ES Series
User Guide

- ES1.0 - ES1.5 - ES1.8 - ES2.5 - ES2.6

The Future of Sound. Made Perfectly Clear.

At KV2 Audio our vision is to constantly develop technologies that eliminate distortion and loss of information providing a true dynamic representation of the source.

Our aim is to create audio products that absorb you, place you within the performance and deliver a listening experience beyond expectations.
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ES1.0 · Overview

ES Modular Sound System Benefits

**Total flexibility**
Choose the active driven subwoofer combination you need for each application and venue. Rotate the ES1.0 horn to operate the system in either a horizontal or vertical stack.

**Lightest-weight compact active SR system yet**
All the benefits of active sound reinforcement technology but with the electronics in a separate module.

**Superb sound**
Greater dynamic range than any current active design.

**Easy set-up**
Ergonomic weight-balanced design with four handles, eight suspension points and "integrating feet" for easy positioning on stage. Plug-and-play connection to EPAK™ amp/processor module.

Requires EPAK unit for control electronics and amplification.

For full range systems, use one, or a combination of, the following Bass Modules:

- **ES1.5**
  - part num. KVV 987 003
  - Single fifteen-inch compact Bass Module

- **ES1.8**
  - part num. KVV 987 004
  - Single eighteen-inch high-output Bass Module

- **ES2.5**
  - part num. KVV 987 005
  - Double fifteen-inch, 4Ω high-output Bass Module

- **ES2.6**
  - part num. KVV 987 150
  - Double fifteen-inch, 8Ω high-output Bass Module

Introduction

The ES1.0 is a 3-way, very high output, active-driven, mid-high / mid-bass module designed as part of a complete ES system, driven by the EPAK2500/R control and amplification unit. The ES1.0 is compact, lightweight and can be combined with a variety of ES series subwoofers. As a single system it offers one of the highest quality portable sound reinforcement solutions on the market today. When coupled with another ES1.0 (running two horizontally per side) it becomes an even more powerful tool, providing peak SPL of 139dB and a throw of up to 40 metres for applications of up to 3000 people.

Application

Specifically designed as an extreme high output, compact mid-high enclosure as part of ES systems

- For live performance and music playback
- Small to large live concerts
- Small to medium nightclubs
- Houses of worship • Portable PA
- Scalable into larger multi-tasking projects and systems
Technology
The ES1.0 is a 3-way high output, active-driven, compact mid/high Loudspeaker module. It is designed as part of a sound reinforcement speaker system that includes the EPAK™ system control and amplification system plus a compliment of application specific Bass modules. The ES1.0 Loudspeaker system benefits from being designed exclusively to operate above 130 Hz. By optimizing the ideal operating band pass of each system component, the ES1.0 can achieve extremely high output levels consistently and safely.

Active-driven by the EPAK2500/R™ unit
Power, electronic crossovers, phase alignment, equalization, time correction and speaker protection are provided within the EPAK unit. This “one plug in, one-plug-out” system ensures fast, easy set up and complete control. It gives you the benefits of active sound reinforcement technology, yet locates the electronics in an easy-access “stand alone” or Rackmount module. Together, the ES1.0 and EPAK2500/R units deliver the highest dynamic range of any system currently available, providing new levels of clarity, depth and resolution.

Advanced compression driver
KV2 Audio’s transducer partner, 18 Sound in Cavriago, Italy, manufactures and co-develops all ES1.0 components. The compression driver is a 1.75-inch titanium diaphragm design, featuring a complex geometry phase plug that dramatically lowers distortion, eliminates ring modes and provides clearer, ripple free performance.

Exclusive KV2 rotatable horn design for maximum flexibility
The ES1.0 features a mid/high integrated horn design with a number of unique features. First, the horn can be rotated 90°, allowing for complete flexibility in selection of vertical, horizontal and left / right system set up. The horn design is based on constant-directivity geometry with an emphasis on maintaining low transducer compression ratios, high output and wide dispersion (90 x 40). The midrange speaker is fixed to a large aluminum heat sink which is attached to a precisely designed midrange “chamber”. The combination provides optimal cone loading and heat dissipation. Further loading and dispersion is controlled through a 2.28” (58 mm) precision phase plug.

Heat-resistant midrange
Midrange frequences between 500Hz and 2.5kHz are reproduced by a new six-inch midrange speaker that provides 106 dB of sensitivity (1 watt / 1 meter) when coupled with the integrated horn. The magnetic motor assembly features a high temperature 1.75” (44 mm) diameter voice coil assembly and extensive use of neodymium. Because of the limited linear movement of most midrange transducers - usually 2-3 mm - ventilation of the voice coil assembly and magnetic structure is poor and failure rate from heat fatigue is high. The ES1.0 midrange dissipates heat passively through the use of a massive aluminum heat sink. When combined with the EPAK unit control electronics, the system provides high output levels safely and consistently over infinite periods of time and dramatically reducing heat associated transducer problems such as power compression and decreased dynamics.

Neodymium mid-bass transducer
The ES1.0 features a twelve-inch neodymium mid-bass speaker mounted on a slot-loaded horn design. It is important to note that neodymium is not a transducer panacea, as it cannot safely operate at the same typical operating temperatures ferrite does. Using neodymium requires a profound understanding of material science and finite element analysis to properly design a stable, high force magnetic structure that functions correctly. 18 Sound and KV2 e engineering jointly designed the twelve-inch mid bass driver for the ES1.0. The ES1.0 mid-bass transducer reproduces frequencies from 130Hz to 500Hz. The horn mouth is designed for optimal coupling with the mid/high horn assembly in either the vertical or horizontal position. The horn design is responsible for the mid-bass speaker’s resulting high sensitivity and output. The high efficiency neodymium motor provides an extraordinary amount of force that delivers complete control of the cone mass and a high overall weight loss.

