ICOM

Installation guide ①

RoIP GATEWAY

VE-PG2

This guide describes about the preparation, operation mode, connection, setting screen and IP address setting. Read "**PRECAUTIONS**" first if you have not read it.
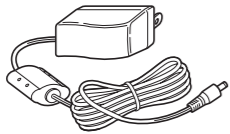
Step1: Installation guide ① ➡ Step2: Installation guide ②

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)

Required items

To set the VE-PG2, the following hardware and software are required:
• PC (PC connected by an Ethernet cable)
  Microsoft® Windows® XP, Microsoft® Windows Vista® or Microsoft® Windows® 7 is installed.
• Ethernet cable
• Ground wire
• Hub (100BASE-TX or faster products)
• Connection cable (OPC-2073 or OPC-2074)
• Specified Icom transceiver (The transceiver's instruction manual)

[Connecting a PC using an Ethernet cable]
Use an Ethernet crossover cable when connecting the VE-PG2 to a PC, because the VE-PG2 does not have the Ethernet straight/crossover cable automatic detect function. Also, be careful of the cable polarity when connecting the VE-PG2 to a HUB that does not have the Ethernet straight/crossover cable automatic detect function. If the polarity is wrong, the [LAN] LED will not light.

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

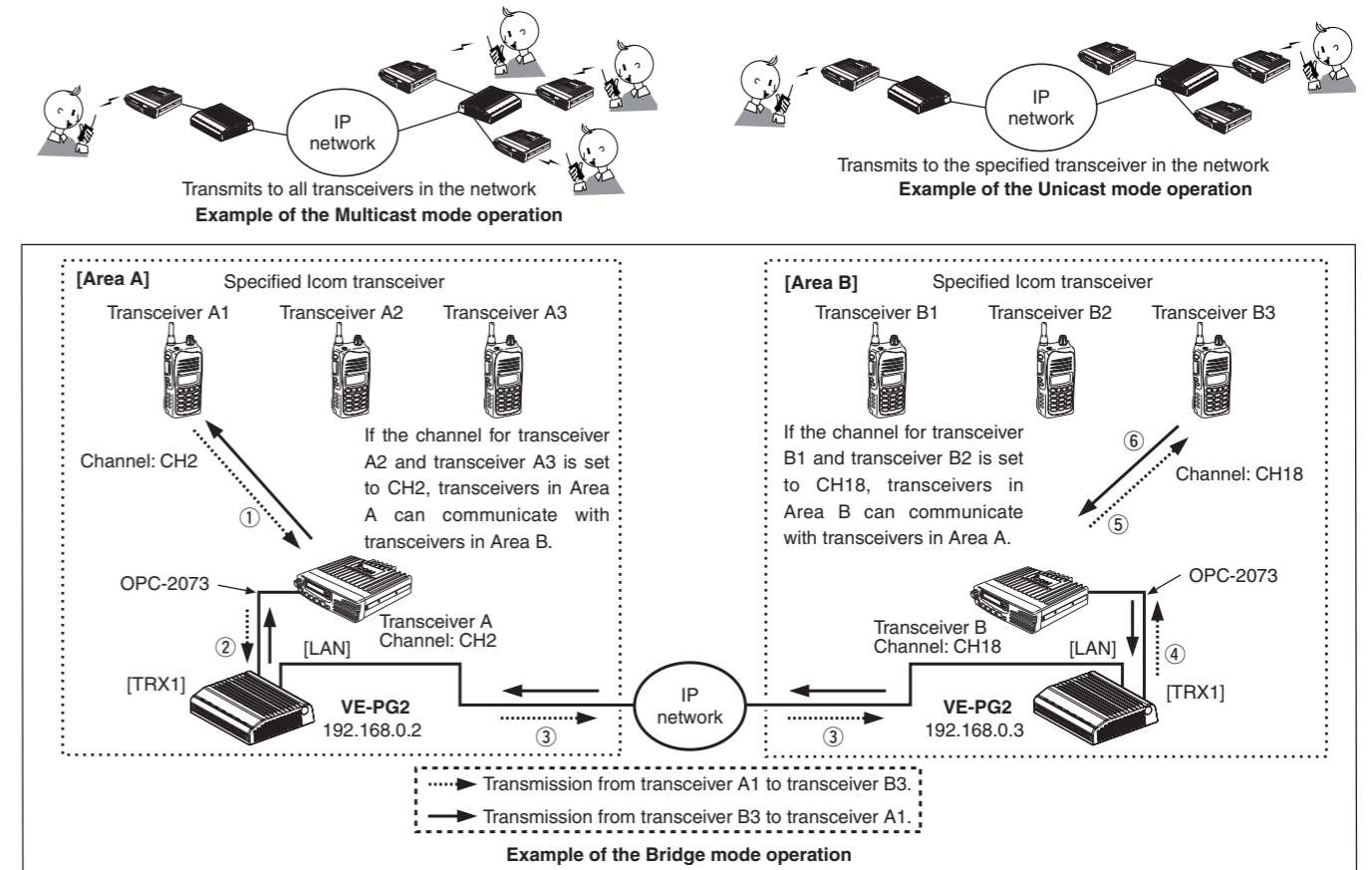The VE-PG2 has two operating modes, "**Bridge mode (default)**" and "**Selective call mode.**"
• The transceiver connected to the VE-PG2 and transceiver to be called must be set to the same channel.

