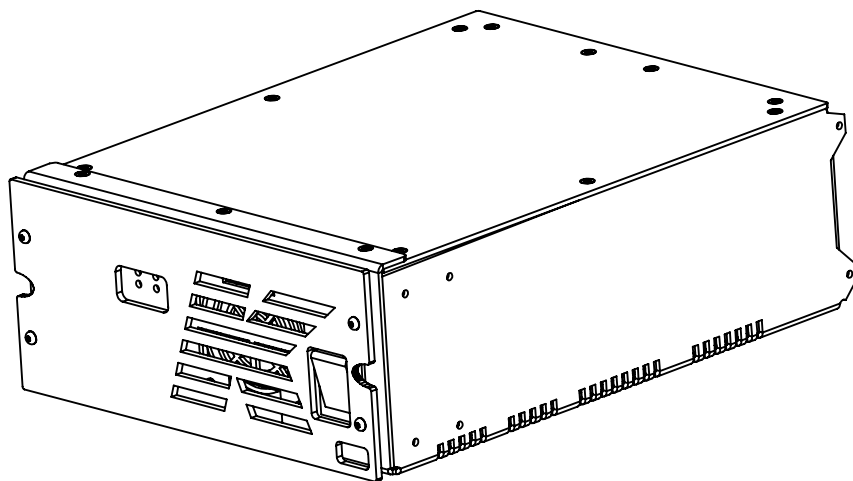




USER MANUAL

KA7
KA7-7





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SYMBOLS



K-array declares that this device is in compliance with the applicable CE standards and regulations. Before putting the device into operation, please observe the respective country-specific regulations!



WEEE

Please dispose of this product at the end of its operational lifetime by bringing it to your local collection point or recycling centre for such equipment.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual!



Warning! Dangerous voltages: RISK of electric shock.



This symbol alerts the user to recommendations about the product's use and maintenance.



This device complies with Restriction of Hazardous Substances Directive.

SAFETY INSTRUCTION



WARNING



- To reduce the risk of electric shock, disconnect the amplifier from the AC mains before installing audio cable. Reconnect the power cord only after making all signal connections.
- Connect the amplifier to a two-pole, three wire grounding mains receptacle. The receptacle must be connected to a fuse or circuit breaker. Connection to any other type of receptacle poses a shock hazard and may violate local electrical codes.
- Do not install the amplifier in wet or humid locations without using weather protection.
- Do not allow water or any foreign object to get inside the amplifier. Do not put objects containing liquid on, or near, the unit.
- To reduce the risk of overheating the amplifier, avoid exposing it to direct sunlight. Do not install the unit near heat emitting appliances, such as a room heater or stove.
- No naked flame sources such like lighted candles should be placed on the device.
- The amplifier should be placed so that its location does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, carpet, or similar surface that may create an obstacle for the ventilation openings.
- CAUTION, RISK OF ELECTRIC SHOCK, DO NOT OPEN. This amplifier contains potentially hazardous voltages. Do not attempt to disassemble the unit. The unit contains no user serviceable parts. Repairs should be performed only by factory trained service personnel.
- Be sure that both voltage set by the selector on the device and AC Power have the same value.

DECLARATION OF CONFORMITY



This device complies with the essential protection requirements of Council Directive 89/336/EEC for the implementation of the Laws of the Member States relating to electromagnetic compatibility. This declaration applies to all specimens and manufacturing drawings which form part of this declaration. Assessment of compliance of the product with the requirements relating to electromagnetic compatibility was based on the following standards.

Please observe the respective country-specific regulations!

EN 55013:1990+A12+A13+A14

EN 55020:1994+A11+A12+A13+A14

EN 61000-3-2:1995+A1+A2+A14

EN 61000-3-3:1995

EN 60065:1998

IEC 60065:1998



WEEE

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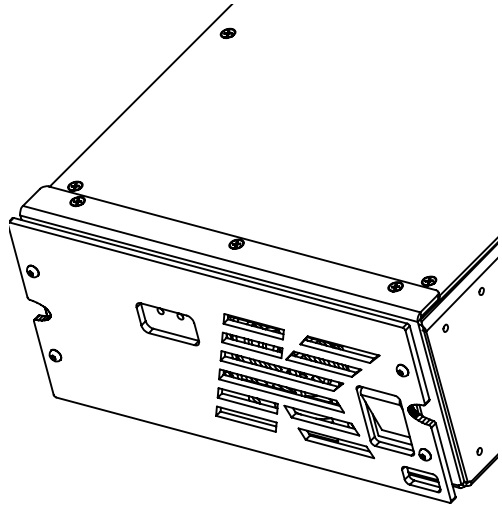


KA7/KA7-7

High technology Class D power amplifier

1. INTRODUCTION

The KA professional rack amplifier line has been designed to meet all the needs of touring and installation applications in which need a large amount of power together with the maximum flexibility, small sizes and weight. The sophisticated electronics on-board allow the system to reach outstanding output power levels with high efficiency. The on-board DSP provide perfect signal processing for all K-array products, providing safe working conditions and a wide choice of dedicated presets to solve most needs of high-end applications.



