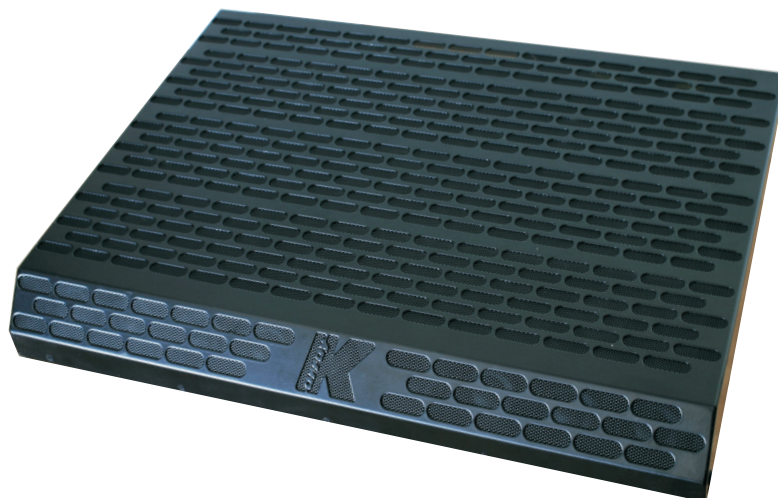


# ninja **KJ50vb**

*Variable Beam High Power Speaker System*

user's manual







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# **ninja KJ50vb**

## ***Variable Beam High Power Speaker System***

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### **1. INTRODUCTION**

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Congratulations on your purchase of the K-Array KJ50vb Variable Beam, High Power speaker system.

Along with its ultra-slim profile, substantial output capability and smooth frequency response over the full vocal range, the KJ50vb has the unique capability to switch-select the Horizontal coverage pattern and to vary the Vertical coverage through DSP control.

The KJ50vb is specifically designed to work with the K-Array KA7-7 four-channel power amplifier. The KA7-7 provides the discrete pre-set DSP control settings for speaker protection, equalization and the vertical beamwidth and steering capabilities.

The KJ50vb speaker system is capable of operating with other power amplifiers and DSP control systems. For these applications please contact K-Array technical support at [tech@k-array.com](mailto:tech@k-array.com).






### **2. UNPACKING**

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Each K-array loudspeaker is built to the highest standard and thoroughly inspected before leaving the factory. Carefully inspect the shipping carton before opening it, and then examine and test your new loudspeaker. If you find any damage immediately notify the shipping company. Only the consignee may institute a claim for damages incurred in shipping. It is suggested that you retain the original packaging so that the system can be repacked at a future date if necessary.

Please note that K-array and its distributors cannot accept any responsibility for damage to any returned product through the use of non-approved packaging.

### 3. SYMBOLS

|  |   |  |
|--|---|--|
|   |                            |  |
| <p>This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual!</p>   | <p>This device complies with Restriction of Hazardous Substances Directive.</p>                               |  |
|   |                              |                         |
| <p>Separate collection of electrical and electronic devices.<br/>For information about the disposal of Waste Electrical and Electronic Equipment (WEEE), please refer to the website at <a href="http://www.scanning.datalogic.com">www.scanning.datalogic.com</a></p> | <p>The item meets all the essential "Health and Safety" requirements of the relevant European Directives.</p> | <p>This symbol alerts the user to the presence of recommendations about product's use and maintenance.</p> |

### 4. SAFETY

It is important that loudspeaker systems are used in a safe manner.

Professional loudspeakers are capable of producing extremely high sound levels and should be used with care. Hearing loss is cumulative and can result from levels above 90dB if people are exposed for a long period.

Never stand close to loudspeakers driven at high level.

Ensure that the floor or stage is level and solid.

Be aware that speakers producing very high power levels can move or creep. To avoid this, place friction material between the floor and speaker.

**WARNING:** Suspending the system should only be done by qualified personnel following safe rigging practices. Secure fixings to the building structure are vital. Seek help from architects, structural engineers or other specialists if in any doubt.

Do not operate the speaker for an extended period of time with the sound distorting. This is an indication of malfunction, which in turn can cause heat to generate and result in a fire.

## 5. WARRANTY

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K-array KJ50vb 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 authorised K-array service agent or distributor. K-array cannot be held responsible for defects caused by unauthorised modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, 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.

