Lucas nano 300

Manual 1.0

Important Safety Instructions! Read before connecting!

This product has been built by the manufacturer in accordance with IEC 60065 and left the factory in safe working order. To maintain this condition and ensure non-risk operation, the user must follow the advice and warning comments found in the operating instructions. If this product shall be used in vehicles, ships or aircraft or at altitudes exceeding 2000 m above sea level, take care of the relevant safety regulations which may exceed the IEC 60065 requirements.
WARNING: To prevent the risk of fire and shock hazard, do not expose this appliance to moisture or rain. Do not open case – no user serviceable parts inside. Refer service to qualified service personnel.


This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.


This symbol, wherever it appears, alerts you to the presence of externally accessible hazardous voltage. External wiring connected to any terminal marked with this symbol must be a “ready made cable” complying with the manufacturers recommendations, or must be a wiring installed by instructed persons only.


This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual.


This symbol, wherever it appears, tells you: Take care! Hot surface! To prevent burns you must not touch.

- Read these instructions.
- Keep these instructions.
- Follow all warnings and instructions marked on the product and in this manual.
- Do not use this product near water. Do not place the product near water, baths, wash basins, kitchen sinks, wet areas, swimming pools or damp rooms.
- Do not place objects containing liquid on the product – vases, glasses, bottles etc.
- Clean only with dry cloth.
- Do not remove any covers or sections of the housing.
- The set operating voltage of the product must match the local mains supply voltage. If you are not sure of the type of power available consult your dealer or local power company.
- To reduce the risk of electrical shock, the grounding of this product must be maintained. Use only the power supply cord provided with this product, and maintain the function of the center (grounding) pin of the mains connection at any time. Do not defeat the safety purpose of the polarized or grounding-type plug.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device! Power supply cords should always be handled carefully. Periodically check cords for cuts or sign of stress, especially at the plug and the point where the cord exits the device.
- Never use a damaged power cord.
- Unplug this product during lightning storms or when unused for long periods of time.
- This product can be fully disconnected from mains only by pulling the mains plug at the unit or the wall socket. The product must be placed in such a way at any time, that disconnecting from mains is easily possible.
- Fuses: Replace with IEC127 (5x20mm) type and rated fuse for best performance only! It is prohibited to use “patched fuses” or to short the fuse-holder. Replacing any kind of fuses must only be carried out by qualified service personal.
- Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as:

- When the power cord or plug is damaged or frayed.
- If liquid has been spilled or objects have fallen into the product.
- If the product has been exposed to rain or moisture.
- If the product does not operate normally when the operating instructions are followed.
- If the product has been dropped or the cabinet has been damaged.

- Do not connect external speakers to this product with an impedance lower than the rated impedance given on the product or in this manual. Use only cables with sufficient cross section according to the local safety regulations.
- Keep away from direct sunlight.
- Do not install near heat sources such as radiators, heat registers, stoves or other devices that produce heat.
- Do not block any ventilation openings. Install in accordance with manufacturer’s instructions. This product must not be placed in a built-in installation such as a rack unless proper ventilation is provided.
- Always allow a cold device to warm up to ambient temperature, when being moved into a room. Condensation can form inside it and damage the product, when being used without warming up.
- Do not place naked flame sources, such as lighted candles on the product.
- The device must be positioned at least 20 cm/8“ away from walls.
- Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the product. When a cart is used, use caution when moving the cart/product combination to avoid injury from tip-over.
- Use only accessories recommended by the manufacturer, this applies for all kind of accessories, for example protective covers, transport bags, stands, wall or ceiling mounting equipment. In case of attaching any kind of accessories to the product, always follow the instructions for use, provided by the manufacturer. Never use fixing points on the product other than specified by the manufacturer.
- This appliance is NOT suitable to be used by any person or persons (including children) with limited physical, sensorical or mental ability, or by persons with insufficient experience and/or knowledge to operate such an appliance. Children under 4 years of age must be kept away from this appliance at all times.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock.
- This product is capable of delivering sound pressure levels in excess of 90 dB, which may cause permanent hearing damage! Exposure to extremely high noise levels may cause a permanent hearing loss. Wear hearing protection if continously exposed to such high levels.
- The manufacturer only guarantees the safety, reliability and efficiency of this product if:

