive messages, or not.

Inhibit	Inhibits the Remote Communicator from accepting messages.
Enable	Enables the Remote Communicator to receive messages.

- **Request Ack**
  Select whether or not to allow the Remote Communicator to request acknowledgements of messages from the target units.

Inhibit	Inhibits the Remote Communicator from requesting acknowledgements.
Enable	Enables the Remote Communicator to request acknowledgements from the target units.

➢ Simultaneous Data Call

Simultaneous Data calls enable a caller to transmit a selected status number at the end of the communication.

- **Send Data**
  Select whether to allow the Remote Communicator to transmit a selected status number at the end of the communication, or not.

Inhibit	Inhibits the Remote Communicator from transmitting the selected status number at the end of the communication.
Status	Enables the Remote Communicator to transmit the selected status number at the end of the communication.

➢ Status Call

- **RX Status**
  Select whether to allow the Remote Communicator to receive Status calls or not. When receiving a Status call, the status number is displayed on the Log Area.

Inhibit	Inhibits the Remote Communicator from accepting Status calls.
Enable	Enables the Remote Communicator to receive Status calls.

- **Allow Poll**
  Select whether to allow the Remote Communicator to transmit the current status when receiving a Status Polling call or not.

Inhibit	Inhibits the Remote Communicator from transmitting the current status even if it receives a Status Polling call.
Enable	Enables the Remote Communicator to transmit the current status when receiving a Status Polling call.

- **Status Call Request Ack**
  Select whether or not to allow the Remote Communicator to request acknowledgements of Status calls from the target units.

Inhibit	Inhibits the Remote Communicator from requesting acknowledgements.
Enable	Enables the Remote Communicator to request acknowledgements from the target units.

➢ Radio Check

Radio Check calls enable a caller to determine whether the target unit is turned on, within the communication range and on channel, without requiring any action from the targeted unit's user.

- **RX**
  Select whether to allow the Remote Communicator to receive Radio Check calls, or not.

Inhibit	Inhibits the Remote Communicator from accepting Radio Check calls.
Enable	Enables the Remote Communicator to receive Radio Check calls. The Remote Communicator automatically transmits an acknowledgement.

➢ Stun

Stun calls enable a caller to send a command that will stun the target unit.

- **Stun Mode**
  Select the target unit's capability in the Stun state.

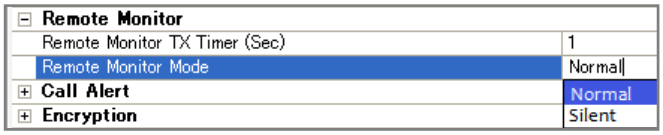
TX Inhibit	Only inhibits the receiving unit from transmitting. It operates exactly like the transmit inhibited channels.
TX & RX Inhibit	Inhibits the receiving unit from not only transmitting, but also from receiving signals. However, the receiving unit can receive Revive calls and be monitored remotely.

➢ Remote Monitor

Remote Monitor calls enable a caller to send a command that requires the target unit to transmit it's microphone audio.

- **Remote Monitor TX Timer (Sec)**
  Set the Remote Monitor TX timer to between 1 and 255 sec. (in 1 sec. steps).
  When the Remote Communicator makes a Remote Monitor call, it can request the target unit to transmit the microphone audio for the time period.

- **Remote Monitor Mode**
  Sending a Remote Monitor call to a target unit so it will transmit it's microphone audio, and set the Normal or Silent state.



Normal	The target unit turns the transmit indicator or LED ON, while transmitting it's microphone audio.
Silent	The target unit turns the transmit indicator or LED OFF, while transmitting it's microphone audio.

➢ Call Alert

Call Alert calls allow a caller to notify another user, who may be away from the transceiver, that you want to talk.

- **Call Alert RX**
  Select whether to allow the Remote Communicator to receive Call Alert calls, or not.

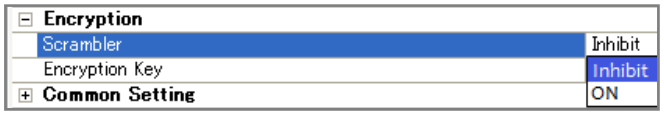
Inhibit	Inhibits the Remote Communicator from receiving Call Alert calls.
Enable	Enables the Remote Communicator to receive Call Alert calls. The Remote Communicator automatically transmit an acknowledgement.

- **Call Alert Request Ack**
  Select whether to allow the Remote Communicator to request acknowledgements from the target units of Call Alert calls, or not.

Inhibit	Inhibits the Remote Communicator from requesting acknowledgements from the target units.
Enable	Enables the Remote Communicator to request acknowledgements from the target units.

➢ Encryption

- **Scrambler**
  Select whether to enable the Remote Communicator to use the encryption function or not.



Inhibit	Disables the encryption function.
ON	Enables the encryption function.

- **Encryption Key**
  Set the Encryption Key to between 1 and 32767, for the encryption function.

