

JL AUDIO[®]
A Garmin Brand

PRIMACY[®] CS CENTERPIECE STEREO



Owner's
Manual

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Important Safety Information

WARNING

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

This device must be installed according to these instructions. Failure to install this device in accordance with these instructions could result in serious personal injury, damage to the device, or poor product performance.

To reduce the risk of fire or electric shock, do not disassemble the device. This product is not user-serviceable. Refer to qualified personnel for repairs or maintenance.

To reduce the risk of device damage, electric shock, or personal injury, power the device only with the electrical supply and type as described on the device.

To reduce the risk of electric shock, personal injury or damage to the device during servicing, the ground connector on the rear panel must be attached to earth ground if AC power is applied to the product.

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

To avoid possible serious personal injury or damage to the device, disconnect the power cord during installation of the device.

Handle with care, especially when positioning the device before normal use or when relocating for service. Failure to use caution when positioning the device could cause the device to fall or drop, resulting in crushed body parts or other severe injury.

Continuous exposure to sound pressure levels over 100 dBA may cause permanent hearing loss. The volume is typically too loud if you cannot hear people speaking around you. Limit the amount of time you listen at high volume. If you experience ringing in your ears or muffled speech, stop listening and have your hearing checked.

This product contains magnets that may interfere with medical devices. Consult your physician and medical device manufacturer with questions.

CAUTION

For best possible performance and to avoid potential injury, damage to the device, or other property damage, installation by a professional installer is recommended.

NOTICE

The product contains magnets that may cause damage to some electronic devices. Use caution using the product near electronic devices.

This device is intended for consumer use in indoor applications only.

Do not use the device near water, such as a bathtub, sink, swimming pool, or in a wet basement.

Do not place objects on or around the device that may impede airflow ventilation or its ability to dissipate heat. Examples include tablecloths, drapes, curtains, or other furniture. Doing so may lead to overheating and product damage.

Do not remove the feet on the bottom of the device. Doing so will block the airflow ducts and may lead to overheating and product damage.

Do not position the device near other sources of heat, such as radiators, heat registers, stoves, or fireplaces.

During normal operation, the device should be placed on a level surface to avoid instability.

When selecting a suitable location, make sure the full weight of the device can be supported.

Route all cables and the power supply cord to avoid being walked on or pinched by items placed upon or against them.

We strongly recommend to disconnect the device from the electrical outlet during electrical storms and recurring power interruptions to prevent damage due to power surges.

Do not place objects filled with liquids on top of or near the device. For example, flower vases, beverages, air fresheners, liquid-fueled lamps, and so on.

This device is supplied with a grounded power cord. Precautions should be taken so that the grounding means of the product are not defeated. Defeating the grounding prong of the device's power cord could increase the risk of electric shock and could result in permanent damage to the product's electronics.

You must read all installation instructions before beginning the installation. If you experience difficulty during the installation, go to support.garmin.com for product support.

Introduction

Registering Your JL Audio Product

Help us better support you by completing our online registration today.

- Go to garmin.com/account/register.
- Keep the original sales receipt, or a photocopy, in a safe place.

Companion Primacy® Speakers

The Primacy® Centerpiece Stereo (CS) is designed to be used with Primacy speakers. The Primacy CS enables advanced speaker setup and enhanced configuration settings using the Primacy Desktop or Primacy Mobile applications.

NOTE: Connect only Primacy speakers to the Dante® speaker outputs of the Primacy CS. Connecting to any speakers other than Primacy speakers may lead to poor product performance or incompatibility.

NOTE: When configured using a Primacy application, most physical switch and dial controls on the Primacy speaker's rear panel are deactivated and control transfers to the Primacy application.

NOTE: To add subwoofers equipped with analog inputs only, use the RCA or XLR subwoofer outputs on the rear panel of the Primacy CS.

Primacy® Applications

You must download the Primacy Desktop or Primacy Mobile application on your compatible computer or phone before you can configure the settings of your Primacy CS.

Connecting your Primacy CS to an application allows you to use the following features.

- Set up and configure a Primacy CS
- Pair and configure a Primacy remote
- Set up and configure system settings
- Create and assign independent user profiles
- Perform Primacy Automatic Room Optimization (P.A.R.O.) calibrations (using Primacy Desktop only)
- Display streaming audio sources with album art and media controls
- Configure source selection with user profile assignment
- Adjust volume and control media
- Configure accent lighting color for the Primacy CS, remote, and speakers
- Initiate system firmware updates

For information about the Primacy Desktop application for your Windows® or Mac® computer, go to garmin.com.