Easy to move and set up
The ES1.0 is a very compact enclosure featuring a number of ergonomically designed components that make it a light, small, and easy speaker to set up and use. KV2 designed and tooled new cabinet handles for use in their products. The two side handles make it easy to pick up and reposition the ES1.0 in a natural, instinctive manner. There are four industrial grade, internal braces placed at each corner and one internal brace on the back. Corner braces are held in places by four M6 and two M10 bolts, the back brace is held by two M6 and one M10, providing a wide range of installation and suspension flexibility.
## Specifications

### System Acoustic Performance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max SPL Long-term</td>
<td>131 dB</td>
</tr>
<tr>
<td>Max SPL Peak</td>
<td>134 dB</td>
</tr>
<tr>
<td>-3dB Response</td>
<td>130 Hz to 20 kHz</td>
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<tr>
<td>-10dB Response</td>
<td>85 Hz to 28 kHz</td>
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<tr>
<td>Impedance</td>
<td>Low 16Ω Mid 8Ω High 8Ω</td>
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<td>Crossover Point</td>
<td>130 Hz, 500 Hz, 2.5 kHz</td>
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### High Frequency Section

<table>
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<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>High Horn Coverage Horizontal</td>
<td>90° x 40° rotatable</td>
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<tr>
<td>Throat Exit Diameter / Diaphragm Size</td>
<td>1&quot; / 1.75&quot;</td>
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<tr>
<td>Diaphragm Material</td>
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<td>Magnet Type</td>
<td>Neodymium</td>
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### Mid Range Section

<table>
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<tr>
<th>Parameter</th>
<th>Value</th>
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<tr>
<td>Acoustic Design</td>
<td>Horn Loaded</td>
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<tr>
<td>Mid Horn Coverage Horizontal</td>
<td>90° x 40° rotatable</td>
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<tr>
<td>Midrange Amplifier Requirement</td>
<td>200W from EPAK 2500/R</td>
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<td>Diaphragm Material</td>
<td>Epoxy Reinforced Cellulose</td>
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<td>Magnet Type</td>
<td>Neodymium</td>
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### Mid-Bass Section

<table>
<thead>
<tr>
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<tr>
<td>Acoustic Design</td>
<td>Horn Loaded</td>
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<td>Mid-bass Amplifier Requirement</td>
<td>600W from EPAK 2500/R</td>
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<tr>
<td>Diaphragm Material</td>
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<td>Magnet Type</td>
<td>Neodymium</td>
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### Speaker Input

<table>
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<tr>
<th>Parameter</th>
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<td>Speaker Input</td>
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### Cabinet

<table>
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<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Cabinet Material</td>
<td>Baltic birch</td>
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<td>Handles</td>
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<tr>
<td>Pole Mount</td>
<td>35 mm</td>
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<td>Color</td>
<td>&quot;Orange peeled&quot; Matt Black or any RAL</td>
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### Physical Dimensions

<table>
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<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Height</td>
<td>700 mm (27.55&quot;)</td>
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<tr>
<td>Width</td>
<td>450 mm (17.71&quot;)</td>
</tr>
<tr>
<td>Depth</td>
<td>450 mm (17.71&quot;)</td>
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<tr>
<td>Weight</td>
<td>34 kg (74.8lbs)</td>
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</tbody>
</table>
ES1.0 · Frequency characteristics

Frequency response

Horizontal Polarplots

73Hz - 250Hz

500Hz - 2kHz

4kHz - 16kHz

Vertical Polarplots

73Hz - 250Hz

500Hz - 2kHz

4kHz - 16kHz
ES1.0 Architects and Engineer's Specifications

The three-way, mid/high loudspeaker system shall incorporate one 12-inch mid-bass (MB) transducer a 6-inch mid range (MR) speaker and a 1-inch exit compression driver high frequency (HF) transducer. The LF driver shall be mounted onto a slot-loaded horn located inside a compact wood enclosure tuned for optimum mid-bass response. The HF and MR transducers shall be loaded on a rotatable, integrated, constant directivity mid/high horn assembly. The system has a nominal coverage pattern of 90° (horizontal) x 40° (vertical). The loudspeaker enclosure shall have a rectangular shape and shall incorporate, two side handles with integrated M10 suspension points, four integrated internal braces with eight M10 suspension points, one M10 suspension point on the back and top hat for pole mounting application. The speaker cabinet shall be finished with an ultra wear resistant black polymer coating and fitted with a weather resistant perforated steel grill. The system shall receive power from a separate Amplifier. Controller module consisting of separate power amplifiers for high, midrange and midbass transducers as well as signal processing including electronic band pass crossover filters, phase alignment, time correction, equalization and speaker protection. The speaker system shall connect to the Amplifier/Controller Module via proprietary cables terminated in Amphenol AP-6 connectors. The three-way mid/high loudspeaker system shall be the KV2 Audio ES1.0.
ES1.0 · Accessories

Heavy duty cover for ES1.0
part name: Cover ES1.0
part number: KVV 987 119

Optional full grille for ES1.0
part name: FULL GRILL ES1.0
part number: KVV 987 131

Horizontal bracket for ES1.0 or ES1.5
part name: ES1.0 Horizontal Bracket
part number: KVV 987 035
- including top hat cover adaptor plate and two connection bolts

Vertical bracket for ES1.0
part name: ES1.0 Vertical Bracket
part number: KVV 987 032
- including two connection bolts

Speaker pole - universal
part name: KV2-H
part number: KVV 987 130
- Heavy duty telescopic speakerpole
- 0,735 to 1,23 m
- diameter 35 mm
- weight 2,2 kg
- max. load 50 kg
- bottom terminal M20
- matte black

