

# GCMW (Genie Configuration Manager-WAN)

Converged Intercom System, 5Ghz wireless + IP Key Panels

**GCMW User Manual (Version V2210615)**  
(For Genie devices, Key Panels, Line Router and WAN Link)



**LaON** Technology

# Contents

GCMW (Genie Configuration Manager-WAN)	3
Section 1: Configure Genie devices	4
1. Set the Base Station BS1000	6
2. Set the Base Station BS850	11
3. Set the Remote Antenna RA100DW and RA100	14
4. Set the Repeater RBS85	15
5. Set the Speaker Station ISS800	17
6. Set the Ethernet Beltpack IBP10	19
Section 2: Configure the Genie Panels	21
Section 3: Monitoring & RF Control	34
Section 4: Glossary	37

# **GCMW (Genie Configuration Manager-WAN, Version V1.1.0w)**

## **GCMW is an added version of the ability to configure WAN Link on an existing GCM.**

This manual describes how to use the GCMW to configure and pair Genie devices, Key Panels, Line Router and WAN Link.

The GCMW is a convenient tool for creating or editing configurations. The GCMW allows you to edit, and restore configurations from each device, such as Panels, Base Stations (BS1000, BS850) and all the Genie devices. You can edit the configuration and resend it to each device or use it later. It can also be used to recover each device in the event of a system failure. The GCMW configures and pairs each device over an Ethernet connection. It also monitors the connection status of each device and provides the ability to modify and apply some items immediately. In the monitoring function, the battery level of the wireless Beltpacks, and the RSSI (Received Signal Strength Indication) of each Antenna in its place are displayed.

To install the system, all Genie devices connected to the Ethernet must be set up and paired using the GCMW.

However, the pairing of the wireless Beltpack is paired in the Pair Belt menu on the Base Station.

Using the GCMW, install the Genie as follows:

1. Configure and pair the Base Stations.
2. Configure and pair the Remote Antenna.
3. If you are using the Repeater, Speaker Station, or Ethernet Beltpack, configure and pair each device.
4. When using the wireless Beltpack, the wireless Beltpack is paired only through the Pair Belt menu of the Base Station.
5. Placing the Base Station, Remote Antennas and Repeaters  
See Genie User Manual, 3.3 Placing the Base Station, Remote Antenna, Repeater
6. Monitoring each device  
Using the GCMW, check the status of each installed device, test and modify the settings.

Using the GCMW, install the Panels in the following sequence:

1. Configure and pair the Panels or Line Router.  
In case of use in conjunction with a Genie Base Station, pair them with the Remote Antenna.
2. If you are using the WAN Link, configure and pair the WAN Link.  
Connect the PC to the PoE IN or LAN port on the WAN Link. Configure and pair the WAN Links.  
In case of use in conjunction with a Genie Base Station, connect the WAN Link to the Base Station's Line (4-Wire).
3. Monitoring each device  
Using the GCMW, check the status of each installed device, test and modify the settings.

**!!! Note:** When pairing each device for the first time, only one device should be connected to the LAN port on the PC to perform pairing. When two or more devices are connected and paired, all devices have the same settings, so they do not operate normally.

**!!! Note:** Connect the PC to the PoE IN port on the Genie device. When connected to the daisy-chain PoE Line, it can be damaged depending on the PC.

Once the installation has been completed in accordance with the above procedure, the settings can be modified and updated for each device in its place.

GCMW monitoring can be used for frequency spectrum analysis, RF rescan, change RF band, radio transmission power attenuation, and power-on sequence of Antennas. Through these tests and verification, devices can be site-optimized in the field environment and conveniently installed.

## **Loading the GCMW.**

Install the GCMW on your PC and run the GCMW.

**!!! Note:** Enter **C:\LaON\Genie** in the entry window that specifies the installation folder when installing.

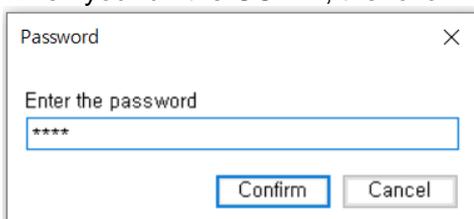
**!!! Note:** Adjust the screen size to 100% in your PC's display settings. At 125% size, you may not see the color description shown below the GCMW screen.

## **Windows Firewall**

If you are running GCMW, the 2001 and 30001 ports of Windows Firewall must be allowed under the Laon GCMW name. This port number must be the same as the PC port number registered in GCMW's Admin menu.

See GCMW Installation Guide.

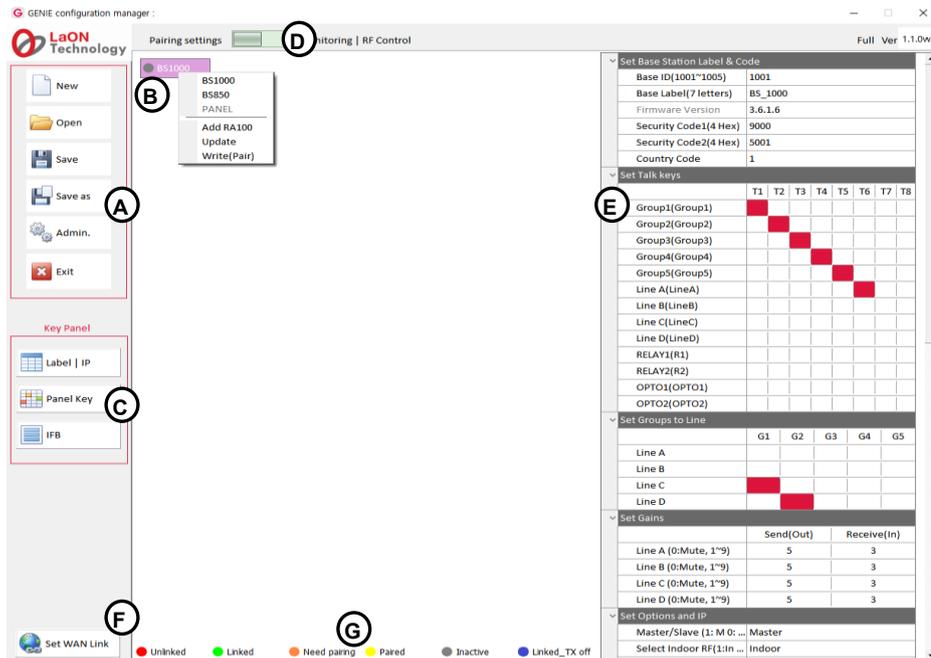
When you run the GCMW, the following screen appears. Enter your password. The factory setting is 1234.



## Section 1: Configure Genie devices

This section describes configuring and setting up Genie devices BS1000, RA100, RBS85, ISS800, and IBP10. The settings of the Genie Panels are described in Section 2.

### Describe the GCMW screen



#### Management icons (A)

**New:** Create a GCMW file. Click the New icon and enter the file name to create. A Genie device icon (B) will appear on the screen.

**Open:** To open the GCMW file, click the Open icon to select a file.

**Save:** Save as GCMW file name in use.

**Save As:** Save as a new GCMW file name.

**Admin:** The Administrator screen appears for default IP settings and password changes. The factory setting password is 1234.

**Exit:** Exit the GCMW.

#### Genie device Icons (B)

The created Genie devices appear in this display area.

#### Key Panel Icons (C)

The three icons below are used only for the Panel settings.

**Label I IP:** Select this icon to set the ID, label, and IP of the Panels.

**Panel key:** Select this icon to set the Talk keys and Line Router GLR4.

**IFB:** Select this icon to set the IFB members, IFB destinations, and FB sources (Program).

#### Mode selection icon (D)

You can select the required function by selecting the icon left or right.

**Pairing settings:** A screen is displayed for creating devices and editing settings.

**Monitor & RF Control:** The Monitoring screen is displayed.

#### Setting window (E)

When you click each device icon at the center of the screen, the setting window for that device appears on the right side of the screen.

#### Set WAN Link icon (F)

Set the WAN Link.

#### Icon colors, depending on the status of each device (G)

Appears at the bottom of the screen.

**Unlinked (red):** Indicates that the device is not connected.

**Linked (green):** Indicates that the device is connected.

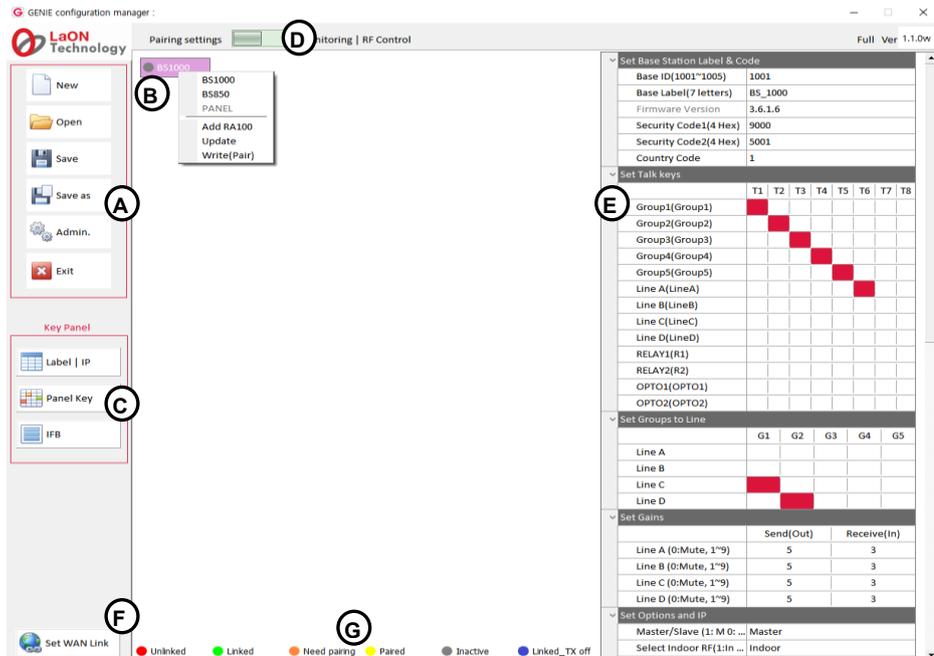
**Need Pairing (Amber):** Settings have been edited, indicating a condition that needs to be paired.

**Paired (Yellow):** The settings are paired with the device.

**Inactive (Gray):** Indicates that none of the edited settings are present.

**Linked\_Tx off (Blue):** Indicates the state in which wireless transmission is off while the device is connected.

## Create and add the devices



Right-click on the icon (B) after creating or open the file, the following items are displayed on the screen:

### BS1000:

Selecting this option creates a Base Station BS1000 icon on the icon (B).

### BS850:

Selecting this option creates a Base Station BS850 icon on the icon (B).

### Panel:

Selecting this option creates a Panel icon on the icon (B).

### Add RA100:

When selected, up to six Remote Antenna icons are added below the BS1000 icon, or up to three Remote Antenna icons are added for the BS850 icon.

### Add Panel:

When selected, up to nineteen Panel icons are added below the Panel icon. If a Genie Base Station is selected on the icon (B), the Panels can only be added below the Remote Antenna icon.

### Update:

You can pair (Update) the modified settings back to the device. The update is available after each device has been paired (Write). It can also be used when all devices are connected.

### Write (Pair):

The ability to pair new settings for the first time by connecting only one device. Do not run a pair (write) if more than one device is connected. The same settings are paired to multiple devices and do not work properly.

**Note:** For the Panels, only one current Page selected in the Panel key(C) screen is paired (or updated) to the Panel. When updating to the Panel, it is convenient to run it on the Panel key (C) screen.

## Add the devices to RA100

Right-click on the RA100 icon, the following items are displayed in the drop-down menu:

**Add RBS85:** Up to 10 Repeaters will be added below the RA100 icon.

**Add ISS800:** Up to 10 Speaker Stations will be added below the RA100 icon.

**Add IBP10:** Up to 10 Ethernet Beltpacks will be added below the RA100 icon.

**Add Panel:** Up to 20 Panels will be added below the RA100 icon.

**Update:** Pair the modified settings to the device.

**Write(pair):** Pair the new settings to device.

**Delete:** Delete the created device.

**Note:** The radio device icon (BS1000, BS850, RA100, RBS85) displays a frequency ID that is in use after the delimiter.

If you click on the RA100 icon, the settings window (E) appears on the right side of the screen, as shown above. You can set up each device (BS1000, BS850, RA100, ISS800, IBP100) in the same way.

# 1. Set the Base Station BS1000

Click the BS1000 icon, the setting window (E) will appear. Set each item in the setting window by referring to the description below.

## Set Base Station Label & Code

**Base ID:** Set the Base Station ID to identify. Select one Base Station from the drop-down menu.

**Base Label (7 letters):** Set the Base Station label, by entering seven English letters or numbers.

**Firmware Version:** Once the device has been paired, it will automatically be displayed here.

**Security Code1 (4 Hex), Security Code2 (4 Hex):** Enter Hex 4 digits. When paired with a Base Station, these codes are displayed. For special system operation, use only if the same code setting is required for both Base Stations. Devices to be connected to Base Station that have changed the code should be paired again by selecting Write(pair). Only devices paired to the Base Station of the same code can be connected to each other.

## Country code

Set the corresponding country code. The available RF bands are country specific, so you must set the country code for the area where you use the system. Enter a number from 1 to 9.

Country	Code	Country	Code
Korea	1	Taiwan	7
Japan	2	Israel	8
EU	3	Australia, New Zealand	9
USA	4	All Channels	5
China	6		

For RF bands available in each country, see the table on page 8.

**Note:** The Base Station must be rebooted after changing the country code.

## Set Talk keys:

Double-click each item to enter the LABEL for Genie Group Channel, Line, Opto-isolated input, Relay, in the settings window. Assign each Talk key from T1 to T8. Users can set up Genie group channels, Line, Relay, or Opto-isolated input on Talk key. Click the icon in each Talk key column to select one Genie group channel, Line, or Relay. Press the Talk key set to Relay to trigger the relay pin on the rear panel of the Base Station. Click the OPTO1 or OPTO2 row icon to set opto-isolated input on Talk key. When this input is detected, the Talk path for that Talk key is created.

**Opto-isolated Input 1 (Label--)**

**Opto-isolated Input 2 (Label--)**

**Relay1 (Label--)** (This has been applied to BS1000 version V3516)

**Relay2 (Label--)** (This has been applied to BS1000 version V3516)

Pinout RELAY/OPTO/AUX(D) connector

Pin	Description	Pin	Description
1	Reserved (Tx+)	14	12VDC +
2	Reserved (Tx-)	15	12VDC +
3	Reserved (Rx+)	16	GND (12VDC)
4	Reserved (Rx -)	17	GND (12VDC)
5	Relay 1 (Open)	18	Relay 1 Common
6	Relay 2 (Open)	19	Relay 2 Common
7	SA Relay (Open)	20	SA Relay Common
8	Opto-isolated input 1	21	Opto-isolated input 1 Common
9	Opto-isolated input 2	22	Opto-isolated input 2 Common
10	Not connected	23	Not connected
11	Not connected	24	Unbalanced Audio Input _GND
12	Unbalanced Audio Input	25	Unbalanced Audio Output GND
13	Unbalanced Audio Output		

## Opto-isolated Inputs (OPTO1, OPTO2)

Base Station provides two optically isolated inputs.

You can trigger Talk channels by connecting the foot switch or other control to the Opto-isolated Input.

Each input consists of a pair of pins (pin 8/21 or pin 9/21) with an operating range of 5 VDC to 20 VDC. The inputs are operated by applying a voltage between 5 VDC and 20 VDC across the pins and is detected by the opto-coupler. The voltage may be derived from the Base Station itself using the 12V (pin 14,15) and 0V (pin 16,17) pins or it may be from an external source. These inputs can be used for user programmable functions such as switching a Talk on or off. Click the OPTO1 or OPTO2 row icon to set opto-isolated input on Talk key. When this input is detected, the corresponding Talk paths are created. You can assign one Opto-isolated input to multiple Talk keys. You can set up a Genie group channel and Opto-isolated input together on a Talk key.

## Relays

The Relay output allows the use of a Talk key to trigger any external device that allows standard contact closure. The Relay can activate an external device, such as a cue light, or a walkie-talkie. All Relay contacts can support 1Amp 30 VDC. These pins do not supply any power to the circuit.

Base Station provides three Relay outputs. One is activated by pressing the SA button. Press the SA button to activates a Relay 7 (SA) pin. Two Relays can be allocated to the Talk key. When the Talk key set to Relay 1 is

pressed, Relay 1 (pin 5,18) is activated. In the same way, pressing the Talk key set to Relay 2, activates Relay 2 (pin 6,19). Relay cannot be set on one Talk key with a Genie group channel.

Click the corresponding Talk channel column (T1 ~T8) icon in the Relay row to assign Relay to the Talk Key.

