



Glensound
Keeps Working

GS-PM4

Dante Network Paging Microphone

PRODUCT DETAILS



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GlenSound Electronics Ltd

Thank you for choosing a new GlenSound product.

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Information contained in this manual is subject to change without notice, if in doubt please contact us for the latest product information.

If you need any help with the product then we can be contacted at:

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PRODUCT WARRANTY

All equipment is fully tested before dispatch and carefully designed to provide you with trouble free use for many years.

We have a policy of supporting products for as long as possible and guarantee to be able to support your product for a minimum of 10 years.

For a period of one year after the goods have been despatched the Company will guarantee the goods against any defect developing after proper use providing such defects arise solely from faulty materials or workmanship and that the Customer shall return the goods to the Company's works or their local dealer.

All non-wear parts are guaranteed for 2 years after despatch and any defect developing after proper use from faulty materials or workmanship will be repaired under this warranty providing the Customer returns the goods to the Company's works or their local dealer.



EU DECLARATION OF CONFORMITY

GS-PM4

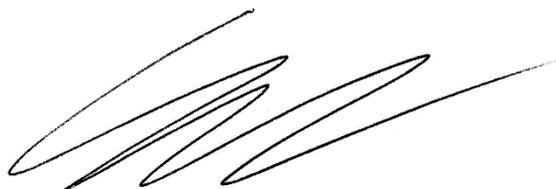
Visual indicator Dante intercom

This declaration of conformity is issued under the sole responsibility of the manufacturer.

This equipment is manufactured by Glensound Electronics Ltd of Brooks Place Maidstone Kent ME14 1HE is  marked and conforms to the following Union harmonisation legislation:

Emissions:	BS EN55032:2015
Immunity:	BS EN55035:2017

Signed for and on behalf of Glensound Electronics Ltd.



Gavin Davis, Managing Director
Maidstone, Kent, England

Date: 15/02/2022

RoHS DIRECTIVE

RoHS 2 Directive 2011/65/EU restricts the use of the hazardous substances listed below in electrical and electronic equipment.

This product conforms to the above directive and for these purposes, the maximum concentration values of the restricted substances by weight in homogenous materials are:

Lead	0.1%
Mercury	0.1%
Hexavalent Chromium	0.1%
Polybrominated Biphenyls	0.1%
Polybrominated Diphenyl Ethers	0.1%
Cadmium	0.01%

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT REGULATIONS 2006 (WEEE)

Glen sound Electronics Ltd is registered for business to business sales of WEEE in the UK our registration number is:

WEE/JJ0074UR

GLENSOUND PM4

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OVERVIEW

Our GS-PM4 utilises the reliable and proven Dante™ network audio transmission protocol to allow real time distribution of uncompressed audio across standard networks. As such the GS-PM4 is fully compatible with other manufacturers' equipment using the Dante protocol.

All units in the system are designed to be very easy to use for the operator and simple to setup for the technician. They includes all the basic functionality required for small intercom systems and none of the overly complex installation requirements normally associated with large systems.

GS-PM4 FRONT PANEL LAYOUT



1. **Microphone Input**
3-Pin XLR Connector. Support condenser and dynamic microphones
2. **Zone Talk Buttons**
Used to talk out through the PM4, illuminated buttons indicate when a Zone is Open/Live
3. **Power LED**
This LED indicated the power status of the device. This LED also doubles to indicate the status of the configuration mode.
4. **Scribble Strips**
Give the user a place to write down zone allocations

GS-PM4 REAR PANEL LAYOUT



1. USB update Port

This USB connector is used only for device firmware updates. Please refer to the firmware update section of the manual for a firmware update guide

2. Setup Button

Is used to put the unit in to Setup Mode or Update mode

3. GPIO Port

This port allows external control of the 4 Zone buttons and Indicators, The GPIO port uses a Female DB9 connector and has **Open Drain** Inputs.

4. RJ45/Ethercon Network interface & Activity LED

This is a standard 100Mbps Ethernet IP interface. The amber LED indicates network activity. The PoE source used to power the device can be a mid-span adapter or a network switch with PoE.

NORMAL OPERATION

During normal device operation the Power LED will be illuminated and Not Flashing

1. If any of the Zone Take Buttons are pressed that button will start Flashing Blue to indicate that the unit is opening that channel, once the selected zone button goes a solid blue you are free to speak.
2. During normal operation, the GS-PM4 will pass through the audio feeds from the 4 Dante inputs to their corresponding outputs. If a Zone Take Button is selected the GS-PM4 will mute the pass-through feed to that channel to allow you to speak and will resume the feed once the user has released the Zone Take Button.