2. APPLICATIONS

- Theatrical sound reinforcement
- Concert halls, clubs, houses of worship
- Exhibit audio for museum displays
- Cinema and installed AV systems
- Stage monitoring

3. KEY FEATURES

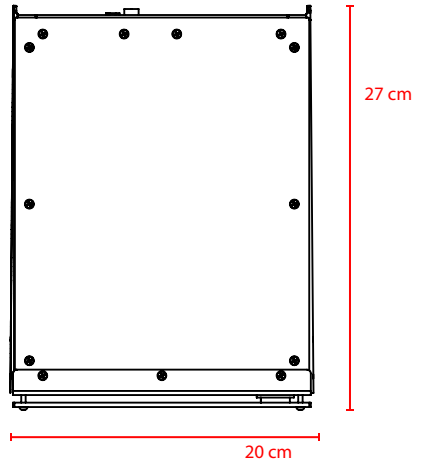
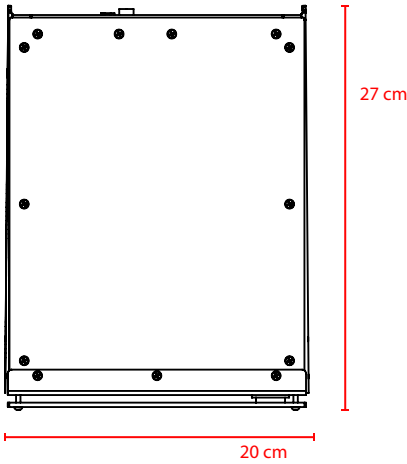
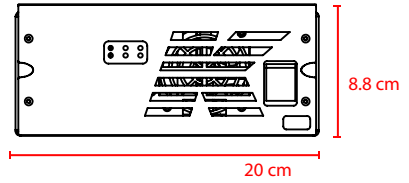
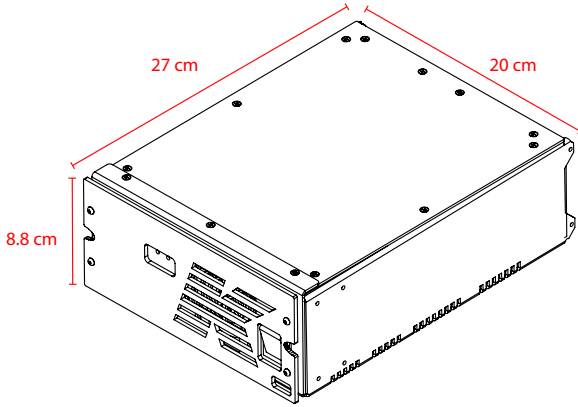
- Very light weight
- Compact design, 2 units half rack
- Optical limiters
- Electronically protected
- Over-high efficiency
- DSP on-board to drive all K-array products
- Remote control via USB or RS485
- Management software
- Top quality components for outstanding performance
- Aluminum frame

4. UNPACKING

Each K-array device is built to the highest standard and thoroughly inspected before leaving the factory. Carefully inspect the shipping carton, then examine and test your new loudspeaker. If you find any damage immediately notify the shipping company. Only the consignee may institute a claim procedure regarding the system's electronic equipment.

5. ACCESSORIES INCLUDED

- 1 x CD-ROM
- 1 x CAT 5, 50 cm cable
- 1 x 50cm xlr cable
- 1 x power link cable
- 1 x Rack adapter kit
- 1 x User's manual



Weight:

KA7 4.03 Kg (8.89 lbs)

KA7-7 4.44 Kg (9.79 lbs)

