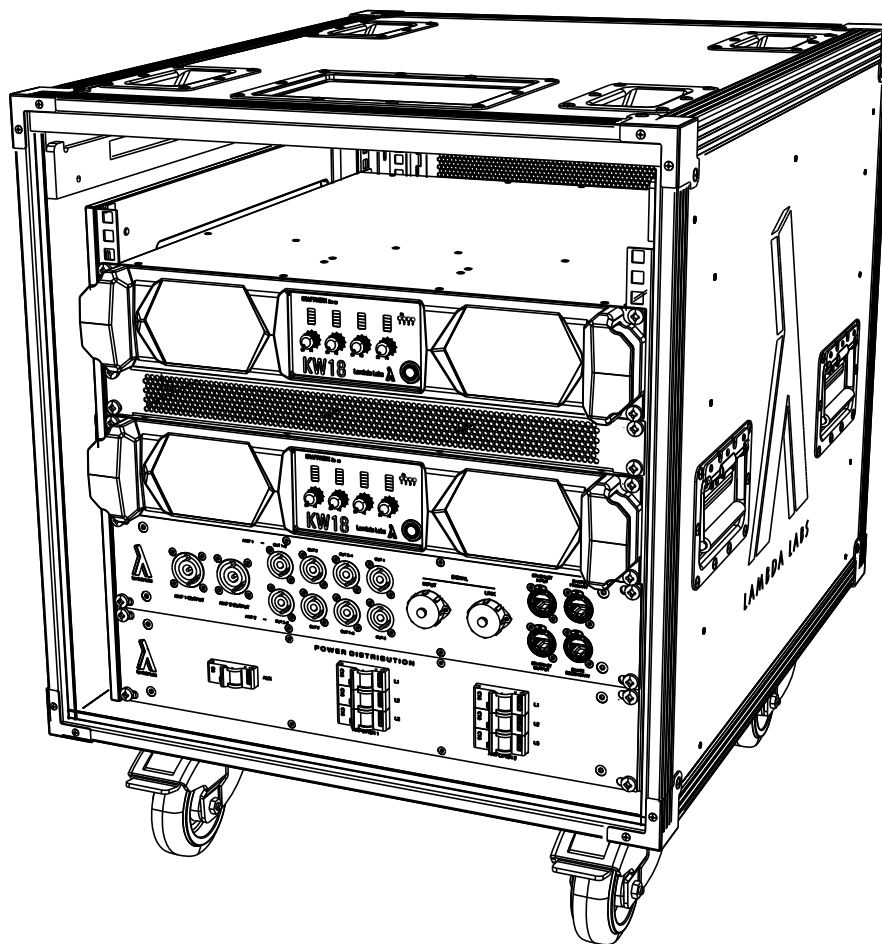


KW-18 Amplifier Rack Manual



Version 1.1

KW-18 Amplifier Rack Manual
Version 1.1 08/2020
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This manual is optimized to save paper and to print 2 pages per DIN A4 sheet.

Lambda Labs
professional acoustics



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1. Safety



This manual contains essential information on product safety, installation and usage. Read this manual carefully in order to become familiar with the operation and usage of the product/s. Read this manual carefully **BEFORE** operating the product/s for the first time! Read the **IMPORTANT GENERAL SAFETY REGULATIONS** you can find on the next pages!

- Keep this manual within reach while operating the product/s all the time!
- As a Lambda Labs products rental partner, always attach the appropriate user manuals to the devices. Should you need additional printed manuals, please order them from Lambda Labs or download a latest version!
- When reselling the product/s, hand over the manual to the new owner and provide written documentation about any changes of the system which may have been applied!
- Always use the latest manual edition! Check our website regularly for updates!




While all information in this manual has been prepared to the best knowledge and with the utmost care, Lambda Labs can not guarantee the accuracy of the documentation in all cases. Lambda Labs disclaims any liability for any errors or omissions that may be inferred from this manual or the products described therein. This does not apply to intent and gross negligence. Technical specifications, as well as dimensions, weight and properties do not constitute guaranteed characteristics. Lambda Labs expressly reserves the right to make changes and modifications in accordance with statutory provisions and to improve product features.

1.1. Declaration of Symbols and Illustrations of this Manual






In order to point out potential sources of danger and application errors, the following symbols and illustrations are used in this manual:

	<p>DANGER:</p> <p>The warning symbol "DANGER" indicates that non-observance may pose a danger to the operator or to other persons in close range and the Amplifier Rack product!</p>
	<p>DANGER! RISK OF ELECTRIC SHOCK:</p> <p>The warning symbol "RISK OF ELECTRIC SHOCK" indicates that terminals carry electrical voltage of sufficient magnitude to constitute risk of electric shock!</p>








	<p>CAUTION:</p> <p>The warning symbol "CAUTION" requires the operator to take particular precautions to prevent possible damage to the Amplifier Rack product!</p>
	<p>ATTENTION:</p> <p>The warning symbol "ATTENTION" indicates that a special attention should be given to certain setup activities or applications!</p>
	<p>NOTE:</p> <p>This illustration notifies the operator about hints and help to simplify and to accelerate the use of the Amplifier Rack, the setup process or to better understand some contexts.</p>














1.2. IMPORTANT GENERAL SAFETY REGULATIONS

	<p>Intended use!</p> <p>When using the Lambda Labs Amplifier Rack and its accessories, always follow the instructions in this manual! Non intended use might cause damage in the equipment and risk of electric shock! Use only attachments/accessories specified by the manufacturer!</p>
	<p>No user serviceable parts inside!</p> <p>Do not remove the top cover or the rear section of the KW-18 enclosure and do not open the KW-18 power amplifier unit! No user serviceable parts inside! Servicing should be always performed by qualified personnel!</p>
	<p>Keep away from liquids and moisture!</p> <p>To reduce the risk of fire or electric shock, do not expose this device to rain and moisture. The device shall not be exposed to dripping or splashing liquids and no objects filled with liquids!</p>
	<p>Mains Connection!</p> <p>The device shall always be connected to MAINS sockets outlet with a protective earthing (PE) connection!</p>
	<p>Grounding!</p> <p>Do not defeat the safety purpose grounding pin of the power plug. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet!</p>



	<p>Inspection of electrical items!</p> <p>Check ALL electrical devices such as cables and Powercon sockets which are involved in the operating process before every use! Even with the slightest doubts about the function and safety of any components, these should not be used! Inspect all electrical items & components regularly!</p>
	<p>Power line!</p> <p>Always ensure, that the power line is sufficient, stable and safe. Make sure the power outlet is capable of delivering the needed power and fulfill the safety regulations. Always check for the correct Pinout of the 5 pin 32A 400V power outlet before connection!</p>
	<p>Cabling!</p> <p>Lay down all cables with care. Additionally, secure the cables with duct tape or cable bridges and mark them for safety reasons. Do not place anything on the cables of the device! Use intact power cords only! Use only high-quality commercially-available cables! The use of power cables and power distributions with insulated or missing protective earth conductor is strictly forbidden!</p>
	<p>Neutrik PowerCON!</p> <p>Neutrik PowerCON is a connector without breaking capacity, therefore the powerCON should not be connected or disconnected under load or live!</p>
	<p>Neutrik SpeakON!</p> <p>Neutrik SpeakON is a connector without breaking capacity, therefore the SpeakON should not be connected or disconnected under load or live!</p>
	<p>Setup environment!</p> <p>Keep the device dry and avoid the contact to heavy dust, salt, sand and prolonged exposure to intense sunlight or strong vibrations and impact. For safety reasons, it is not allowed to place any liquid containers on or near to the Amplifier Rack!</p>
	<p>Placement & interaction with other devices!</p> <p>The device should not be placed near any heat producing sources or exposed to extremely high temperatures or temperatures below zero degrees Celcius. Sufficient ventilation should be provided when operating the amplifier units! Do not block any ventilation openings! Never use the Amplifier Rack with closed doors! The Amplifier Rack should always be protected from rain and fluids! Do not use the Amplifier Rack near water!</p>
	<p>Safe stand on suitable underground!</p> <p>Always ensure a good stability of the Amplifier Rack, especially when stacking them on top of each other. When placing the Amplifier Rack on the ground or platforms, make sure the area is even and capable to carry the total load! Brake the wheels in every case!</p>
	<p>Stacked Amplifier Racks & area protection!</p> <p>When setting up a system with Amplifier Racks or stacked Amplifier Racks, secure the entire work area with crowd control barriers. Make sure that the secured area is sufficiently large in proportion to the height of the stack! Do not stack more than 3 Amplifier Racks on top of each other! Brake the wheels in every case!</p>