#### **AUX D (unbalanced audio)**

Pin 12,13,24,25 are unbalanced audio signal pins that are shared with Line D (4-wire). If this AUX D is used, 4-wire Line D shall not be used. These pins can be connected to a gooseneck microphone or a walkie-talkie, etc. In some cases, additional connections such as resistor may be required when connecting a specific walkie-talkie.

#### **Set Groups to Line**

**Line A / G1 G2 G3 G4 G5**

**Line B / G1 G2 G3 G4 G5**

**Line C / G1 G2 G3 G4 G5**

**Line D / G1 G2 G3 G4 G5:**

Set the Line audio routing:

The Line audio routing provides the ability to connect the input/output (full duplex) audio of the Line to the Genie group channels.

Without using the Talk Key, the Line input and output audio is sent and received to the Genie group channels. Click the icon in the row of the Line A to Line D to set the Genie group channels (Routing Destinations: G1~ G5). The input and output of the Line audio is routed to the set Genie Group channels (G1 to G5). Up to five Genie Group channels can be set up on a Line.

If the Genie Group channels are assigned to a Line (AUX, 4-Wire, 2-Wire) device, the Base Station or Beltpacks can communicate with the Line device by selecting the same Genie Group channel. For each Line, you can select up to five Genie group channels by clicking on the five Group columns (G1, G2, G3, G4, G5). Click in the Group column (G1, G2, G3, G4, G5) to set up single or multiple Genie group channels for each Line.

**Note:** After you have set the Line audio routing, you can set the same Genie group channel on the Talk key. In this case, do not set the same Line to the Talk key. If the same Line is set to the Talk key, the audio may be distorted.

#### **Set gains**

##### **Set the Line sending and receiving gains**

Click the column icon in Receive (In) or Send (Out) on each Line to select level from the drop-down menu.

**Line A (0: Mute, 1~9) / Receive (In)**

**Line B (0: Mute, 1~9) / Receive (In)**

**Line C (0: Mute, 1~9) / Receive (In)**

**Line D (0: Mute, 1~9) / Receive (In)**

To set the Line input level for each Line (Line A, B, C, D), select a number from 0 (mute) to 9. The Line input levels can be set from -20 dB to +6 dB (default 0 dB).

**Line A (0: Mute, 1~9) / Send (Out)**

**Line B (0: Mute, 1~9) / Send (Out)**

**Line C (0: Mute, 1~9) / Send (Out)**

**Line D (0: Mute, 1~9) / Send (Out)**

To set the Line output level for each Line (Line A, B, C, D), select a number from 0 (mute) to 9. The Line output levels can be set from -20 dB to +6 dB (default 0 dB).

#### **Set the options and IP**

##### **Master/Slave**

Select Master or Slave from the drop-down menu. The selected item will appear in the row icon.

##### **Using multiple Base Stations in an Antenna coverage zone.**

The Genie is designed so multiple Base Stations, Remote Antennas and Repeaters can work in one antenna coverage zone. To ensure smooth coexistence of these devices, you will need set the Ethernet synchronization and connecting the Multi-Sync cable. If multiple Base Stations are connected by Multi-Sync cable, one Base Station should be set to 'Primary on' (Master) in the Multi BS menu and all other Base Stations should be set to 'Primary off' (Slave). With this setting, Remote Antennas and Repeaters automatically act as Master or Slave. If you are using one Base Station, you must set the Base station to 'Primary On' (Master) to apply Ethernet synchronization to all devices.

See Genie User Manual, 3.2 Notes on Installation, Ethernet synchronization

## Select Indoor RF

Select Indoor or Outdoor from the drop-down menu.

### Select RF band

On 5GHz UNII RF bands, there is a separate definition and guideline for RF band to be used in indoor environments. Select the indoor if you use the system at any indoor environments. Selecting the Indoor allows the use of indoor and outdoor RF bands. When using the system at any outdoor environments, the outdoor should be selected. Refer to the table below.

**Note:** If the Indoor or Outdoor setting is changed, you must reboot the Base Station to use the changed setting.

### RF bands

In the Base Station menu or GCM, ID numbers stands for each frequency band as shown in the table. The following table lists the RF bands that can be used in 5GHz UNII band. The ID of RF band currently being used will be shown on the menu or GCMW. Genie devices which operate in the 5GHz UNII RF bands have been approved for license free use in most countries. However, some countries may restrict the use of some RF band or spectrum operations. Therefore, it is your responsibility to find out whether the Genie is permitted in your country or not.

**Note:** In the Base Station menu or GCMW, ID numbers stands for each RF band as shown in the table.

ID	Channel No.	Frequency	Band width	Korea AUS, NZ	Japan	EU	US	China	Taiwan	Israel
01	32	5160MHz	20MHz	X	X	X	X	X	X	X
02	36	5180MHz	20MHz	Indoor	Indoor	Indoor	O	Indoor	Indoor	Indoor
03	40	5200MHz	20MHz	Indoor	Indoor	Indoor	O	Indoor	Indoor	Indoor
04	44	5220MHz	20MHz	Indoor	Indoor	Indoor	O	Indoor	Indoor	Indoor
05	48	5240MHz	20MHz	Indoor	Indoor	Indoor	O	Indoor	Indoor	Indoor
06	52	5260MHz	20MHz	O	Indoor	Indoor	O	O	Indoor	Indoor
07	56	5280MHz	20MHz	O	Indoor	Indoor	O	O	Indoor	Indoor
08	60	5300MHz	20MHz	O	Indoor	Indoor	O	O	Indoor	Indoor
09	64	5320MHz	20MHz	O	Indoor	Indoor	O	O	Indoor	Indoor
10	68	5340MHz	20MHz	X	X	X	X	X	X	X
11	96	5480MHz	20MHz	X	X	X	X	X	X	X
12	100	5500MHz	20MHz	O	O	O	O	X	O	Indoor
13	104	5520MHz	20MHz	O	O	O	O	X	O	Indoor
14	108	5540MHz	20MHz	O	O	O	O	X	O	Indoor
15	112	5560MHz	20MHz	O	O	O	O	X	O	Indoor
16	116	5580MHz	20MHz	O	O	O	O	X	O	Indoor
17	120	5600MHz	20MHz	O	O	O	O	X	O	Indoor
18	124	5620MHz	20MHz	O	O	O	O	X	O	Indoor
19	128	5640MHz	20MHz	O	O	O	O	X	O	Indoor
20	132	5660MHz	20MHz	O	O	O	O	X	O	Indoor
21	136	5680MHz	20MHz	O	O	O	O	X	X	Indoor
22	140	5700MHz	20MHz	O	O	O	O	X	O	Indoor
30*	144	5720MHz	20MHz	O*	O*	X	X	X	O*	O*Indoor
23	149	5745MHz	20MHz	O	X	SRD	O	O	O	Indoor
24	153	5765MHz	20MHz	O	X	SRD	O	O	O	Indoor
25	157	5785MHz	20MHz	O	X	SRD	O	O	O	Indoor
26	161	5805MHz	20MHz	O	X	SRD	O	O	O	Indoor
27	165	5825MHz	20MHz	O	X	SRD	O	O	O	Indoor
28	169	5845MHz	20MHz	X	X	SRD	X	X	X	Indoor
29	173	5865MHz	20MHz	X	X	SRD	X	X	X	X

Table. Typical Radio frequency (RF) bands

**Indoor:** Radio frequencies that can only be used indoors. Outdoor frequencies are also used when the Indoor is selected.

**O\*:** New added RF band. Applies to BS1000 V5000, RA100 V5000, RBS85 V5000, and BP850 V500. If this RF band is used in the Antennas (BS1000, RA100, RBS85), the BP850 with a lower version than V500 is not connected to them. Therefore, Beltpack BP850 with a low version than V500 cannot be used together with them.

### Select RF channel (0: Auto, 1~29)

Select Auto or one number from the drop-down menu.

If you select Auto, the RF band is automatically selected. If you select one RF band ID between 1 and 29, the Base Station uses that RF band.

RF band ID: See RF bands Table.

### Interference: Reserved

### TX attenuation

In the drop-down menu, select one of the following: 0dB, -3db, -6db, -9db, -12db.

If it is required to attenuate the radio wave to avoid RF interference, use this item to attenuate radio transmission power of each device.

### Base RF On/Off

In the drop-down menu, select one of the following: RF On, RF Off.  
Select RF Off if the Base Station does not need to transmit and receive radio wave.

**Note:** Cannot pair with Beltpack in RF Off state. Change to RF on when pairing with the Beltpack.

### Screen Saver (10~900)

Set the period when the screen will automatically turn off. The Base Station display will turn off if key is not used or there is no incoming call during a set period.

Selection range: 10 to 900 minutes (10 minutes per step)

### VOX Level (0: Off, 1~9)

If the audio level of the Talk channels is higher than this level, the audio is detected, and the Talk key LEDs flash green. The same level applies to Ethernet Beltpack.

Selection range: 0: disable, 1 through 9 (From -58dB to -10dB)

### Set 2-Wire to Line A, B

Before using a Line, Line type should be set to ensure that the volume level and the call signal operate normally. In the drop-down menu, select Line to use as the 2-Wire from among the following: Line A and B, Line A, Line B, None

### BP redundant

### BS redundant

In the drop-down menu, select one of the following: No Redundant, Redundant, Assign Antenna.

#### No Redundant:

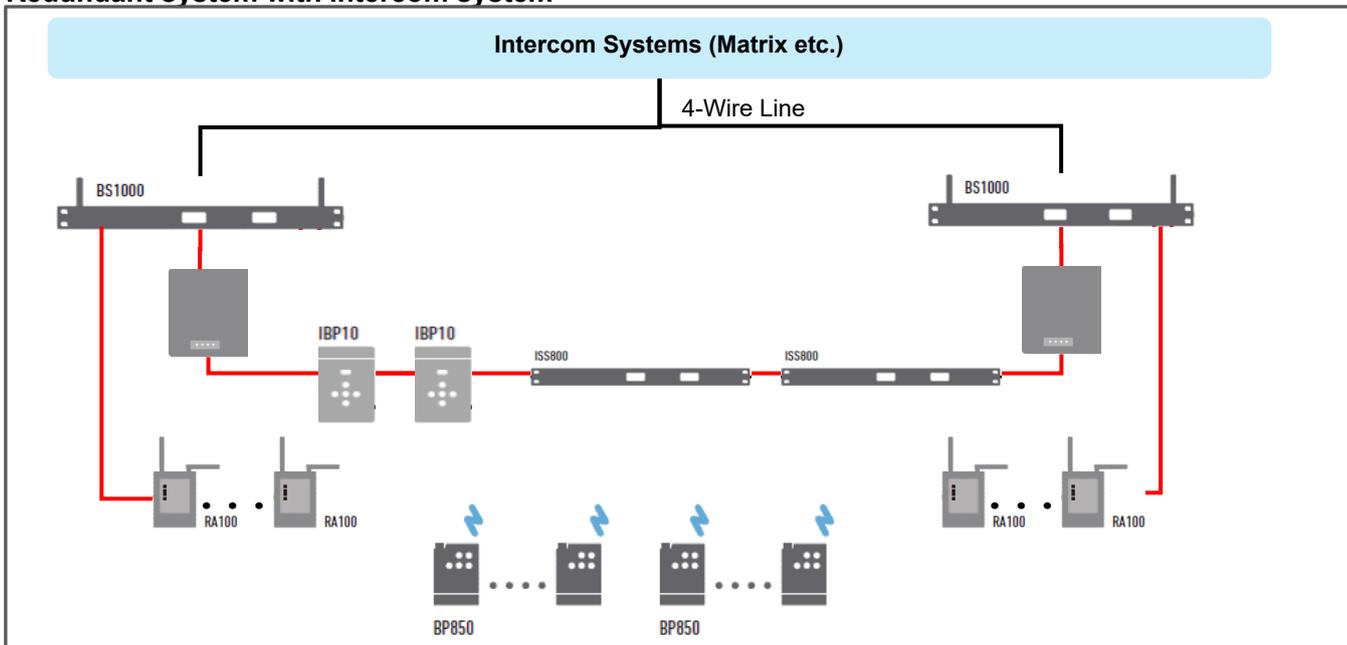
On a Standalone system that uses one Base Station, select the BP redundant as the No Redundant. If you set the Redundant, radio roaming time may increase. In this setting, you must select the BS Redundant as the No Redundant.

#### Redundant: (This has been applied to BS1000 version V4030)

The redundancy system consists of the BP redundant (and BS redundant) setting and a Genie Duo system and daisy chain ring connection. One Base Station BS1000 or Remote Antenna in monitoring mode monitors for failure of another Base Station or Remote Antenna. When a fault occurs, it automatically changes from monitoring mode to normal operating mode. When these BP redundant and BS redundant are set, and each device is paired with Base Station1 and Base Station2, the wireless Beltpack, Speaker Station, and Ethernet Beltpack are automatically connected to another Base Station 2 if no Base Station 1 or Remote Antenna 1 is detected. Each device perform automatic access to another Base Station in case one Base Station fails. In this setting, you must select BS Redundant as the Redundant.

**Note:** After you set this item, pair wireless Beltpack again, turn it off and turn it back on.

#### Redundant system with intercom system



#### Antenna designation:

If you install three Remote Antennas in one antenna coverage zone and use 30 talk/listen paths for the wireless Beltpacks, this can be selected. When this is selected, wireless Beltpack ID 1 to 10 is connected to Remote Antenna 1. In 10 units, ID numbers 11 to 20 are connected to Remote Antenna 2 and 21 to 30 to Remote Antenna 3. In the same way, ID numbers 31 to 40 are connected to Remote Antenna 1. In this setting, you must select BS Redundant as the No Redundant.

**Note:** After you set this item, pair wireless Beltpack again, turn it off and turn it back on.

**Date Paired (YYYY)**  
**Date Paired (MM/DD)**

In this item, the date the device was paired with GCMW appears. This paired date is also displayed on the device's menu screen.

**PC IP**  
**PC Port**

To connect your PC, click the Admin icon to set up your PC IP and port. This will automatically appear here.

### Set FB, IFB group, Dim level

When IFB is created to a Genie group channel, the relevant FB audio (program) is dimmed or muted. You can adjust the level of this dimming.

**FB audio input Line:** Specify one Line that connects FB audio. Select one Line to connect FB audio from Line A, B, C, and D. If you send FB audio (Program) back to the output of the selected Line, you must select the Feed.

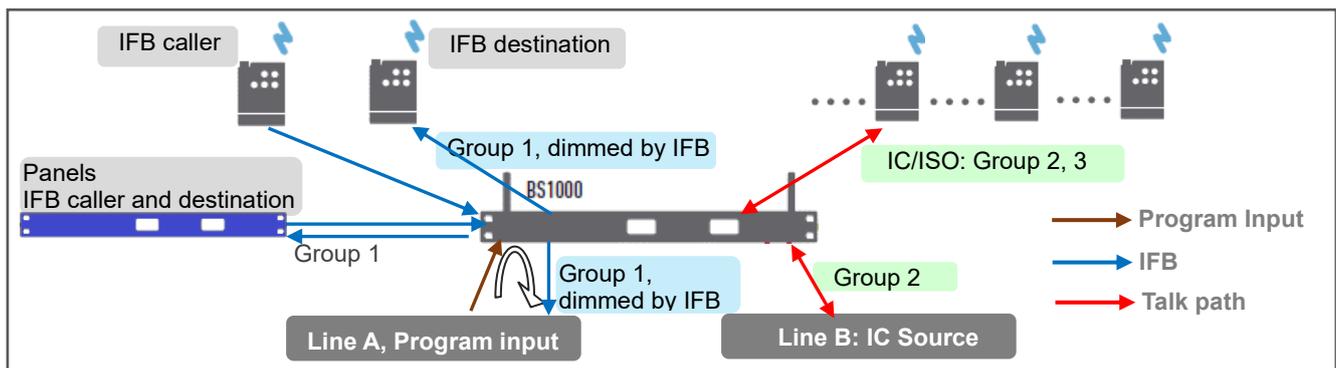
**IFB group:** Select the Genie group channel that connects to the Line where FB audio is entered.

**Dim level:** In the drop-down menu, select one of the Dim level of FB audio below:  
0dB, -12dB, -15dB, -18dB, -21dB, Cut

**Note:** When IFB group and Feed are selected together, FB audio and Genie group channels are mixed and output to the Line.

You can specify the IFB group channel and dim level of the Program input (FB audio). With this setting on the BS1000, when a Talk path (IFB) is created on a Genie group channel set as the FB audio, the FB audio is dimmed and mixed with IFB. With this function, the wireless Beltpack may be used as the IFB caller or destination. You can also apply IFB to set up to send Line input audio back to Line output.

**(This has been applied to BS1000 version V4030)**



### Set Network

**MAC Code**  
**Local IP**  
**Subnet Mask**  
**Gateway**  
**Config Port**  
**FW Update Port**  
**SCF Port**  
**Remote IP**  
**Tx AF IP**  
**Tx AF Port**  
**Rx AF Port**

We recommend using exclusive networks. If you are using an exclusive network, use factory settings.