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

Transmits to all transceivers in the network
Example of the Multicast mode operation

Transmits to the specified transceiver in the network
Example of the Unicast mode operation
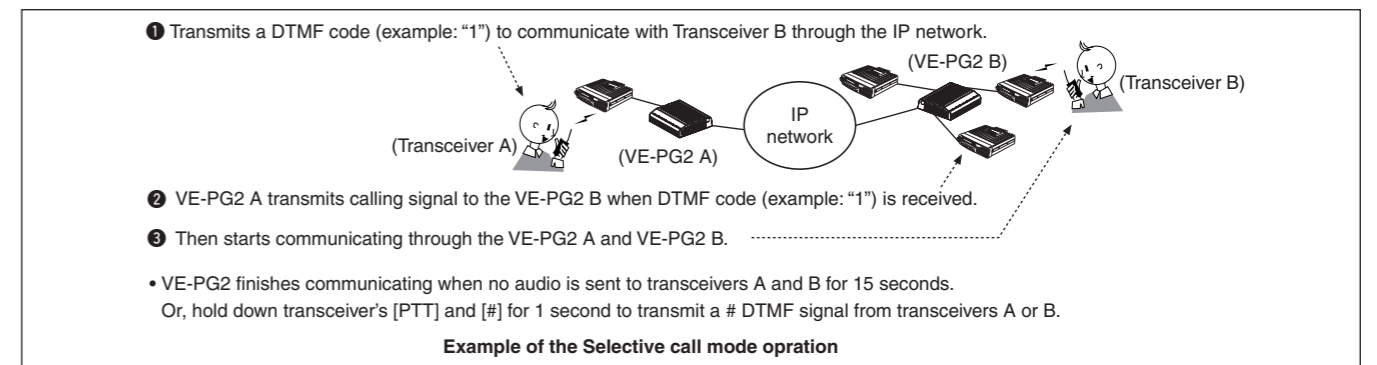
Example of the Bridge mode operation

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.

❶ Transmits a DTMF code (example: "1") to communicate with Transceiver B through the IP network.

❷ VE-PG2 A transmits calling signal to the VE-PG2 B when DTMF code (example: "1") is received.

❸ Then starts communicating through the VE-PG2 A and VE-PG2 B.

• VE-PG2 finishes communicating when no audio is sent to transceivers A and B for 15 seconds.
Or, hold down transceiver's [PTT] and [#] for 1 second to transmit a # DTMF signal from transceivers A or B.