	<p>Dynamic Load (Wind Load)!</p> <p>Lambda Labs does not recommend the use of stacked Lambda Labs Amplifier Racks with wind forces greater than 6 bft (12.3 m / s, 44 km / h). If the wind force exceeds 8 bft (17.8 m / s, 62 km / h), clear the area, bring down the Amplifier Racks and secure them!</p>
	<p>Qualified operators!</p> <p>The operation as well as the planning of the setup may only be carried out by qualified personnel who are familiar and experienced with the instructions and the implementation of the operating procedures!</p>
	<p>Work safety!    </p> <p>In order to avoid accidents, it is the responsibility of the operator and the contractor to ensure that the local accident prevention regulations are always fulfilled. During the set up process, the operators should always wear head and foot protection, hand protection and possibly ear protection! Never climb on stacked Amplifier Racks!</p>
	<p>Local safety regulations!</p> <p>Other safety regulations may apply in different countries. If changes occur, get to know the local regulations and if necessary, adapt them to the respective setup. It is the duty and responsibility of the operator to carry out any setup and installation in accordance with the local regulations!</p>
	<p>Maintenance!</p> <p>Please refer to Chapter 7 „Maintenance“. If any damage or failure occurs to the Amplifier Rack itself or the devices inside the rack, please contact the Lambda Labs technical support and wait for further instructions! Do NOT repair or exchange parts by yourself and without support of a qualified service personnel!</p>
	<p>Manual!</p> <p>Keep this manual within easy reach for operating the product/s all the time!</p> <p>As a Lambda Labs products rental partner, always attach the appropriate user manuals to the devices. Should you need further manuals, please order them from Lambda Labs or download a current copy!</p> <p>If you resell the product, hand over the manual to the next operator and provide written records about any changes of the device which may have been applied! Check our website regularly for updates in order to use always and only the latest manual version!</p>
	<p>Flown Amplifier Racks!</p> <p>Flying the Amplifier Rack is strictly forbidden!</p>
	<p>Transport!</p> <p>Always brake the wheels when transporting the Amplifier Rack! Transport the Amplifier Rack with the wheels on the bottom only!</p>
	<p>Storing!</p> <p>Store the device in a dry, cool and clean environment!</p>



1.3. EC declaration and conformity

Lambda Labs
Austria

Declares that the following product:
KW-18 Amplifier Rack

Is in conformity with the provisions of Safety Class I. To guarantee the safety of the components, the following standards and rules have been complied:

SAFETY COMPLIANCE:

Safety Class I

The unit must be grounded to the PE of the Power Network thru the Power connectors! In the case of an Off-Grid use, a proper grounding network must be provided to the PE pins of the Power input connectors of the unit! PE impedance should be always kept low! The use of a GFCI unit is recommended! In the case of single phase power line application, use a common single phase GFCI! In the case of three phase power line application, use a single 3-phase GFCI! Special local electrical safety compliance regulation may apply!



Graz, 28/07/2020

Steffen Kroschel, Chief Technology Officer (CTO)

WEEE Declaration (Disposal)

Electrical and electronic devices must be disposed of separately from household or municipal waste at the end of its operational lifetime. Please dispose of this product according to the respective national regulations or contractual agreements. If there are any further questions regarding the disposal of this product, please contact Lambda Labs.



2. Preface

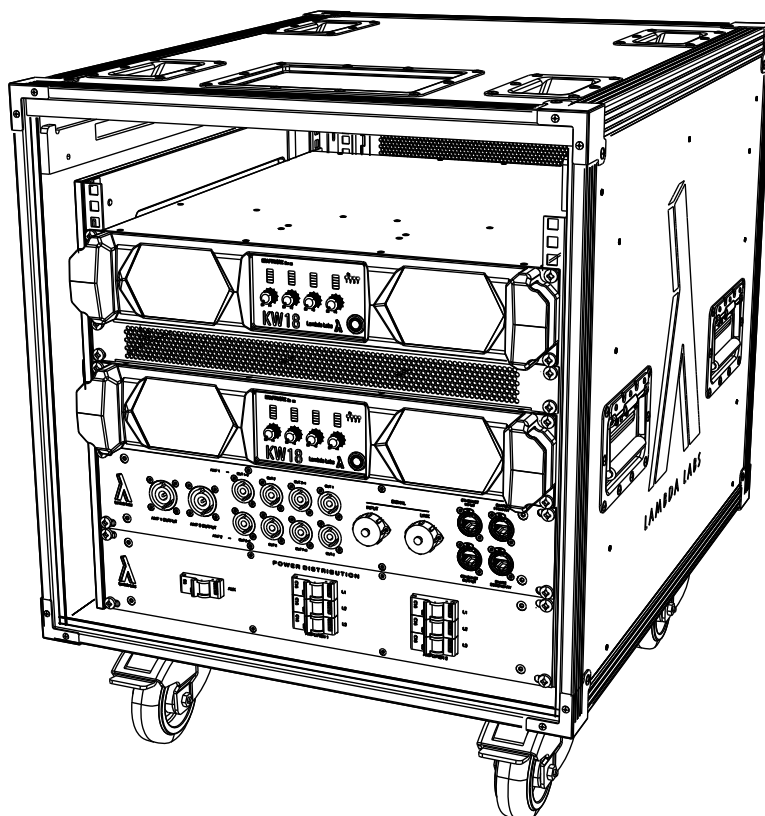
Dear Lambda Labs User,

thank you for purchasing the Lambda Labs KW-18 Professional Power Amplifier Rack. The 10 RU KW-18 Amplifier Rack is intended to use with two pieces of Lambda Labs KW-18 Professional Amplifiers. The KW-18 Amplifier Rack could be used however with 3rd party amplifiers as well. Lambda Labs recommends the use of KW-18 for the non self-powered Lambda Labs loudspeakers with the factory presets provided by Lambda Labs. For more information about the factory presets please refer to the User Manual of the particular product or the Lambda Labs Presets Reference Guide!