For information about the Primacy Mobile application for your compatible phone, go to the Apple® App StoreSM or the Google Play™ store.

Other Needed Devices and Components

- The Primacy® CS requires a stable connection to a network to function. For best performance, a direct connection to your router or network switch using an Ethernet cable is recommended. If necessary, you can use a Wi-Fi® connection, but performance may be reduced.
- A mobile device: A compatible smartphone (iOS® or Android™) with the Primacy Mobile application installed. You must use the Primacy Mobile application to connect your Primacy remote to your Primacy CS.
- A computer with a USB connection: A desktop or laptop computer (Windows® or Mac®) with the Primacy Desktop application installed. Use the included calibration microphone and the Primacy Desktop application to perform the Primacy Automatic Room Optimization (P.A.R.O.) calibration process.
- Other commonly connected components may include televisions, streaming devices, optical disc players, analog turntables, or computers (via USB connection).
- Ethernet cables (not included) for network and Primacy speaker connections. Only use shielded Ethernet cables for these connections. Unshielded cables are more prone to interference and may lead to poor product performance.

Controls

Front Panel Controls



	Press to switch the Primacy® CS and all Primacy speakers on the network between standby and full power modes.
Volume Indicator	- Displays the volume level from 0 to 100. - Displays the source, user profile, and status indicators.
< Source >	- Press < or > once to display the current audio source. - Press < or > again to change the audio source.
< Profile >	- Press < or > once to display the current user profile. - Press < or > again to change the user profile.
Volume Dial	- Rotate to adjust the volume level. - Press the center of the dial to mute or unmute the audio. - Using the Primacy Mobile or Primacy Desktop application, the dial's backlight color can be programmed to display the user profile by color (Primacy® Applications, page 5).

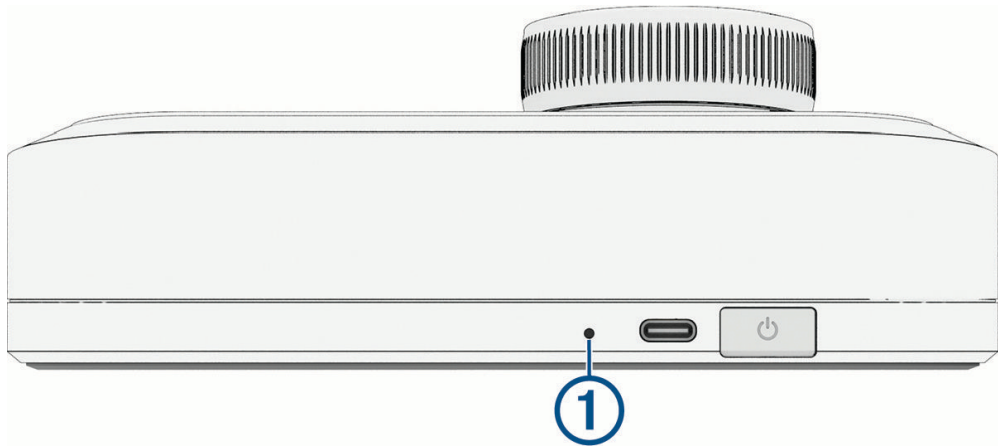
Remote Top Panel Controls



Volume Dial	- Rotate to adjust the volume level. - Press the center of the dial to mute or unmute the audio. - Press the center of the dial to wake the remote from sleep mode. - The dial's segmented outer ring displays the system's current volume level. - Using the Primacy® Mobile or Primacy Desktop application, the dial's backlight color can be programmed to display the user profile by color (Primacy® Applications, page 5).
	Low battery - Off: The battery level is good. - On: The battery level is low; charge it when convenient. - Blinking: The battery level is very low; charge it immediately. - Three flashes, and then the remote turns off: The battery is depleted; charge it immediately.

⚡	Charging status - On: The remote is charging. - Off: The remote is not charging.
📶	Wi-Fi® network and connectivity status - Searching for a network: 📶 is on and ! is off - Connecting to a Wi-Fi network: 📶 is blinking and ! is off - Onboarding to a Wi-Fi network is required or in progress: 📶 and ! are blinking - Searching for a Primacy CS: 📶 is off and ! is blinking - Connected to a Primacy CS: 📶 and ! are off - Connected to a Wi-Fi network and a Primacy CS, but in an error state: 📶 is off and ! is on
!	Three flashes, and then the remote turns off: The remote's temperature is too high.
< Source >	Press < or > to change the audio source.
< Profile >	Press < or > to change the user profile.
<	Press to skip to the previous selection, when using an applicable source.
>	Press to skip to the next selection, when using an applicable source.
>	Press to play or pause media playback, when using an applicable source.
⏻	Press to switch the Primacy CS and all Primacy speakers on the network between standby and full power modes.