➢ Common Setting

Common Setting	
Ack TX Delay [×100(mSec)]	0
Ack RX Wait [×100(mSec)]	26
Attempt No	5
Data Decode Comparison	Inhibit
Silence Timer [×80(mSec)]	15

- **Ack TX Delay [X100 (mSec)]**
  Set the Ack TX Delay to between 0 and 600 (100 msec.) (in 100 msec. steps).
  When receiving a call which requires an acknowledgement, the Remote Communicator transmits it after the delay period.
- **Ack RX Wait [X100 (mSec)]**
  Set the time period to between 0 and 600 (100 msec.) (in 100 msec. steps), to wait for an acknowledgement after transmitting a call which requires one.
  If the Remote Communicator receives no acknowledgement in the allotted time, it transmits the call again, up to the maximum number of retries.
- **Attempt No**
  Set the maximum number of times that the Remote Communicator attempts the call to between 1 and 15.
  If the Remote Communicator receives no acknowledgement after transmitting a call which requires one, it attempts to call up to the maximum number of retries.
- **Data Decode Comparison**
  Turn the data decode comparison function ON or OFF.

Inhibit	Inhibits the Remote Communicator from using the RAN code to decode receiving calls.
Enable	Enables the Remote Communicator to use the RAN code to decode receiving message, Status, Stun, Kill, Revive and Remote Monitor calls.

- **Silence Timer [X80 (mSec)]**
  Set the amount of time lapse of an IDAS™ frame before a failure is declared to between 1 and 255 (80 msec.) (in 80 msec. steps).

➢ Network Setting

The following information should be prepared before start the Network Setting;

- ✓ "Destination Address" which is a IP address of a repeater to connect
- ✓ "Destination TCP Port" which is a TCP port number of a repeater to access
- ✓ "Destination UDP Port" which is a UDP port number of a repeater to access

Network Setting	
Dest Address	192.168.141.128
TCP Port(Connection)	41200
UDP Port(Data)	41220
Buffer Size [×80(mSec)]	3
Keycode	ucfr5000
Packet Encryption	OFF
Common Key	00000000

- **Dest Address**
  Set the IP address of the repeater in the site. If no address or an invalid address is set, the Remote Communicator cannot access the repeater, and does not work correctly.

  Value Range : 0.0.0.1 to 255.255.255.254
- **TCP Port (Connection)**
  Set the TCP port number of the repeater to access to between 1 and 65535.

  NOTE : Be sure to set a different port number for each repeater.

  Default figure :
  SITE 1 41200
  SITE 2 41201
  SITE 3 41202
  SITE 4 41203
  SITE 5 41204
  SITE 6 41205
  SITE 7 41206
  SITE 8 41207

• **UDP Port (Data)**
Set the UDP port number of the repeater to access to between 1 and 65535.

NOTE : Be sure to set a different port number for each repeater.

Default figure :
SITE 1 41220
SITE 2 41221
SITE 3 41222
SITE 4 41223
SITE 5 41224
SITE 6 41225
SITE 7 41226
SITE 8 41227

• **Buffer Size [X80 (mSec)]**
Set the size of the receive buffer to between 80 and 1200 (80 msec.) (in 80 msec. steps).

• **Keycode**
Set a key code of up to 16 characters.

• **Packet Encryption**
Select whether to enable the Remote Communicator to encrypt packets, or not.

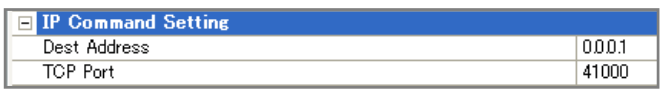
OFF	Disables the Remote Communicator from encrypting packets.
ON	Enables the Remote Communicator to encrypt packets.

• **Common Key**
Set an 8 digit common key to encrypt the packets.

➢ IP Command Setting

The following information should be prepared before starting the IP Command Setting;

- ✓ "Destination Address" which is the IP address of the repeater for the IP Command connection
- ✓ "Destination TCP Port" which is the repeater's IP Command connection port number



• **Dest Address**
Set the IP address of the repeater for the IP Command connection.

Value Range : 0.0.0.1 to 255.255.255.254

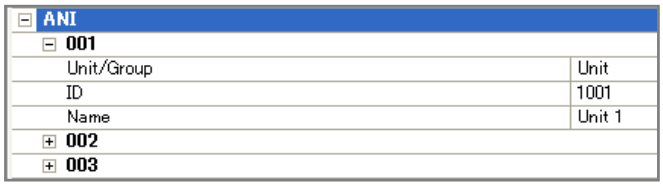
• **TCP Port**
Set the repeater's IP Command connection port number to between 1 and 65535.

NOTE : Be sure to set a different port number for each repeater.

Default figure :
SITE 1 41000
SITE 2 41001
SITE 3 41002
SITE 4 41003
SITE 5 41004
SITE 6 41005
SITE 7 41006
SITE 8 41007

➢ ANI

The ANI function enables the Remote Communicator to display the name of calling units or groups for easy recognition.
You can register a total of 500 IDs in the ANI list.