The main features of the KW-18 Amplifier Rack:

- 19" 10 RU shock mount amplifier rack
- 4 pieces of braked 100mm heavy duty wheels
- 4 pieces of handles
- 2 slidable doors with internal parking position for space saving and quick front and rear access
- Dedicated metal plate for Touring Label
- Power Distribution with 5 meters (197") 3 x 32A 5 pole cable, circuit breakers and cables for 2 built in KW-18 Amplifiers and 2 auxiliary products like ethernet switches or DSPs with dedicated circuit breakers
- Signal Distribution with 8 pole, 4 pole and 2 pole Speakon Outputs. Additionally, it provides Dante, AES, Analogue Inputs and Ethernet Remote control for 2 KW-18 Amplifiers with daisy chaining outputs
- Includes all internal cables. All cables are labeled
- Shock absorbing rack rail mounting

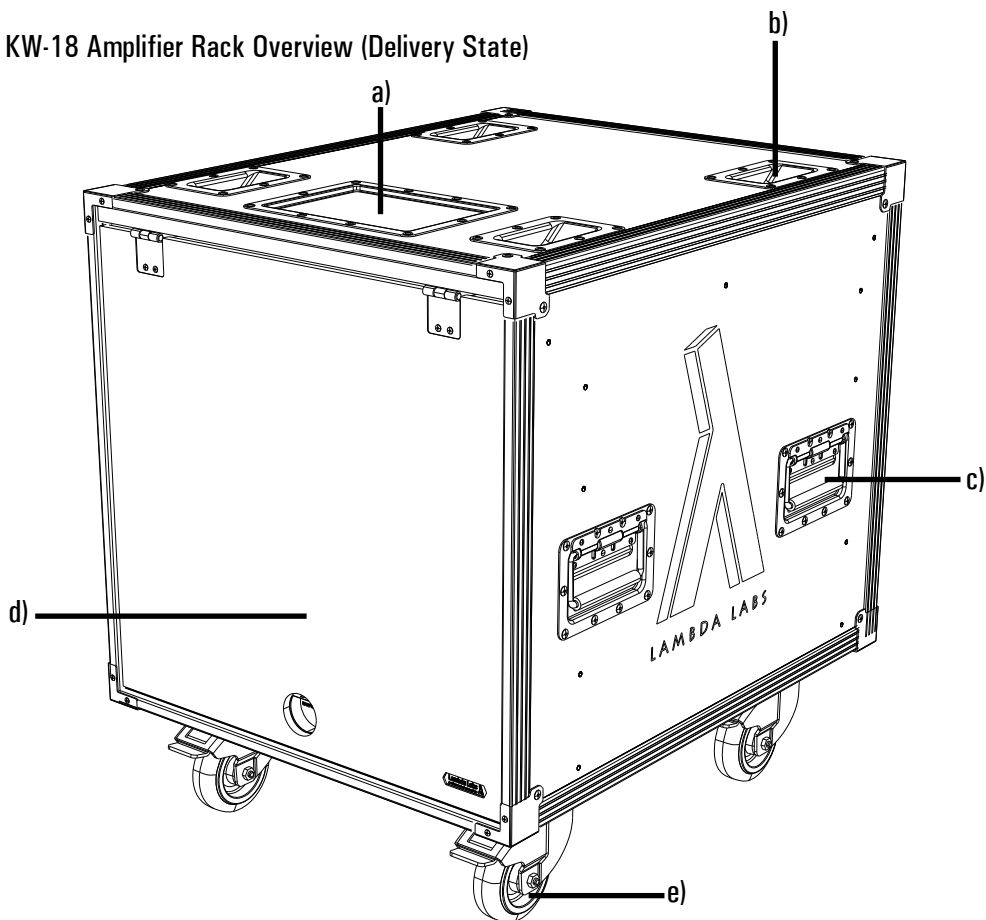
KW-18 Amplifier Rack



3. Introducing KW-18 Amplifier Rack




3.1. Introducing KW-18 Amplifier Rack: External Components

3.1 Figure 1: KW-18 Amplifier Rack Overview (Delivery State)



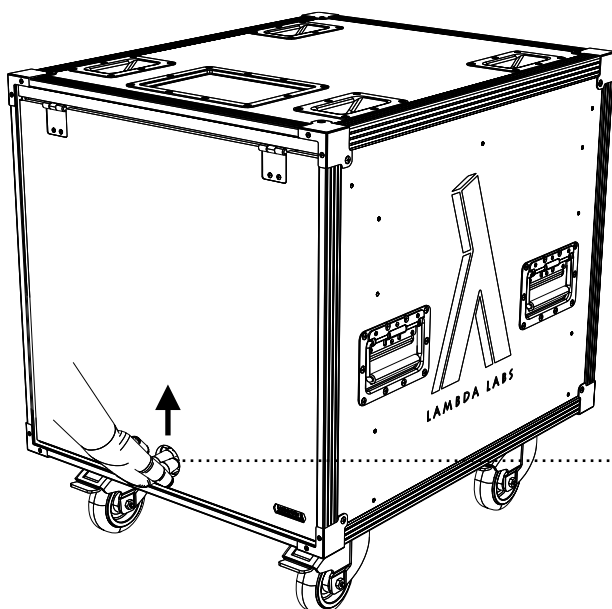
PART	DESCRIPTION of 3.1 Figure 1	REFERENCE
a)	Touring Label A metal plate to attach a touring/production label.	—
b)	Wheel Stacking Recess 4 Wheel Stacking Recesses allow for a convenient stacking of up to 3 Lambda Labs KW-18 Amplifier Racks on top of each other! NOTE: Do not stack more than 3 Lambda Labs KW-18 Amplifier Racks!	—
c)	Handle To carry and move the rack, two spring loaded Handles can be found on both sides of the Lambda Labs KW-18 Amplifier Rack.	—
d)	Sliding Door with Parking Position For quick front and rear access, 2 slidable doors with lock and internal parking position can be found on both sides of the Lambda Labs KW-18 Amplifier Rack.	Chapter 3.2.1
e)	Brakeable Transport Wheels 4 rotatable and brakeable Transport Wheels allow for a comfortable transport of the rack. To brake the wheels, please only use your feet, wearing appropriate protective shoes.	—



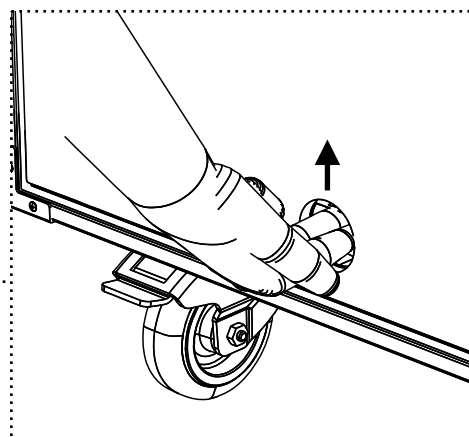
	<p>Danger: Do not stack more than 3 Lambda Labs KW-18 Amplifier Racks on top of each other! Always brake the wheels of all KW-18 Amplifier Racks when stacking them!</p>
	<p>Danger: The Handles can not be used to fly or rigg the Amplifier Rack!</p>
	<p>Danger: Always brake the wheels when transporting the KW-18 Amplifier Racks! Always brake the wheels when using the KW-18 Amplifier Racks on an event! To brake the wheels, please only use your feet, wearing appropriate protective shoes!</p>

