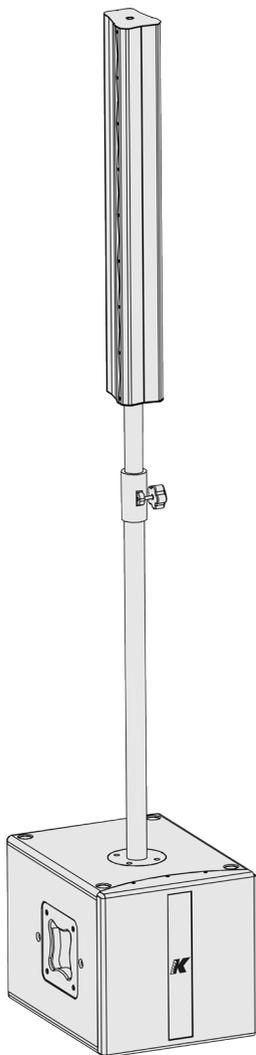




KB1

USER MANUAL
english version





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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 the presence of recommendations about product's use and maintenance.



This device complies with Restriction of Hazardous Substances Directive.

1. INTRODUCTION

The KB1 fits perfectly into the K-array brand by combining innovation and quality.

What makes it special is that it is immediately recognizable as a product which was developed in an environment (K-array) which is orientated towards the “professional” sector.

Some of the features found on-board the KB1 are unique in the entire panorama of products on offer, and are the same as those used in stage set up during concerts (e.g. the medium-high speaker has the ability to electronically vary the height of sound diffusion).

The completeness of the instrumentation, for example the capacity to load different presets simply and at any time from a PC, the control of entry sound through an integrated professional digital mixer, and the ability to electronically modify the extent and the coverage of the sound vertically, make the KB1 versatile and applicable to any situation with notable levels of quality.

The materials are the same as those used in high calibre concert systems: steel, aluminium and wood. These high-quality materials are normally used in professional standard products.

2. APPLICATIONS

- Band
- Piano bar
- Solo
- DJ
- Light orchestra
- Audio/Visual
- Speech

3. ADVANTAGES FOR MUSICIANS

3.1 The musician and his/her sound

PCs are becoming ever more part of the musician's personal equipment and with a KB1 you become the true craftsman of your own sound. You can connect to your own amplification system while interacting directly with digital sound processors mounted on board. This is an uncomplicated way of designing the sound according to your personal tastes and preferences. The digital mixer with 4 inputs allows those with more than one instrument to produce a unified sound, either with a sound technician or directly to the public, created according to the musician's personal artistic choices. Input levels, EQ parameters on each input channel, multi-effects with 16 presets, compressors, regulation of an auxiliary output, a headphones output, a main output channel and parameter filters for equalizing the speaker on output, are all instruments you can find on board the main integrated mixer.

3.2 Transportability and easy-handling

Compactness, light-weight design and transportability mark the KB1, ensuring its seamless integration into a musician's kit. In fact one of the KB1's strengths is its easy-handling. The unit is equipped with materials and case which enable you to load and unload easily, even with a small car, such as a hatchback. The sub is protected by a padded cover designed to insulate the sub from bumps and scratching. This allows the KB1 to be transported comfortably together with all the cables needed for set up. The medium-high speaker is contained in a hard case, which ensures it cannot be damaged in transit.

The designers of the KB1 have chosen materials which are commonly used in professional quality products. Plastic materials have been deliberately avoided, in order to give the system the resilience required for professional use. Wood, steel and aluminium have been chosen to forge the BlueLine; perfectly matching the characteristic quality of the K-array brand.

3.3 Set up, configuration, performance

Standard connections like speakon, XLR and jack guarantee that the cabling is easy and familiar to the user. In this way, even in an emergency, the cables provided in the packaging at the moment of purchase can easily be substituted for commonly available cables of the same type.

A 12" subwoofer for bass and eight 3" loudspeakers for medium-high frequencies guarantee elevated performance, preserving the timbre quality of the instruments and voices. Configuration using a central pole for the medium-highs makes the KB1 a true line-array from the point of view of sound emission. It projects sound pressure which remains constant even at distance, and which covers the listening area with great precision and uniformity.

The presets which process the output sound enable sound optimization for numerous types of use and varied environments.

All of the characteristics which have been described so far, not to mention the facility for modular integration of several KB1s as required, make the system an extremely versatile tool, adaptable as monitor, amplification for solo-artists and, if doubled-up, as the main stereo PA system for an event. A special rubber support accessory, which comes with the kit, enables the system to be used as a monitor or as a front fill, by laying the medium-high unit horizontally and varying the inclination.

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.

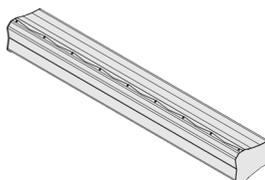
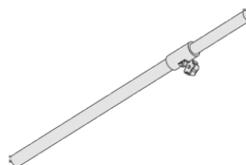
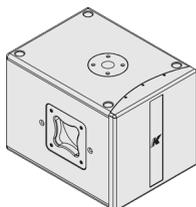
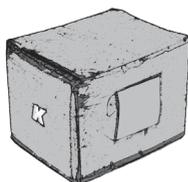
Only the consignee may institute a claim stages in the system's electronic equipment.

5. PACKAGE CONTENT

box
1.2



box
2.2



6. SAFETY INSTRUCTIONS

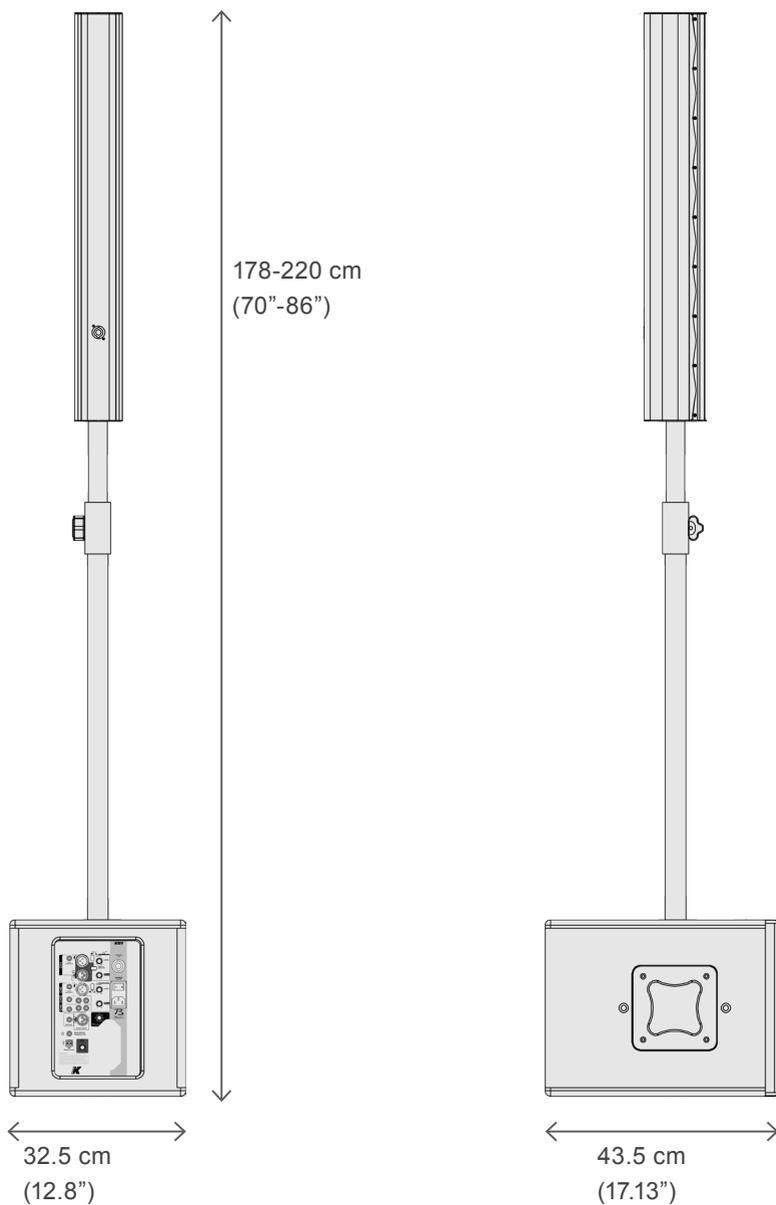


WARNING



- 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 90 dB if people are exposed for an extended period.
- Never stand close to loudspeakers driven at high volume.
- 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 sound distortion. This is an indication of malfunction, which in turn can generate heat and result in a fire.
- Only connect the power supply to an appropriate power adapter.
- Do not install the speaker in wet or humid locations without using weather protection.
- Do not allow water or any foreign object to get inside the speaker. 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 as lighted candles should be placed near the device.
- The speaker should be placed so that its location does not interfere with its proper cooling.
- Do not attempt to disassemble the unit. The unit contains no user-serviceable parts. Repairs should only be performed by factory trained service personnel.
- Be sure that the adapter has the correct voltage value.

