

# User Manual



**VL 750 & VL 760**



# 1. Introduction

Thank you for choosing a K.M.E. product!

VERSIO has been consequently developed to portable requirements. With these compact and ergonomic loudspeaker systems you will be able to master your reinforcement situations in a very flexible manner (main-PA, monitoring, fill-system, delay line).

In this User Manual you will find some hints and warning notes for your new product with which a safe use of the VL 750 / VL 760 is allowed. Please read this instructions **before** you switch on the unit for the first time, to get in touch with particular features of your new product. If you have questions about this product please contact the K.M.E. support.

Within our extensive production processes we only use exclusive materials and components of best quality. Share with us the enthusiasm for good sound. The K.M.E. team wishes you fun and success with your new PA-system!

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### **3. The completely digital audio system VL 750 / VL 760**

The completely digital audio system VL 750 / VL 760 offers excellent sound performance with an extremely high output power, compact dimensions, low-weight as well as an absolutely versatility as top unit, monitor, full-range or delay line and fill system. The VL 750 / VL 760 is also ideal combinable with VERSIO subwoofers. It has been consequently developed and optimized to portable and installation requirements.

The integrated 12" resp. 15" + 1" neodymium drivers and the integrated innovative digital technology reduce the weight. The bass reflex housing provides a low-frequency radiation starting from 50 Hz. The special tunnel geometry enables a high sound pressure with extra low power compression and a low flow noise.

Inside work a digital 24 Bit signal processor and two powerful class D amplifiers with an unsophisticated, crystal-clear sound quality (without conversion losses due to full digital preamping). The analogue input signal is digitalized directly inside the input amplifier using an intelligent 24 Bit AD-converter and remains consequently digital to the class D amplifiers` output. The audio-DSP enables an optimal processing and controlling of the audio signal through adjustable parameters like gain, digital low-cut filter, subsonic filter, (parametric) EQs, peak/RMS-limiter and delays.

With the simple controlling of the system menu with only one navigation pad, you can select, load and program factory presets resp. user presets. Due to the audio-DSP extensive solutions are available for various using possibilities (see page 25). All factory presets can be set as user presets.

The high-quality scratch- and impact-resistant black polyurethane coating offers optimal road suitability. An additional protection of the loudspeaker offers the comb-grid with acoustic foam and the special impregnation of the loudspeaker membrane against moisture impacts. As an option you can choose a protective cover, wall mount, flying frame, M8 eyebolts.

### **4. The delivery status**

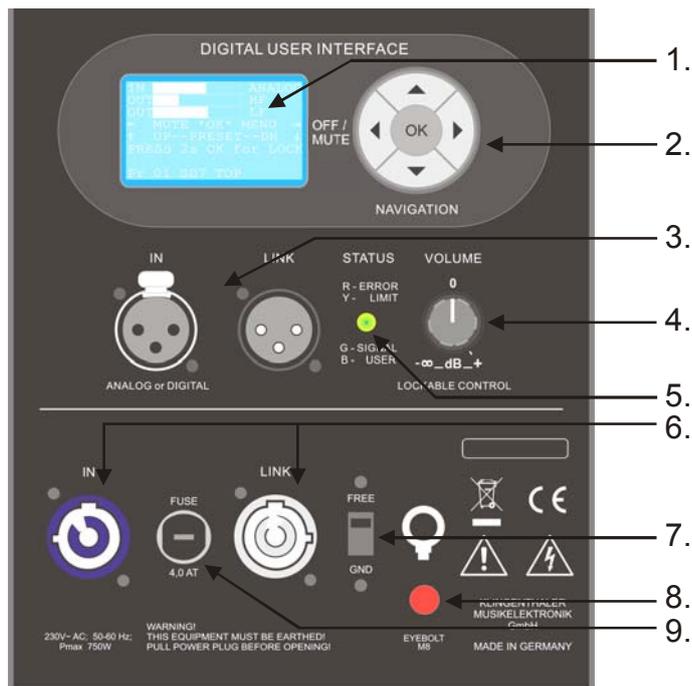
The scope of delivery includes: 1x VL 750 / VL 760, 1x PowerCon-mains cable and user manual

When you power up the VL 750 / VL 760 for the very first time the following default parameters in the main menu are pre-set:

- preset 2 „ VL750 / VL760 Full “ is loaded
- power mode “Last State” is activated
- Sig. LED threshold is adjusted to -50 dB
- User LED threshold is adjusted to 0 dB (0 dB = deactivated)
- output levels are shown on the LCD display
- input switched to analogue
- a password is not entered

**This User Manual corresponds to the software version V1.0 r12 (VL750) / r13 (VL760). It is obvious in the menu item „Diagnostics“!**

## 5. The control- and connection panel



### Operation and audio input

1. The LCD display is used as operation mode display of the VL 750 / VL 760. The arrows in the LCD display show the directions to navigate through the submenus (see navigation structure). All software parameters must be set on the unit itself. Press the 'OK' button to select a parameter if you are asked by the unit.
2. Navigation pad - The navigation pad is to be used for accessing and changing parameters on the display of the hardware unit. Press the OK button if you are asked by the software (see navigation structure).
3. LINE in & link - XLR balanced, analogue/digital switchable (see navigation structure); link out is only active when the VL 750 / VL 760 is powered on
4. Volume control (adjustable from  $-\infty$  to +6 dB), **Attention:** please turn down volume control before switching on the VL 750 / VL 760 to avoid an undesirable sound reproduction.
5. Multi-colour LED signaling different parameters:
  - LED does not light up - there is no input signal
  - LED lights up green - there is an input signal
  - LED lights up blue - the adjusted user threshold value is exceeded
  - LED lights up orange - max. input level, the limiter is working
  - LED lights up red - there is a malfunction, you must power cycle the VL 750 / VL 760

### Power

6. Mains connector PowerCon in (blue) + link (grey), **Attention:** use mains voltage of 90 - 250 V AC / 50 - 60 Hz
7. GROUND/FREE switch (disconnects the ground of the input channels from chassis to avoid ground loops)
8. M8 eyebolt
9. mains fuse (replace fuse only by type 4A slow blowing fuse 5x20 mm)

## 6. Choose your factory preset - play!

To adapt the VL 750 / VL 760 to your reinforcement the unit includes pre-set factory presets. That means you have to choose the current preset for your application (e.g. if you use the VL 750 / VL 760 as monitor you have to choose preset no. 4 "VL 750 / VL 760 Mon").

### 6.1 Powering up / down

To switch on / off your VL 750 / VL 760, please follow the instructions:

1. Apply power supply connection (90 - 250 Volt / 50 - 60 Hz) on VL 750 / VL 760 (if the unit is switched to power mode „Always On“, it is switched on now)
2. Press for 1 second the OK-button – the unit is switched on now (if the power mode "Last State" is activated, the unit is switched on and muted!)
3. To switch off the VL 750 / VL 760, press for 1 second the left arrow key – now the unit is muted. After this you have to press for 1 second the OK-button to switch off the VL 750 / VL 760. If the unit is switched to power mode „Always On“ or the unit is locked, please disconnect the power supply connection to switch off the VL 750 / VL 760.

**Note!** Switch on the VL 750 / VL 760 when the volume pot is turned fully anti-clockwise / left stop and all connected components are switched on and muted previously to avoid an unwanted sound reproduction.

Because the VL 750 / VL 760 can be in „lock-function“ for rental purposes that means the unit may not react on changes on the control panel (depending on adjustment before) and this can cause an immediate reproduction when switching it on. Therefore it is necessary to mute all connected devices previously.

After switching on the VL 750 / VL 760 the volume pot should be turned to 0 dB (center click) with deactivated „lock-function“ to keep a defined signal level and an optimal controlling (this adjustment is a recommendation).

*During power on for the very first time Preset 2 „VL 750 / VL 760 Full“ is loaded! More information about the initial state you can find on page 3.*

### 6.2 Preset overview

The VL 750 / VL 760 includes four factory presets and four user presets. When switching on for the first time preset 2 "VL 750 / VL 760 Full" is loaded (a factory preset). You can load factory presets and change them. How it can be made you will find on page 8 - 10 in this manual. The menu item „Userpresets“ appears only from preset no. 4 to 8, where you can set and adjust the parameters like limiter, EQs, delays. The names of the presets (listed below) refer to the menu navigation of the device.