3.2. Introducing KW-18 Amplifier Rack: External Components Detailed Description

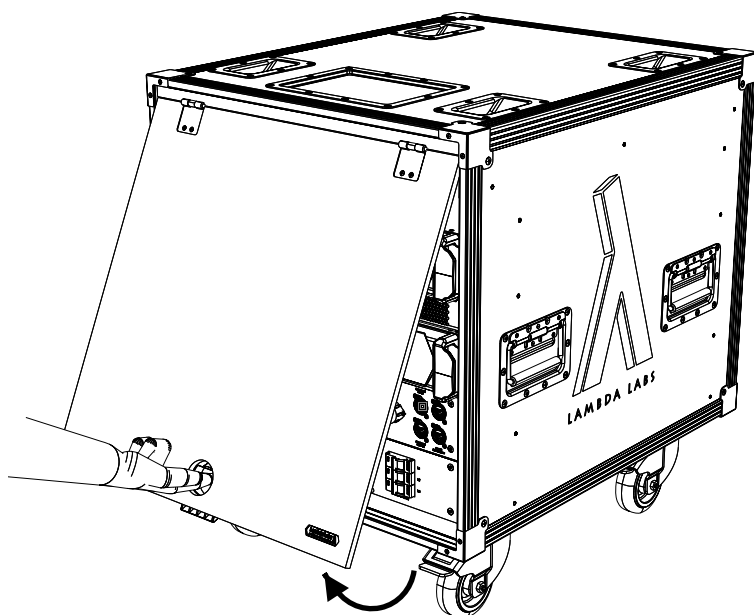
3.2.1. Sliding Door

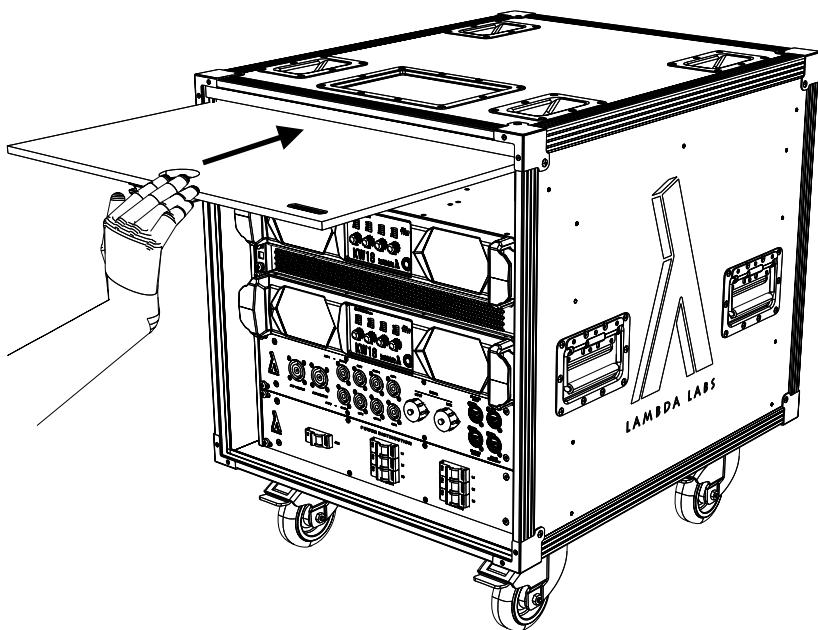


1. First, unlock the door by pushing the unlocking mechanism upwards with your fingers.



2. Then pull the door out of the rack enclosure and fold it all the way up.





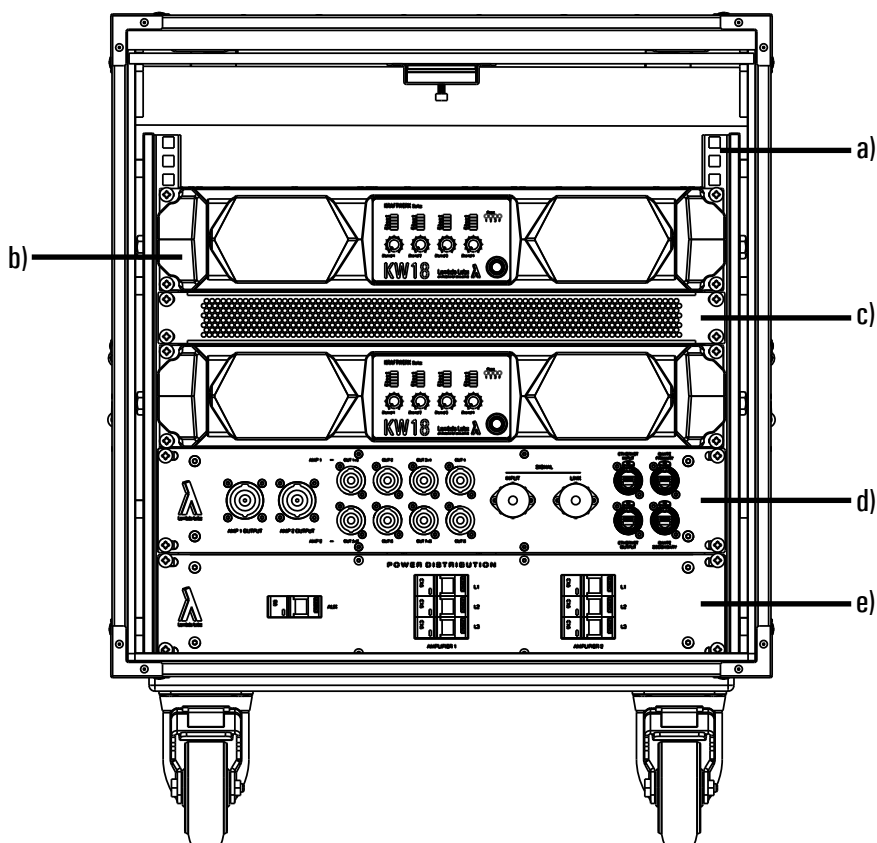
3. When the door is fully lifted, slide it into the rack until the whole door is pushed in. Repeat the steps for the rear door. Never operate the amplifiers with closed doors!







Caution: Never operate the amplifiers with closed doors! Both doors need to be open while operating the amplifiers!

3.3. Introducing KW-18 Amplifier Rack: Internal Components

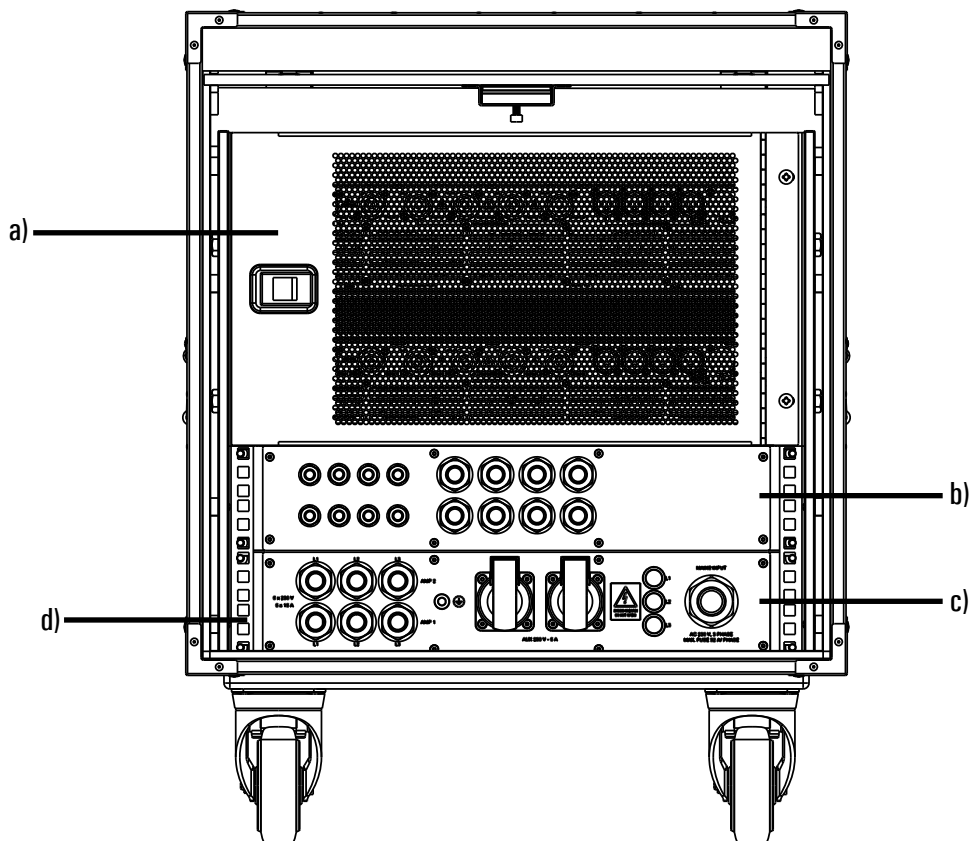
3.3 Figure 1: KW-18 Amplifier Rack Front Overview (Delivery State)



