

# VE-PG3



## ■ Converter Mode

- Interconnect between IP phone, analog phone and radio networks
- Phone calls can be initiated by radio users

## ■ Bridge Mode

- Site-to-site radio communication over an IP network
- Site-to-multisite radio communication
- Cross band, cross category (VHF/UHF land mobile, marine VHF and air band) connection

## Common Features

- Interconnect between IDAS™ NXDN™, IDAS™ dPMR™ Mode 2 and IP Advanced Radio System
- Optional RC-FS10 software for virtual PC dispatch station
- Public address, siren, warning light and external equipment connection
- Serial pass-through function between PC and external equipment

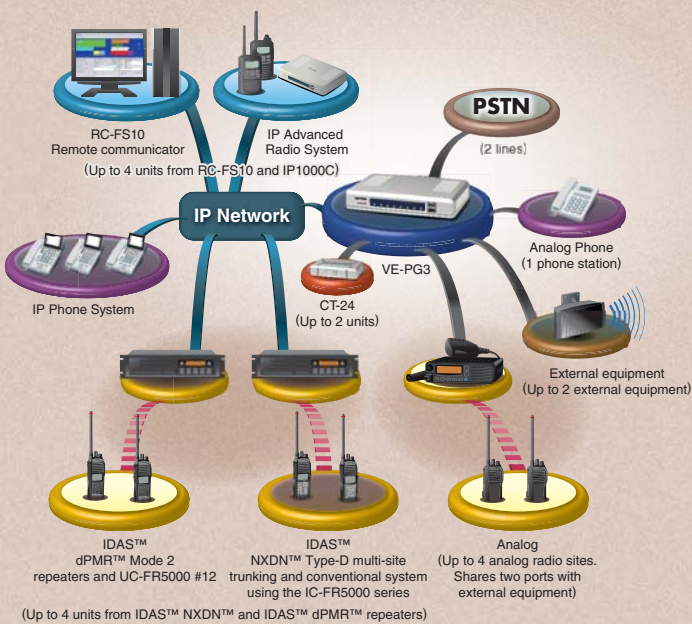






RoIP GATEWAY  
**VE-PG3**

## Converter Mode



### Converter Mode

The VE-PG3 has built-in RoIP, SIP gateway, IP router and IP PBX functions all in one box. As shown in the above figure, the VE-PG3 integrates digital/analog radio sites into SIP and analog phone systems and interconnects calls between the connected users. The CT-24 digital voice converter converts analog audio and G.711 $\mu$  IP phone codec to the AMBE+2™ codec for the IDAS™ radio system. The CT-24 is required to connect an IDAS™ radio site with other system users.

### Telephone Interconnect

A radio user (both IDAS™ and analog\* radio user) can initiate phone calls using DTMF code and can connect to other users via an IP phone or PSTN line. Phone users can make individual calling and group calling to the IDAS™ radio site. In the analog radio site, called users are subject to the fixed calling configuration of the connected radio.

\* Limited to radios with DTMF encoder/decoder capability.

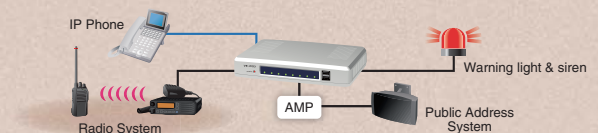
### Remote Communicator Software, RC-FS10 (Common to converter and bridge mode)

The optional RC-FS10 remote communicator creates an IP-based virtual radio on a PC and works as simple dispatch station. The RC-FS10 can be used with an IDAS™ radio system and analog radio system via the VE-PG3.



