VHD5 Constant Power Point Source Array

User Guide

· VHD5.0 · VHD8.10 · VHD5.1



Content

VHD5.0 **3**

Introduction, Acoustic components, Enclosure Design 3

Specifications 4

Drawing 5

VHD8.10 **6**

Introduction, Acoustic components, Enclosure Design 6

Specifications 7

Drawing 8

VHD5.1 **9**

Introduction, Acoustic components, Enclosure Design 9

Specifications 10

Drawing 11

Accessories · VHD5.0 · VHD8.10 · VHD5.1 **12 - 13**

Warranty · Service **14**

Notes **15 - 17**

Important Safety Instructions

Before using your VHD5.0, VHD8.10, VHD5.1 be sure to carefully read the applicable items of these operating instructions and the safety suggestions.

1. **Read all product instructions.**
2. **Keep printed instructions, do not throw away.**
3. **Respect and rewiew all warnings.**
4. **Follow all instructions.**
5. **Clean only with dry cloth.**
6. **Install in accordance with KV2 Audio's recommended installation instructions.**
7. **Only use accessories specified by KV2 Audio.**
8. **Install the product only with rigging specified by KV2 Audio, or sold with the loudspeaker.**
9. **Unplug this loudspeaker during lightning storms or when unused for long periods of time.**
10. **An experienced user shall always supervise this professional audio equipment.**

VHD5.0 - part number KVV 987 342

VHD5.0
MID/HI MODULE



Application

Designed as an extreme high output and performance mid-hi unit as part of the VHD5 Constant Power Point Source systems for large arenas and stadiums

- Medium to large concert venues
- Hire and Production
- Large Clubs and Arenas

Introduction

The VHD5.0 is a three-way enclosure handling low mids, mid and high frequency's from 45Hz through to 20kHz. It incorporates eight front-loaded ten inch low mid drivers, six horn-loaded eight inch mid range drivers and three 3" NVPD (Nitrate Vapour Particle Deposition) Titanium compression drivers on a custom designed, manifold horn assembly with summing waveguide. With the capacity to run full range down to 45Hz the VHD5.0 is usually crossed over at 70Hz to the VHD4.21Active Sub Bass Modules.

Both the VHD5.0 and VHD8.10 cabinets incorporate very simple to use integrated fly ware that links cabinets together quickly and easily.

Acoustic components

The VHD5.0 Mid Hi module features purpose designed and specified loudspeaker components, centered around high efficiency woofer designs and the latest transducer technology. Eight mid bass 10" woofers, with inside outside 2" voicecoils, and Epoxy reinforced cellulose cones are employed, alongside six 8" Midrange transducers, with AIC Transcoil technology and Epoxy reinforced cellulose cones. Three 3" compression drivers with NVPD treated dome assemblies attach to a unique KV2 Hybrid Manifold Horn where the 2+1 driver arrangement eliminates the typical sound of large format systems and reduces the problems of multiple high frequency driver interference. All speakers in the VHD5.0 employ neodymium magnets to increase force, improve control and lower weight. The VHD5.0 has an 80° horizontal and 30° vertical dispersion.

Enclosure Design

The VHD5.0 Enclosure is a Large Constant Power Point Source array built in lightweight Baltic Birch, featuring a number of ergonomically designed parts and functions that make it an easy unit to move, set up and operate. There are a total of eight handles integrated, to facilitate easy pick up and positioning of the enclosure in a natural -instinctive and intuitive manner. Low friction feet are integrated for easy locking into the VHD8.10 mid bass extension cabinets. A certified proprietary KV2 Audio internal flyware system is also neatly integrated within the box for a quick set up and minimal requirement of external rigging.

