

iLoud[®] Precision

**High Resolution linear phase
studio monitors**

USER MANUAL

Model: iLoud Precision 5



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iLoud Precision 5

Thank you for purchasing iLoud Precision 5.

Your package contains:

- iLoud Precision 5 speaker (single)
- Power cord
- ARC microphone and clamp
- Isolation pods
- USB cable
- Safety manual and registration card

The iLoud Precision monitors are innovative DSP powered studio monitors that offer a wide array of unique features, some of them are currently found only in products costing several times the price of these.

As on the iLoud MTM, the iLoud Precision also sports linear phase crossovers and a perfect time coherent representation. This is a unique feature at this price level, only found on a few competitors at much higher-price points. iLoud Precision series also sports a fully automated built-in room correction system based on the acclaimed ARC System technology. The speaker will auto-calibrate in the room by simply connecting the ARC 3 microphone to the speakers, and pressing a button. This is yet another unique feature rarely found at this price point.

Although the iLoud Precision monitors can have various voices and emulate other speakers - thanks to the X-MONITOR technology - the main and most important setting is the native iLoud Precision voice. This is the setting that delivers the flattest, extended, uncolored, most coherent dispersion in the room, and linear phase performances.

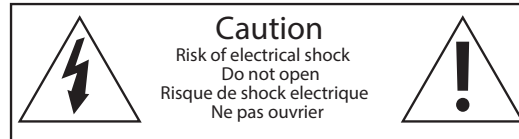
Register your iLoud Precision

By registering, you can access technical support, activate your warranty and receive free JamPoints™ which will be added to your account. JamPoints™ allow you to obtain discounts on future IK purchases! Registering also keeps you informed of all the latest software updates and IK products.

Register at: www.ikmultimedia.com/registration

Safety Instructions

Please read the following safety instructions before setting up your system. Keep the instructions for subsequent reference. Please heed the warnings and follow the instructions.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



To reduce the risk of fire or electric shock, do not expose this loudspeaker to rain or moisture.



No naked flame sources, such as lighted candles, should be placed on the loudspeaker.



To reduce the risk of fire or electric shock, do not open this speaker, no user serviceable parts inside.



Never replace any fuse with a value or type other than those specified. Never bypass any fuse.



Do not use this speaker near water. Never use this speaker in a humid environment.



Clean only with dry cloth.



Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.



Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



Do not defeat the safety purpose of the polarized or grounding - type plug. A polarized plug has two blades with one wider than the other. A grounding - type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.



Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the loudspeaker.



Only use attachments/accessories specified by the manufacturer.



Unplug this speaker during lightning storms or when unused for long period of time.



Always keep electric equipment out of the reach of children.



Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



Refer all servicing to qualified service personnel. Servicing is required when the loudspeaker has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the speaker, the speaker has been exposed to rain or moisture, does not operate normally, or has been dropped.



Do not expose this speaker to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the speaker.



To completely disconnect the speaker from the AC mains, disconnect the power supply cord plug from the AC receptacle. The mains plug of the power supply cord shall remain readily operable.



The speaker should be connected to a mains socket outlet with a protective earthing connection.



Check if the specified voltage matches the voltage of the power supply you use. If this is not the case do not connect the loudspeakers to a power source! Please contact your local dealer or national distributor.



Never use flammable or combustible chemicals for cleaning audio components.



Never expose this speaker to extremely high or low temperatures. Never operate this product in an explosive atmosphere.




Rear panel may become too hot to touch, leave enough space for proper ventilation.




Assure free airflow behind the speaker to maintain sufficient cooling by keeping a distance of at least 10 centimeters (4") to the wall.




Always switch off your entire system before connecting or disconnecting any cables, or when cleaning any components.

 Always use fully checked cables. Defective cables can harm your speakers. They are a common source of any kind of noise, hum, crackling etc.

 Avoid touching the speaker membranes.


 Please note that the diaphragms build up a magnetic field. Please keep magnetically sensitive items at least 0.5m away from the speaker.


 The equipment is capable of delivering sound pressure level considerably higher than 90dB, which may cause permanent hearing damage.

Maintenance


 Please switch the loudspeaker off before cleaning!

 Please note that the diaphragms build up a magnetic field. Please keep magnetically sensitive items at least 0.5m away from the speaker.

