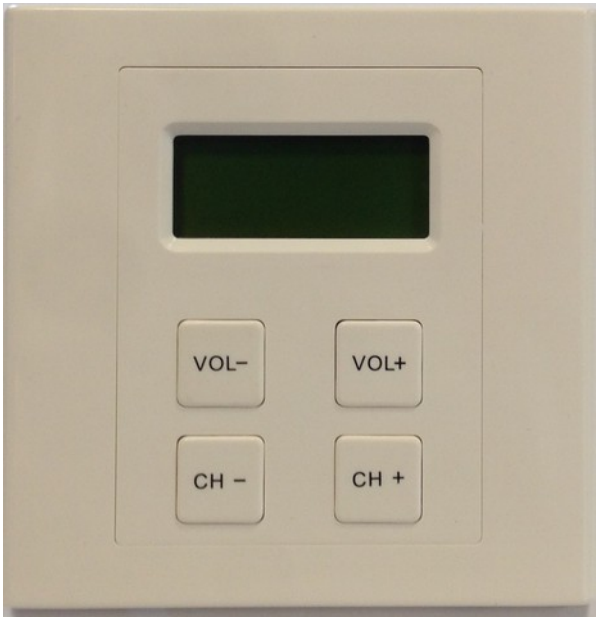
User's Manual

VCC 64 – Volume and Channel Controller



Model: **VCC-64**

LDA audioTech

Index

1 INTRODUCTION....1

2 DESCRIPTION....1

2.1 INPUTS AND OUTPUTS....1

2.1.1 DATA BUS / POWER SUPPLY....2

2.1.2 BUS ADDRESS....2

3 CONNECTION....3

4 FUNCTIONING....4

4.1 QUIESCENCE MODE....4

4.2 ACTIVE MODE....4

4.3 AUTOMATIC LOCK....5

5 FAULT RESOLUTIONS....6

5.1 SCREEN IS BLANK....6

5.2 THE NUMBER OF SOURCES AND VOLUME SOES NOT APPEAR ON SCREEN....6

6 MANTEINANCE INSTRUCTIONS....6

7 TECHNICAL SPECIFICATIONS....7

Index of tables

Table 1: Data Bus / Power Supply....2
Table 2: Volume - Zone Gain....4
Table 3: Audio Source Screen....5
Table 4: Technical Specifications....7

Index of illustration

Ilustration 1: Rear Side VCC-64....1
Ilustration 2: Address Switch....3
Ilustration 3: Bus connection....3

SECURITY INSTRUCTIONS

1. Please read carefully these safety instructions.
2. Keep this User Manual for future reference.
3. Unplug the equipment from the AC before cleaning.
4. Do not use liquid or sprayed detergent for cleaning.
5. Use a cloth for cleaning.
6. Do not expose this equipment to humidity.
7. Install this equipment in a safe surface. If the equipment is not in a safe surface, it may fall and be damaged.
8. The openings on the enclosure are for air convection. Do not allow overheat. DO NOT COVER THE OPENINGS.
9. Place the power cord where people will not step or stumble. Do not place objects on the power cord.
10. Always observe all warnings and precautions the equipment might indicate.
11. If the equipment is not used for several days, disconnect the power supply to prevent damage from overloading. Never pour liquid into the openings, this could cause fire or electric shock.
12. Never open the equipment. For safety reasons, the equipment should only be opened by qualified personnel.
13. Pay attention to connection polarity when operating the machine with a power supply (DC). Reverse connection polarity may cause damage to the equipment, or to the power supply.
14. Let staff check the equipment if any of these situations occur:
    a) The power cord or power plug is damaged.
    b) Liquid has penetrated inside the equipment.
    c) The equipment has been exposed to moisture.
    d) The equipment does not work well or does not work according to the instruction manual.
    e) The equipment was dropped and damaged.
    f) If the equipment has obvious signs of damage.
15. Disconnect the audio inputs and outputs while making connections. Be sure to use the proper cables to make the connections.

1 INTRODUCTION

The VCC-64 allows up to 64 programmable channels and volume control (0-9). Usually installed in local zone and connected via bus to the system, it offers source selection, volume control and lock function.