- Assembly, extension, re-adjustment, modifications or repairs are carried out by the manufacturer or by persons authorized to do so.
- The electrical installation of the relevant area complies with the requirements of IEC (ANSI) specifications.
- The unit is used in accordance with the operating instructions.
- The unit is regularly checked and tested for electrical safety by a competent technician.

General Notes on Safety for Loudspeaker Systems


Mounting systems may only be used for those loudspeaker systems authorized by the manufacturer and only with the mounting accessories specified by the manufacturer in the installation instructions. Read and heed the manufacturer’s installation instructions. The indicated load-bearing capacity cannot be guaranteed and the manufacturer will not be liable for damages in the event of improper installation or the use of unauthorized mounting accessories.
The system’s load-bearing capacity cannot be guaranteed and the manufacturer will not be liable for damages in the event that loudspeakers, mounting accessories, and connecting and attaching components are modified in any way.
Components affecting safety may only be repaired by the manufacturer or authorized agents, otherwise the operating permit will be voided.


Installation may be performed qualified personnel only, and then only at pick-points with sufficient load-carrying capacity and in compliance with local building regulations. Use only the mounting hardware specified by the manufacturer in the installation instructions (screws, anchors, etc.). Take all the precautions necessary to ensure bolted connections and other threaded locking devices will not loosen.


Fixed and portable installations (in this case, speakers and mounting accessories) must be secured by two independent safeties to prevent them from falling. Safeties must be able to catch accessories or parts that are loose or may become loose. Ensure compliance with the given national regulations when using connecting, attaching, and rigging devices. Factor potential dynamic forces (jerk) into the equation when determining the proper size and load-bearing capacity of safeties.


Be sure to observe speaker stands’ maximum load-bearing capacity. Note that for reasons of design and construction, most speaker stands are approved to bear centric loads only; that is, the speakers’ mass has to be precisely centered and balanced. Ensure speaker stands are set up stably and securely. Take appropriate added measures to secure speaker stands, for example when:
- the floor or ground surface does not provide a stable, secure base.
- they are extended to heights that impede stability.
- high wind pressure may be expected.
- there is the risk that they may be knocked over by people.

Special measures may become necessary as precautions against unsafe audience behavior. Do not set up speaker stands in evacuation routes and emergency exits. Ensure corridors are wide enough and put proper barriers and markings in place when setting speaker stands up in passageways. Mounting and dismounting are especially hazardous tasks. Use aids suitable for this purpose. Observe the given national regulations when doing so.


Wear proper protection (in particular, a helmet, gloves, and safety shoes) and use only suitable means of ascent (ladders, scaffolds, etc.) during installation. Compliance with this requirement is the sole responsibility of the company performing the installation.


After installation, inspect the system comprised of the mounting fixtures and loudspeakers to ensure it is properly secured.
The operator of loudspeaker systems (fixed or portable) must regularly inspect or task a third party to regularly inspect all system components in accordance with the given country’s regulations and have possible defects repaired immediately.
We also strongly recommend maintaining a logbook or the like to document all inspections.
When deploying speakers outdoors, be sure to take into account the stability and load-bearing capacity of platforms and surfaces; loads and forces exerted by wind, snow, and ice; as well as thermal influences. Also be sure to provide sufficient safety margins for the rigging points used for flown systems. Observe the given national regulations when doing so.