Fly Bar and Bracket for ES systems
part name: FLY BAR - 0002
part number: KVV 987 191
- 8 pcs M10 screws
- 8 pcs Quick-lock-pins 6 mm included
- 4 pcs Quick-lock-pins 1/2” included

ES Mid/Hi speaker cable MH15, AP6 connectors - 1,5 m
part name: MH15
part number: KVV 987 147
- 1,5 m (5ft), Mid/Hi Module hook-up

ES Mid/Hi speaker cable MH60, AP6 connectors - 6 m
part name: MH60
part number: KVV 987 125
- 6 m (20ft), Mid/Hi Module hook-up

ES Mid/Hi speaker cable MH120, AP6 connectors - 12 m
part name: MH120
part number: KVV 987 126
- 12 m (40ft), Mid/Hi Module hook-up

ES Mid/Hi speaker cable MH180, AP6 connectors - 18 m
part name: MH180
part number: KVV 987 127
- 18 m (60ft), Mid/Hi Module hook-up

Cart for 2 pcs ES1.0 or ES1.5
part name: CRT-0001
part number: KVV 987 030
- wheels not included

Cart Wheels with bolts nuts kit
part name: CRT - WHL
part number: KVV 987 031
- 4 pcs in pack, (rotating), (blue)

ES Cable kit
part name: CABLE-KIT
part number: KVV 987 047
The ES Cable Pack consist of four high-quality Amphenol AP cable assemblies designed for use with ES Series.
- 2 pcs LF15
- 1pc LF40
- 1pc MH60

Amphenol AP6 cable-mount female connector
part name: AP-6-11
part number: KVV 987 050

Amphenol AP6 cable-mount male connector
part name: AP-6-12
part number: KVV 987 051

Speaker pole - universal
part name: KV2-H
part number: KVV 987 130
- Heavy duty telescopic speakerpole
- 0,735 to 1,23 m
- diameter 35 mm
- weight 2,2 kg
- max. load 50 kg
- bottom terminal M20
- matte black

Fly Bar and Bracket for ES systems
part name: FLY BAR - 0002
part number: KVV 987 191
- 8 pcs M10 screws
- 8 pcs Quick-lock-pins 6 mm included
- 4 pcs Quick-lock-pins 1/2” included

ES Mid/Hi speaker cable MH15, AP6 connectors - 1,5 m
part name: MH15
part number: KVV 987 147
- 1,5 m (5ft), Mid/Hi Module hook-up

ES Mid/Hi speaker cable MH60, AP6 connectors - 6 m
part name: MH60
part number: KVV 987 125
- 6 m (20ft), Mid/Hi Module hook-up

ES Mid/Hi speaker cable MH120, AP6 connectors - 12 m
part name: MH120
part number: KVV 987 126
- 12 m (40ft), Mid/Hi Module hook-up

ES Mid/Hi speaker cable MH180, AP6 connectors - 18 m
part name: MH180
part number: KVV 987 127
- 18 m (60ft), Mid/Hi Module hook-up

Cart for 2 pcs ES1.0 or ES1.5
part name: CRT-0001
part number: KVV 987 030
- wheels not included

Cart Wheels with bolts nuts kit
part name: CRT - WHL
part number: KVV 987 031
- 4 pcs in pack, (rotating), (blue)

ES Cable kit
part name: CABLE-KIT
part number: KVV 987 047
The ES Cable Pack consist of four high-quality Amphenol AP cable assemblies designed for use with ES Series.
- 2 pcs LF15
- 1pc LF40
- 1pc MH60

Amphenol AP6 cable-mount female connector
part name: AP-6-11
part number: KVV 987 050

Amphenol AP6 cable-mount male connector
part name: AP-6-12
part number: KVV 987 051
ES1.5 · Overview

ES1.5 - part number KVV 987 003

Application
Specifically designed to accompany and compliment the ES1.0 as a true full range compact system
- Portable PA
- Fixed Installations
- Bars and Nightclubs
- Houses of worship
- Can be integrated with other ES subwoofers

Introduction
The ES1.5 is a single 15”, extremely compact, high output subwoofer weighing just 30.8 kg (67.9lbs) designed as part of the ES Series speaker system. Used singularly or in multiples of up to three, alongside a single ES1.0 mid high cabinet, the system is powered by the EPAK2500/R Amplifier ensuring fast, easy set up with perfect balance and complete control. The EPAK2500/R also allows up to two ES1.5’s to be used alongside an ES1.8, where the ES1.5 can either be flown alongside an ES1.0 or ground stacked with the ES1.8.

ES Modular Sound System Benefits
Total flexibility
Use one unit with the ES1.0 Mid/High enclosure, for small systems, or scale up to a maximum of three units for larger applications. Operate in either a horizontal or vertical stack with same dimensions and footprint as ES1.0.
Lightest-weight compact active SR system yet
All the benefits of active sound reinforcement technology but with the electronics in a separate module.
Superb sound
Greater dynamic range than any previous active design.
Easy set-up
Ergonomic weight-balanced design with four handles, eight suspension points and “integrating feet” for easy positioning on stage. Plug-and-play connection to EPAK™ amp/processor module.

Requires EPAK unit for control electronics and amplification.

For full range systems, use with the ES1.0 Three-way Mid/High Module

ES1.5 can also be combined with this other ES Series Bass module:

ES1.0
part num. KVV 987 002
Compact Active-driven Mid/Hi Module

ES1.8
part num. KVV 987 004
Single eighteen-inch high-output Bass Module
Technology
The ES1.5 is an extremely compact yet high output bass module designed as part of an ES Series sound reinforcement speaker system. The ES1.5 speaker system benefits from being designed exclusively to operate below 150Hz. By optimizing the ideal operating band pass of each system component; the ES1.5 can achieve high output levels consistently and safely. Power for the system is provided by the EPAK unit Amplifier/Controller ensuring fast, easy set up and complete control. Together with the ES1.0 and EPAK 2500/R, they deliver the highest dynamic range of any system currently available providing new levels of clarity, depth and resolution.

