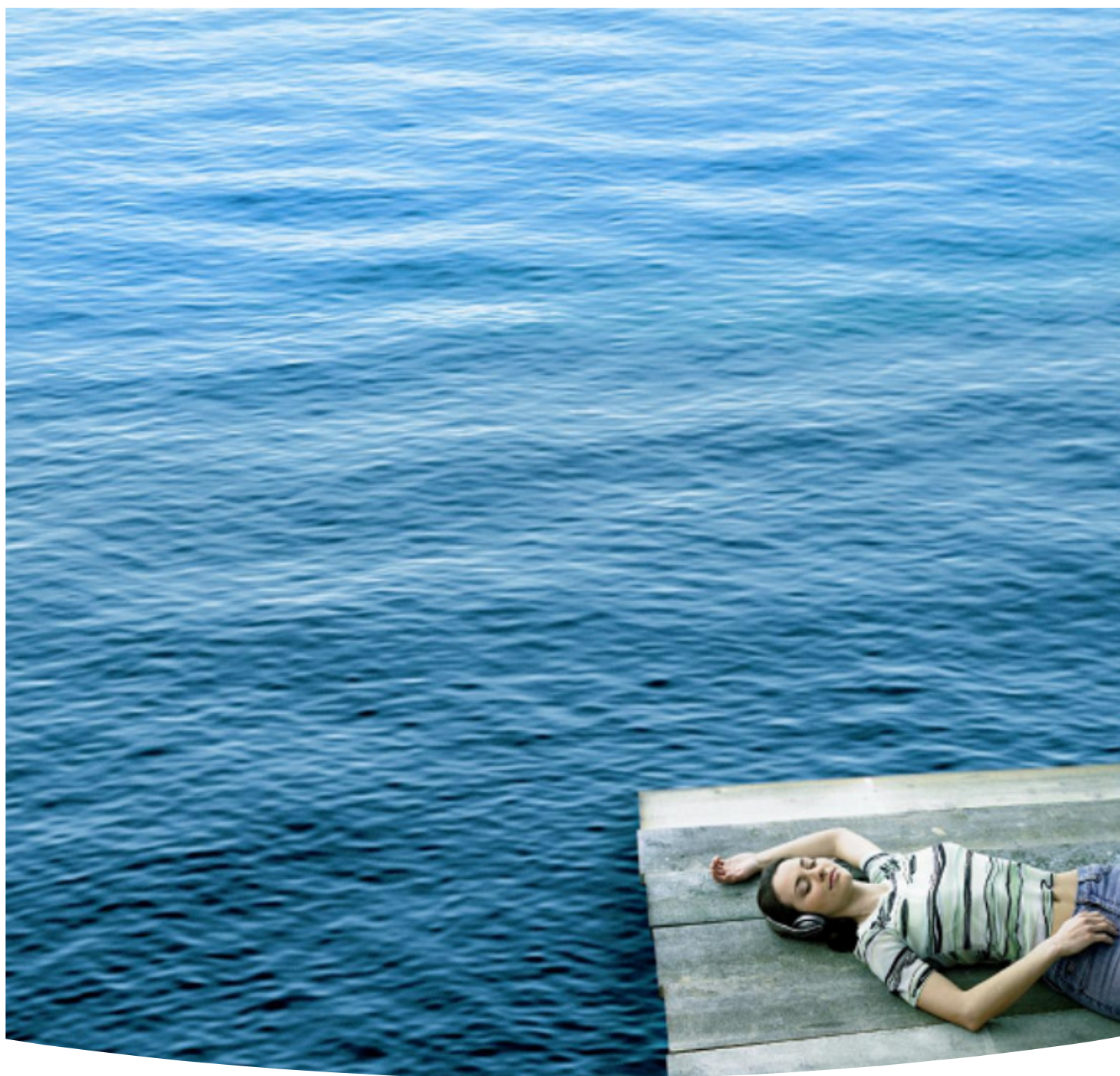


LS-A1 Referenz Operating manual



inakustik

KABEL | LAUTSPRECHER | MUSIK

Our quality standards

REFERENZ

black&white reference - the in-akustik class for perfectionists. The benchmark for uncompromising sound experience. World leading value and price/performance ratio. Gets under your skin..