7. PHYSICAL



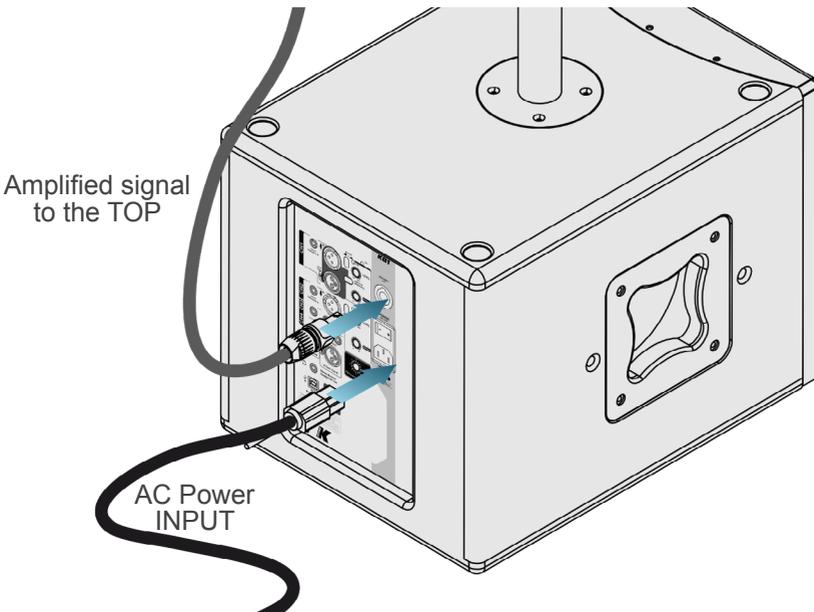
8. POWER AND VOLTAGE REQUIREMENTS

8.1 AC Power connector

The amplifier module and the rest of the audio equipment connected to it (mixing consoles, processors, etc.) must be connected to the AC power distribution in the correct way, preserving AC line polarity and connecting earth ground, so that all grounding points are connected to a single node or common point using the same cable gauge as the neutral and line(s) cables. Bad grounding connections between speakers and the rest of the audio system may produce noise, hum and/or serious damage to the input/output stages in the system's electronic equipment.



Before applying AC to any K-array self-powered speaker, be sure that the voltage potential difference between neutral and earth ground is less than 5 VAC.



8.2 Voltage requirement

KB1 operates safely and without audio discontinuity if the AC voltage stays within both 85-132 V and 170-264 V , at 50 or 60 Hz.

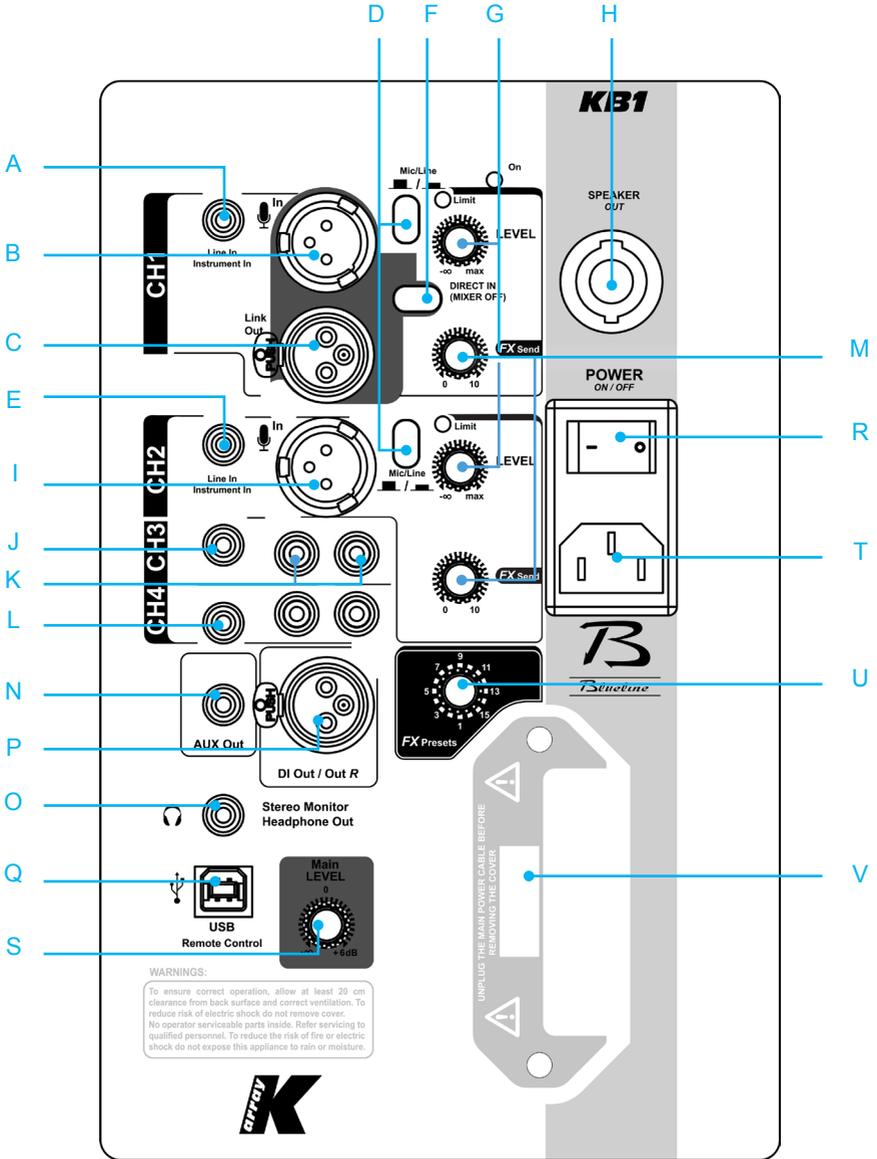
Verify that your mains connection satisfies the power ratings of the device.



CAUTION

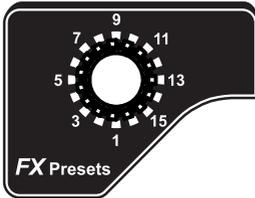
Connecting the system to an AC power mains with a voltage exceeding 270V will cause significant damage to the device and create a serious risk for users!

9. INPUT PANEL OVERVIEW



- A) CH1 TS (unbalanced jack) input. Use this input when using the module as Right side in a stereo configuration.
- B) CH1 XLR balanced (cannon) phantom powered input.
- C) CH1 XLR link output. This is a direct physical parallel link ONLY to CH1 XLR input.
- D) Mic/line Mode Selector. Mic Mode for mic level signals (-50 to -10 dB), Line Mode for line level input (-10 to +14 dB)
- E) CH2 TS (unbalanced jack) input.
- F) DIRECT IN (MIXER OFF) Switch Button. When DIRECT IN is ON all the DSP functions are bypassed, except for the Main LEVEL knob on the physical Mixer Panel (see S) and the virtual Master Volume Fader (see C11 and D18). N.B.: a KB1 in DIRECT IN Mode can only be used as the Right side of a stereo configuration system of 2 x KB1. We advise against connecting any signal to the KB1 serving as Right Side in the stereo configuration, other than the XLR coming from the DI Out / Out R output of the main KB1 (serving as Left Side of the stereo). In a stereo configuration all signals must be connected to the Left Side module, where all DSP functions are active and DIRECT IN is OFF.
- G) CH1 and CH2 Gain LEVEL Knobs regulate the amount pre-amplification level of the corresponding input.
- H) SPEAKER OUT NL4 (Speakon) Output. Connect to the Mid-High module of KB1. N.B.: to ensure correct operation of the system, ONLY use a 4-way Speakon connection.
- I) CH2 XLR balanced (cannon) phantom powered input.
- J) CH3 TS unbalanced (jack) Input for Line Level signals.
- K) CH3 double RCA Input for Line Level signals.
- L) CH4 TS (unbalanced jack) Input for Line Level signals.
- M) CH1 and CH2 FX Send Knobs regulate the amount of signal to be sent from the corresponding channel to the Effect Processor.
- N) Aux Out TRS (balanced jack) Output.
- O) Headphones TRS (stereo jack) Output.
- P) DI Out / Out R XLR (cannon) Output.
- Q) USB Remote Control plug for Remote Management via K-Framework software.
- R) POWER Switch Button.