• **Unit/Group**
Select which ID you want to register, a Unit ID or a Group ID.

• **ID**
Enter a Unit ID or Talkgroup ID to register.

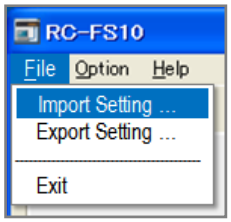
• **Name**
Enter a unit name, or group name, of up to 12 characters for the ID.
When the Remote Communicator receives an individual call or group call with the ID, it displays the name for easy recognition.

5-7-3 Site Area Setting Status of Included Configuration File

Function	Item	SITE 3 (Default)	SITE 1	SITE 2
Tab Setting	Use	ON	ON	ON
	Name		DEMO 1	DEMO 2
	Font Color	000000	000000	000000
	Background Color	f0f0f0	f0f0f0	f0f0f0
Volume Setting	Min	-36	-36	-36
Monitor Setting	Operation	NORMAL	NORMAL	NORMAL
RAN	RX RAN	1	1	1
	TX RAN	1	1	1
Digital SQL	Squelch	OFF	Sel	Sel
Lockout	Lockout	OFF	OFF	OFF
	Lockout Penalty Timer (Sec)	0	0	0
Individual Call	Unit ID	1	2001	2001
Group Call	Talkgroup ID	1	1	1
	Block decode Enable	Inhibit	Inhibit	Inhibit
	Block Decode Min	1	1	1
	Block Decode Max	65519	65519	65519
All Call	RX All Call	Inhibit	Enable	Enable
Data Call	RX	Inhibit	Enable	Enable
	Request Ack	Inhibit	Enable	Enable
Simultaneous Data Call	Send Data	Inhibit	Status	Status
Status Call	RX Status	Inhibit	Enable	Enable
	Allow Poll	Inhibit	Inhibit	Inhibit
	Status Call Rwquest Ack	Inhibit	Inhibit	Inhibit
Radio Check	RX	Inhibit	Inhibit	Enable
Stun	Stun Mode	TX Inhibit	TX Inhibit	TX Inhibit
Remote Monitor	Remote Monitor TX Timer (Sec)	10	10	10
	Remote Monitor Mode	Normal	Normal	Normal
Call Alert	Call Alert RX	Inhibit	Inhibit	Enable
	Call Alert Request Ack	Inhibit	Inhibit	Inhibit
Encryption	Scrambler	Inhibit	Inhibit	Inhibit
	Encryption Key	1	1	1
Common Setting	Ack TX Delay [x100(mSec)]	0	0	0
	Ack RX Wait [x100(mSec)]	26	26	26
	Attempt No	5	5	5
	Data Decode Comparison	Inhibit	Inhibit	Inhibit
	Silence Timer [x80(mSec)]	15	15	15
Network Setting	Dest Address		192.168.1.11	192.168.1.11
	TCP Port(Connection)	41202	41200	41201
	UDP Port(Data)	41222	41220	41221
	Buffer Size [x80(mSec)]	3	3	3
	Keycode	usfr5000	usfr5000	usfr5000
	Packet Encryption	OFF	OFF	OFF
	Common Key	00000000	00000000	00000000
IP Command Setting	Dest Address		0.0.0.1	192.168.1.11
	TCP Port	41002	41000	41001
ANI - 001	Unit/Group	Unit	Unit	Unit
	ID		1001	1001
	Name		F4160 (A-1)	F4160 (A-1)
ANI - 002	Unit/Group		Unit	Unit
	ID		1002	1002
	Name		F4160 (A-2)	F4160 (A-2)

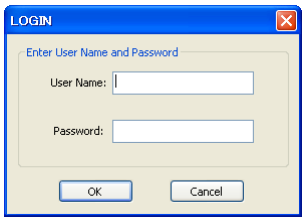
5-8 Top Menu

5-8-1 File - Import Settings

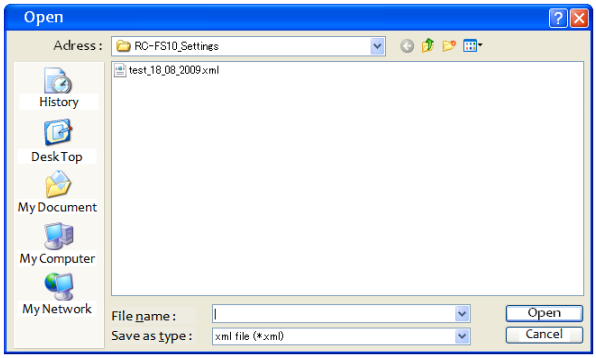


1) Click File on the Top menu to open the pull down menu.
2) Click to import a settings file, which is saved in XML format.
3) Login authentication is required.
   ① Enter your User Name and password, and then click OK.

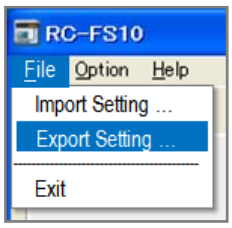
NOTE : If your user authority is "super user," you can access the Import and Export settings.