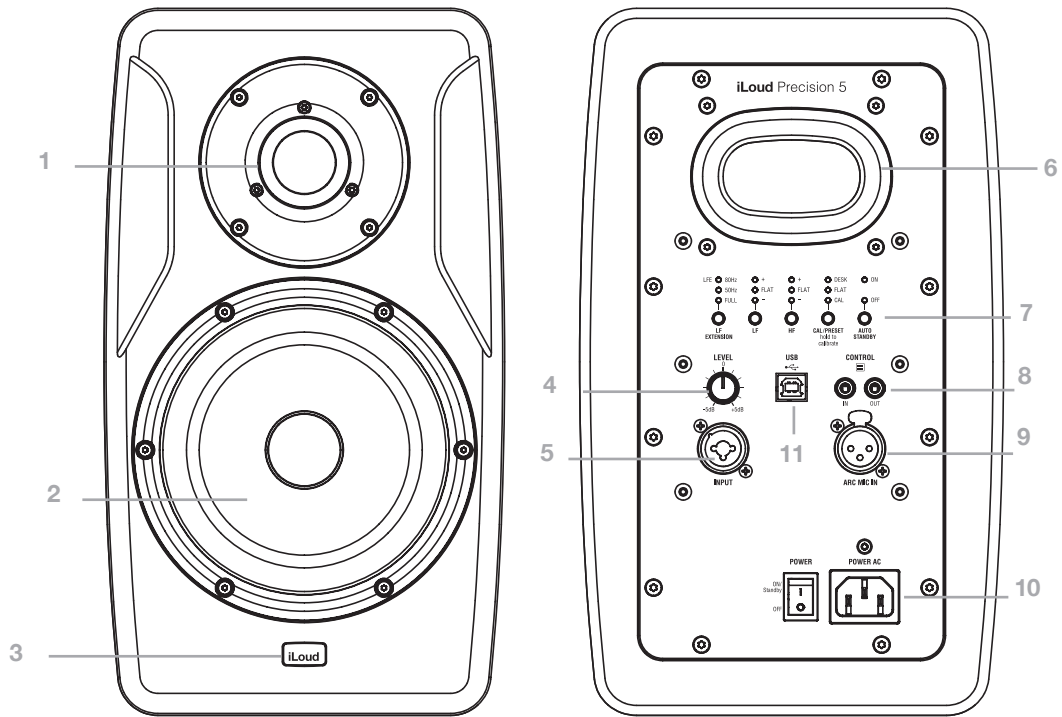
 Please make sure that no liquids get inside the cabinet. Do not spray any fluids on the speaker. Do not use a wet cloth for cleaning.

 Do not use flammable or acidic chemicals for cleaning.

 Do not touch the membranes of the loudspeakers.

 We recommend using a lint-free, damp cloth for cleaning. The loudspeaker membranes may be dusted using a very soft brush.

iLoud Precision 5 overview



- 1 - 1.5" chambered textile dome tweeter
- 2 - 5" woofer
- 3 - Multi-color LED
- 4 - Volume control
- 5 - 1/4" / XLR combo input
- 6 - Bass reflex port
- 7 - Rear controls
- 8 - Remote control ports
- 9 - ARC microphone input
- 10 - Power section
- 11 - USB port

System description

The iLoud Precision series consists of active, two-way, 96 kHz digitally processed studio monitors.

The range includes 3 models:

- **iLoud Precision 5**

- 5" ultralight coated paper low distortion mid-woofer

- 1.5" high output, low distortion chambered textile dome tweeter

- Audiophile, custom-designed, proprietary Class-D power amplifiers

- 135 W total RMS power

- AD and DA: 96 kHz / 24 bit

- Complete DSP controlled system, 96 kHz sampling rate

- 46 Hz to 30 kHz frequency response +/- 1 dB

- 39 Hz low frequency extension @-4 dB

- Coherent phase response +/-20° from 150 Hz up

- Coherent time response across the audio spectrum

- High performance vented design

- Built-in ARC room calibration

- X-MONITOR technology

- Remote control for X-MONITOR voices selection and measurement process control

- iLoud Precision macOS & Windows control software

- **iLoud Precision 6**

- 6.5" ultralight coated paper low distortion mid-woofer

- 1.5" high output, low distortion chambered textile dome tweeter

- Audiophile, custom-designed, proprietary Class-D power amplifiers

- 150 W total RMS power

- AD and DA: 96 kHz / 24 bit

- Complete DSP controlled system, 96 kHz sampling rate

- 45 Hz to 30 kHz frequency response +/- 1 dB

- 37 Hz low frequency extension @-4 dB

- Coherent phase response +/-20° from 150 Hz up

- Coherent time response across the audio spectrum

- High performance vented design

- Built-in ARC room calibration

- X-MONITOR technology

- Remote control for X-MONITOR voices selection and measurement process control

- iLoud Precision macOS & Windows control software

- **iLoud Precision MTM**

- 2x5" ultralight coated paper low distortion mid-woofer

- 1.5" high output, low distortion chambered textile dome tweeter

- Audiophile, custom-designed, proprietary Class-D power amplifiers

- 175 W total RMS power

- AD and DA: 96 kHz / 24 bit

- Complete DSP controlled system, 96 kHz sampling rate

- 45 Hz to 30 kHz frequency response +/- 1 dB

- 37 Hz low frequency extension @-4 dB

- Coherent phase response +/-20° from 150 Hz up

- Coherent time response across the audio spectrum

- High performance vented design

- Built-in ARC room calibration

- X-MONITOR technology

- Remote control for X-MONITOR voices selection and measurement process control

- iLoud Precision macOS & Windows control software

The system can auto-calibrate its in-room frequency response thanks to the built-in ARC3 room correction system and the measurement microphone connected to the speaker.

The response of the system can also be manually contoured by a set of push buttons on the back.