Specifications

System Acoustic Performance	
Max SPL Long-term	147dB (with VHD8.10)
Max SPL Peak	153dB (with VHD8.10)
-3dB Response	50Hz to 20kHz (with VHD8.10)
-10dB Response	45Hz to 22kHz (with VHD8.10)
-3dB Response (Full Range mode)	45Hz to 20kHz (with VHD8.10)
Crossover Point	70Hz, 400Hz, 2.0kHz (with VHD8.10)

High Frequency Section	
Acoustic Design	Horn Loaded
High Horn Coverage Horizontal / Vertical	80° x 30°
High Frequency Amplifier Requirement	VHD5000
Throat Exit Diameter / Diaphragm Size	3x 1.4" / 3.0"
Diaphragm Material	Nitride Titanium
Magnet Type	Neodymium

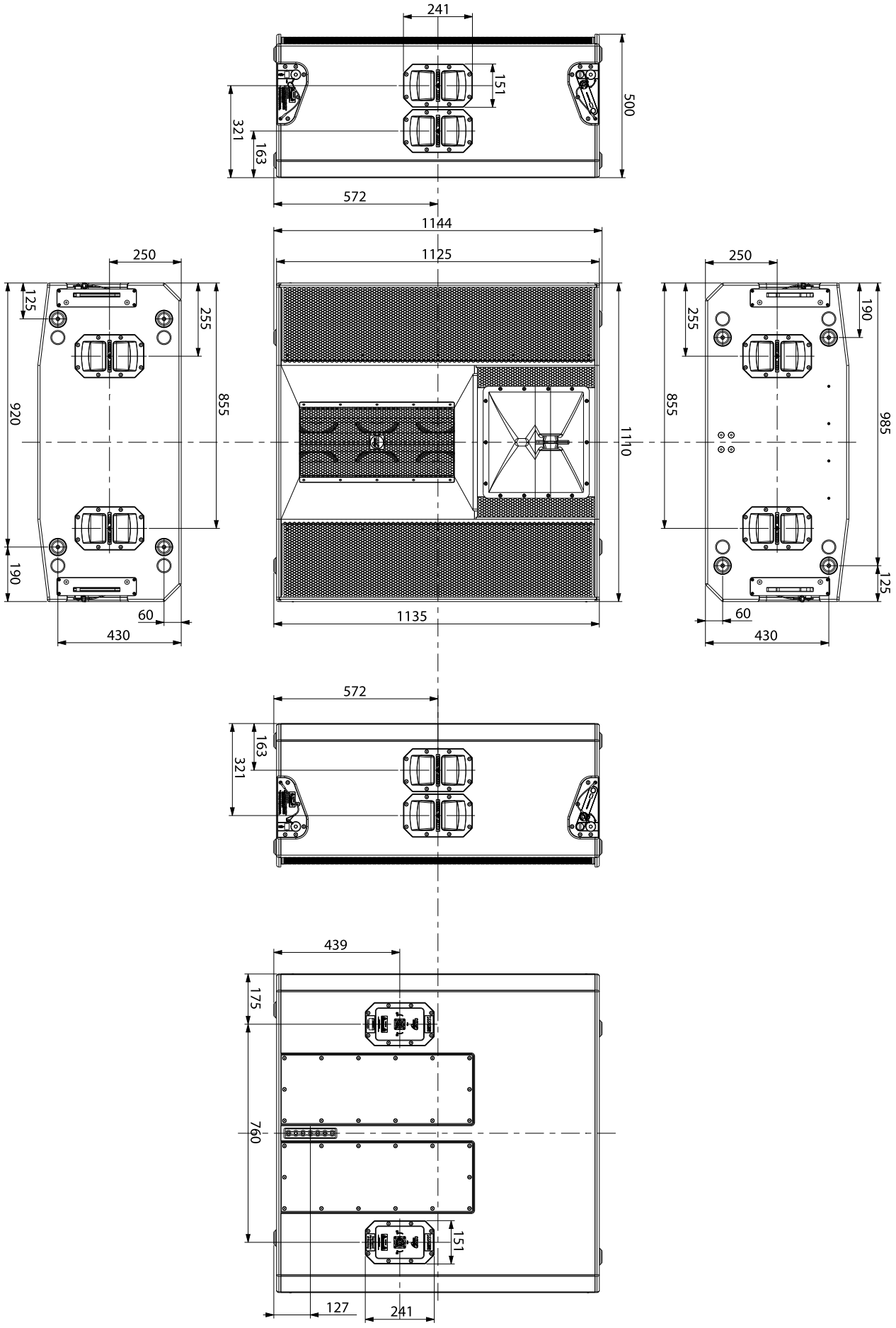
Mid Range Section	
Acoustic Design	Horn Loaded
Mid Horn Coverage Horizontal / Vertical	80° x 30°
Midrange Amplifier Requirement	VHD5000
Woofer Size / Voice Coil Diameter / Design	6x 8" / 3.0" / Trans Coil
Diaphragm Material	Epoxy Reinforced Cellulose
Magnet Type	Neodymium