② When the window below appears, select the desired file.

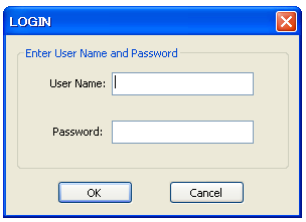


5-8-2 File - Export Settings

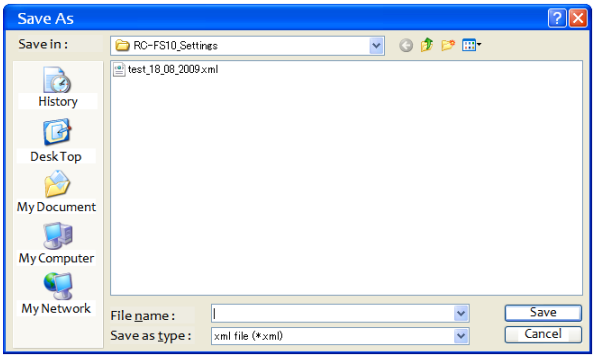


1) Click File on the Top menu to open the pull down menu.
2) Click to export the current setting to an XML format file.
3) Login authentication is required.
   ① Enter your User Name and password, and then click OK.

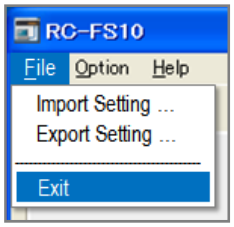
NOTE : If your user authority is "super user," you can access the Import and Export settings.



② When the window below appears, select the desired file.

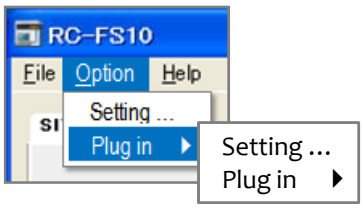


5-8-3 File - Exit



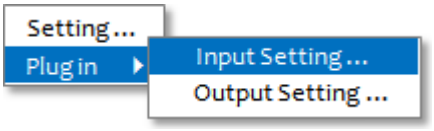
1) Click File on the Top menu to open the pull down menu.
2) Click Exit to close the Remote Communicator.

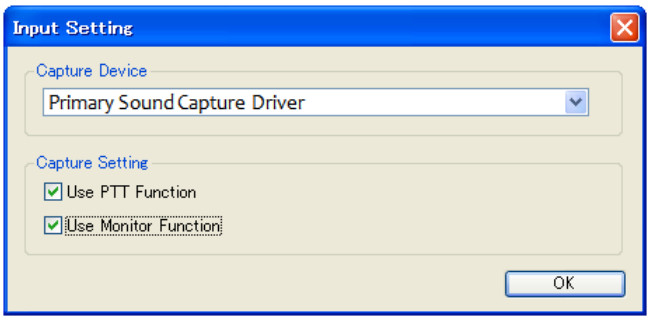
5-8-4 Option – Plug in



- **Input Setting...**

  Click to open the "Input Setting" screen.





Select an input interface to use, from the drop-down list in "Capture Device."

If you use the CT-23 PTT MICROPHONE ADAPTER, select whether or not to enable the [PTT] and [MONITOR] switches of the connected microphone in "Capture Settings".

- Check the [Use PTT Function] box to use the PTT function
- Check the [Use Monitor Function] box to use the monitor function.

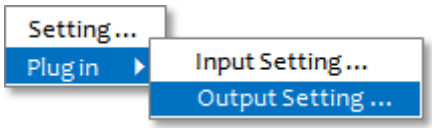
Click [OK] to close the screen.

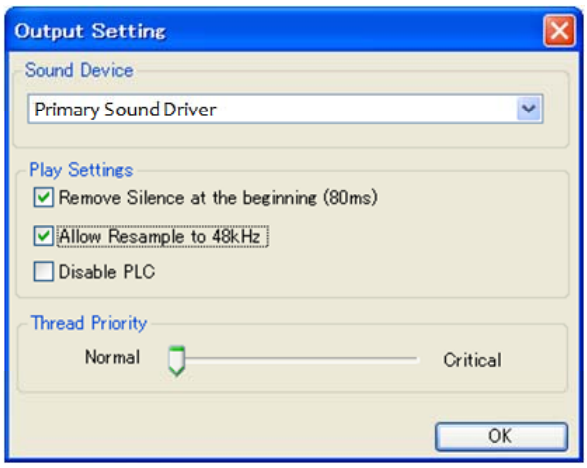
NOTE :

- The microphone volume depends on the PC's system volume setting.
- Use a 16-bit 48 kHz input interface.
- If the input interface has a boost or amplification function, or a filtering setting, be sure to deactivate them.

- **Output Setting...**

  Click to open the "Output Setting" screen.





Select an output interface to use, from the drop-down list in "Sound Device".

Select whether or not to activate the following functions, in "Play Settings."