The system can also emulate the sound of various listening devices, including other studio monitors, TV sets, portable devices, car stereos, and so on, thanks to the X-Monitor functionality.

The system can be remotely-controlled with the use of a small wired remote controller (sold separately) equipped with four illuminated pushbutton switches. The functionality of these switches is factory assigned to four X-Monitor "voices" and can be modified with the control software.

Both the ARC custom response and the X-Monitor target responses are stored and processed in the speaker as IIR filters. This keeps at minimum the memory footprint of the responses and allows for a lightweight processing requirements even for high resolution at low frequencies: this is especially important considering the system runs at 96 kHz.

The system can also be controlled by free remote control software (for macOS and Windows) when the iLoud Precision is connected via USB to a computer.

1. Installation and setup

We recommend using high quality audio cables to guarantee optimal performance. It is important to ensure that the speakers stand firmly on a solid surface. Please note that the loudspeakers will need a few days to achieve optimum sonic performance.

1. Make sure that the volume control of iLoud Precision is set to minimum. Make sure that the ON/OFF switch on the rear panel is set to OFF
2. Adjust the vertical alignment of the speaker.
3. Connect the power cord.
4. Connect the audio input source to the input connector of iLoud Precision.
5. Switch ON the ON/OFF switch on the rear panel. The front LED will illuminate steady white after a short delay.
6. Turn your audio playback system on (Mixing console, Audio interface, etc.). Adjust the volume control to a lower position only if needed or only in case you require different levels between the speakers.
7. If needed, adjust the speaker response with the dedicated controls on the rear panel.
8. You can perform a **speaker calibration** to perfectly fit your iLoud Precision into your acoustic environment (for more information refer to the dedicated paragraph in this manual).

Note: Before plugging in and turning on, remember the “last on, first off” rule of powered speakers. When powering up your system, be sure that all the wires are connected, turn on your mixer/interface and any other outboard gear, and then lastly turn on your iLoud Precision. When powering down, turn your iLoud Precision off first and then your mixer/interface and outboard gear.

2. Control panel

2.1 Audio input

Combo XLR-1/4" balanced line input

This combo connector allows for the connection of an analog audio source (i.e., mixer/audio interface bal/unbal line out). Connect professional equipment with balanced outputs to the XLR or 1/4" TRS input of the speaker using balanced signal cables.

2.2 ARC Mic input

Use this female XLR to connect the ARC microphone that will allow you to perform a custom calibration of the speaker to perfectly fit your environment.

2.3 Level

This control allows you to adjust the input level of the audio source from -5dB to +5dB.

2.4 USB port

This USB type-B port is used for service purposes, such as Firmware updates or factory checks, or to remotely control the iLoud Precision via its Control Software.

2.5 Control I/O

These 3.5mm jacks are used to connect the optional remote controller. The controller will be connected to the IN port, and then the OUT port will be connected to the IN port of the other speaker to control it: this lets you daisy chain all of the speakers that are included in the system.

2.6 Power

Power switch: this switch allows you to power on and off your iLoud Precision.

Power AC: connect the (included) power cord to this AC socket.

IMPORTANT: before attempting to connect/disconnect the power cord, make sure that the power switch is set to Off.

3. Rear controls

The pushbuttons on the back panel will help you to perfectly match iLoud Precision to every acoustic environment. Also, the LEDs on the back panel have two level of brightness.

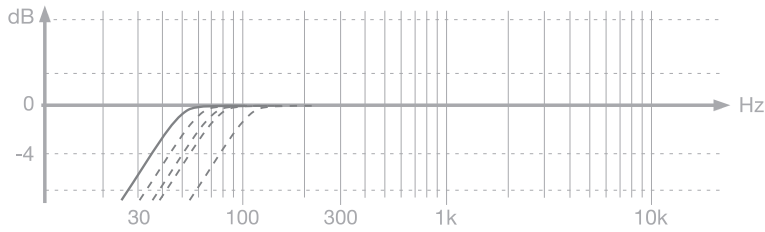
When operating the buttons the LEDs are lighted up at maximum intensity.

After 10 seconds of no operations on the buttons the LEDs will be dimmed.

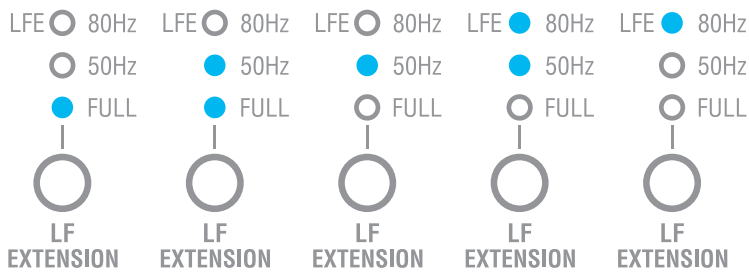
The first push of the button will bring the brightness back to normal value but will not activate any of the functions, including the "hold" ones: the first button press, after 10 seconds of no operations, will only "wake up" the panel.