EXZELLEENZ

Excellence - the in-akustik class for discerning tastes. The finest materials, outstanding workmanship. With a passion for high end audio enjoyment

PREMIUM

Premium - the in-akustik class for state-of-the-art technology. Gets the most from your audio / video system. Built on a love of superior performance

STAR

Star - the in-akustik class for beginners with ambition. Always the right choice. More performance at lower cost. Striving to be better

A passionate family

in-akustik is a quality brand and respected around the world.. For more than 25 years in-akustik has put its heart and soul into the business of audio and video enjoyment. Perfect images and perfect fidelity are our passion. Made in Germany and always leading the way in value and incredible performance. With our own brand of CD and DVD labels, Focal home and car hifi loudspeakers and of course our cables, our family of products make passionate statements



Congratulations on your purchase of a black&white LS-A1 active loudspeaker cable set. You have obtained a high-tech product, which is also currently the only one of its kind. It was developed drawing on the latest technological discoveries and is equipped with the most up-to-date technological features. So that you can enjoy your new product from the very beginning, we ask you to read the following operating manual attentively.

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Safety instructions

1. General information

Read, observe and obey the following safety instructions. Please save the operating instructions. Observe all the warning notices on the device and in the operating instructions.

2. Proper use

Connect the product as indicated in the operating instructions. Only use the cables and accessories provided by the manufacturer. Use only appropriate stands, brackets, shelves and other devices for the attachment and support of the products. When moving the support surfaces upon which products are placed, be very careful in order to avoid injuries and damage resulting from falling products.

3. Humidity

Keep the products in locations which do not have a high level of relative humidity. Never use this device near water. Wetness can bypass the electrical insulation and thus present a fatal danger, as it can for all devices not specially designed to be water-resistant. The devices may not be exposed to dripping or sprayed water. Objects which are filled with water, such as vases, may not under any circumstances be placed on the devices.

4. Product protection

Do not under any circumstances expose the devices to high levels of humidity. Extreme temperature fluctuations, humidity and extended exposure to light can damage the devices and alter their appearance.

Make sure that no foreign bodies or liquids enter the device.

5. Positioning

Do not position the product near sources of heat, heaters, heating valves, ovens or other heat-producing devices. Never block the ventilation slots on the devices. The devices may only be stored and operated in a temperature range from +5 to + 40 °C.

The devices heat up during operation. To prevent unnecessary activation of the excess temperature protection, air circulation must be afforded the devices.

Products without a magnetic shield may discolour or distort a nearby television. A distance of 0.5 m or greater is normally sufficient to prevent such disturbances. Most televisions have a built-in corrector switch for such occurrences. When these devices are switched off and switched on again a few minutes later, the images should be largely corrected.

Do not place credit cards or other magnetic data carriers on the devices; the information saved on them could be destroyed.

6. Connection

The devices may only be connected to the mains voltage which is indicated on the devices!

Improper handling of the mains voltage may cause fatal injuries! The loudspeaker cables are not connected to the mains. The connections of the loudspeaker cables may only be connected with the corresponding amplifier output terminals or loudspeaker connecting terminals.

Connecting the loudspeaker cables directly to the mains is not permitted under any circumstances! This is fatally dangerous and leads to the immediate destruction of the product.

All cables must be positioned in such a way that there is no danger of them being damaged (e.g. by being stepped on, furniture or so-called "spikes" under the loudspeakers). Never remove cables by pulling the cable; instead, always hold the plug when removing.

When the devices are in stand-by mode, they are not completely separated from the mains, as is indicated on the LED. In order to avoid unnecessary risks and energy consumption, the mains switch on the back of the device should be switched off during extended absences.