Low Mid Section	
Acoustic Design	Front Loaded
Low Mid Amplifier Requirement	VHD5000S
Woofer Size / Voice Coil Diameter / Design	8x 10" / 3.0"
Diaphragm Material	Epoxy Reinforced Cellulose
Magnet Type	Neodymium

Cabinet	
Cabinet Material	Baltic birch
Handles	6
Color	Black (wear resistant polymer coating)

Physical Dimensions	
Height	1125 mm (44.29")
Width	1110 mm (43.7")
Depth	500 mm (19.69")
Weight	151kg (332.2lbs)

Drawing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VHD8.10 - part number KVV 987 343

VHD8.10
BASS MODULE



Application

Designed as a dedicated low mid enclosure to accompany the VHD5.0 mid high module as part of the VHD5 system

- Medium to large concert venues
- Fixed installation
- Outdoor events

Introduction

The VHD8.10 Low Mid Expansion Box as part of VHD5 Constant Power Point Source System provides the required energy in the low mid, needed to cover very large audiences. The enclosure carries a further 8 front-loaded ten inch speakers and 3 of these cabinets are added to each VHD5.0. This provides a total of 32 ten inch speakers providing the required balance and output in the low mid band and extended projection of these frequencies over distance.

Acoustic components

The VHD8.10 features purpose designed and specified loudspeaker components, centered around a high efficiency woofer design. A combination of eight cutting edge bass and mid bass 10" woofers, with inside outside 2" voicecoils, and Epoxy reinforced cellulose cone are employed, featuring a mix of ferrite and neodymium magnets to increase force where required, improve control and lower weight whilst delivering a more natural and balanced sound.

Enclosure Design

The VHD8.10 Enclosure is a front Loaded low mid / bass design, built in lightweight Baltic Birch and designed to be flown in multiples with the VHD5.0 as part of the Constant power Point Source Array. Featuring a number of ergonomically designed parts and functions that make it an easy unit to move, set up and operate. There are a total of four handles integrated, (2 each side), to facilitate easy pick up and positioning of the enclosure in a natural -instinctive and intuitive manner.

Low friction feet are integrated for easy locking into both the VHD5.0 and other VHD8.10 cabinets. The box also features a certified proprietary KV2 Audio internal flyware system, neatly integrated within the box for a quick set up and minimal requirement of external rigging.