Professional loudspeaker systems can produce harmful volume levels. Even prolonged exposure to seemingly harmless levels (starting at about 95 dBA SPL) can cause permanent hearing damage! Therefore we recommend that everyone who is exposed to high volume levels produced by loudspeaker systems wears professional hearing protection (earplugs or earmuffs).
Manufacturer: Stamer Musikanlagen GmbH, Magdeburger Str. 8, 66606 St. Wendel, Germany

Lucas nano 300

Congratulations and thank you for choosing an HK AUDIO product!

It's all in the name: LUCAS NANO 300 takes our successful LUCAS systems another step up the evolutionary ladder. Comprised of two satellites and an ultra compact subwoofer, it comes with all the power electronics on board. Packed with unprecedented audio design technologies and featuring a newly developed triple-channel Class-D power amp engineered to save space, LUCAS NANO 300 delivers stunning sound in a package that leaves a very small footprint. The high-performance electronic circuitry, carefully fine-tuned to match the speakers, delivers 230 watts of power output and protects against overloads. Paired with an intuitive three-channel mixer, this circuitry makes the system remarkably easy to handle.

There's no need to fuss with a lot of tweaking and tuning: Simply set up the components, connect the power and signal cables, adjust the volume and you're good to go. LUCAS NANO 300, like all our powered systems, is an end-to-end sound reinforcement solution encompassing a subwoofer, satellites, and painstakingly tuned electronics.

To help you achieve the best possible audio results, our engineers developed new technologies and unique features specifically for this system. And that's what makes LUCAS NANO 300 stand out from the crowd of lesser active cabinets.

We hope you enjoy your LUCAS NANO 300 as much as we enjoyed developing it!

Applications and Advantages

- Anyone can easily carry the entire system.
- Setting up for any application takes just a few moments. You don't need any outboard gear to run this system.
- The many applications options are practically begging to be used. Whatever your gig may be - musician, DJ, entertainer, presenter – you will enjoy the benefits of easy handling and effective sound reinforcement.
- Take it with you on small stages for music performances or speeches, use it for presentations in conference rooms or have fun rehearsing at home in the den, the living room or the garage. But know this: Wherever you take your LUCAS NANO 300, it will fill the room with extraordinary sound and powerful, dynamic and balanced audio performance.
- The integrated three-channel mixer offers lots of helpful, intuitive controls that let you make the most of all the application options. It will serve you well as a PA for small stages, a sound system for parties and as a keyboard, e-drums or guitar monitor when you're practicing.
- LUCAS NANO 300 offers several setups for use as a stereo and a monaural system. And the innovative Link function lets you double up with two LUCAS NANO 300 systems.

1 General Information

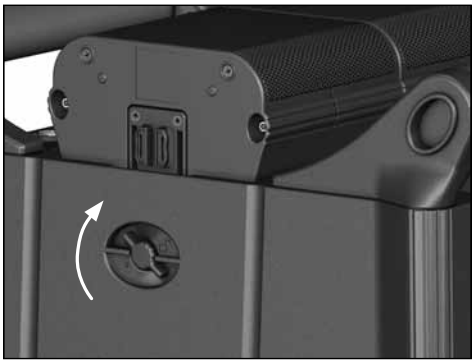
1.1 Unpacking and Inventorying

Remove all the component parts of LUCAS NANO 300 from the carton and make sure you have received all items.

LUCAS NANO 300 consists of a subwoofer and two satellites.
A protective cover and a mains cable are also included.

1.2 Unfastening Transport Latches

Latches secure the LUCAS NANO 300 satellites to the subwoofer to protect them during transport. Here's how to undo them:

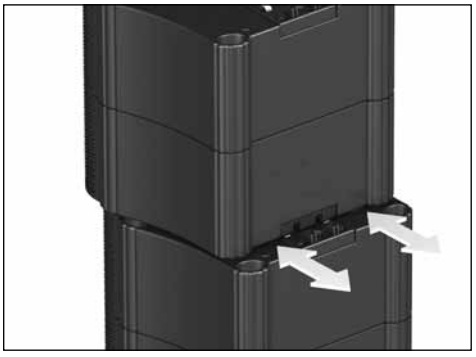


- Standing at the back of the system, turn the locking knobs on both sides backward to unlock the satellites. Remove the two LUCAS NANO 300 satellites from their cradle.
- Always make sure these knobs engage to lock the speakers down for transport.