7. POWER SUPPLY AND VOLTAGE REQUIRED

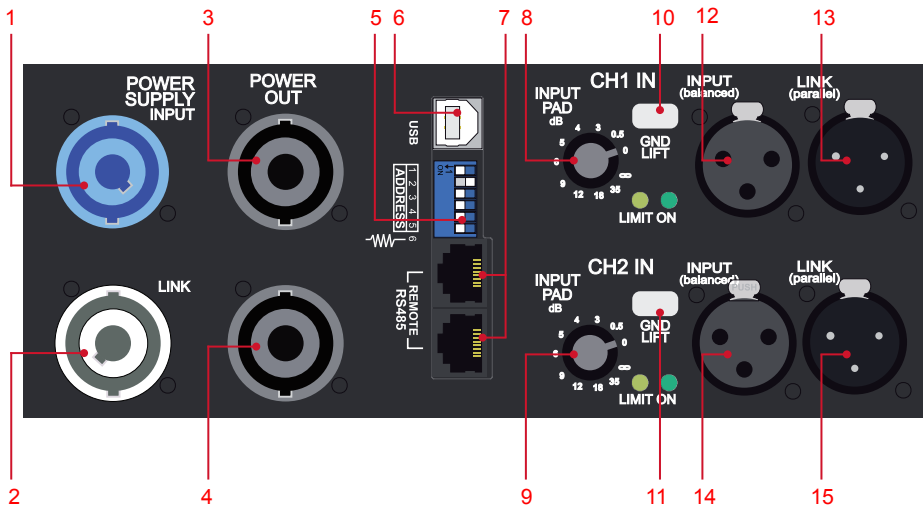
KA7 and KA7-7 operate safely and without audio discontinuity if the AC voltage stays within an operating window of 90 V to 260 V.



Check the voltage before connecting the amplifier to the AC power.
A higher voltage could seriously damage the device.

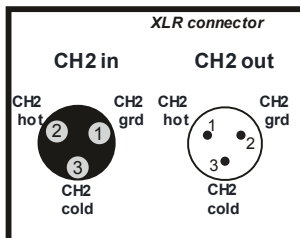
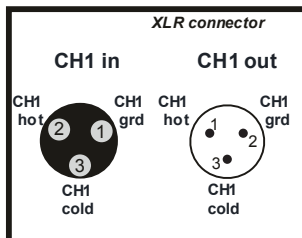
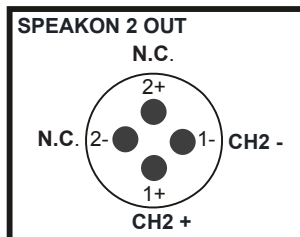
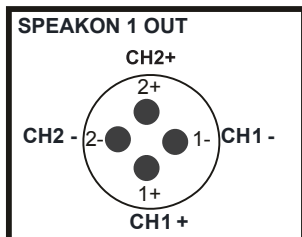
8. BACK PANEL

1. Powercon IN
2. Powercon OUT (max 15A)
3. Speakon1 OUT (CH1, CH2)
4. Speakon1 OUT (CH3, CH4)
5. DIP Switch ID assignment
6. USB remote control connector
7. RS485 remote control connectors
8. Input 1 level PAD
9. Input 2 level PAD
10. Input 1 ground lift switch
11. Input 2 ground lift switch
- 12., 13. Input 1 XLR balanced parallel connectors
- 14., 15. Input 2 XLR balanced parallel connectors

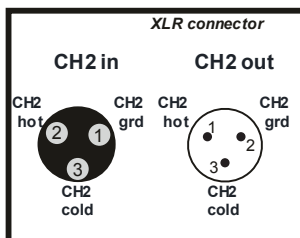
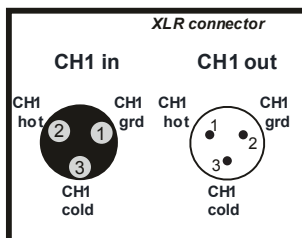
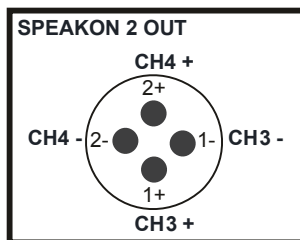
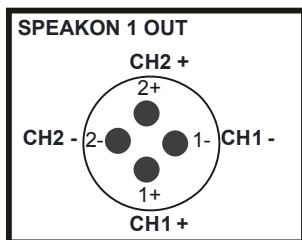


8.1 CONNECTORS AND WIRING

KA7



KA7-7



The USB and RS485 connectors allow a PC to be connect to the device to set the DSP processor. You can plug either a direct USB cable or the K-USB adapter into RS485.

USB



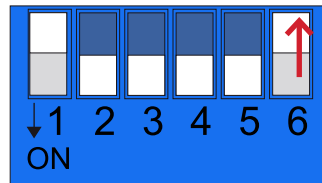
RS485



It is possible to connect multiple modules to the RS485 connection, up to 31 IDs.

8.2 ID ASSIGNMENT

Each amplifier can be identified with an ID number (up to 30 different choices) by setting the first five selectors of the DIP SWITCH on the rear panel. Always set up the sixth selector in the last device connected, even if there is only one unit.