- Check the [Remove Silence at the beginning (80 ms)] box to remove the 80 msec. silence at the beginning of the communication.
- Check the [Allow Resample to 48 kHz] box to allow the Remote Communicator to sample at 48 kHz again.
- If desired, check the [Disable PLC] box to disable the PLC (Packet Loss Concealment) function. This function is used to mask the effects of lost or discarded packets.

If the received audio is distorted due to other running applications, you can give priority to the Remote Communicator for sound processing.
To raise the priority, slide the bar to the right (Critical), in "Thread Priority."

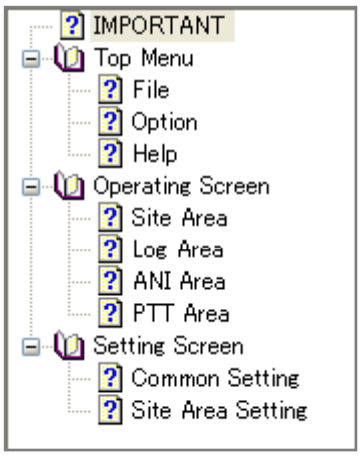
Click [OK] to close the screen.

5-8-5 Help - Contents

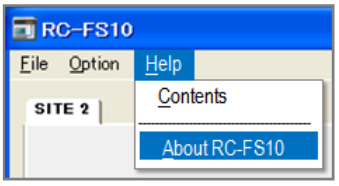
- Click Help on the Top menu to open the pull down menu.
- Click “Contents” to open the Help file.

Printing the help file:

You can print the selected topic, or all the topics in the selected book of the help file.
Select the desired book or topic, then click on the window, or right click and select [Print...].



5-8-6 Help - About RC-FS10

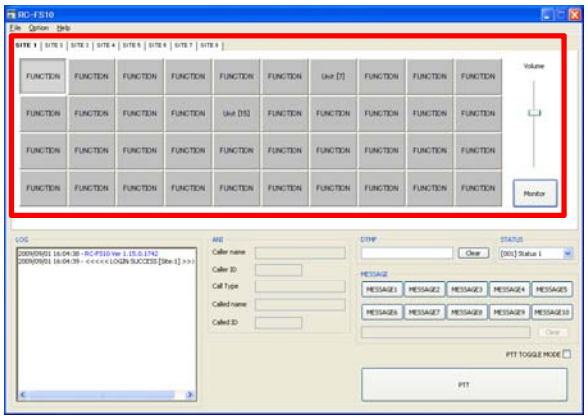


Click to open the information screen, which shows the revision number and the copyright of the Remote Communicator.

Click [OK] to close the screen.

5-9 Operating Instruction

5-9-1 Site Area

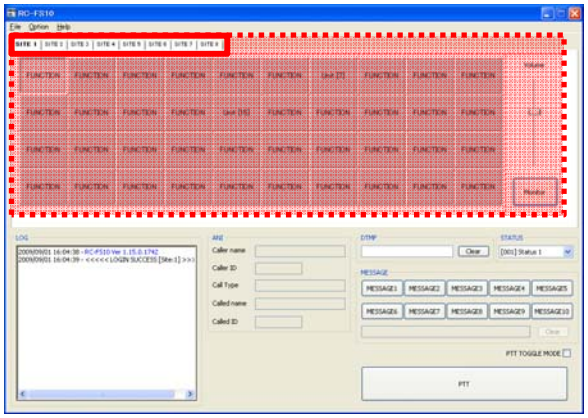


The Site Area displays; function buttons which can be used in the operating site, the volume bar, and the [Monitor] button.
You can individually configure the settings of up to 8* sites in the Site Area Setting screen.

* Contact your dealer for restrictions or additional requirements.

NOTE : If your user authority is "user," you cannot configure the Site Area settings.

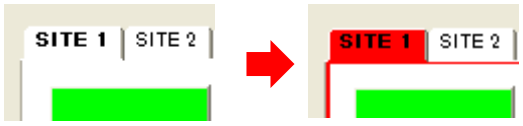
➢ Site Tab



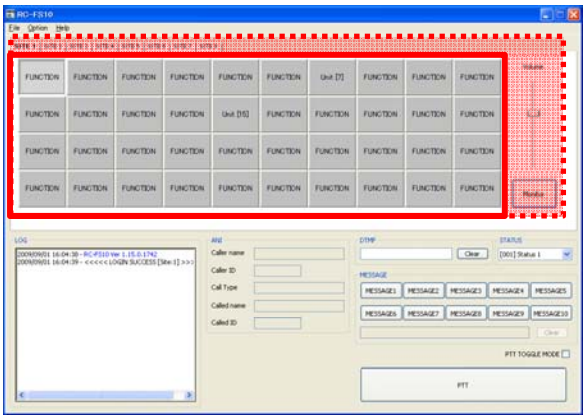
Select an operating site by clicking the site tab. The color of the site tab functions as a transmit /receive indicator.

Grey	Default condition.
Green	Turns green while receiving a signal.
Red	Turns red while transmitting a signal.