Advanced 15-inch driver
KV2 Audio’s transducer partner, 18 Sound in Cavriago, Italy, manufactures the low frequency transducer inside the ES1.5. Frequencies between 40Hz and 150Hz are reproduced by a new fifteen-inch woofer that provides 99dB of sensitivity (1watt / 1 meter). Loading of the woofer is done through two, asymmetrical chambers with horn-profiled exits. The high efficiency neodymium motor provides an extraordinary amount of force that delivers complete control of the cone mass and a high overall weight loss. Neodymium is not a transducer panacea, as it cannot safely operate at the same typical operating temperatures of ferrite. Using neodymium requires a very profound understanding of material science and finite element analysis. Our years of acoustic design experience enable us to properly design a stable, high force magnetic structure using neodymium.

Easy-to-handle enclosure
The ES1.5 is a very lightweight yet resonance-free enclosure featuring a number of ergonomically designed parts that make it compact and easy to set up and use. KV2 designed and tooled new cabinet handles for use in their products. The two side handles make it easy to pick up and reposition the ES1.5 in a natural, instinctive manner.

Perfections in the details
One longstanding problem with standard cabinets is their rubber feet, which prevent you from moving or sliding the enclosure easily into a desired position. They’re also easily damaged since they protrude from the box. KV2 has addressed this issue by molding our own feet using acetal copolymer material. This material has two very essential properties that make it ideal for use in this application, high density and a very low coefficient of friction. The enclosure has twelve of these feet placed on three sides of the cabinet. Their asymmetrical placement allows easy setup, alignment and construction of a number of different system configurations.

Easy to fly
There are six industrial-grade internal braces placed at each corner. Each brace is held in place by four M6 and two M10 bolts providing a wide range of installation and suspension flexibility.
## Specifications

### System Acoustic Performance
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max SPL Long-term</td>
<td>127dB (134dB - 3x ES1.5)</td>
</tr>
<tr>
<td>Max SPL Peak</td>
<td>130dB (137dB - 3x ES1.5)</td>
</tr>
<tr>
<td>-3dB Response</td>
<td>40Hz to 130Hz</td>
</tr>
<tr>
<td>-10dB Response</td>
<td>36Hz to 130Hz</td>
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<tr>
<td>Impedance</td>
<td>16Ω</td>
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<tr>
<td>Crossover Point</td>
<td>130Hz</td>
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### Low Frequency Section
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Acoustic Design</td>
<td>Twin Asymmetrical loading</td>
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<td>Subwoofer Amplifier Requirement</td>
<td>500W / ES1.5 from EPAK 2500/R</td>
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<td>Woofer Size / Voice Coil Diameter / Design</td>
<td>15&quot; / 3&quot; / Inside Outside</td>
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<td>Diaphragm Material</td>
<td>Epoxy Reinforced Cellulose</td>
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<tr>
<td>Magnet Type</td>
<td>Ferrite</td>
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### Speaker Input
- **Input**: AP4

### Speaker Output
- **Output**: AP4

### Cabinet
<table>
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<tr>
<th>Parameter</th>
<th>Value</th>
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<tr>
<td>Cabinet Material</td>
<td>Baltic birch</td>
</tr>
<tr>
<td>Handles</td>
<td>2</td>
</tr>
<tr>
<td>Color</td>
<td>&quot;Orange peeled&quot; Matt Black or any RAL</td>
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### Physical Dimensions
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>700 mm (27.55&quot;)</td>
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<tr>
<td>Width</td>
<td>450 mm (17.71&quot;)</td>
</tr>
<tr>
<td>Depth</td>
<td>450 mm (17.71&quot;)</td>
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<tr>
<td>Weight</td>
<td>30.8 kg (67.9lbs)</td>
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ES1.5 Architects and Engineer’s Specifications

The bass module loudspeaker system shall incorporate one 15-inch low frequency (LF) transducer with neodymium motor. The LF driver shall be mounted inside a compact wood enclosure in between twin asymmetrical acoustic chambers with horn shaped exits tuned for optimum bass response. The loudspeaker enclosure shall have a rectangular shape and shall incorporate, two side handles with integrated M10 points, one top and bottom M10 suspension point and integrated internal braces with eight M10 suspension points, one M10 suspension point on the back. The speaker cabinet shall be finished with an ultra wear resistant black polymer coating and fitted with a weather resistant perforated steel grill. The system shall receive power from a separate Amplifier Controller module consisting of separate power amplifiers for high, midrange and midbass transducers as well as signal processing including electronic band pass crossover filters, phase alignment, time correction, equalization and speaker protection. The speaker system shall connect to the Amplifier/Controller Module via proprietary cables terminated in Amphenol AP-4 connectors. The bass module shall be the KV2 Audio ES1.5.
Heavy duty cover for ES1.5
part name: Cover ES1.5
part number: KVV 987 120

Cart for 2 pcs ES1.0 or ES1.5
part name: CRT-0001
part number: KVV 987 030
- wheels not included

Cart Wheels with bolts nuts kit
part name: CRT - WHL
part number: KVV 987 031
- 4 pcs in pack, (rotating), (blue)

Horizontal bracket for ES1.0 or ES1.5
part name: ES1.0 Horizontal Bracket
part number: KVV 987 035
- including top hat cover adaptor plate and two connection bolts

Fly Bar and Bracket for ES systems
part name: FLY BAR - 0002
part number: KVV 987 191
- 8 pcs M10 screws
- 8 pcs Quick-lock-pins 6 mm included
- 4 pcs Quick-lock-pins 1/2” included

Aditional arms for FB-0002
part name: FLY BAR - 0002
part number: KVV 987 192
- 2 pcs ARMS OF FB-0002
- 8 pcs M10 screws
- 8 pcs Quick-lock-pins 6 mm included