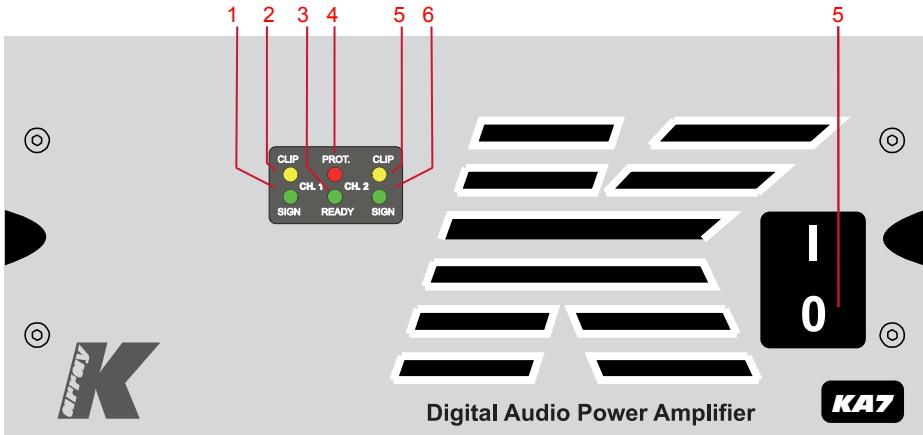
**last device
connected**

ID numbers



9. FRONT PANEL

1. Protection indicator
2. Indicator of proper operating
3. Indicator of signal/clip CH1 IN
4. Indicator of signal/clip CH2 IN
5. Power switch



10. eDSP SOFTWARE

The amplifier is equipped with two INPUTS and four DSP OUTPUTS that work using K-array eDSP software.

This software runs on all Windows PCs, it communicates via USB or RS485 (K-USB).

The eDSP software allows you to manage EQ, Dynamics and signal levels in real time.

The amplifier out of the box has no on board preset loaded. It's necessary to connect it via USB the first it is used, and upload the right preset for your application.



SYSTEM REQUIRED

Operating systems:

Win XP/ Vista / 7.

Minimum requirements:

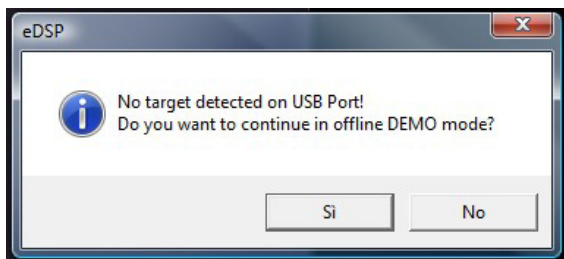
CPU 300 MHz

RAM 128 Mb

Recommended requirements:

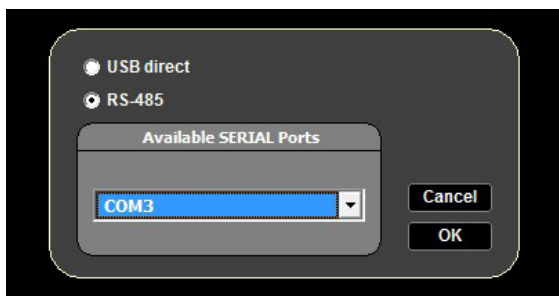
RAM 512 Mb

1. Do not plug in the USB before installing the software.
2. Install the eDSP software included in the CD-ROM. The software can be downloaded from the website too.
3. Connect the amplifier via USB and install the driver from the installed software folder on your HD (e.g. C:\Program\K-array\K-eDsp\CDM20602)
4. Run the eDSP software