**To obtain warranty service contact your dealer or distributor for repair or placement.**

## 6. FEATURES & APPLICATIONS

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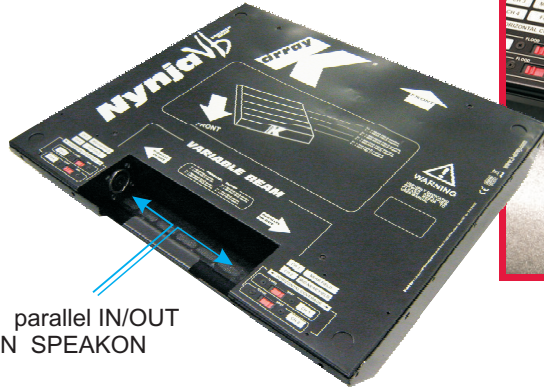
### *Features*

- Selectable horizontal coverage
- Variable vertical coverage from external DSP control. +/- 15° focus area
- Multiple 2" long excursion full-range drivers
- Smooth frequency response
- Electronically protected
- High dynamic range capability
- Top quality components for outstanding performance
- Ultra- thin frame for invisible installation
- Available in white

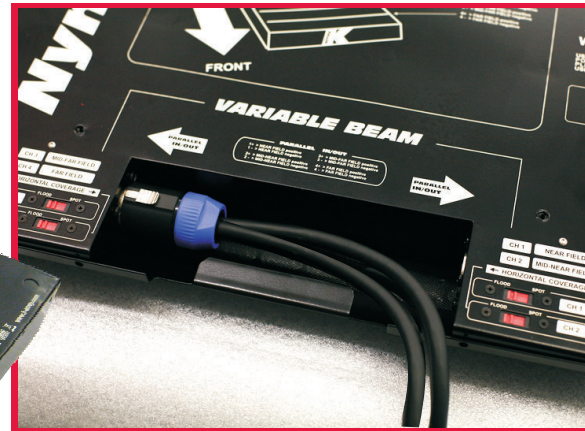
### *Applications*

- TV stage monitoring
- Live stage monitoring
- Ceiling PA or monitor installations
- Permanent installations
- Under balcony applications

## 7. WIRING



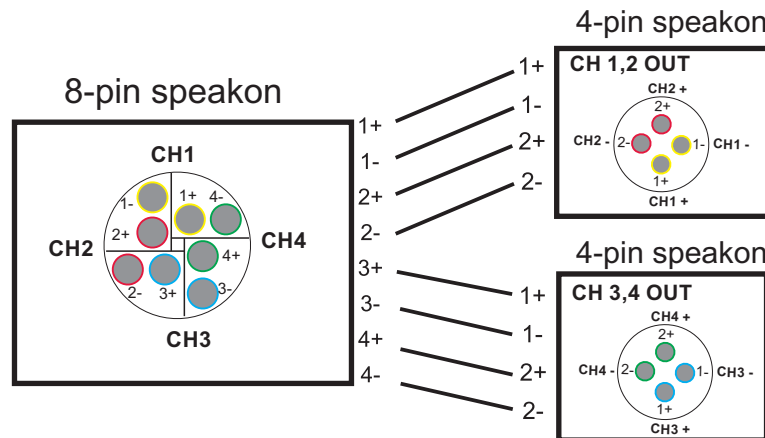
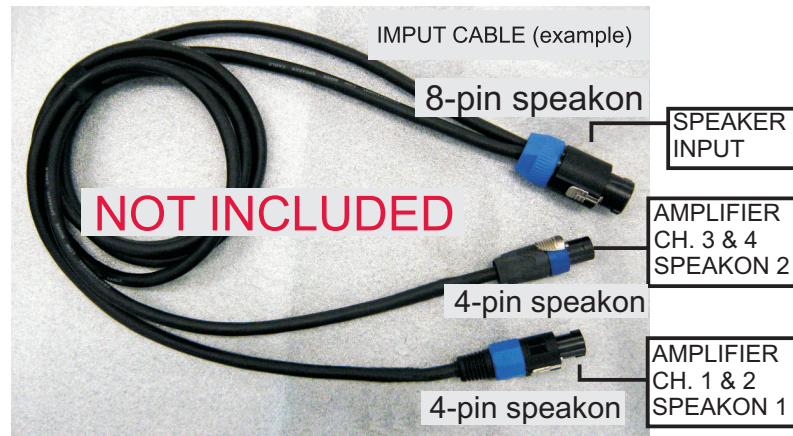
2 x parallel IN/OUT  
8-PIN SPEAKON