### RA100, RBS On Sequence

Specify the order in which to turn on the Remote Antenna or Repeater. Enter the ID number of the Remote Antenna or Repeater in the order that you turn it on.

With these settings, the Remote Antenna or Repeater can be efficiently located on the radio interference.

See Genie User Manual, 3.3 Placing the Base Station, Remote Antenna and Repeater,

The Remote Antennas and Repeaters are installed sequentially from the nearest location at the Base Station (A1, A2, A3, R1, R2 to RA).

Remote antennas and Repeaters paired to the Base Station have their own ID such as 3001. You must use that ID here.

**Note:** If you set a fixed RF band on a Remote antenna or Repeater, register the ID of that device as 0.

## 2. Set the Base Station BS850

Click the BS850 icon, the setting window (E) will appear. Set each item in the setting window by referring to the description below.

### Set Base Station Label & Code

**Base ID:** Set the Base Station ID to identify. Select one Base Station from the drop-down menu.

**Base Label (7 letters):** Set the Base Station label, by entering seven English letters or numbers.

**Firmware Version:** Once the device has been paired, it will automatically be displayed here.

**Security Code1 (4 Hex), Security Code2 (4 Hex):** Enter Hex 4 digits. When paired with a Base Station, these codes are displayed. For special system operation, use only if the same code setting is required for both Base Stations. Devices to be connected to Base Station that have changed the code should be paired again by selecting Write(pair). Only devices paired to the Base Station of the same code can be connected to each other.

### Country code

Set the corresponding country code. The available RF bands are country specific, so you must set the country code for the area where you use the system. Enter a number from 1 to 8.

Country	Code	Country	Code
Korea	1	China	6
Japan	2	Taiwan	7
EU, Australia, Singapore	3	Israel	8
USA	4	All Channels	5

For RF bands available in each country, see the table on next page.

**Note:** The Base Station must be rebooted after changing the country code.

### Set the Talk keys

Double-click each item to enter the LABEL for Genie Group Channel, Line in the settings window.

#### Set the Genie group channels for the Line or Base Station

Set available Genie group channels for the Line (4-wire or AUX) or Base Station.

Click in the group channels column (Headset, 4Wire, AUX I/O) to set single or multiple Genie group channels (Group 1 to Group 5) for each Line or Base Station headset. Users can select Genie group channels for each device within the scope set here.

Once the Genie Group channel is selected for the Line (AUX, 4-Wire), the Base Station and Beltpacks can communicate with the Line devices by selecting the same Genie group channel.

### Set gains

#### Set the Line sending and receiving gains

Click the column icon in Receive (In) or Send (Out) on each Line to select level from the drop-down menu.

#### 4-Wire A(0: Mute, 1~9) /Receive (In)

#### AUX IO B(0: Mute, 1~9) /Receive (In)

To set the Line input level for each Line (4-Wire, AUX IO), enter a number from 0 (mute) to 9. The Line input levels can be set from -20 dB to +6 dB (default 0 dB).

#### 4-Wire A(0: Mute, 1~9) /Send (Out)

#### AUX IO B (0: Mute, 1~9) /Send (Out)

To set the Line output level for each Line (4-Wire, AUX IO), enter a number from 0 (mute) to 9.

### Set the options and IP

#### Master/Slave

Select Master or Slave from the drop-down menu. The selected item will appear in the row icon.

#### Using multiple Base Stations in an Antenna coverage zone.

The Genie is designed so multiple Base Stations, Remote Antennas and Repeaters can work in one antenna coverage zone. To ensure smooth coexistence of these devices, you will need set the Ethernet synchronization and connecting the Multi-Sync cable. If multiple Base Stations are connected by Multi-Sync cable, one Base Station should be set to 'Primary on' (Master) in the Multi BS menu and all other Base Stations should be set to 'Primary off' (Slave). With this setting, Remote Antennas and Repeaters automatically act as Master or Slave. If you are using one Base Station, you must set the Base station to 'Primary On' (Master) to apply Ethernet synchronization to all devices.

See Genie User Manual, 3.2 Notes on Installation, Ethernet synchronization

## Select Indoor RF

Select Indoor or Outdoor from the drop-down menu.

### Select RF band

On 5GHz UNII RF bands, there is a separate definition and guideline for RF band to be used in indoor environments. Select the indoor if you use the system at any indoor environments. Selecting the Indoor allows the use of indoor and outdoor RF bands. When using the system at any outdoor environments, the outdoor should be selected. Refer to the table below.

**Note:** If the Indoor or Outdoor setting is changed, you must reboot the Base Station to use the changed setting.

### RF bands

In the Base Station menu or GCM, ID numbers stands for each frequency band as shown in the table. The following table lists the RF bands that can be used in 5GHz UNII band. The ID of RF band currently being used will be shown on the menu or GCMW. Genie devices which operate in the 5GHz UNII RF bands have been approved for license free use in most countries. However, some countries may restrict the use of some RF band or spectrum operations. Therefore, it is your responsibility to find out whether the Genie is permitted in your country or not.

**Note:** In the Base Station menu or GCMW, ID numbers stands for each RF band as shown in the table.

ID	Channel No	Frequency	Band width	Korea	Japan	EU	US	China	Taiwan	Israel
01	32	5160MHz	20MHz	X	X	X	X	X	X	X
02	36	5180MHz	20MHz	Indoor						
03	40	5200MHz	20MHz	Indoor						
04	44	5220MHz	20MHz	Indoor						
05	48	5240MHz	20MHz	Indoor						
06	52	5260MHz	20MHz	O	Indoor	Indoor	O	O	Indoor	Indoor
07	56	5280MHz	20MHz	O	Indoor	Indoor	O	O	Indoor	Indoor
08	60	5300MHz	20MHz	O	Indoor	Indoor	O	O	Indoor	Indoor
09	64	5320MHz	20MHz	O	Indoor	Indoor	O	O	Indoor	Indoor
10	68	5340MHz	20MHz	X	X	X	X	X	X	X
11	96	5480MHz	20MHz	X	X	X	X	X	X	X
12	100	5500MHz	20MHz	O	O	O	O	X	O	Indoor
13	104	5520MHz	20MHz	O	O	O	O	X	O	Indoor
14	108	5540MHz	20MHz	O	O	O	O	X	O	Indoor
15	112	5560MHz	20MHz	O	O	O	O	X	O	Indoor
16	116	5580MHz	20MHz	O	O	O	O	X	O	Indoor
17	120	5600MHz	20MHz	O	O	O	O	X	O	Indoor
18	124	5620MHz	20MHz	O	O	O	O	X	O	Indoor
19	128	5640MHz	20MHz	O	O	O	O	X	O	Indoor
20	132	5660MHz	20MHz	O	O	O	O	X	O	Indoor
21	136	5680MHz	20MHz	O	O	O	O	X	X	Indoor
22	140	5700MHz	20MHz	O	O	O	O	X	O	Indoor
30*	144	5720MHz	20MHz	O*	O*	X	X	X	O*	O*Indoor
23	149	5745MHz	20MHz	O	X	SRD	O	O	O	Indoor
24	153	5765MHz	20MHz	O	X	SRD	O	O	O	Indoor
25	157	5785MHz	20MHz	O	X	SRD	O	O	O	Indoor
26	161	5805MHz	20MHz	O	X	SRD	O	O	O	Indoor
27	165	5825MHz	20MHz	O	X	SRD	O	O	O	Indoor
28	169	5845MHz	20MHz	X	X	SRD	X	X	X	Indoor
29	173	5865MHz	20MHz	X	X	SRD	X	X	X	X

Table. Typical Radio frequency (RF) bands

**Indoor:** Radio frequencies that can only be used indoors. Outdoor frequencies are also used when the Indoor is selected.

**O\*:** New added RF band. Applies to BS1000 Vxxxx, RA100 Vxxxx, RBS85 Vxxxx, and BP850 Vxxxx. If this RF band is used in the Antennas (BS1000,RA100,RBS85), the BP850 with a lower version than Vxxxx is not connected to them. Therefore, Beltpack BP850 with a low version than V xxxx cannot be used together with them.

### Select RF channel (0: Auto, 1~29)

Select Auto or one number from the drop-down menu.

If you select Auto, the RF band is automatically selected. If you select one RF band ID between 1 and 29, the Base Station uses that RF band.

RF band ID: See RF bands Table.

### Interference: Reserved

### TX attenuation

In the drop-down menu, select one of the following: 0dB, -3db, -6db, -9db, -12db.

#### Attenuate radio transmission power

If it is required to attenuate the radio wave to avoid RF interference, use this item to attenuate radio transmission power of each device.

## Base RF On/Off

In the drop-down menu, select one of the following: RF On, RF Off.

Select RF Off if the Base Station does not need to transmit and receive radio wave.

**Note:** Cannot pair with Beltpack in RF Off state. Change to RF on when pairing with the Beltpack.

## Screen Saver (10~900)

Set the period when the screen will automatically turn off. The Base Station display will turn off if key is not used or there is no incoming call during a set period.

Selection range: 10 to 900 minutes (10 minutes per step)

## VOX Level (0: Off, 1~9)

You can set the VOX level.

If the audio level of the Talk channels is higher than this level, the audio is detected, and the Talk key LEDs flash green. The same level applies to Ethernet Beltpack.

Selection range: 0: disable, 1 through 9 (From -58dB to -10dB)

## BP Redundant

In the drop-down menu, select one of the following: No Redundant, Redundant, Assign Antenna.

### No Redundant:

Select the No Redundant on a standalone system that uses one Base Station. If it is set to the Redundant, radio roaming time may be increased.

### Redundant:

This has been applied to BS1000 version V4030, BS850 does not provide this feature.

### Assign Antenna:

If you install three Remote Antennas in one antenna coverage zone and use 30 channels of full-duplex wireless, this Redundant can be set to 2. When this Redundant is set to 2, wireless Beltpack ID 1 to 10 are connected to Remote Antenna 1. In 10 units, Beltpack ID 11 to 20 are connected to Remote Antenna 2 and Beltpack 21 to 30 are connected to Remote Antenna 3. In the same way, Beltpack ID 31 to 40 are connected to Remote Antenna 1.

**Note:** After you set this item, pair wireless Beltpack again, turn it off and turn it back on.

## Reserved

### Date Paired (YYYY)

### Date Paired (MM/DD)

In this item, the date the device was paired with GCMW appears. This paired date is also displayed on the device's menu screen.

### PC IP

### PC Port

To connect your PC, click the Admin icon to set up your PC IP and port. This will automatically appear here.

## Reserved

## Set Network

### MAC Code

### Local IP

### Subnet Mask

### Gateway

### Config Port

### FW Update Port

### SCF Port

### Remote IP

### Tx AF IP(Multi)

### Tx AF Port(Multi)

### Rx AF Port

We recommend using exclusive networks. If you are using an exclusive network, use factory settings.

## RA100, RBS On Sequence

Specify the order in which to turn on the Remote Antenna or Repeater. Enter the ID number of the Remote Antenna or Repeater in the order that you turn it on.

With these settings, the Remote Antenna or Repeater can be efficiently located on the radio interference.

See Genie User Manual, 3.3 Placing the Base Station, Remote Antenna and Repeater,

The Remote Antennas and Repeaters are installed sequentially from the nearest location at the Base Station (A1, A2, A3, R1, R2 to RA).

Remote antennas and Repeaters paired to the Base Station have their own ID such as 3001. You must use that ID here.

**Note:** If you set a fixed RF band on a Remote antenna or Repeater, register the ID of that device as 0.

### **3. Set the Remote Antenna RA100DW and RA100**

Click the RA100 icon, the setting window (E) will appear. Set each item in the setting window by referring to the description below.

#### **Set the Remote Antenna Label & Code**

##### **RA100\_ID (3001~3030)**

Set the Remote Antenna ID. Enter an ID number from 3001 to 3030.

##### **RA100 Label(Axlabel/x:1~6)**

Set the Remote Antenna label, by entering seven English letters or numbers. The first two digits enter A1 to A6, and the next five digits enter for the Remote Antenna label. The Beltpack screen shows the first two digits from A1 to A6, indicating the identity of the connected Remote Antenna.

##### **Firmware Version:**

Once the device has been paired, it will automatically be displayed here.

##### **Selected Base ID**

Displays the paired Base Station ID with the Remote Antenna.

##### **Base Label**

Displays the paired Base Station label with the Remote Antenna.

##### **Security code 1, Security code 2**

Once the device has been paired, these codes are displayed here.

##### **Country code:**

Once the device has been paired, this code is displayed here.

#### **Set the options and IP**

##### **Master/Slave**

Select Master or Slave from the drop-down menu. The selected item will appear in the row icon.

##### **Using multiple Base Stations in an Antenna coverage zone.**

The Genie is designed so multiple Base Stations, Remote Antennas and Repeaters can work in one antenna coverage. To ensure smooth coexistence of these devices, you will need set the Ethernet synchronization and connecting the Multi-Sync cable. If multiple Base Stations are connected by Multi-Sync cable, a Base Station should be set to 'Primary on' (Master) in the Multi BS menu and all other Base Stations should be set to 'Primary off' (Slave). With this setting, the Remote Antennas and Repeaters are automatically set to the Master or Slave. If you are using one Base Station, you must set the Base station to 'Primary On' (Master) to apply Ethernet synchronization to all devices.

See 3.2 Notes on Installation, Ethernet synchronization

Multi-Sync connections can also be made between the closely installed RA100DWs (may be within 2m) for more accurate Ethernet synchronization. In this case, the RA100DW connected to the Base Station designated as Master will be the Master, and the RA100DW connected to the Base Station designated as Slave will be operated as Slave. Regardless of which Base Station is connected, the Remote Antenna will act as Master or Slave, depending on this setting.

##### **Local/Remote: Reserved**

##### **Tx Attenuation**

In the drop-down menu, select one of the following: 0dB, -3db, -6db, -9db, -12db.

##### **Attenuate radio transmission power**

If it is required to attenuate the radio wave to avoid RF interference, use this item to attenuate radio transmission power on the Remote Antenna.

##### **Select RF channel (0: Auto, 1~29)**

Select Auto or one number from the drop-down menu.

If you select Auto, the RF band is automatically selected. If you select one RF band ID between 1 and 29, the Remote Antenna uses that RF band.

RF band ID: See RF bands Table.

##### **Interference: Reserved**

##### **RF On/Off**

In the drop-down menu, select one of the following: RF On, RF Off.

Select RF Off if the Remote Antenna does not need to transmit and receive radio wave.

##### **PC IP**

##### **PC Port**

To connect your PC, click the Admin icon to set up your PC IP and port. This will automatically appear here.

**Set Network**  
**MAC Code**  
**Local IP**  
**Subnet Mask**  
**Gateway**  
**Config Port**  
**FW Update Port**  
**SCF Port(BS)**  
**Remote IP(BS)**  
**Rx AF IP(Multi)**  
**Rx AF Port(Multi)**  
**Tx AF port**

We recommend using exclusive networks. If you are using an exclusive network, use factory settings.

**Set Network (RBS) :**  
**Config Port**  
**FW Update Port**  
**SCF Port(RBS)**  
**Remote IP(RBS)**  
**Tx AF IP(Multi)**  
**Tx AF Port(Multi)**  
**Rx AF port**

**Note:** These settings must be entered when the RA100 is first paired. If you click "Save data" to update the settings in the Admin settings window, they are automatically registered on all devices. Refer to the GCMW example file for the settings to enter.

#### **4. Configuring the Repeater RBS85**

Click the RBS icon, the setting window (E) will appear. Set each item in the setting window by referring to the description below.

##### **Set the Repeater Label & Code**

###### **RBS85\_ID (4001~4099)**

Set the Repeater ID. Enter an ID number from 4001 to 4099.

###### **RBS Label (Rxlabel/x:1~9,A)**

Set the Repeater label, by entering seven English letters or numbers. The first two digits enter R1 to RA, and the next five digits enter for the Repeater label. The Beltpack screen shows the first two digits from R1 to RA, indicating the identity of the connected Repeater.

###### **Firmware Version:**

Once the device has been paired, it will automatically be displayed here.

###### **Selected RA100 ID:**

Displays the paired Remoter Antenna ID with the Repeater.

###### **Base Label**

Displays the paired Base Station label with the Repeater.

###### **Security code 1, Security code 2**

Once the device has been paired, these codes are displayed here.

###### **Country code:**

Once the device has been paired, this code is displayed here.

#### **Set the options and IP**

##### **Reserved:**

##### **Tx Attenuation**

In the drop-down menu, select one of the following: 0dB, -3db, -6db, -9db, -12db.

###### **Attenuate radio transmission power**

If it is required to attenuate the radio wave to avoid RF interference, use this item to attenuate radio transmission power on the Repeater.

##### **Select RF channel (0: Auto, 1~29)**

Select Auto or one number from the drop-down menu.

If you select Auto, the RF band is automatically selected. If you select one RF band ID between 1 and 29, the Repeater uses that RF band.

