

This guide describes about the preparation, operation mode, connection, setting screen and IP address setting. Read "PRECAUTIONS" first if you have not read it.

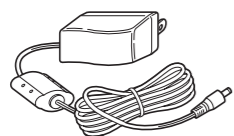
Step1: Installation guide ①

Step2: Installation guide ②

## 1. Preparation

### Accessories

- AC adapter



This installation guide describes the VE-PG2 operating mode (Bridge mode and Selective call mode), and the sample connection settings.

Read "Installation guide ②" for the sample connection setting details.

Download the VE-PG2 instruction manual from Icom web site (<http://www.icom.co.jp/world/>), if necessary.

### Options

**CAUTION:** Use only the specified cable to connect a transceiver or repeater to the VE-PG2. Using another cable, like an Ethernet cable may damage the VE-PG2, transceivers or repeaters.

**OPC-2073**  
Connection cable (For the transceiver)



**OPC-2074**  
Connection cable (For the repeater)



## 2. Transceiver and repeater settings

### Usable transceivers and repeaters

The following transceivers and repeaters are usable with the VE-PG2. The optional connection cable is required, refer to the following table.

Model name	Optional connection cable
IC-F121S/IC-F221S	OPC-2073 (approximately 5 m; 16.4 ft)
IC-F121/IC-F221	
IC-F111S/IC-F211S	
IC-F111/IC-F211	
IC-FR5000/IC-FR6000	OPC-2074 (approximately 5 m; 16.4 ft)

Set the transceiver and repeater as shown in the following table before connecting to the VE-PG2.

Setting items	Transceiver	Repeater
Channel	any	any
Audio volume level	Set the volume to the 12 o'clock position	any
External I/O (D-sub 25) port setting*1	-	Ext. I/O 18 Output Low Voltage 2
Required optional connection cable*2	OPC-2073	OPC-2074

\*1The CS-FR5000 CLONING SOFTWARE and OPC-1122U CLONING CABLE are required when you set External I/O D-sub 25 port setting.

\*2Use the specified connection cable when connecting the transceiver or repeater to the VE-PG2.

## 3. Operation mode

The VE-PG2 has two operating modes, "Bridge mode (default)" and "Selective call mode."

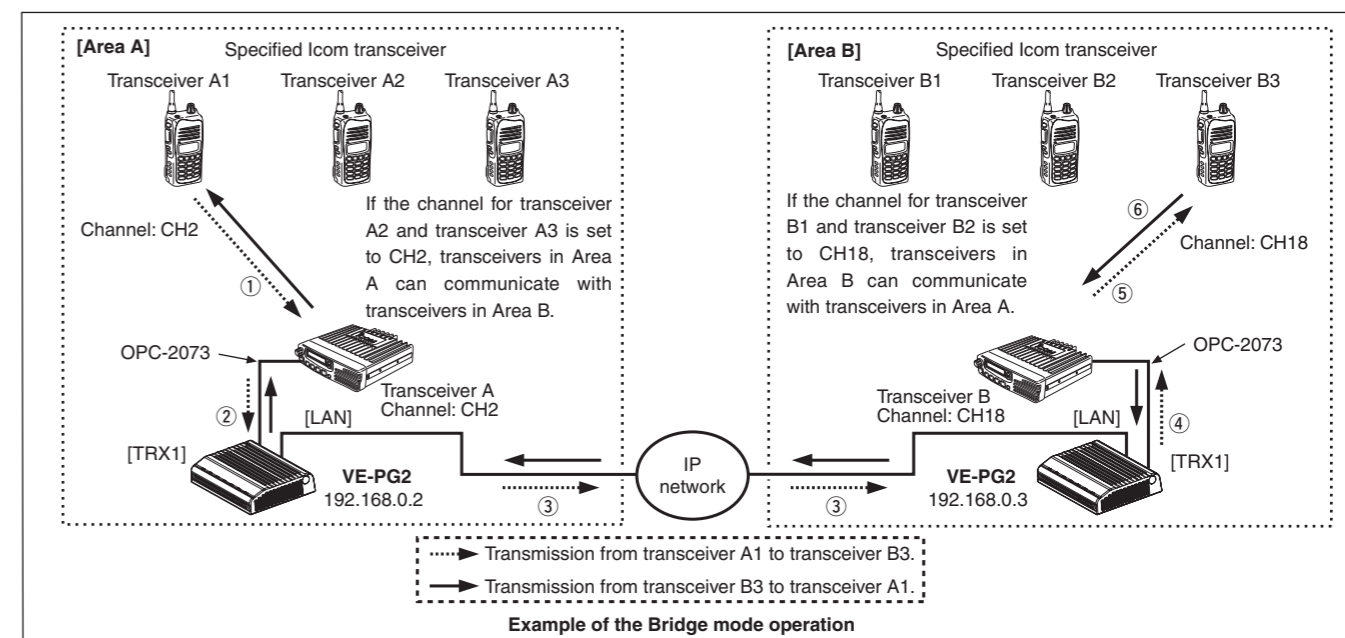
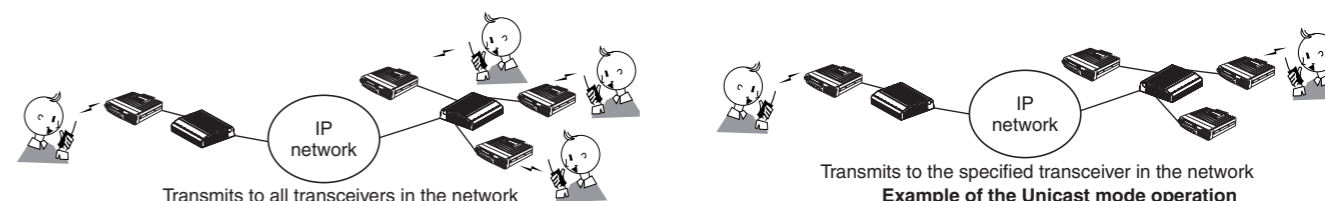
- The transceiver connected to the VE-PG2 and transceiver to be called must be set to the same channel.