**Factorypresets** - are not adjustable and erasable

- Preset 01 „SD7 / SD8 Top“
- Preset 02 „VL750 / VL760 Full“
- Preset 03 „VL750 / VL760 Linear“
- Preset 04 „VL750 / VL760 Mon“

**Userpresets** - are adjustable and programmable

- Preset 05 „USER Delay“
- Preset 06 „USER Fullrg.“
- Preset 07 „USER Monitor“
- Preset 08 „USER Top“

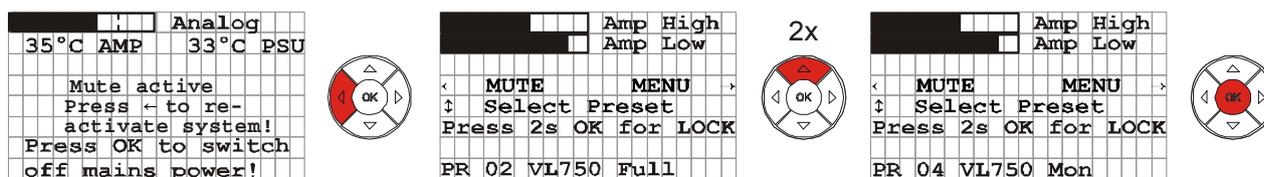
## When should I choose which preset?

To adapt the VL 750 / VL 760 to your reinforcement, you have to choose and load the correct preset of your setup. In this list you can read out the application of the presets.

- Choose:
- preset 01 – to use the VL 750 / VL 760 as top unit in the PA system SD7 / SD8
  - preset 02 – to use the VL 750 / VL 760 as full-range without additional sub
  - preset 03 – to use the VL 750 / VL 760 as linear system
  - preset 04 – to use the VL 750 / VL 760 as monitor
  - preset 05 – to use the VL 750 / VL 760 as free configurable delay line
  - preset 06 – to use the VL 750 / VL 760 as free configurable full-range system
  - preset 07 – to use the VL 750 / VL 760 as free configurable monitor
  - preset 08 – to use the VL 750 / VL 760 as free configurable top unit

### 6.3 Selecting presets

To control the respective system optimally the valid preset has to be load. You have to select it and load your latest PA-setup as preset on the control panel of the VL 750 / VL 760. Follow the instructions (e.g. select „VL750 Mon“)!

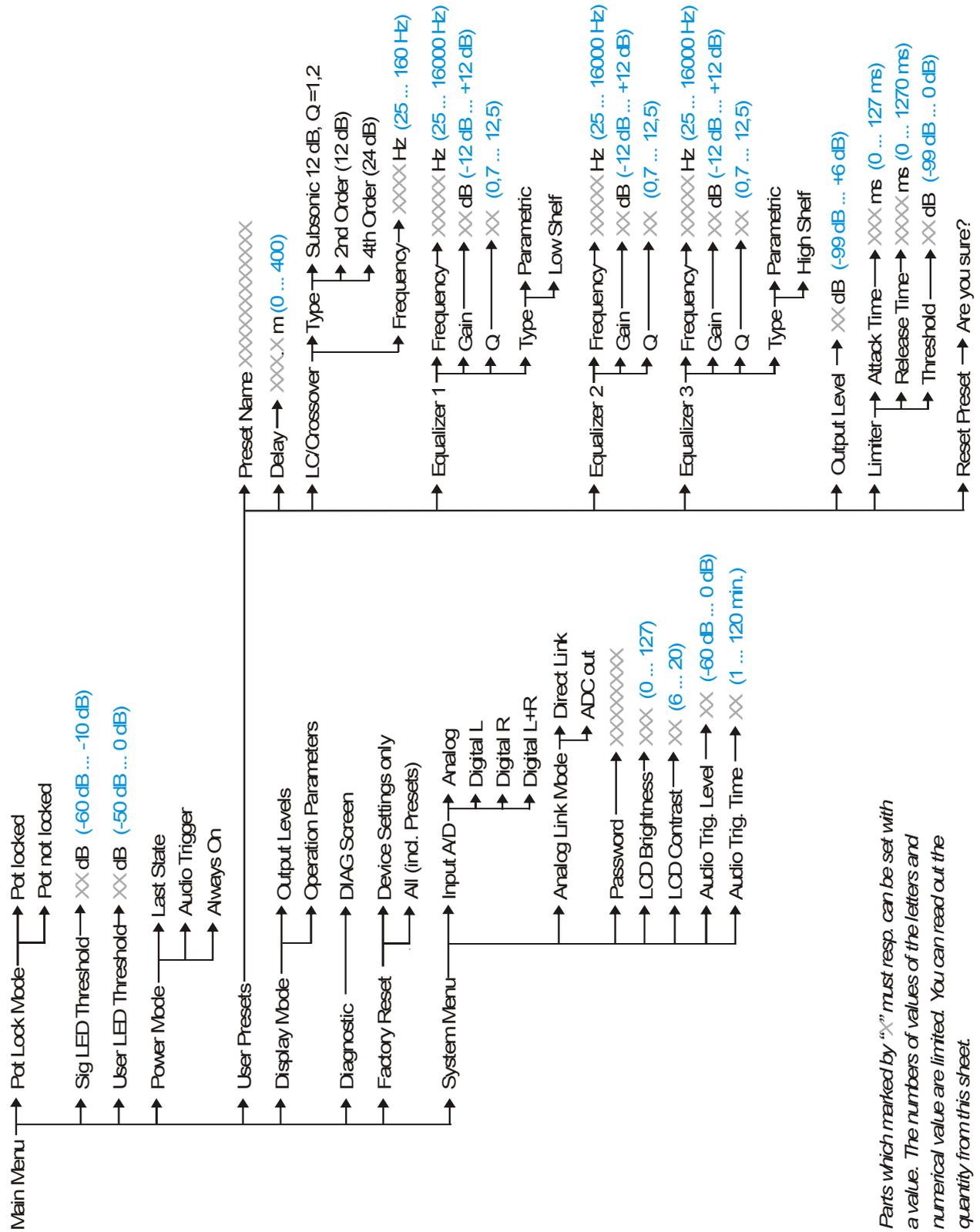


After power on the VL 750 / VL 760 for the very first time the left graphic appears on the LCD display (depending on VL 750 or VL 760). You have to press the marked arrow key of the navigation pad twice to select preset 4 „VL750 Mon“ and confirm with the OK-key.

If you control your PA system with an analogue audio signal, **you can start now!**

## 7. The navigation structure (menu navigation)

by means of the information of the menu list



Parts which marked by "X" must resp. can be set with a value. The numbers of values of the letters and numerical value are limited. You can read out the quantity from this sheet.

## 8. Operation

All these software parameters must be set directly on the hardware device. The sub menu "User preset" where you can set parameters like gain, crossover frequency, limiter, delays,...appears from preset no. 5 - 8.

The names of the menu points refer to the user navigation on the device.

### Main Menu

- **Pot Lock Mode** *[to be activated by using "lock function", see page 13]*

**Pot locked** *[just lock volume pot]*

**Pot unlocked** *[just unlock volume pot]*

In this menu item you can set a „lock - function“ for the volume pot of VL 750 / VL 760.

- **Sig LED Threshold**

Here you can set the threshold value where the LED starts to light green when the set value is reached by the audio signal.

- **User LED Threshold**

Here you can set the threshold value where the LED starts to light blue when the set value is reached by the audio signal. This function allows you to set an optical limit for the volume level for your audience, e.g. -10 dB – you know your pre-set value is reached.

- **Power Mode**

**Last State**

**Audio Trigger**

**Always On**

In this menu item you can pre-set the operating status of the VL 750 / VL 760:

If you choose „Last State“- mode, the VL 750 / VL 760 will always start in the last state of operating after power cycle the unit (after power cycle the unit is muted!).

To reduce the power consumption e.g. in installations you can choose „Audio Trigger“- mode. In this mode you can set a threshold value and a time value where the system automatically switched off when the threshold is not exceeded with an audio signal. After the pre-set time the unit is switched off. If the pre-set threshold value is exceeded during the unit is still on, the time value counts again - that means this function is a posttrigger-function. You can switch on the unit again by pressing the OK-button or playing an audio signal which has a higher input level as the pre-set threshold value.

If you choose „Always On“, the VL 750 / VL 760 is always on. That means after apply power supply the unit is automatically on and ready to play (the "lock function" can be active!).