INPUT CABLE (example)

Signal input to the KJ50vb is via an 8-pin Speakon connector with a parallel wired Thru output for extending to additional cabinets. Four amplifier channels are employed. The recommended amplifier is the K-Array KA7-7 four-channel amplifier, which supplies 350 watts/channel into a 4 ohm load. The KA7-7 has DSP presets specifically designed for the KJ50vb, including the Vertical focus and steering features. The wiring is via 2x 4-pin Speakon connectors. See the wiring diagram.

To connect to other amplifiers follow the same pin configuration. For use with other DSP controllers contact [tech@k-array.com](mailto:tech@k-array.com)





## 8. COVERAGE PATTERNS

### 8.1. HORIZONTAL SWITCH SETTING

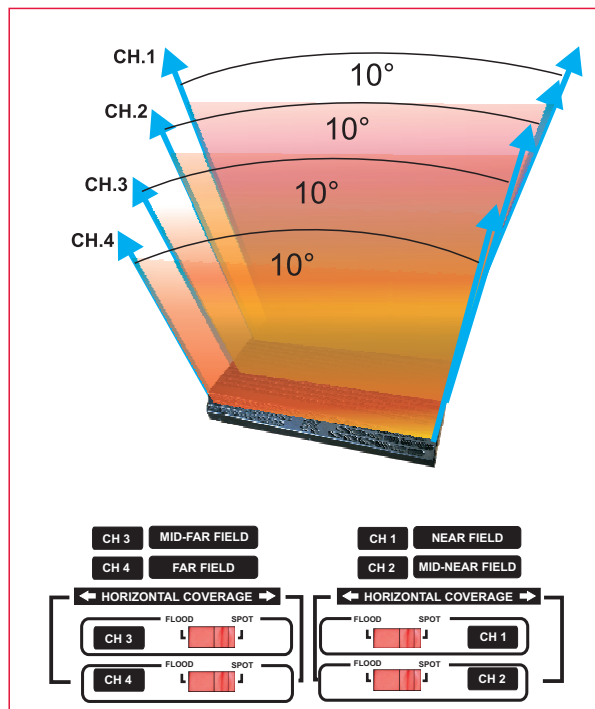
Horizontal coverage can be selected using the 4 x switches located on the back of the speaker cabinet.

These can be set for 'Spot' 10° or 'Flood' 100°.

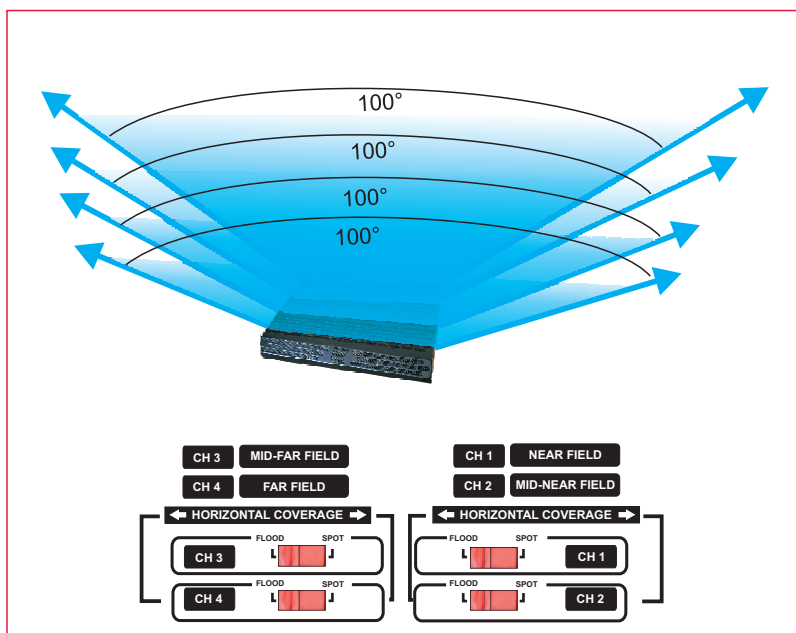
The switches can be safely activated while the speaker is receiving signal. (Please note the Safety Warning regarding hearing damage).