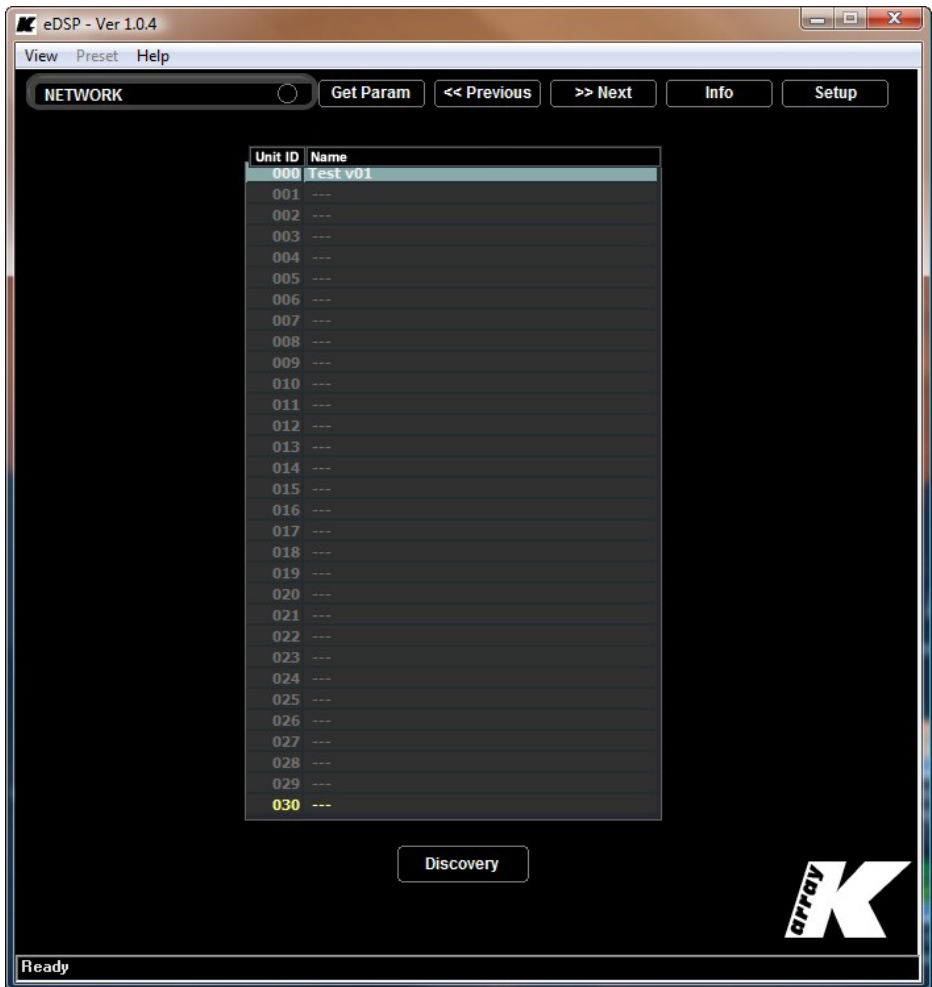


pic.1

5. If the window shown in pic.1 appears, click on **No** and select the connection mode that you are using as shown in pic.2.