- **Display Mode**

**Output Levels** *headroom display]*

**Operation Parameters** *[input level display and operation display]*

You can chose between two layouts of the LCD graphic display. The first one shows the headroom of both amplifier modules. The second one gives an overview about input level and signal (analogue or digital) as well as temperature of the amplifiers and PSU (PowerSupplyUnit). If the unit is muted, the operation parameter screen is displayed automatically.

- **Diagnostics**

In this menu item you can read out the current software version.

- **Factory Reset**

**Device Settings only** *[Restore all adjustable parameters in the main menu]*

**All (incl.Presets)** *[Reset all changes made, incl. all user presets]*

To reset the unit to the programmed initial state there are two "levels", just to restore only the adjustable parameters in the main menu or all menu items (incl. all user presets). After resetting all changed settings from the user are turned to the programmed initial state!

- **System Menu**

- Input** (see page 11)

- Analog** [switch input to „analogue“]

- Digital L** [switch input to „digital left“]

- Digital R** [switch input to „digital right“]

- Digital L+R** [switch input to „digital left + right“ (=mono signal)]

- In this menu item you switch the input to „analogue“ or „Digital L“ or „Digital R“ or „Digital L+R“. You can reproduce a analogue signal or a digital signal (left or right side) or a digital mono signal on VL 750 / VL 760.

- Analog Link Mode**

- Direkt Link** [input signal = output signal]

- ADC out** [analogue input signal is digitalized on output]

- Password** (see page 12)

- In this menu item you can enter a max. 8-digit password. If you have entered a password and activate the “lock function” you must enter the password again to unlock the unit.

- LCD Brightness** [adjust brightness of the LCD graphic display]

- LCD Contrast** [adjust contrast of the LCD graphic display]

- Audio Trig. Level** [adjust threshold for the power mode „Audio Trigger“]

- Here you set the threshold value, which the pre-set „Audio Trig. Time“ counts down after the audio signal doesn't exceed it. If the pre-set threshold is exceeded, the time value counts down again - that means this function is a posttrigger-function.

- Audio Trig. Time** [adjust switch-off time for the Power Mode „Audio Trigger“]

- **User Presets** [appears only from preset no. 5 to 8]

- Preset Name** [enter preset name, max. 12 digits]

- Delay** [adjust delay from 0 – 400m, in 10 cm steps]

- LC/Crossover** (high pass) [crossover function]

- Type** (subsonic-filter 12 dB Q=1,2 or 12 dB/octave or 24 dB/octave)

- Frequency**

- This digital filter (crossover) limits the frequency range. You can not deactivate this digital filter. When you need a full-range audio signal on the output you have to set the frequency to 25 Hz and choose a type of the low cut filter.

- Equalizer 1** [adjust equalizer]

- Frequency**

- Gain**

- Q** (bandwidth)

- Type**

- Parametric**

- Low Shelf**

- With this digital filter you can affect the frequency range by making adjustments of filter frequency (center frequency), the gain (boost resp. cut) and the Q-factor (bandwidth). If you adjust the sensitivity (gain) to 0 dB you deactivate this filter. If you choose the type “Low Shelf or High Shelf” the bandwidth is not activated (you can enter a value for the Q-factor but it is ignored)!

- Equalizer 2** [adjust equalizer]

- Frequency**

- Gain**

- Q** (bandwidth)

- With this digital filter you can affect the frequency range by making adjustments of filter frequency (center frequency), the gain (boost resp. cut) and the Q-factor (bandwidth). If you adjust the sensitivity (gain) to 0 dB you deactivate this filter.

### **Equalizer 3** *[see equalizer1]*

**Frequency**

**Gain**

**Q** (bandwidth)

**Type**

**Parametric**

**High Shelf**

**Output Level** *[adjust output level, it is independent to the adjustment of the volume pot]*

**Limiter** *[adjust limiter]*

**Attack Time**

**Release Time**

**Threshold**

This dynamic processor is working when the audio signal exceeds the entered threshold-value. The two time constants attack and release time draw the speed of the gain regulation mechanism and are dependent to the program material.

### **Reset Preset**

**Are you sure?**

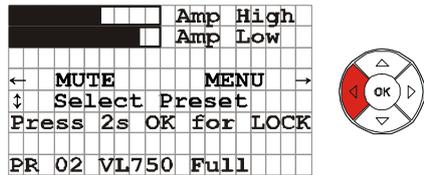
Here you can reset the preset to the programmed initial state, that means you re-activate the factory-made user preset on this memory cell and delete your preset. If you want to change one or more menu items in a user preset, choose this topic and overwrite it with a new value and press the OK button. Hence the new value is saved in the preset without entering all set parameters again.

## 9. The most important menu functions

In this part of the user manual you will find a structured digest about the procedure for the necessary settings in the main menu and its functions. If you pay attention to that a riskless use of the VL 750 / VL 760 is ensured.

### 9.1 The „Mute- function”

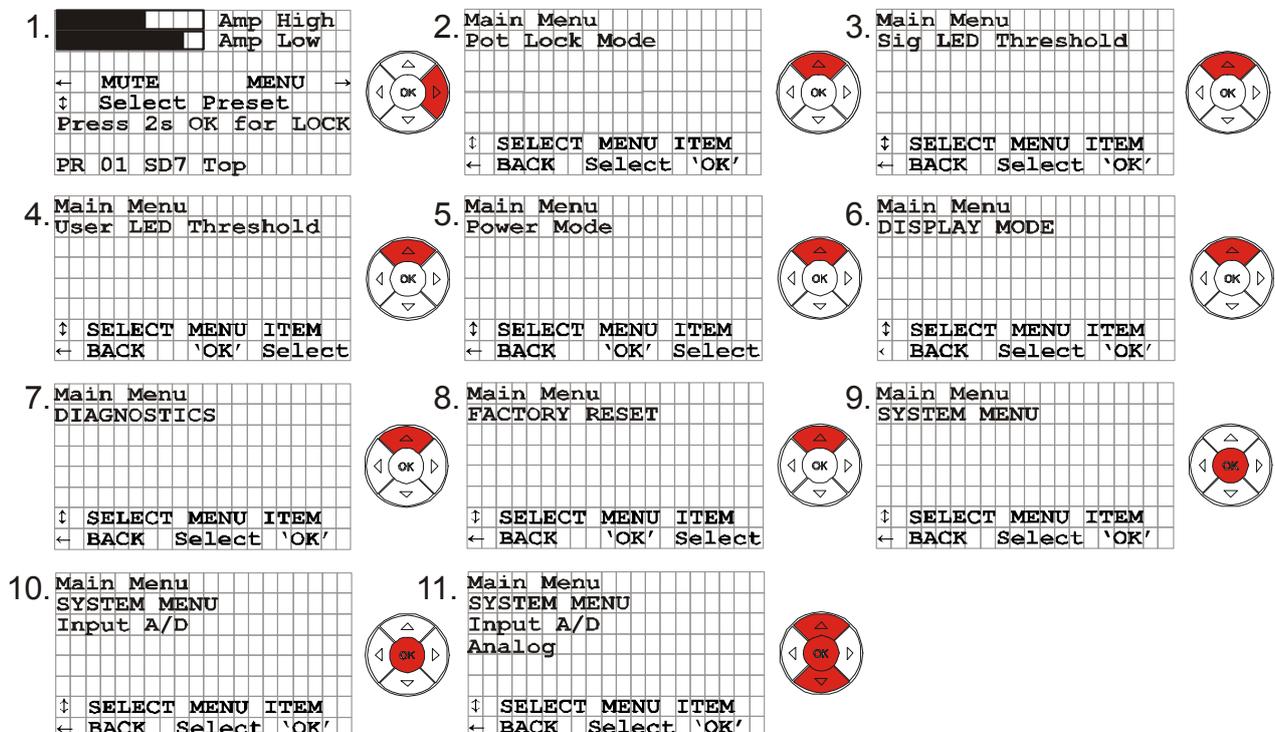
This function enables to mute the PA system with just one touch of a button.



Press for 1 second the marked arrow key of the navigation pad to mute the PA system. A repeated pressing of this arrow key causes the deactivation of the mute-function (see display). If the unit is muted and you press for 1 second the OK-button, you switch off the VL 750 / VL 760. If you have chosen the power mode „Always On“ (before switching off the unit) you have to pull the mains plug to switch off the unit.