1.3 Easy Click Connector

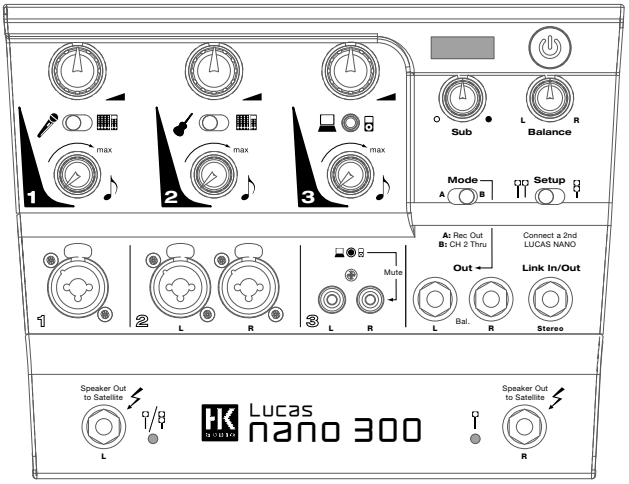
- This mechanical and electric coupler connects the modules.

Easy Click is very easy to disconnect: Simply push the top satellite back and lift the enclosure to remove it.

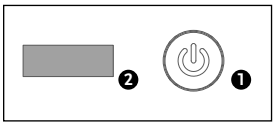


To connect a satellite, set it on the top panel and push it forward.

2 Connectors and Controls



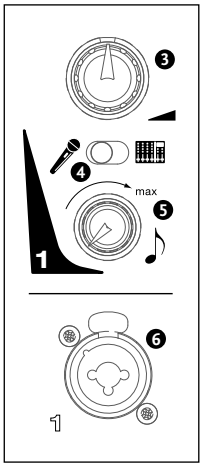
2.1 Power/Status Section



1 Power
This switches LUCAS NANO 300 on and off.

2 Status Indicator
Dual-color LED (green = power on, red =limit/error). The LED briefly flashes red to tell you the limiter is responding to signal peaks.
Caution! If the Status LED stays red while the system is fully operational, it is being overloaded. Turn down the signal level! If you are not feeding a signal into the system and the Status LED stays red, there has been malfunction.
Note: LUCAS NANO 300 performs a system check after the system is powered up or the Setup switch is engaged. The Status LED lights up red for about five seconds during this time. It will light up green if there is no error and the system is getting mains power.

2.2 Input Section 1



3 Volume
This rotary knob adjusts the volume for this input. Twist it counterclockwise to the far left to turn the signal level all the way down and clockwise to the far right to turn the level all the way up.

4 Mic/Line
This switch adjusts the input sensitivity or gain of Input 1 for use with a dynamic microphone or a line signal. At the same time, it configures the integrated filter for Voice (microphones) and Contour (line signal) applications.

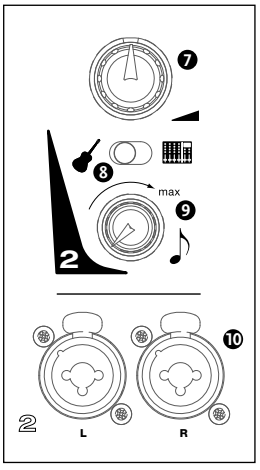
5 Voice/Contour
This rotary knob tunes the LUCAS NANO 300's sound to suit the input signal.
- If the Mic/Line switch is set to „Mic", this rotary knob adjusts the sound for speech.

Far left position = no change in tone
Far right position = maximum tuning effect
- When the Mic/Line switch is set to „Line", you can use this knob to tune the system for music signals. It boosts low and high frequencies while cutting midrange frequencies.