The VE-PG2s can be transmitted signals to the transceivers through the IP network.

In the Bridge mode has "Multicast mode" and "Unicast mode" operations.

- In the Multicast mode, the VE-PG2 calls all transceivers that are connected to the VE-PG2 (default).
- In the Unicast mode, the VE-PG2 calls a specified transceiver that is connected to the VE-PG2.

### Bridge mode operation

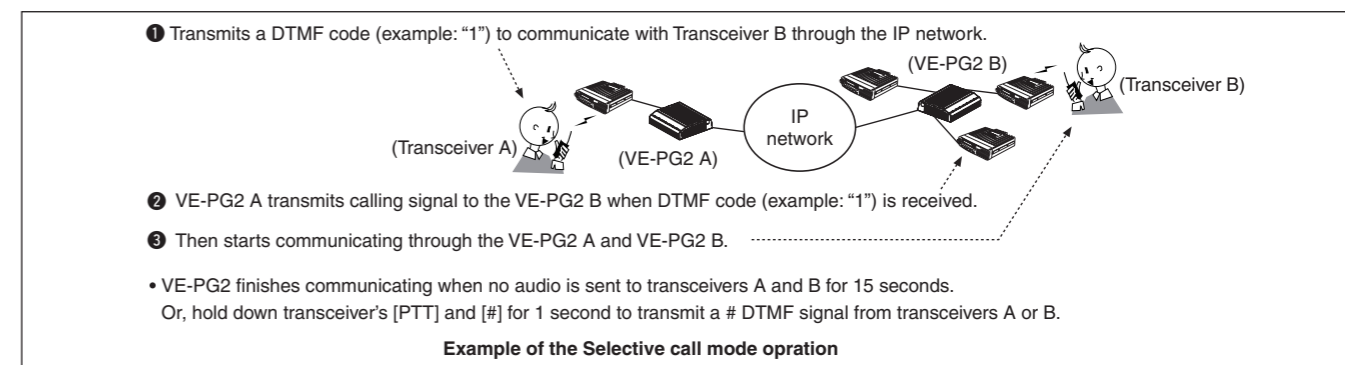


Example of the Bridge mode operation: Calling a transceiver in another area (Transceiver A1 calls Transceiver B3).

- ① Set Transceiver A1's channel to CH2, and while holding down [PTT], speak into the microphone at your normal voice level to call Transceiver B3.
- ② When Transceiver A receives the AF signal from Transceiver A1, Transceiver A sends the AF signal to the VE-PG2 through the OPC-2073.
- ③ The VE-PG2 ([Area A]) converts the AF signal to an RoIP signal, then transmits it from the [LAN] port to the VE-PG2 ([Area B]) through the IP network.
- ④ The VE-PG2 ([Area B]) converts the RoIP signal to an AF signal, then Transceiver B receives the signal.
- ⑤ Transceiver B3 receives the signal from Transceiver B.
- ⑥ Transceiver B3 can also transmit a signal to communicate with Transceiver A1.