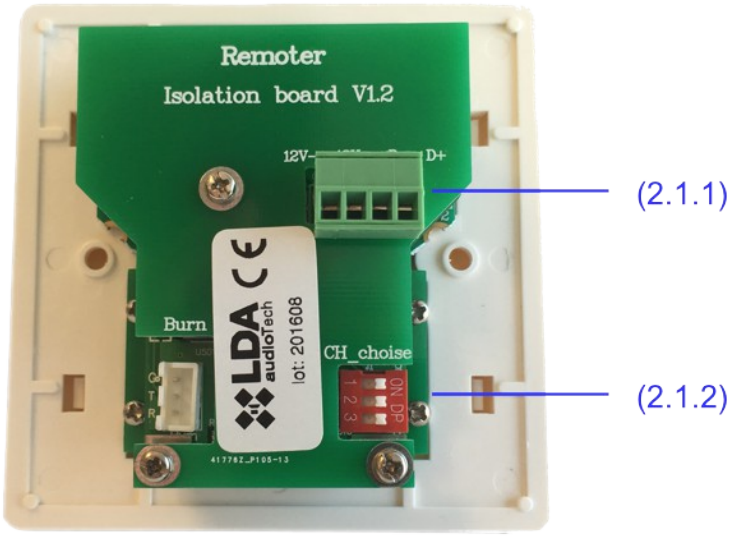
FEATURES:

1. Source selection (1-64)
2. Volume setting for the zone (0-9) – 10 steps per change
3. Automatic lock function
4. It shows the identifier of the music source routed to the zone
5. It shows the volume level asigned to the zone
6. Lock activated indicator
7. Connection of devices by bus mode

2 DESCRIPTION

The VCC-64 has a 2x8 character alphanumeric display where it shows the information related to the zone of the PA system that is asigned.

2.1 INPUTS AND OUTPUTS



Ilustration 1: Rear Side VCC-64

2.1.1 DATA BUS / POWER SUPPLY

The VCC-64 has two poles for data connection through RS-485 protocol. It has a power supply input of 12V DC with a consumption of 1,2W (100mA). The connector is marked as J500. When the equipment has a power supply, the LED indicator marked as power will be on.

The maximum number of units connected to the same interface is 8. The maximum length (considering all sections) is 1000 m.

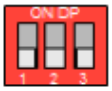
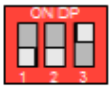
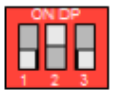
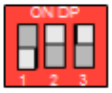
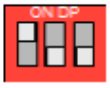
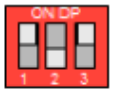
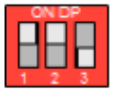
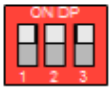
Mark	Description	Type	Signal	Activation
G	Reference for power supply (negative pole)	Input	**-**	Connect it to the negative pole of the power supply
12V	Continuous power supply (positive pole)	Input	**+**	Connect it to the negative pole of the power supply. (max 100 mA / 12V dc)
D-	Serial connection port for integration RS-485. Terminal D-	Port	**D-**	Standard RS-485/9600/8/SPACE/1
D+	Serial connection port for integration RS-485. Terminal D+	Port	**D+**	Standard RS-485/9600/8/SPACE/1

Table 1: Data Bus / Power Supply

The connection uses a female Eurobock type connector (included with the equipment) of 4 pins and 3,81mm pitch. The range of cable section for each pole of this connector is 0,14 ẁ 1,5mm2 (30 ẁ 14 AWG).

2.1.2 BUS ADDRESS

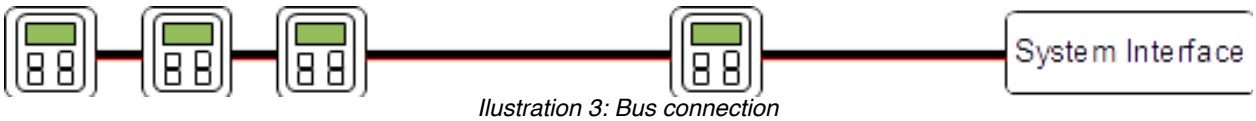
The VCC-6 has a DIP-Switch to configure the address in the bus RS-485. Every controller assigned to the same zone, should have the same address configuration. For different zones different address should be assigned.

ADDRESS	DIP-SWITCH
0	
1	
2	
3	
4	
5	
6	
7	

Ilustration 2: Address Switch

3 CONNECTION

The VCC-64 is connected to the system's interface through bus mode, and every VCC-64 will be connected from each other. Only one of the VCC-64 has to be connected to the system's interface. This way the unit located closer to the system will be connected to the interface, and from this unit to the next VCC-64. The last VCC-64 in the bus will not have any connection to a consecuent device.