Remote Rear Panel Controls



Reset button	Press the reset button ① with a toothpick or unfolded paper clip to restart the remote.
USB-C® port	USB-C power input to charge the remote.
⏻	- Press to place the remote into sleep mode. - Press to wake the remote from sleep mode.

Remote Utility Controls

Checking the Remote Battery Level

- 1 Hold the center of the volume dial on the remote and simultaneously press both **Profile** arrows.
The dial's backlight turns blue and the segmented outer ring displays the battery charge level.
- 2 Release the dial on the remote to exit.

Reprovisioning the Remote

If your network settings are modified or if the router is replaced, you must reprovision the remote to erase its network connection. Afterward, you must use the Primacy® Mobile application to reconnect the remote to your network and Primacy CS.

- 1 Hold the center of the volume dial on the remote and simultaneously press the left **Source** arrow once.

The dial's backlight turns cyan and the segmented outer ring begins a five-second timer, displaying one segmented section per second. After five seconds, the dial's backlight flashes once and the remote's network connection is erased.

- 2 To cancel this action, release the dial before the five-second timer ends.

Resetting the Remote

You can reset the remote to its original factory default state.

- 1 Hold the center of the volume dial on the remote and simultaneously press the right **Source** arrow once.
The dial's backlight turns orange and the segmented outer ring begins a five-second timer, displaying one segmented section per second. After five seconds, the dial's backlight flashes once and all remote settings are erased and returned to their original factory default state.
- 2 To cancel this action, release the dial before the five-second timer ends.

Remote Firmware Updates

You can update the remote's firmware using the Primacy® Mobile or Primacy Desktop applications.

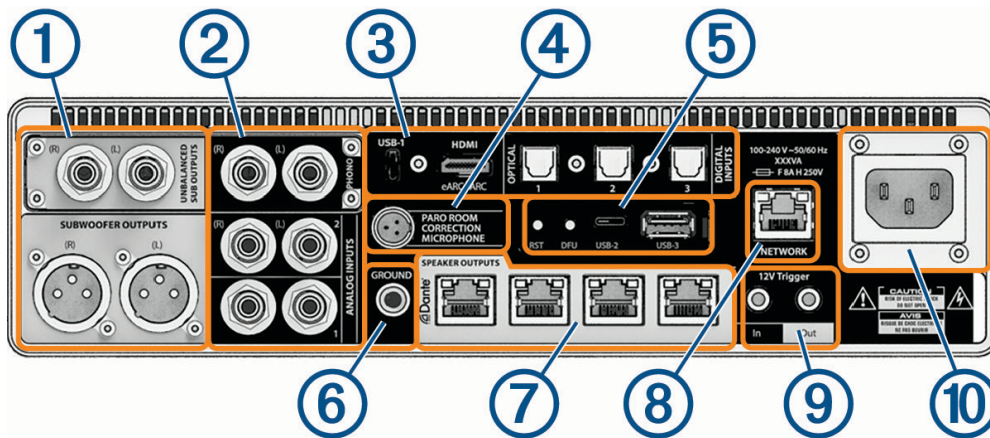
NOTE: The remote must be connected to a network with internet access to perform firmware updates.

During the update process:

- The dial's backlight color turns purple.
- The dial's segmented outer ring indicates the update progress as it proceeds.
- After the update is complete, the dial's backlight turns green and the remote restarts.

If the update fails, the dial's backlight turns red and the remote restarts. You must update the firmware again using the Primacy Mobile application.