### Selective call mode operation

The DTMF tone code can be used for calling the specified station or controlling the external equipment in the Selective call mode.

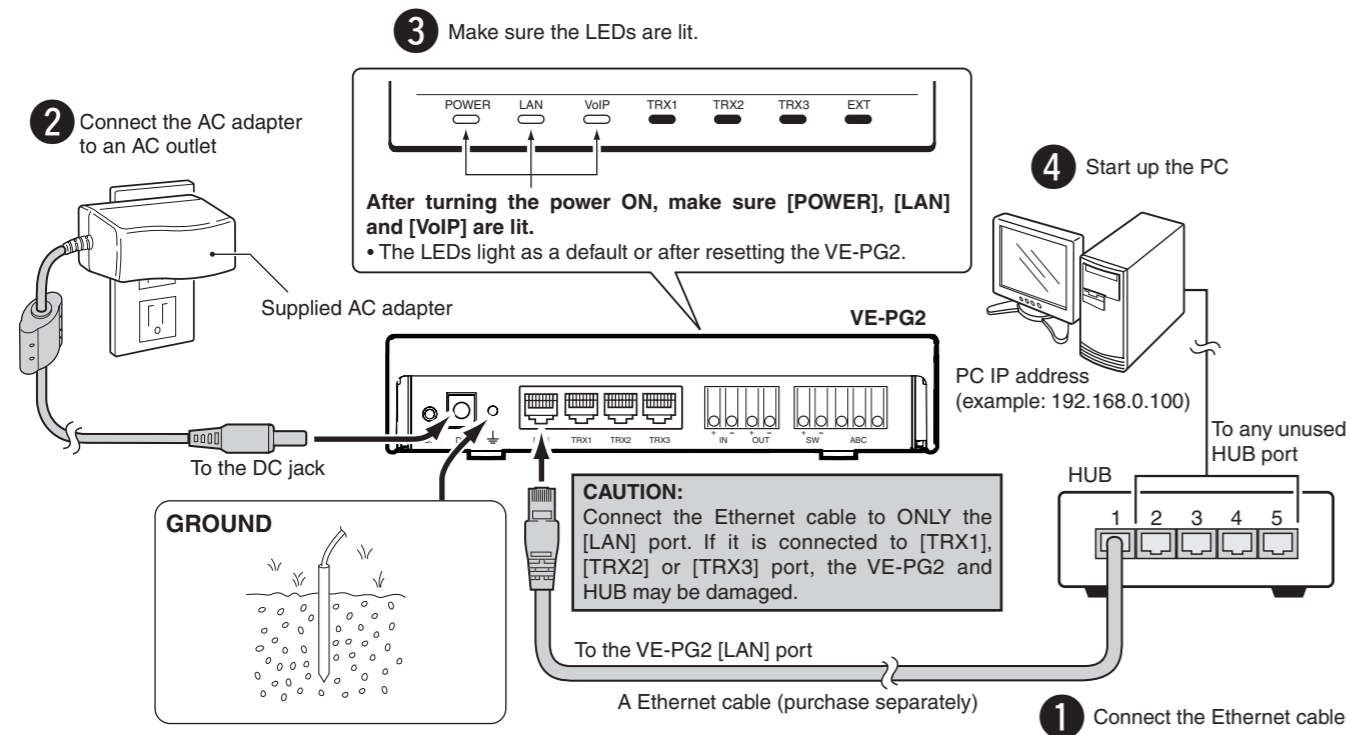


## 4. Connection

Connect the Ethernet cable, HUB, the ground cable and AC adapter to the VE-PG2 by following steps ① to ④ as shown below.

(Connect the AC adapter with the VE-PG2 after connecting the Ethernet cable.)

- Disconnect the HUB from the established network before connecting the Ethernet cable, only if the VE-PG2 is in the default mode.
- The VE-PG2 can be connected directly to the PC using the MDI-X (crossover) type Ethernet cable.



### ⚠ WARNING!

To prevent electrical shock, television interference (TVI), broadcast interference (BCI) and other problems, ground the VE-PG2 through the ground terminal.

For best results, connect a heavy gauge wire or strap to a ground terminal of an AC outlet or a long ground rod. Make the distance between the ground terminal and ground as short as possible.

**NEVER** connect the ground terminal to a gas or electric pipe. This may result in an electrical shock or cause a fire.

### Network and System default settings

Network setting	IP address	192.168.0.1*
	Subnet mask	255.255.255.0*
System setting	Administrator ID	admin (Fixed)
	Administrator password	wavemaster*

To set the VE-PG2 to the default setting, see "Precautions" for details.

\*User settable.

