

PipeLine Speaker Owner's Manual

ZA-P1224

ZA-P424

ZA-PSW

CBC Co.,Ltd.

2-15-13, Tsukishima, Chuo-ku, Tokyo 104-0052, Japan

<http://www.cbc.co.jp>

Safety Precautions

- (1) Do not apply a voltage exceeding the maximum input or the thermal fracture limit input. If the output from the amplifier included in the audio set is higher than the maximum input the thermal fracture limit input of this product or if the product is applied with a higher voltage than the maximum input of this product due to faulty amplifier circuit for instance, smoking ignition may occur. Provide a protection circuit or device to prevent the application of an excessive input to product, ensuring safety of the system.
- (2) Keep this product away from any computer hardware disk, credit card or bank card. Bringing this magnetized product close to an object that can be affected by magnetism during assembly for instance may make it inoperable.
- (3) Do not expose the product to water. Do not install the product in a place that may be exposed to water or much dust. A short circuit or heat generation may occur, leading to a fire.
- (4) Never attempt to disassemble or modify the product.
- (5) Do not store or use the product beyond the environmental limits described in the specification or under the following environmental conditions:
 - (a) Environment where the product or its packing box may be directly exposed to water, salt water or oil.
 - (b) Environment where condensation may occur
 - (c) Environment that may be filled with a toxic gas (such as hydrogen sulfide, sulfurous acid, chlorine or ammonia)
 - (d) Environment that may be exposed to ozone, radiation or ultraviolet light.
 - (e) Environment where vibration or impact may occur beyond the specified range
- (6) Ensure the location selected is sufficiently strong enough to support the weight of the product and is free from vibration.

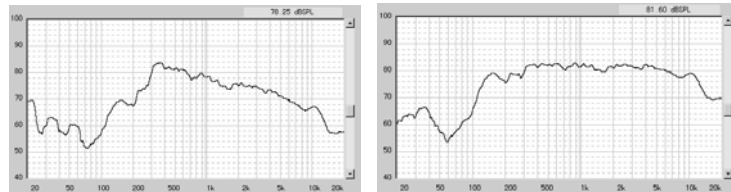
Equalizer Parameters

Using a ZA-P1224(ZA-P424) in conjunction with a ZA-PSW

ZA-P1224(ZA-P424) Settings

| ZA-P1224(ZA-P424) EQ Gain:0dB | | | | |
|----------------------------------|------|------|------|----------------|
| | PEQ1 | PEQ2 | PEQ3 | PEQ4 |
| High pass 223Hz 24dB or 12dB oct | | | | Low pass 22kHz |
| Freq(Hz) | 334 | 472 | 750 | 9000 |
| Q | 4 | 5 | 4 | 2 |
| Gain(dB) | -8 | -4 | -6 | 5 |

Frequency response (ZA-P1224)



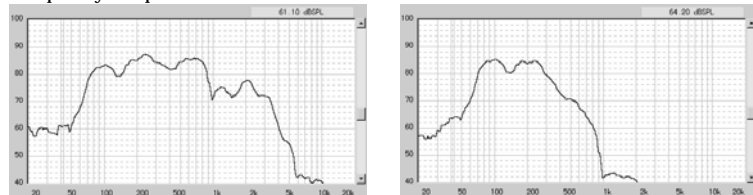
Without Equalization

With Equalization

ZA-PSW Settings

| ZA-PSW EQ Gain:-6dB | | | | |
|---------------------|------|------|------|---------------------------------|
| | PEQ1 | PEQ2 | PEQ3 | PEQ4 |
| High pass 30Hz | | | | Low pass 223Hz 24dB or 12dB/oct |
| Freq(Hz) | 55 | 177 | | |
| Q | 3 | 3 | | |
| Gain(dB) | 4 | -1 | | |

