

CANTON

R

REFERENCE

SUBWOOFER
MANUAL

EN

ICONIC SOUND

Thank you for the confidence you have placed in us by purchasing the Reference subwoofer. By selecting our high-end Reference speakers, you have showcased your discerning taste for superior sound and craftsmanship.

Our new Reference series is a finely crafted masterpiece, where every detail has been carefully thought through and implemented at the highest level to create a unique listening experience. All materials have been refined and redeveloped for a sound quality that meets even the highest demands. And visually, we've taken our Reference series to a new level: The cabinet features numerous sweeping curves that make the elegant design a true statement. The result is a speaker series that sets new standards in craftsmanship and sound, crafted with attention to detail and passion for music.



Please read these operating instructions carefully before setting up and connecting your Reference Subwoofer. It will help you get the most out of your system. Canton has a distribution network in over 50 countries. If you have any questions, this team of experienced distributors, together with authorized dealers, will be happy to help.

The Canton team wishes you much pleasure and long satisfaction with your speakers!

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SAFETY INSTRUCTIONS

	<p>ATTENTION</p> <p>Risk of electric shock. Do not open!</p>		<p>ATTENTION</p> <p>To reduce the risk of fire and electric shock, do not open the device. There are no serviceable parts inside. Refer all servicing to qualified service personnel only.</p>
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Caution:

Proper installation and connection of the speaker is the responsibility of the operator. Canton cannot accept any responsibility for damage or accidents caused by improper installation or improper connection.



Important Safety Instruction:

Read and follow all instructions. Observe all warnings and safety instructions. Keep these instructions and hand over all documents when giving the unit to a third party.

Operate this device only in a moderate climate (not in a tropical climate). Do not operate this device at altitudes above 2000 m above sea level. Operate this device indoors only, not outdoors or in humid rooms. Do not operate this device in potentially explosive atmospheres. To avoid the risk of fire or electric shock, the device must not be exposed to rain or moisture. Do not operate this device near water. Do not expose this device to dripping or splashing. Strong fluctuations in temperature lead to condensation (water droplets) forming inside the device. Wait until the moisture has evaporated before initial operation (min. 3 hours). Do not place objects filled with liquids (such as vases) on the device. Do not place open fire, such as lit candles, on or near the device. Do not place the device near heat sources such as radiators, heat accumulators, stoves or other devices (including amplifiers) that generate heat. Prevent from direct sunlight. Keep a free space of at least 5 cm around the device.

Never touch signal- and mains cables with wet hands. The high level inputs must never be connected to the mains, but only to the corresponding amplifier output sockets. Do not use connectors on the loudspeaker cables that can also be connected to the mains (socket), such as 4 mm plugs (so-called banana plugs). Always switch off the unit before connecting or disconnecting cables. Always pull the plugs and not the cables. Protect the power cord from being walked on or pinched, particularly at plug, convenience receptacles, and the point where they exit from the device. Never prevent the protective function of polarised or grounded plugs: A polarised plug has two pins, one wider than the other. An earthed plug has a third earthing pin. The wide or third pin is for your safety. If the plug does not fit into your outlet, contact a qualified electrician to replace the obsolete outlet. To avoid electric shock, connect the mains plug only to sockets or extensions where the contact pins can be fully inserted to prevent exposed contact pins. For devices without a mains switch, in which the mains plug or the mains socket serves as a switching device, the plug of the mains plug and/or the appliance coupler must be freely accessible at all times. Unplug the device from the mains during thunderstorms or long periods of non-use. To completely disconnect the device from the mains, unplug the mains plug from the wall outlet. The device may only be operated with the voltage and frequency specified on the device or the type label. Do not insert any objects or body parts into the openings of the device. Live parts inside the enclosure could get touched and/or damaged. This could lead to short circuit, electric shock and fire.

Install this device in accordance with the manufacturer's instructions. Always choose a level surface. The apparatus has to be in perfect vertical alignment. Make sure that the surface has sufficient load-bearing capacity for the device. Do not place the device in direct proximity to an edge (table or shelf edge) or (stair) step in order to prevent it from falling down due to vibrations. If necessary, secure the unit against falling down. Do not use force on operating elements, connections and cables.



Only use trolleys, stands, tripods, holders or tables specified by the manufacturer or sold with the device. When using a trolley, be careful when moving the trolley/device assembly to prevent damage and injury from tipping over.