### Setting the PC IP address

Set the static PC IP address (example: 192.168.0.100) See the instruction manual which comes with the PC for details on setting the PC IP address. When you set the static VE-PG2 IP address, assign the IP address by network administrator.

## 5. Accessing the VE-PG2 setting screen

### Accessing the VE-PG2 setting screen

The following procedure describes how to access the VE-PG2 setting screen from a web browser on the PC.

- 1 Open a web browser, and then enter the VE-PG2 IP address in the address bar.  
The factory default IP address setting is shown as an example.
- 2 Push [Enter]. The login authentication window will open.
- 3 Enter "admin" (default user name) and "wavemaster" (default password) in their respective input field, and then click [OK] to display the VE-PG2 setting screen.

### About web browsers

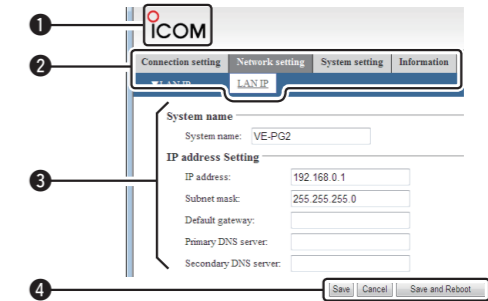
Only Microsoft Internet Explorer 8 or later should be used with the VE-PG2.

Activate the JavaScript and set to allow Cookies on your web browser to display the setting screen correctly.

If other browsers are used, the screen may not be displayed correctly.

### Setting screen descriptions

See the instruction manual (PDF file: Download from the Icom web site) for details of the setting screen.



#### ① Link to Icom web site

Click the Icom logo to link to the Icom web site if your PC is connected to the Internet.

#### ② Selects the setting screen

Displays the screen name list on a menu line. When you place the mouse pointer on each menu title, a list of items drops down which you can use to select the desired setting.

(Example: Place the mouse pointer on "Connection setting", and then click "Operating mode" shown on the list.)

#### ③ Setting items and value display

Displays the setting and values when you click the screen name (example: Clicking "Operating mode" displays the setting screen).

#### ④ Setting buttons

Save or cancel setting values.

If "The setting which should be rebooted was changed." is displayed on the screen when you click the [Save] button, click the [Save and Reboot] button.

The VE-PG2 reboots, and the setting items and values are updated.

The following message is displayed on the screen while the VE-PG2 is rebooting.

**VE-PG2 is rebooting.**  
Click [Back] after VE-PG2 has rebooted.

- The setting screen does not automatically return, so click [Back] about 30 seconds after the "VE-PG2 is rebooting" message appears.

## 6. VE-PG2 IP address setting

- 1 Click "LAN IP" in the "Network setting" to display the "LAN IP" setting screen.
- 2 Set the IP address and subnet mask of the VE-PG2. Be sure not to input the same IP address as another device's address. When you update the firmware online, connect the VE-PG2 to the Internet and set the default gateway and DNS server addresses as the addresses used in the network. When finished, click [Save and Reboot].

See "Installation guide ②" for bridge and selective call mode setting examples.

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This guide describes bridge and selective call mode connection examples.  
Read this guide after reading "Installation guide ①".