- S) Main Level Knob which regulates the overall amplitude of the output signal.
- T) Power Plug.
- U) FX Presets Selector Knob selects one of the 16 available Effects:



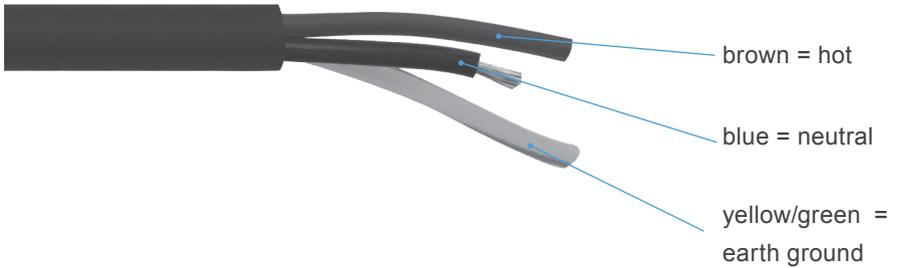
- 1) Slap-back Delay: Short Echo with almost no feedback.
- 2) Stereo Delay: Long Echo with some feedback. Repetitions are alternated between Left and Right output.
- 3) Big Ambience: simulates the acoustic response of a very large generic ambience.
- 4) Early Reflections: simulates the first reflections of soundwaves against the walls of a generic closed ambience.
- 5) Chorus: classic chorus effect.
- 6) Echo: Length and Feedback are similar to nr. 2 (Stereo delay) but repetitions are mono assigned.
- 7) Flanger: classic flanger effect.
- 8) Phaser: classic phaser effect.
- 9) Spring Reverb: digital implementation of a spring reverb.
- 10) Chapel Reverb: simulates the acoustic response of a chapel.
- 11) Gated Reverb: reverberation effect with an early and sharp decay.
- 12) Reverse Reverb: general reverb with reverse output.
- 13) Church Reverb: simulates the acoustic response of a church.
- 14) Room Reverb: simulates the acoustic response of a medium-sized room.
- 15) Big Hall Reverb: simulates the acoustic response of a big concert hall.
- 16) Small Hall Reverb: simulates the acoustic response of small concert hall.

10. CONNECTOR WIRING

The KB1 receives DC power from a 3-pin DVE connector on the back panel. The white PowerCon connector is a parallel OUTPUT for supplying power to other devices (max 5A @110V supported). When AC power is applied to the speaker, the auto-range power supply automatically selects the correct operating voltage.

To create your own power cables, please use the following wiring diagrams:

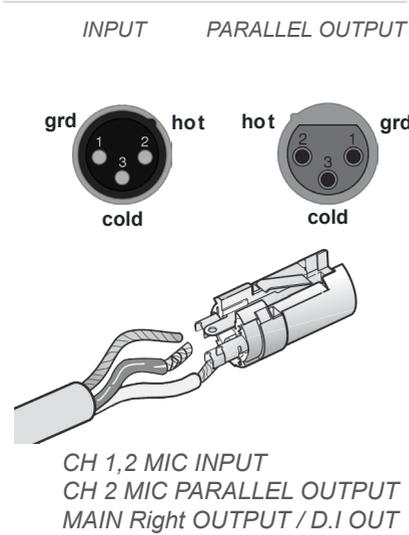
10.1 Power *INPUT* connector wiring



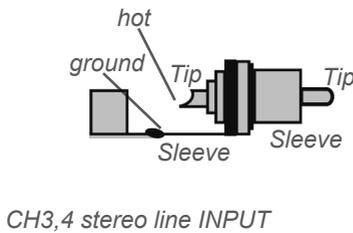
10.2 Audio signal connector wiring

The back panel of the KB1 has different types of audio connector for different types of entry cable. The following diagrams highlight the different characteristics of each entry:

XLR wiring



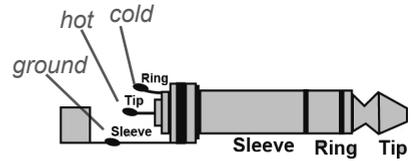
RCA wiring



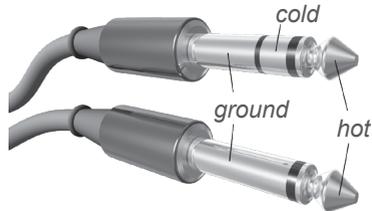
Speakon wiring



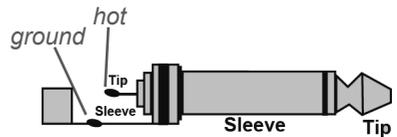
Jack wiring



Balanced Jack



Unbalanced Jack

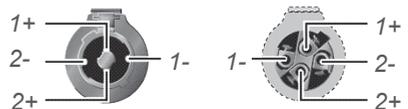


Unbalanced Jack

CH 1,2 Instrument INPUT
CH 3,4 Line INPUT

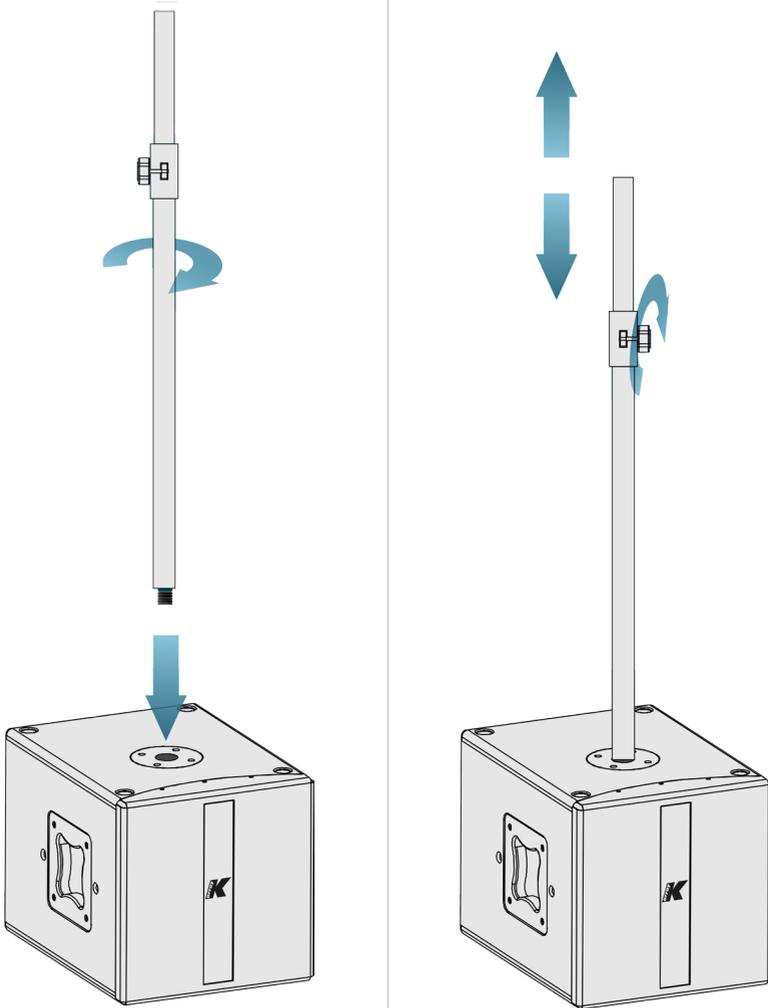
Balanced Jack

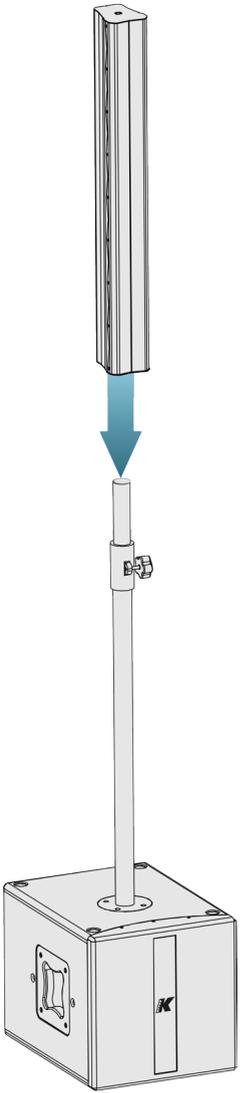
Aux OUT



Amplified signal for the top.
4-WIRE speaker cable is required

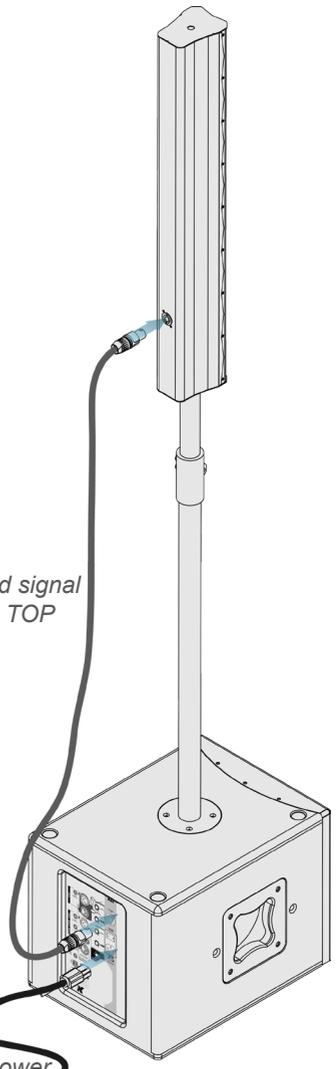
11. CONFIGURATION OPTIONS AND SET UP

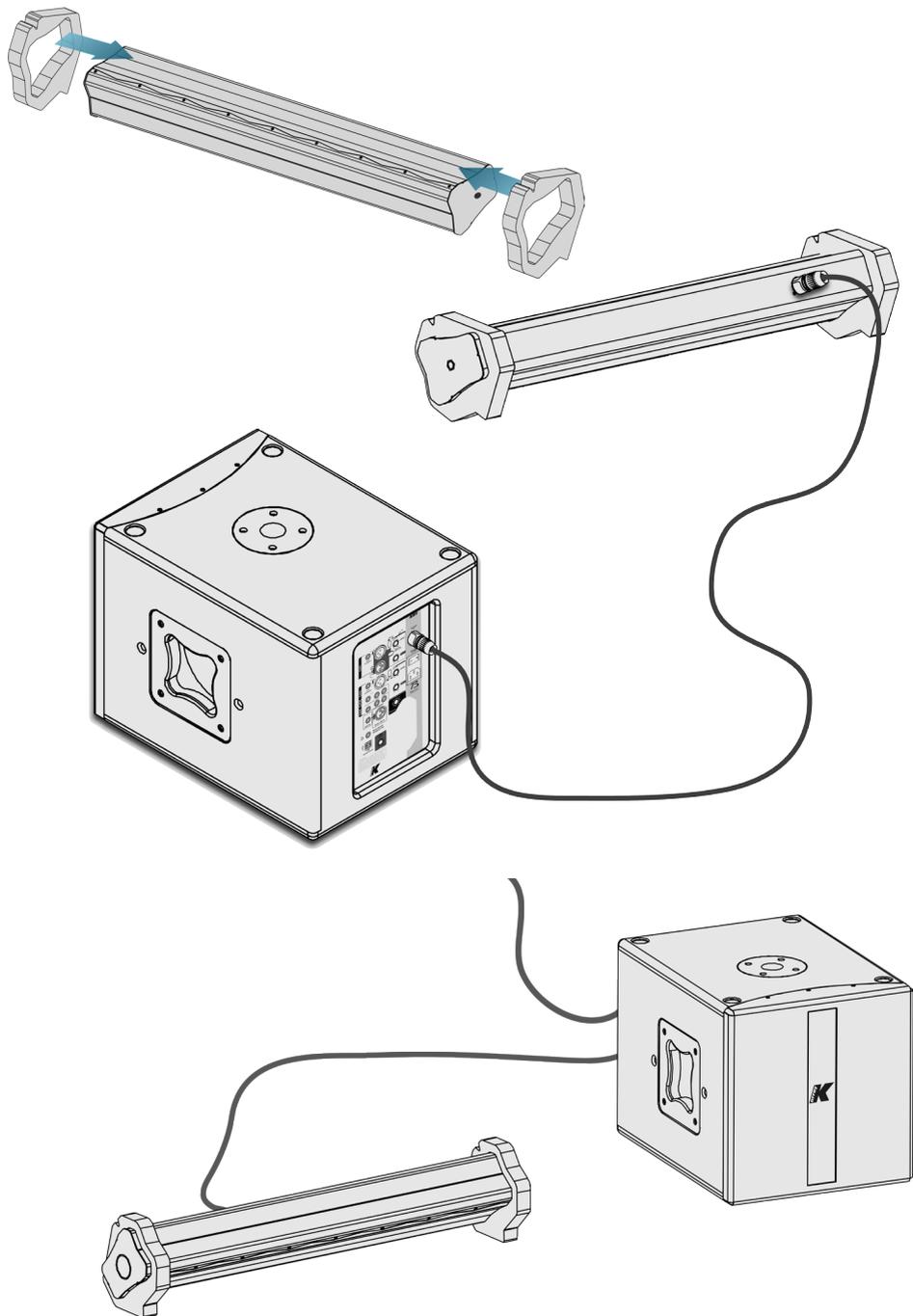


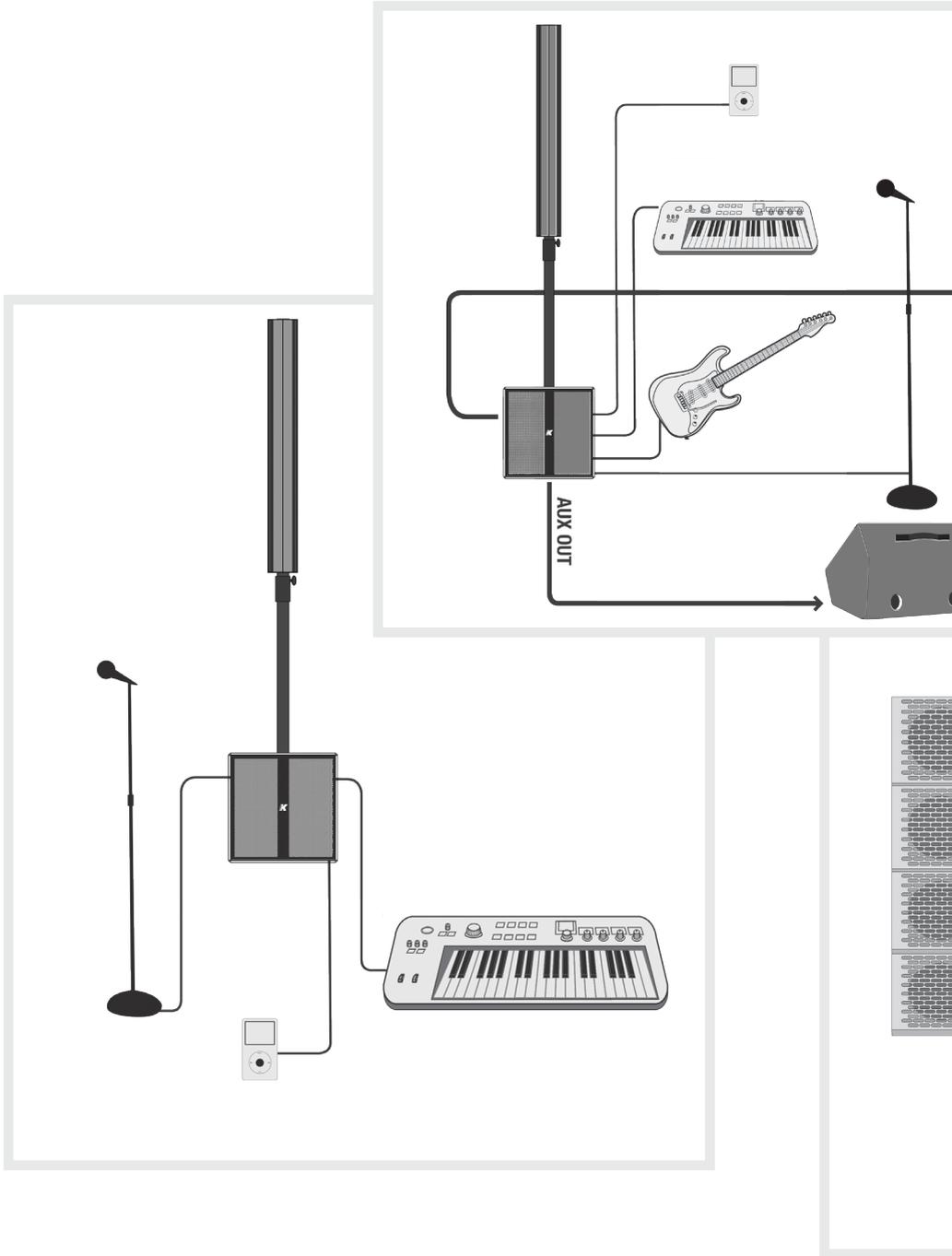


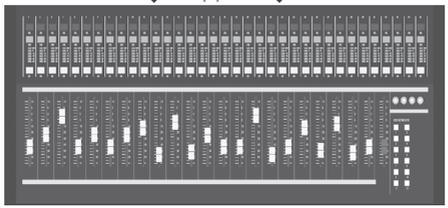
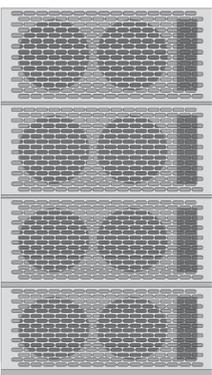
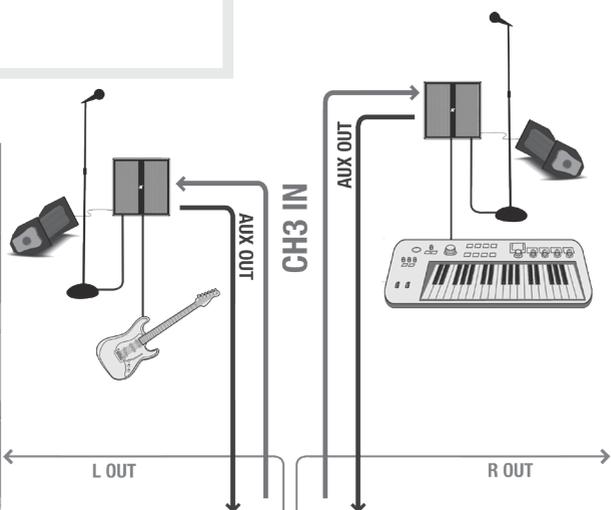
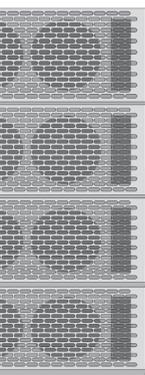
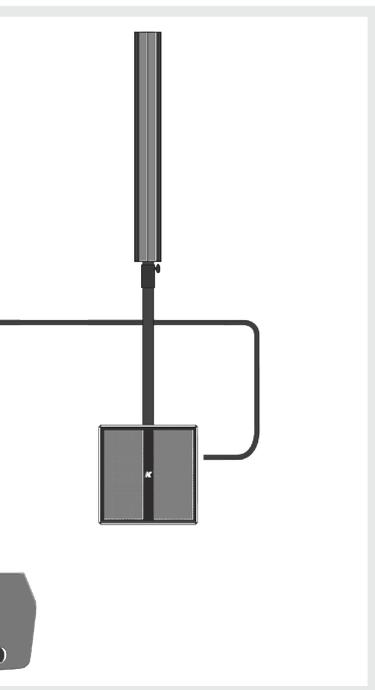
Amplified signal to the TOP

AC Power INPUT









12. MIXER AND DSP



KB1 has all the functions of a real 4-channel mixing desk as well as Dynamic Processing on CH1 and CH2 and Multi Effect for all 4 input channels.

Users can operate the main functions directly from the physical Mixer Panel, while using the **K-Framework** software you can access all the available functions and fully operate the system.

Users who are not interested in using the detailed parameter settings can enjoy the **basic Mixer Tab**, which gives you access to a greater variety of parameter than is available on the physical Mixer Panel.

Advanced users can operate the system with the **Advanced Mixer Tab** where you have access to detailed EQ and Dynamic Processing, and using the **Output Tab** you can edit the EQ of the Main and Aux outputs, and vary the coverage angle of the KB1 Mid-High module.

Channel and Output settings can be stored on the device or saved on any data storage device to be recalled and reloaded later.

Mixing features:

- 2 selectable microphone/line channels with 3 bands of parametric equalizers, independent compressors and phantom power
- 2 line channels with 3 bands of parametric equalizers.
- PFL on each of the 4 channels
- Management of the AUX send and the headphones output
- Multi-effect processor with 16 presets and independent send for each channel
- 3-band parametric EQ for each OUTPUT channel