RF band ID: See RF bands Table.

##### **Interference: Reserved**

##### **RF On/Off**

In the drop-down menu, select one of the following: RF On, RF Off.

Select RF Off if the Repeater does not need to transmit and receive radio wave.

**Reserved:**

**PC IP**

**PC Port**

To connect your PC, click the Admin icon to set up your PC IP and port. This will automatically appear here.

**Reserved**

**Set Network**

**MAC Code**

**Local IP**

**Subnet Mask**

**Gateway**

**Config Port**

**FW Update Port**

**SCF Port(RA)**

**Remote IP(RA100)**

**Rx AF IP(Multi)**

**Rx AF Port(Multi)**

**Tx AF port**

We recommend using exclusive networks. If you are using an exclusive network, use factory settings.

## 5. Set the Speaker Station ISS800

Click the ISS800 icon, the setting window (E) will appear. Set each item in the setting window by referring to the description below.

You can pair the Speaker Station to two Base Stations. Each Talk key can be set one of the Genie group channels provided by two Base Stations.

### Set Speaker Station Label & Code

#### ISS800 ID (2001~2060)

Set the Speaker Station ID. Enter an ID number from 2001 to 2060.

#### ISS800 Label (7 letters)

Set the Speaker Station label, by entering seven English letters or numbers.

#### Firmware Version

Once the device has been paired, it will automatically be displayed here.

#### RA100 ID

Displays the selected 1'st Remoter Antenna ID.

#### Base label

Displays the selected 1'st Base Station label.

#### Pair Base (1:BS1 2:BS2)

In the drop-down menu, select one of the following: Base Station 1, Base Station 2.

The Base station 1 or Base Station 2 can be selected as the Base Station to be paired. If you are using only one Base Station, select Base Station 1. The Genie group channel of the Base Station 2 can also be registered on the Speaker Station's Talk key. Refer to the GCMW example file for registration.

### Set Talk keys:

If there is a connected Base Station, the Genie group channel labels are automatically displayed. Double-click each item to enter the LABEL for Genie Group Channel, Line, Opto-isolated input, Relay, in the settings window.

Assign each Talk key from T1 to T8. Users can set up Genie group channels, Line, Relay, or Opto-isolated input on Talk key. Click the icon in each Talk key column to select one Genie group channel, Line, or Relay. Press the Talk key set to Relay to trigger the relay pin on the rear panel of the Speaker Station. Click the OPTO1 or OPTO2 row icon to set opto-isolated input on Talk key. When this input is detected, the Talk path for that Talk key is created.

One Speaker Station can be connected to two Base Stations. The Speaker Stations shall be paired to each of the two Base Stations. If the Genie group channel of other Base Station will be set up on a Talk key, the corresponding Base Station must be created, and the Speaker Station must be paired with that Base Station.

#### Opto-isolated Input 1 (Label--)

#### Opto-isolated Input 2 (Label--)

#### Relay1 (Label--) (This has been applied to ISS800 version V4030)

#### Relay2 (Label--) (This has been applied to ISS800 version V4030)

Pinout RELAY/OPTO/AUX(D) connector

Pin	Description	Pin	Description
1	Reserved (Tx+)	14	12VDC +
2	Reserved (Tx-)	15	12VDC +
3	Reserved (Rx+)	16	GND (12VDC)
4	Reserved (Rx -)	17	GND (12VDC)
5	Relay 1 (Open)	18	Relay 1 Common
6	Relay 2 (Open)	19	Relay 2 Common
7	SA Relay (Open)	20	SA Relay Common
8	Opto-isolated input 1	21	Opto-isolated input 1 Common
9	Opto-isolated input 2	22	Opto-isolated input 2 Common
10	Not connected	23	Not connected
11	Not connected	24	Unbalanced Audio Input _GND
12	Unbalanced Audio Input	25	Unbalanced Audio Output GND
13	Unbalanced Audio Output		

### Opto-isolated Inputs (OPTO1, OPTO2)

Speaker Station provides two optically isolated inputs.

You can trigger Talk channels by connecting the foot switch or other control to the Opto-isolated Input.

Each input consists of a pair of pins (pin 8/21 or pin 9/21) with an operating range of 5 VDC to 20 VDC. The inputs are operated by applying a voltage between 5 VDC and 20 VDC across the pins and is detected by the opto-coupler. The voltage may be derived from the Speaker Station itself using the 12V (pin 14,15) and 0V (pin 16,17) pins or it may be from an external source. These inputs can be used for user programmable functions such as switching a Talk on or off. Click the OPTO1 or OPTO2 row icon to set opto-isolated input on Talk key. When this input is detected, the corresponding Talk paths are created. You can assign one Opto-isolated input to multiple Talk keys. You can set up a Genie group channel and Opto-isolated input together on a Talk key.

## Relays

The Relay output allows the use of a Talk key to trigger any external device that allows standard contact closure. The Relay can activate an external device, such as a cue light, or a walkie-talkie. All Relay contacts can support 1Amp 30 VDC. These pins does not supply any power to the circuit.

Speaker Station provides three Relay outputs. One is activated by pressing the SA button. Press the SA button to activates a Relay 7 (SA) pin. Two Relays can be allocated to the Talk key. When the Talk key set to Relay 1 is pressed, Relay 1 (pin 5,18) is activated. In the same way, pressing the Talk key set to Relay 2, activates Relay 2 (pin 6,19). Relay cannot be set on one Talk key with a Genie group channel.

Click the corresponding Talk channel column (T1 ~T8) icon in the Relay row to assign Relay to the Talk Key.

## AUX D (unbalanced audio)

Pin 12,13,24,25 are unbalanced audio signal pins that are shared with Line D (4-wire). If this AUX D is used, 4-wire Line D shall not be used. These pins can be connected to a gooseneck microphone or a walkie-talkie, etc. In some cases, additional connections such as resistor may be required when connecting a specific walkie-talkie.

## Set Groups to Line

**Line A / G1 G2 G3 G4 G5**

**Line B / G1 G2 G3 G4 G5**

**Line C / G1 G2 G3 G4 G5**

**Line D / G1 G2 G3 G4 G5:**

Set the Line audio routing:

The Line audio routing provides the ability to connect the input/output (full duplex) audio of the Line to the Genie group channels.

Without using the Talk Key, the Line input and output audio is sent and received to the Genie group channels. Click the icon in the row of the Line A to Line D to set the Genie group channels (Routing Destinations: G1~ G5). The input and output of the Line audio is routed to the set Genie Group channels (G1 to G5). Up to five Genie Group channels can be set up on a Line.

If the Genie Group channels are assigned to a Line (AUX, 4-Wire, 2-Wire) device, the Speaker Station or Beltpacks can communicate with the Line device by selecting the same Genie Group channel. For each Line, you can select up to five Genie group channels by clicking within five groups in each row. Click in the group channels column to set up single or multiple Genie group channels (G1, G2, G3, G4, G5) for each Line.

**Note:** After you have set the Line audio routing, you can set the same Genie group channel on the Talk key. In this case, do not set the same Line to the Talk key. If the same Line is set to the Talk key, the audio may be distorted.

**Note:** Line can only set up Genie group channels of the Base Station ID 1. The Genie group channels of the Base Station ID 2 are not set on the Line.

**Note:** On the Speaker Station, if a Genie group channel is set to a Line, one Full-duplex channel is occupied. Even if two Genie group channels are assigned to a Line, one full-duplex channel is occupied. If Genie group channels are assigned to the Line A, B, C and D, four full-duplex channels are occupied.

## Set gains

### Set the Line sending and receiving gains

Click the column icon in Receive (In) or Send (Out) on each Line to select level from the drop-down menu.

**Line A (0: Mute, 1~9) / Receive (In)**

**Line B (0: Mute, 1~9) / Receive (In)**

**Line C (0: Mute, 1~9) / Receive (In)**

**Line D (0: Mute, 1~9) / Receive (In)**

To set the Line input level for each Line (Line A, B, C, D), select a number from 0 (mute) to 9. The Line input levels can be set from -20 dB to +6 dB (default 0 dB).

**Line A (0: Mute, 1~9) / Send (Out)**

**Line B (0: Mute, 1~9) / Send (Out)**

**Line C (0: Mute, 1~9) / Send (Out)**

**Line D (0: Mute, 1~9) / Send (Out)**

To set the Line output level for each Line (Line A, B, C, D), select a number from 0 (mute) to 9. The Line output levels can be set from -20 dB to +6 dB (default 0 dB).

## Set the options and IP

### Screen Saver (10~900)

Set the time period when the screen will automatically turn off. If the key is not used for a set time period or there is no incoming Call, the display will turn off.

Selection range: 10 to 900 minutes (10 minutes per step)

### VOX Level (0: Off, 1~9)

You can set the VOX level.

If the audio level of the Talk channels is higher than this level, audio is detected, and the LED on the Talk key flashes green. Selection range: 0: disable, 1 to 9 (From -58dB to -10dB)

### **Set 2-Wire to Line A, B**

You must specify the 2-Wire Lines before using the Lines. By these settings, the volume level and call signal will function normally.

In the drop-down menu, select Line to use as a 2-Wire from among the following: Line A and B, Line A, Line B, None

### **Date Paired (YYYY)**

### **Date Paired (MM/DD)**

In this item, the date the device was paired with GCMW appears. This paired date is also displayed on the device's menu screen.

### **PC IP**

### **PC Port**

To connect your PC, click the Admin icon to set up your PC IP and port. This will automatically appear here.

### **Set Network**

#### **MAC Code**

#### **Local IP**

#### **Subnet Mask**

#### **Gateway**

#### **RA100 Network**

##### **Config Port**

##### **FW Update Port**

##### **SCF Port**

##### **Remote IP(RA100)**

##### **Rx AF IP(Multi)**

##### **Rx AF Port(Multi)**

##### **Tx AF Port:**

We recommend using exclusive networks. If you are using an exclusive network, use factory settings.

## **6. Configuring the Ethernet Beltpack IBP10**

Click the IBP10 icon, the setting window (E) will appear. Set each item in the setting window by referring to the description below.

You can pair the Ethernet Beltpack to two Base Stations. Each Talk key can be set one of the Genie group channels provided by two Base Stations.

### **Set Ethernet Beltpack Label & Code**

#### **IBP10 ID (5001~5060)**

Set the Ethernet Beltpack ID. Enter an ID number from 5001 to 5060.

#### **IBP10 Label (7 letters)**

Set the Ethernet Beltpack label, by entering seven English letters or numbers.

#### **Firmware Version**

Once the device has been paired, it will automatically be displayed here.

#### **RA100 ID**

Displays the selected 1'st Remote Antenna ID.

#### **Base label**

Displays the selected 1'st Base Station label.

#### **Pair Base (1:BS1 2:BS2)**

In the drop-down menu, select one of the following: Base Station 1, Base Station 2.

The Base station 1 or Base Station 2 can be selected as the Base Station to be paired. If you are using only one Base Station, select Base Station 1. The Genie group channel of the Base Station 2 can also be registered on the Ethernet Beltpack's Talk key. Refer to the GCMW example file for registration.

### **Set Talk keys:**

If there is a connected Base Station, the Genie group channel labels are automatically displayed. Double-click each item to enter the LABEL for Genie Group Channels in the settings window.

Assign each Talk key from T1 to T8. You can set the Genie group channels to the Talk key. Click the icon in each Talk key column to select one Genie group channel.

One Ethernet Beltpack can be connected to two Base Stations. The Ethernet Beltpack shall be paired to each of the two Base Stations. To set the Genie Group channel of another Base Station on the Talk key, the Base Station must be created and the Ethernet Beltpack must be paired with that Base Station.

**Note:** The T5 to T8 Talk keys are operated as the Shift Talk channels.

## **Set options and IP**

### **Screen Saver (10~900)**

Set the period when the screen will automatically turn off. The Ethernet Beltpack display will turn off if key is not used or there is no incoming call during a set period.

Selection range: 10 to 900 minutes (10 minutes per step)

### **PC IP:**

### **PC Port:**

To connect your PC, click the Admin icon to set up your PC IP and port. This will automatically appear here.

## **Set Network**

### **MAC Code**

### **Local IP**

### **Subnet Mask**

### **Gateway**

### **RA100 Network**

#### **Config Port**

#### **FW Update Port**

#### **SCF Port**

#### **Remote IP(RA100)**

#### **Rx AF IP (Multi)**

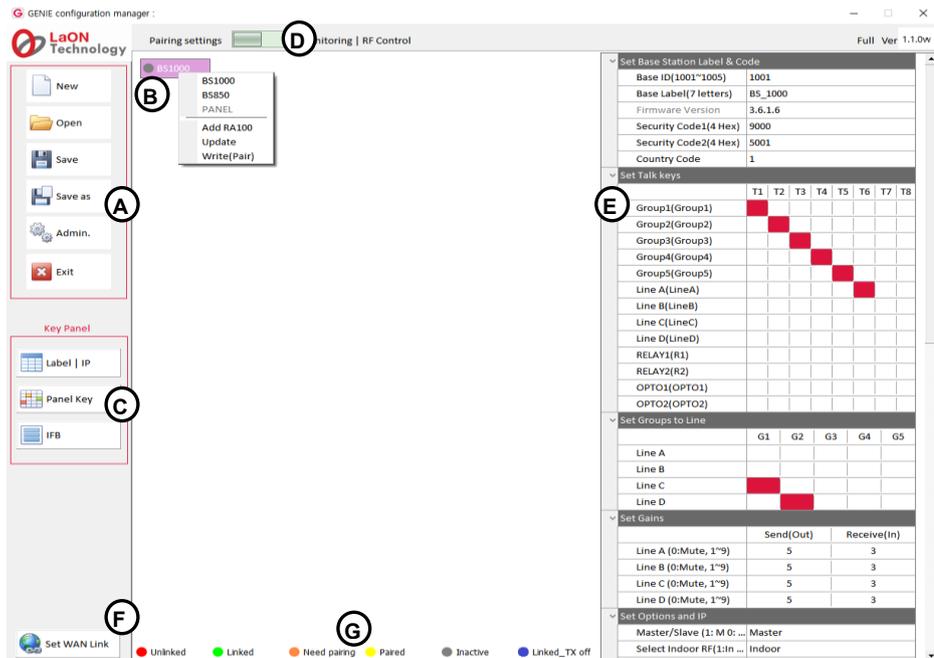
#### **Rx AF Port (Multi)**

#### **Tx AF Port:**

We recommend using exclusive networks. If you are using an exclusive network, use factory settings.

## Section 2: Configure the Genie Panels

### Describe the GCMW screen



#### Management icons (A)

**New:** Create a GCMW file. Click the New icon and enter the file name to create. A Genie device icon (B) will appear on the screen.

**Open:** To open the GCMW file, click the Open icon to select a file.

**Save:** Save as GCMW file name in use.

**Save As:** Save as a new GCMW file name.

**Admin:** The Administrator screen appears for default IP settings and password changes. The factory setting password is 1234.

**Exit:** Exit the GCMW.

#### Genie device Icons (B)

The created Genie devices appear in this display area.

#### Key Panel Icons (C)

The three icons below are used only for the Panel settings.

**Label I IP:** Select this icon to set the ID, label, and IP of the Panels.

**Panel key:** Select this icon to set the Talk keys and Line Router GLR4.

**IFB:** Select this icon to set the IFB members, IFB destinations, and FB sources (Program).

#### Mode selection icon (D)

You can select the required function by selecting the icon left or right.

**Pairing settings:** A screen is displayed for creating devices and editing settings.

**Monitor & RF Control:** The Monitoring screen is displayed.

#### Setting window (E)

When you click each device icon at the center of the screen, the setting window for that device appears on the right side of the screen.

#### Set WAN Link icon (F)

Set the WAN Link.

#### Icon colors, depending on the status of each device (G)

Appears at the bottom of the screen.

**Unlinked (red):** Indicates that the device is not connected.

**Linked (green):** Indicates that the device is connected.

**Need Pairing (Amber):** Settings have been edited, indicating a condition that needs to be paired.

**Paired (Yellow):** The settings are paired with the device.

**Inactive (Gray):** Indicates that none of the edited settings are present.

**Linked\_Tx\_off (Blue):** Indicates the state in which wireless transmission is off while the device is connected.

**Installation procedure:**

- ◆ **Set the label and IP of the Panels:** Click the Label | IP icon (C) at the lower left corner of the screen.
- ◆ **Create and add the Panels:** Right click on the Panel icon (B).
- ◆ **Basic settings of the Panel:** Click the Panel icon (B) and set them in the right window (C).
- ◆ **Set the IFB configuration:** Click the IFB icon (C) and set the IFB configuration.
- ◆ **Set the Panel keys:** Click the Panel key icon (C) at the lower left corner of the screen and set the Talk keys.
- ◆ **Pair (Write) to the Panel:** Connect each Panel to the PC alone, right click on the Panel icon (B) and Pair it.
- ◆ **Set the WAN Links:** If necessary, click the WAN Link (F) icon and set the WAN Links.
- ◆ **Checking the connection status:** Select the Monitor & RF Control (D), and check the installed Genie devices.