Ilustration 3: Bus connection

4 FUNCTIONING

The VCC-64 has a 2x8 character alphanumeric display where it shows the information related to the zone of the PA system that is asigned.

C	H	4	9	V	O	L	9
		B	G	M			

4.1 QUIESCENCE MODE

During the quiescence condition, the display will indicate the music source asigned to the zone, the volumen level (0-9) and the lock indicator.

4.2 ACTIVE MODE

To unlock the device, press CH+ and then CH-. The lock indicator will disappear from the display.

Once unlocked, press VOL+ to raise the volume level of the zone and VOL- to lower it. The following table of equivalence shows the relationship between the volume indicated in the VCC-64 and the gain asosiated to the zone.

VOLUME	GAIN
9	0dB
8	-3dB
7	-6dB
6	-10dB
5	-15dB
4	-21dB
3	-28dB
2	-36dB
1	-45dB
0	-100dB

Table 2: Volume - Zone Gain

To change the audio source asigned to the zone, press the buttons CH+ and CH-. The display will show the change in the number of the source. The number displayed corresponds to the number of the source in the PA system.

The audio source in the zone of the VCC-64 can be asigned remotely from the main PA system's management or locally from the VCC-64.

The VCC-64 could select from any of the audio sources available in the system, up to 64. By pressing CH+ or CH- we move from one to the next in a cyclic order.

The information relative to the audio sources that the VCC-64 will show, can be seen in the following table.

DISPLAY	DESCRIPTION
Chxx (01-64) BGM	Audio souce No XX assigned to the zone
MIC LOCAL	A microphone is broadcasting to the zone

Table 3: Audio Source Screen

4.3 AUTOMATIC LOCK

The VCC-64 has an automatic lock that will be activated after 25 seconds from the last push of a button. To activate again the VCC-64, press CH+ and then CH-. The lock indicator will disappear from the display.

5 FAULT RESOLUTIONS

5.1 SCREEN IS BLANK

If the display is blank, check the power supply. Verify if the wiring connection is done according to chapter 2,2,1, If the power indicator light is on, reboot the system disconnecting the power and reconnecting it again. If after restarting the system, still nothing appears in the screen then contact Technical Support of LDA. If the power indicator is off, the device is not receiving power and therefore will not work properly.

5.2 THE NUMBER OF SOURCES AND VOLUME SOES NOT APPEAR ON SCREEN

If he number of sources and volume does not appear on screen, the driver indicates to the system that there is no connection. Restart the device by disconnecting the power and reconnecting it again. If the problem still persists and is not resolved, check the wiring as described in section 3 . If after performing these tests the problem persists, contact the support service of LDA.

6 MANTEINANCE INSTRUCTIONS

Generally the equipment requires a reduced periodical maintenance.

The frequency of maintenance should be adjusted depending on the installation conditions of the system.

Warnings:

- Use only a soft, lint-free cloth to clean the system.
- Disconnect the device from any external power source.
- Disconnect all external devices.
- Keep it away from any liquid.
- Do not use aerosol sprays, solvents or abrasives.
- Do not spray any cleaning products directly on the device.

Operations:

- Wipe the system with a damp cloth.

7 TECHNICAL SPECIFICATIONS

Model	**VCC-64**
Reference	**LDAVCC64S02**
Power supply	12V DC
consumption	1,2 max (100mA)
Bus RS-485	Maximum distance 1000m/ 3280,8 ft. MAX 8 VCC-64 by bus
Address	Dip-swithc 3 bit
Volume Buttons	VOL- / VOL+
Volume Steps	0-9
Source Buttons	CH+ / CH-
Channel Range	64 / 01 BGM + MIC LOCAL
Functioning Conditions	-5ºC to +45 ºC /23 ºF to 113 ªF 5% to 95% Relative Humidity (without condensation)
Finishing	ABS RAL 9016
Weight	110gr 3,88 oz
Drill Installation (HXWXD)	62mm x 70mmx 35mm / 2,44” x 2,75 x 1,38
Dimensions (HxWxD)	86mm x 86mm x45mm / 3,38 x 3,38 x 1,77
Power supply	12V DC
Consumption	1,2 max (100mA)
Bus RS-485	Maximum distance 1000m/ 3280,8 ft. MAX 8 VCC-64 by bus

Table 4: Technical Specifications

Rev 3