The mains plug and the on/off switch for the devices should be easily accessible.

7. Loudspeaker connection

The loudspeaker cable may only be connected with the corresponding amplifier output terminals or loudspeaker terminals. Any other type of direct connection to the mains (230 volts) presents a fatal danger and leads to the almost immediate destruction of the devices. For this reason, loudspeaker cables may not be provided with plugs which may be mistaken for mains plugs.

When cables are connected to the loudspeaker connecting terminal of a high-performance amplifier, the terminals may be subject to voltages of more than 30 volts at high volumes. Never touch non-insulated cable ends or connection contacts during operation.

8. Overload

In the case of extreme overload, it is possible for individual components to burn through despite multiple fuses. It is also theoretically possible (though we are not familiar such a case actually happening) that such overload could cause a fire to be start in the interior of the device. Therefore, you should not leave the devices unattended when operating an at extremely high level.

9. Servicing

Servicing of the devices should be performed exclusively by the service personnel. Servicing is necessary in all cases of damage, i.e. in the case of damaged cables and plugs, as well after liquid spills or objects falling on the devices, devices falling down, foreign bodies entering the devices, exposure of devices to rain or humidity, or other influences impairing the functioning of the devices.

In order to avoid endangerment through electrical current, the device may only be opened by qualified personnel, unless permission is expressly given in the operating manual.

Opening the housing is strictly prohibited, unless permission is specified in the operating manual, since the components and conductors may carry a fatally high voltage level.

10. Fuses

There are many types of device malfunctions: When necessary, replace the device fuse only with a fuse of the type indicated on the fuse holder. Never use a fuse of another type.

In case of doubt, the replacement must be carried out by a qualified technician! If the replaced fuse blows immediately, the appliance should be handed in to be serviced. No liability is accepted for damage cause by unassisted interventions or incorrect fuse types. A replacement fuse is located in the fuse holder (underneath the mains connection).

11. Maintenance

Always clean the products with a soft, dry and lint-free cloth, or with a brush. Do not under any circumstances use scouring powder, alcohol, benzine, furniture polish or similar substances.

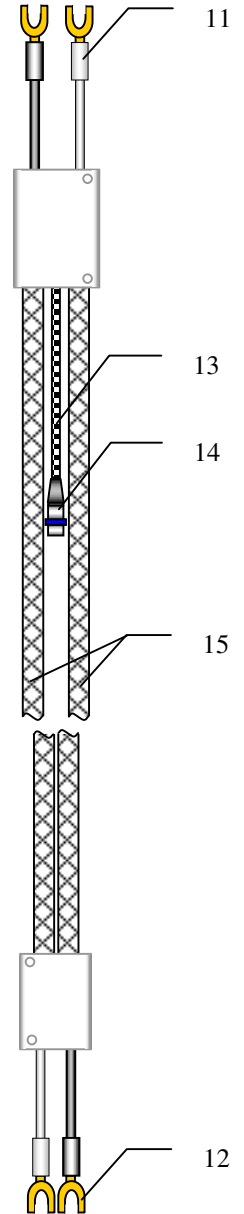
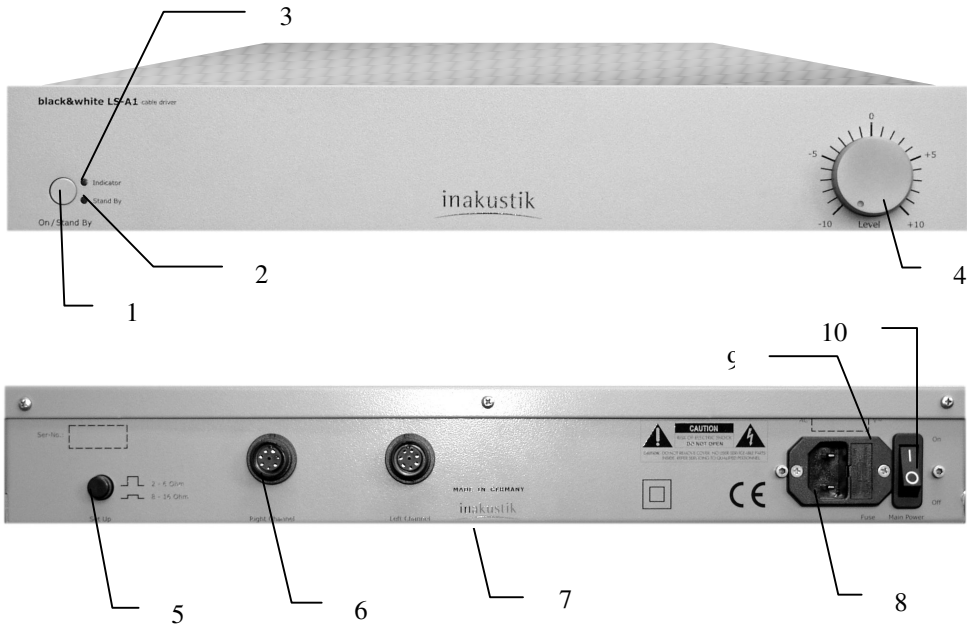
Scope of delivery