- Management of PAN balance on each channel
- Variable coverage in the vocal frequency range
- INPUT and OUTPUT channel settings

13. K-FRAMEWORK

13.1 System requirements

SYSTEM REQUIREMENTS:

Operating System: Windows Xp / Vista / 7

CPU: Intel Pentium 2 GHz

Memory: 1 Gb

REQUIRED COMPONENTS:

.NET Framework 4

<http://www.microsoft.com/downloads/en/details.aspx?FamilyID=0a391abd-25c1-4fc0-919f-b21f31ab88b7>

Microsoft Visual C++ 2010 Redistributable Package (x86)

<http://www.microsoft.com/download/en/details.aspx?id=5555>

Microsoft Visual C++ 2010 Redistributable Package (x64)

<http://www.microsoft.com/download/en/details.aspx?id=14632>

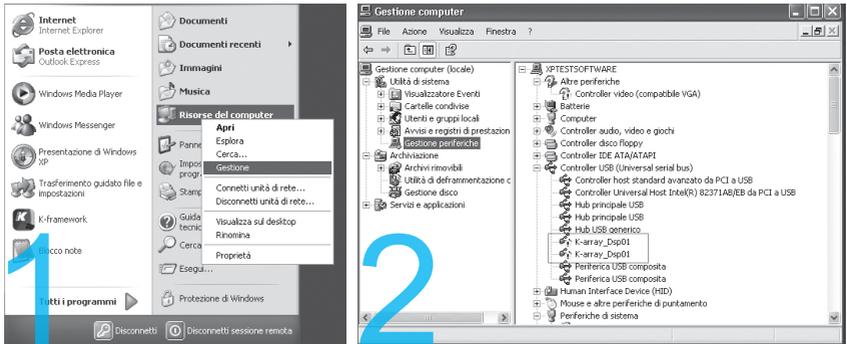
13.2 Installation and set up

To download your free K-Framework license, please go to the “Software Download” page of the Blueline website (<http://www.kblueline.com>).

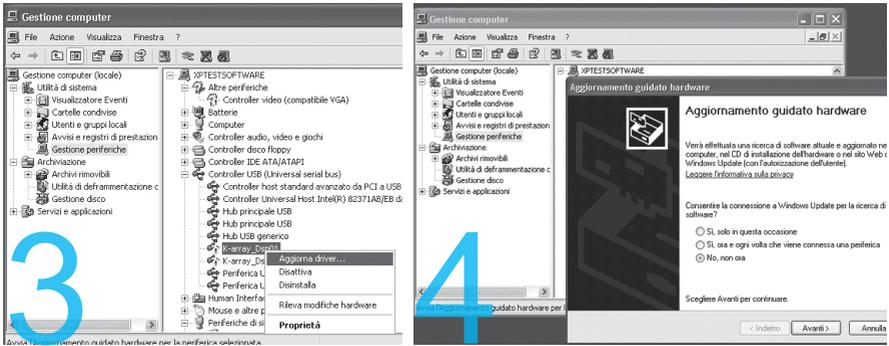
Once the .zip file is decompressed, it will show a folder containing the file “K-Framework.setup”.

-Users of Windows Vista and 7 can install the software by simply opening the K-Framework.setup file.

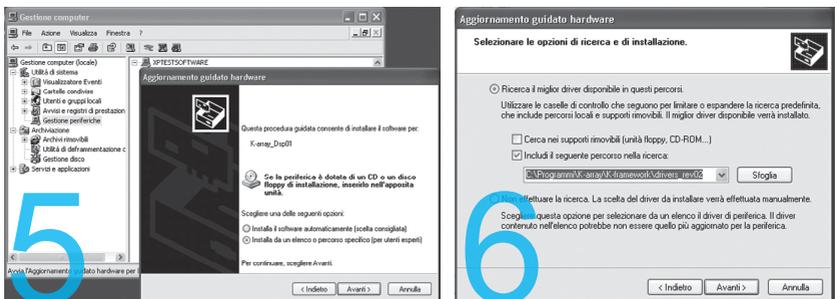
-Users of Windows XP are required to follow the following simple procedure to install the necessary drivers, once the K-Framework software has been installed:



- 1) Recall the “Manage” window from “Start Menu/My Computer”.
- 2) Select “Device Manager” from the menu on the left and expand the “USB controllers” sub-menu.



- 3) Right click on the upper “K-Array_Dsp01” object and select “Driver Update” to launch the “Hardware Update Wizard”
- 4) When asked to allow the online search select the “Not now” option and click on “Next”.



5) When asked for the drivers' location, select the "Install from a list or specific location" option.

6) In the search and installation options window, select the "Search for the best driver in this location" option and check the "Include this location in the search" checkbox, then browse for the drivers' containing folder. The path should read:

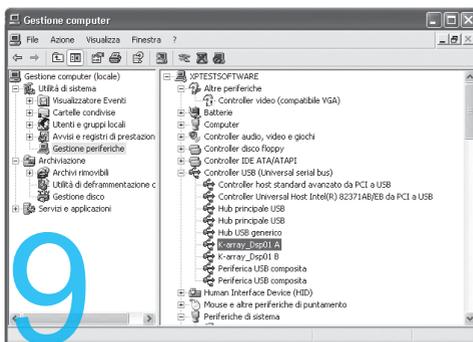
C:\ProgramFiles\K-array\K-framework\drivers_rev02

Once you have inserted the right search path, click "Next".



7) When warned about a failed "Windows Logo" test, please ignore the content of the warning and click "Next".