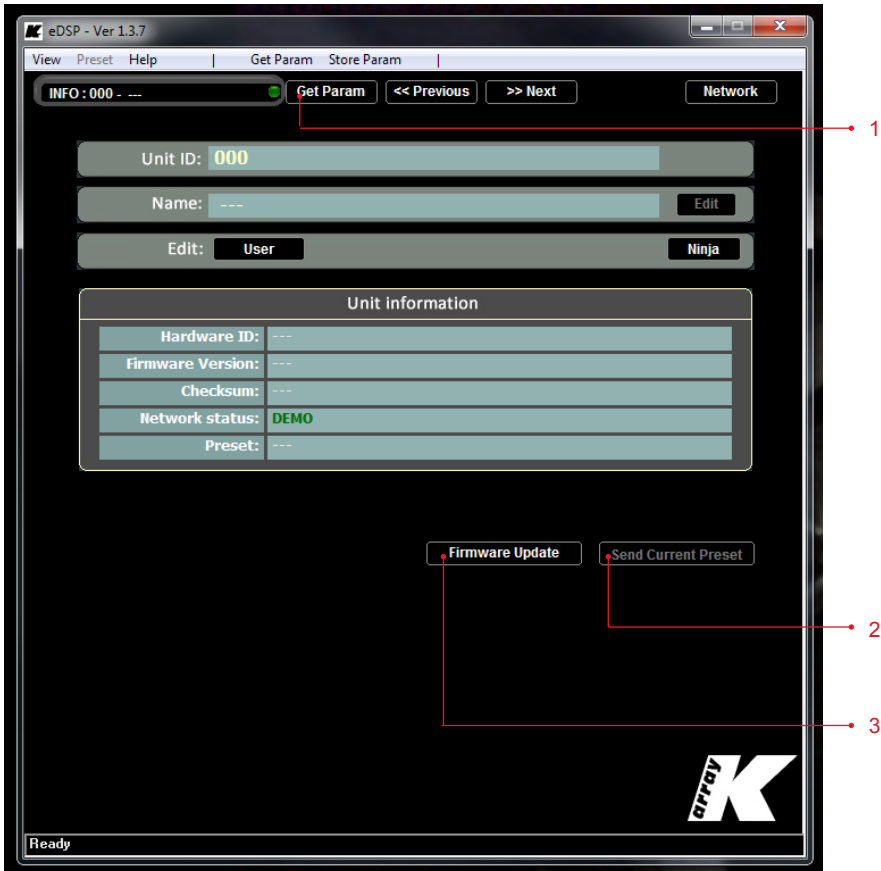


pic.2



pic.3

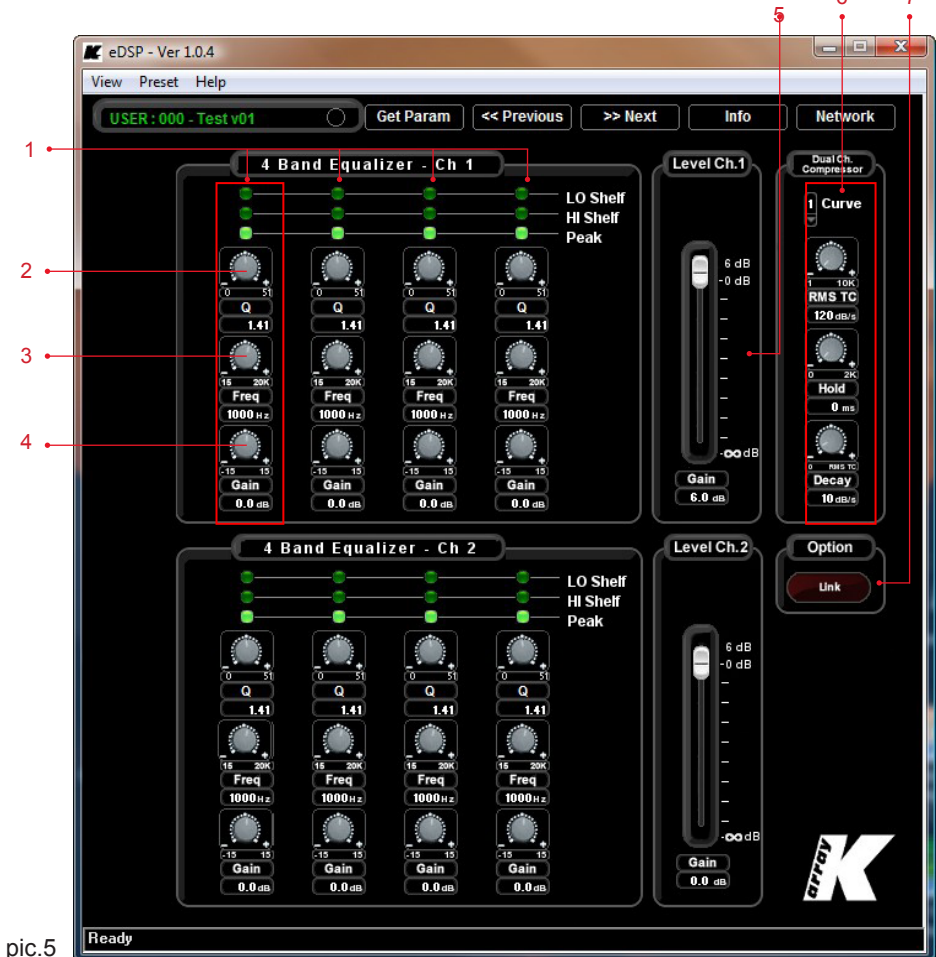
6. Go to the network (pic. 3) page and click on the connected ID (the unit highlighted in yellow)
7. On the INFO page (pic.4) you can see the amplifier details such as name (editable), firmware version and ID.



pic.4

1. Click here to get the stored parameters from the device memory to the software.
2. Click here to send the current software parameters to the DSP module.
3. Click here to upgrade the firmware when new versions come out.

8. Click on the USER button (shortcut: F4), from here you can change EQ, levels and dynamics.



pic.5

1. Four different cells of EQ. can be enabled in three different modes: Low Shelf, High Shelf or Peak. The Low and High Shelf filters boost (or reduce) energy at the set frequencies and all frequencies above it (in low shelf) or below it (in high shelf). The Peak filter boosts (or reduces) energy at the set frequency and across a band of frequencies close to the set frequency.
2. The 'Q' value sets the width of the band of frequencies that will be boosted (or reduced)
3. The 'Freq' value sets the frequency around which you are operating.
4. The 'Gain' value sets how much energy has to be boosted (or reduced) around the set frequency.
5. Main CH1 INPUT level
6. Dedicated stereo dynamic processor.
7. Press the 'Link' button to group together CH1 and CH2 settings.

Once the settings are finished you have to store them to the eeprom by clicking on **Store to eeprom** (F11) in the 'Preset' menu.

To save the preset you have made click **save** on the 'Preset' menu.