- 1 x LS-A01 cable driver
- 2 x Double LS-1302 with system cables
- 1 x black&white AC-1502 mains connection cable
- 1 x Operating manual

Installation

The LS-A1 cable driver is a high-performance current source which heats up during operation. In order to avoid malfunctions and damage, the LS-A1 cable driver should not be covered and must be well ventilated. To ensure sufficient heat removal, a minimum distance of 10 cm to the wall should be observed above, to the side of and behind the device. The standard length of the system cables is 1.5 m. For this reason, we recommend you install it in proximity to the integrated amp or the power amp.

View of appliance

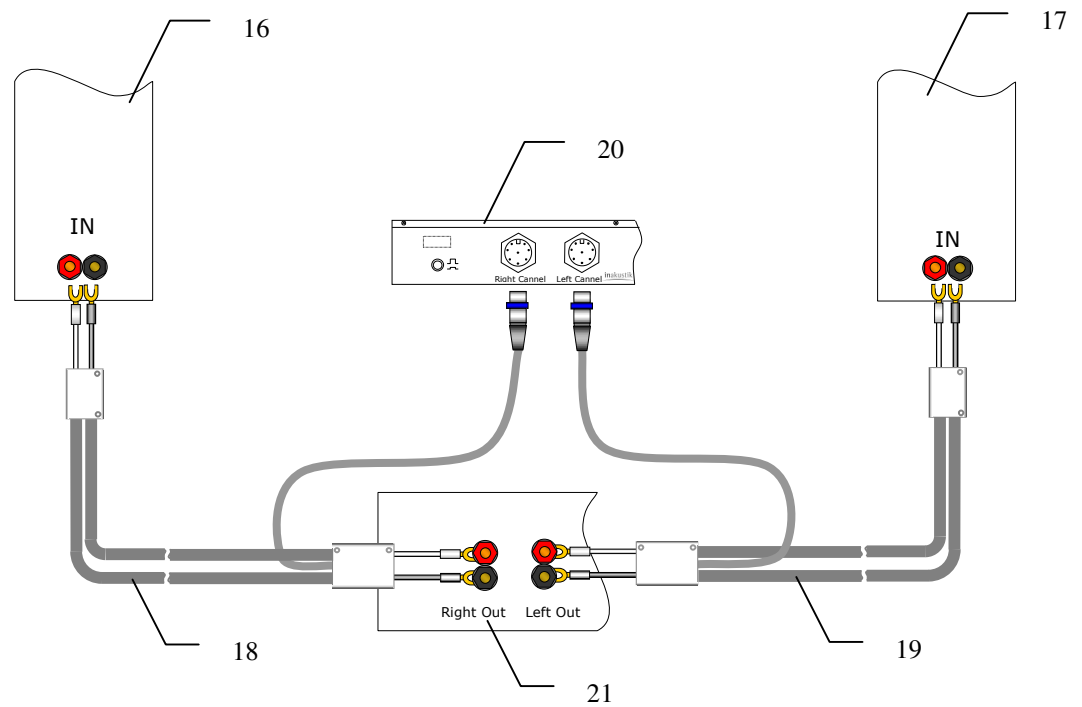


- 1 - Standby key
- 2 - Standby LED
- 3 - Indicator LED
- 4 - Level controller
- 5 - Setup key
- 6 - Left channel system connection
- 7 - Right channel system connection
- 8 - Mains connection
- 9 - Fuse
- 10 - Main switch
- 11 - Connection - amplifier side
- 12 - Connection - loudspeaker side
- 13 - System cables
- 14 - System plugs
- 15 - Speaker Cable LS-1302 (2x)

Connection

- 1.) Before you connect the black&white LS-A1 cable driver or the loudspeaker cables, please switch off all components and pull out the mains plugs. The central mains plug of the multiple outlet strip is sufficient.
- 2.) If your system already has a loudspeaker cable, please remove it.
- 3.) Lay the "Double LS-1302" between your amplifier and the loudspeakers. Ensure that the cable is laid unobstructed and as far as possible from other cables in order to avoid interference and a deterioration in sound quality. Note the running direction of the cable (system cables on the amplifier side in each case).
- 4.) Connect the cables to the loudspeakers and the amplifier. Note the polarity (plus/minus) here.
- 5.) Now put your amplifier's LS-A1 cable driver in the rack. The appliance must not be covered and should be sufficiently ventilated (see the section on installation).
- 6.) Now plug the system cables of the loudspeaker cables into the system sockets (pos. 6 & 7) of the LS-A1 cable driver. The label informs you as to the appropriate channel (left/right) in each case. Make sure to insert the system plug in the correct position (rotation angle). The small projection in the plug must point upwards. Do not insert forcefully! Gently secure the plug by turning the blue ring clockwise.