8) The first part of driver installation is now complete, and the "unknown" K-Array_Dsp01 port has changed its name to a univocal "K-Array_Dsp01 A". Click on "Finish" and repeat exactly the same procedure for the still unknown port.



9) Now you can see that inside the Device Manager Window both devices now have a univocal name and the alert symbol is no longer associated with them. **Now you are 100% ready to get started!**

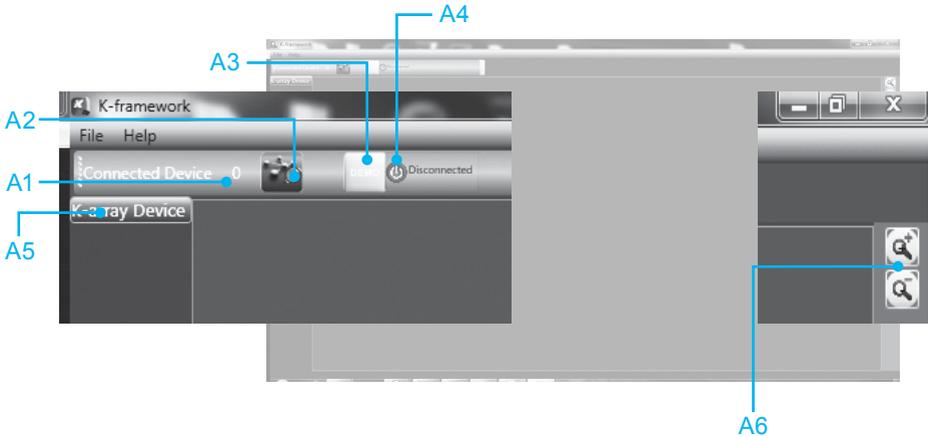
13.3 Getting started



WARNING

Please verify that your KB1 is connected to your PC via USB before running K-Framework for the first time!

At startup K-Framework will show the following window:



img. A

A1) Connected Devices Indicator shows the quantity of detected connected devices. N.B.: at startup, the indicator will show 0 devices even if one or more units are connected. To detect all connected devices, just click the “Go Online” button.

A2) Go Online Button detects connected devices.

A3) Demo Mode Button runs the software in Demo Mode, in order to let the user operate the software without a connected unit. In demo mode it is possible to edit settings and to save them in “.b1cp” and “.b1op”.

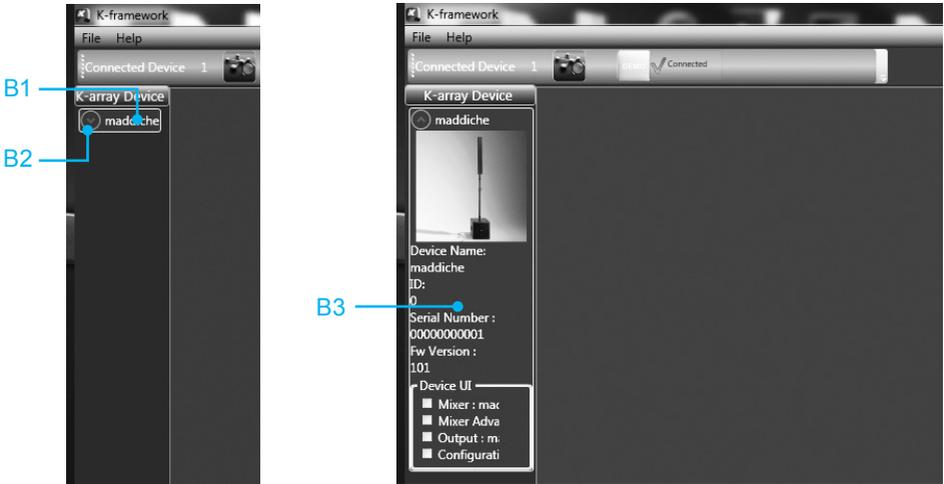
A4) Network Status Indicator shows the system status: Online means that K-Framework is connected to all devices in the network and the user can edit, store and retrieve parameters. Offline means that no devices are connected or, if the software has just been started up, that the network has not yet been scanned.

A5) Device List displays all devices presently connected to the network.

N.B.: at startup the List will look empty even if one or more units are connected. To detect all connected devices, just click the “Go Online” button.

A6) Zoom Buttons zoom in (+) and out (-) of the window view.

Click the **Go Online Button** to detect all presently connected devices.
Once a connected device is detected by K-Framework it will appear in the K-Array Device List as shown in the following picture:



img. B

- B1) Connected Device Name.
- B2) **Device Menu Button** shows and hides the device menu.
- B3) **Device Menu** displays the basic information about the device and the shortcuts to open all available Editing Tabs.

13.4 KB1 Editing Tabs:

Mixer Tab



img. C

C1) Channel Preset Name Display shows the name of the preset currently loaded on the channel.

C2) Channel Preset Selector opens and closes Channel Preset Window (see [img. F](#)).

C3) Filter Gain Knobs regulate the gain (negative or positive) of Filter 1, 2 and 3.

C4) AUX Send Knob regulates the amount of pre-fader, post-EQ and post-limiter signal sent to the auxiliary output.

C5) PAN Knob locates the channel in the stereo field.

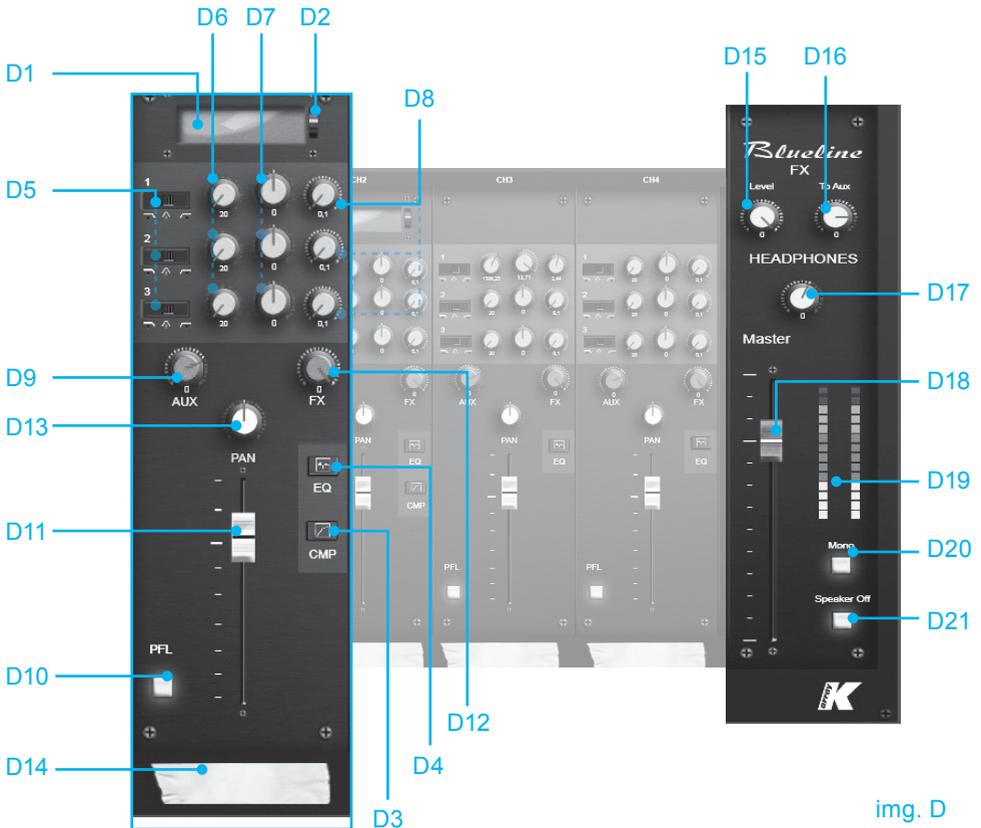
C6) Channel Volume Fader regulates the channel volume.

C7) PFL Switch Button activates and deactivates Pre Fader Listening. When PFL is ON, the Master VU Meter will show the amplitude of the signal entering the selected channel, bypassing both the EQ and Volume settings. In the same way, headphones will only output the signals entering the channels where PFL is turned on: pre-fader, post-EQ and post-compression.

- C8) **Channel Note** displays an editable 8 character text.
- C9) **Headphones Volume Knob** regulates the Headphones Master Volume.
- C10) **FX Mute Button** enables and disables the effects return.
- C11) **Master Volume Fader** regulates the Output Master Volume.
- C12) **VU Meter** displays overall amplitude of Master Output.

N.B.: When one or more channels are in PFL mode, the Master VU Meter will show the amplitude of the signal entering the selected channel, bypassing both the EQ and Volume settings.

Mixer Advanced Tab



img. D

D1) Channel Preset Name Display shows the name of the preset currently loaded on the channel.

D2) Channel Preset Selector opens and closes Channel Preset Window (see [img. F](#)).