If sound distortions such as unnatural knocking, throbbing or high-frequency clicking occur during playback, the volume level must be reduced immediately. To avoid possible hearing damage, do not listen at high levels for long periods of time. Interrupt the playback if you hear ringing or whistling noises in your ears or if you have the impression that you can no longer hear high sounds (even for a short time).

To avoid electric shock, do not open the housing! There are no user-serviceable parts inside. Consult qualified personnel for all repair and maintenance work. This is required when the device has been damaged in any way, such as mains cable or plug damage, liquid or objects have been spilled, exposed to rain or moisture, does not operate normally, or has been dropped. Do not make any modifications to the device and/or accessories. Unauthorised modifications can affect the safety, regulatory compliance or the system performance. In this case, the operating license / warranty may expire.

Only clean this device with a clean, dry cloth. Do not use any aggressive, alcoholic or abrasive agents for cleaning.



The device contains permanent magnets. Do not place or lay objects that are sensitive to magnetic fields (e.g. tube TVs, external hard drives, magnetic cards, video cassettes, etc.) on or directly next to the device.



The device and/or the accessory may contain small parts that can be swallowed. Therefore not suitable for children under three years.



This symbol is intended to alert the user to the presence of uninsulated dangerous voltages within the product's enclosure that may be of sufficient magnitude to constitute risk of fire and electric shock.



This symbol is intended to alert the user to the presence of important operating and maintenance instructions on the product or in the documentation (manual) accompanying this product.



This symbol denotes equipment with Class II protection rating. These devices are deemed to be fully protected against the risk of electric shock during normal use by means of double or reinforced insulation, and therefore require no earth conductor.

FURTHER IMPORTANT INFORMATION

Information about the "intended use":

The subwoofer is designed for indoor use and must not be used outdoors or in a wet environment. It must not be modified or altered. Connect the subwoofer as described in the instructions and observe the safety instructions. Operate it only with the mains voltage and frequency specified on the type label.

Information on environmentally friendly operation:

Set the "Amplifier Mode Auto/On" selector switch to "Auto". This switches the subwoofer to standby mode to reduce power consumption when not in use. This "saves power" and lowers your electricity bill.



Information on the CE marking:

Electrical and electronic devices placed on the market within the European Union must be given a CE mark to indicate that the equipment complies with the applicable requirements (e.g. on equipment safety or electromagnetic compatibility).



Disposal instructions:

According to the EU Directive on Waste Electrical and Electronic Equipment, devices marked with this symbol must not be disposed of with household waste. If necessary, please contact your waste disposal company or the local authority/city council for information on how to dispose of this device free of charge. It serves the protection of the environment and health as well as the saving of (rare) raw materials through recycling.

UNPACKING AND PLACEMENT

Unpacking:

Open the carton and if necessary, remove any metal clips. Carefully unpack the subwoofer and check that the carton content is undamaged. If any part is damaged, do not use it, but please contact our customer service (see back page). Keep the packaging during the entire warranty period.

Placement:

Subwoofers can be positioned anywhere in the room. However, the ideal position is between the two front speakers with a distance of at least 30 cm from the wall. In any case, avoid placing the subwoofer in the corner of the room or directly against the wall.



Caution:

- Before connecting the subwoofer, switch off all components of your system, but at least the amplifier(s).
- Make sure that your subwoofer is not placed in an elevated position (e.g. on a table) or on a ledge (e.g. stairs) without being secured against falling down!

Installation of the equipment feet / spikes:

To decouple the subwoofer, please mount the supplied (self-adhesive) unit feet or spikes. This will prevent vibrations. The height of the spikes can be adjusted to compensate for height differences.