The combined Mode allows you to select a combination of Near and Far Field Coverage.

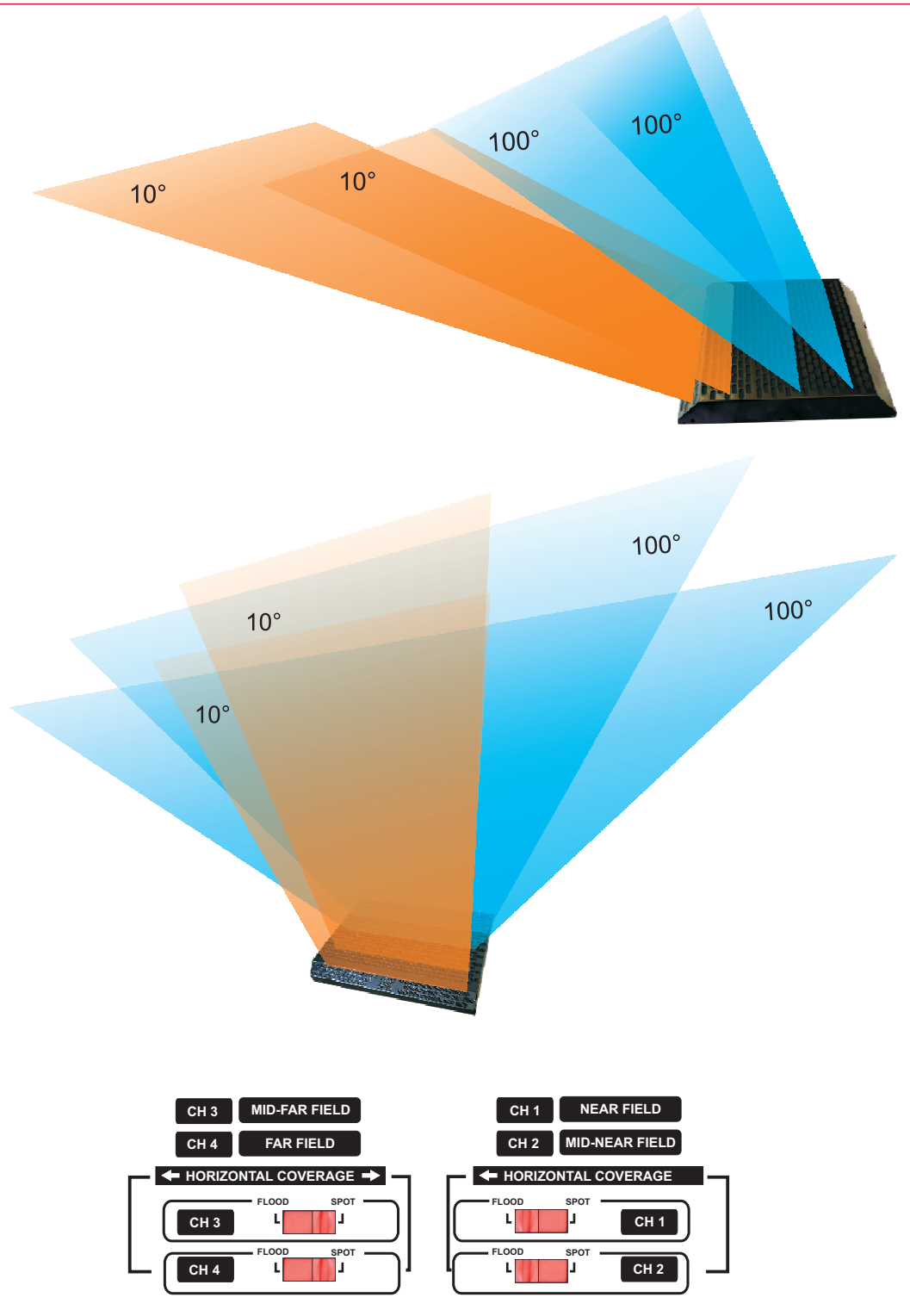
### SPOT MODE



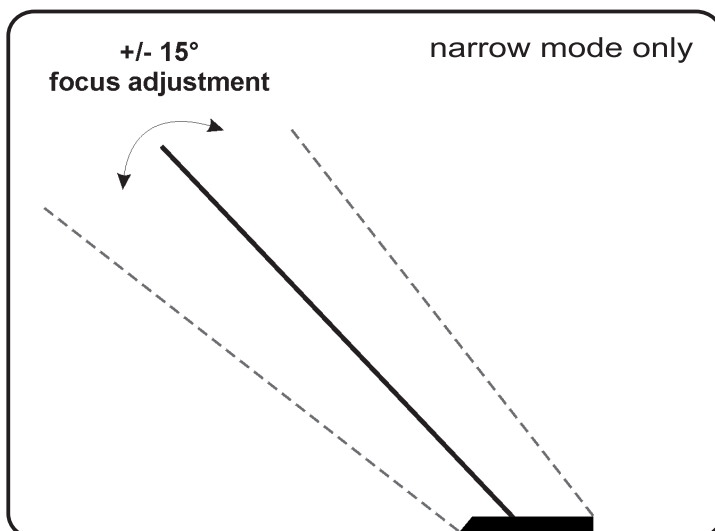
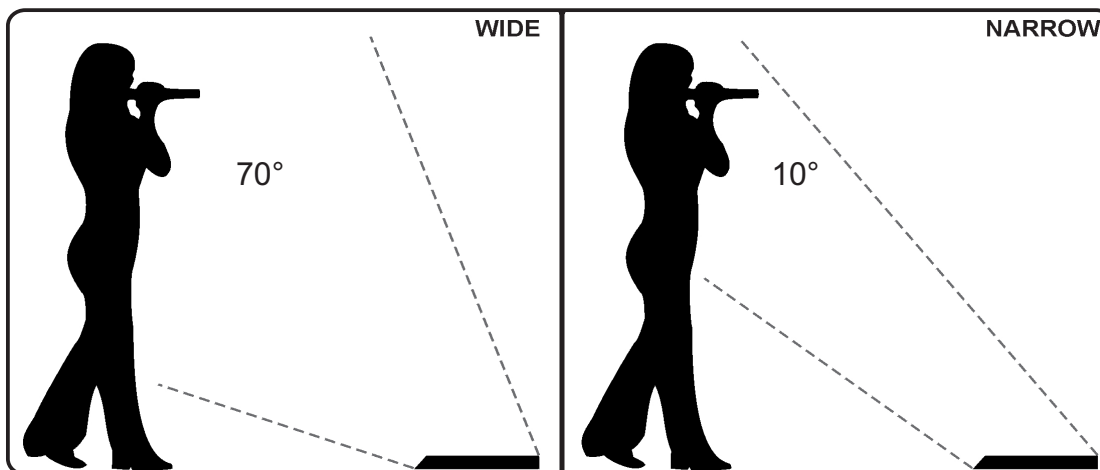
### FLOOD MODE



# COMBINED MODE



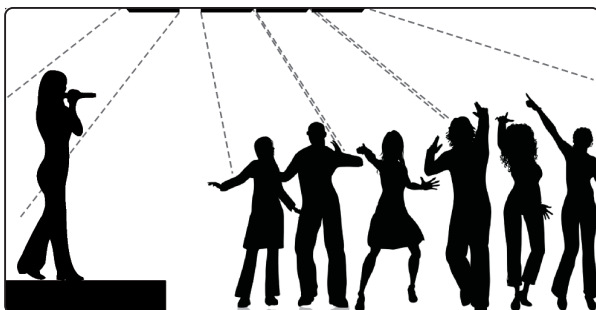
## 8.2. VERTICAL DSP SETTING



Vertical coverage is controlled by DSP settings in the KA7-7 amplifier from 70° **Wide** to 10° **Narrow**

In **Narrow** Mode the Vertical focus can be adjusted by +/- 15°

## 8.3. CEILING LINE ARRAY CONFIGURATION



A Ceiling Line Array Configuration is a unique application of the KJ50vb.