3.1 LF extension

This pushbutton controls the global HPF filter and it has 5 positions (FULL - 35Hz - 50Hz - 65Hz - 80Hz LFE):



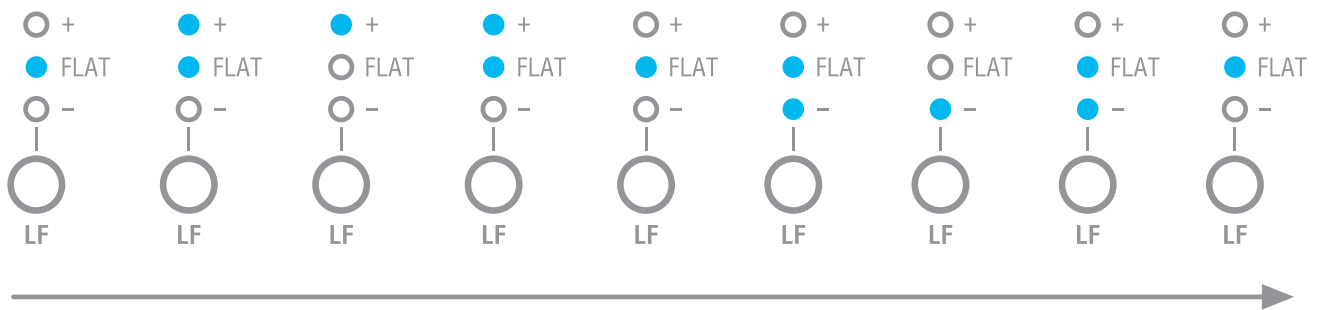
The setting changes at each release of the button, starting from the lowest setting to the highest in 5 steps, including the intermediate ones, with two LEDs turned on to indicate an in between setting is selected.



When the highest setting is selected an additional release will go back to the lowest setting.

3.2 LF & HF filters

The LF and HF pushbuttons control the main low and high shelving filters: each button have 5 positions and it cycles through the positions with this sequence:



LEDs light up to indicate the following status:

FLAT = 0dB (default)

FLAT & + = +1.5dB

+ = +2.5dB

FLAT & - = -1.5dB

- = -2.5dB

LF: low-shelving @100 Hz, Q 0.6

HF: high-shelving @10 kHz, Q 0.6

3.3 Auto Standby

This pushbutton turns ON or OFF the auto standby function. By default this control is set to ON.

When ON the speaker will automatically turn into low power mode when no audio is fed to the input for longer than the time that is set on the control software, which by default is 60 min.

As soon as the audio comes back the speaker will turn fully on.

When the speaker goes into standby mode the front LED will DIM its brightness with respect to the normal condition.

3.4 CAL/Preset

This pushbutton allows you to cycle between DESK filter, FLAT (default) and custom user calibration (if present). The Desktop filter sets an attenuation filter to compensate for the typical acoustic effect of a console or a desk. Such placement usually results in a boost in the lower midrange.

By holding this button for three seconds the speaker will start the ARC calibration process (the ARC calibration process can be also launched by the control software).

To perform a custom calibration refer to the next chapter (**4. ARC calibration**).

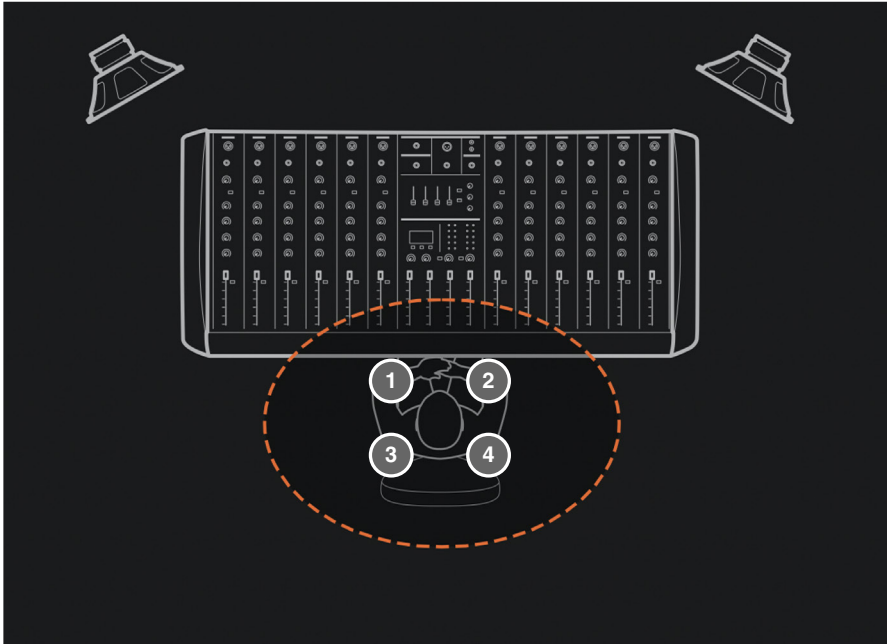
IMPORTANT: units shipped from our factory have no custom calibration loaded, so the CAL position won't be available until a custom calibration has been performed by the user.