### 9.2 Switching input between „analog“ or „digital L“ resp. „digital R“ or „digital L+R“

If you want to control your PA system with a digital signal you have to switch the input to „digital L“ resp. „digital R“ or „ digital L+R“ (see page 9). In the programmed initial state all inputs are switched to „analogue“.



Press the marked arrow keys of the navigation-pad one after another (like shown in the scheme), to switch the input of channel A to „analogue“ / „digital L“ resp. „digital R“ or „digital L+R“ (the selection can be looked up from the LCD display from the respective direction of arrow). After the correct selection of the input press the OK-button and leave the menu with the left arrow key.





## 10. Specifications

	<b>VL 750</b>	<b>VL 760</b>
<i>Speaker:</i>		
Components	12" + 1" bi-radial Horn (neodymium)	15" + 1" bi-radial Horn (neodymium)
Dispersion (h x v)	80° x 60° (rotatable horn)	80° x 60° (rotatable horn)
Frequency range	55 Hz - 19 kHz, depending on preset	50 Hz - 19 kHz, depending on preset
SPL nom. / max.	100 / 128 dB	102 / 129 dB
Power output RMS	600 W bass/mid + 150 W high	600 W bass/mid + 150 W high
<i>Electronic:</i>		
Amplifier	Two fully digital amplifier with high efficiency $\geq 90\%$	Two fully digital amplifier with high efficiency $\geq 90\%$
Features	Ground Free, navigation pad, LCD-display; adjustable gain, digital crossover, subsonic-filter, parametrical EQs, Peak / RMS- limiter, delay	Ground Free, navigation pad, LCD-display; adjustable gain, digital crossover, subsonic-filter, parametrical EQs, Peak / RMS- limiter, delay
Protective circuit	short circuit, overload, temperature, DC on output, under-/over voltage	short circuit, overload, temperature, DC on output, under-/over voltage
Connectors	line-in XLR, link-out XLR (analogue or digital)	line-in XLR, link-out XLR (analogue or digital)
Power requirements	90 - 250 Volt / 50 - 60 Hz, PowerCon in / link	90 - 250 Volt / 50 - 60 Hz, PowerCon in / link
Power consumption	max. 850 W	max. 850 W
Control panel	Navigation pad, volume control, ground free	Navigation pad, volume control, ground free
<i>Processor:</i>		
DSP	24 bit, 48 MHz clock	24 bit, 48 MHz clock
Unit delay	< 1,5 ms	< 1,5 ms
Sampling	24 bit	24 bit
Digitale input & -link	AES/EBU / S/PDIF with format-/sample rate converter (max. 192 KHz)	AES/EBU / S/PDIF with format-/sample rate converter (max. 192 KHz)
Preset memory	4 factory presets, 4 user presets	4 factory presets, 4 user presets

	<b>VL 750</b>	<b>VL 760</b>
Special features	2 side mounted handles, swivelling flange with variable tilt angle +/- 20°, 4x M8 treads	2 side mounted handles, swivelling flange with variable tilt angle +/- 20°, 4x M8 treads
Dimensions in mm (W x H x D)	430 x 670 x 430	460 x 740 x 440
Weight	21,5 kg	25,5 kg
Recommended Systems	subwoofer actively channelled: VSS 15, VB 15, VSS 18, VB 18	subwoofer actively channelled: VSS 18, VB 18
Optional accessories	protective cover (no. 2-311-056), rain shelter (no. 2-311-060), M8 eyebolts (no. 5-350-000), wall mount (no. 2-430-001), swivel frame FRQ 12 (no. 2-512-001)	protective cover (no. 2-311-057), rain shelter (no. 2-311-063), M8 eyebolts (no. 5-350-000), wall mount (no. 2-430-001), swivel frame FRQ 15 (no. 2-512-017)

## **10.1 Rotate the horn of VL 750 / VL 760**

For an optimal adaption of the VL 750 / VL 760, you can rotate the horn in this box. Normally the horn is positioned that you have a dispersion of 80° in the horizontal position and 60° in the vertical position. To rotate the horn, please follow the instructions:

- Attention! Remove all cables from the box, especially the power cable. Place the box on the back side on solid underground!
- At first, please unscrew both screws on the front of the box. After this you have to do the same with the screws on both sides of the protective grille.
- Remove the protective grille of the box carefully.
- Unscrew all eight screws of the horn.
- Lift up the horn a little bit and rotate it 90° to the right sight. Now you have a dispersion of 60° in the horizontal position and 80° in the vertical position.
- Please screw on the horn again as well as the protective grille.  
(see following photos)



## 10.2 Fitting the flying frame FRQ 12 / FRQ 15

For install the VL 750 / VL 760 with the flying frame FRQ 12 / FRQ 15, please follow the instructions (see following photos):

- Attention! Remove all cables from the box, especially the power cable. Place the box on the ground on solid underground! Please lay down also the flying frame with the three delivered screws for fitting the box with the flying frame.
- At first remove the top (u-bracket) of the flying frame and put it aside.
- Unscrew now the four screws of the flying frame. After this you have to fix the VL 750 / VL 760 within a vertical position of 0° into the lower part of the flying frame.
- Unscrew the three plastic-screws on top of the VL 750 / VL 760. After this you have to fix the top part of the flying frame on the box with the three delivered screws.
- Now you have to screw on the top part onto the lower part of the flying frame with two screws on the left and right side to fix the VL 750 / VL 760.
- At last step you have to mount the top (u-bracket) of the flying frame again to finish the installation. If you have some additional accessories for flying the VL 750 / VL 760, you can mount it now. **Attention!** Please mind that the user is responsible for safely flying the equipment (according to BGV\_C1).



## 11. Active PA-systems SD7 & SD8

The active 3-way full-range PA-systems SD 7 and SD 8 are professional and powerful PA-systems with extraordinarily compact design and a brilliant sound. The different formats / combinations of the VERSIO PA systems are the functional answer to a multiplicity of tasks in mobile use as well as in the area of installation. Simple speech reproduction, fill or delay-systems, presentations, music reinforcement with or without subwoofers as main PA, supported by a versatile accessory assortment enable an accurately to the respective requirements adapted solution. Due to the audio-DSP extensive solutions are available for various using possibilities. The extension of these PA-systems is always possible.

### 11.1 Specifications

	<b>SD 7</b>	<b>SD 8</b>
Components	2 x VL 750 (12"+1"), 2 x VSS 18 (18"), 2 x VB 18 (18") 4 Ohm	2 x VL 760 (15"+1"), 2 x VSS 18 (18"), 4 x VB 18 (18") 4 Ohm
Power output	total: 4000 W RMS (2 x 500 W RMS @ 4 Ohm free configurable)	total: 5000 W RMS
Frequency range	38 Hz – 19 KHz	38 Hz – 19 KHz
Connectors	audio signal: 2x line-in XLR & line-out XLR (analogue and / or digital), power requirements: PowerCon 90 - 250 Volt / 50 - 60 Hz, speaker outputs on VSS 18: each 2x Speakon NL 4 (1+/1-)	audio signal: 2x line-in XLR & line-out XLR (analogue or digital), power requirements: PowerCon 90 - 250 Volt / 50 - 60 Hz, speaker outputs on VSS 18: each 2x Speakon NL 4 (1+/1-)
Weight of components	top active: 2x 21,5 kg bass active: 2x 34 kg bass passive: 2x 27 kg	top active: 2x 25,5 kg bass active: 2x 34 kg bass passive: 2x 27 kg
Recommended for	professional bands, DJs, renters	professional bands, DJs, renters
Optional accessories	Plug & Play Pack (no. 2-521-011), Cover Pack (no. 2-312-019)	Plug & Play Pack (no.2-521-012), Cover Pack (no.2-312-020)

## **11.2 Set-up PA systems**

### ***Note!***

Please note specific and useful set-up of a first-class loudspeaker system. A universal statement about the correct (standard)-adjustment and set-up of PA systems is impossible, because each reinforcement is bound to a different place and has always different features.

When using high stands or distance rods for top parts the user has to guarantee the stability. Please use just certified mounting material when installing the systems to guarantee the safety. Depending on the features of the area/room to be reinforced the top unit(s) can also be swiveled a bit horizontally and tilted vertically to reduce reflections (on walls + ceilings) and interferences and therefore achieving a better utilization of the sound energy.

If covers are opened or sections of casing are removed, except where this can be done manually, live parts can become exposed. If it is necessary to open the unit this must be insulated from all power sources.