Speaker pole - universal
part name: KV2-H
part number: KVV 987 130
- Heavy duty telescopic speakerpole
- 0,735 to 1,23 m
- diameter 35 mm
- weight 2.2 kg
- max. load 50 kg
- bottom terminal M20
- matte black

ES Bass speaker cable LF15, AP4 connectors - 1,5 m
part name: LF15
part number: KVV 987 121
- 1,5 m (5ft)
- for ES Bass Module daisy-chaining

ES Bass speaker cable LF40, AP4 connectors - 4 m
part name: LF40
part number: KVV 987 122
- 4 m (13ft)
- for ES Bass Module hook-up

ES Bass speaker cable LF100, AP4 connectors - 10 m
part name: LF100
part number: KVV 987 123
- 10 m (33ft)
- for ES Bass Module hook-up

ES Bass speaker cable LF200, AP4 connectors - 20 m
part name: LF200
part number: KVV 987 124
- 20 m (66ft)
- for ES Bass Module hook-up

ES Cable kit
part name: CABLE-KIT
part number: KVV 987 047
The ES Cable Pack consist of four high-quality Amphenol AP cable assemblies designed for use with ES Series.
- 2 pcs LF15
- 1pc LF40
- 1pc MH60

Amphenol AP4 cable-mount female connector
part name: AP-4-11
part number: KVV 987 048

Amphenol AP4 cable-mount male connector
part name: AP-4-12
part number: KVV 987 049
**ES Modular Sound System Benefits**

**Total flexibility**
Use two units coupled horizontally or vertically with single ES1.0 Mid /High Module.

**Lightest-weight compact active SR system yet**
All the benefits of active sound reinforcement technology but with the electronics in a separate module.

**Superb sound**
Greater dynamic range than any previous active design.

**Easy set-up**
Ergonomic weight-balanced design with four handles, eight suspension points and "Integrating feet" for easy positioning on stage. Plug-and-play connection to EPAK™ amp/processor module.

---

**Application**
Specifically designed to be used in pairs to accompany the ES1.0 as a true full range high output system for music playback and live performance

- Large Bars and Nightclubs
- Concert venues
- Portable PA
- Scalable into larger systems

**Introduction**
The ES1.8 is a high-output, reflex horn loaded, single 18" subwoofer, designed as a part of the ES Series sound reinforcement system. It provides tight, up front, low frequency extension with authority, attack and definition. Designed to be used in pairs, or with up to two ES1.5, the ES1.8 can achieve high output levels consistently and safely. Alongside the ES1.0 and EPAK2500/R, ES1.8 offers a very firm foundation on which to build a powerful ES system.

---

**ES1.8 - Overview**

**ES1.8 · Overview**

High-Output / Active-driven Bass Module

ES1.8 - part number KVV 987 004

---

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ES1.8 - part number KVV 987 004

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**ES1.8 · Overview**

High-Output / Active-driven Bass Module

ES1.8 - part number KVV 987 004

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**ES1.8 · Overview**

High-Output / Active-driven Bass Module

ES1.8 - part number KVV 987 004

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Specifically designed to be used in pairs to accompany the ES1.0 as a true full range high output system for music playback and live performance

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**ES1.8 · Overview**

High-Output / Active-driven Bass Module

ES1.8 - part number KVV 987 004

---

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Greater dynamic range than any previous active design.

**Easy set-up**
Ergonomic weight-balanced design with four handles, eight suspension points and "Integrating feet" for easy positioning on stage. Plug-and-play connection to EPAK™ amp/processor module.
ES1.8 · Technology

Technology

The ES1.8 is a high-output, front-loaded single eighteen-inch bass module designed as a part of an ES Series sound reinforcement speaker system. The ES1.8 was designed to provide tight, up-front, low frequency reinforcement. The front-loaded configuration along with the use of large-format porting, provides improved attack and definition for the large format 18-inch woofer. By optimizing the ideal operating band pass of each system component, the ES1.8 can achieve high output levels consistently and safely. Power for the system is provided by the EPAK unit Amplifier/Controller ensuring fast, easy set up and complete control. Together with the ES1.0 and EPAK/R unit, they deliver the highest dynamic range of any system currently available providing new levels of clarity, depth and resolution.

Advanced 18-inch driver

KV2 Audio’s transducer development and manufacturing partner, 18 Sound in Cavriago, Italy, manufactures the woofer for the ES1.8. The device is the result of their state-of-the-art R&D facility and advanced production capabilities. The transducer features a double silicone spider, polymide voice coil assembly that undergoes multiple baking and curing processes as well as an advanced magnetic structure with advanced cooling system.

Easy-to-handle enclosure

The ES1.8 is a very compact, lightweight enclosure featuring a number of ergonomically designed parts that make it an easy speaker to set up and use. There are 4 side handles that make it easy to pick up and reposition the ES1.8 in a natural instinctive manner.

Perfections in the details

One longstanding problem with standard cabinets is their rubber feet, which prevent you from moving or sliding the enclosure easily into a desired position. They’re also easily damaged since they protrude from the box. KV2 has addressed this issue by molding our own feet using acetal copolymer material. This material has two very essential properties that make it ideal for use in this application, high density and a very low coefficient of friction. The enclosure has twelve of these feet placed on three sides of the cabinet. Their asymmetrical placement allows easy setup, alignment and construction of a number of different system configurations.