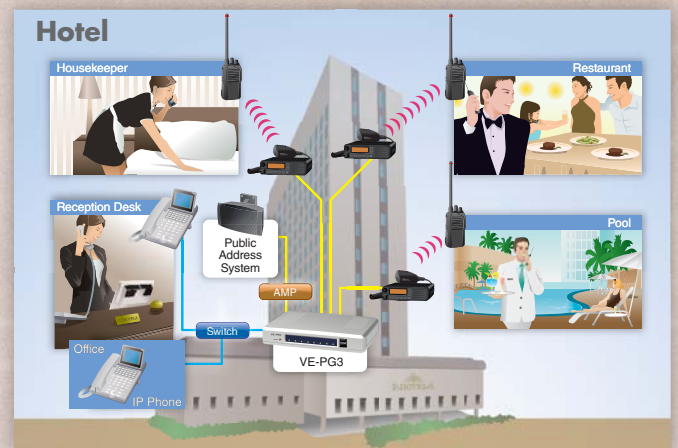
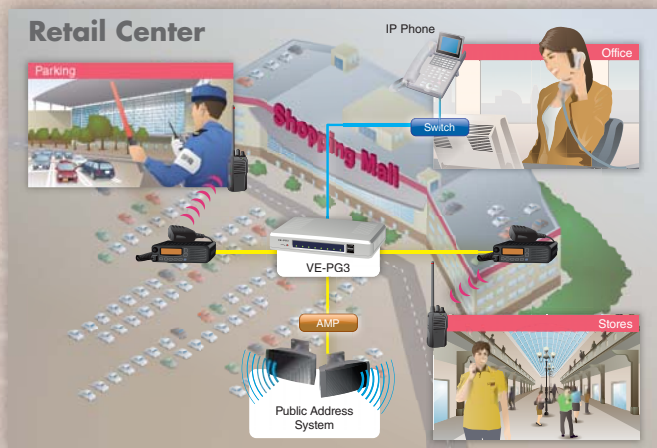
### External Equipment Connection (Common to converter and bridge mode)

The VE-PG3 has two external equipment connectors for audio input/output and other switching. Public address system, siren, warning light and other external equipment can be connected to the VE-PG3.



### Serial Pass-through Function (Common to converter and bridge mode)

The serial pass-through function allows you to remotely control connected equipment from a PC via RS-232C interface. The virtual serial port software is supplied with the VE-PG3.





# Versatile Radio Over IP Gateway

The VE-PG3 is designed to enhance the communication coverage of a radio network and the convenience of radio usage by leveraging IP networking technology with ease of implementation.

The VE-PG3 has two modes; converter mode and bridge mode. The converter mode converts radio audio into VoIP/analog phone calls and allows interconnection between connected equipment.

The bridge mode connects two or more radio sites over an IP network and received radio audio is bridged to opposing radio sites of the network. The bridge mode can connect dispersed radio sites over the network and can provide cross band, cross category communication.

## Bridge Mode

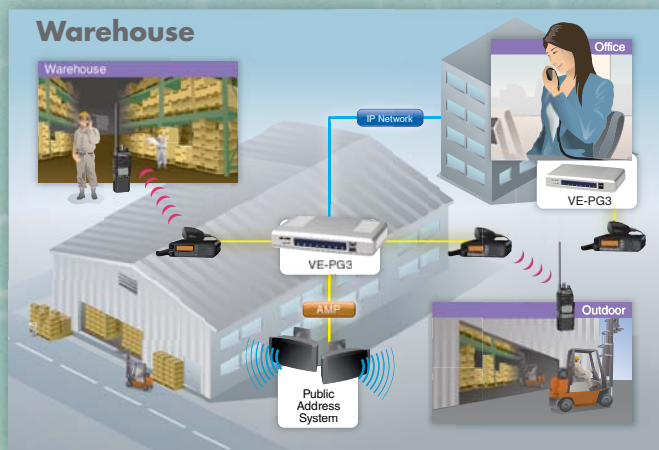
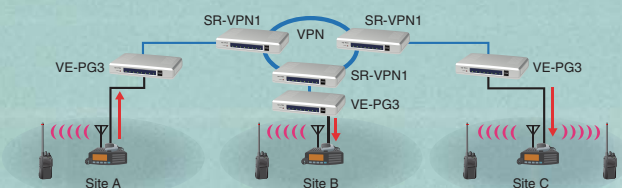


### Bridge Mode

The bridge mode bridges between radio sites over an IP network. The above figure is an example of bridge mode configuration, the Site A radio user can talk to the Site B radio user.

### Site-to-multisite Radio Communication

When the IP network system is compatible with IP multicast routing, three or more VE-PG3s can be connected in the bridge mode and provide site-to-multisite radio communication. As shown in the figure below, the Site A radio users can talk to the Site B and Site C users simultaneously.



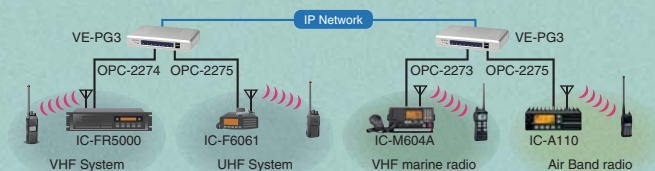
### Mixing Function

The mixing function mixes the bridged audio to the other bridges. It can provide site-to-multisite type communication even on a network which does not support IP multicast routing.