Please mind that it is not coming to a ground loop during cabling of the system. If it comes to deep-frequent hum switch the Ground-Free to „Free“. Always use balanced signal cables if possible. Do not mask or detach the conductor connection on the mains plug! *Danger!*

High loudspeaker levels can cause permanent hearing damage. You should therefore avoid the direct vicinity of loudspeakers operating at high levels. Wear hearing protection if continuously exposed to high levels.

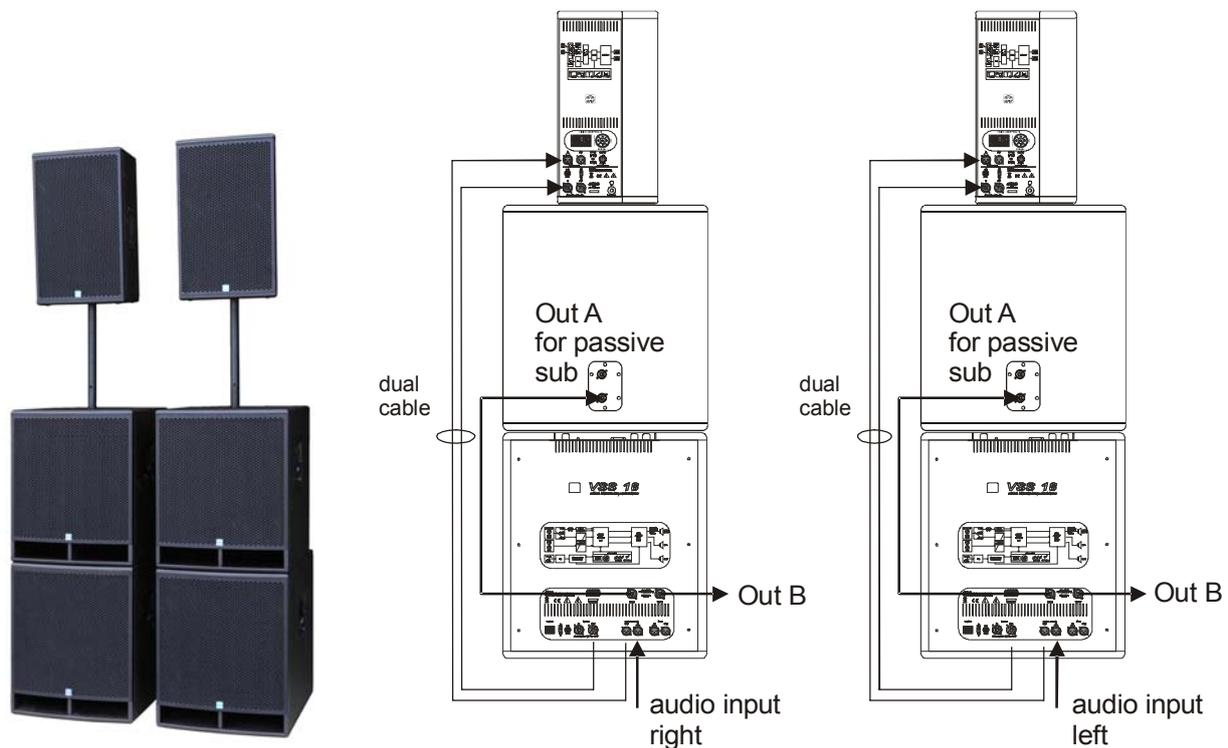
### ***When should I choose a directional or omnidirectional dispersion in the low-frequency range?***

Each direct radiating subwoofer has a omnidirectional dispersion in the low-frequency range. Depending on local conditions it can come to spatial interferences. The cardioid dispersion pattern resulting from this approach avoids unwanted energy behind the system that greatly reduces the reverberant field at low frequencies and provides the greatest accuracy of low frequency reproduction.

The directional (cardioid) dispersion offers a lot of significant advantages in the all-day reinforcement work. The highest sound energy will be radiated just in the front very homogeneously, on the side the damping increases and achieves on the rear side a very wide-range excellent damping quality at all frequency range of more than 20 dB. For the first time the whole frequency band from bass to mid/high can be adjusted to the audiences' area. Especially in an acoustical different location like marquees, glas buildings, open airs with level restriction or in halls with large reverberation time the cardioid technology is an advantage. Even at very high volume levels develop considerably less wall- and ceiling-reflection. The complete bass reproduction explicitly gains in pressure and precision.

## 11.3 Connection schemes

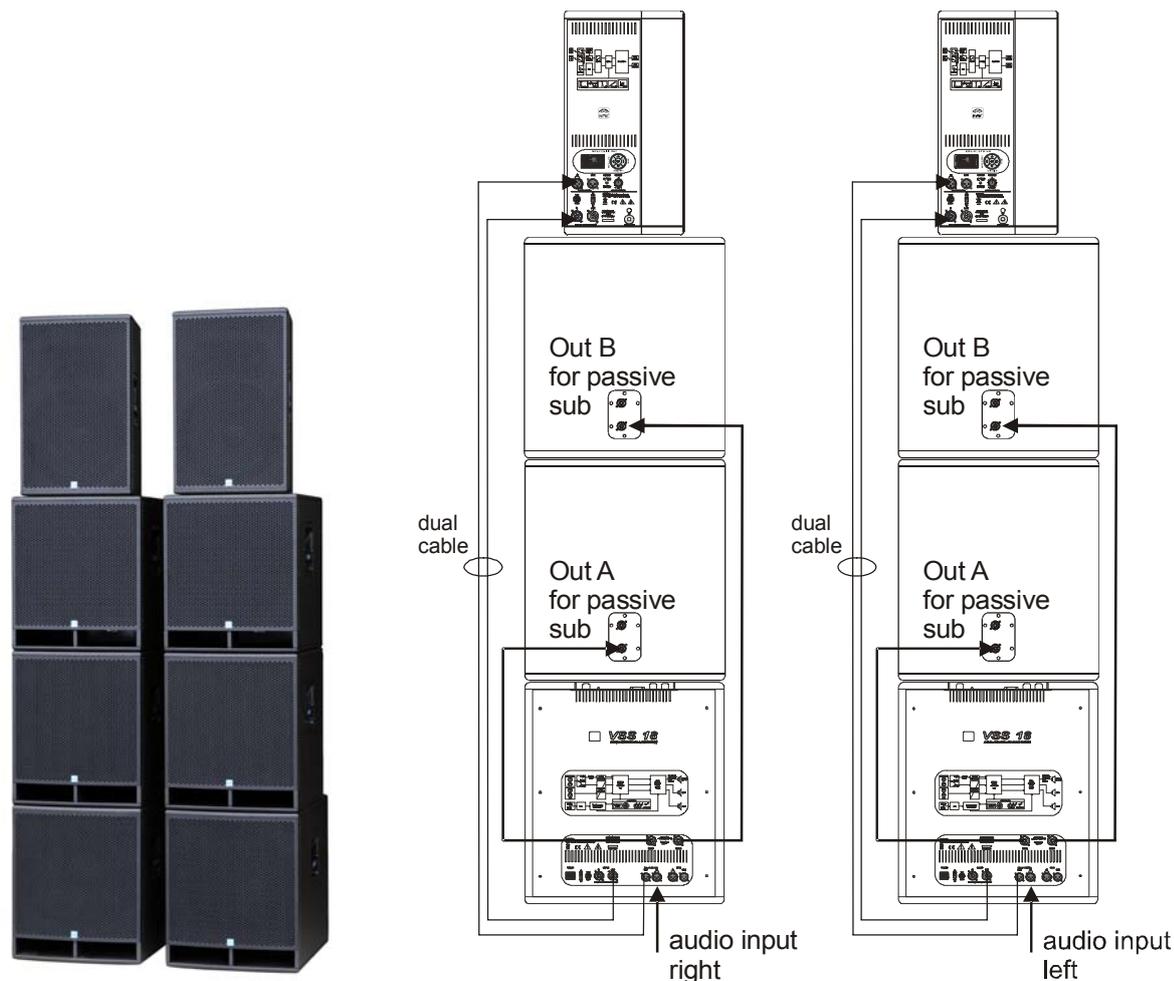
### SD7 OMNI (VSS 18 preset no. 1 & VL 750 preset no. 1)