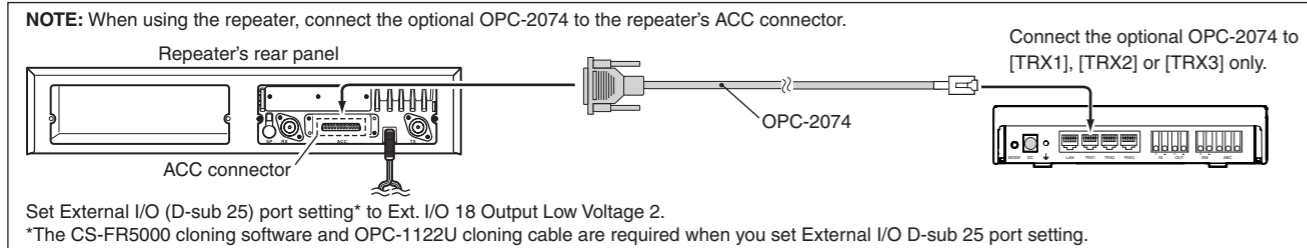
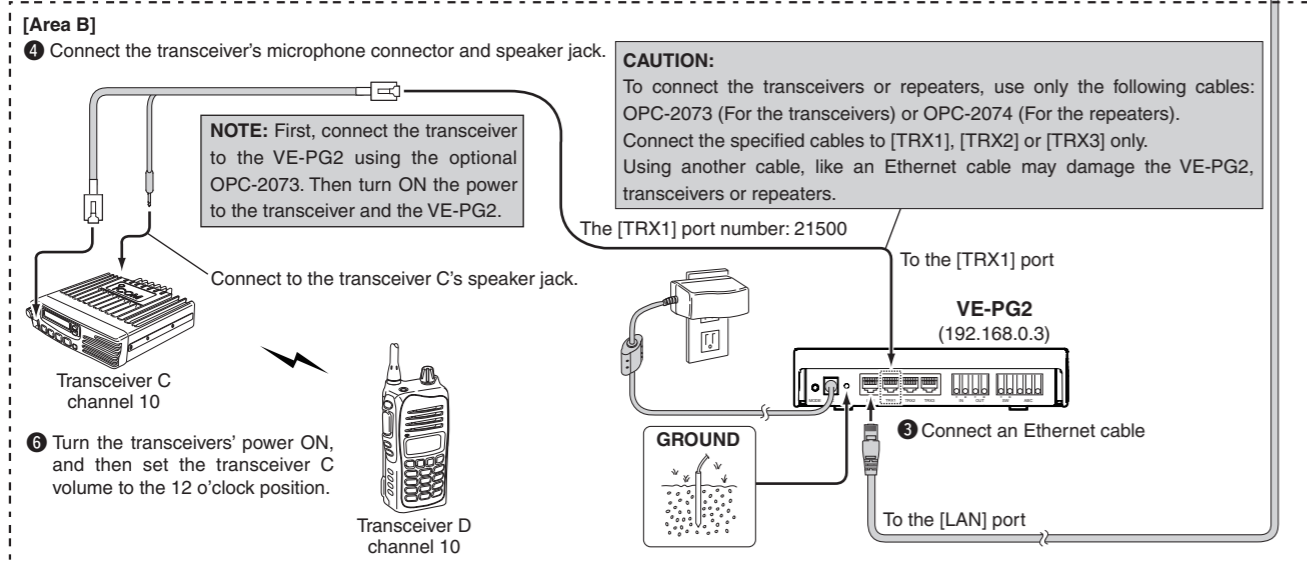
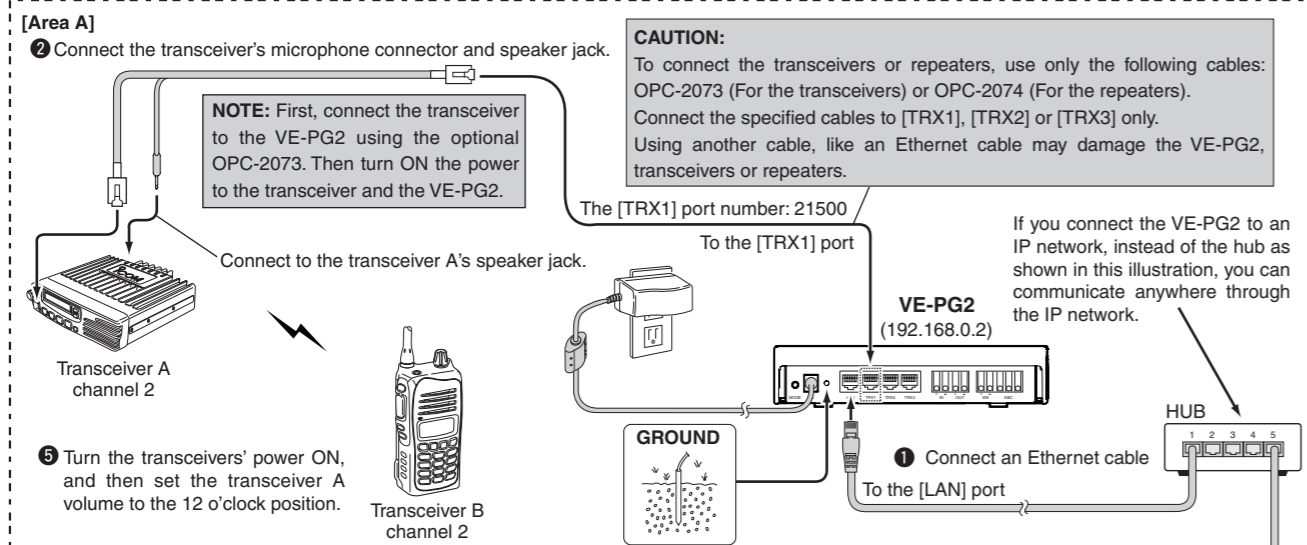
Step1: Installation guide ①

Step2: Installation guide ②

1. Connects transceivers and LAN to the VE-PG2

Bridge mode setting

- A static (fixed) IP address must be set to the VE-PG2, and connects as figure below. (Refer to the Installation guide ① for details.)
- For the Unicast mode, after making the connections as illustrated below, set the VE-PG2 as described in the page to the right.
- Refer to the Installation guide ① for details of the Multicast mode and the Unicast modes.
- Connect the VE-PG2 according to steps ① – ⑥ in the illustration below.



