

Operation Manual

VCA-100 Wall Volume Controller



interM

Contents

Welcome	
Warning.....	1
Unpacking.....	2
Installation	
Environment.....	2
Important Safety Instructions	2
Features.....	4
Front panel and functions	5
Rear panel and functions	6
Applications	8
Caution	11
Specifications	12
Service	
Procedures.....	13
Schematic	13
Parts List.....	13
Variations and Options	13
Warranty	13

Welcome

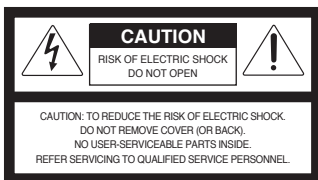
A personal welcome to you from the management and employees of Inter-M

All of the co-workers here at Inter-M are dedicated to providing excellent products with inherently good value, and we are delighted you have purchased one of our products.

We sincerely trust this product will provide years of satisfactory service, but if anything is not to your complete satisfaction, we will endeavor to make things right.

Welcome to Inter-M, and thank you for becoming part of our worldwide extended family!

Warning



WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Attentions: Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant on une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.

*Do not install this equipment in a confined space such as a book case or similar unit.

*The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

*Worded: "WARNING FOR YOUR PROTECTION PLEASE READ THE FOLLOWING-WATER AND MOISTURE: Unit should not be used near water(e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so than objects do not fall and liquids are not spilled into the enclosure through openings."

Unpacking

Although your VCA-100 module is neither complicated nor difficult to operate, we recommend you take a few minutes to read this brief manual and familiarize yourself with the important information regarding product features, setup and operation.

As with most electronic devices, we strongly recommend you retain the original packaging. In the unlikely event the product must be returned for servicing, the original packaging (or reasonable equivalent) is required.

Installation

Environment

Never place this product in an environment which could alter its performance or reduce its service life. Such environments usually include high levels of heat, dust, moisture, and vibration.

Important Safety Instructions

1. Read these instructions.
2. Follow all instructions.
3. Keep all warnings.
4. Do not use this apparatus near water.
5. Clean only with a damp cloth.
6. Do not block any of the ventilation openings.
7. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Use only the attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Features

□ **VCA (VOLTAGE CONTROL AMPLIFIER)**

VCA (Voltage Control Amplifier) is circuit whose volume is set by the voltage level of a control signal, and allows controlling the remote volume without noise by using the VCA control.

This is VCA controller which enables to operate the remote volume control without any noise caused by the connection wire through connecting the main device adopting VCA control function with the VCA control terminal of the VCA controller.

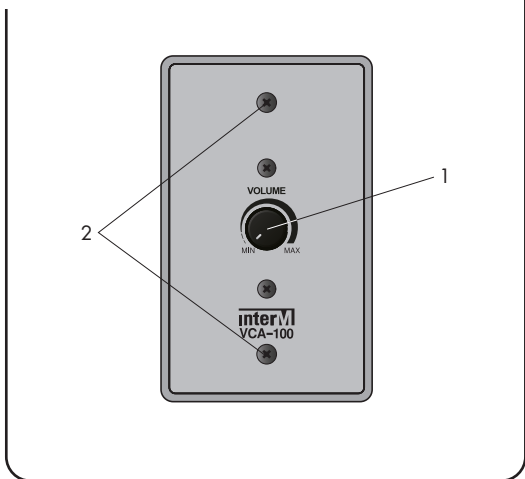
□ **COMPACT SIZE WALL MOUNTED TYPE**

□ **SUPPORT TWO AMPLIFIER CHANNELS**

□ **CONNECTION AVAILABLE PRODUCT**

- DSA-100DV
- MA-206/212/224
- MA-206U/212U/224U
- PMU-60/120/240/360/480/600
- PMU-60N/120N/240N/360N/480N/600N

Front panel and functions

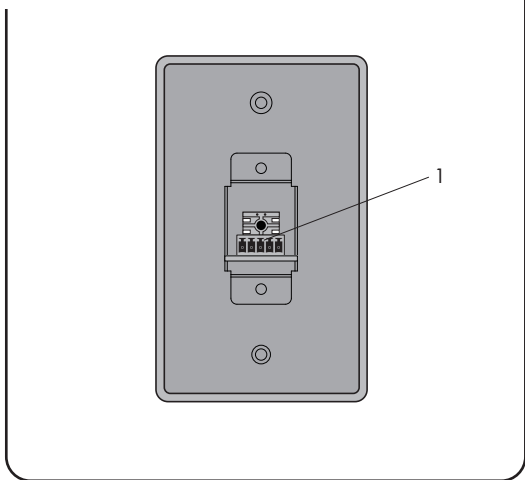


1. Volume controller

This is Volume controller for channel #1 and #2, and if the volume controller turns clockwise the system's volume are at the maximum.