Once the ARC calibration has been completed this pushbutton controls the switch between FLAT, DESK and CAL settings, by cycling among the three in this sequence:

FLAT -> CAL -> DESK -> FLAT -> ...

4. ARC calibration

Thanks to the ARC technology, iLoud Precision can be tailored to perfectly fit your listening space. The iLoud Precision ARC calibration's measurement is taken on four different points for improved sonics. The four points are taken around the listening position, as show in the image below:

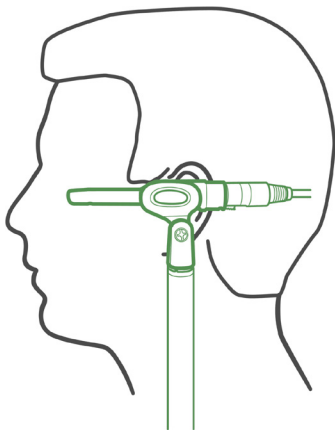


4.1 Position the microphone

Connect the ARC microphone to the ARC MIC INPUT on the back of iLoud Precision with a suitable XLR microphone cable.

PLEASE NOTE: the measurement microphone must be positioned HORIZONTALLY.

Example of correct microphone positioning:



Make sure that you attach the microphone onto a standard mic stand.

Try to use a mic stand with a boom arm that is extended as far away from the stand as possible. This helps avoid reflections from the stand that may interfere with the analysis at high frequencies.

Do not stand or sit near the microphone while the analysis procedure is running.

As indicated in the figure above, the microphone has to be set at the same height where your ears are when you are listening to the speakers.

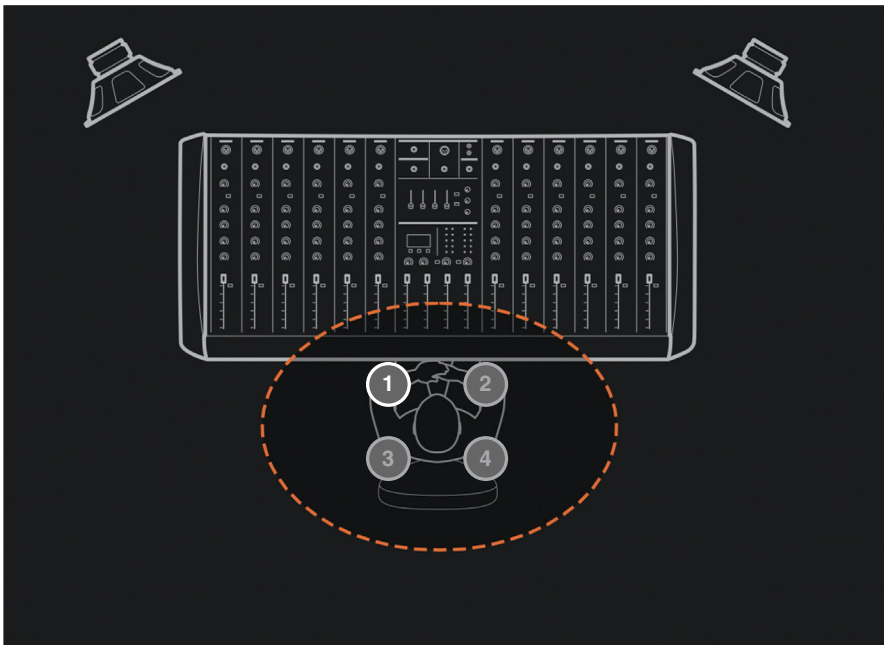
4.2 Custom calibration

At this point the ARC calibration process can be launched in two ways.

From the speaker

To perform a custom calibration from the speaker, please follow the following steps.

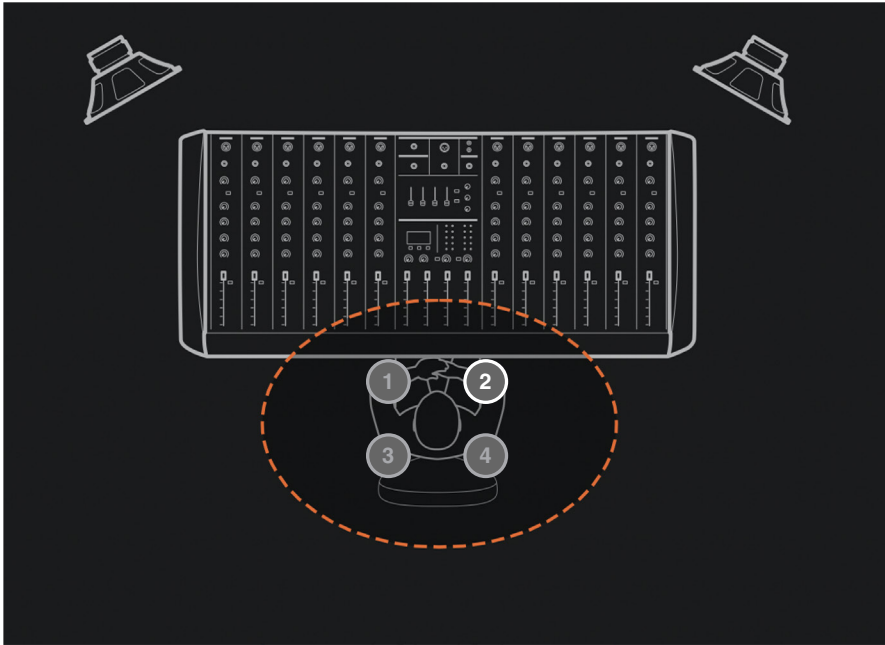
1) Place the microphone at point 1:



2) Keep the CAL/PRESET button pressed for three seconds, it switches the speaker into Calibration mode:

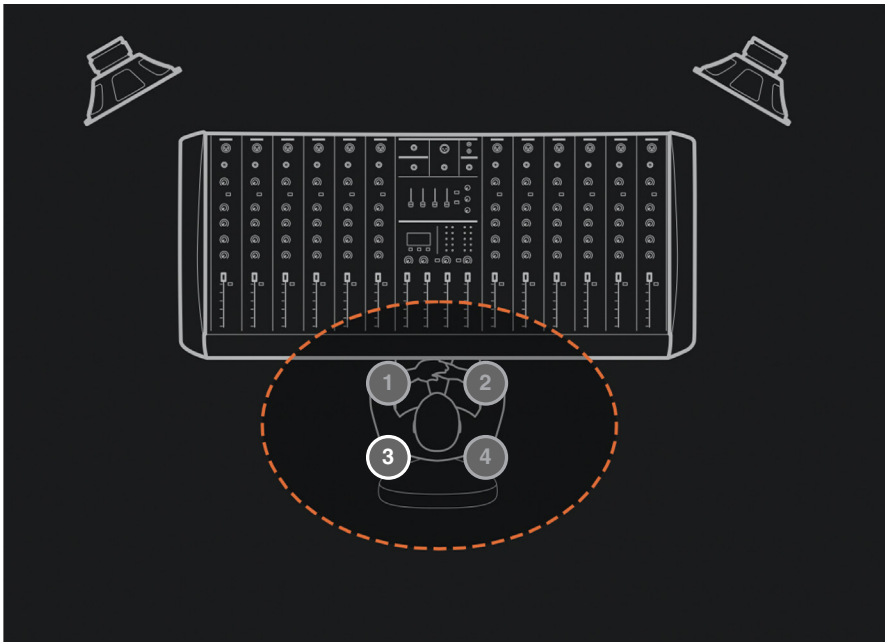
- the CAL LED on the back will start blinking together with the front LED (blue);
- press again the CAL/PRESET button to start the calibration process;
- after 5 seconds the speaker will emit the calibration test signals (chirps).

3) Once the chirps are over, move the microphone to the point 2, and press again the CAL/PRESET button:



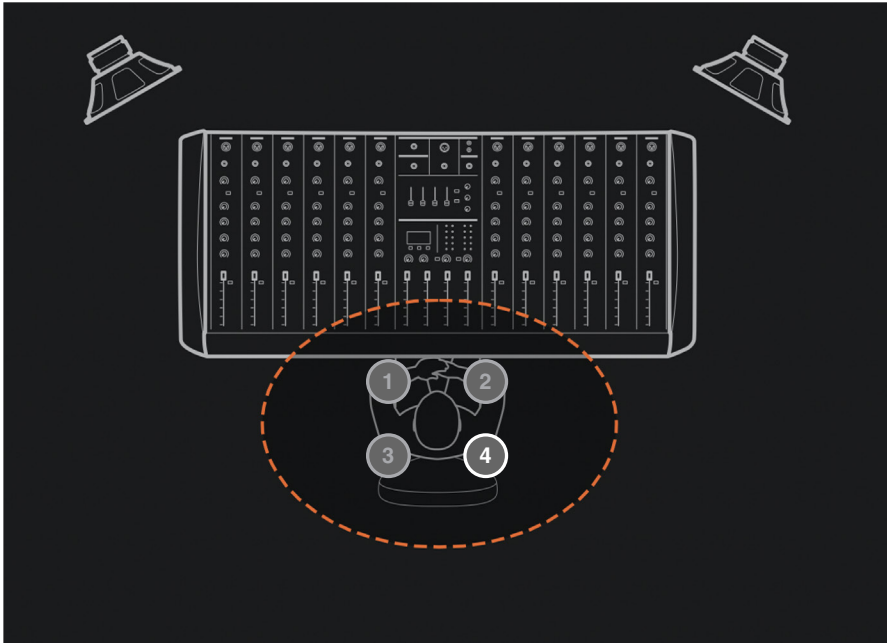
- after 5 seconds the speaker will emit the calibration test signals (chirps).

4) Once the chirps are over, move the microphone to the point 3, and press again the CAL/PRESET button:



- after 5 seconds the speaker will emit the calibration test signals (chirps).