Fig. 1

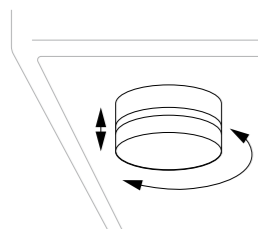
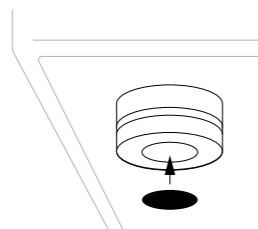
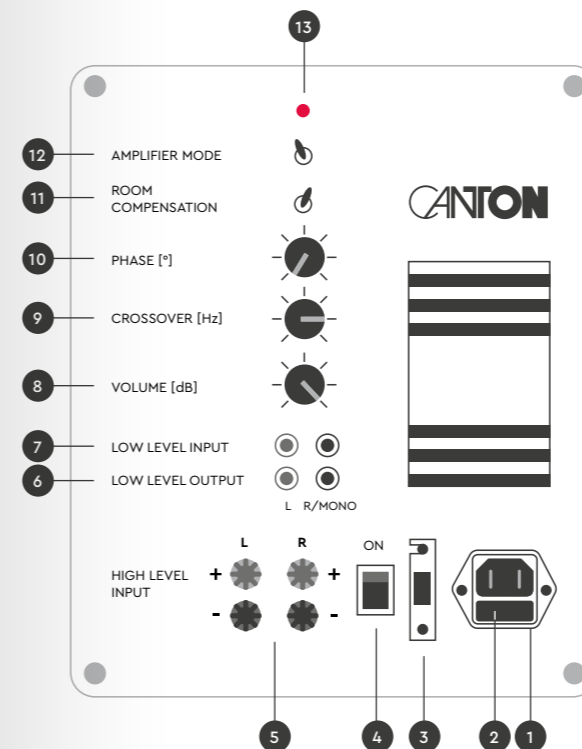


Fig. 2



SUBWOOFER MODULE



The following module (CSP 502) is installed in the Reference Subwoofer.

Detailed information about power consumptions and switch-off times can be found at: www.canton.de/en/service/ecodesign/

The module offers the following functions:

- 1 Mains socket (IEC C14)
- 2 Device protection fuse (250V T3.15AL resp. T6.3AL)
- 3 Mains voltage selector switch
- 4 Mains switch (ON = enabled)
- 5 High Level Input (speaker level, maximum 50V per input)
- 6 Low Level Output (RCA, to passthrough the input signal)
- 7 Low Level Input (RCA, max. 2Vrms per input)
- 8 Volume level (base setting 0dB at one input, -6 dB at two inputs)
- 9 Crossover frequency (upper transmission frequency)
- 10 Phase adjustment (to satellite speaker)
- 11 Room Compensation (see "Operation and settings")
- 12 Amplifier operation modes: ON = Module is permanently active, AUTO = Module automatically switches to standby after maximum 20 minutes when not in use
- 13 LED operating status: LED off = Module switched off, LED red = Module in standby, LED green = Module active



Caution:

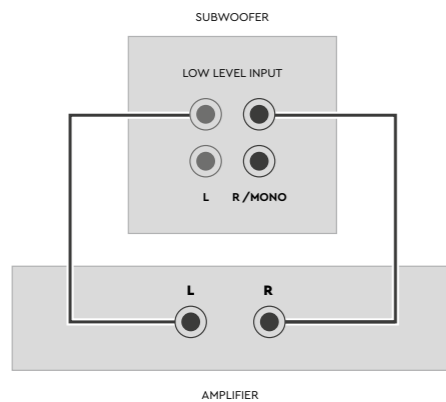
- The voltage range set by the selector switch must match the local mains voltage.
- When switching the range, the fuse must be changed in accordance with the imprint.

CONNECTION

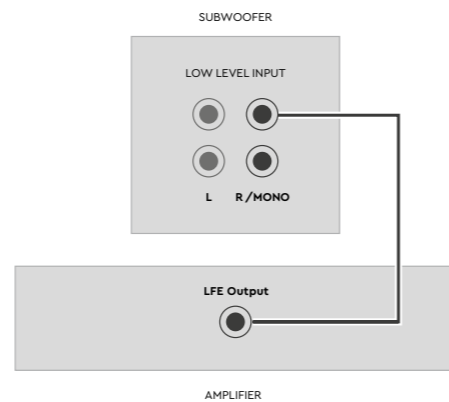
Caution:

Before connecting the subwoofer, switch off the source to be connected (AV-Receiver, amplifier, etc.)! Only connect the subwoofer to the mains after connecting the source.

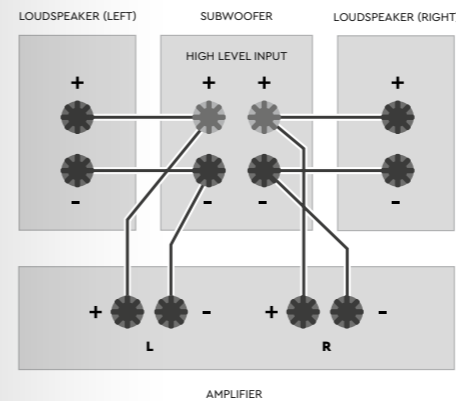
Depending on the type and features of your amplifier or receiver, you have different options for connecting your subwoofer:



Amplifier and AV-Receiver with preamplifier output "Pre-Out" or special stereo subwoofer output (LFE): Connection via "Low Level Input" (R/MONO and L) via stereo RCA cable.