Far left position = no change in tone
Far right position = maximum effect

6 Input 1
This multipurpose XLR/1/4" mono input is electrically balanced to accept a dynamic microphone or a line signal. The input signal is routed to both the left and right outputs of LUCAS NANO 300.

2.3 Input Section 2



7 Volume
See Input Section 1 for a description.

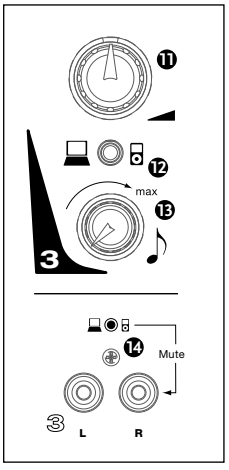
8 Instrument/Line
This switch configures Input 2's sensitivity or gain for an instrument such as a guitar or for a line signal.

9 Contour
This rotary knob voices the audio signal; that is, it adjusts the tone.

It boosts low and high frequencies while cutting midrange frequencies.
- Far left position = no change in tone
- Far right position = maximum effect

10 Input 2 L/R
This multipurpose XLR/1/4" mono input is electrically balanced to accept an instrument or a line signal.

2.4 Input Section 3



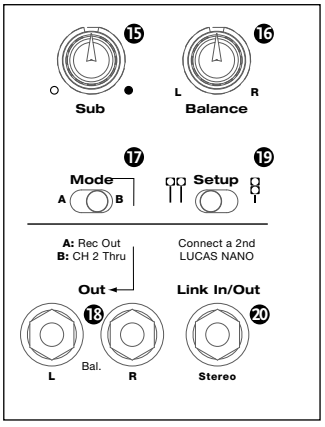
11 Volume
See Input Section 1 for a description.

12 Mini-Jack Input (3.5 mm)
Use this stereo input to connect MP3 players or the headphones output of a laptop.
Heads up: Plugging a connector into this input mutes the Stereo RCA Input (14).

13 Contour
This rotary knob adjusts the audio signal's tone. When it boosts high and low frequencies, it also rolls off midrange frequencies.
- Far left position = no change in tone
- Far right position = maximum effect

14 Stereo RCA Input
Use this input to connect audio sources such as DVD and BluRay players, DJ consoles and computers.

2.5 Output Section



15 Sub
This rotary knob adjusts the subwoofer's volume level from -∞ to +6 dB.

16 Balance
This rotary knob adjusts the relative levels of the left and right channels.

17 Mode A/B
This switch configures the output signal sent to Out L/R (19):

- **A**: Rec Out: This mode sends the composite signal of channels 1 to 3 and Link In (20) to a connected audio recorder.
- **B**: Ch 2 Thru: This mode sends the signal routed into Input 2 (10) through to this output for monitoring. See the example in the appendix called Personal Monitoring.

18 Out L/R
This is an electrically balanced 1/4" (6.3 mm) output jack. Depending on the Mode A/B switch setting, it sends out a composite of all input signals (including Link In) or just the signal patched into Input 2.

19 Setup
Use this switch to configure LUCAS NANO 300 for mono or stereo operation.

20 Link In/Out
This 1/4" (6.3 mm) stereo jack serves to connect this LUCAS NANO 300 to another LUCAS NANO 300. Please be sure to use a cord equipped with stereo 1/4" (6.3 mm) jack plugs to do this. No other cables will do.

2.6 Speaker Out Section

21 Speaker Out to Satellite L / R
Use these 1/4" (6.3 mm) jacks exclusively to connect LUCAS NANO 300 satellites. Do not connect any other devices. If you do, that device and LUCAS NANO 300 may be irreparably damaged.