The descriptions in this manual are listed in the order of the above installation procedures.

◆ **Set the label and IP of the Panels:**

Click the Label IP icon (C) at the bottom left corner of the screen. Set the ID, label, IP and port number for up to twenty Panels. In an exclusive network, IP and port settings can use as the factory defaults.

Panel label & IP

SEQ_NO	ID	LABEL	IP	PORT
1	6001	Panel01	225.1.2.1	6001
2	6002	Panel02	225.1.2.2	6002
3	6003	Panel03	225.1.2.3	6003
4	6004	Panel04	225.1.2.4	6004
5	6005	Panel05	225.1.2.5	6005
6	6006	Panel06	225.1.2.6	6006
7	6007	Panel07	225.1.2.7	6007
8	6008	Panel08	225.1.2.8	6008
9	6009	Panel09	225.1.2.9	6009
10	6010	Panel10	225.1.2.10	6010
11	6011	Panel11	225.1.2.11	6011
12	6012	Panel12	225.1.2.12	6012
13	6013	Panel13	225.1.2.13	6013
14	6014	Panel14	225.1.2.14	6014
15	6015	Panel15	225.1.2.15	6015
16	6016	Panel16	225.1.2.16	6016
17	6017	Panel17	225.1.2.17	6017
18	6018	Panel18	225.1.2.18	6018
19	6019	Panel19	225.1.2.19	6019
20	6020	Panel20	225.1.2.20	6020

Confirm Cancel

◆ **Create and add the Panels:**

The screenshot shows the 'Genie Configuration Manager' interface. On the left, a sidebar contains icons for 'New', 'Open', 'Save', 'Save as', 'Admin.', and 'Exit'. Below this is a 'Key Panel' section with 'Label | IP', 'Panel Key', and 'IFB' icons. A context menu is open over the 'Panel' icon, listing options: BS1000, BS850, PANEL, Add RA100, Update, and Write(Pair). The main window shows 'Pairing settings' and 'Monitoring | RF Control' tabs. The right-hand window displays configuration settings for a base station, including Base ID (1001), Base Label (BS\_1000), Firmware Version (3.6.1.6), Security Codes, and a matrix for Talk Keys (T1-T8) and Groups (Group1-Group5, Line A-Line D, RELAY1-RELAY2, OPTO1-OPTO2). Below this is a 'Set Groups to Line' section and a 'Set Gains' section with Send(Out) and Receive(In) values.

Right-click on the icon (B) after creating or open the file, the following items are displayed on the screen:

**BS1000:**

Selecting this option creates a Base Station BS1000 icon on the icon (B).

**BS850:**

Selecting this option creates a Base Station BS850 icon on the icon (B).

**Panel:**

Selecting this option creates a Panel icon on the icon (B).

**Add RA100:**

When selected, up to six Remote Antenna icons are added below the BS 1000 icon, or up to three Remote Antenna icons are added for the BS850 icon.

### Add Panel:

When selected, up to nineteen Panel icons are added below the Panel icon. If a Genie Base Station is selected on the icon (B), the Panels can only be added below the Remote Antenna icon.

### Update:

You can pair (Update) the modified settings back to the device. The update is available after each device has been paired (Write). It can also be used when all devices are connected.

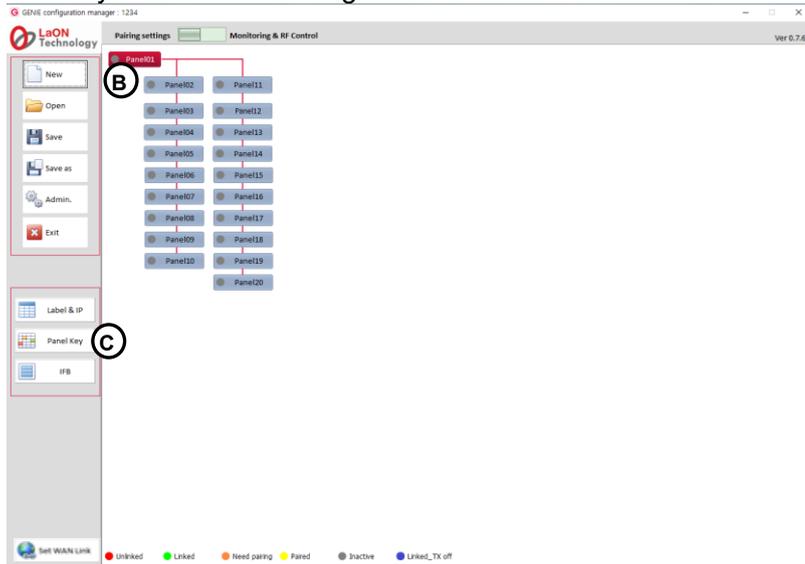
### Write (Pair):

The ability to pair new settings for the first time by connecting only one device. Do not run a pair (write) if more than one device is connected. The same settings are paired to multiple devices and do not work properly.

**Note:** For the Panels, only one current Page selected in the Panel key(C) screen is paired (or updated) to the Panel. When updating to the Panel, it is convenient to run it on the Panel key (C) screen.

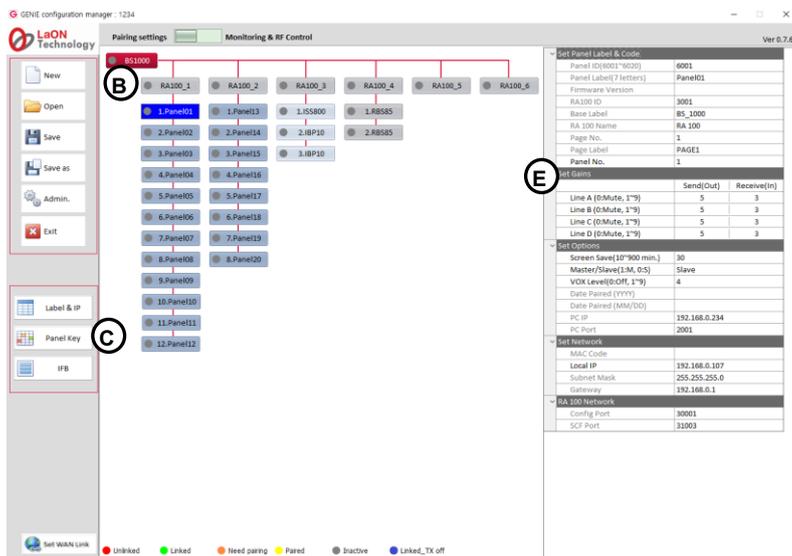
### When configured with Panels only

Select the Panel on the icon (B) and create it. Right-click on the created Panel icon and select the Add Panel and add it. Up to twenty Panels can be configured as shown below.



### Panels are used in conjunction with the Base Station (BS1000, BS850)

Create a Base Station (BS1000 or BS850) icon on the icon (B). Right-click the Base Station icon and select Add RA100. Right-click the RA100 icon and select Add Panel. Up to twenty Panels can be configured per RA100 icon.



### Talk/listen audio paths when connected with Base Station (BS1000, BS850)

When the Panels (or Line Router GLR4) use Genie group channels, a Remote Antenna gives you simultaneous access to up to 10 talk/listen audio paths (full-duplex, Shared with wireless Beltpacks). When setting a Line audio routing on the Panel (or Line Router GLR4) to the Genie group channel, it occupies one talk/listen paths of the Remote Antenna. In addition, if you set the Genie group channel on the Talk key of the Panel and open the Talk path, it occupies one talk/listen path of the Remote Antenna. **The Talk/listen path between Panel does not occupy the Genie group channel.** In the system design, Remote Antennas should be placed according to the maximum simultaneous use of these Genie group channels.

## ◆ Basic settings of the Panel:

Click on each Panel icon **(B)** at the center of the screen, the basic setting window **(E)** will appear as below. In the setting window, set the items below for each Panel.

Set Panel Label & Code		
Panel ID(6001~6020)	6002	
Panel Label(7 letters)	Panel02	
Firmware Version		
RA100 ID		
Base Label		
RA 100 Name		
Page No.	1	
Page Label	PAGE1	
Panel No.	2	
Set Gains		
	Send(Out)	Receive(In)
Line A (0:Mute, 1~9)	5	3
Line B (0:Mute, 1~9)	5	3
Line C (0:Mute, 1~9)	5	3
Line D (0:Mute, 1~9)	5	3
Set Options		
Screen Save(10~900 min.)	30	
Master/Slave(1:M, 0:S)	Slave	
VOX Level(0:Off, 1~9)	4	

Date Paired (YYYY)				
Date Paired (MM/DD)				
PC IP	192.168.0.234			
PC Port	2001			
Set Router				
	A	B	C	D
Line Feed				
Set Network				
MAC Code				
Local IP	192.168.0.103			
Subnet Mask	255.255.255.0			
Gateway	192.168.0.1			
RA 100 Network				
Config Port	30001			
SCF Port	31003			

### Panel ID:

If you click the Label I IP icon **(C)** at the lower left corner of the screen to set it, Panel ID will automatically appear here.

### Panel Label:

If you click the Label I IP icon **(C)** to set it, Panel label will automatically appear here.

**Firmware Version:** When paired, it will automatically be displayed here.

### RA100 ID:

When the Panel is used by connecting with the Base Station (BS1000 or BS850), the Remote Antenna ID connected to the Panel is automatically displayed.

### Base Label:

When the Panel is used by connecting with the Base Station (BS1000 or BS850), the Base Station Label connected to the Panel is automatically displayed.

### RA100 Name:

When the Panel is used by connecting with the Base Station (BS1000 or BS850), the Remote Antenna Label connected to the Panel is automatically displayed

### Page No.:

If you click the Panel key icon **(C)** at the lower left corner of the screen to set it, the last selected Page number will automatically appear here. Only one Page shown here is paired to the Panel.

### Page Label:

If you click the Panel key icon **(C)** to set it, the last selected Page label will automatically appear here. Only one Page shown here is paired to the Panel.

### Panel No.:

The automatically assigned number from P1 to P20 is displayed. This number is also used as a delimiter in the Panel key **(C)** setting window.

## Set gains

### Set the Line (4-Wire) sending and receiving levels

Click the column icon for each Line Receive (In) or Send (Out) to enter a number representing the level.

**Line A (0: Mute, 1~9) / Receive (In)**

**Line B (0: Mute, 1~9) / Receive (In)**

**Line C (0: Mute, 1~9) / Receive (In)**

**Line D (0: Mute, 1~9) / Receive (In)**

To set the Line input level for each Line (Line A, B, C, D), enter a number from 0 (mute) to 9. The Line input levels can be set from -20 dB to +6 dB (default 0 dB). This feature is not supported on the GDP4 Panel

**Line A (0: Mute, 1~9) / Send (Out)**

**Line B (0: Mute, 1~9) / Send (Out)**

**Line C (0: Mute, 1~9) / Send (Out)**

**Line D (0: Mute, 1~9) / Send (Out)**

To set the Line output level for each Line (Line A, B, C, D), enter a number from 0 (mute) to 9. The Line output levels can be set from -20 dB to +6 dB (default 0 dB). This feature is not supported on the GDP4 Panel

## Set options

### Screen Save (10~900)

Set the time period when the screen will automatically turn off.

Selection range: 10 to 900 minutes (10 minutes per step)

If the key is not used for a set time period or there is no incoming Call, the display will turn off.

## Master/Slave

Click the icon window to open a drop-down menu and select the required item (Master or Slave). The selected item will appear in the icon window. Ethernet synchronization is applied between all devices connected to the Ethernet, avoiding radio interference, packet loss, delay, and jitter among devices being connected to the Ethernet. To ensure that these Ethernet synchronizations apply to all devices, in the case of a system only with Panels (not connected to the Genie Base Station), one of the Panels must be assigned as a Master. If you connect the Panels with a **Genie Base Station that is set to Master, you must set all Panels to Slave**. With only these settings, the Ethernet synchronization is applied to all Panels connected to the network.

## VOX Level (0: Off, 1~9)

You can set the VOX level.

If the audio level of the Talk channels is higher than this level, audio is detected, and the LED on the Talk key flashes green. Selection range: 0: disable, 1 to 9 (From -58dB to -10dB)

## Date Paired (YYYY)

## Date Paired (MM/DD)

This item displays the date the device is paired with GCMW. When the device is paired, this date is displayed on the device's menu screen.

## PC IP:

## PC Port:

Click the Admin icon to set the PC IP and port for connecting the PC.

## Set Router

### Line Feed

If each Line selects Line Feed, it sends the Line input back to the Line output. The Line Router GLR4 only allows these settings and does not apply to the Panels. With these settings, IFB dim level can be applied to Line output on GLR4.

## Set Network

### MAC Code

### Local IP

### Subnet Mask

### Gateway

## RA100 Network

### Config Port

### SCF Port

We recommend using exclusive networks. If you are using an exclusive network, use factory settings.

## ◆ Set the IFB configuration:

Click IFB icon (C) at the lower left corner of the screen. Up to five IFB members can be configured. For each IFB member, you can specify the Panel's Line as FB source (Program input). And you can set the IFB destinations as below.

Set IFB

IFB G01

IFB G02

IFB G03

4.Default

5.Default

Confirm

Cancel

Label	IFB G01																			
FB Source	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6	Panel 7	Panel 8	Panel 9	Panel 10	Panel 11	Panel 12	Panel 13	Panel 14	Panel 15	Panel 16	Panel 17	Panel 18	Panel 19	Panel 20
	Line A	Line B	Line C	Line D																
IFB Destinations	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6	Panel 7	Panel 8	Panel 9	Panel 10	Panel 11	Panel 12	Panel 13	Panel 14	Panel 15	Panel 16	Panel 17	Panel 18	Panel 19	Panel 20
Resend Audio and Listen only	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6	Panel 7	Panel 8	Panel 9	Panel 10	Panel 11	Panel 12	Panel 13	Panel 14	Panel 15	Panel 16	Panel 17	Panel 18	Panel 19	Panel 20

## Add IFB members:

One IFB Member was created by default. You can edit and use this.

Right clicking on the IFB member icon (a), the following items will appear.

**Add IFB Member:** Add up to four IFB member icons below the created IFB member icon (a).

**Delete:** Delete the added IFB member.

**Set IFB items:**

Click on each IFB member icon (a), the IFB setting window (b) will appear as above. In the setting window, set the items below for each IFB member. The edited settings are color-coded in the Panel key (C) screen.

**Label (10 letters):** Enter the IFB Member label.

**FB source:** Specifies the FB source (Program) that IFB members (IFB destination) will receive. For the FB source, you can set one Line of the Line Router GLR4 (or Panel) that routes the FB audio. The Line Router GLR4 is used by changing it to a Line Router for one Panel in the Panel key (C) setting. Only one FB source can be specified. Click one Panel label icon and Line icon. On the IFB Destination, the selected FB source is automatically set to the listen path to Talk key 1 (T1).

**Note:** If you specify the Genie group channel as FB source, connect the FB source (Program input) to a Line of the Base Station (BS1000 or BS850) and set the IFB in GCMW's Base Station settings window.

**IFB destinations:** To set up IFB destinations (Panel), click the Panel icons. The panel icons that are set will turn skyblue. On the IFB Destination, set the IFB (Caller) to each Talk key. When receiving IFB from IFB (Caller), FB audio (program input) can be dimmed to 0db, -12db, -15db, -18db, -21db, or mute. These Dim levels can be set per Panel (IFB caller) in the Panel key (C) settings.