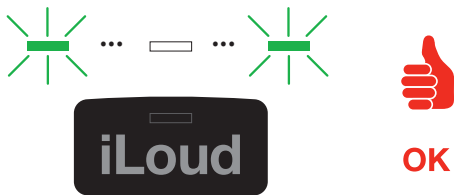
5) Once the chirps are over, move the microphone to the point 4, and press again the CAL/PRESET button:



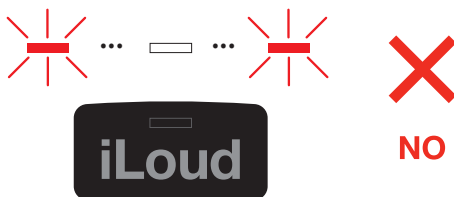
- after 5 seconds the speaker will emit the calibration test signals (chirps).

IMPORTANT: during the measurement process make sure that the environment is as silent as possible, do not touch the speaker or the microphone, and make sure that the overall room setup is as similar as possible to the one that will be used during normal iLoud Precision usage.

Once the last measure has been taken, the system will automatically start calculating the ARC calibration filters. If the calculation process will conclude without issues, the front LED will blink green for 3 seconds to confirm the ARC calibration has been successful and that it has been stored: the system will automatically load the calibration just registered.



If, for any reason, the calibration ended unsuccessfully, the front LED will blink RED for 3 seconds to show there has been an error, and the system will automatically exit the CAL procedure. In this case try to repeat the calibration process.



The procedure will need to be repeated for each of the speakers in the system, paying attention placing the microphone in the same spots for each position for both the speakers.

NOTE: the measurement signal level is independent from the volume control. The audio test signal level is fixed and optimised for best performance.

TIPS: in order to facilitate the calibration operation, it is also possible to perform the four measurements leaving the microphone at the same spot. This way you don't have to worry about placing the microphone in the same positions between the different speakers in the setup.

From the control software

To perform a custom calibration from the control software, please follow the instructions given in the control software's manual.

5. Factory reset

The system can be reset to its factory defaults by holding both CAL/PRESET and AUTO STANDBY buttons for three seconds.

All back LEDS will flash five times for 1 second and the system will revert to its original factory state, including empty the custom CAL curve and factory assignment for the remote control.

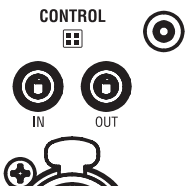
6. Hardware remote control

The iLoud Precision remote control (sold separately) can be conveniently placed on a mixing desk, near the monitoring section or any place is the most comfortable to be operated.

This little remote allows you to switch the monitor voices as if more than one pair of monitors were actually setup in the studio, or conveniently perform the ARC calibration process from the seating position.



It is possible to connect the remote controller to the CONTROL IN port using the supplied TRRS cable, and the OUT port will then be connected to the IN port of the other speaker to control it: this lets you daisy chain all the speakers that are included in the system.



6.1 X-Monitor voice control

Once connected to the iLoud Precision monitors for the first time, the remote will automatically sets on position “1”, selecting the ‘Wide dispersion, quasi linear phase’ precision voice.

By pressing switches 2, 3 or 4 you can switch the X-Monitor voices.

By default, these are the voices assigned to the four switches:

- Button 1: Analytic, linear phase
- Button 2: High End 3-ways
- Button 3: Classic 7 AMT
- Button 4: Studio White

6.2 ARC calibration

When one of the pushbuttons is assigned to the ARC calibration, the remote control will assist you in the process both if the measurement is launched from the speaker itself with CAL/PRESET button or if it is launched by the control software.

When the system is in the ARC calibration process, the four buttons on the remote control are actually linked to the four measurement positions.

Each step of the measurement can be triggered by pressing the corresponding button on the remote control.

Each button's LED will slowly blink during the phases when the microphone has to be placed at the requested position, and will fast blink during the measurement of the test signal.

Once the calibration process has completed successfully all four buttons on the remote will flash for 3 seconds.