Setup Mode

To enter Setup mode Press and Holed the Blue Setup button on the Back of the unit until all 4 zone buttons have turned blue, at this point release the setup button. When in Setup mode the Power LED will be Flashing.

In Setup mode you have 4 settings that can be changed each button handles one setting, some settings may have multiple options simply press the buttons to scroll through the options.

Button 1 – Keypad Operation

Momentary (Button Not illuminated) **Default**
Latching (Button illuminated)
Intelligent (Button Flashing)

Button 2 – Chime

Chime **Off** (Button Not illuminated) **Default**
Chime **On** (Button illuminated)

Button 3 – Frequency Shifter

Frequency Shifter **Off** (Button Not illuminated) **Default**
Frequency Shifter **On** (Button illuminated)

Button 4 – Low Cut Filter

100Hz Cut (Button Not illuminated) **Default**
300Hz Cut (Button illuminated)

To Save and Exit Press simply Press the blue Setup Button on the back of the unit and it will return to normal Operation indicated by the power LED illuminating solid blue.

Keypad Operation

Mode: Momentary

Press and hold any combination of the 4 Zone buttons to bring up the Lines. If the chime function is Enabled the selected Zone buttons will start Flashing blue, please wait for the selected Zone buttons to go Steady blue before speaking. To Stop speaking Simply release the selected Zone buttons.

Additional Info: Any Zone buttons pressed after the initial selected zone buttons have gone a Steady blue will have the chime only played in the newly selected Zone. In this scenario it is advised to wait for the newly selected Zone buttons to go Steady blue before speaking.

Mode: Latching

Press any combination of the 4 Zone buttons to bring up the Lines, If the chime function is Enabled the selected Zone buttons will start Flashing blue, please wait for the selected Zone buttons to go Steady blue before speaking. To Stop speaking Simply press the selected Zone buttons indicated by their steady blue status.

Additional Info: Any Zone buttons pressed after the initial selected zone buttons have gone a Steady blue will have the chime only played in the newly selected Zone. In this scenario it is advised to wait for the newly selected Zone buttons to go Steady blue before speaking.

Mode: Intelligent

Tap- Tap any combination of the 4 Zone buttons to bring up the Lines, If the chime function is Enabled the selected Zone buttons will start Flashing blue, please wait for the selected Zone buttons to go Steady blue before speaking. To Stop speaking Simply tap the selected Zone buttons indicated by their Steady blue status.

Additional Info: Any Zone buttons Taped after the initial selected zone buttons have gone a Steady blue will have the chime only played in the newly selected Zone. In this scenario it is advised to wait for the newly selected Zone buttons to go Steady blue before speaking.

Press and Hold- Press and hold any combination of the 4 Zone buttons to bring up the Lines, If the chime function is Enabled the selected Zone buttons will start Flashing blue, please wait for the selected Zone buttons to go Steady blue before speaking. To Stop speaking Simply release the selected Zone buttons.

Additional Info: Any Zone buttons pressed after the initial selected zone buttons have gone a Steady blue will have the chime only played in the newly selected Zone. In this scenario it is advised to wait for the newly selected Zone buttons to go Steady blue before speaking.

Tap and Hold- Tap any combination of the 4 Zone buttons you would like to bring up, once you have made your selection Hold down any one of the selected Zone buttons indicated by their Flashing blue status to bring up the Lines. If the chime function is Enabled the selected Zone buttons will remain Flashing blue. Please wait for the selected Zone buttons to go Steady blue before speaking. To Stop speaking Simply release the chosen Zone button.

Specifications

Power Consumption: < 3W

POE Stranded: IEEE 802.3af-2003

Network Port type: RJ45/Ethercon

Network Port Speed: 100Mbps

Input:

3Pin Balanced XLR

EIN 150R 20-22k Dynamic mic, max gain. -124dBu

FRQ Response:

LCF OFF: 100Hz-20KHz +/-1dB

LCF ON : 300Hz-20KHz +/-1dB

GPIO:

Inputs Max Voltage : 3.3V

Output Max Voltage: 5V Open Collector

Output Max Current: 250ma

GPIO Pinout

1. Ground
2. Input 1
3. Input 2
4. Input 3
5. Input 4
6. Output 1
7. Output 2
8. Output 3
9. Output 4

XLR Pinout

1. Ground/Shield
2. Positive/Hot
3. Negative/Cold

CONNECTING THE GS-PM4 UNIT TO A DANTE NETWORK

The GS-PM4 are network audio devices utilizing the reliable and versatile Dante audio over IP protocol. Dante is a proprietary system (although very widely used) the originators of which are Audinate.