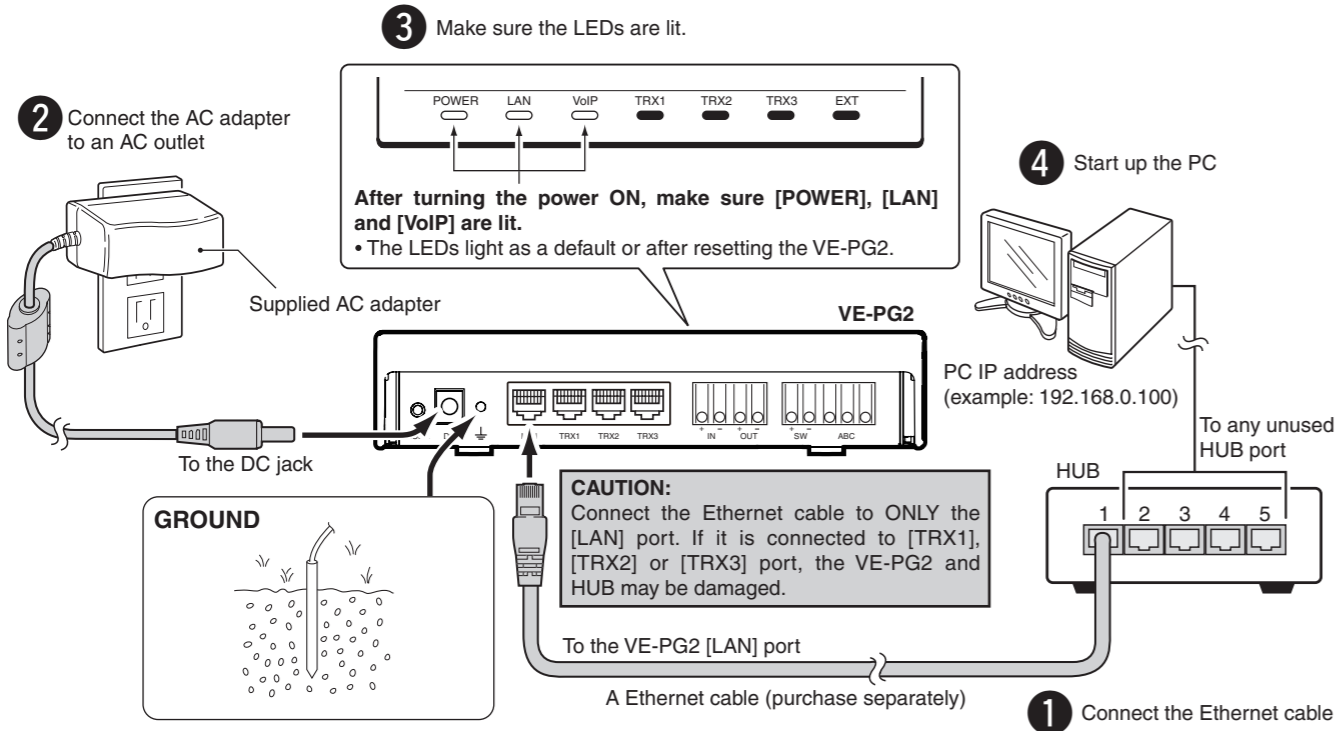**Example of the Selective call mode opration**

4. Connection

Connect the Ethernet cable, HUB, the ground cable and AC adapter to the VE-PG2 by following steps ❶ to ❹ 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.

❸ Make sure the LEDs are lit.

POWER   LAN   VoIP   TRX1   TRX2   TRX3   EXT

❷ Connect the AC adapter to an AC outlet

After turning the power ON, make sure [POWER], [LAN] and [VoIP] are lit.
• The LEDs light as a default or after resetting the VE-PG2.