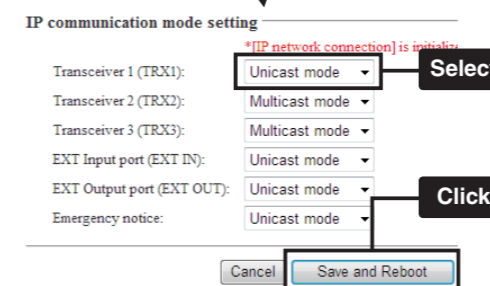
2 Sets the VE-PG2 to the Bridge mode (Unicast mode)

Bridge mode setting

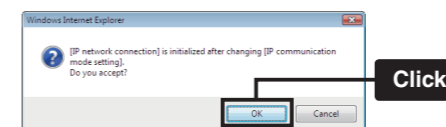
1. "IP communication mode setting" setting

- ① After making the connections as shown to the left, turn transceivers A and C power ON, then open the setting screen with your browser (see Installation guide ①).
- ② Click "Operating mode" in the "Connection setting", and select "Unicast mode" in the "Transceiver 1 (TRX1):" of "IP communication mode setting".
- ③ Click [Save and Reboot].

Select [Unicast mode] in both Area A and Area B.



- 2 The dialog shown below appears, and then click [OK].  
**NOTE:** "IP network connection" is initialized after changing "IP communication mode setting". Save the VE-PG2 setting as a setting file, if necessary. Refer to the instruction manual (PDF file: Download from the Icom web site) for details.

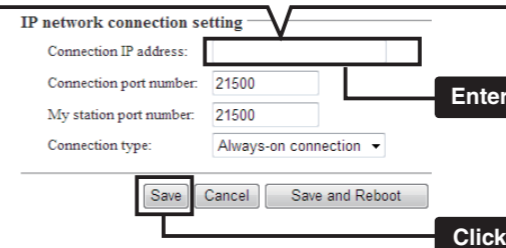


- 3 Approximately 30 seconds after clicking [OK], move the mouse pointer to [BACK] and click. After system reboots, the setting screen will open.

2. "IP network connection"-"Tranceiver 1 (TRX1)" setting

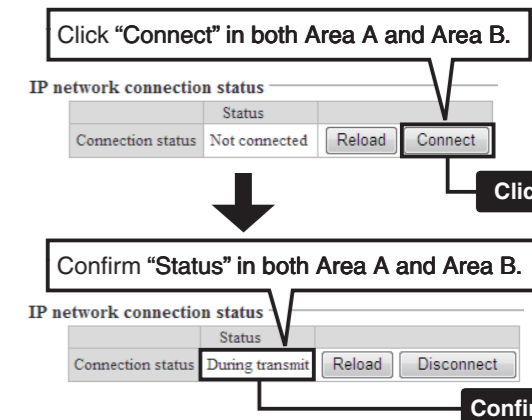
- 1 ① Click "Transceiver 1 (TRX1)" in "IP network connection setting" in the "Connection setting".  
② Input the Connection IP address in the "IP network connection".  
(Example) Input "192.168.0.3" to VE-PG2s in Area A, and "192.168.0.2" to VE-PG2s in Area B illustrated to the left.  
③ Click [Save].

"Connection IP address" for Area A ; "192.168.0.3"  
"Connection IP address" for Area B ; "192.168.0.2"



2. "IP network connection"-"Tranceiver 1 (TRX1)" setting (Continued)

- 2 Click [Connect] in "IP network connection status", and then confirm that "During transmit" appears in "Status".



3. Transceiver setting

This setting example refers to the connections in the far top left illustration.

- 1 Set transceivers A and C AF volume to the 12 o'clock position.
- 2 Turn transceivers B and D power ON, and select the same operating channel as transceivers A and C.
  - Set the same channel for all the transceivers, to communicate with transceivers A and C.
  - See the transceiver's instruction manual when setting the channel, if necessary.
  - (Example) In the illustration to the left, set transceiver A and B (Area A) to channel 2, and transceiver C and D (Area B) to channel 10.