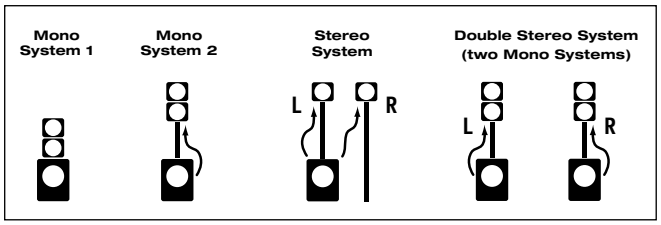
22 Speaker Status Indicators
This dual-color LED tells you what's going on with the Speaker Outs of LUCAS NANO 300 (green = speaker output is active, red = inactive). Enable and disable outputs using the Setup switch in the output section.
Note: LUCAS NANO 300's outputs are muted during a system check (see Status LED). The Speaker Status LEDs light up red during this time (about five seconds).

2.7 Connector Panel

Mains Socket
Use the factory-included mains cord to connect this socket to a wall outlet.
Caution! Make sure the local mains voltage matches the voltage specified on LUCAS NANO 300. Connecting it to the wrong mains voltage may destroy its electronic components.

3 Setups

You can set up LUCAS NANO 300 in various configurations:

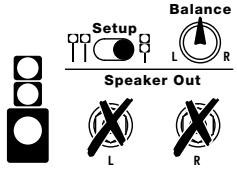


Note that the optionally available LUCAS NANO ADD-ON PACKAGE affords you the greatest flexibility.

Contents: 1x 8m Link/Speaker cord, 1x 2m Link/Speaker cord, 2x height adjustable pole mount, 1x tripod leg, 4x cable ties, 1x bag

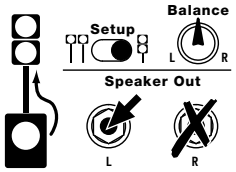
The following examples should help you find the best setup for your application:

3.1 Mono System 1



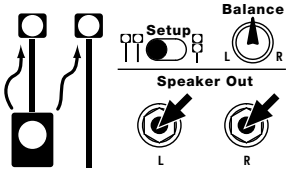
Stack and connect the LUCAS NANO 300 satellites as described in section „1.3, Easy Click Connector“. Then connect the two LUCAS NANO 300 satellites to the LUCAS NANO 300 subwoofer. Be sure to set the Setup switch to Mono (to the right).

3.2 Mono System 2



Stack and connect the LUCAS NANO 300 satellites as described in section, „1.3 Easy-Click connector“. Insert the adjustable speaker pole (optional*) into the pole mount on the subwoofer and attach the two satellites to it. Use a cord equipped with 1/4" (6.3 mm) jack plugs (optional*) to connect the LUCAS NANO 300 subwoofer's Speaker Out L to the LUCAS NANO 300 satellites. Be sure to set the Setup switch to Mono (to the right).

3.3 Stereo System



Insert the adjustable speaker pole (optional*) into the pole mount on the subwoofer and attach one LUCAS NANO 300 satellite to it. Attach the second satellite to a tripod speaker pole (optional*). Use a cord equipped with 1/4" (6.3 mm) jack plugs (optional*) to connect the LUCAS NANO 300 subwoofer's Speaker Out L to the left LUCAS NANO 300 satellite. Then connect the Speaker Out to Satellite R port to the right LUCAS NANO 300 satellite. Be sure to set the Setup switch to Stereo (to the left).

3.4 Double Stereo System (two LUCAS NANO 300 systems)

Stack and connect two each LUCAS NANO 300 satellites as described in section „1.3 Easy-Click connector“. Then insert an adjustable speaker pole (optional*) into each subwoofer pole mount and attach two satellites to each pole. Use cords equipped with 1/4" (6.3 mm) jack plugs (optional*) to connect the LUCAS NANO 300 subwoofers' Speaker Out L ports to the LUCAS NANO 300 satellites. Be sure to set the Setup switch on both systems to Mono (to the right).