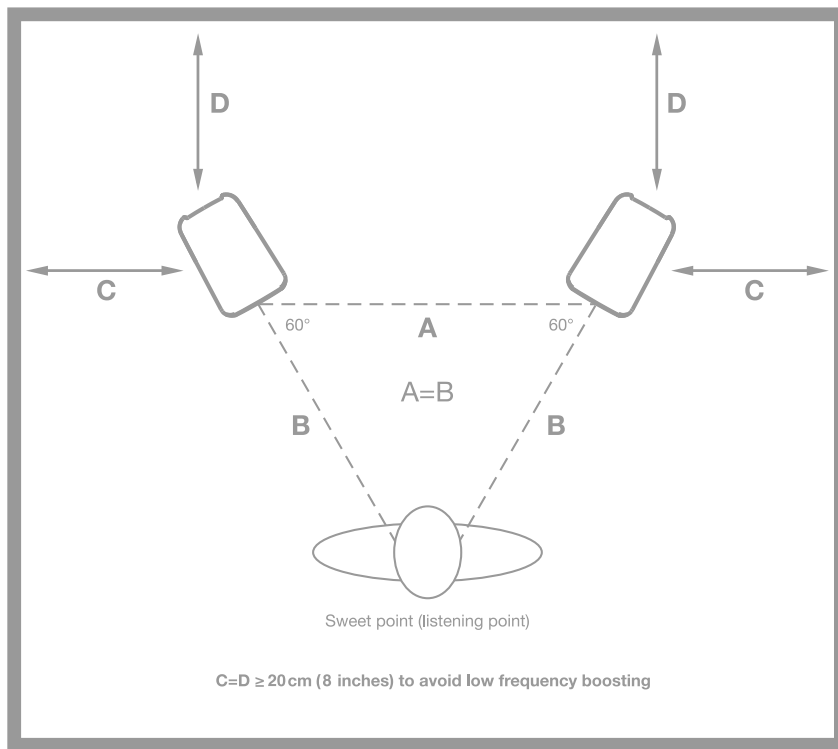
6.3 Other functionalities

From the control software it is possible to assign other functionalities to the remote control, such as:

- speakers MUTE;
- speakers DIM;
- ARC on/off;

7. Listening position

When you use iLoud Precision 5 for stereo applications, the optimum listening position should be located in the middle of an imaginary triangle. This means that your listening point (sweet spot) will be located at the top of an equilateral triangle and the two loudspeakers should be placed at the other two corners of this triangle. Furthermore, a symmetrical positioning is also important: this applies to the distance between speakers as well as to the walls, ceiling and floor. In order to have a symmetrical stereo image it is also important to have symmetrical reflections: we recommend keeping a distance of at least 20 cm (8 inches) from the walls, in order to avoid low frequency emphasis.



7.1 Room acoustics

The room acoustics plays a key role in the performance of your monitoring system. It is always advisable to make, at least, a minimum of acoustic treatment of your environment. This, along with the correct monitor's positioning, will improve the linearity and the precision of the listening experience.

Troubleshooting

I have connected my device to iLoud Precision but no sound comes out.

Make sure to set up the volume with the volume control on iLoud Precision and/or with your device's volume control.

Sound is distorted.

When noticeable distortion occurs, please turn down the level of the speakers, or of the connected audio source.

Calibration ended unsuccessfully (front LED blinks red)

If the calibration ends unsuccessfully and the front LED blinks red, make sure you have correctly inserted the XLR cable both on the microphone and on the ARC mic input on the rear of iLoud Precision.

Specifications

- 5" ultralight coated paper mid-woofer
- 1.5" high output, low distortion chambered textile dome tweeter
- Audiophile, custom-designed Class-D power amplifiers
- 135 W total RMS power
- Max SPL, peak, pair, music, 1 m: 114.5 dBA
- Complete DSP controlled system, 96 kHz sampling rate
- 46 Hz to 30 kHz frequency response +/- 1 dB
- 39 Hz low frequency extension @-4 dB
- Phase response: Coherent, 0/+20° max from 150 Hz up
- Phase rotation at 100Hz (with high pass filter off): 50° max
- Directivity (Vertical - all voices): +/-50°
- Directivity (Vertical - Wide Dispersion mode): +70°/-50°
- Continuous, long term SPL free field, 1 m distance, one speaker, fullband pink noise: 98.5 dB(A)
- Peak SPL free field, 1 m distance, one speaker, fullband pink noise: 104.5 dB(A)
- Peak SPL, half space, 1 m distance, one speaker, fullband pink noise: 106.5 dB(A)
- Maximum peak SPL, per pair, 1 m distance, music program: 114.5 dB(A)
- Crossover frequency: 2.1 kHz
- Crossover type: 8th order, linear phase
- LF Power amp (short term): 110 W
- HF Power amp (short term): 25 W
- Power amps distortion at nominal power: 0.005%
- Total latency or TOF: 2.5 ms
- Adjustable additional delay: 0-10 ms
- High pass filter: off, 35, 50, 65, 80 Hz
- LF contour: from -10 to +6 dB
- Desk contour: from -10 to 0 dB
- Mid contour: from -4 to +4 dB
- HF contour: from -6 to +6 dB
- Sensitivity: -4 dBu / 88 dB SPL
- Input gain trim: +/-5 dB
- Unit to unit consistency: +/-0.5 dB
- Operating temperature (non condensing): from 0 to 35 °C
- Coherent time response across the audio spectrum
- High performance vented design
- Built-in ARC room calibration
- X-MONITOR technology

- Remote control for X-MONITOR voice selection and measurement process control
- X-MONITOR macOS and Windows control software
- Handcrafted in Italy

Dimension and weight

- (H x W x D): 296 mm/11.65" x 177 mm/6.96" x 223 mm/9.17"
- 6.1 kg/13.4 lbs.

Warranty

Please visit:

www.ikmultimedia.com/warranty for the complete warranty policy.

Support and more info

www.ikmultimedia.com/support

<https://www.ikmultimedia.com/products/iloudprecision>

Regulatory

U.S.A.



FCC statement

This device complies with Part 15.107 and 15.109 Class B of the FCC Rules CFR47: October 2010. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

EUROPE



AUSTRALIA/NEW ZEALAND



All specifications are subject to change without further notice.

Document Version: 1.0

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