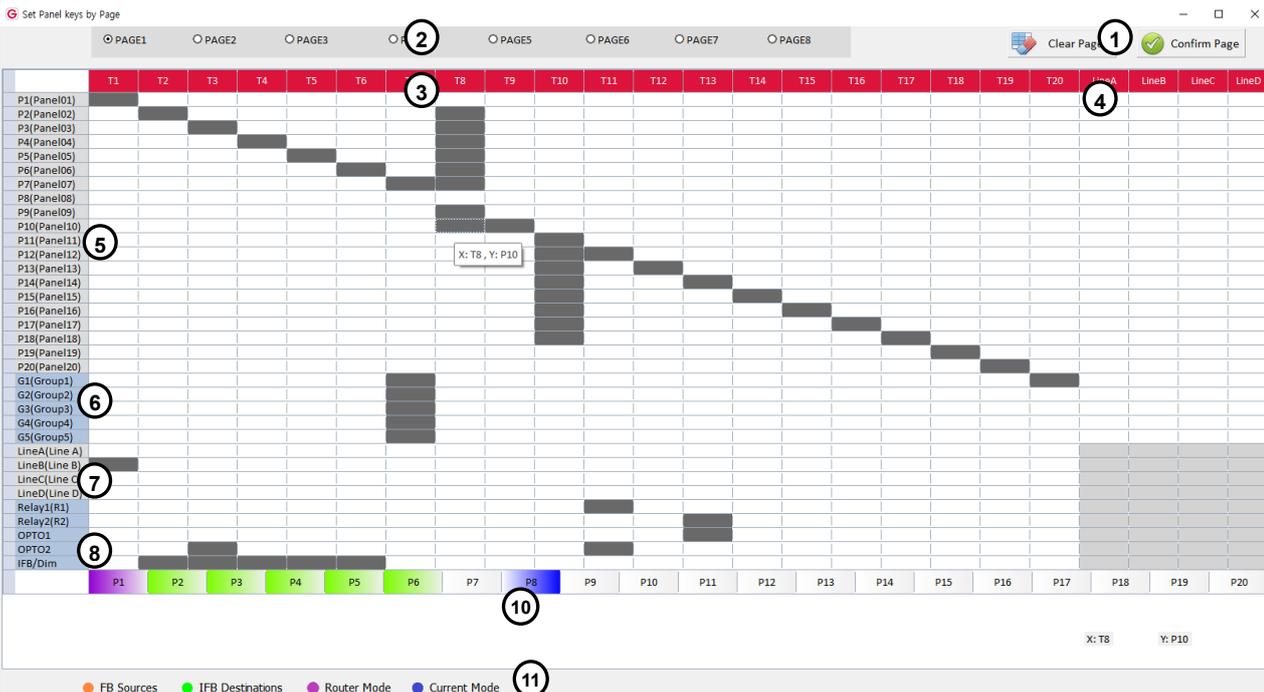
**Resend audio and listen only:** Set whether to send the IFB destination's listen audio to the IFB (Caller) for monitoring on the IFB (Caller). When you click the Panel icons, the selected Panels (IFB destination) send listen audio to IFB (Caller) and all Talk keys on the IFB destination are set to listen only. The Panel icon turns red. The selected Panels are applied to all IFB member (a).

**Note:** When this Resend is enabled, all Talk keys on that Panel are set to listen only, and the Talk path cannot be created.

**◆ Set the Panel keys:**

Click the Panel key icon(C) to set the Talk keys for up to twenty Panels.

**Note:** To set up 32 Talk keys, see the 128 channels/32 keys User Manual.



**Describe the Panel key screen**

**Colors depending on the status of the Genie devices (11)**

The Source Panel (10) icon to edit shows the colors below.

**Amber:** This color indicates the Panels set to the FB source (Program) in the IFB (C) settings.

**Green:** This color indicates the Panels set to the IFB destination in the IFB (C) settings.

**Purple:** This color indicates that it has been specified as a Line Router.

**Blue:** This color represents a Source Panel (10) currently selected for editing.

**Clear Page (1):** Initialize the settings for the edited current Page.

**Confirm Page (1):** Click the confirm icon to save your settings and end editing.

**Page selection icons: (2)**

You can edit up to 8 Pages per selected Source Panel (10).

When you run the Write (Pair) icon, only one Page confirmed in this Panel key screen is paired to the Panel.

**Talk keys: (3)**

Click each Talk key icon (T1 through T20) to set the Talk key label, the FL (Forced Listen) level, AL (Auto Listen) level, Tx group and Talk to GLR4 Line.

## Line audio routings: (4)

### Line audio routing on the Line Router GLR4:

Each Line input/output audio on the Line Router GLR4 can be connected to all Panels and Genie group channels. The input/output audio from GLR4 Line can be connected to all Panels and Genie group channels.

### Line audio routing on the Panel:

On the Panel, Line input audio can be sent to Destinations (Panel or Genie group channels) without setting them on the Talk key. With the setting of Line audio routing, up to eight Panels and Genie group channels can be connected to one Line.

## Destination Labels: (5)

Destination labels that can be set on the Talk key (3) are displayed. These Labels are set in the Label I IP (C) setting.

## Genie group channel Labels: (6)

When using Panels in conjunction with Genie Base Station (BS1000, BS850), Genie group channel label set up on the Genie Base Station is displayed. The Genie group channels can be set on the Talk key (3).

## Lines, Opto-isolated Inputs, Relays: (7)

The Lines can be assigned to the Talk key (3). On each Talk key, the relay and opto-isolated input functions can be set together in addition to the Talk paths.

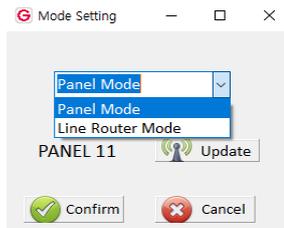
## IFB/Dim: (8)

Specify FB source (Program) and IFB destinations in IFB (C) settings. Set IFB destination (5) on the Talk key (3) and click the IFB/Dim row icon in the Talk key (3) column to set the IFB (Caller) as the Talk key property. With this setting, the label of the IFB (Caller) appears as inverted text in the Normal menu, and the Talk key LED appears amber. Double click the IFB/DIM icon itself (8) to select the dim level (0, -12dB, -15dB, -18dB, -21dB, Mute) for a selected Source Panel (10). If you press IFB key (IFB caller) on this selected Panel (10), FB audio (program input) will be dimmed on the IFB destination by the set level here.

## Source Panels: (10)

Of the 20 Panel icons, click the Panel icon you want to edit. Right-click to specify the properties of the selected Panel as a Line Router or Panel.

You can also update the Panel's modified settings to the Panel by clicking on the Update icon.



## Set the Talk keys (3)

Double click each Talk key icon (3) to set the Talk key label, FL level, Tx group and Talk to GLR4 Line.

The FB source (Program) selected in the IFB (C) setting is automatically set to the listen path to the first Talk key (T1) on the IFB destinations.

### Genie group channels

Genie group channels, which can have up to sixty talk/listen paths simultaneously, is provided by connecting the Panel to the Genie Base Station (BS1000, BS850). Up to five Genie group channels can be set on the Panel Talk key.

Click the Genie group channels (6) row icon in the Talk keys (3) column to set the destinations on each Talk key.

**Note:** Panels can only be connected to one Genie Base Station. As a result, Panels can use five Genie group channels.

**Peer to Peer:** One Panel or Line can be set on the Talk key for setting point-to-point communication path. Click the Panels (5) or Line (7) row icon in the Talk keys (3) column to set the destination on each Talk key.

**Group key:** Up to eight Panel, Line or Genie group channels can be set on one Talk key. Click the Panel (5), Line (7) or Genie group channel (6) row icons in each Talk key (3) column to set the destinations for each Talk key.

**Line:** This is to set up Line directly to Talk key. Audio input from the Line can also be heard, and the Talk key can be pressed to create a Talk path to the Line. Click a Line (7) row icon in the Talk key (3) column to set the destination for each Talk key. Up to four Lines can be set on one Talk key at the same time.

### Add-on functions on the Talk key

- Two relays and two opto-isolated inputs
- Forced Listen, Auto Listen
- Tx group
- Talk to GLR4 Line

**Relay, Opto-isolated Input:** On each Talk key, the relay and opto-isolated input functions can be set together in addition to the Talk channels. Click a OPTO1 (or OPTO2) row icon in the Talk key (3) column to set this opto-isolated input to the Talk key. When the opto-isolated input is detected, the corresponding Talk keys are triggered. You can assign one opto-isolated input to multiple Talk keys. The opto-isolated input can be used to trigger Talk Keys by connecting the foot switch or other controls.

Click the Relay1 (or Relay2) row icon in the Talk keys (3) column to set this relay function to the Talk key.

When the relay function is set on the Talk key, pressing this Talk key triggers the corresponding relay pin on the GPIO. The relay can activate an external device, such as a cue light, or a walkie-talkie.

**Relay activation:**

Genie can activate the Relays as follows. WAN Link can transmit Relay signals marked in blue.

	Other Panel's GPIO	Own GPIO
Panel's call switch	O	
Panel's Talk key		O
Base Station's Talk key or SA button		O

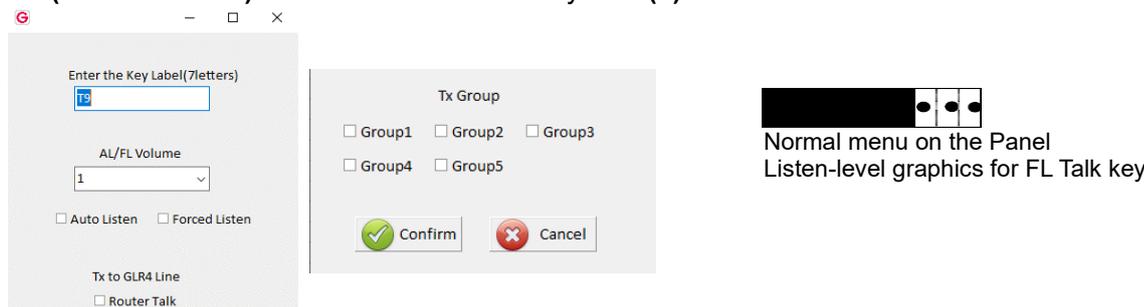
In the Panel key settings screen of the GCMW, set the Opto-input and Relay together on the Talk key of the Destination Panel. When you press a call on the Source Panel, the Destination Panel displays the Call signal, and at the same time the Relay is also triggered.

**Call signals:** Genie can transmit call signals between devices as follows.

WAN Link can transmit call signals marked in blue.

	Panel	BS (Base Station)	WBP (Wireless Beltpack)	2-Wire Intercom
From Panel key to	O	O	O	X
From BS key to	O(Group)	X	O	O
From BS 2-Wire to	X	O	X	O

**FL (Forced Listen):** Double-click the Talk key icon (3) to select the Forced Listen and set FL level.



FL can be set on the Talk key if the listener tries to avoid missing an important call. FL can be set in addition to the Talk channel. On the Talk key set to FL, the listen level is not adjusted below the FL level set here. The Listen level of talk key set to the FL is displayed in the Normal menu as above.

**AL (Auto Listen): (This has been applied to Version V3324 (GRP8), V0612 (GDP4))**

Double-click the Talk key icon (3) to select the Auto Listen and set AL level.

If the listen level of the Talk channel is muted or below the AL level, pressing Talk key automatically adjusts the listen level to THE AL level. You can always adjust listen level. If you listen only when you press Talk key, adjust the listen level to mute and operate it. When you press Talk key, the AL level is displayed on the screen, and the listen level is automatically adjusted to the AL level that is set. When Talk is released, it returns to the previous level.

**Tx group:** Double click each Talk key icon (3) to set the Tx group.

On one Panel, if you create a Talk path to a Genie group channel (pressing the Talk key), the listen path opens on all Panels with the Genie group channel set up. Other than the Panel that creates the Talk path, you can separate the Talk (Tx) and Listen (Rx) groups so that these listen paths do not open. In the wireless Beltpack, you set up the Two groups menu, open the listen path to the Talk group (Tx) of the Panel, and create a Talk path as the listen (Rx) group on the Panel. On the wireless Beltpack, this Tx group can be used as ISO group channel between Beltpacks. Click the Genie group channel (6) row icon in the Talk key (3) column to set the Destination as the Genie group channel. If you separate the Talk (Tx) group from the Genie group channel selected here, select another Talk (Tx) group from the Tx group in the figure above.

**Talk to GLR4 Line:** Double click each Talk key icon (3) to set the 'Talk to GLR4 Line'.

If you want to create a Talk/listen path with Line input and output on a Line Router GLR4, select 'Talk to GLR4 Line' and click the Panel (5) (specified as a Line Router) and Line (7) row icon together in the Talk key (3) column.

**Line audio routing on the Line Router GLR4:**

The Line audio routing is the function that provides full-duplex communication by connecting the input and output audio of a Line to specific Panels or Genie group channels, without setting up on the Talk key. The Line audio routing can be used effectively on the Line Router GLR4.

The input/output audio from GLR4 Line can be connected to all Panels and Genie group channels.

**On the GLR4, the setting to send Line input audio to the Panels (Destinations):**

Right-click on Source Panel (10) to specify the properties of the Panel as a Line Router.

However, devices specified as FB Source (Program) or IFB Destination in IFB (C) settings cannot change this property. If you make changes, turn them off first in the IFB (C) settings and then change them.

To select the destinations that receive input audio from each Line of GRP4, click the Panels (5) or Genie Group Channels (6) row icons in the Line audio routing column (4). You can select all Panels and Genie group channels as the Destination.

**On the Panel, the setting to create a talk/listen path to the GLR4 Line (Destination):**

Select Source Panel (10). Double click the Talk key icon (3) to set the 'Talk to GLR4 Line'. In the Talk key (3) column, click the Panel (Destination) (5) and Line (7) row icons specified as the Line Router.

If it matches the Line audio routing (4) information set on the GLR4, the Talk/listen paths between Line of the GRP4 and Panel will work normally.

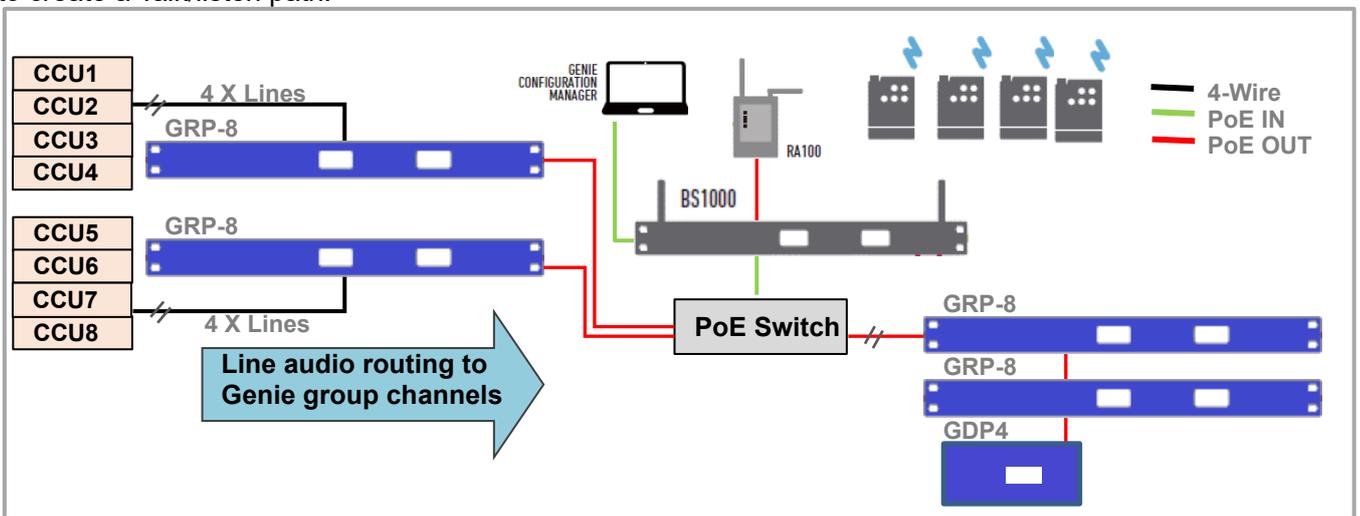
**Line audio routing on the Panel:**

The Line audio routing is also available on the Panel. This can be useful when connecting the Lines from multiple external devices (such as CCU) to a Panel, and create the Talk/listen paths to the Genie group channels.

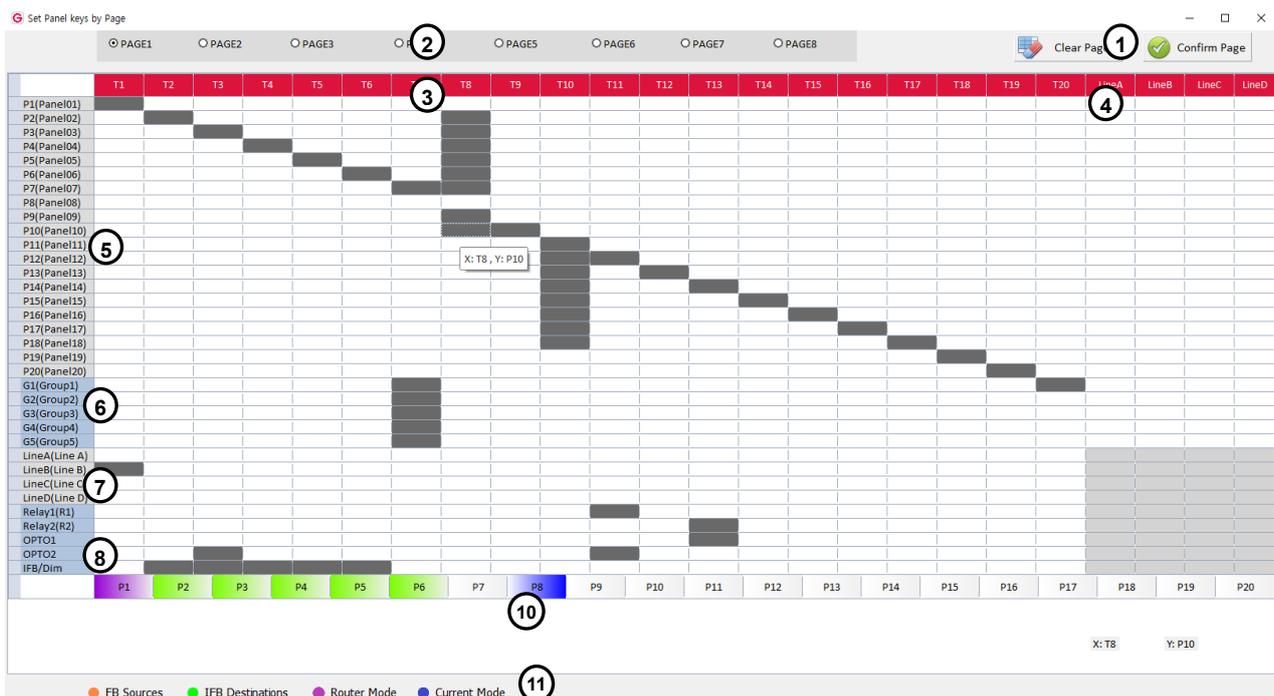
You can use the Line audio routing feature on the Panel to connect to **the Genie group channel without restrictions**. However, Line audio routing on the Panel is only available for limited design because of the following limitations when connecting **with other Panels**.