Amplifier and AV-Receiver with mono subwoofer-output (LFE): Connection via the "Low Level Input" (R/MONO) via RCA cable.



Amplifier and AV-Receiver without special subwoofer output: Connect the loudspeaker outputs of the amplifier / AV-Receiver to the "High Level Input" (L and R) using a loudspeaker cable. Please pay attention to the correct polarity!



Caution:

Make sure that the stripped ends of the speaker cables do not touch each other and do not touch the panel. There is a risk of short circuit!

OPERATION AND SETTINGS

1. Mains switch:

After connecting the subwoofer, switch it on (ON) at the mains switch. To deactivate the subwoofer completely (LED off), switch it off at the mains switch.

2. Amplifier operation modes:

With the switch "Amplifier Mode", you can select whether the subwoofer should remain switched on permanently (e.g. if using a master-slave socket strip) or whether it should switch on automatically by an incoming audio signal and switch back to standby after 20 minutes in the absence of a signal. In operation, the status LED lights up green, in standby red.

Practical tip:

If the subwoofer does not switch on reliably at low playback volumes, you can use a "Subwoofer-Y-Cable" (1x RCA plug to 2x RCA plugs, or 1x RCA socket to 2x RCA plugs as an extension of the existing connection) when using a single low level input (R/MONO) to connect both inputs, thus doubling the sensitivity of the module's automatic circuit (+6dB).

3. Volume:

Adjust the volume as desired. As a guide, set the control knob to 0dB if only one input is used, or to -6dB if both inputs are used.

4. Crossover frequency:

The upper playback frequency of the subwoofer can be set with the "Crossover" control knob, in order to match it to the satellite speakers. If the crossover frequency is set by the AV-Receiver, set the crossover on the subwoofer to the maximum value possible so that the low-pass filters of both devices influence each other as less as possible.

5. Phase setting:

Depending on the local placement of the subwoofer, phase cancellations may occur at the crossover frequency. Use the phase adjustment to change the phase between the signals of the subwoofer and the satellite speakers to avoid such cancellations.

6. Room Compensation:

With the switch "Room Compensation" you can change the filter function in the low bass area. In the "Wide" position, the cut-off frequency is extended towards low frequencies compared to "Normal", and reduced in the "Narrow" position.

Please select the switch position that leads to the best sound reproduction, in order to optimally adapt the subwoofer to the acoustic conditions of the room and the installation position. The following basic rule applies: "Normal" setting for normal-sized rooms, "Wide" setting for large rooms (above approx. 40 m²), "Narrow" setting for small rooms (below approx. 20 m²).

SPECIFICS

This module has an externally accessible voltage selector switch that can be used to change the input voltage range of the module. The input voltage range is set to the mains voltage in your country when you purchase the subwoofer. Only change this switch if you want to use the subwoofer in a country where the mains voltage corresponds to the other input voltage range!



WARNING: An incorrectly selected input voltage range can damage the subwoofer module!

This module has a device protection fuse that can be changed from the outside. If the status LED does not light up red or green despite connection to the mains and the mains switch being switched on, you can replace the fuse as a first measure. To do this, disconnect the mains cable from the module and lever the fuse holder out of the socket (e.g. with a flat-blade screwdriver). Replace the fuse only with a fuse of the same type (see imprint on the panel)!

If you change the input voltage range on the voltage selector switch, you must also change the fuse according to the panel imprint!

TROUBLESHOOTING

Enclosed you will find an overview of the most frequently occurring problems with corresponding suggested solutions.