Easy to fly

There are six industrial-grade internal braces placed at each corner and one brace on the back. Each brace is held in place by four M6 and two M10 bolts providing a wide range of installation and suspension flexibility.
## Specifications

### System Acoustic Performance

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max SPL Long-term</td>
<td>131dB (136dB - 2x ES1.8)</td>
</tr>
<tr>
<td>Max SPL Peak</td>
<td>134dB (139dB - 2x ES1.8)</td>
</tr>
<tr>
<td>-3dB Response</td>
<td>37Hz to 130Hz</td>
</tr>
<tr>
<td>-10dB Response</td>
<td>33Hz to 130Hz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8Ω</td>
</tr>
<tr>
<td>Crossover Point</td>
<td>130Hz</td>
</tr>
</tbody>
</table>

### Low Frequency Section

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Acoustic Design</td>
<td>Horn reflex loaded</td>
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<tr>
<td>Subwoofer Amplifier Requirement</td>
<td>800W / ES1.8 from EPAK2500/R</td>
</tr>
<tr>
<td>Woofer Size / Voice Coil Diameter / Design</td>
<td>18&quot; / 4&quot; / Inside Outside</td>
</tr>
<tr>
<td>Diaphragm Material</td>
<td>Epoxy Reinforced Cellulose</td>
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<tr>
<td>Magnet Type</td>
<td>Ferrite</td>
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### Speaker Input

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<td>Speaker Input</td>
<td>AP4</td>
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### Speaker Output

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Speaker Output</td>
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### Cabinet

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Cabinet Material</td>
<td>Baltic birch</td>
</tr>
<tr>
<td>Handles</td>
<td>4</td>
</tr>
<tr>
<td>Pole Mount</td>
<td>M20</td>
</tr>
<tr>
<td>Color</td>
<td>&quot;Orange peeled&quot; Matt Black or any RAL</td>
</tr>
</tbody>
</table>

### Physical Dimensions

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>600 mm (23.62&quot;)</td>
</tr>
<tr>
<td>Width</td>
<td>700 mm (27.55&quot;)</td>
</tr>
<tr>
<td>Depth</td>
<td>750 mm (29.52&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>52 kg (114.4lbs)</td>
</tr>
</tbody>
</table>
ES1.8 Architects and Engineer’s Specifications

The bass module loudspeaker system shall incorporate one 18-inch low frequency (LF) transducer with ferrite motor and 4-inch polymide, high-temperature voice coil. The LF driver shall be mounted inside a compact wood enclosure with large-format low-distortion reflex ports. The loudspeaker enclosure shall have a rectangular shape and shall incorporate, four side handles and integrated internal braces with twelve M10 suspension points. The speaker cabinet shall be finished with an ultra wear resistant black polymer coating and fitted with a weather resistant perforated steel grill. The system shall receive power from a separate Amplifier/Controller module consisting of separate power amplifiers for high, midrange and midbass transducers as well as signal control including electronic band pass crossover filters, phase alignment, time corrections, equalization and speaker protection. The speaker system shall connect to the Amplifier/Controller Module via proprietary cables terminated in Amphenol AP-4 connectors. The bass module shall be the KV2 Audio ES1.8.
Heavy duty cover for ES1.8 used without cart
part name: COVER ES1.8 WITHOUT CART
part number: KVV 987 115

Heavy duty cover for ES1.8 used with cart CRT - 0009
part name: COVER ES1.8 WITH CART
part number: KVV 987 116

Fly Bar and Bracket for ES systems
part name: FLY BAR - 0002
part number: KVV 987 191
- 8 pcs M10 screws
- 8 pcs Quick-lock-pins 6 mm included
- 4 pcs Quick-lock-pins 1/2" included

Speaker pole - universal
part name: KV2-H
part number: KVV 987 130
- Heavy duty telescopic speakerpole
- 0.735 to 1.23 m
- diameter 35 mm
- weight 2.2 kg
- max. load 50 kg
- bottom terminal M20
- matte black

ES Bass speaker cable LF15,
AP4 connectors - 1,5 m
part name: LF15
part number: KVV 987 121
- 1.5 m (5ft)
- for ES Bass Module daisy-chaining

ES Bass speaker cable LF40,
AP4 connectors - 4 m
part name: LF40
part number: KVV 987 122
- 4 m (13ft)
- for ES Bass Module hook-up

ES Bass speaker cable LF100,
AP4 connectors - 10 m
part name: LF100
part number: KVV 987 123
- 10 m (33ft)
- for ES Bass Module hook-up

ES Bass speaker cable LF200,
AP4 connectors - 20 m
part name: LF200
part number: KVV 987 124
- 20 m (66ft)
- for ES Bass Module hook-up

Front mount magnetic cart for ES1.8, ES2.5, ES2.6, EX2.5 MkII
part name: CRT - 0009
part number: KVV 987 114
- wheels not included

Cart Wheels with bolts nuts kit
part name: CRT 0009 - WHL KIT
part number: WHL - KVV 987 128
- 4 pcs in pack, (rotating), (blue)

ES Cable kit
part name: CABLE-KIT
part number: KVV 987 047
The ES Cable Pack consist of four high-quality Amphenol AP cable assemblies designed for use with ES Series.
- 2 pcs LF15
- 1pc LF40
- 1pc MH60

Amphenol AP4 cable-mount female connector
part name: AP-4-11
part number: KVV 987 048

Amphenol AP4 cable-mount male connector
part name: AP-4-12
part number: KVV 987 049

Speaker pole - universal
part name: KV2-H
part number: KVV 987 130
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- diameter 35 mm
- weight 2.2 kg
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- weight 2.2 kg
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- 1pc MH60

Amphenol AP4 cable-mount female connector
part name: AP-4-11
part number: KVV 987 048

Amphenol AP4 cable-mount male connector
part name: AP-4-12
part number: KVV 987 049
ES2.5 / ES2.6 · Overview

ES2.5 - part number KVV 987 005
ES2.6 - part number KVV 987 150

High-Output
Active-driven
Bass Module

Application
Live performance and recorded playback for venues up to 2000 persons (depending on program material and number of bass modules used):

- Church sanctuaries
- Auditoriums
- Band PA
- Dance clubs
- Mobile DJ
- Corporate events

Introduction
The ES2.5 & 2.6 is a high output, double 15” Bass Module of medium dimensions, weight and footprint. Designed to accompany the ES1.0 Mid/High Module as a system, the extreme output and high quality performance present flexible adaptability and scaleability for varied applications.