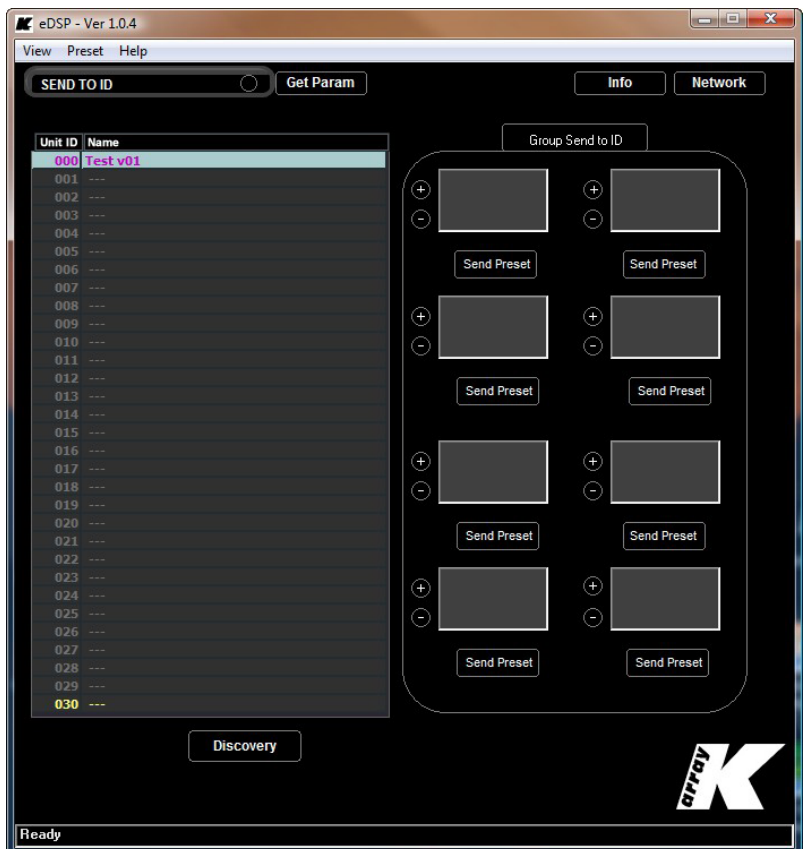
To load a previously stored preset click **load** on the 'Preset' menu.

To send a preset to all the connected modules click **load to all** in the 'Preset' menu.

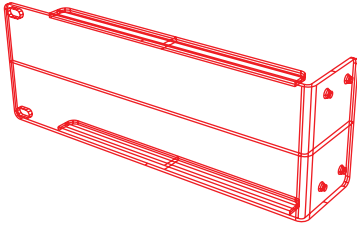
To send and store the same preset to all the connected modules click **load and store to all** in the 'Preset' menu.

To load and store at once a preset on the actual eDSP click on **load and store to node** in the 'Preset' menu.

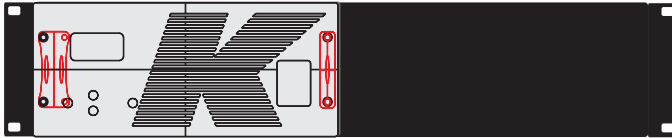
If you want to send one preset to different groups of IDs click **send preset to ID** in the preset menu.



11. RACK ADAPTER

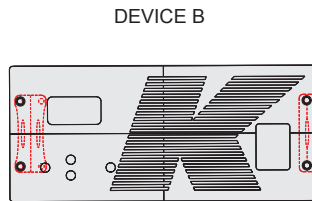
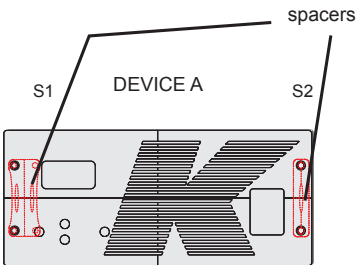


SINGLE RACK

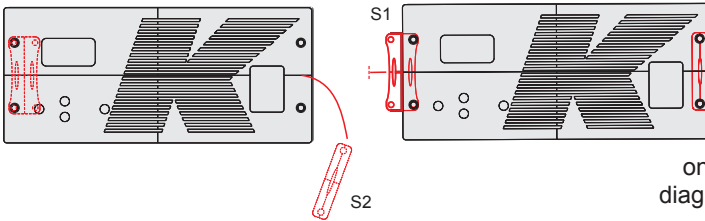


Fix the two rack adapters using the supplied screws as shown in the drawing.

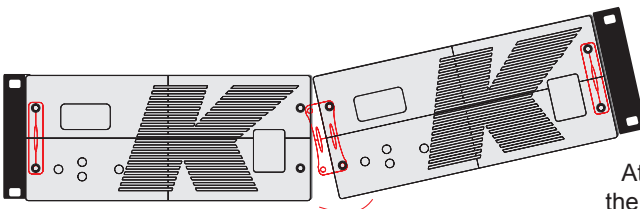
DOUBLE RACK



Unscrew the 4 anchor points of the front panels and remove them.



Remove the smaller steel spacer (S2) from DEVICE A and adjust S1 on DEVICE B as in the diagram on the left. Then refit the front panels fixing all four screws on DEVICE B and the two screws through S1 on the DEVICE A.