Use a cord equipped with stereo 1/4" (6.3 mm) jack plugs to connect the two LUCAS NANO 300 subwoofers' Link In/Out ports and create a stereo system. Be sure to adjust each side's Balance knob accordingly; that is, turn one to the left and the other to the right.

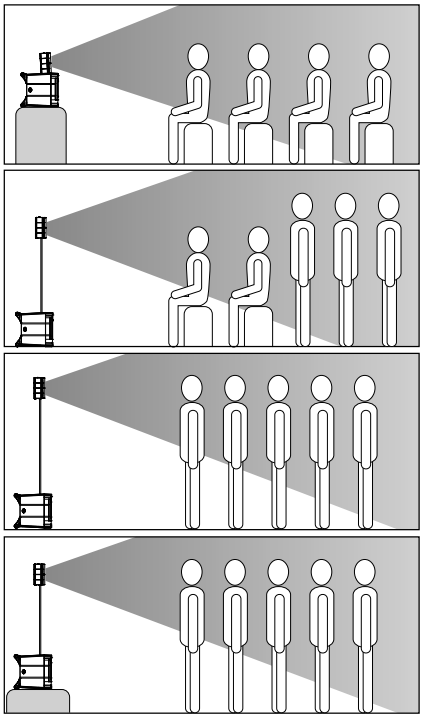
You'll find examples of more applications for two combined LUCAS NANO 300 systems, for example, to cover two rooms, in the appendix starting on page 38.

*Included in the LUCAS NANO ADD-ON PACKAGE

4 Aiming Satellites

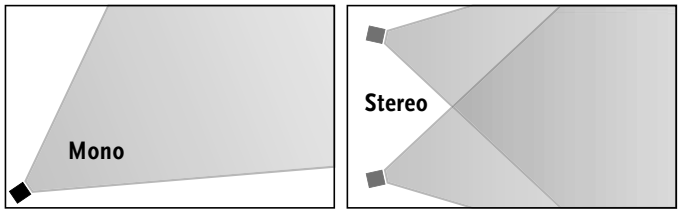
4.1 Vertical Alignment

To treat your audience to the most balanced audio image, always aim LUCAS NANO 300 satellites to ear level.



4.2 Horizontal Alignment

The satellites' horizontal dispersion angle is around 60°. Depending on room size and whether it's a mono or stereo setup, you may want to turn the satellites in towards the audience area.



5 Example Applications

You'll find more examples of applications, configurations and setups in the appendix starting on page 38, including setups for:

- **Presentations**
- **Entertainers**
- **Instrument/ vocals with live recording**
- **Keyboard monitoring on stage**
- **E-drum monitoring at home**
- **Personal monitoring for e-drums**
- **DJs**

- **Setup, cabling and alignment when using two LUCAS NANO 300 systems**

6 Technical Specifications

Subwoofer

Power output	160 W @ 2 ohms
Frequency response	44 Hz – fx
Max. SPL@10%THD*	116 dB
Max. SPL Peak*	118 dB
Dimensions (WxHxD)	30 x 39 x 42 cm / 11-13/16 x 15-11/32 x 16-17/32"
Weight	8.3 kg / 18.3 lbs.

*half space

Satellite	**Single**	**Double**
Power output	35 W @ 8 ohms	70 W @ 4 ohms
Frequency response	190 Hz – 20 kHz	190 Hz – 20 kHz
Max. SPL@10%THD*	112 dB	116 dB
Max. SPL Peak*	116 dB	120 dB
Dimensions (WxHxD)	13 x 13 x 11.5 cm 5-1/8 x 5-1/8 x 4-17/32“	13 x 24 x 11.5 cm 5-1/8 x 9-15/16 x 4-17/32“
Weight	1 kg / 2.2 lbs.	2 kg / 4.4 lbs.

*half space

General Technical Specifications

Max. current consumption	3 A at 90 VAC
Inrush current	48 A
Multi-voltage power supply	90 V – 240 V