PART	DESCRIPTION of 3.3 Figure 1	REFERENCE
a)	10 RU Front Rack Rails (19") The Lambda Labs KW-18 Amplifier Rack feature shock mount 19" Rack Rails intended for heavy duty touring usage. You should always use all 4 screws for the front mount in a 19" rack. Use standard 6mm rack screws to mount the amplifier. Lambda Labs recommends using both rear and front mounting of the KW-18 or 3rd party amplifiers in every case! When using 3rd party amplifiers, Lambda Labs recommends individual adapter plates to mount the amplifier to the Rear Rack Rails as well.	—
b)	KW-18 Amplifier Usual placement of the devices in the Lambda Labs KW-18 Amplifier Rack. The KW-18 Amplifiers require 2 rack units each. Its width is 19" standard size to mount to the Front and Back Rack Rails. For further details, please follow the instructions given in the KW-18 Manual.	—
c)	Perforated Plate To further increase the cooling effect, the KW-18 Amplifier Rack uses a 1RU 19" perforated plate between the KW-18 units.	—
d)	Signal Distribution (Front Side) The 19" 2 RU Signal Distribution provides 8 pole, 4 pole and 2 pole Speakon Outputs. Additionally, it provides Dante, AES, Analogue Inputs and Ethernet Remote control for 2 KW-18 or 3rd party amplifiers with daisy chain outputs.	Chapter 5
e)	Power Distribution (Front Side) The 19" 2 RU Power Distribution provides a 5 meters (197") 3 x 32A 5 pole cable, circuit breakers and cables for 2 built in KW-18 Amplifiers or 3rd party amplifiers and 2 auxiliary products like ethernet switches or DSPs with dedicated circuit breakers.	Chapter 4
	Danger: You should always use all 4 screws for the front mount in a 19" rack! Use standard 6mm rack screws to mount the amplifier! Lambda Labs recommends using both rear and front mounting of the KW-18 or 3rd party amplifiers in every case!	
	Caution: Use always rack-screws equipped with plastic washer to avoid damage of the KW-18 surface!	
	Caution: Never operate the amplifiers with closed doors! Both doors need to be open while operating the amplifiers!	
	Attention: To further increase the cooling effect, Lambda Labs uses a 1RU 19" perforated plate between the KW-18 units. Do not remove this plate and keep a distance between the amplifiers!	






3.3 Figure 2: KW-18 Amplifier Rack Rear Overview (Delivery State, cables are not depicted)



PART	DESCRIPTION of 3.3 Figure 2	REFERENCE
a)	Perforated Door Lambda Labs KW-18 Amplifier Rack uses a 6 RU Rack Door on the Rear Rack Rails to keep the cabling protected while ensuring sufficient cooling for the Amplifiers. You might open this door when you need to re-patch your signal or power cabling.	—
b)	Signal Distribution (Rear Side) The 19" 2 RU Signal Distribution provides 8 pole, 4 pole and 2 pole Speakon Outputs. Additionally, it provides Dante, AES, Analogue Inputs and Ethernet Remote control for 2 KW-18 Amplifiers or 3rd party amplifiers with daisy chain outputs. Cables are not depicted in the illustrations. All cables are labeled.	Chapter 5
c)	Power Distribution (Rear Side) The 19" 2 RU Power Distribution provides a 5 meters (197") 3 x 32A 5 pole cable, circuit breakers and cables for 2 built in KW-18 Amplifiers or 3rd party amplifiers and 2 auxiliary products like ethernet switches or DSPs with dedicated circuit breakers. Cables are not depicted in the illustrations. All cables are labeled.	Chapter 4
d)	10 RU Rear Rack Rails (19") The Lambda Labs KW-18 Amplifier Rack feature shock mount 19" Rack Rails intended for heavy duty touring usage also on the backside. Lambda Labs recommends using both rear and front mounting of the KW-18 or 3rd party amplifiers in every case! When using 3rd party amplifiers, Lambda Labs recommends individual adapter plates to mount the amplifier to the Rear Rack Rails as well.	—

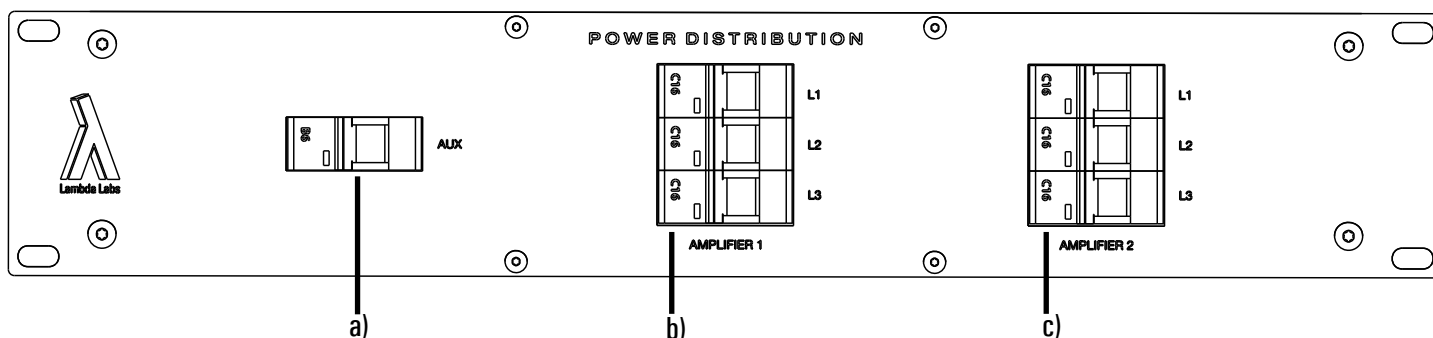


	Danger: You should always use all 4 screws for the front mount in a 19" rack! Use standard 6mm rack screws to mount the amplifier! Lambda Labs recommends using both rear and front mounting of the KW-18 or 3rd party amplifiers in every case!
	Caution: Use always rack-screws equipped with plastic washer to avoid damage of the KW-18 surface!
	Caution: Never operate the amplifiers with closed doors! Both doors need to be open while operating the amplifiers!