Rear Panel Identification



① Subwoofer outputs	- UNBALANCED SUB OUTPUTS: RCA subwoofer outputs - SUBWOOFER OUTPUTS: Balanced XLR subwoofer outputs
② Analog inputs	- PHONO: Dedicated stereo RCA inputs for a turntable NOTE: To reduce the risk of device damage, only connect the outputs of your turntable to these inputs. Do not connect the outputs from any other equipment to the phono inputs. - ANALOG INPUTS: Two sets of stereo RCA inputs
③ Digital inputs	- USB-1: USB-C® connection for a computer or USB audio source - HDMI®: HDMI audio input (eARC/ARC) - OPTICAL: Toslink (SPDIF) digital input x 3
④ PARO ROOM CORRECTION MICROPHONE input	Mini-XLR microphone input NOTE: This input is compatible with the included calibrated microphone only. (<i>P.A.R.O. Considerations</i>, page 12)
⑤ Service controls (behind cover)	- RST: Press to restart the Primacy® CS. - DFU: Hold for seven seconds to reset the Primacy CS to its original factory default state. NOTE: This erases all saved settings. - USB-2: USB-C port for qualified service personnel only - USB-3: USB-A port for qualified service personnel only
⑥ GROUND	Ground connection for a turntable
⑦ Speaker outputs	Four RJ45 ports with status LEDs connected to an internal switch for Dante® standard network connections NOTE: These outputs are compatible with Primacy speakers only. NOTE: Only use shielded Ethernet cables for these connections. Unshielded cables are more prone to interference and may lead to poor product performance.
⑧ NETWORK	RJ45 Ethernet port for connection to a home network NOTE: Only use a shielded Ethernet cable for this connection. Unshielded cables are more prone to interference and may lead to poor product performance.
⑨ 12V Trigger	Dual 12 volt mini jacks to activate the Primacy CS with a trigger signal (In) and turn on other components with an output signal (Out). Both jacks accept standard 3.5 mm (1/8 in.) plugs with 12 volts connected to the tip conductor and ground connected to the ring or sleeve conductor. NOTE: The 12V DC output signal (Out) is controlled by the Primacy CS and is not passed through from the trigger signal (In) port.
⑩	IEC-Style AC power connector

Connecting the Power Cable

⚠ CAUTION

Use the included power cable only. Do not attempt to use a third-party power cable because this could lead to personal injury or property damage.

NOTICE

Do not plug the power cable into a switched power outlet or power strip because this could cause damage or poor performance. A high quality surge protector may be used.

- 1 Plug the power cable into the AC power connector on the device.
- 2 Plug the other end of the power cable into a standard, 3-prong grounded outlet.

General Set Up

Follow these steps to set up and use your Primacy® CS in most applications.

- 1 Connect your Primacy CS to your Primacy speakers using the Dante® speaker outputs.

NOTE:

If you are also connecting traditional subwoofers with analog inputs, you must use the unbalanced RCA outputs or the balanced XLR subwoofer outputs ([Companion Primacy® Speakers, page 5](#)).

- 2 Select one or more options to connect your sources to the audio inputs of the Primacy CS:
 - **HDMI:** Use an HDMI® cable to connect to the HDMI (eARC/ARC) output of your source, typically your television.
 - **OPTICAL:** Use a TOSLINK cable to connect to the optical output of your source.
 - **ANALOG INPUTS:** Use an RCA cable to connect to the line outputs of your source.
 - **PHONO:** Connect to the phono outputs of your turntable (compatible with moving magnet or moving coil cartridges). If your turntable has a dedicated ground wire, attach it to the **GROUND** terminal on the rear of the Primacy CS.

NOTE: To reduce the risk of device damage, only connect the outputs of your turntable to these inputs. Do not connect the outputs from any other equipment to the phono inputs.
- 3 Connect the included AC power cable, and turn on your Primacy CS.
- 4 Download and install the Primacy Mobile application on your mobile device ([Primacy® Applications, page 5](#)).
- 5 Download and install the Primacy Desktop application on your computer ([Primacy® Applications, page 5](#)).
- 6 Using the Primacy Mobile or Primacy Desktop application, connect your Primacy CS to your network .
- 7 Using the Primacy Mobile application, connect your remote to your Primacy CS.
- 8 Using the Primacy Mobile or Primacy Desktop application, and configure your Primacy CS settings.
- 9 Using the Primacy Desktop application, perform the Primacy Automatic Room Optimization (P.A.R.O.) process with your Primacy CS.

Primacy® Automatic Room Optimization (P.A.R.O.) Overview

Primacy Automatic Room Optimization (P.A.R.O.) is a powerful analysis and audio processing system that optimizes the performance of your Primacy audio system at a specific position in your listening space. The P.A.R.O. system applies Dual-FFT analysis combined with proprietary algorithms to measure each individual speaker driver and the speakers as a whole, and it automatically makes precise adjustments in the frequency and time domains to smooth frequency response and create a precisely matched, coherent stereo pair. If subwoofers are connected to the Primacy CS, the P.A.R.O. system also optimizes the subwoofer response and transitions to the main speakers. At the end of the process, the P.A.R.O. system displays the measured results, before and after optimization.

You can run separate P.A.R.O. calibrations for different listening positions and switch between them using the Primacy CS, Primacy remote, or Primacy Mobile and Primacy Desktop applications. You can assign one calibration to each listening profile for easy transitions between listening positions.