Problem	Possible reason	Solution
The LED on the subwoofer module does not light up	1. The power cord is not correctly connected to the power outlet and/or subwoofer module.	1. Establish a correct connection.
	2. The subwoofer module is switched off at the power switch.	2. Set the power switch to "ON".
	3. The device protection fuse in the subwoofer module has tripped (fuse "blown"). The wrong input voltage range may have been selected or there may have been an overvoltage (e.g. due to a thunderstorm).	3. Replace the fuse according to the module imprint and the selected input voltage. Make sure that the selected input voltage range and the local mains voltage match.
The subwoofer does not turn on	1. (AV) amplifier and subwoofer module are not connected correctly.	1. Make a proper connection using RCA or speaker cable.
	2. The signal cable (RCA cable) is defective.	2. Replace the signal cable.
	3. The output level of the (AV) amplifier is set too low to turn on the subwoofer module.	3.1 Increase the level of the subwoofer output of the (AV) amplifier and reduce the gain (volume) on the subwoofer module accordingly. 3.2. Use a Y-cable to connect both inputs of the subwoofer module to double the level of the input signal. Reduce the volume on the subwoofer (Volume) by 6dB (e.g. from 0dB to -6dB).

TROUBLESHOOTING

Problem	Possible reason	Solution
		3.3 Set the "Amplifier Mode" selector switch to "ON" and switch off the subwoofer manually or using a master-slave power strip.
	4. The subwoofer output (LFE) of the (AV) amplifier is not activated.	4. Depending on the selected setup on the (AV) amplifier, the subwoofer output (LFE) does not provide a signal (e.g. in a 2.0 setup). Select a setup in which the subwoofer is used (e.g. a 2.1 or 5.1 setup).
The volume of the subwoofer is too low	1. The volume on the subwoofer is set too low.	1. Increase the volume on the subwoofer module.
	2. The output level for the subwoofer output (LFE) of the (AV) amplifier is set too low.	2. Increase the output level for the subwoofer output (LFE) on the (AV) amplifier.
	3. The volume on the subwoofer and (AV) amplifier cannot be increased further.	3. Use a Y-cable to connect both inputs of the subwoofer module, thus doubling the level of the input signal.
	4. One of the two speaker inputs (High Level Input) on the subwoofer module is reversed.	4. Check the polarity of the two speaker inputs. Both inputs must have the same polarity in relation to the (AV) amplifier.

TROUBLESHOOTING

Problem	Possible reason	Solution
The subwoofer does not switch into standby mode	1. The selector for the automatic switch-on "Amplifier Mode" is set to "ON" (permanently on).	1. Set the "Amplifier Mode" selector to "AUTO" so that the subwoofer automatically switches to standby after 20 minutes without an input signal.
	2. The subwoofer receives a permanent hum signal at the input.	2.1 Use a shorter and/or shielded signal cable. 2.2 Remove possible sources of interference or have them suppressed (see the following bullet point "The subwoofer hums permanently").
The subwoofer hums permanently	1. The signal cable from the (AV) amplifier to the subwoofer is too long.	1. Use the shortest possible, well-shielded signal cable.
	2. The signal cable from the (AV) amplifier to the subwoofer is not shielded or is defective.	2. Only use shielded signal cables.
	3. There is a ground loop (hum loop).	3. A ground loop can occur if at least two devices connected with signal cables (Cinch) with protective earth plugs (e.g. amplifier and computer) are connected to locally separate outlet sockets. Connect all devices with grounding plugs connected to the amplifier to a common power strip (multiple socket).

TROUBLESHOOTING

Problem	Possible reason	Solution
	4. A non-interference suppressed load (e.g. an old refrigerator) is connected to the mains.	4.1 Disconnect possible sources of interference from the mains for testing. Have the device concerned interference suppressed if the humming noise disappears, or connect (have connected) the source of interference to another mains phase (L1, L2 or L3). If necessary, consult a specialist!
		4.2 Connect a special "sheath current filter" ("ground loop isolator", available from specialist dealers) between the (AV) amplifier and the subwoofer to eliminate the hum.
		4.3 Turn (reverse the polarity of) the subwoofer's power plug in the wall socket to reduce the so-called "hum voltage" (especially with ungrounded (AV) amplifiers).

WARRANTY

Canton provides a 2-year warranty for active and semi-active speakers as well as electronics. The warranty period begins on the date of purchase. Our warranty does not only apply to you as the first purchaser. If you sell or pass on the device during the warranty period, the warranty will be transferred to the subsequent owner. The new owner will then need the original invoice from the original purchaser for a warranty claim. A warranty claim is only valid if the original packaging is used. Transport damage and damage caused by improper use are excluded. The claim is not extended by the replacement of components within the warranty period. This applies to all speakers purchased from an authorized Canton dealer. In the event of damage, please contact him or Canton Service directly.

Bei Fragen oder Anregungen wenden Sie sich bitte an unseren Kundenservice:

For further questions, please do not hesitate to contact our Customer Service:

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