❹ Start up the PC

Supplied AC adapter

VE-PG2

To the DC jack

PC IP address (example: 192.168.0.100)

To any unused HUB port

GROUND

TRX1 TRX2 TRX3   IN OUT SW ABC

HUB

1 2 3 4 5

CAUTION:
Connect the Ethernet cable to ONLY the [LAN] port. If it is connected to [TRX1], [TRX2] or [TRX3] port, the VE-PG2 and HUB may be damaged.

To the VE-PG2 [LAN] port

A Ethernet cable (purchase separately)

❶ Connect the 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.
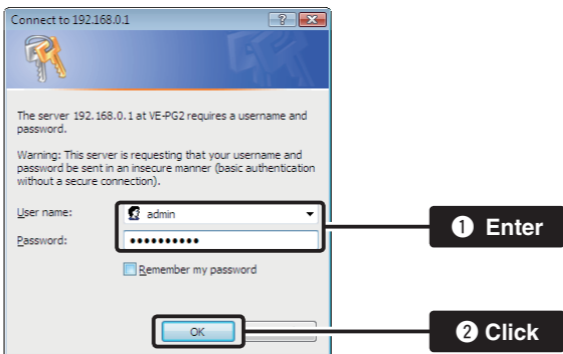
1 Open a web browser, and then enter the VE-PG2 IP address in the address bar.

http://192.168.0.1/   **Enter**

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.

Connect to 192.168.0.1

The server 192.168.0.1 at VE-PG2 requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).

User name: admin
Password: ●●●●●●●●●●
☐ Remember my password
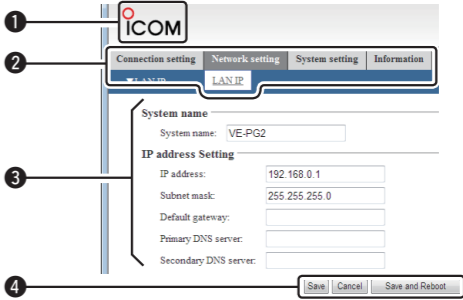
OK

❶ Enter
❷ Click

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.

❶
❷
❸
❹

Connection setting Network setting System setting Information
LAN IP
System name
  System name: VE-PG2
IP address Setting
  IP address: 192.168.0.1
  Subnet mask: 255.255.255.0
  Default gateway:
  Primary DNS server:
  Secondary DNS server:
Save Cancel Save and Reboot

❶ Link to Icom web site

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

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

❸ Setting items and value display

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

❹ 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.
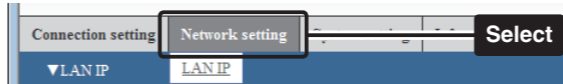The VE-PG2 reboots, and the setting items and values are updated.
The following message is displayed on the screen while the VE-PG2 is rebooting.

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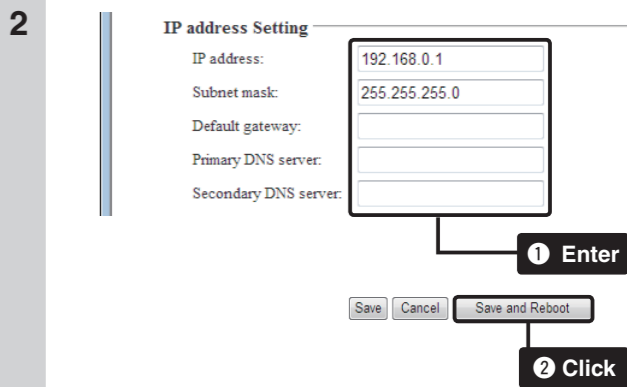Click [Back] after VE-PG2 has rebooted.

• 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.

Connection setting Network setting — — **Select**
▼ LAN IP   LAN IP

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].

2
IP address Setting
  IP address: 192.168.0.1
  Subnet mask: 255.255.255.0
  Default gateway:
  Primary DNS server:
  Secondary DNS server:
❶ Enter
Save Cancel Save and Reboot
❷ Click

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