- The Line audio routing setting on the Panel allows only one-way transmission of Line's input audio to the Panels.
- Line audio routing can only be run on up to eight Destination Panels.
- You cannot send audio from Line A and B to one Destination Panel the same time.
- On the Panel 1 that is sending Line's input audio to the Panel 2, you can't create a Talk path to the Panel 2.

The Line Router GLR4 allows you to use features without these limitations. Each of GLR4's four Line audios can be routed to a specified Panel (or Panels), and each Panel can specify each Line on the Line Router GLR4 to create a Talk/listen path.



**Set IFB  
Set IFB (Callers)**

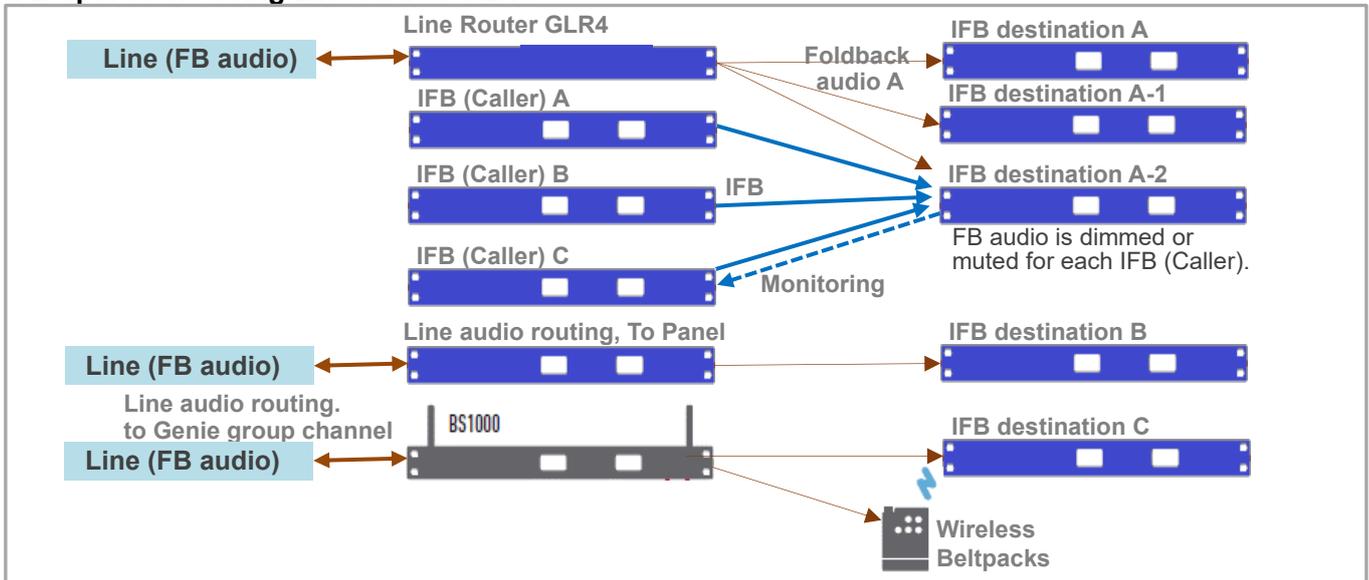


Click a source Panel (10) and click the IFB row icon (12) in the Talk key (3) column to set each Talk key to the IFB (Caller). Source Panel (10) icons set to IFB destination appears green. In the Talk key (3) column, click the IFB destination (Panel) (5) row icon. Click the IFB/DIM (8) icon to set the FB audio dim level at the IFB destination. On the IFB destination, FB audio is dimmed to the level set here. With these settings, the Talk key is set to the IFB (Caller), and pressing it creates the IFB audio path.

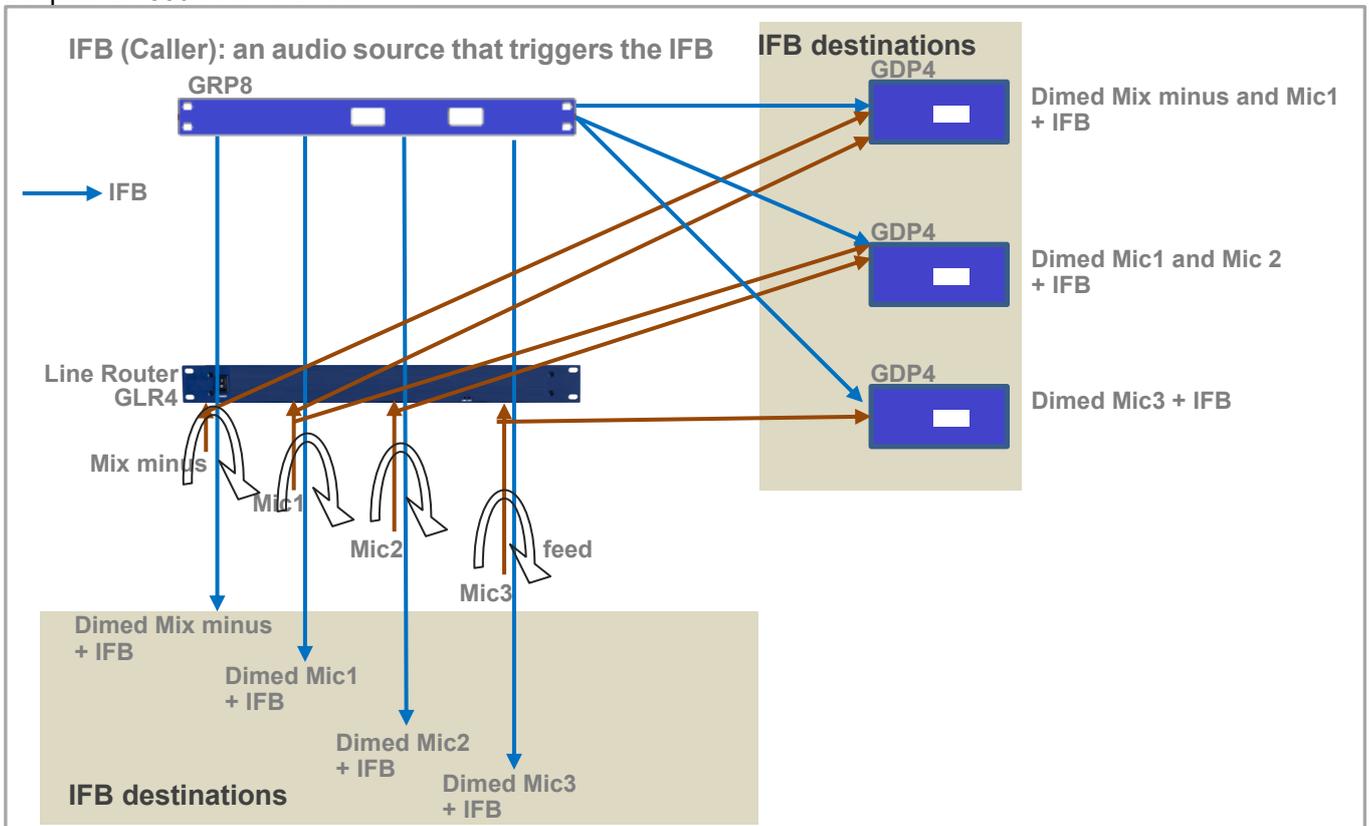
When a Talk key is set to IFB (Caller), the Talk key label is displayed in inverted text in the Panel's Normal menu, and the Talk key LED is lit amber.

If Resend Audio is set on the IFB destination, you can adjust the volume level of the IFB channel to monitor the listen audio status of the IFB destination.

### IFB operations using Line Router GLR4



The input/output audio on the GLR4 Line can be connected to all IFB destinations and Genie group channels. FB audio can be transferred directly to the Genie group channel by connecting to the Base Station BS1000 (or BS850). If you are using a Line connection to BS1000, the IFB dim level applies to Genie group channels, so you can use the wireless Beltpack BP850 as an IFB receiver.



By setting the Talk key on the IFB destination, you can do different types of IFB configurations. Line input audio from the Line Router GLR4 can be sent back to the Line output. Even so, IFB dim level applies to the Line output audio.

**When the FB audio is sent to the Genie group channel**

Use FB audio by connecting to the Genie group channel of the BS1000. It can be sent to any destinations, wired and wireless. In addition, all wired and wireless devices can transmit IFB audio to the Genie group channel. You can also send IFB audio to a Line where FB audio is connected.

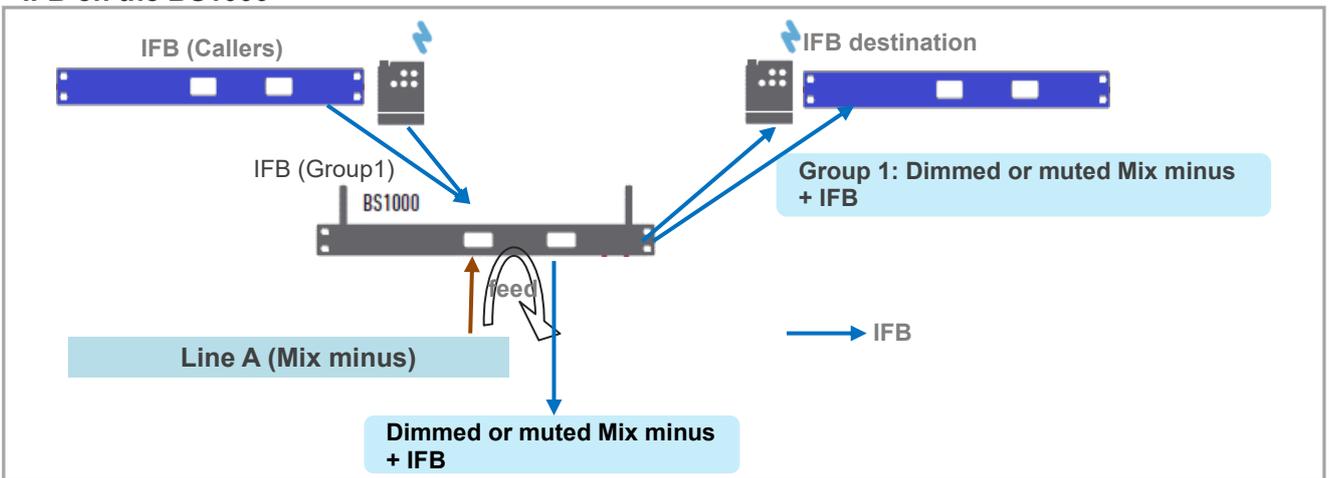
**IFB settings on the Base Station BS1000 (This has been applied to BS1000 Version 4030)**

Connect FB audio to the Line of the BS1000.

You can specify the Genie group channel and Dim level for IFB in the GCMW' setting for the Base Station BS1000. If the IFB path is created to the Genie group channel set to FB source (Mix minus etc.), the FB audio is adjusted to the set level and mixed with IFB audio. This feature allows you to use a wireless Beltpack as IFB (Caller) or IFB destination.

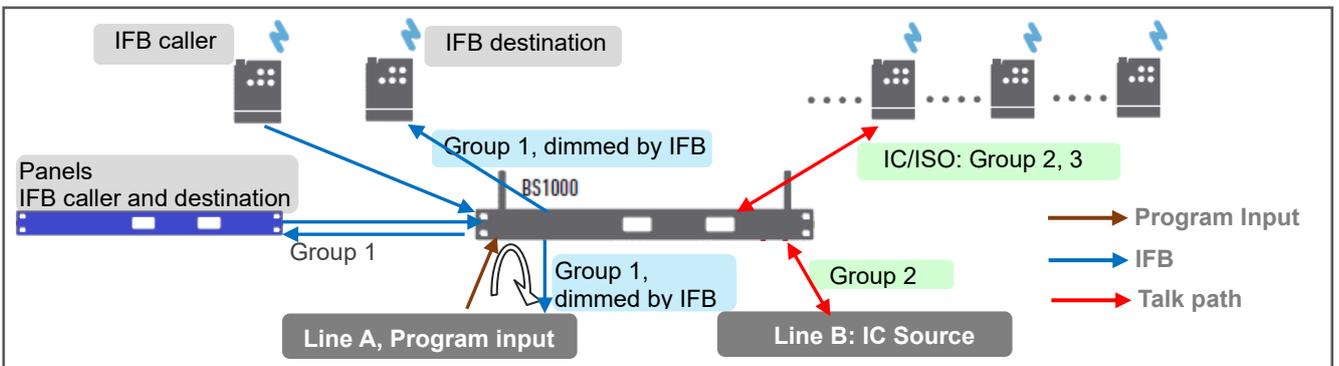
**Note:** If you set up the IFB feature on the Genie group channel, the dim level or mute function will not work with the settings on the IFB destination Panel, but will work according to the settings on the BS1000.

**IFB on the BS1000**

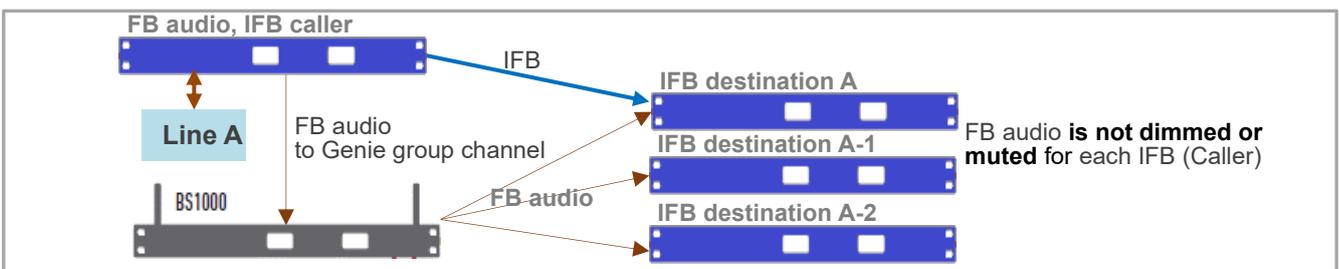


For information for the IFB settings on the BS1000, refer the BS1000 settings in the GCMW User Manual. In the BS1000 settings, if you select the Line Feed and a Genie group channel that applies the IFB, the FB audio (Mute or dimmed) and Genie group channel are mixed and output to the Line.

**Examples of the wireless IFB**



If FB audio is connected to a Genie group channel, you should not connect the FB audio to a Line on the Panel or Line Router GLR4. In this kind of the connection, the dim level or mute feature for the FB audio does not apply to Genie group channels. You should connect the FB audio to the Line of the BS1000.



◆ **Pair (Write) to the Panel:**

Only connect each Panel to your PC one at a time, right click on the Panel icon at the center of the screen and select the Write (Pair). Do not run a pair (write) if more than one device is connected. The same settings are paired to multiple devices and do not work properly.

**Note:** For the Panels, only one current Page selected in the Panel key screen is paired to the Panel.

## ◆ Set the WAN Links:

The screenshot shows the 'Set WAN Link' configuration interface. On the left, there are six WAN Link icons labeled WAN1 through WAN6, with WAN1 selected. Below them are icons for 'Read Connection Status' and 'Update Panels'. The main area is divided into sections: 'NetWork' with a table of network settings; 'Link Channels' with a table for configuring six channels (Channel 1-6) by selecting a Destination WAN Link and a Source Line; 'I/O Levels' with a table for configuring Send and Receive levels for four lines (Line A, B, C, D); and 'Panels to be connected' with a 12x16 grid of panel numbers (1-128). At the bottom, there are buttons for 'Confirm', 'Write (WAN Link)', and 'Update (WAN Link)', along with an 'Update Panels' button.

### Select a WAN Link and set the label: (1)

Register and display labels on WAN Link icon.

When you click each WAN Link icon (1), the setting window for that device appears on the right side of the screen. When you click the Read connection status icon (10), the connection status of the WAN Link is displayed in color-coded circle on the icon.