Specifications

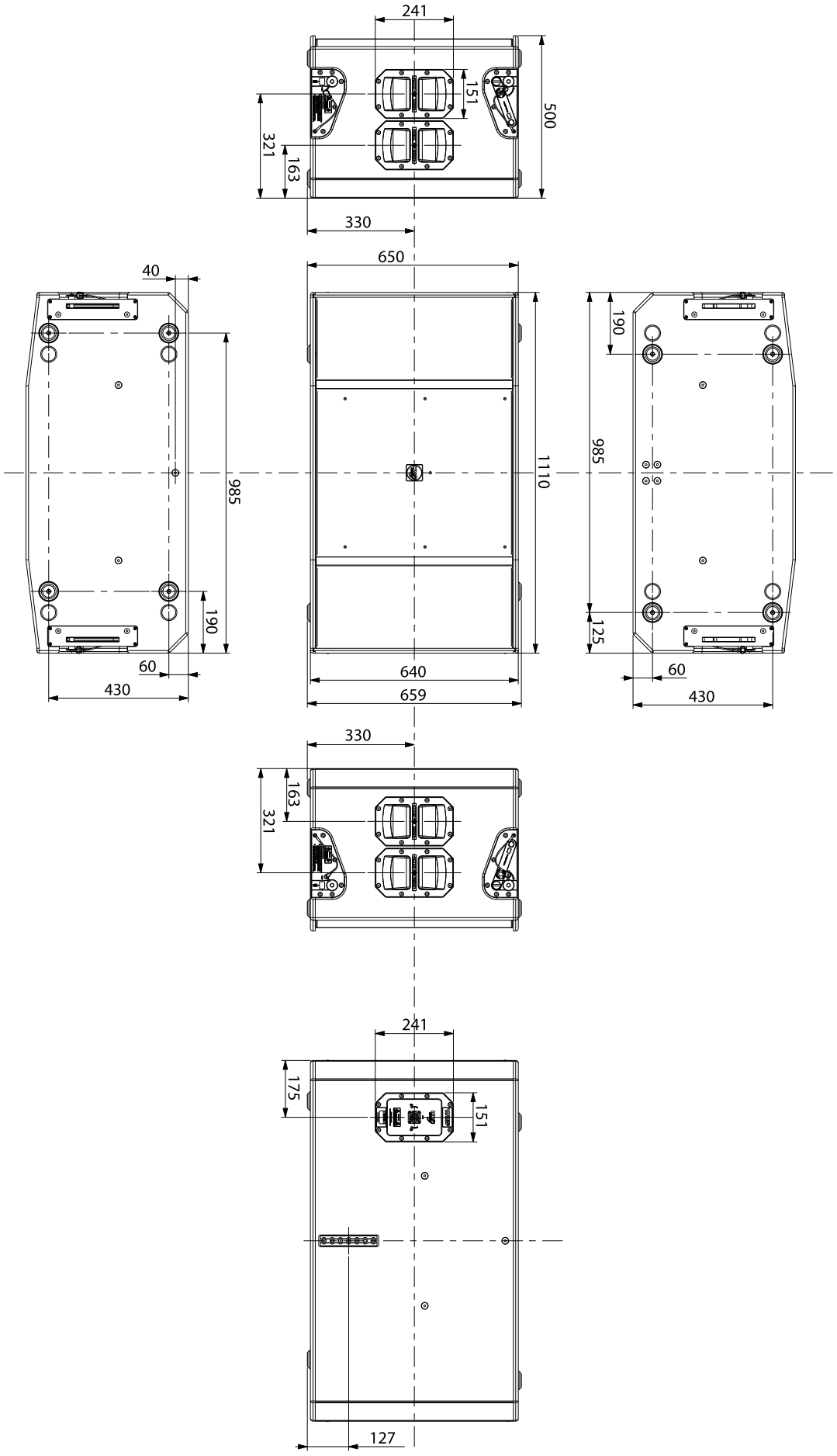
System Acoustic Performance	
Max SPL Long-term	135dB
Max SPL Peak	141dB
-3dB Response	45Hz to 400Hz (45Hz to 1100Hz when used standalone)
-10dB Response	45Hz to 400Hz (45Hz to 4200Hz when used standalone)
Sensitivity	104dB
Impedance	4Ω
Crossover Point	400Hz

Mid Bass Section	
Acoustic Design	Front Loaded - Bass Reflex
Mid-bass Amplifier Requirement	VHD5000S
Woofer Size / Voice Coil Diameter / Design	8 x 10" / 2"
Diaphragm Material	Epoxy Reinforced Cellulose
Magnet Type	Neodymium / Ferrite

Cabinet	
Cabinet Material	Baltic birch
Handles	4
Color	Black (wear resistant polymer coating)

Physical Dimensions	
Height	640 mm (25.20")
Width	1110 mm (43.7")
Depth	500 mm (19.69")
Weight	78 kg (171,96lbs)

Drawing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VHD5.1 - part number KVV 987 440

VHD5.1 DOWNFILL



Application

Designed as a true mid high - downfill enclosure as part of the VHD5 Constant Power Point Source systems for large arenas and stadiums

- Medium to large concert venues
- Hire and Production
- Large Clubs and Arenas

Introduction

Continuing KV2 Audio's current technology statement through Constant PowerPoint Source Array design, VHD5.1 is a dedicated downfill performance enclosure and integral to the VHD5 system for the largest of events to audiences from 10,000 upwards without requirement for additional delay systems.

A three-way design featuring a 3" high frequency compression driver with NVPD treated dome assembly; one horn loaded 8" mid range woofer featuring AIC technology and six front loaded 10" low mid woofers. All speaker components employ neodymium magnets to increase force, improve control and reduce weight.

Bespoke flyware to facilitate fast attachment and rigging employment.