The information below is only meant as a very basic guide. Full details of the power of Dante network audio and instructions for using it can be found at www.audinate.com

Getting Dante Controller

If you are connecting the GS-PM4 to a new Dante network the first thing you will need to do is to get the free Dante controller software from Audinate. This can be downloaded by visiting Audinate's web site at www.audinate.com

Connecting GS-PM4 device to the network

The GS-PM4 can be connected to the network that you are going to use for your audio distribution simply by plugging in to the RJ45 network connections on the rear. Once connected to the network it will be possible to see the GS-PM4 from within the Dante controller and route its' audio circuits.

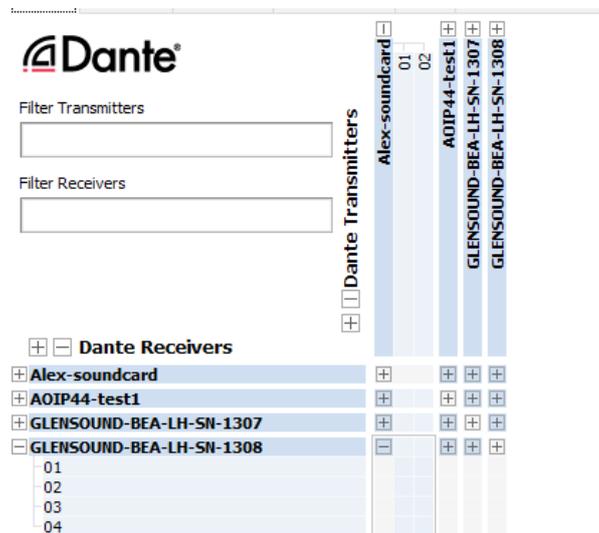
Audio Over IP Network

We strongly recommend that you consider your network topology carefully and would not recommend sharing broadcast audio and general data on the same network.

For more details of audio over IP network structure please visit www.audinate.com

Running Dante Controller

At the time of writing this manual the Dante Controller looks as per the screenshot below:



The GS-PM4 will have been named at the factory during test to allow them to be identified by the Dante controller.

The format used for the factory name is:

'GLENSOUND-GS-PM4-SN-XXXX'

Where 'GS-PM4' refers to the Glensound product i.e., GS-PM4

The 'SN-XXXX' refers to the serial number of the GS-PM4 which can be found printed on the rear or side of the unit.

The unit may be renamed in Dante controller by opening the 'Device view' window and selecting GS-PM4 in the drop-down menu. Go to the 'Device Config' tab and change the name with the Rename Device box.

Note if you upload a new DNT file or clear the devices config then the name will change to 'GS-PM4-xxXxXx' whereby the 'X's refer to the devices MAC address.

Dante Controller TIP

If you have never run Dante controller before then make sure that on the bottom left of the Dante controllers' screen 'P' or 'S' is next to a green square as this indicates that it is connected to a network. By clicking 'P' or 'S' a pop-up box opens to allow you to set what network interface the controller is using.

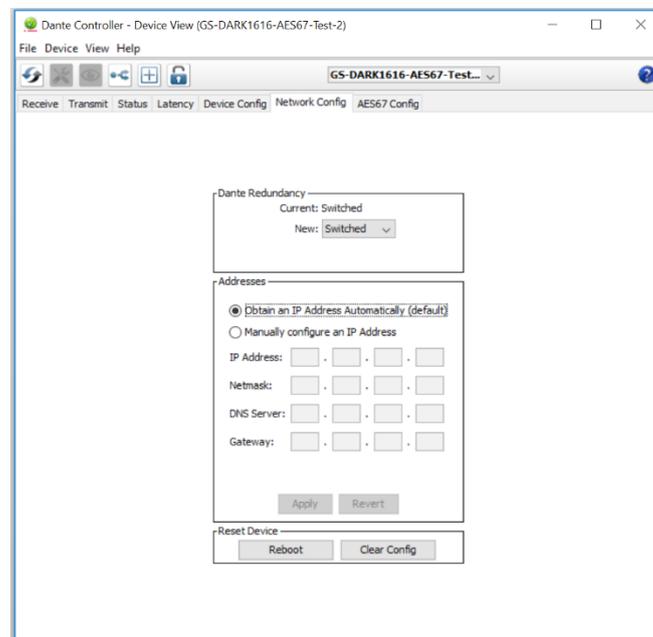
Device not showing up in Dante Controller

If your Dante device does not show up in Dante Controller then the most likely issue is that the device's IP Address is not appropriate for your network.