4. Power Distribution Detailed Description

4.1. Power Distribution Detailed Description Front View

4.1 Figure 1: Power Distribution Front View (Delivery State)

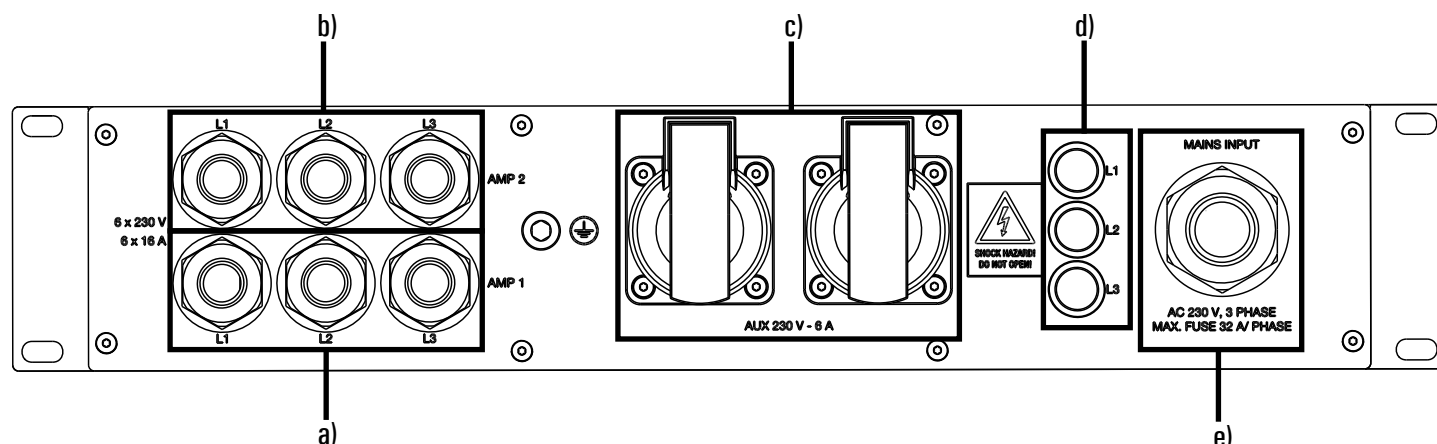



PART	DESCRIPTION of 4.1 Figure 1	REFERENCE
a)	Auxiliary 6A Type "B" Circuit Breaker for Auxiliary devices (Ethernet Switch, DSP etc.) The AUX Power outlets are getting power from the L1 Power Line!	Chapter 4.2, 4.3 Chapter 6
b)	AMPLIFIER 1 L1/L2/L3 16A Type „C" Circuit Breakers for the Amplifier 1 (Top Amplifier Unit)	Chapter 4.2, 4.3 Chapter 6
c)	AMPLIFIER 2 L1/L2/L3 16A Type „C" Circuit Breakers for the Amplifier 2 (Bottom Amplifier Unit)	Chapter 4.2, 4.3 Chapter 6



4.2. Power Distribution Detailed Description Rear View

4.2 Figure 1: Power Distribution Rear View (Delivery State, cables are not depicted)



PART	DESCRIPTION of 4.2 Figure 1	REFERENCE
a)	CABLES AMP1 3 x 230V – 16A Powercon Cables for Amplifier 1 (Top Amplifier Unit).	Chapter 4.1, 4.3 Chapter 6
b)	CABLES AMP2 3 x 230V – 16A Powercon Cables for Amplifier 2 (Bottom Amplifier Unit).	Chapter 4.1, 4.3 Chapter 6
c)	Auxiliary 230V – 2 x 6A Socket AUX Power outlets for Auxiliary devices (Ethernet Switch, DSP etc.).	Chapter 4.1, 4.3 Chapter 6
d)	L1/L2/L3 POWER INDICATOR LAMP Indicators for voltage present on L1, L2 and L3.	—
e)	CABLE MAIN INPUT 3 PHASE 32A 5x6mm, 5 meters long double insulated cable with 5PIN 32A 3 PHASE connector for powering the Lambda Labs KW-18 Amplifier Rack.	Chapter 4.1, 4.3 Chapter 6
	Caution: Do not use the Powercon connectors for powering on / off the Amplifiers! The mains POWERCON connectors are not suitable for powering up or down the system and so should not be plugged or unplugged while under voltage!	

4.3. Power Distribution Cable Labeling Overview

4.3 Table 1: Power Distribution Rear Cable Labeling Overview: AMPLIFIER POWER INPUTS

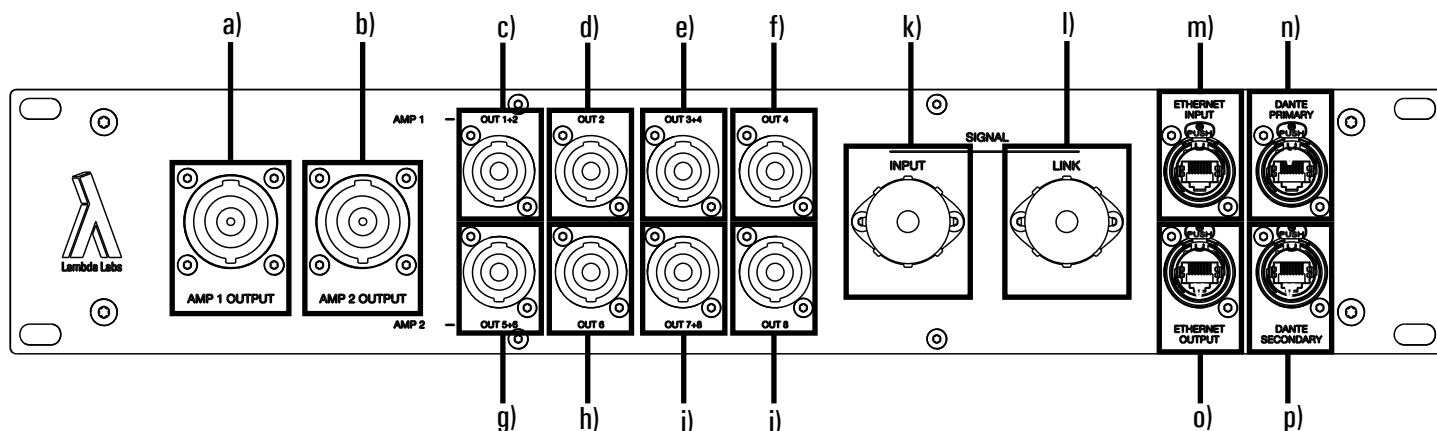
Amplifier 1 Power Inputs	Amplifier 2 Power Inputs
Amplifier 1 Phase 1	Amplifier 2 Phase 1
Amplifier 1 Phase 2	Amplifier 2 Phase 2
Amplifier 1 Phase 3	Amplifier 2 Phase 3



5. Signal Distribution Detailed Description

5.1. Signal Distribution Detailed Description Front View

5.1 Figure 1: Signal Distribution Front View (Delivery State)



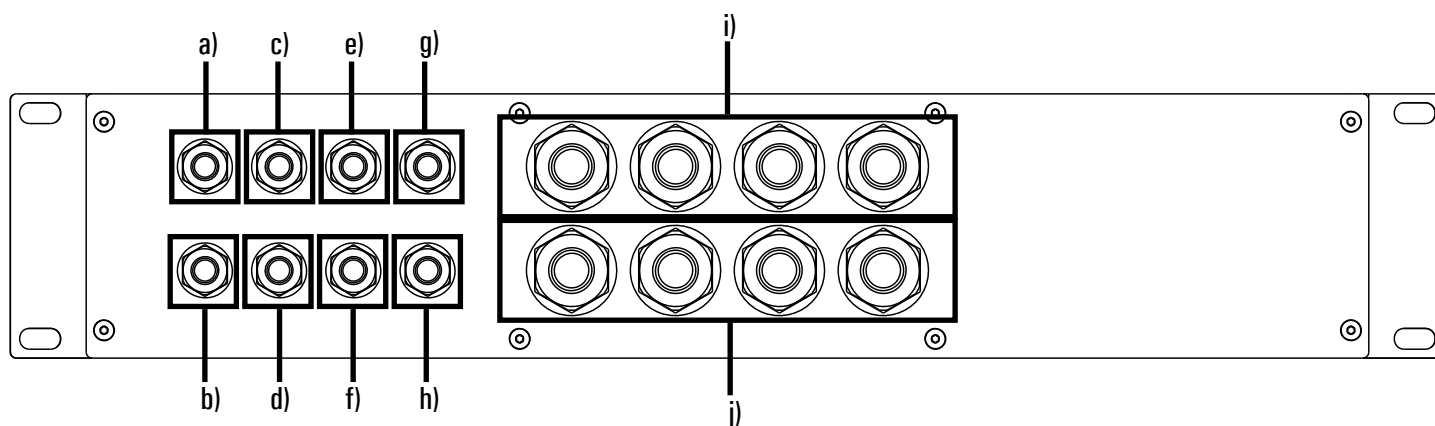
PART	DESCRIPTION of 5.1 Figure 1	REFERENCE
a)	AMP 1 OUTPUT 8 pin Neutrik Speakon output from Amplifier 1 (Top Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
b)	AMP 2 OUTPUT 8 pin Neutrik Speakon output from Amplifier 2 (Bottom Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
c)	AMP 1 OUT 1 and 2 4 pin Neutrik Speakon output from Amplifier 1 Channel 1 and Channel 2 (Top Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
d)	AMP 1 OUT 2 4 pin Neutrik Speakon output from Amplifier 1 Channel 2 (Top Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
e)	AMP 1 OUT 3 and 4 4 pin Neutrik Speakon output from Amplifier 1 Channel 3 and Channel 4 (Top Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
f)	AMP 1 OUT 4 4 pin Neutrik Speakon output from Amplifier 1 Channel 4 (Top Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
g)	AMP 2 OUT 5 and 6 4 pin Neutrik Speakon output from Amplifier 2 Channel 5 and Channel 6 (Bottom Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
h)	AMP 2 OUT 6 4 pin Neutrik Speakon output from Amplifier 2 Channel 6 (Bottom Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8