Acoustic components

The VHD5.1 features purpose designed and specified loudspeaker components, centered around a high efficiency woofer design. A combination of eight cutting edge bass and mid bass 10" woofers, with inside outside 2" voicecoils, and Epoxy reinforced cellulose cone are employed, featuring a mix of ferrite and neodymium magnets to increase force where required, improve control and lower weight whilst delivering a more natural and balanced sound.

Enclosure Design

The VHD5.1 Enclosure is a front Loaded low mid / bass design, built in lightweight Baltic Birch and designed to be flown in multiples with the VHD5.0 as part of the Constant power Point Source Array. Featuring a number of ergonomically designed parts and functions that make it an easy unit to move, set up and operate. There are a total of three handles integrated (2 each side and 1 on the rear bottom) to facilitate easy pick up and positioning of the enclosure in a natural instinctive and intuitive manner.

Low friction feet are integrated for easy locking into both the VHD5.0 and other VHD8.10 cabinets. The box also features a certified proprietary KV2 Audio internal flyware system, neatly integrated within the box for a quick set up and minimal requirement of external rigging.

Specifications

System Acoustic Performance	
Max SPL Long-term	135dB
Max SPL Peak	141dB
-3dB Response	55Hz to 22kHz
-10dB Response	45Hz to 30kHz
Crossover Point	400Hz, 2.5kHz

High Frequency Section	
Acoustic Design	Horn Loaded
High Horn Coverage Horizontal / Vertical	110° x 40°
High Frequency Amplifier Requirement	100W
Throat Exit Diameter / Diaphragm Size	1.4" / 3"
Diaphragm Material	Nitride Titanium
Magnet Type	Neodymium

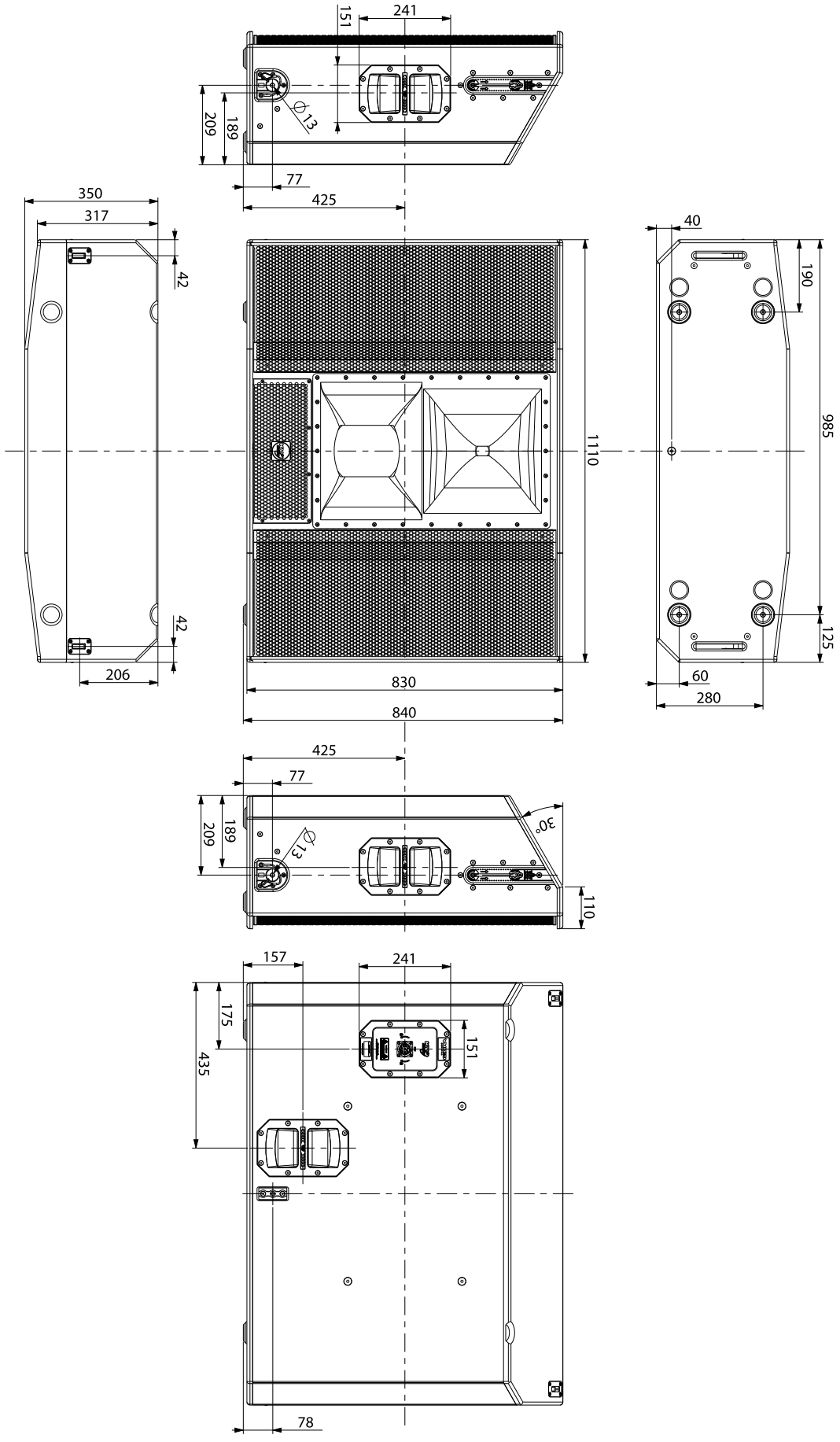
Mid Range Section	
Acoustic Design	Horn Loaded
Mid Horn Coverage Horizontal / Vertical	110° x 40°
Midrange Amplifier Requirement	200W
Woofer Size / Voice Coil Diameter / Design	8" / 3.0" / Trans Coil
Diaphragm Material	Epoxy Reinforced Cellulose
Magnet Type	Neodymium