SD 7 consists of: 2x VSS 18 + 2x VB 18 + 2x VL 750

1. Set-up PA:
  - place a VSS 18 to the left and right side in front of the audience (on solid underground)
  - place a VB 18 each on a VSS 18 or directly next to a VSS 18 (front in line)
  - place the top units each on a distance rod on the VSS 18 or each on a high stand (front in line)
2. Connection:
  - apply power supply connection always with the supplied PowerCon cable on VSS 18 + VL 750 on one 16A fused electric circuit
  - plug in the left + right audio signal (XLR cable) each on channel A on the VSS 18, after this you have to link each audio signal with a XLR cable to the top units (e.g. with a dual-cable from K.M.E., which includes the audio signal and the power supply)
  - connect the speaker output „Out A“ of VSS 18 each with a passive subwoofer VB 18 with a Speakon cable (in this preset the speaker output „Out B“ is configured for a passive top unit – crossover frequency 120 Hz)
  - switch on the system components successively, **Note!** please turn down all volume controls before switching on the system components to avoid an undesirable sound reproduction, because the system components can start in the “lock-function” (depending on adjustment), that means it may not react on changes on the control panel
  - after switching on the system components it is advisable to set the volume knobs to „central click“ (=0dB) to have a defined volume level
  - the volume controls for „Out A“ and „Out B“ are depending on the system volume control (master), they are adjustable from  $-\infty$  to +6 dB

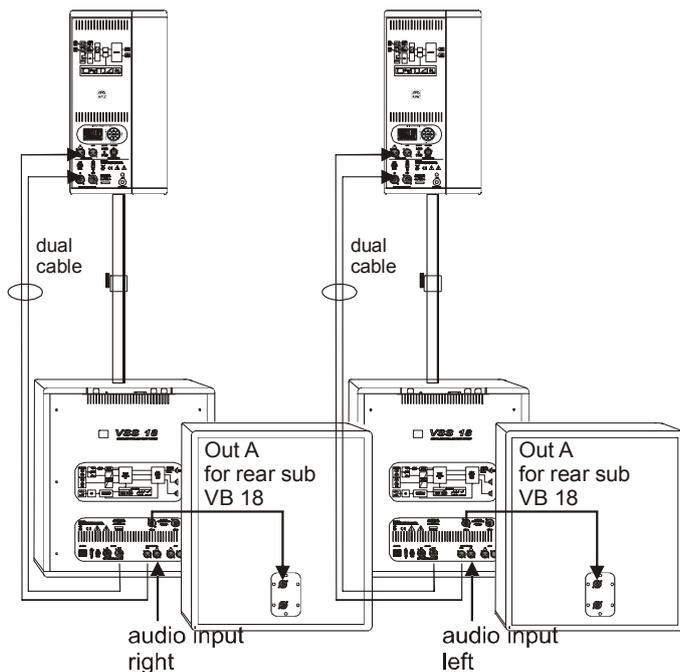
## SD8 OMNI (VSS 18 preset no. 2 & VL 760 preset no. 1)



SD 8 consists of: 2x VSS 18 + 4x VB 18 + 2x VL 760

1. Set-up PA:
  - place a VSS 18 to the left and right side in front of the audience (on solid underground)
  - place two VB 18 each on a VSS 18 or place all subwoofers in front of the audience in a constantly distance (front in line)
  - place the top units each on a distance rod on the VSS 18 or each on a high stand (front in line)
2. Connection:
  - apply power supply connection always with the supplied PowerCon cable on VSS 18 + VL 760 on one 16A fused electric circuit
  - plug in the left + right audio signal (XLR cable) each on channel A on the VSS 18, after this you have to link each audio signal with a XLR cable to the top units (e.g. with a dual-cable from K.M.E., which includes the audio signal and the power supply)
  - connect the speaker outputs „Out A & Out B“ of VSS 18 each with a passive subwoofer VB 18 with a Speakon cable
  - switch on the system components successively, **Note!** please turn down all volume controls before switching on the system components to avoid an undesirable sound reproduction, because the system components can start in the “lock-function” (depending on adjustment), that means it may not react on changes on the control panel
  - after switching on the system components it is advisable to set the volume knobs to „central click“ (=0dB) to have a defined volume level
  - the volume controls for „Out A“ and „Out B“ are depending on the system volume control (master), they are adjustable from  $-\infty$  to +6 dB

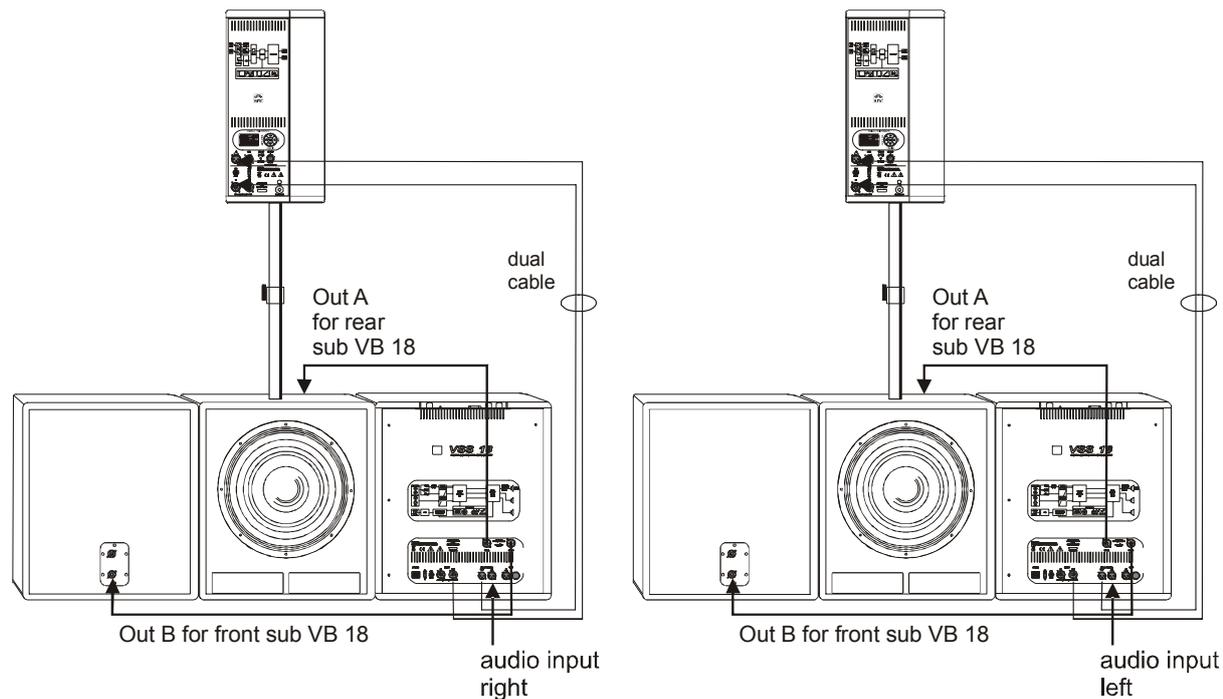
## **CARDIOID 1 (VSS 18 preset no. 3 & VL 750 / VL 760 preset no. 1)**



Setup consists of: 2x VSS 18 + 2x VB 18 + 2x VL 750 or VL 760

1. Set-up PA:
  - place a VSS 18 to the left and right side in front of the audience (on solid underground)
  - place a VB 18 each behind of the VSS 18 in a distance of 24 cm; **Note!** please mind the distance of 60 cm to the systems among each other and the distance to the periphery (e.g. front of stage, walls)
  - place the top units each on a distance rod on the VSS 18 or each on a high stand (front in line)
2. Connection:
  - apply power supply connection always with the supplied PowerCon cable on VSS 18 + VL 750 or VL 760 on one 16A fused electric circuit
  - plug in the left + right audio signal (XLR cable) each on channel A on the VSS 18, after this you have to link each audio signal with a XLR cable to the top units (e.g. with a dual-cable from K.M.E., which includes the audio signal and the power supply)
  - connect the speaker output „Out A“ of VSS 18 each with a passive subwoofer VB 18 with a Speakon cable (in this preset the speaker output „Out B“ is configured for a passive top unit – crossover frequency 120 Hz)
  - switch on the system components successively, **Note!** please turn down all volume controls before switching on the system components to avoid an undesirable sound reproduction, because the system components can start in the “lock-function” (depending on adjustment), that means it may not react on changes on the control panel
  - after switching on the system components it is advisable to set the volume knobs to „central click“ (=0dB) to have a defined volume level
  - the volume control for „Out A“ is pre-set by 0 dB and depends on system volume control (master), but it is not adjustable; the volume control for „Out B“ depends on system volume control (master), it is adjustable from  $-\infty$  to +6 dB