D3) Compressor Window Button opens and closes the Channel Compressor Window (see [img. E](#)).

D4) EQ Window Button opens and closes the Channel EQ Window (see [pg. 35](#))

D5) Filter Type Selectors select the type of filter from three options: Low Shelving, Peak/Notch and High Shelving.

D6) Filter Frequency Knobs set the central or corner frequency of the corresponding filter.

D7) Filter Gain Knobs set the gain (positive or negative) of the corresponding filter.

D8) Filter Q / Slope Knobs set the “Q” or “Slope” value of the corresponding filter.

D9) AUX Send Knob regulates the amount of pre-fader, post-EQ and post-limiter signal sent to the auxiliary output.

D10) PFL Switch Button activates and deactivates Pre Fader Listening.

N.B.: When PFL is ON, the Master VU Meter will show the amplitude of the signal entering the selected channel, bypassing both the EQ and Volume settings. In the same way, headphones will only output the signals entering the channels where PFL is turned on, pre-fader, post-EQ and post-compression.

D11) Channel Volume Fader regulates the channel volume.

D12) FX Send Knob regulates the amount of post-fader signal sent to the effects processor.

D13) PAN Knob locates the channel in the stereo field.

D14) Channel Note displays an editable 8 character text.

D15) FX Master Volume Knob regulates the overall amount of effect to be sent to the Master Output.

D16) FX to AUX Knob regulates the amount of effects on the AUX OUTPUT.

D17) Headphones Volume Knob regulates the Headphones Master Volume.

D18) Master Volume Fader regulates the Output Master Volume.

D19) VU Meter displays overall amplitude of Master Output.

N.B.: When one or more channels are in PFL mode, the Master VU Meter will show the amplitude of the signal entering the selected channel, bypassing both

the EQ and Volume settings.

D20) Mono Switch Button switches between stereo and mono mode. In mono mode the same signal is sent to the unit's speakers and to the Out R/D.I. Out XLR output on the Mixer Panel if Right OUT is selected in the Output Tab (if D.I. OUT is selected, there is no difference between Stereo or Mono mode).

D21) Speaker OFF Switch Button enables and disables the Master OUTPUT.

Compressor Pop Up Window

E1) Compressor Type Drop Down Menu shows all the available compressing and limiting curves available on board, so that the user can choose one.



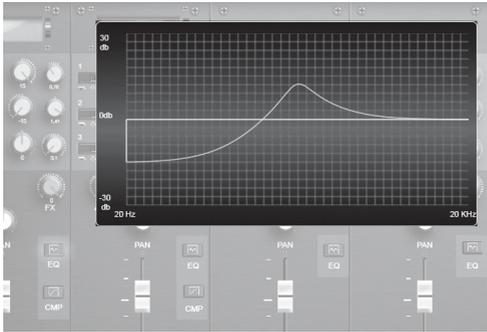
img. E

E2) Compressor RMS-TC Knob regulates the compressor attack time in the Time Constant domain expressed as dB/sec (ex: 100 dB/second = 86.86 milliseconds, 200 dB/sec = 43.43 ms, 8685.89 dB/sec = 1 ms, etc.)

E3) Compressor HOLD Knob sets how long the compression will stay on once the signal has fallen below the threshold in milliseconds.

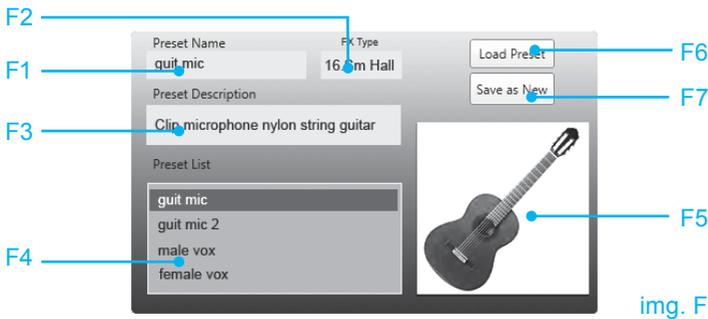
E4) Compressor DECAY Knob regulates the compressor decay time in the Time Constant domain expressed as dB/sec (ex: 100 dB/sec = 86.86 ms, 200 dB/sec = 43.43 ms, 8685.89 dB/sec = 1 ms, etc.)

EQ Pop Up Window



This windows shows a graph where the user can intuitively see the effect of the corresponding filter on the signal frequency spectrum.

Channel Preset Pop Up Window



img. F

F1) Channel Preset Name Indicator displays the name of the preset currently selected in the Channel Preset List.

F2) Channel FX Type Indicator displays the type of effect to be selected on the Mixer Panel to match the preset settings.

F3) Channel Preset Description Text describes the preset currently selected in the Channel Preset List.

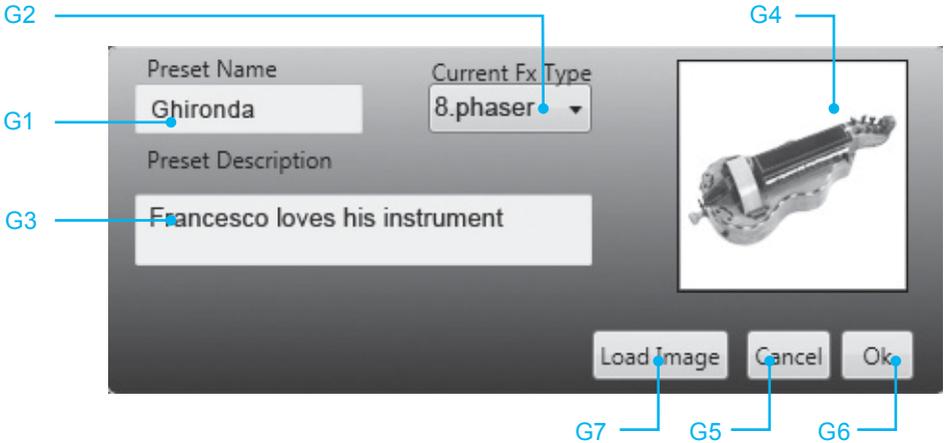
F4) Channel Preset List displays all the presets available to the system.

F5) Channel Preset Image displays the picture file associated with the preset that is currently selected in the Channel Preset List.

F6) Load Preset Button loads the preset currently selected in the Channel Preset List to the selected channel.

F7) Save as New Button opens the New Channel Preset Pop Up Window

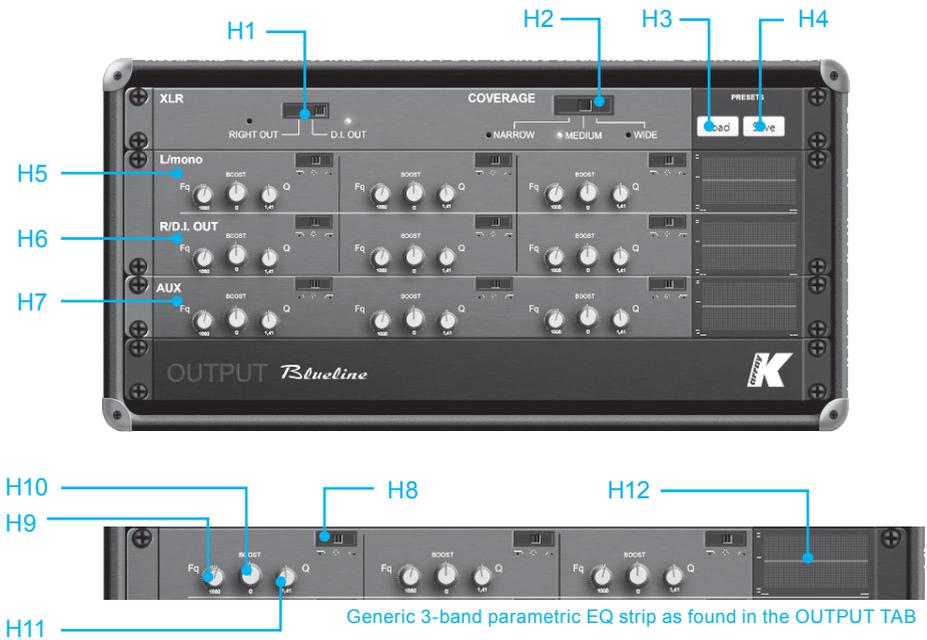
New Channel Preset Popup Window



img. G

- G1) New Channel Preset Name Textbox** can be edited to assign a name to a new preset.
- G2) Current Fx Type Drop Down Menu** displays all the currently available effect types. The one that is selected when the new preset is saved will show up in the Channel FX Type Indicator once the new preset is selected in the Preset List.
- G3) New Channel Preset Description Textbox** can be edited to assign a short description to the new preset.
- G4) New Channel Preset Image Box** shows the picture currently associated with the new preset.
- G5) Cancel Button** closes the New Channel Preset Pop Up Window without saving the current settings in a new preset file.
- G6) Ok Confirmation Button** saves all the current settings of the selected channel, the New Preset Name, FX type, Description and Image into a new preset file to be uploaded, further edited and shared with the community of users.
- G7) Load Image Button** opens a dialog window to select an image file to link to the new preset.