When transmitting a signal, the color of site tab changes as shown.



➢ Function Button



The following functions may be assigned to each button.

NOTE : The button name may differ depending on certain settings.

- **Unit**
  Click to select the target unit for individual calls.
  The Unit ID of the target unit is programmed into the button. After clicking the [Unit] button, click the [PTT] button to transmit an individual call to the unit.

  After clicking the [Unit] button, the following buttons can be accessed, if programmed: [Stun], [Revive], [Kill], [Remote Monitor], [Radio Check], [Call Alert], [Status Call] and [Status Polling].

- **Group**
  Click to select the target group for group calls. The Talkgroup ID of the target group is programmed into the button. After clicking the [Group] button, click the [PTT] button to transmit a group call to the group.

  After clicking the [Group] button, the following buttons can be accessed, if programmed: [Call Alert], [Status Call], [Emergency Call] and [Emergency Alert].

- **All Call**
  Click to select an All Call.
  After clicking the [All Call] button, click the [PTT] button to transmit a call to all the units and groups in the site.

  After clicking the [All Call] button, the following buttons can be accessed, if programmed: [Call Alert], [Status Call], [Emergency Call] and [Emergency Alert].

- **Stun**
  First, click the [Unit] button to select the target unit, and then the [Stun] button can be accessed.

  After clicking the [Stun] button, click the [PTT] button to transmit a signal that stuns the target unit.

- **Revive**
  First, click the [Unit] button to select the target unit, and then the [Revive] button can be accessed.

  After clicking the [Revive] button, click the [PTT] button to transmit a signal that revives the target (stunned) unit. The Revive call cannot used for killed units.

- **Kill**
  First, click the [Unit] button to select the target unit, and then the [Kill] button can be accessed.

  After clicking the [Kill] button, click the [PTT] button to transmit a signal that disables the target unit.

- **Remote Monitor**
  First, click the [Unit] button to select the target unit, and then the [Remote Monitor] button can be accessed.

  After clicking the [Remote Monitor] button, click the [PTT] button to transmit a signal that requires the target unit to transmit the audio from it's microphone.

- **Radio Check**
  First, click the [Unit] button to select the target unit, and then the [Radio Check] button can be accessed.

  After clicking the [Radio Check] button, click the [PTT] button to transmit a signal that causes the target unit to automatically transmit an acknowledgement. You can determine whether the target unit is turned on, within the communication range or not, without requiring any action from the target unit user.

- **Call Alert**
  First, click the [Unit], [Group] or [All Call] button to select the target unit or group, or an All Call, and then the [Call Alert] button can be accessed.

  After clicking the [Call Alert] button, click the [PTT] button to transmit a signal that causes the target unit to emit beeps to notify the user, who may be away from the unit.

- **Status Call**
  First, click the [Unit], [Group] or [All Call] button to select the target unit or group, or an All Call, and then the [Status Call] button can be accessed.

  After clicking the [Status Call] button, click the [PTT] button to transmit the selected status number.

- **Status Polling**
  First, click the [Unit], [Group] or [All Call] button to select the target unit or group, or an All Call, and then the [Status Polling] button can be accessed.

  After clicking the [Status Polling] button, click the [PTT] button to transmit a signal that will causes the target unit to automatically transmit its current status.

- **Emergency Call**
  First, click the [Group] or [All Call] button to select the target group or an All Call, and then the [Emergency Call] button can be accessed.

  After clicking the [Emergency Call] button, click the [PTT] button to transmit an emergency signal.

- **Emergency Alert**
  First, click the [Group] or [All Call] button to select the target group or an All Call, and then the [Emergency Alert] button can be accessed.

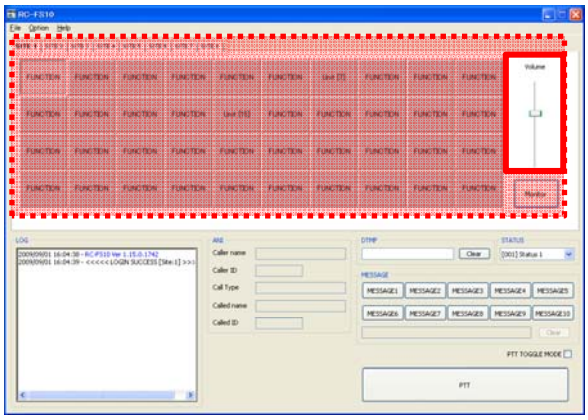
  After clicking the [Emergency Alert] button, click the [PTT] button to transmit an emergency status number, and cause the target unit to sound an alert.

  You can select the emergency status number to transmit in the Site Area Setting screen.

  NOTE : If your user authority is "user," you cannot select the emergency status number.