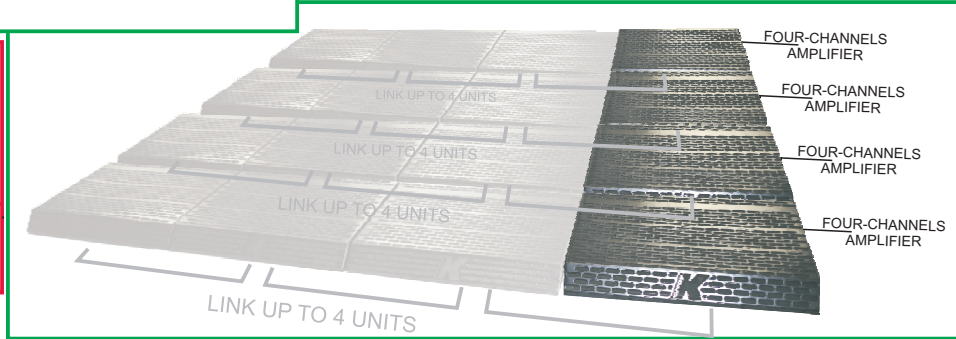
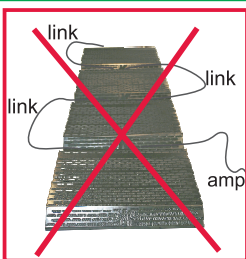
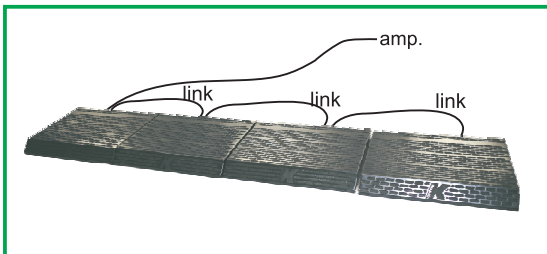
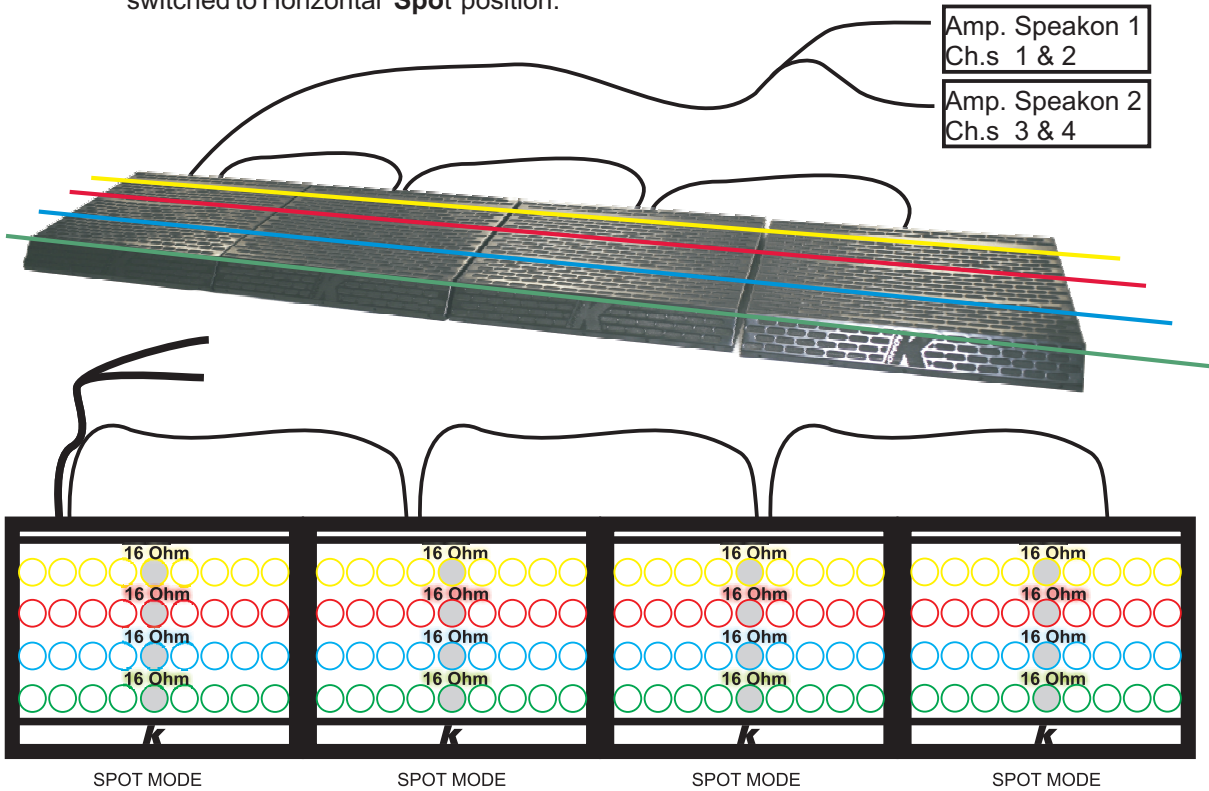
Because of its very thin profile the KJ50vb is perfectly suited for low-ceiling venues.