2. Wall mounting hole

Rear panel and functions



1. VCA control connection terminal

The connection terminal of VCA controller is in order from the left; V2, C2, G, C1, V1.

Please refer the silk label on the bottom of PCB.

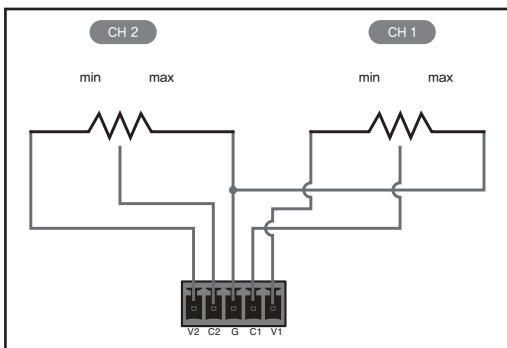


V2 C2 G C1 V1

The volume with 10k Ω B curve is wired as below.
If the volume is set to maximum by turning the volume control completely clock wise, the

impedance of C2~G and C1 ~ G is 0Ω , and C2 ~ V2 and C1 ~ V1 become $10k\Omega$.

If the volume is set to minimum by turning the volume control completely counter-clock wise, the impedance of C2 ~ G and C1 ~ G is $10k\Omega$, and C2 ~ V2 and C1 ~ V1 become 0Ω .



※ **Caution** : Unplug the main device in case the VCA-100 is connected and disconnected to the main device.

* **VCA (Voltage Control Amplifier) function**

VCA (Voltage Control Amplifier) is the circuit whose volume is set by the voltage level of a control signal, and allows controlling the remote volume without noise by using the VCA control.

This is VCA controller which enables to operate the remote volume control without any noise caused by the connection wire through connecting the main device adopting VCA control function with the VCA control terminal of the VCA controller.

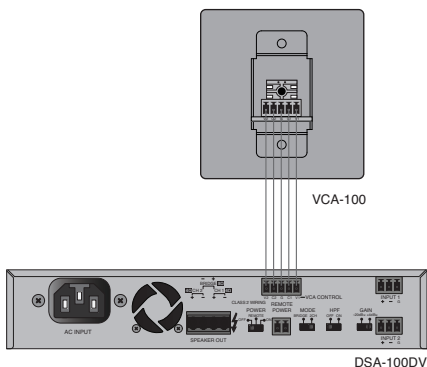
Applications

Connection of VCA-100 and DSA-100DV (Concurrency Control of two channels)

If the volume is set to MAX by turning the volume control completely clock wise,
C1 / C2 of volume are placed at G and the volume of main device is maximized.

If the volume is set to MIN by turning the volume control completely counter-clock wise,
C1 / C2 of volume are placed at V1 / V2 and the volume of main device is minimized.

VCA-100 Port	DSA-100DV Port
V2	V2
C2	C2
G	G
C1	C1
V1	V1

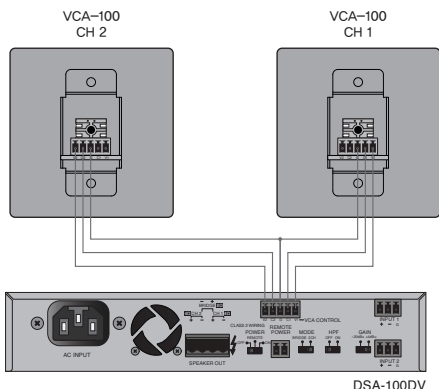


Applications

Connection of VCA-100 and DSA-100DV (Individual channel control)

VCA-100 Port for CH1	DSA-100DV Port
No Connect	
No Connect	
G	G
C1	C1
V1	V1

VCA-100 Port for CH2	DSA-100DV Port
V2	V2
C2	C2
G	G
No Connect	
No Connect	

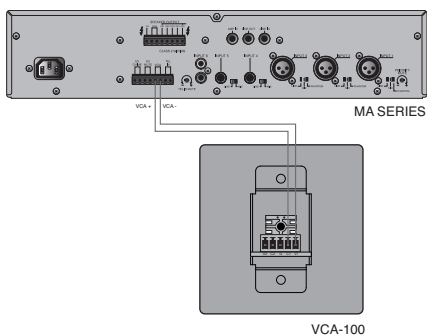


Applications

Connection of MA series, PMU series and PMU-N series

Plug the VCA control terminal of main device into the terminal of VCA-100 which has the MAX resistance $10k\Omega$ (clock wise) and the MIN 0Ω (counter clock wise).