4. How to communicate

This setting example refers to the connections in the far top left illustration.

- 1 While holding down transceiver B's [PTT] in Area A, speak into the microphone at your normal voice level to call transceiver D in Area B. Release transceiver B's [PTT] to receive.
- 2 While holding down transceiver D's [PTT] of Area B, speak into the microphone at your normal voice level to reply to transceiver B in Area A. Release transceiver D's [PTT] to receive.

## 1 Connects transceivers and LAN to the VE-PG2 Selective call mode setting

Connect the VE-PG2 according to steps ① – ④ in the illustration below.

**[Area A]**

① Connect the transceiver's microphone connector and speaker jack.

**NOTE:** First, connect the transceiver to the VE-PG2 using the specified connection cable. Then turn ON the power to the transceiver and the VE-PG2.

**CAUTION:** To connect the transceivers or repeaters, use only the following cables: OPC-2073 (For the transceivers) or OPC-2074. (For the repeaters) Connect the specified cables to [TRX1], [TRX2] or [TRX3] only. Using another cable, like an Ethernet cable, or connecting the cables to [LAN] may damage the VE-PG2, transceivers or repeaters.

Connect to the transceiver's speaker jack.

[TRX1] Calling number (DTMF): 1 To the [TRX1] port

Transceiver A channel 1

Transceiver B channel 1

VE-PG2 (192.168.0.2)

③ Turn the transceivers' power ON, and then set the transceiver A volume to the 12 o'clock position.

---

**[Area B]**

② Connect the transceiver's microphone connector and speaker jack.

**NOTE:** First, connect the transceiver to the VE-PG2 using the specified connection cable. Then turn ON the power to the transceiver and the VE-PG2.

**CAUTION:** To connect the transceivers or repeaters, use only the following cables: OPC-2073 (For the transceivers) or OPC-2074. (For the repeaters) Connect the specified cables to [TRX1], [TRX2] or [TRX3] only. Using another cable, like an Ethernet cable or connect the cables to [LAN] may damage the VE-PG2, transceivers or repeaters.

To the [TRX2] port

[TRX2] Calling number (DTMF): 2

Connect to the transceiver's speaker jack.

Transceiver C channel 2

Transceiver D channel 2

④ Turn the transceivers' power ON, and then set the transceiver C volume to the 12 o'clock position.

---

**NOTE:** When using the repeater, connect the optional OPC-2074 to the repeater's ACC connector.

Repeater's rear panel

Connect the specified cables to [TRX1], [TRX2] or [TRX3] only.

OPC-2074

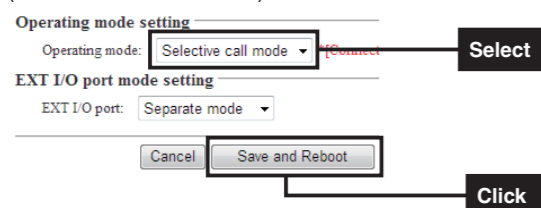
ACC connector

Set External I/O (D-sub 25) port setting\* to Ext. I/O 18 Output Low Voltage 2.  
\*The CS-FR5000 cloning software and OPC-1122U cloning cable are required when you set External I/O D-sub 25 port setting.

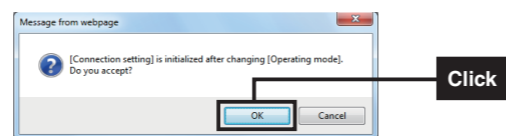
## 2 Sets the VE-PG2 to Selective call mode Selective call mode setting

### 1. "Operating mode setting" setting

- ① After making the connections as shown to the above, turn transceivers A and C power ON, then open the setting screen with your browser (see the Installation guide ①).
- ② Click the "Operating mode setting" in the "Connection setting", and then select "Selective call mode".
- ③ Click the [Save and Reboot] button.
- ④ Click [Back] on the screen after reboot finishes (about 30 seconds later).



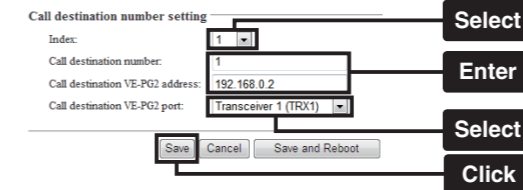
- ② Click [OK] when the dialog box below appears.
- "Connection setting" will be return to default when the "Operating mode" setting is modified.
  - Save the VE-PG2 setting to the setting file, if necessary. Refer to the VE-PG2 instruction manual (PDF file: Download from the Icom web site) for details.