PART	DESCRIPTION of 5.1 Figure 1	REFERENCE
i)	AMP 2 OUT 7 and 8 4 pin Neutrik Speakon output from Amplifier 2 Channel 7 and Channel 8 (Bottom Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
j)	AMP 2 OUTPUT 8 8 pin Neutrik Speakon output from Amplifier 2 Channel 8 (Bottom Amplifier Unit). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
k)	SIGNAL INPUT Analogue or AES/EBU Signal input for the Amplifier Rack. For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
l)	SIGNAL OUTPUT Daisy Chain Analogue or AES/EBU Signal output for using additional Amplifier Rack(s). For detailed Pinout, please refer to Chapter 8.	Chapter 5.2, 5.3 Chapter 6 Chapter 8
m)	ETHERNET INPUT Ethernet Input Connector (1000MB/S) for remote control of the external and/or built in DSPs.	—
n)	ETHERNET OUTPUT Daisy Chain Ethernet Output Connector (1000MB/S) for connecting additional Amplifier Rack(s).	—
o)	DANTE PRIMARY Primary DANTE Connection to use with external and/or built in DSPs.	—
p)	DANTE SECONDARY Secondary DANTE Connection to use with external and/or built in DSPs and for Daisy Chain Connection with additional Amplifier Rack(s).	—

5.2. Signal Distribution Detailed Description Rear View

5.2 Figure 1: Signal Distribution Rear View (Delivery State, cables are not depicted)



PART	DESCRIPTION of 5.2 Figure 1	REFERENCE
a)	DANTE PRIMARY Primary DANTE Connection to use with external and/or built in DSPs.	—
b)	DANTE SECONDARY Secondary DANTE Connection to use with external and/or built in DSPs and for Daisy Chain Connection with additional Amplifier Rack(s).	—
c)	ETHERNET INPUT Ethernet Input Connector (1000MB/S) for remote control of the external and/or built in DSPs.	—
d)	ETHERNET OUTPUT Daisy Chain Ethernet Output Connector (1000MB/S) for connecting additional Amplifier Rack(s).	—
e)	AmpRack Analogue / AES Inputs Input Audio A.	Chapter 5.1, 5.3 Chapter 6 & 8
f)	AmpRack Analogue / AES Inputs Input Audio C.	Chapter 5.1, 5.3 Chapter 6 & 8
g)	AmpRack Analogue / AES Inputs Input Audio B.	Chapter 5.1, 5.3 Chapter 6 & 8
h)	AmpRack Analogue / AES Inputs Input Audio D.	Chapter 5.1, 5.3 Chapter 6 & 8
i)	AMPLIFIER 1 OUTPUT 1-4 From the left to the right: 1/2/3/4.	Chapter 5.1, 5.3 Chapter 6 & 8
j)	AMPLIFIER 2 OUTPUT 1-4 From the left to the right: 1/2/3/4.	Chapter 5.1, 5.3 Chapter 6 & 8

5.3. Signal Distribution Cable Labeling Overview

5.3 Table 1: Signal Distribution Cable Labeling Overview: AMPLIFIER OUTPUTS

Amplifier 1 Outputs	Amplifier 2 Outputs
Amplifier 1 Output Channel 1	Amplifier 2 Output Channel 1
Amplifier 1 Output Channel 2	Amplifier 2 Output Channel 2
Amplifier 1 Output Channel 3	Amplifier 2 Output Channel 3
Amplifier 1 Output Channel 4	Amplifier 2 Output Channel 4



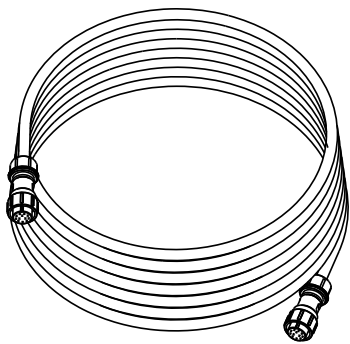
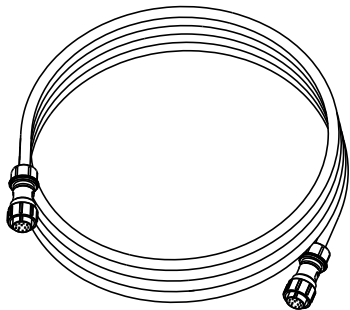
5.3 Table 2: Signal Distribution Cable Labeling Overview: XLR PATCH CABLES

XLR Patch Cables Amplifier 1	XLR Patch Cables Amplifier 2
Channel 1	Channel 5
Channel 2	Channel 6
Channel 3	Channel 7
Channel 4	Channel 8

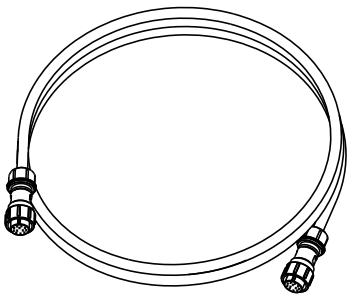
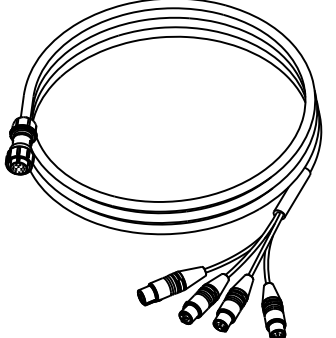

5.3 Table 3: Signal Distribution Cable Labeling Overview: AMPLIFIER RACK ANALOGUE / AES INPUTS

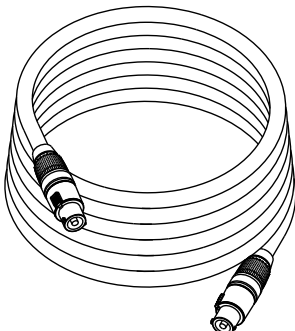
Amplifier Rack Analogue / AES Inputs	Amplifier Rack Dante / Ethernet IO
Input Channel A	Dante Primary
Input Channel B	Dante Secondary
Input Channel C	Ethernet Input
Input Channel D	Ethernet Output