### Cross Band/Cross Category Connection\*

Cross band/cross category connection is possible between VHF/UHF land mobile, marine VHF and air band frequencies. Optional audio connection cables allow you to connect a transceiver or repeater easily. In addition, the SM-26 or HM-152 can be connected directly to the VE-PG3 via the optional OPC-2276 connection cable.

\* Cross band/cross category operation may be prohibited in some countries. Please confirm legal requirements in your country before installation.



### Other Features

(Common to bridge and converter mode)

- Web-based configuration
- IP router function: PPPoE/IPv6 bridge, NAT, Dynamic DNS, VPN pass through, IP filter, SNMP and SYSLOG
- USB flash drive connection for firmware update and data backup and restore



## SPECIFICATIONS

## GENERAL

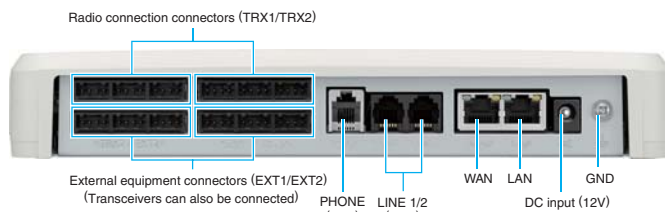
- Power supply : 12V DC  $\pm 10\%$ , max. 1.1A (main unit)  
16W Max. (with supplied AC adapter)
- Operating temperature range : 0°C to +40°C; 32°F to +104°F
- Operating humidity : 5% to 95% RH
- Dimensions (WxHxD) : 232x38x168 mm;  
(Projections are not included) 9.13x1.5x6.61 in
- Weight (main unit only) : 800 g; 1.76 lb (approx.)
- Regulatory compliance : FCC (Part 15 Class B/Part 68), TIA 868-B  
ICES-003, ICCS-03  
CE Mark, ETSI ES 203 021,  
ETSI EG 201 121 (Advisory Note)

## INTERFACE

- LAN/WAN : RJ-45 connectors x2  
10BASE-T/100BASE-TX
- Telephone set : RJ-11 connector x1
- Telephone line : RJ-11 connectors x2
- Transceiver/repeater : Quick connectors x2
- External equipment : Quick connectors x2
- USB : Standard A receptacle x2

All stated specifications are subject to change without notice or obligation.

## REAR PANEL VIEW



## Supplied accessories : (May differ according to version)

- AC adapter, BC-207S
- Ferrite core
- Quick connectors (Spare)
- Virtual serial port software CD

## OPTIONS

## Audio Connection Cables



OPC-2274: 5m (16.4ft) cable for the IC-FR5000/FR6000 series repeater. D-SUB 25-pin connector.  
OPC-2275: 5m (16.4ft) cable for a mobile transceiver. RJ-45 modular plug connector with speaker plug.  
OPC-2273: 5m (16.4ft) cable for the IC-M604A VHF marine transceiver. Waterproof 8-pin connector.  
OPC-2276: 5m (16.4ft) cable for the HM-152 or SM-26 microphone and external speaker.

## AC Adapter



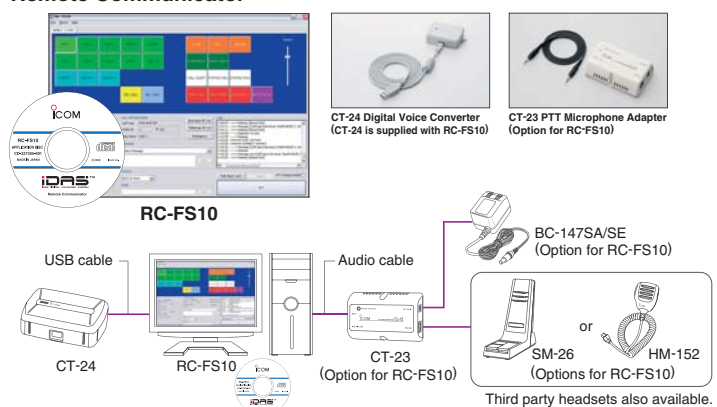
Provides 12V DC, 3.5A output. Same as supplied.

## Digital Voice Converter



Converts analog audio and G.711μ IP phone codec to the AMBE+2™ codec. Required for connection with IDAS™ multi-site trunking /conventional.

## Remote Communicator



## VPN Router



The SR-VPN1 VPN router builds VPN tunnels with easy configuration and assists in the Radio over IP communication. Supports IPv4 multicast routing for VE-PG3.

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