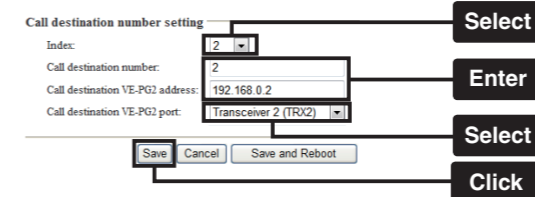
## 2 Sets the VE-PG2 to Selective call mode (Continued) Selective call mode setting

### 2. "Numbering plan" setting

- ① Move the mouse pointer to "Connection setting", and click "Numbering plan".
- ② Set "Call destination number setting" for the Area A shown to the left.  
(Example) Set "Index" to "1", "Call destination number" to "1", "Call destination VE-PG2 address" to "192.168.0.2" and "Call destination VE-PG2 port" to "Transceiver 1 (TRX1)".
- ③ Click [Save].



- ② ① Set "Call destination number setting" for the Area B shown to the left.  
(Example) Set "Index" to "2", "Call destination number" to "2", "Call destination VE-PG2 address" to "192.168.0.2" and "Call destination VE-PG2 port" to "Transceiver 2 (TRX2)".
- ② Click [Save].



- ③ Confirm the "Call destination number setting list" as shown below.

Index	Call destination number	Call destination VE-PG2 address	Call destination VE-PG2 port	Edit	Delete
1	1	192.168.0.2	Transceiver 1 (TRX1)	Edit	Delete
2	2	192.168.0.2	Transceiver 2 (TRX2)	Edit	Delete

Confirm

#### NOTE:

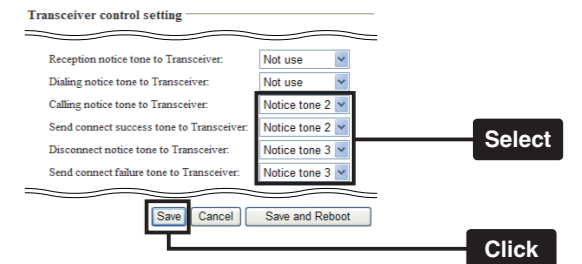
- If you construct RoIP system with some VE-PG2s, you can construct the system only to set each "Call destination number setting list".
- "Call destination number setting list" has below 3 buttons.  
[Edit] : Click this button to edit the index setting.  
[Delete] : Click this button to delete the index setting.  
[Delete all] : Click this button to delete all data in the list.

### 3. Transceiver control setting

- ① Move the mouse pointer to "Connection setting" and then to the drop down menu "TRX/EXT", then click "Transceiver 1 (TRX1)".
- ② Set "Calling notice tone to Transceiver" to "Notice tone 2".
- ③ Set "Send connect success tone to Transceiver" to "Notice tone 2".
- ④ Set "Disconnect notice tone to Transceiver" to "Notice tone 3".
- ⑤ Set "Send connect failure tone to Transceiver" to "Notice tone 3".

### 3. Transceiver control setting (Continued)

- ① ⑥ Click [Save].
- ⑦ Move the mouse pointer to "Connection setting" and then to the drop down menu "TRX/EXT", then click "Transceiver 2 (TRX2)".
- ⑧ Set same steps as ②–⑥.



### 4. Transceiver setting

This setting example refers to the connections in the far top left illustration.

- ① Set transceivers A and C AF volume to the 12 o'clock position.
- ② Turn transceivers B and D power ON, and select the same operating channel as transceivers A and C.  
• Set the same channel for all the transceivers, to communicate with the transceivers A and C. See the transceiver's instruction manual when setting the channel, if necessary.  
(Example) In the illustration to the left, set transceivers A and B (Area A) to channel 1, and transceivers C and D (Area B) to channel 2.

### 5. How to communicate

This setting example refers to the connections in the far top left illustration. Follow the steps for transceiver B calling transceiver D.

- ① Hold down transceiver B's [PTT], and push [2] and [#] to transmit 2 and # DTMF signals to call to transceiver D. Release transceiver B's [PTT] to receive.
- ② Transceiver D sounds beep tone, then start communication via the VE-PG2.
- ③ While holding down transceiver B's [PTT], speak into the microphone at your normal voice level. Release transceiver B's [PTT] to receive.
- ④ While holding down transceiver D's [PTT], speak into the microphone at your normal voice level. Release transceiver D's [PTT] to receive.
- ⑤ VE-PG2 finishes communication when no audio is applied to transceivers B and D for 15 seconds. Or hold down the transceiver's [PTT] and [#] for 1 second to transmit a # DTMF signal from the transceivers B or D.