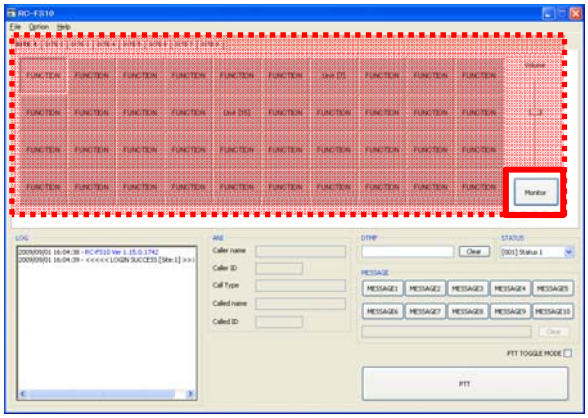
- **BASE MR-CH**
  A channel number is programmed into the button.
  Click to change the repeater's operating channel.

➢ **Volume bar**



Slide the bar up to increase the volume.
Slide the bar down to decrease the volume.

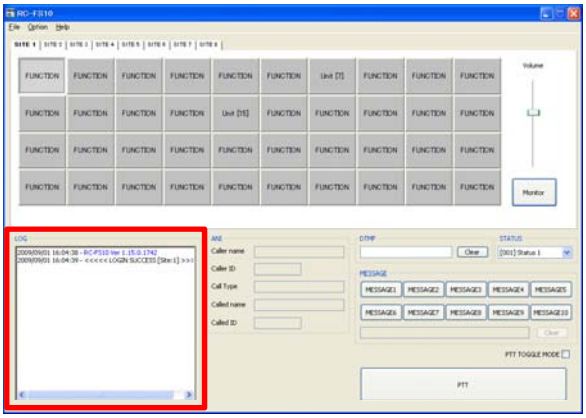
➢ **Monitor Button**



Click to listen to weak signals without disturbing the squelch setting, or to open the squelch manually, even when mute functions are in use.

5-9-2 Log Area

The Log Area displays communication and operation logs.
The Remote Communicator automatically stores the log files in a designated folder.



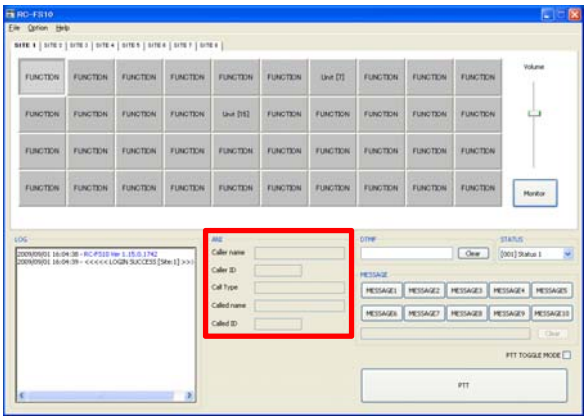
Message Code

The following table provides a list of message codes;

Code	Description
0x00000000	Successful processing
0x80041000	Sequence error
0x80041001	Wrong call state
0x80041002	No response from target unit
0x80041003	No packet from target unit
0x80041010	Invalid value
0x80041011	Exhaustion of the system resource
0x80041012	Shortage of the system memory
0x80041020	Invalid argument
0x80041021	Invalid handle
0x80041023	The CT-24 disconnection
0x80041024	No input data from the audio input device
0x80041030	Log in error
0x80041040	Invalid Unit ID
0x80041041	Invalid Talkgroup ID
0x80041050	Other errors

5-9-3 ANI Area

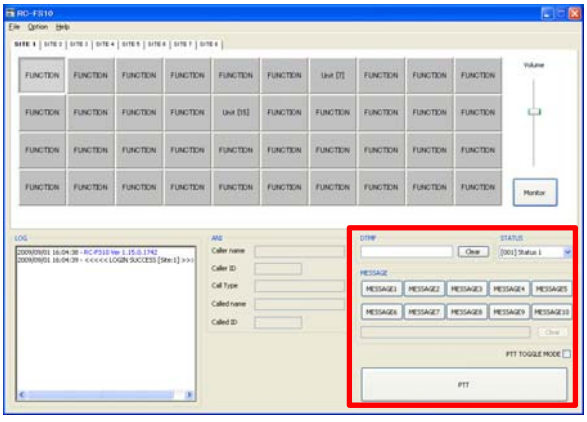
The ANI Area displays the name and ID information of the received call for easy recognition.
You can register a total of 500 IDs in the ANI list with ANI functions to be used in the Site Area Setting screen.



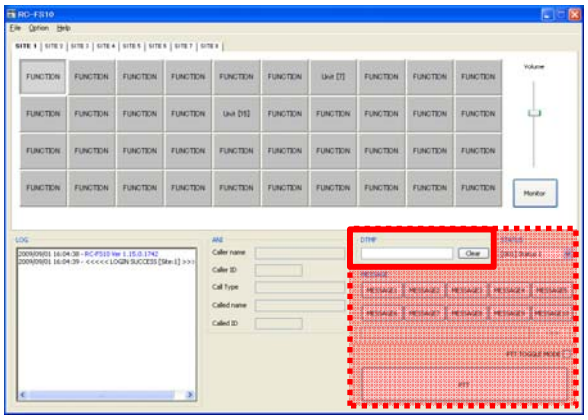
- **Caller name**
  Displays the name of the unit making the call.
- **Caller ID**
  Displays the Unit ID of the unit making the call.
- **Call Type**
  Displays whether the call is an individual call, or a group call.
- **Called name**
  Displays the name of the unit or group that is being called by the calling unit.
- **Called ID**
  Displays the Unit ID or Talkgroup ID of the unit or group that is being called by the calling unit.