ES Modular Sound System Benefits

Total flexibility
Use one ES2.5 module or two ES2.6 modules to accompany a single ES1.0 Mid/High module. These can be placed vertically or horizontally.

Lightest-weight compact active SR system yet
All the benefits of active sound reinforcement technology but with the electronics in a separate module.

Superb sound
Greater dynamic range than any previous active design.

Easy set-up
Ergonomic weight-balanced design with four handles, eight suspension points and "Integrating feet" for easy positioning on stage. Plug-and-play connection to EPAK™ amp/processor module.

Requires EPAK unit for control electronics and amplification.

For full range systems, use with the ES1.0 Three-way Mid/High Module

ES2.5/2.6 can also be combined with this other ES Series Bass module:

ES1.0 part num. KVV 987 002
Compact Active-driven Mid/Hi Module

ES1.5 part num. KVV 987 003
Single fifteen-inch compact Bass Module

ES1.8 part num. KVV 987 004
Single eighteen-inch high-output Bass Module
The ES2.5 and ES2.6 are a compact, high output bass module designed as a component of an ES Series sound reinforcement speaker system. The ES2.5 and ES2.6 were designed using new concepts in twin asymmetrical acoustic chambers that deliver very high speaker loading and output from a relatively small cabinet footprint. It is ideal for use in live applications that require reproduction of low frequencies with very high transient content.

Part of the matched, modular EPAK™ System
Power for the system is provided by the EPAK amplification and control system from KV2 Audio ensuring fast, easy set up and complete control. Together with an ES Series Mid/High module and an EPAK system, they deliver the highest dynamic range of any system currently available providing new levels of clarity, depth and resolution.

Durable, high-output low frequency transducers
KV2 Audio’s transducer development and manufacturing partner, 18 Sound in Cavriago, Italy, manufactures the woofer for the ES2.5 and ES2.6. The device is the result of their state-of-the-art R&D facility and advanced production capabilities. The transducer features a double silicone spider, polymide voice coil assembly that undergoes multiple baking and curing processes as well as an advanced magnetic structure with advanced cooling system.

Built with load-in and load-out in mind
The ES2.5 and ES2.6 are a very compact, lightweight enclosure featuring a number of ergonomically designed parts that make it an easy speaker to set up and use. KV2 designed and tooled new cabinet handles for use in their products. The four side handles make it easy to pick up and reposition the ES2.5 and ES2.6 in a natural, instinctive manner.

Perfections in the details
One longstanding problem with standard cabinets is their rubber feet, which prevent you from moving or sliding the enclosure easily into a desired position. They’re also easily damaged since they protrude from the box. KV2 has addressed this issue by molding our own feet using acetal copolymer material. This material has two very essential properties that make it ideal for use in this application, high density and a very low coefficient of friction. The enclosure has eight of these feet placed on two sides of the cabinet. Their asymmetrical placement allows easy setup, alignment and construction of a number of different system configurations.

Easy to fly
There are six industrial grade, internal braces placed at each corner. Each brace is held in place by four M6 and two M10 bolts providing a wide range of installation and suspension flexibility.
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</thead>
<tbody>
<tr>
<td>Max SPL Long-term</td>
<td>134dB</td>
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<tr>
<td>Max SPL Peak</td>
<td>137dB</td>
</tr>
<tr>
<td>-3dB Response</td>
<td>38Hz to 130Hz</td>
</tr>
<tr>
<td>-10dB Response</td>
<td>34Hz to 130Hz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4Ω</td>
</tr>
<tr>
<td>Crossover Point</td>
<td>130Hz</td>
</tr>
</tbody>
</table>

### Low Frequency Section

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustic Design</td>
<td>Twin Asymmetrical loading</td>
</tr>
<tr>
<td>Number of drivers</td>
<td>2</td>
</tr>
<tr>
<td>Subwoofer Amplifier Requirement</td>
<td>1600W / ES2.5 from EPAK2500/R</td>
</tr>
<tr>
<td>Woofer Size / Voice Coil Diameter / Design</td>
<td>15&quot; / 4&quot; / Inside Outside</td>
</tr>
<tr>
<td>Diaphragm Material</td>
<td>Epoxy Reinforced Cellulose</td>
</tr>
<tr>
<td>Magnet Type</td>
<td>Ferrite</td>
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### Speaker Input

<table>
<thead>
<tr>
<th>Parameter</th>
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</thead>
<tbody>
<tr>
<td>Speaker Input</td>
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</table>

### Cabinet

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Cabinet Material</td>
<td>Baltic birch</td>
</tr>
<tr>
<td>Handles</td>
<td>4</td>
</tr>
<tr>
<td>Pole Mount</td>
<td>M20</td>
</tr>
<tr>
<td>Color</td>
<td>&quot;Orange peeled&quot; Matt Black or any RAL</td>
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</table>

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<td>700 mm (27.55&quot;)</td>
</tr>
<tr>
<td>Depth</td>
<td>750 mm (29.52&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>69 kg (151.8lbs)</td>
</tr>
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# ES2.6 · Specifications

## System Acoustic Performance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Max SPL Long-term</td>
<td>132dB (137dB - 2x ES2.6)</td>
</tr>
<tr>
<td>Max SPL Peak</td>
<td>135dB (140dB - 2x ES2.6)</td>
</tr>
<tr>
<td>-3dB Response</td>
<td>38Hz to 130Hz</td>
</tr>
<tr>
<td>-10dB Response</td>
<td>34Hz to 130Hz</td>
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<tr>
<td>Impedance</td>
<td>8Ω</td>
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<tr>
<td>Crossover Point</td>
<td>130Hz</td>
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## Low Frequency Section