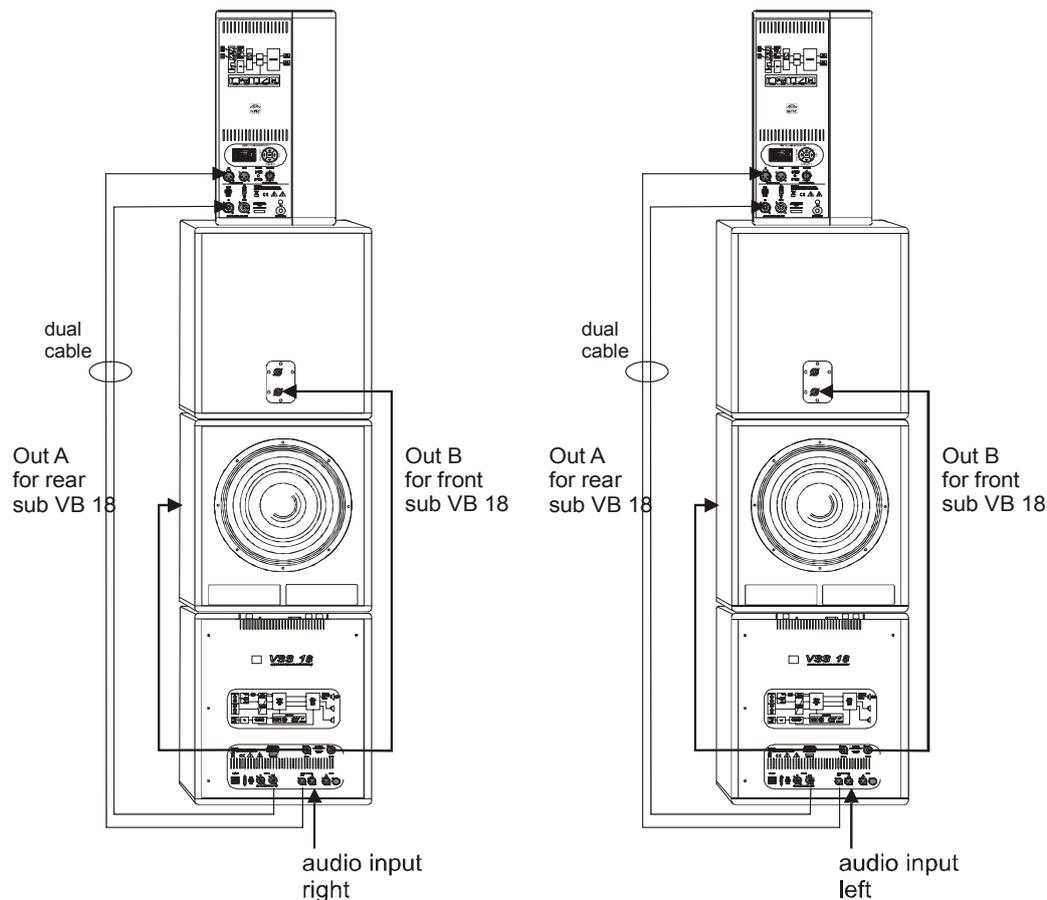
## CARDIOID 2 (VSS 18 preset no. 4 & VL 750 / VL 760 preset no. 1)



Setup consists of: 2x VSS 18 + 4x VB 18 + 2x VL 750 or VL 760

1. Set-up PA:
  - place a VSS 18 to the left and right side in front of the audience (on solid underground)
  - place one VB 18 to the front and one backwards next to VSS 18 (side by side and front in line, see drawing); **Note!** Please mind the distance of 60 cm to the systems among each other and the distance to the periphery (e.g. front of stage, walls)
  - place the top units each on a distance rod on the VB 18 in the mid-position or each on a high stand (front in line)
2. Connection:
  - apply power supply connection always with the supplied PowerCon cable on VSS 18 + VL 750 or VL 760 on one 16A fused electric circuit
  - plug in the left + right audio signal (XLR cable) each on channel A on the VSS 18, after this you have to link each audio signal with a XLR cable to the top units (e.g. with a dual-cable from K.M.E., which includes the audio signal and the power supply)
  - connect the speaker output „Out A“ of VSS 18 each with a passive subwoofer VB 18 with a Speakon cable for the rear channel and speaker output „Out B“ each with a passive subwoofer VB 18 for the front channel
  - switch on the system components successively, **Note!** please turn down all volume controls before switching on the system components to avoid an undesirable sound reproduction, because the system components can start in the “lock-function” (depending on adjustment), that means it may not react on changes on the control panel
  - after switching on the system components it is advisable to set the volume knobs to „central click“ (=0dB) to have a defined volume level
  - The volume control for „Out A“ and „Out B“ is pre-set by 0 dB and depends on system volume control (master), but they are not adjustable

## **CARDIOID 3 (VSS 18 preset no. 5 & VL 750 / VL 760 preset no. 1)**



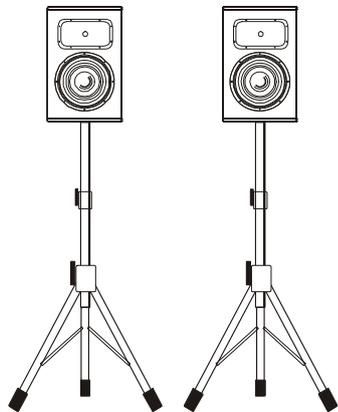
Setup consists of: 2x VSS 18 + 4x VB 18 + 2x VL 750 or VL 760

1. Set-up PA:
  - place a VSS 18 to the left and right side in front of the audience (on solid underground)
  - place one VB 18 to the front and one backwards on each VSS 18 (see drawing); **Note!** Please mind the distance of 60 cm to the systems among each other and the distance to the periphery (e.g. front of stage, walls)
  - place the top units each on top on VB 18 or on a high stand (front in line)
2. Connection:
  - apply power supply connection always with the supplied PowerCon cable on VSS 18 + VL 750 or VL 760 on one 16A fused electric circuit
  - plug in the left + right audio signal (XLR cable) each on channel A on the VSS 18, after this you have to link each audio signal with a XLR cable to the top units (e.g. with a dual-cable from K.M.E., which includes the audio signal and the power supply)
  - connect the speaker output „Out A“ of VSS 18 each with a passive subwoofer VB 18 with a Speakon cable for the rear channel and speaker output „Out B“ each with a passive subwoofer VB 18 for the front channel
  - switch on the system components successively, **Note!** please turn down all volume controls before switching on the system components to avoid an undesirable sound reproduction, because the system components can start in the “lock-function” (depending on adjustment), that means it may not react on changes on the control panel
  - after switching on the system components it is advisable to set the volume knobs to „central click“ (=0dB) to have a defined volume level
  - The volume control for „Out A“ and „Out B“ is pre-set by 0 dB and depends on system volume control (master), but they are not adjustable

## 11.4 System extension

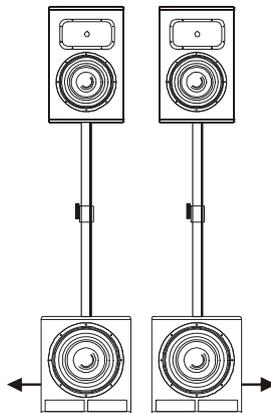
This overview shows you examples of using, combination and extension of the active system components (with passive system components) to adapt your reinforcement optimally on your audience.