The P.A.R.O. system requires a Windows® or Mac® computer running the Primacy Desktop application to be connected to the Primacy CS with a USB-C® cable. P.A.R.O. calibration requires a quiet listening space and may take up to fifteen minutes to complete.

P.A.R.O. Considerations

Primacy® CS Placement Guidelines:

- Your Primacy CS must be located near the listening area to allow placement of the included calibrated microphone at the main listening position. The cable length of the included calibrated microphone is 9 m (30 ft.).
- You must connect your Primacy speakers to the Dante® speaker outputs of your Primacy CS.

Primacy Speaker Placement Guidelines:

The placement of your speakers can greatly impact the in-room response and affect the amount of work the P.A.R.O. system must perform to achieve its targets. Each speaker interacts with the room's boundaries independently, so symmetrical positioning of the left and right speakers is preferred.

- Furniture, walls, floors, and ceilings should be at similar distances from the speakers.
- You should apply acoustic treatment as needed to absorb or diffuse reflection points.

Microphone Placement Guidelines:

An omnidirectional, diffuse-field type measurement microphone is included with the Primacy CS.

NOTICE

The P.A.R.O. system is specifically calibrated to this microphone and its connection scheme is specific to the supplied microphone. The P.A.R.O. calibration sequence will not operate correctly when a different microphone is connected.

- You should place the microphone at the middle of the listening position identified for the P.A.R.O. calibration.
- You should attach the microphone to a tripod or a microphone stand to keep it still during measurements and position the microphone at ear height, pointing upward near where your head would be when you are in your normal listening orientation (seated upright, reclined, etc.).
- You should avoid placing the microphone directly on furniture because that may cause anomalies in the data due to physical vibrations.

Streaming Sources

You can enjoy audio from your favorite streaming services and control them using your mobile phone, tablet, or computer.

NOTE: A separate subscription may be required for third-party streaming sources.

AirPlay®

With Apple® AirPlay, you can enjoy your favorite music or podcasts on your JL Audio® device. Choose the device in the list of AirPlay speakers. Go to apple.com/airplay to learn how.

Google Cast™

Google Cast is a feature that lets you stream your favorite music from your phone, tablet or laptop right to your device. Simply tap the Google Cast icon from apps you already know and love to start streaming.

NOTE:

To enable Google Cast, it is necessary to accept the Google™ Terms of Service and Privacy Policy. This is done in the companion JL Audio® Primacy® Mobile application that can be found in the Apple® App StoreSM and Google Play™.

Qobuz Connect

Qobuz Connect is designed to stream high-resolution audio directly through Qobuz Connect to the Primacy® CS. Qobuz Connect establishes a direct link between Qobuz and your Primacy CS, allowing control and ensuring lossless sound quality.

Roon Ready

Being Roon Ready means that Garmin® uses Roon streaming technology, for an incredible user interface, simple setup, rock-solid daily reliability, and the highest levels of audio performance, Bluetooth® without compromise.

SPOTIFY® Connect

Use your phone, tablet or computer as a remote control for Spotify. Go to spotify.com/connect to learn how

TIP: The Spotify application includes a setting that allows you to connect to a device outside of your local network. For best results when you have more than one Primacy® CS located at different physical addresses (home, office, etc.), you should enable the **Local device visibility** setting from the application's **Apps and devices** settings.

TIDALSM Connect

TIDAL is a digital music and video streaming service that offers high resolution audio. With TIDAL Connect you can stream your favorite music seamlessly across supported devices, without any loss in quality.

More Information

Troubleshooting

Before you contact your JL Audio® dealer or service center, you should refer to the following information to help diagnose the problem.

If the JL Audio product has been installed by a professional installer, you should contact the installer so a technician can assess the problem and advise you about possible solutions.

There is no sound coming from the speakers

- Verify that volume level of your Primacy® CS is not set to a very low volume or mute.
- Verify that volume level in the Primacy Desktop or Primacy Mobile applications is not set to a very low volume or mute.
- Verify that the input source component is selected, active, and not muted.
- Verify that all power cables are plugged in at both ends of the Primacy CS and speakers.
- Verify that the Primacy CS and speakers are turned on.
- Verify that the circuit breaker is enabled for the wall outlets that the power cables are plugged in to.
- Verify that all remaining cables are plugged in correctly.
- Verify that all **Level Trim (dB)** dials of your Primacy speakers are not set to the mute ($-\infty$) position.
- Verify that the settings of the Primacy Desktop or Primacy Mobile applications are configured properly.