Attach the two devices using the last two screws and fix the rack adapters.

12. SERVICE

To obtain service:

- 1) Contact the official K-array distributor in your country. They will direct you to the service centre.
- 2) If you are calling for service, have the serial number(s) of the unit(s) at hand for reference. Ask for Customer Service, and be prepared to describe the problem clearly and completely.
- 3) If the problem cannot be resolved over the phone, you must return the unit for service.
- 4) You will be given an RA (Return Authorization) number for job tracking. Refer to this number on shipping materials and in all correspondence concerning the repair. Shipping charges are the responsibility of the purchaser.

Any attempt to modify or replace components of the device will invalidate your warranty. Service must be performed by an authorized K-array service center.



Cleaning:

- Clean the product enclosures using a soft, dry cloth only.
- Do not use any solvents, chemicals, or cleaning solutions containing alcohol, ammonia, or abrasives.
- Do not use any sprays near the product or allow liquids to spill into any openings.

13. WARRANTY

K-array KA7-7 are warranted against manufacturing defects in materials or craftsmanship over a period of 2 years from the date of original purchase. During the warranty period K-array will, at its discretion, either repair or replace products which prove to be defective, provided that the product is returned in its original packaging, shipping prepaid, to an authorized K-array service agent or distributor. K-array cannot be held responsible for defects caused by unauthorized modifications, improper use, negligence, exposure to inclement weather conditions, acts of God or accidents, or any use of this product that is not in accordance with the instructions provided by K-array. K-array is not liable for consequential damages.

This warranty is exclusive and no other warranty is expressed or implied.

This warranty does not affect your statutory rights.

14. TECHNICAL DETAILS

ENGLISH

	KA7	KA7-7
Output power		
Max power 4Ω	2 x 350 w ^(EIAJ)	4 x 350 w ^(EIAJ)
Max power 8Ω	2 x 190 w ^(EIAJ)	4 x 190 w ^(EIAJ)
Max power - bridged 4Ω	1000 w ^(EIAJ)	
Max power - bridged 8Ω	700 w ^(EIAJ)	
Connectors	2 x 4-pin Speakon	2 x 4-pin Speakon
Speakon 1 wiring	pin 1+,1- = CH1 pin 2+, 2- = CH2	pin 1+,1- = CH1 pin 2+, 2- = CH3
Speakon 2 wiring	pin 1+,1- = CH2 pin 2+, 2- = N.C.	pin 1+,1- = CH2 pin 2+, 2- = CH4
Audio specs		
Slew rate 8Ω	30V/μS	30V/μS
S/N Ratio	>113 dB/A	>113 dB/A
Distorsion (THD, DIM, SMPTE)	<0.005%	<0.005%
Input impedance	20K bal. 10K unbal.	20K bal. 10K unbal.
Gain	32 dB	32 dB
Output	Unbalanced to ground	Unbalanced to ground
Bandwidth	3 Hz - 45 KHz	3 Hz - 45 KHz
Damping factor 8Ω (100 Hz)	>1000	>1000
Protection		
Thermal protection	Yes	Yes
Short circuit / over-load	Yes	Yes
Clip limit, Analog signal limit	Yes	Yes
Audio Input		
Connectors	2 x Male + 2 x Female 3-pin bal. .XLR	2 x Male + 2 x Female 3-pin bal. .XLR
Wiring	Pin1 = Ground / Pin2 = hot (+) / Pin3 = cold (-)	Pin1 = Ground / Pin2 = hot (+) / Pin3 = cold (-)
Remote control Input		
Connectors	RJ45 / USB	RJ45 / USB
Remote control		
Protocol	RS485 / USB	RS485 / USB
Power Input		
Connectors	2 x PowerCon IN/OUT	2 x PowerCon IN/OUT
AC power		
Operating range	90 - 260 Vac 50-60Hz with PFC (auto range)	90 - 260 Vac 50-60Hz with PFC (auto range)
P. nom	140 VA	140 VA
Max input voltage	265 Vac	265 Vac
Power factory (1/2 max out/ 8Ω)	0.97	0.97
Minimum operation voltage	70 Vac	70 Vac
Physical		
Dimensions	20 (1/2 U rack) x 8.8 (2U rack) x 27 cm (7.87"x 3.46"x 10.63")	20 (1/2 U rack) x 8.8 (2U rack) x 27 cm (7.87"x 3.46"x 10.63")
Weight	4.03 Kg (8.89 lbs)	4.44 Kg (9.79 lbs)
<p><i>Notes for data</i> New materials and design are introduced into existing products without previous notice. Present systems may differ in some respects from those presented in this brochure</p>		

NOTES

APPROVAL



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Before putting the device into operation, please observe the respective country-specific regulations!

WEEE



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