6. Accessory Cable Chart

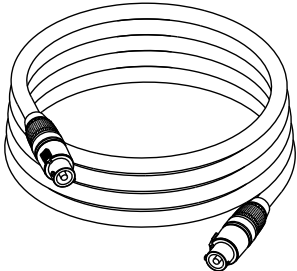
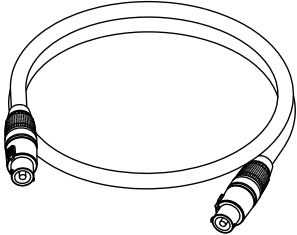
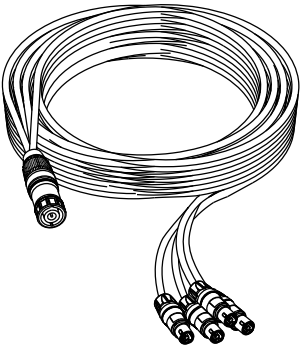
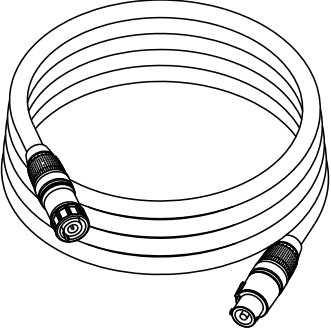
Input Cable Type	DESCRIPTION
	MultiLink Cable (30m) 30m shielded 4 pair AES compatible cable with two female 12 pin IP68 WEIPU Connectors.
	MultiLink Cable (10m) 10m shielded 4 pair AES compatible cable with two female 12 pin IP68 WEIPU Connectors.



Input Cable Type	DESCRIPTION
	<p>MultiLink Cable (2m) 2m shielded 4 pair AES compatible cable with two female 12 pin IP68 WEIPU Connectors.</p>
	<p>MultiLink Breakout Cable (5m) 5m shielded 4 pair AES compatible cable with one female 12 pin IP68 WEIPU Connector and 4 pieces of Neutrik Gold Plated XLR female Connectors.</p>
	<p>MultiLink Coupler (0.15m) Coupler for extending the MultiLink Cables by attaching them together.</p>

Speaker Cable Type	DESCRIPTION
	<p>8 Pole Speakon Cable (20m) 20m 8 x 4mm² High Quality Speaker Cable with 2 pieces of Neutrik NLT8FX-BAG Connectors.</p>






Speaker Cable Type	DESCRIPTION
	8 Pole Speakon Cable (10m) 10m 8 x 4mm ² High Quality Speaker Cable with 2 pieces of Neutrik NLT8FX-BAG Connectors.
	8 Pole Speakon Cable (0.7m) 0.7m 8 x 4mm ² High Quality Speaker Cable with 2 pieces of Neutrik NLT8FX-BAG Connectors.
	8 Pole / 2x4 Pole Sub Speakon Breakout Cable (5m) 4 pieces of 2 x 2mm ² 5m cables with 4 pieces of Neutrik NL4FC Connectors and one Neutrik NLT8MX-BAG Connector.
	8 Pole Speakon Extension Cable (10m) 10m 8 x 4mm ² High Quality Speaker Cable with one Neutrik NLT8FX-BAG and one Neutrik NLT8MX-BAG Connector.








7. Maintenance

7.1. Technical Integrity

In order to keep your Lambda Labs KW-18 Amplifier Rack in a good working shape, it needs regular maintenance.

	Caution: Check all the rack screws for tightness regularly!
	Caution: Check the correct function of all brakes regularly!
	Attention: For maintenance of the Lambda Labs KW-18 Professional Amplifiers, please refer to the Lambda Labs KW-18 amplifier's User Manual!

7.2. Cleaning

	Danger! Risk of Electric Shock: Clean the Amplifier Rack with unplugged Power and Signal cables ONLY!
	Caution: For cleaning, use a soft slightly wet cloth (eventually with a bit of Dishwasher)! Do not use excessive amount of water!
	Caution: The Amplifier Units, the Signal Distro Unit and the Power Distro Unit should never get water to the inside!
	Danger! Risk of Electric Shock: Do not plug the signal or Power connectors and do not use the KW-18 Amplifier Rack or the Units inside the KW-18 Amplifier Rack until it is completely dry!
	Attention: For cleaning of the Lambda Labs KW-18 Professional Amplifiers, please refer to the Lambda Labs KW-18 amplifier's User Manual!



8. Appendix

8.1. -12 Pole MultiLink (WEIPU) Pinout

Function	PIN Number
CH1 +	1
CH1-	2
CH2+	3
CH1 GND	4
CH2-	5
CH3+	6
CH2 GND	7
CH3 GND	8
CH4 GND	9
CH3-	10
CH4 +	11
CH4-	12



8.2. -8 Pole Neutrik NLT8MX-BAG Pinout

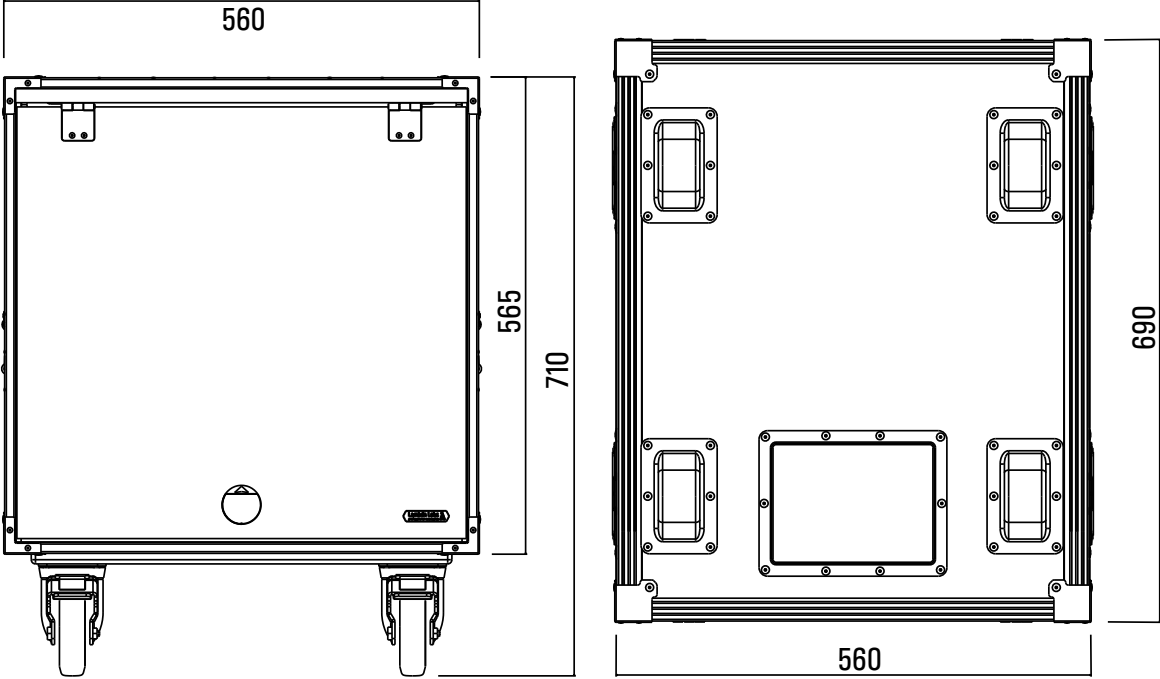
Function	PIN Number
CH1 +	1 +
CH1 -	1 -
CH2 +	2 +
CH2 -	2 -
CH3 +	3 +
CH3 -	3 -
CH4 +	4 +
CH4 -	4 -

8.3. -4 Pole Neutrik NL4FC Pinout

Function	PIN Number
CH1 +	1 +
CH1 -	1 -
CH2 +	2 +
CH2 -	2 -



9. Dimensions

Dimensions (mm)		Weight
		79 kg / 174,2 lbs

Lambda Labs
professional acoustics