- 7.) Plug the accompanying mains cable AC-1502 into the LS-A1 cable driver (pos. 8).
- 8.) Before reconnecting all components to the power system, please check the entire installation once more.

Connection diagram



- 16 – Loudspeaker right channel
- 17 – Loudspeaker left channel
- 18 – Speaker cable with system cable right channel
- 19 – Speaker cable with system cable left channel
- 20 – LS-A1 Cable Driver
- 21 – Amplifier

Set Up:

Please carry out the basic setup of the LS-A1 cable driver on the rear of the appliance. Check here what rated impedance your connected loudspeakers possess, and bring the setup key (pos. 5) into the corresponding position.

Operation

After you have carried out and tested the connection, please switch on the LS-A1 cable driver via the mains switch (pos. 10). The appliance is now in the standby mode and the red LED (pos. 2) is lit. Now switch on the remaining components and start the playback. You may well already be able to notice a difference in sound as compared to that provided by your previous cable.

Bring the level controller (pos. 4) to the middle position (0) and switch the LS-A1 cable driver on with the standby key (pos. 1). The red LED goes out and the green LED lights up.

When you have switched on the LS-A1 cable driver, you will perceive a changed acoustic pattern with improved treble tone reproduction and three-dimensionality. Via the level controller (pos. 4), you have the opportunity of adapting the acoustic characteristics of the LS-A1 to your components and to your personal taste. The middle position of the level controller (pos. 4) can be used as a rough guide and corresponds to the theoretically optimal adaptation of the LS-A1 to the connected loudspeakers, which have already been identified during the setup.

Note:

The LS-A1 cable driver is equipped with a soft-start function. It can take a few minutes before all operating points of the electronics have been set up and stabilised. For this reason, the influence on sound we have already described can be somewhat delayed. If you would like to verify the operation of the active cable in an unambiguous manner, plug out the system plugs while the LS-A1 cable driver is switched on or turn the level controller as far left as it goes and make an A-B comparison.