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<tr>
<th>Parameter</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Acoustic Design</td>
<td>Twin Asymmetrical loading</td>
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<tr>
<td>Number of drivers</td>
<td>2</td>
</tr>
<tr>
<td>Subwoofer Amplifier Requirement</td>
<td>800W / ES2.6 from EPAK2500/R</td>
</tr>
<tr>
<td>Woofer Size / Voice Coil Diameter / Design</td>
<td>15&quot; / 4&quot; / Inside Outside</td>
</tr>
<tr>
<td>Diaphragm Material</td>
<td>Epoxy Reinforced Cellulose</td>
</tr>
<tr>
<td>Magnet Type</td>
<td>Ferrite</td>
</tr>
</tbody>
</table>

## Speaker Input

| Speaker Input              | AP4                                               |

## Speaker Output

| Speaker Output             | AP4                                               |

## Cabinet

| Cabinet Material           | Baltic birch                                      |
| Handles                   | 4                                                |
| Pole Mount                | M20                                              |
| Color                     | “Orange peeled” Matt Black or any RAL             |

## Physical Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>600 mm (23.62&quot;)</td>
</tr>
<tr>
<td>Width</td>
<td>700 mm (27.55&quot;)</td>
</tr>
<tr>
<td>Depth</td>
<td>750 mm (29.52&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>69 kg (151.8lbs)</td>
</tr>
</tbody>
</table>
ES2.5 and ES2.6 Architects and Engineer’s Specifications

The bass module loudspeaker system shall incorporate two 15-inch low frequency (LF) transducer with ferrite motors and 4-inch polymide, high-temperature voice coils. The LF driver shall be mounted inside a compact wood enclosure with twin asymmetrical chambers. The loudspeaker enclosure shall have a rectangular shape and shall incorporate, four side handles and integrated internal braces with twelve M10 suspension points.

The speaker cabinet shall be finished with an ultra wear resistant black polymer coating and fitted with a weather resistant perforated steel grill. The system shall receive power from a separate Amplifier/Controller Module consisting of separate power amplifiers for high, midrange and midbass transducers as well as signal processing including electronic and pass crossover filters, phase alignment, time corrections, equalization and speaker protection.

The speaker system shall connect to the Amplifier/Controller Module via proprietary cables terminated in Amphenol AP-4 connectors. The bass module shall be the KV2 Audio ES2.5 or ES2.6.
ES2.5 / ES2.6 · Accessories

Heavy duty cover for ES2.5 used without cart
part name: COVER ES2.5 WITHOUT CART
part number: KVV 987 117

Heavy duty cover for ES2.6 used without cart
part name: COVER ES2.6 WITHOUT CART
part number: KVV 987 153
- wheels not included

Heavy duty cover for ES2.5 used with cart CRT - 0009
part name: COVER ES2.5 WITH CART
part number: KVV 987 118

Heavy duty cover for ES2.6 used with cart CRT0009
part name: COVER ES2.6 WITHOUT CART
part number: KVV 987 154

Front mount magnetic cart for ES1.8, ES2.5, ES2.6, EX2.5 MkII
part name: CRT - 0009
part number: KVV 987 114

Cart Wheels with bolts nuts kit
part name: CRT 0009 - WHL KIT
part number: WHL - KVV 987 128
- 4 pcs in pack, (rotating), (blue)

ES Cable kit
part name: CABLE-KIT
part number: KVV 987 047
The ES Cable Pack consist of four high-quality Amphenol AP cable assemblies designed for use with ES Series.
- 2 pcs LF15
- 1pc LF40
- 1pc MH60

Amphenol AP4 cable-mount female connector
part name: AP-6-11
part number: KVV 987 048

Amphenol AP4 cable-mount male connector
part name: AP-6-12
part number: KVV 987 049

Speaker pole - universal
part name: KV2-H
part number: KVV 987 130
- Heavy duty telescopic speakerpole
- 0,735 to 1,23 m
- diameter 35 mm
- weight 2,2 kg
- max. load 50 kg
- bottom terminal M20
- matte black

Fly Bar and Bracket for ES systems
part name: FLY BAR - 0002
part number: KVV 987 191
- 8 pcs M10 screws
- 8 pcs Quick-lock-pins 6 mm included
- 4 pcs Quick-lock-pins 1/2" included

ES Bass speaker cable LF15, AP4 connectors - 1,5 m
part name: LF15
part number: KVV 987 121
- 1,5m (5ft)
- for ES Bass Module daisy-chaining

ES Bass speaker cable LF40, AP4 connectors - 4 m
part name: LF40
part number: KVV 987 122
- 4 m (13ft)
- for ES Bass Module hook-up

ES Bass speaker cable LF100, AP4 connectors - 10 m
part name: LF100
part number: KVV 987 123
- 10 m (33ft)
- for ES Bass Module hook-up

ES Bass speaker cable LF200, AP4 connectors - 20 m
part name: LF200
part number: KVV 987 124
- 20 m (66ft)
- for ES Bass Module hook-up
Warranty

Your ES System is covered against defects in material and workmanship.

Refer to your supplier for more details.

Service

In the unlikely event that your ES System develops a problem, it must be returned to an authorised distributor, service centre or shipped directly to our factory. Because of the complexity of the design and the risk of electrical shock, all repairs must be attempted only by qualified technical personnel.

If the unit needs to be shipped back to the factory, it must be sent in its original carton. If improperly packed, the unit may be damaged.

To obtain service, contact your nearest KV2 Audio Service Centre, Distributor or Dealer.
The Future of Sound. Made Perfectly Clear.

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