Specifications

General

Construction	Primary cast aluminum alloy enclosure with secondary machining, glass top, and fascia Volume control: machined aluminum rotary dial with active lighting ring and push-button center cap
Display	RGB AMOLED dead front, 640 x 320 px, 198 ppi, 70 x 43 mm active area
Circuitry shielding	Modular architecture with isolated power supply and dedicated, fully shielded secondary enclosures for analog and phono subsections
Thermal management	Active, quiet-flow fan cooling system with user-serviceable air intake filtration
Net weight	8 kg (18 lb.)

Streaming Functionality

Source technologies	Apple® AirPlay® 2, Google Cast™, Qobuz Connect, Roon Ready, SPOTIFY® Connect, TIDAL SM Connect
Network standard	UPnP/DLNA
Source level trim	-12 dB to +12 dB in 0.5 dB steps

Digital Signal Processing and Conversion

Analog to digital converters	ESS™ SABRE® PRO x 2 (operating in mono mode)
Digital signal processor	AKM® triple-core with VELVET SOUND® technology with local input switching/routing and line output processing
Processing bit depth/resolution	32 bit / 192 kHz
Sample rate conversion	Dedicated, hardware asynchronous sample rate converters for rate matching non-analog inputs to core 32 bit / 192 kHz processing
Digital to analog converters	ESS SABRE Reference DAC x 2 (operating in mono mode)

Primacy® Automatic Room Optimization (P.A.R.O.)

Measurement engine	Dual FFT measuring time, frequency, and amplitude
Measured results	Frequency response (RTA, magnitude), impulse response (Lin IR, Log IR, ETC IR), and phase
Computer requirements	Computer running the Primacy Desktop application: Windows® 10 (OS Build 1809 or later), 11 Mac® OS 14, 15, 26

Audio Settings

Balance	Left/right channel slider
Tone controls	Off/on Bass: -6.0 dB to +6.0 dB in 0.5 dB steps Midrange: -6.0 dB to +6.0 dB in 0.5 dB steps Treble: -6.0 dB to +6.0 dB in 0.5 dB steps
Extreme Low Frequency (E.L.F.) Trim	-12 dB to 0 dB in 0.5 dB steps

Network Digital Audio Transport

Protocol	Dante® audio over IP
Standard	IEEE802.3 compliant (1000BASE-T)
Connections	RJ45 x 4 (supports daisy chain speaker connections)
Bit depth/resolution	2CH @ 32 bit / 192 kHz

Unbalanced Analog Inputs (RCA)

Type	Two sets of left and right RCA input jacks
Design	Input amplifier with fully differential input attenuator and discrete 1% resistors and precision analog switches Bipolar transistors with enhanced bias in a cascode configuration and proprietary gain/feedback topology (1 dB to 20 dB variable gain); maintains nearly continuous feedback and high-frequency bandwidth (>1 MHz)
Input impedance	47 kohms
Input ground lift	Grounded or isolated
Analog input sensitivity	1: 8.0V (+18 dBV) 2: 4.0V (+12 dBV) 3: 2.0V (+6 dBV) 4: 1.0V (0 dBV), default setting 5: 0.63V (-4 dBV) 6: 0.45V (-7 dBV) 7: 0.32V (-10 dBV)
Source level trim	-12 dB to +12 dB in 0.5 dB steps
Frequency response	20 Hz to 20 kHz (+/- 0.02 dB) 2 Hz to 80 kHz (+0, -3 dB)
THD+N, 20 Hz to 20 kHz	<0.027%: 8.0V, 4.0V, 2.0V sensitivities <0.011%: 1.0V, 0.63V, 0.45V, 0.32V sensitivities
Signal to noise ratio (10 Hz to 96 kHz, referred to 0 dBFS)	Unweighted: >100 dB (8.0V, 4.0V sensitivities) A-weighted: >109 dB (8.0V, 4.0V sensitivities) Unweighted: >98 dB (2.0V, 1.0V sensitivities) A-weighted: >107 dB (2.0V, 1.0V sensitivities) Unweighted: >90 dB (0.63V, 0.45V, 0.32V sensitivities) A-weighted: >101 dB (0.63V, 0.45V, 0.32V sensitivities)

Phono Inputs (RCA)