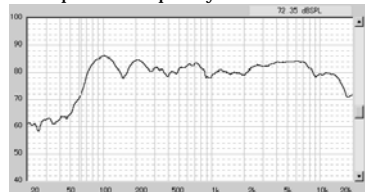
Frequency Response



Without Equalization

With Equalization

Composite Frequency Characteristics Table (ZA-P1224 & ZA-PSW)



With Equalization

Instructions

Thank you for purchasing the GANZ AUDIO PipeLine Speaker system. The ZA-P series uses a patented transducer system to achieve a dramatic performance advance over traditional loudspeaker designs. The designer-styled enclosures compliment the most modern interiors and are far less intrusive than traditional speakers in environments where speakers should not be visible. The ZA-P1224(ZA-P424) provides line-array performance that is closer to the pure mathematical model than anything that has come before it.

The result is better pattern control, better projection, better transient response and long-distance intelligibility, even in reverberant environments, and a near total lack of feedback without resorting to notch filtering.

The ZA-P series transducers require some signal conditioning, and appropriate high-pass filtering depending upon the application and subwoofer used. However, it is not necessary to buy a special proprietary signal processor to achieve this – any one of the many currently – available DSP speaker controllers can be used for the job.

This brief instruction sheet describes how to set up that signal processing to achieve the proper performance from your PipeLine speaker system.

Controller Requirements

The ZA-P series speakers require equalization for proper performance. They are not designed to be operated without equalization.

The following parameters were carefully selected after extensive evaluation and are an essential part of achieving correct performance from your ZA-P series speaker system.

Note: These settings were developed on an XTA224 processor, but can be generalized.

Required Adjustable Parameters

- Crossover : 12dB or 24dB per octave
- Parametric EQ : four filters
- Limiter : System Protection

Input Parameter Settings

When using the ZA-P1224(ZA-P424) with the ZA-PSW as 2-way system

Set the crossover so that the HPF and LPF outputs cross at 233Hz

*When using the ZA-P1224(ZA-P424) by itself

Set the LOW CUT function to 100Hz

Using ZA-P1224(ZA-P424) without a subwoofer

For speech reinforcement applications, the low frequency cutoff of the ZA-P1224(ZA-P424) can be extended somewhat and excellent results can be achieved.

ZA-P1224(ZA-P424) Settings

| ZA-P1224(ZA-P424) EQ Gain:0dB | | | | |
|-------------------------------|------|------|------|---------------------------------|
| | PEQ1 | PEQ2 | PEQ3 | PEQ4 |
| High pass 100Hz | | | | Low pass 22kHz 24dB or 12dB/oct |
| Freq(Hz) | 160 | 310 | 480 | 9000 |
| Q | 3 | 10 | 4 | 2 |
| Gain(dB) | 4 | -5 | -8 | 5 |

Specifications

| | ZA-P1224 | ZA-P424 | ZA-PSW |
|-----------------------------|--|--|--------------------------------------|
| Impedance | 8 | 6 | 12 |
| Frequency response | 140Hz ~ 20kHz | 140Hz ~ 20kHz | 50Hz ~ 500Hz |
| Sound pressure level | 88dB 1w/1m | 88dB 1w/1m | 93dB 1w/1m |
| Input | 90W continuous / 180W peak | 30W continuous / 60W peak | 120W continuous / 240W peak |
| Directional characteristics | Vertical 0 Degree Horizontal 110 Degree (4kHz -3dB) | Vertical 0 Degree Horizontal 110 Degree (4kHz -3dB) | omni |
| Connector | NL-4MP (Neutrik) IN | NL-4MP (Neutrik) IN | NL-4MP (Neutrik) IN/OUT |
| Suspension | 3/8w threads in top and bottom plate | 3/8w threads in top and bottom plate | 3/8w threads in top and bottom plate |
| Size | 75mm X 1790mm Cylindrical | 75mm X 610mm Cylindrical | 200mm X 500mm Cylindrical |
| Weight | 6.0kg | 2.3kg | 5.9kg |

External dimensions

ZA-P1224



ZA-P424



ZA-PSW