Low Frequency Section	
Acoustic Design	Front Loaded, Bass Reflex
Low Frequency Amplifier Requirement	1000W
Number of Drivers	6
Woofer Size / Voice Coil Diameter / Design	6 x 10" / 2"
Magnet Type	Ferrite
Diaphragm Material	Epoxy Reinforced Cellulose

Cabinet	
Cabinet Material	Baltic birch
Color	Plastic paint

Physical Dimensions	
Height	830 mm (32.68")
Width	1110 mm (43.70")
Depth	350 mm (13.78")
Weight	78 kg (171,96lbs)

Drawing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Padded Cover for VHD5.0

part name:
Cover VHD5.0
part number:
KVV 987 370
description:
- used with cart



Padded Cover for VHD8.10

part name:
Cover VHD8.10
part number:
KVV 987 371
description:
- used with cart



Cart for VHD5.0, VHD8.10

part name:
Cart for VHD5.0, VHD8.10
part number:
KVV 987 369
description:
- Cart for VHD5.0, VHD8.10



VHD5 Rack Case

part name:
VHD5 Rack Case
part number:
KVV 987 365
description:
- Rack case on wheels for VHD5 system amplification



Multicable for VHD5 System

part name:
VHD5 Multicable
part number:
KVV 987 364



Extension cable for VHD5 System

part name:
VHD5 Extension Cable
part number:
KVV 987 409
description:
- Extension cable for VHD5 System (25 m)



Tilt Flybar for VHD5

part name:
VHD5 Tilt Flybar
part number:
KVV 987 420
description:
- Tilt Flybar for VHD5



Pan Flybar for VHD5

part name:
VHD5 Pan Flybar
part number:
KVV 987 413
description:
- Pan Flybar for VHD5



Flybar Case for VHD5 Flybar

part name:
Flybar Case for VHD5 Flybar
part number:
KVV 987 414
description:
- Flybar Case for VHD5 Flybar





VHD5 Power Unit

part name:
VHD5 Power Unit
part number:
KVV 987 363
description:
- VHD5 dedicated Power Unit





Padded Cover for VHD5.1

part name:
Cover VHD5.1
part number:
KVV 987 441
description:
- Padded cover for one pair of VHD5.1's Downfills
- used with cart

Cart for VHD5.1

part name:
Cart for VHD5.1
part number:
KVV 987 442
description:
- Cart for one pair of VHD5.1's Downfills



Warranty

Your VHD5.0, VHD8.10, VHD5.1Flyware are covered against defects in material and workmanship.

Refer to your supplier for more details.

Service

In the unlikely event that your VHD5.0, VHD8.10, VHD5.1Flyware develops a problem, it must be returned to an authorized distributor, service centre or shipped directly to the KV2 Audio 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.



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