5-9-4 PTT Area

The PTT Area enables you to transmit various signalling functions and calls various message and calls.



➢ DTMF



First, click the [Unit], [Group] or [All Call] button to select the target unit, group, or All Call, and then the DTMF area can be accessed.

Enter a DTMF code of up to 31 digits.
If you want to reset, click the [Clear] button.
After entering the DTMF code, click the [PTT] button to encode and transmit it.

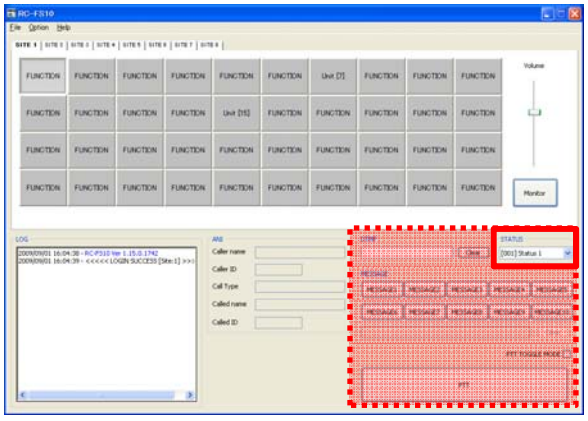
Usable Characters:

0 to 9, A, B, C, D, *, #

You can set the code length and transmission interval in the Common Setting screen.

NOTE : If your user authority is "user," you cannot configure DTMF settings.

➢ STATUS

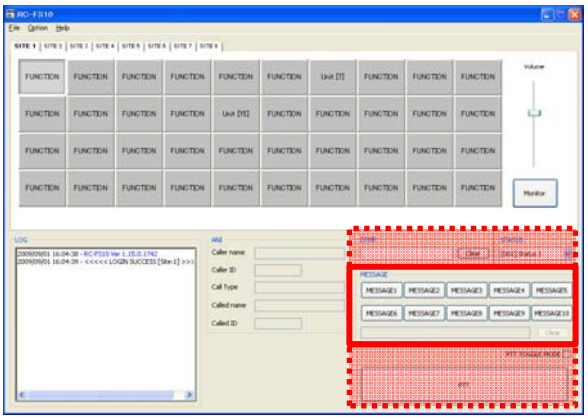


Select the current status from the status list. When the Remote Communicator receives a Status Polling call, it automatically transmits the selected status number.

You can set up to 100 status messages in the status list, in the Common Setting screen.

NOTE : If your user authority is "user," you cannot program status messages.

➢ MESSAGE



First, click the [Unit], [Group] or [All Call] button to select the target unit, group, or All Call, and then the MESSAGE area can be accessed.

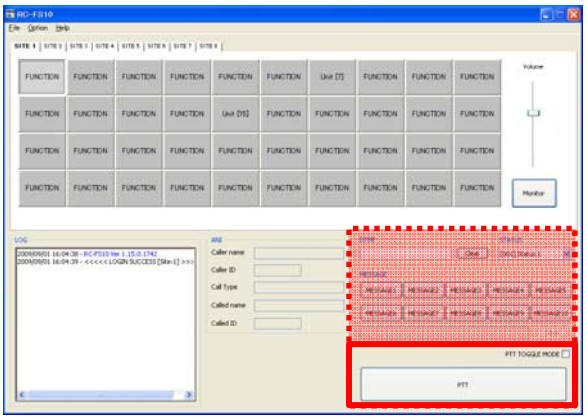
Click a [MESSAGE] button, then the programmed message appears in the message box.
If desired, you can directly rewrite the message in the box.

If you want to reset, click the [Clear] button.
After entering the message, click the [PTT] button to transmit it.

You can program a message into each [MESSAGE] button in the Common Setting screen.

NOTE : If your user authority is "user," you cannot program the messages.

➢ PTT



After selecting the target unit or group, and the call type, click the [PTT] button to make a call. The Remote Communicator transmits a signal while holding down the [PTT] button.
To switch between transmitting and receiving with each click of the [PTT] button, check in the [PTT TOGGLE MODE] box.

NOTE : If the CT-23 PTT MICROPHONE ADAPTER is connected to the Remote Communicator, you can transmit not only with the Remote Communicator [PTT] button, but also with the microphone's [PTT] switch or the external switch.

NOTE : You can transmit by using any of the three methods (Remote Communicator, microphone or external PTT switch), as the "ON" state has priority. However, to be able to receive you must ensure that all three switches are in the "OFF“ state.

Count on us!

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