The vertical steering capability means that the speakers do not need to be located directly overhead but can be positioned off the stage or dance floor.

### 8.4. HORIZONTAL LINE ARRAY CONFIGURATION

The Horizontal Line Array Configuration is another unique application of the KJ50vb. Up to four speakers can be driven and controlled by a single KA7-7 amplifier. The cabinets should be positioned together and switched to Horizontal 'Spot' position.

- CH. 1 near field
- CH. 2 mid- near field
- CH. 3 mid-far field
- CH. 4 far field



## 9. SPECIFICATIONS

|                           |   |
|---------------------------|---|
| Acoustics                 |   |
| Power handling            | 4 x 150 W <sup>(1)</sup>  |
| Max power                 | 4 x 200 W <sup>(2)</sup>  |
| Impedance                 | 4 x 16 Ω (Spot Mode), 4 x 8 Ω (Flood Mode)  |
| Operating frequency range | 150 Hz - 19 KHz +/- 3dB (DSP dependent) <sup>(3)</sup>                              |
| Frequency range           | 180 Hz - 20 KHz +/- 3dB (DSP dependent) <sup>(4)</sup>                              |
| SPL 1W/1mt                | 98 dB <sup>(5)</sup>  |
| Maximum SPL               | 124 dB continuous - 130 dB peak <sup>(6)</sup>                                      |
| Coverage                  |   |
| Horizontal                | switchable from Spot (10°) to Flood (100°). <sup>(7)</sup>                          |
| Vertical                  | DSP dependent 10° 'Narrow' to 70° 'Wide', +/- 15° variable focus in 'Narrow' mode   |
| Transducers               |   |
| Full-range                | 36 x 2" neodymium magnet 0.75" VC long-excursion speakers                           |
| Speaker Input             |   |
| Connectors                | 1 x 8-pin Speakon NL8 input.<br>1 x 8-pin Speakon NL8 Thru.                         |
| Selection Switches        |   |
| Horizontal coverage       | 4 x switches for near, mid-near, mid-far and far-field                              |
| Recommended Amplifiers    | The K-array KA7-7 amplifier can drive up to 4 x KJ50vb speaker systems in parallel. |
| Physical                  |   |
| Measures                  | 503 x 434 x 58 mm (19,80" x 17,08" x 2,28")   |
| Weight                    | 10 Kg (22,5 lbs)  |

### Notes for data

1. Power handling is measured following AES standard conditions: transducers driven continuously for two hours with a band-limited noise signal having 6 dB of crest factor.
2. Max power is the maximum RMS applicable power for a musical signal, the reference signal is the one proposed by EIAJ standard.
3. Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.
4. Free field measured with 1/3 octave frequency resolution at 2 mt.
5. Measured @ 4 mt then scaled @ 1 mt.
6. Measured with audio source @ 1 mt.
7. A combination of 'Spot' and 'Flood' switch settings provides a variety of Horizontal coverage patterns. See operating manual for details.

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.

## 10. SERVICE

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### **To obtain service:**


- 1) Contact the official K-array distributor in your country that direct you to the service centre.
- 2) If you are calling for the 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 only a soft, dry cloth.
- 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.

## Approval

 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.

The contents of this manual are furnished for informational purpose only. Hp Sound Equipment s.r.l. assumes no responsibility for any errors or inaccuracies that may appear in this manual.

Hp Sound Equipment s.r.l. reserves the right to make modifications without prior notice.

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