As shown in figure, connect C1 and V1 of the VCA-100 into VCA+ and VCA- of main device.



※ Caution

The volume control range by using VCA of DSA-100DV, MA series, PMU series, and PMU-N series is up to the Minimum of front panel volume controller.

To expand the volume control range, increase the value of front panel volume controller.

While the proper volume is adjusted by VCA and the VCA control terminal is dispatched, the volume control by VCA increases once and the main device can be the volume control of front panel.

Therefore do not disconnect the VCA control terminal in use.

Caution

□ The cautions for connection of VCA-100 and DSA-100DV

1. Inter-M recommends using shield cable for the stable operation.
2. Use the thick wire as possible.
If the wire is not sufficiently thick, it may not be possible to maximum and minimum volume control.

□ Caution for connecting VCA-100 to MA series, PMU series, and PMU-N series.

Use the thick connection wire as possible.

If the wire is not sufficiently thick, it may not be possible to maximum volume control.

□ Maximum control distance

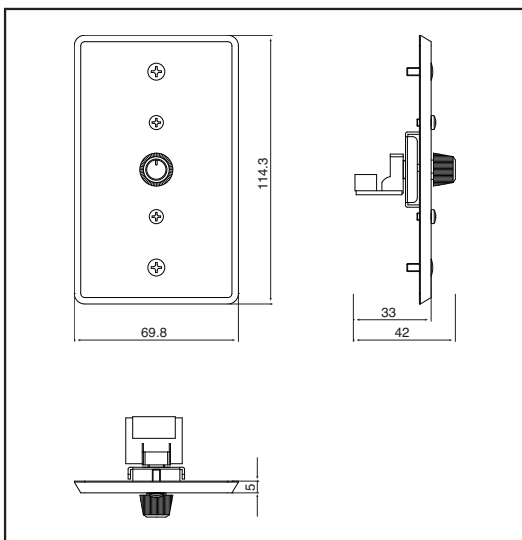
- Maximum control distance varies depending on the thickness of cable.
- Install it less than maximum distance with refer to the below table.

connection cable	Maximum distance
AWG 20 Cable	800 M
AWG 22 Cable	500 M
AWG 24 Cable	300 M

Specifications

	VCA-100
Internal volume	10k Ω B Curve 2 volume
Operating temperature	-10°C ~ +40°C
Operating Humidity	0% ~ 90%
Weight (SET)	71g / 0.16lb
Dimensions (SET)	69.8(W) x 114.3(H) x 33(D)mm 2.75(W) x 4.5(H) x 1.3(D)in

* Dimensions



Service

Procedures

Ensure the problem is not related to operator error, or external system devices, Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

Schematic

A Schematic is available by contacting your warranty provider.

Parts List

A Parts List is available by contacting your warranty provider.

Warranty

Warranty terms and conditions vary by country and may not be the same for all products. Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

To obtain specific warranty information and available service locations contact Inter-M directly or the authorized Inter-M Distributor for your specific country or region.

interM



Inter-M, Ltd. (Korea) began operations in 1983.

Since then, Inter-M has grown to become one of the largest manufacturers of professional audio and commercial sound electronics equipment in the world.

Inter-M has gained worldwide recognition for its own branded products, as well as private label manufacturing of electronics sold under other names (OEM).

The company is no longer just a Korean company, but rather a global company that is truly international in scope, with factories and offices in Korea and China, and sales and marketing operations located in Japan, Europe, and the U.S.A.

With more than 850 employees around the globe, Inter-M is well-poised for further growth and expansion.

INTER-M AMERICAS, INC.

1 EAST BEACON LIGHT LANE CHESTER, PA USA 19013-4409

TEL : 1-610-874-8870, FAX : 1-610-874-8890

Home Page : <http://www.inter-m.net>, E-mail : service@inter-m.net

INTER-M Corporation

SEOUL OFFICE : 719, DOBONG-RO, DOBONG-GU, SEOUL, KOREA

TEL : 82-2-2289-8140~8, FAX : 82-2-2289-8149

Home Page : <http://www.inter-m.com>, E-mail : export@inter-m.com

MADE IN KOREA

April 2014 133627