### full-range setup



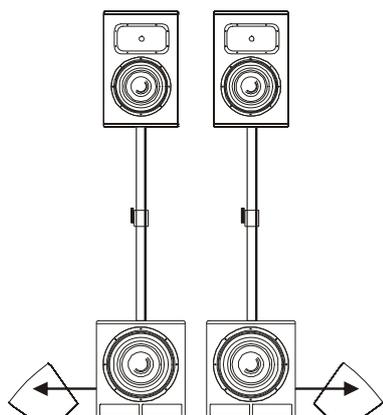
2x VL 750 or VL 760

### basis setup



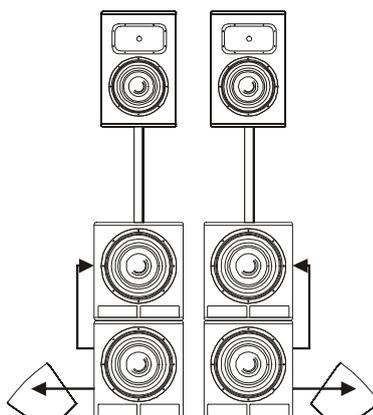
2x VL 750 or VL 760 + 2x VSS 18 + 4x 500 watts speaker outputs (e.g. free routable as top extension, delay line, monitoring, subwoofer)

### monitor Setup



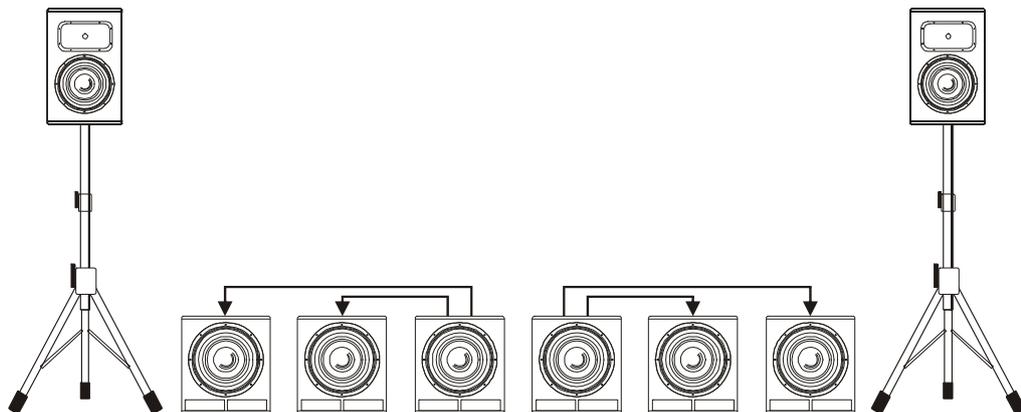
2x VL 750 or VL 760 + 2x VSS 18 + max. 8 monitors (VL 8 / VL 12 / VL 15)

### standard setup



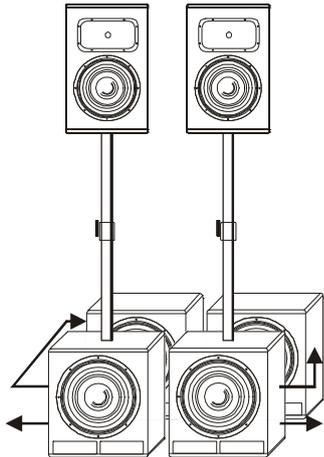
2x VL 750 or VL 760 + 2x VSS 18 + 2x VB 18 + max. 4 monitors (VL 8 / VL 12 / VL 15)

### extended setup



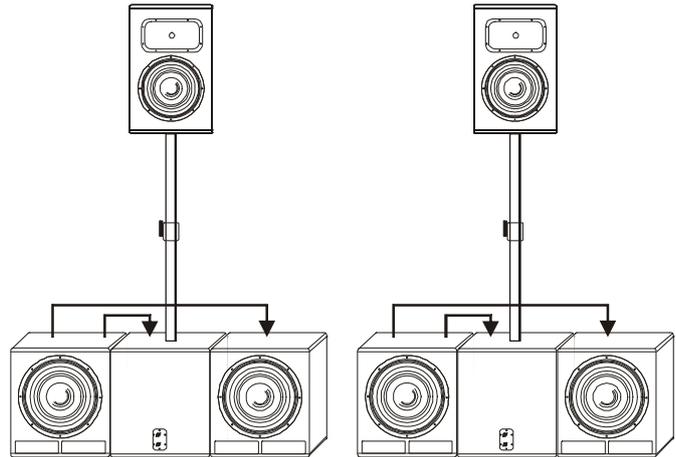
2x VL 750 or VL 760 + 2x VSS 18 + 4x VB 18

cardioid setup 1



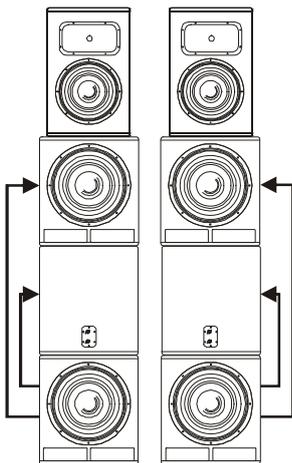
2x VL 750 or VL 760 + 2x VSS 18 +  
2x VB 18 + 2x 500 watts speaker  
outputs ((e.g. free routable as top  
extension, delay line, monitoring,  
subwoofer)

cardioid setup 2



2x VL 750 or VL 760 + 2x VSS 18 + 4x VB 18

cardioid setup 3



2x VL 750 or VL 760 + 2x VSS 18 + 4x VB 18

## EC declaration of conformity

This is to certify that the following products:

Article	Product	Series	Group
1-110-050	<b>VL 750</b> PU, black 600 W + 150 W	Versio Series	top units digital active
1-110-051	<b>VL 760</b> PU, black 600 W + 150 W	Versio Series	top units digital active
1-154-025	<b>Versio SD7</b> PU, black 4000 W 2x VL 750 + 2x VSS 18 + 2x VB 18	Versio Series	PA systems active digital
1-154-026	<b>Versio SD8</b> PU, black 5000 W 2x VL 760 + 2x VSS 18 + 4x VB 18	Versio Series	PA systems active digital

comply with the provisions of the Directive of the Council of the European Communities on the approximation of laws of the Member States relating to electromagnetic compatibility (EMC Directive 89/336/EEC).

This declaration of conformity of the European Communities is the result of an examination carried out by the Quality Assurance Department of Klingenthaler Musikelektronik GmbH in accordance with European Standards:

VDE	0839-6-1:2007-10	DIN EN 61000-6-1
VDE	0839-6-3 Berichtigung 1:2012-11	DIN EN 61000-6-3
VDE	0839-2 Berichtigung 1:2011-06	DIN EN 61000-3-2
VDE	0838-3:2009-06	DIN EN 61000-3-3
VDE	0860:2011-10	DIN EN 60065
VDE	0875-103-1:2010-07	DIN EN 55103-1
VDE	0875-103-2:2010-70	DIN EN 55103-2

This declaration is given by

**Klingenthaler Musikelektronik GmbH**  
**Auerbacher Straße 268**  
**D-08248 Klingenthal**

Klingenthal, September 2013

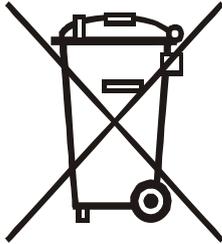


**Klingenthaler Musikelektronik GmbH**  
**Auerbacher Straße 268**  
**08248 Klingenthal · Germany**  
**Phone +49 (0) 37467 558-0**

*Kerst Glaß*  
Managing Director



Klingenthaler  
Musikelektronik GmbH  
Auerbacher Straße 268  
08248 Klingenthal Germany  
phone +49(0)37467 558-0  
www.kme-sound.com



#### Deutsch Entsorgung von Altgeräten

1. Wenn dieses Symbol eines durchgestrichenen Abfalleimers auf einem Produkt angebracht ist, unterliegt dieses Produkt der europäischen Richtlinie 2002/96/EC.
2. Alle Elektronik-Altgeräte müssen getrennt vom Hausmüll über dafür staatlich vorgesehene Stellen entsorgt werden.
3. Mit der ordnungsgemäßen Entsorgung des alten Gerätes vermeiden Sie Umweltschäden und eine Gefährdung der persönlichen Gesundheit.
4. Weitere Informationen zur Entsorgung des alten Gerätes erhalten Sie bei der Stadtverwaltung, beim Entsorgungsamt oder in dem Geschäft, wo Sie das

#### English Disposal of your old appliance

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2. All electrical and electronic products should be disposed of a separately from the municipal waste stream via designated collection facilities appointed by the government of the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or shop where you purchased the product.

WEEE-Reg.-Nr. DE 84296747



Klingenthaler Musikelektronik GmbH  
Auerbacher Straße 268  
08248 Klingenthal  
Germany  
phone +49 (0) 37467-558-0  
fax +49 (0) 37467-558-33  
service@kme-sound.com  
www.kme-sound.com

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