Burn-in period

As is the case with all cables and components, it also takes the active loudspeaker cable some time before it gets going properly. After approximately 20 seconds at room volume, the LS-A1 has built up its full sound potential.

Additional functions

The indicator LED (pos. 3) is lit up green during normal operation. If the LS-A1 cable driver has been brought to the limits of its capacity (extreme volume level), the indicator LED (pos. 3) begins to flicker. Overloading can also under circumstances manifest itself as scratching in the loudspeakers. The LS-A1 does have a soft-clipping function, but nevertheless immediately reduce the volume or the level of the LS-A1 cable driver if this occurs in order to avoid damage to the loudspeakers. The LS-A1 cable driver has enough reserves at its disposal to make overloading practically impossible. However, if the setup has not been carried out correctly and/or the level controller is turned all the way to the right, this can most certainly arise. Check the settings in this case.

The LS-A1 cable driver possesses an excess temperature protection mechanism. If the appliance should overheat, it switches off automatically and the indicator LED (pos. 3) begins to flash. When the appliance has reached normal operating temperature again, it switches to standby and the red LED (pos. 2) lights. The LS-A1 cable driver does not switch back on automatically, rather must be switched on manually.3-6).

Maintenance

The LS-A1 cable driver and the loudspeaker cable may NOT be cleaned with aggressive or corrosive cleaning agents. Remove dust and dirt with a soft cloth or brush. The connections of the loudspeaker cable should be cleaned from time to time (every six months) with a silver cloth in order to ensure a good contact.

Troubleshooting

The standby LED (pos. 2) is not lit and the appliance won't switch on

-> Check the mains connection (pos. 8)

-> Check the fuse (pos. 9), observe note

Note: A defective fuse may only be replaced by a fuse with the same characteristics. In case of doubt, the replacement must be carried out by a qualified technician! If the replaced fuse blows immediately, the appliance should be handed in to be serviced. We accept no liability for damage caused by interventions you make unassisted.

The indicator LED (pos. 3) flashes and the appliance won't switch on

-> The appliance is still overheated

The indicator LED (pos. 3) already flickers at medium volume

-> Check the setup

-> Check the position of the level controller (pos. 4)

The appliance switches off after operating for only a short while and the indicator LED (pos. 3) flashes

-> Check the installation and ventilation

Technical data

Measurements:	approx. 435 x 75 x 270 mm (WxHxD)
Weight:	approx. 7.0 kg
Temperature range:	+5 to +40 °C
Power consumption:	Standby = 1.5 VA On = 17 – 250 VA max
Max. output current:	2 x 20 A effective max.
Bandwidth:	10 Hz – 75 kHz
Dynamic range:	> 90dB at 0.07 %
Distortion factor:	0.07 %

The in-akustik team now takes the opportunity of wishing you many hours of enjoyment with your LS-A1 active loudspeaker cable.

Press

Stereoplay says: "... you get the feeling that a curtain has been raised ... the sound characteristics open up. The detail increased enormously... The articulation of the singers became almost frighteningly real."

in-akustik black&white LS A 1



stereoplay Testurteil

Klangsteigerung (15)

Klang sehr gut

Preis/Leistung sehr gut

■ = neutral ■ = warm, bassstark ■ = analytisch, präzise

Screw Type



SPEAKER CABEL LS-A1		
ITEM NO.	DESIGNATION	CONNECTION
007 813521	LS-A1 2x3,0m SW (inkl electronic; 100 V; 1,5m mains connection)	Easy Plug
007 813522	LS-A1 2x3,0m SW (inkl electronic; 100V; 1,5m mains connection)	BFA Banana
007 813523	LS-A1 2x3,0m SW (inkl electronic; 100V; 1,5m mains connection)	Kabelschuh 6/8mm
007 813524	LS-A1 2x3,0m SW (inkl electronic; 100V; 1,5m mains connection)	Screw Type



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Note: All product illustrations are approximate. Specifications subject to change