Type	Left and right RCA input jacks, plus grounding terminal
Design	Four pairs of matched JFETs per channel, connected in parallel for increased gain and reduced noise. A fifth JFET pair is connected in a cascode configuration, allowing the other JFETs to operate at a constant voltage, regardless of the input signal, to reduce distortion and increase the bandwidth of the input section. The output section employs bipolar transistors, also in a cascode configuration, operating with enhanced bias current for reduced distortion and high slew rate. The main phono input amplifier features 61 dB of gain and a high frequency bandwidth of 700 kHz, resulting in reduced input noise for compatibility with low-output moving coil cartridges. The fully differential signal path is maintained from input to output, for decreased noise and distortion.
RIAA equalization method	Two separate passive networks per channel, one each for low and high frequencies, perform RIAA equalization without altering the feedback or gain structure of the amplifier circuits. Separate networks eliminate interdependency that can cause deviations from spec. 1%-tolerance resistors and 2%-tolerance polypropylene capacitors deliver ± 0.2 dB accuracy.
RIAA frequency response	20 Hz to 20 kHz (+/- 0.2 dB)
Capacitance loading	100 pF or 430 pF
Moving coil settings	Input loading: 10, 20, 33, 50, 67, 100, 140, 200, 330, 500, 1k, 47k ohms Gain: low (+49 dB), medium (+59 dB), or high (+69 dB)
Moving magnet settings	Input impedance: 47 kohms (nominal) Gain: low (+29 dB) or high (+39 dB)
Infrasonic filter	6 dB/octave @ 22 Hz (for playback of warped LPs)
Input ground lift	Grounded (100 ohms) or isolated, for hum mitigation
Source level trim	-12 dB to +12 dB in 0.5 dB steps

Phono Moving Coil Mode Specifications

THD+N @ 1 kHz, -0.5 dBFS	<0.01% (low gain), <0.02% (medium gain), <0.06% (high gain)
THD+N @ 20 Hz to 20 kHz, -20 dBFS	<0.08% (low gain), <0.2% (medium gain), <0.6% (high gain)
Signal to noise ratio, 20 Hz to 20 kHz, referred to 0 dBFS, unweighted	>90 dB (low gain), >80 dB (medium gain), >70 dB (high gain)
Signal to noise ratio, 20 Hz to 20 kHz, referred to 0 dBFS, A-weighted	>98 dB (low gain), >88 dB (medium gain), >78 dB (high gain)
Maximum output level, output not exceeding 0.5% THD+N	10.7 mV (low gain), 3.4 mV (medium gain), 1.1 mV (high gain)
Input overload threshold	20 mV (low gain), 20 mV (medium gain), 12 mV (high gain)

Phono Moving Magnet Mode Specifications

THD+N @ 1 kHz, -0.5 dBFS	<0.009% (low gain), <0.005% (high gain)
THD+N @ 20 Hz to 20 kHz, -20 dBFS	<0.013% (low gain), <0.01% (high gain)
Signal to noise ratio, 20 Hz to 20 kHz, referred to 0 dBFS, unweighted	>104 dB (low gain), >98 dB (high gain)
Signal to noise ratio, 20 Hz to 20 kHz, referred to 0 dBFS, A-weighted	>108 dB (low gain), >102 dB (high gain)
Maximum output level, output not exceeding 0.5% THD+N	107 mV (low gain), 133 mV (high gain)
Input overload threshold	199 mV

Optical Input (Toslink)

Type	Toslink (SPDIF) x 3
Input receiver transfer rate	25 Mbps (max.)
Input receiver sensitivity (min.)	-27 dBm
Input receiver wavelength	650 nm
Digital input data type	44.1 kHz to 192 kHz, 24 bit LPCM
Source level trim	-12 dB to +12 dB in 0.5 dB steps

HDMI Input

Standard	HDMI 2.1/HDMI-CEC
Audio format	2 CH LPCM (ARC/eARC)
Sample rate support	16/20/24/32 bit @ 44.1/48/88.2/96/176.4/192 kHz

USB Input (USB-C®)

Type	USB 2.0 (high speed)
Audio driver	ASIO 2.3.1 compliant driver (supports audio class 1.0/2.0 and USB 2.0 full-speed/high-speed devices)
Sample rate support	PCM: 16/20/24 bit @ 44.1/48/88.2/96/176.4/192/352.4/384 kHz DSD: 1x/2x/4x
Source level trim	-12 dB to +12 dB in 0.5 dB steps

Subwoofer Outputs

Type	Two sets of analog subwoofer output jacks (RCA and XLR)
Design	Line output amplifier with extremely low impedance input with super transistor topology. Subsequent sections add and subtract current signals, converting them into a differential voltage. The output sections of the amplifier are complementary while running at a high-bias current, allowing the amplifier to preserve fidelity while driving virtually any other component, even when using long, capacitive interconnects.
Output source impedance	Unbalanced (RCA): <120 ohms Balanced (XLR): <60 ohms
Output voltage @ 0 dBFS	Unbalanced (RCA): 3.0 V RMS Balanced (XLR): 1.5 V RMS