### Set Network: (2)

Network settings for WAN Link.

### Set the Link channels: (3)

- A Wan Link offer six full-duplex channels. For each channel, select the WAN Link (Destination) you want to connect to in the drop-down menu. You can select different WAN Links (Destinations) for each channel. Panels automatically assign unused channels (Source). If you are configuring a mesh network between WAN Links, select Destination channel number in the drop-down menu.
- When connecting the Line (4-Wire) of the WAN Link (Source) to the Line of the WAN Link (Destination), select a Line in the drop-down menu. These Lines are used by connecting to the 4-Wire of a Base Station or Intercom device.

### Using the Genie group channels

- The WAN Link is used by connecting with Base Stations (such as BS1000, BS850, BS750) using four Lines (4-Wire).
- If communication between wireless Beltpacks is required, connect the Lines (4-Wire) of the WAN Link to the Base Station. Then assign Genie group channels to the connected Lines.
- One Genie group channel (or Line connection) occupies one full-duplex channel of the WAN Link. 128 Beltpacks can be connected for each Base Station.
- Other intercoms other than Genie system can also be connected to WAN Link Lines.

### Set the I/O levels of WAN Link Lines (4-Wire): (4)

Set the level of the Line input and output.

### Select Panels that connect to a WAN Link: (5)

Select the Panels that you want to connect to the WAN Link (source).

### Confirm (6)

Click the confirm icon to save your settings and end editing.

### Write (pair) settings to the WAN Link (7)

When pairing each WAN Link for the first time, you only connect one WAN Link to your PC to perform Write (Pair). After you write (Pair) to a WAN Link once, you can update (8) even if multiple devices are connected.

**!!! Note:** When pairing each device for the first time, only one device should be connected to the LAN port on the PC to perform pairing. When two or more devices are connected and paired, all devices have the same settings, so they do not operate normally.

### Update settings to the WAN Link (8)

Update the modified settings to the WAN Link.

### Update WAN Link settings to the Panels: (9)

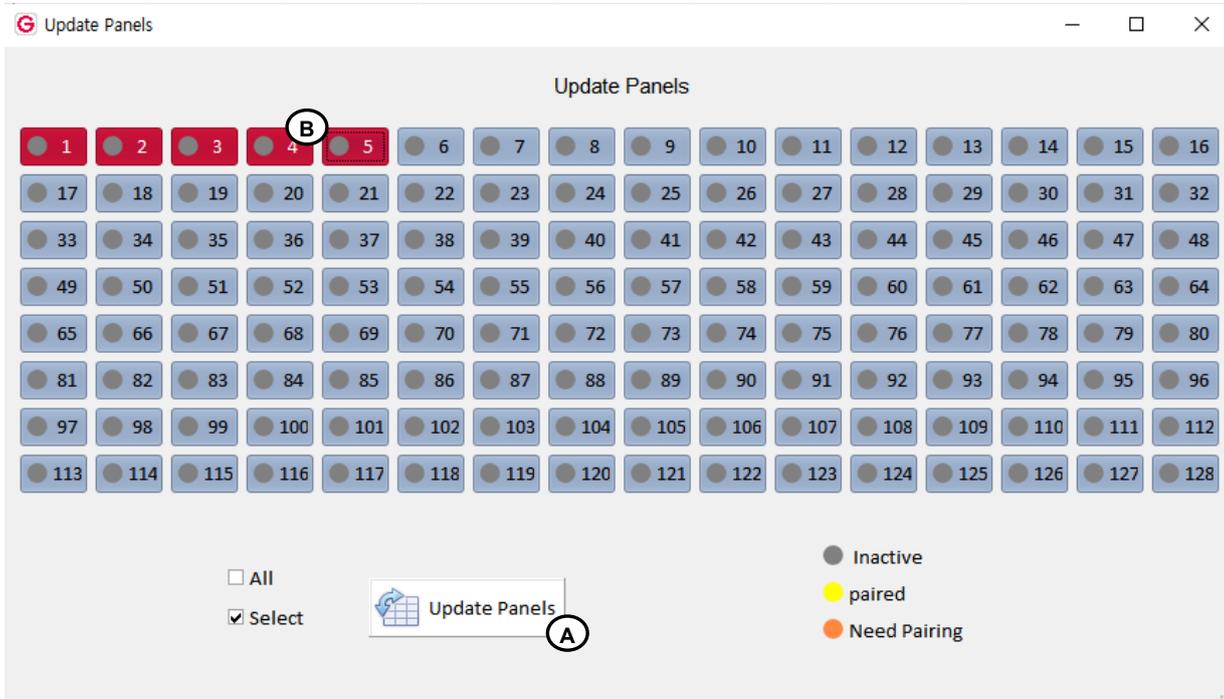
When you click the Update Panel icon (9), the screen below appears. Click the Update icon (A) to update the WAN Link settings to the Panels. The updated state is displayed in a color-coded circle on each Panel icon (B).

The color-coded circle, depending on the status:

**Need Pairing (Amber):** The settings have been edited. Indicates the condition that needs to be updated.

**Paired (Yellow):** The settings have been updated with the device.

**Inactive (Gray):** Indicates that none of the edited settings are present.



### Read connection status: (10)

Click the Read connection status icon to check the connection status. The connection status of the WAN Link is displayed in color-coded circle on the icon (1).

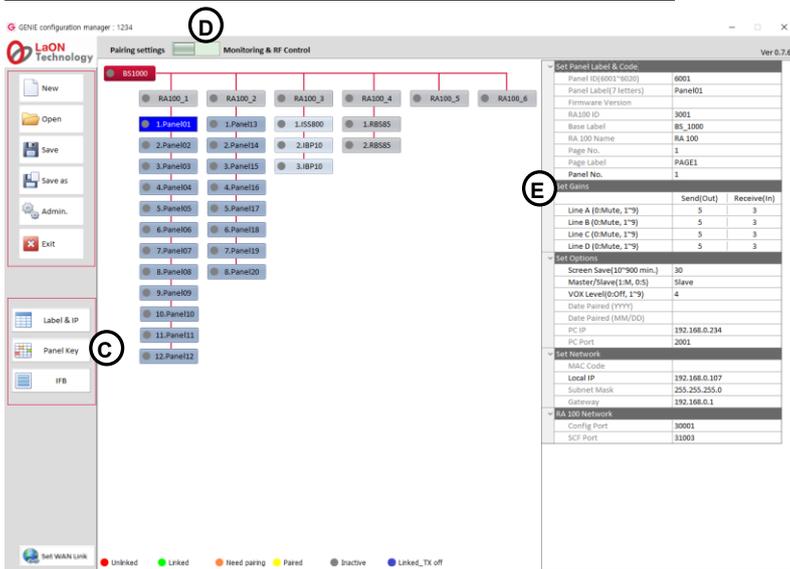
### Router configuration

While it is difficult to describe the steps required to set up all available routers to work with WAN Link, the router's capabilities are usually the same, so the same recommendations apply for basic connectivity, security, and port forwarding and must meet specific requirements.

#### ◆ Checking the connection status:

Install all the Panels and check it on the Monitor & RF Control screen.

# Section 3: Monitoring & RF Control



## Icon at the top of the screen (D)

You can select the required function by selecting the icon left or right.

**Pairing settings:** A screen is displayed for creating devices and editing settings.

**Monitor & RF Control:** The Monitoring screen is displayed.

## Icon colors, depending on the status of each device

Appears at the bottom of the screen.

**Unlinked (red):** Indicates that the device is not connected.

**Linked (green):** Indicates that the device is connected.

**Need Pairing (Amber):** Settings have been edited, indicating a condition that needs to be paired.

**Paired (Yellow):** The settings are paired with the device.

**Inactive (Gray):** Indicates that none of the edited settings are present.

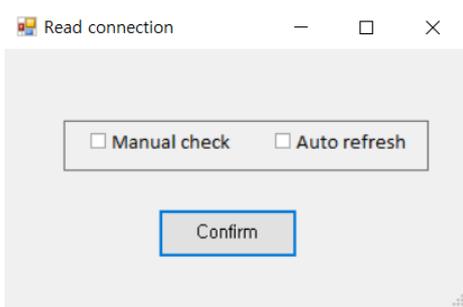
**Linked\_Tx\_off (Blue):** Indicates the state in which wireless transmission is off while the device is connected.

Select the Monitor & RF Control icon, the monitoring screen is displayed. Some items can be paired by modifying them immediately.

## Read Connection status (C)

Click the Read connection status icon at the lower left corner of the screen to gather the current connection status.

On the screen below, if you collect the connection state only once and display it on the screen, select Manual check. If you collect the connection every 10 seconds and automatically display it on the screen, select Auto refresh.



## BP Monitoring (C)

Click the BP Monitoring icon at the lower left corner of the screen to gather the current status of the wireless Beltpack. Displays the collected information at the right side of the screen.

Shows the Remote Antenna, Repeater, or Base Station ID that each wireless Beltpack is connected to. It also shows RSSI, battery and microphone levels for each wireless Beltpack.

## IBP Monitoring (C)

Click the IBP Monitoring icon at the lower left corner of the screen to gather the current status of the Ethernet Beltpack. Displays the collected information at the right side of the screen.

Shows the Remote Antenna, Repeater, or Base Station ID that each Ethernet Beltpack is connected to. It also shows microphone levels for each Ethernet Beltpack.

## Modify the settings

When you right-click on each device (Base Station, Remote Antenna, and Repeater) icon at the center of the screen, the setting window for that device appears.

Here, you can modify the settings and then update them to the selected device.

You can modify the following items:

### RF Control

#### RF On/Off

##### Turn off Base Station or Remote Antenna or Repeater radio transmission

Select RF off if you do not need to transmit and receive radio waves for each device.

On the Remote antenna or Repeater that have been stopped radio transmission, the power LED flashes green.

#### Tx Attenuation Control(dBm):

##### Attenuate radio transmission power

If it is required to attenuate the radio wave to avoid RF interference, use this item to attenuate radio transmission power of each device.

To attenuate the radio transmission power, select one of the following: -3dB, -6dB, -9dB, -12dB.

0dB: Do not attenuate, -3dB attenuation, -6dB attenuation, -9dB attenuation, -12dB attenuation

#### Set RF Channel ID

##### Automatic

When you select Automatic, the RF band is automatically selected.

##### 1~29

Select from 1 to 29: If you set an RF band ID, the Base Station uses the RF band that is set.

RF band ID: See RF bands Table.

##### Upload

When you click the Upload icon, the modified settings are immediately updated on that device.

**Note:** If you do not click the Upload, it does not apply to that device.

#### RF Scan Data

##### Rescan

At the current location where each device is installed, RF bands are scanned again to collect RSSI (Received Signal Strength Indication) data. The RSSI data for all RF bands collected is displayed on the screen. The lowest RSSI is the best RF band to use.

##### Sorting out

All collected RSSIs can be sorted in large or small numbers. If you select Automatic from the Select RF channel (0: Auto, 1-29) in the GCMW settings, each device automatically selects the RF band with the least RSSI.

RF band ID: See RF bands Table.

All modified settings in this settings window must be re-paired on the Pairing setting screen. If you do not pair again, the modifications will not be stored on each device, and if you turn off the power, the modifications will be lost.

### The RF band ID used by wireless devices is displayed on each device icon.

For example, RA100-08 or BS1000-08: 08 is the frequency ID in use.

## Check WAN Link connection status

You can check it in the settings screen of the WAN Link.

**1** WAN1

**3**

**4**

**5**

**6**

**9** Update Panels

**10** Read Connection Status

Label	Static IP	MAC	Local IP	Subnet Mask	Gateway	Firmware Ver.		
WAN1			192.168.0.201	255.255.255.0	192.168.0.1			
RX PORT-1	RX PORT-2	RX PORT-3	RX PORT-4	RX PORT-5	RX PORT-6	PC IP	PC PORT	WAN PORT
7001	7002	7003	7004	7005	7006	192.168.0.234	2001	7000

Channel 1				Channel 2			
Destination WAN INFO	Source Line	Destination Line	Destination WAN INFO	Source Line	Destination Line	Destination WAN INFO	Source Line
WAN2	Channel1	Line A	Line A	WAN2	Channel2	None	None
Channel 3				Channel 4			
WAN INFO	Source Line	Destination Line	Destination WAN INFO	Source Line	Destination Line	Destination WAN INFO	Source Line
None	Channel3	None	None	WAN3	Channel4	None	None
Channel 5				Channel 6			
WAN INFO	Source Line	Destination Line	Destination WAN INFO	Source Line	Destination Line	Destination WAN INFO	Source Line
None	None	None	None	None	None	None	None

Line A		Line B		Line C		Line D	
Send (Out)	Receive(In)						
3	5	3	5	3	5	3	5

Panels to be connected															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128

### Read connection status: (10)

Click the Read connection status icon to check the connection status. The connection status of the WAN Link is displayed in color-coded circle on the icon (1).

## **Section 4: Glossary**

**Talk channel:** If Genie group channel or Line to be connected is set to the Talk key, this Talk key is called the Talk channel.

**Genie group channel:** A function provided by the Genie Base Station (BS1000 or BS850), a group that allows more than one person to have full-duplex conversations at the same time.

In a Genie group channel, the operator communicates with all members of a group at the same time. Then, when a group member responds by pressing the Talk key, the audio path is passed to all members simultaneously. Up to 10 members of one group can speak to all other members at the same time. And all members can listen these conversations at the same time.

**Genie Base Station:** Genie Base Station BS1000 or BS850

**Group key:** Set up multiple members (such as Panels, Line, and Genie group channels) on one Talk key, enabling simultaneous call with all set devices. the operator communicates with all members of a Group key at the same time. Then, when a Group key member responds by pressing the Talk key, the audio path is passed to all members simultaneously. Up to 8 members of one Group key can speak to all other members at the same time. And all members can listen these conversations at the same time.

**Line audio routing:** A function that provides full-duplex communication by connecting the input and output audio of a Line to specific Panels or Genie group channels, without setting up on the Talk key.

**Key Panel, Panel:** An intelligent IP intercom device connected to a Genie system.

**IFB: Interruptible Foldback:** This is commonly used in television news and live events. The term foldback refers to the sending of a program audio/feed or other audio mix. By sending these audios back to the broadcast host, the broadcast host can monitor himself and also monitor mixed audio from other hosts and other sources. Broadcast hosts only listen to foldback audio with small earphone. The Director shall interrupt these foldback audio to give instructions to the broadcast host on air or to inform him of any changes to the program. To this end, the Director uses a Talk channel set to IFB to interrupts the foldback audio.

**Source:** In this manual, the term source refers to an intercom Panel that sends audio signal. A Panel to which audio signal is transmitted is called a Destination.

**Destination:** In this manual, a device such as an intercom Panel to which audio signals are sent. A Panel from which audio signals are sent is called a Source.

**Program, FB (Fold Back) audio:** A separate audio source that is fed into the intercom channel. For example, in a live event, program audio is a live audio.

**Label:** A Label is up to seven alphanumeric names that identifies a source, destination, Panel, Line, or group channel. Labels appear on the Panel display.

**Partyline:** A wired shared communication system based on 2-wires. A Partyline is a group of intercom ports which can always talk and/or listen to each other.

**Line:** A communications system where the path is different for talk and listen. In electrical pathways there are, in fact, four wires (two paths). Line is four-wire balanced.

**Sidetone:** The sound of the Panel operator's voice is literally heard on his earphone.

**Call signal:** A call signal is an electronic signal sent from one Panel to another. A call signal can be audible and/or Vibration. Typically, a call signal is sent to get the attention of a Panel operator who may have turned down their intercom speaker's volume level or removed their headset.

**Talk/ Listen (full-duplex) audio path:** Duplex communication allows simultaneous two-way conversations, that is one person can interrupt the other.

**Ethernet Synchronization:** This function eliminates inter-interference by simultaneously transmitting and receiving all devices connected to one Master Panel with Ethernet.

**Ethernet:** Ethernet is a family of computer networking technologies commonly used in local area networks (LAN), metropolitan area networks (MAN) and wide area networks (WAN).

**Pair:** Genie Panels are registered to the GCMW over the LAN. This pairing process allows Panels to recognize each other and an own cryptic code will be given for the corresponding system.

**Rack Unit (RU):** A standard unit of measure used when dealing with electronic equipment racks. 1 RU = 1.75" (44.45 mm). For example, a particular piece of equipment is described as being 3 RU in height. This means that it is 5.25" (3 x 1.75") in height. Detailed information on the specification of standard electronic equipment racks can be found in EIA RS-310-D.

**Daisy-chain PoE Line1, Line2:** Provides Daisy-chain connection function to supply data and power from PoE to another PoE Line. PoE Line1 and Line2 provide the ability to use the input power from the PoE and supply the remaining power to the other Line. Only use the network switch according to the standard PoE specification when connecting the network switch to the Daisy-chain Lines.

# Thank you.

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