Output Tab



img. H

H1) Out R/D.I. Out Mode Selector assigns the Right Stereo channel or the pre-fader Direct Output of Channel 1 to the Out R/D.I. Out XLR output on the Mixer Panel.

H2) COVERAGE Selector sets the vertical coverage width of the system. (10°-60°)

H3) Output Preset Load Button opens a dialog window to select the Output Preset to load onto the system.

H4) Output Preset Save Button opens a dialog window to save the current output settings into a re-loadable preset file.

H5) L/mono 3-band Parametric Equalizer allows you to equalize the speaker frequency response.

H6) R/D.I. OUTPUT 3-band Parametric Equalizer allows you to equalize the frequency response of R/D.I. OUTPUT.

H7) AUX OUTPUT 3-band Parametric Equalizer allows you to equalize the frequency response of AUX OUTPUT.

H8) L/mono Filter Type Selectors select the type of filter on the Left Stereo Output from three options: Low Shelving, Peak/Notch and High Shelving.

H9) Filter Frequency Knobs set the central or corner frequency of the corresponding filter on the Left Stereo Output.

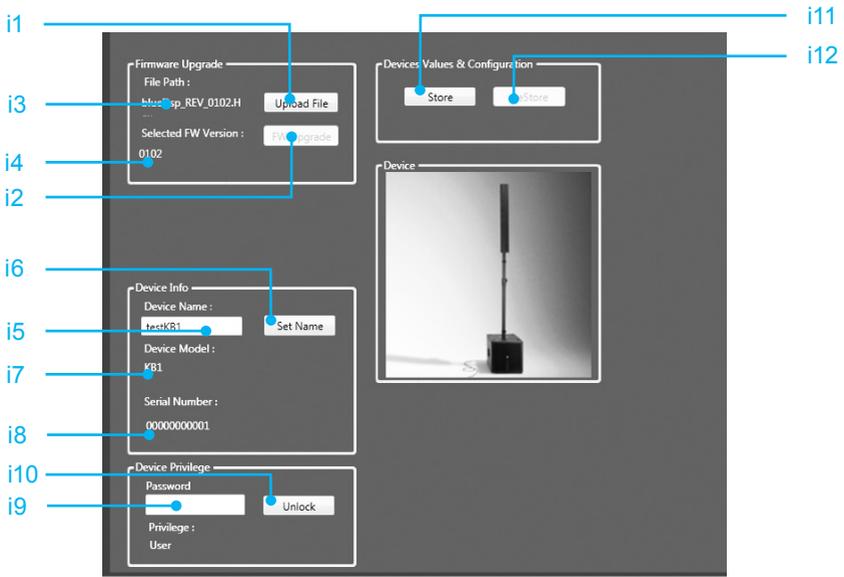
H10) Filter Gain Knobs set the gain (positive or negative) of the corresponding filter on the Left Stereo Output.

H11) Filter Q / Slope Knobs set the “Q” or “Slope” value of the corresponding filter on the Left Stereo Output.

H12) Filter Graph shows the effect of the corresponding filter on the signal frequency spectrum.

H13) AUX Filter Q / Slope Knobs set the “Q” or “Slope” value of the corresponding filter on the Left Stereo Output.

Device Configuration Tab



img. i

- i1) **Firmware Upload Button** opens a dialog window to select the Firmware file to upload to the system.
- i2) **Firmware Upgrade Button** uploads the selected Firmware file to the system.
- i3) **Firmware File Path Indicator** displays the system path of the selected Firmware file.
- i4) **Firmware Version Indicator** displays the version of the currently selected Firmware.
- i5) **Device Name Textbox** can be edited to provide a new name for the currently selected device.
- i6) **Set Name Button** stores the text in the Device Name Textbox on the selected device.
N.B.: the newly set device name will not be updated in the Device List on the left.
- i7) **Device Model Indicator** displays the model name of the currently selected device.
- i8) **Serial Number Indicator** displays the Serial Number of the currently selected device.
- i9) **Password Textbox** can be edited to insert the system password to give the authorized user access administrator level access.
N.B.: Only the staff of K-Array or official authorized services are allowed to login with Factory Privileges.
- i10) **Password OK Button** verifies that the text in the Password Textbox matches the required password to access the factory level.
- i11) **Device Configuration Store Button** allows the user to store all the current device settings on the device internal memory.
- i12) **Device Configuration Restore Button** restores the device settings currently stored on the device.

Precise setting view

Double Click on the knobs to open a small interface dedicated to the precise setting of the corresponding knob value. To close the Precise Setting View click on the OK Button (6).

J1) Increment Button A for Filter Frequencies = increment by hundreds, everything else = increment by units.

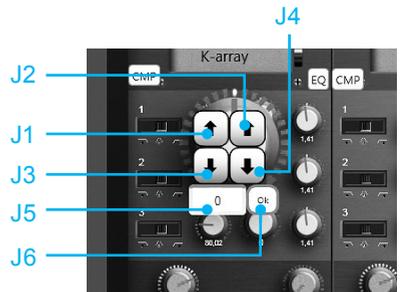
J2) Increment Button B for Filter Frequencies = increment by tens, everything else = increment by tenths.

J3) Decrement Button A for Filter Frequencies = decrement by hundreds, everything else = decrement by units.

J4) Decrement Button B for Filter Frequencies = decrement by tens, everything else = decrement by tenths.

J5) Value Textbox can be edited to directly write the desired Knob value.

J6) OK Button sets the number inside the text box as value of the parameter controlled by the corresponding knob and closes the Precise Setting View.



img. J

14. CUSTOMER SERVICE

To receive 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) to 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 centre.



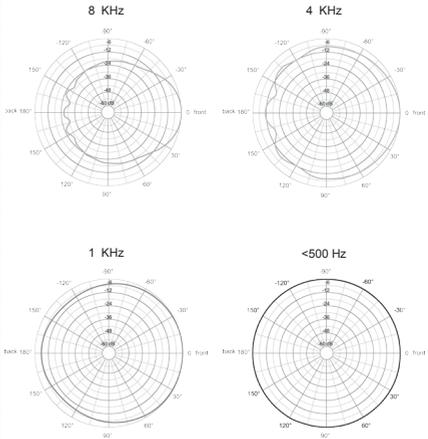
Cleaning:

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.

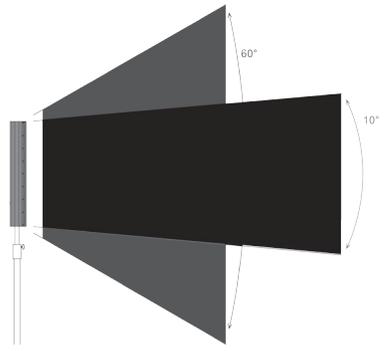
15. KB1 TECHNICAL DETAILS

	KB1
	Acoustics
Frequency range	30 Hz - 20 KHz.
Maximum SPL	112 dB continuous - 118 dB peak
	Coverage
Horizontal	90°
Vertical	10° - 60° (digitally controlled)
	Crossover
Type	DSP controlled
Frequencies	200 Hz
	Mixer Audio Input
Connectors	2 x balanced XLR + 6,3 mm Jack (CH1 and CH2) 2 x 6,3 mm Jack + 4 unbalanced RCA(CH3 and CH4)
	Mixer Audio Output
Connectors	1 x XLR CH1 parallel output 1 x XLR (Right / D.I. output) 1 x 6,3 mm Jack (Headphone out) 1 x 4-pin Speakon (2-channel power out to mid-high)
	Remote control Input
Connectors	1 x USB
	Power Input
Connector	1 x VDE power plug
	Amplifiers
Type	1 modules class D - DSP controlled
Power to mid-high	120 W x 2 channels (240 watt total) ¹
Power to sub	450 W ¹
Protection	Dynamic limiter, over current, over temp, short circuits
	AC power
Operating range	85 - 132 Vac 50 Hz (Auto-switching) 170 - 264 Vac 60 Hz (Auto-switching)
I.nom	2 A / 115 Vac - 1 A / 230 Vac
Peak Power	660 W / 120ms max
	Physical
Dimensions	32.5 x 178 -220 x 43.5 cm (12.8" x 70"-86" x 17.13")
Weight	22 Kg (48.5 lbs)
	Notes for data
	1. Amplifier wattage rating is based on the maximum unclipped burst sine wavve RMS voltage that the amplifier will produce into the nominal load impedance.
	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.

DISPERSION GRAPHS



horizontal



vertical

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 purposes 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.

K-array is a brand of
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