THD+N, 20 Hz to 20 kHz, @ rated output	Unbalanced (RCA): <0.007% Balanced (XLR): <0.003%
Signal to noise ratio, 20 Hz to 20 kHz, @ rated output, unweighted	Unbalanced (RCA): >99 dB Balanced (XLR): >104 dB
Signal to noise ratio, 20 Hz to 20 kHz, @ rated output, A-weighted	Unbalanced (RCA): >105 dB Balanced (XLR): >108 dB
Subwoofer line output level trim	-12 dB to +12 dB in 0.5 dB steps
Subwoofer line output low-pass filter	Variable frequency, 24 dB/octave, Linkwitz Riley
Line output modes	Off, single mono (left), dual mono (left and right), or stereo (left and right)

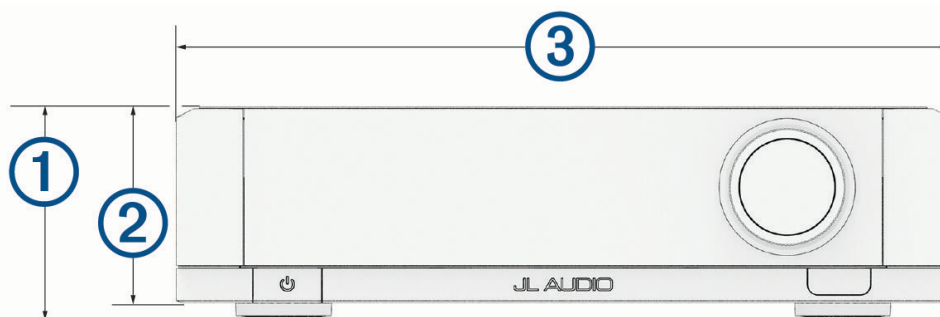
Network/Wireless Specifications

LAN	IEEE802.3 compliant (1000BASE-T) (for the best streaming experience, a wired LAN connection is recommended)
WLAN	IEEE802.11a/b/g/n/ac/ax 2x2 MIMO (Wi-Fi® 6)
Wireless protocol	Bluetooth® 5.1 SBC with AAC codec

Electrical

Mains voltage	100 to 240V AC, 50/60 Hz
Power supply design	Worldwide voltage compatibility with synchronized regulated switching power supply
Power cord	Detachable IEC style 125V: 18 AWG, 10 A 250V: 17 AWG, 10 A
Power consumption	Standby in Eco mode: <7.0 W Standby in Faster mode: approx. 12 W Full operation: approx. 52 W
Idle power consumption (active with no signal)	120V: approx. 34 W 240V: approx. 40 W
Trigger	12V DC input, 3.5 mm (1/8 in.) jack, tip positive 12V DC output, 3.5 mm (1/8 in.) jack, tip positive, 50 mA max. load

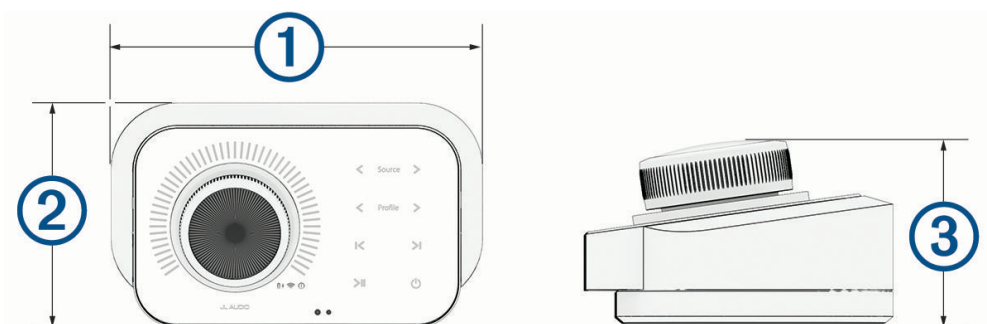
Dimensions



①	92 mm (3.61 in.)
②	84 mm (3.31 in.)
③	333 mm (13.10 in.)



④	256 mm (10.07 in.)
⑤	287 mm (11.30 in.)



①	168 mm (6.61 in.)
②	101 mm (3.97 in.)
③	61 mm (2.40 in.)

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M/N A0P3359 contains the following: FCC ID: 2AJYB-ST1955, IC: 20504-ST1955

M/N A0P3363 contains the following: FCC: IPH-ESPWROOM32E, IC: 1792A-ESPWROOM32E

M/N: A0P3359, B0P3359, A0P3363, B0P3363