- A) It maybe that the device is set to obtain an IP address automatically using DHCP (this is the default configuration) and your network is setup for fixed IP addresses only and does not have a DHCP server.
- B) It maybe that the device has had a fixed IP address assigned but that this address is not suitable for your network.

The solution to both scenarios is basically the same.

- 1) You must connect your Dante device directly to the Ethernet port of your computer using an Ethernet cable.
- 2) Make sure that your computer is set to 'Obtain an IP address automatically'
- 3) After a few minutes the Dante device should now appear in Dante Controller.
- 4) Double click the device name to open up device view.
- 5) Open up the 'Network Config' tab
- 6) Either turn on 'Obtain an IP Address Automatically' or correctly configure the 'Manually configure an IP Address' options for your network.
- 7) Click on 'Apply' to confirm the new settings, then disconnect the computer and reconnect the Dante device to your network.



UPDATING FIRMWARE

Equipment needed

- A windows-based PC
- USB cable
- A copy of 'DfuSe Demo' software
- A GS-PM4 and a PoE source

Instructions

1. Download and install DfuSE Demo

'DfuSE Demo' is a firmware updating tool that is required for loading new firmware on to the STM32 Device.

It can be downloaded from the STMicroelectronics website found here: <https://goo.gl/AbzhsA>. It is the file named "STSW-STM32080".

Once you have downloaded this file you will need to extract the .exe "DfuSe_Demo_V3.0.5_Setup.exe", then run and install it.

2. Download firmware

Once you have downloaded the file, place it in a folder or location of your choice.

3. Connect To A PC

Connect the GS-PM4 to the PC via the USB cable. The USB connector is located on the rear panel of the GS-PM4.

4. Firmware update preparation

To prepare the GS-PM4 for a firmware update;

1. Make sure the device is connected with USB
2. Press and hold down the UPDATE button
3. Power on the unit
4. Release the UPDATE button after a few seconds

Your PC should make an audible sound when this process is successful as windows is detecting a new USB device.

1. Loading the firmware

Now open DfuSe Demo.

If the GS-PM4 successfully entered DFU mode then it will appear as 'STM Device in DFU Mode' under the 'Available DFU Devices tab'.

Now the .dfu file needs to be selected so that DfuSe Demo knows the correct firmware to put on to the GS-PM4

Click choose and then select the .dfu file that you downloaded from the GlenSound website. This will be located in your downloads folder by default.

If the file loads successfully then it will read along the bottom 'File correctly loaded'.

2. Upgrading the GS-PM4 firmware

The firmware is now ready to be put on to the GS-PM4, Tick the 'Verify after download' box first and then click 'Upgrade'.

Click yes to proceed.

The progress bar along the bottom will show the status of the operation.

If the operation was successful, DfuSe Demo will report that "Targery 00: Verify Successful!".

You may also see that it will report how much data was successfully transferred.

3. Final steps

Now click "Leave DFU mode" to finish the procedure.

You may now disconnect the USB cable and continue to use the GS-PM4 with the freshly updated firmware!

UPDATING THE ULTIMO CHIPSET

The Ultimo Chipset is a device supplied by Audinate that does most of the processing for the actual Dante/ AES67 network audio streams. There is one Ultimo Chipset in each Beatrice. We supply special code (a .dnt file) that sets up/ initiates the Ultimo Chipset and makes it work in particular way that is compatible to the Beatrice.

Finding Out Current Installed Version

Using Dante® controller double click on the GS-PM4 device name in the routing tab to open the Device View box.

On the Device View box open the Status Tab.

The 'Product Version:' shows the currently installed version of Ultimo Chipset dnt code.

Finding Out What The Latest Available Version Is

Please Contact Glensound to get the latest available version. sales@glensound.com

Updating the device

The firmware that runs in the Ultimo Chipset is updated using Audinate's Firmware updating tool. The updating tool and a user guide can be downloaded from Audinate's website:

<https://www.audinate.com/products/firmware-update-manager>

NOTE:

Please note we strongly advise that when you do the update that only your PC and the Dante device that you want to update are on the network to save accidental updating the wrong Dante device.