



PS AUDIO®

Sprout100®

Owner's Reference Sprout100



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Welcome



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WARNING. TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.



The lightning flash with arrowhead within a triangle is intended to tell the user that parts inside the product are a risk of electric shock to persons.



The exclamation point within a triangle is intended to tell the user that important operating and servicing instructions are in the papers with the appliance.

Do not remove or bypass the ground pin on the end of the AC cord. All PS Audio products ship with a grounding type plug. 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 apparatus. Unplug this apparatus during lightning storms or when unused for long periods of time.

When making connections to this or any other component, make sure all components are off. Turn off all systems' power before connecting the PS Audio component to any other component. Make sure all cable terminations are of the highest quality.

There are no user serviceable fuses inside this product.

THERE ARE NO USER-SERVICEABLE PARTS INSIDE ANY PS AUDIO PRODUCT. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

Please contact your authorized dealer, distributor, or PS Audio if you have any questions not addressed in this reference manual.



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Introduction

Owner's Reference Sprout100

Continuing His Quest: Beautiful Music for All

Sprout is my vision of a simple, elegant means of playing music at home. I created it for those of us who want quality sound without the hassles that sometimes come with it.

Sprout offers sonic ideals and design principles enjoyed by many thousands of users daily. Sprout's ease of use should make it appealing and accessible to those who would find most audio gear intimidating; it should also appeal to those who have "been there, done that" and seek a better, simpler way to play music in their home.

But at PS Audio, we believe enjoying Live Sound is more journey than destination. Live Sound is our philosophy. Our ethos. At PS Audio, we are always inspired by new technologies. We seek out and seize opportunities to better our products' performance and to better your experience.

Sprout's design principles are fixed: compact, elegant versatility that brings the content of yesterday to the technology of today. Sprout's ambition is insatiable: more power, more resolution, more romance.

It is in this spirit of passion and technological advancement that PS Audio proudly announces our newest, first-tier integrated amplifier: Sprout100



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Introduction

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How is Sprout100 different from the original? To start, Sprout100 offers double the output power, which—apart from providing renewed efficiency, lowered distortion, and greater separation and detail—also serves to galvanize the sonic benefits of extended headroom. Your Sprout100 offers a DAC with maximum resolution—one that decodes even 128DSD and 384/24PCM. We hear you want a remote control, an indicator light, a defeatable bass-boost, and an optical input? It's all there. Sprout100 also differs from the original by offering a variable subwoofer mono output, full RCA analog in/out connectors, a redesigned world-class RIAA phono-stage, and a newly designed z-feedback low-impedance headphone amplifier. And with Sprout100's new universal internal power supply (100 - 240VAC @ 50/60Hz with auto-detect) you can take your new integrated amplifier abroad for maximum flexibility. By adapting new high-resolution/low-distortion topologies, a beefy 240-watt power supply, and bleeding-edge ICEpower amplifier technology, Sprout100 offers increased headroom, lower noise floor, and extended and nuanced frequency response. Z-feedback innovations reveal temporal accuracy and increased transient impulse response. Sonically notable for its lucid spatial detail, acute tonal retrieval, and commanding noise immunity, Sprout100 is even more equipped to drive your loudspeakers and headphones than before.

But many things didn't change.

For example, the size, feel, shape and style are the same. Like its predecessor, Sprout100 is adorned with real walnut and machined aluminum knobs—making each and every Sprout100 unique. Our attention to detail is the same. Our passion remains true. Our philosophy will never change.

We hope you enjoy Sprout100 as much as we did making it. Thank you for joining in the experience.

Sincerely,
Scott McGowan
Sales Director, PS Audio
Sprout100 Product Developer

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General

Voltage Options	100 - 240 VAC	50-60Hz	Auto-Detect
Power Consumption	280W	Maximum	
Mains Power Input	IEC C14		
Accessories Included	Line cord(s)	Regional Power Cable provided	
Fuse	Internal	not user replaceable	
Analog Audio Inputs	Line Level RCA Phono	1 stereo pair 1 stereo pair	
Digital Audio Inputs			
	Optical	1	PCM (96KHz max), 24 bits
	USB (type B)	1	PCM (384KHz max), 24 bits DSD64 (DoP), DSD128 (DoP)
	Bluetooth (w/Antenna)		
Audio Outputs	RCA (Analog Unbalanced) RCA Mono Subwoofer Headphones Stereo Speaker Outputs	1 stereo pair 1 summed output 1/4" Stereo TRS Banana Jack Type	

Mechanical

Product Width	6.2"
Product Height	1.9"
Product Depth	8.2" (chassis only, not including knobs) 9.2" (including connectors and knobs)
Weight	2.9lbs
Shipping Width	10.5"
Shipping Height	14.0"
Shipping Depth	5.0"
Shipping Weight	5lbs

Features

DAC Chip	ESS Sabre 9016 DAC
Input Selection	4 total - Vinyl, Analog, Digital (USB or Optical), and Bluetooth
Bass Boost	Defeatable
Remote Control	Power, Mute, and Volume



Performance

(All measurements with both channels driven, bass boost defeated, and AUX-0025 / AES17 filters. Amplifier's temperature is 25C. Optical input used for all measurements)

(120VAC Mains, 1KHz, 1% THD)

Speaker Output

Power	8Ω	50W x2
	4Ω	100W x2
THD	<0.01% (1W, 1KHz into 4Ω)	
Frequency Response	+/- 1dB (1VRMS out, 20Hz – 20KHz into 4-8Ω)	
Signal to Noise	>100dB at max power into 4Ω	

Headphone Output

Power	32Ω	500mW
	300Ω	125mW
THD	<0.01% (1KHz, 50mW into 32 Ω)	
Signal to Noise	>105dB at max power into 300Ω	

Analog Output

Maximum Output	3.0VRMS (+9.5dBV)
THD	<0.01% (1VRMS, 1KHz)
Signal to Noise	>105dB (3VRMS ref)

Phono Input

Cartridge Type	Moving Magnet
Cartridge Output	3mV-10mV (5mV recommended)
Cartridge Loading	47KΩ, 100pF
EQ Type	RIAA
Gain	+40dB
S/N Ratio	>84dB A-weighted (analog output)

Analog Input

Input impedance	10KΩ
Maximum Input Level	2.1VRMS (+6.44dBV)



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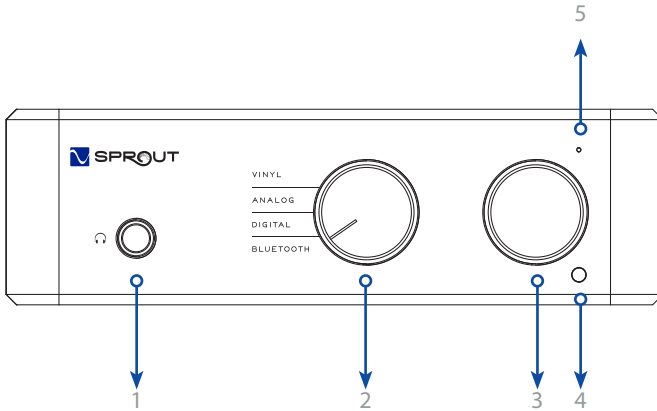
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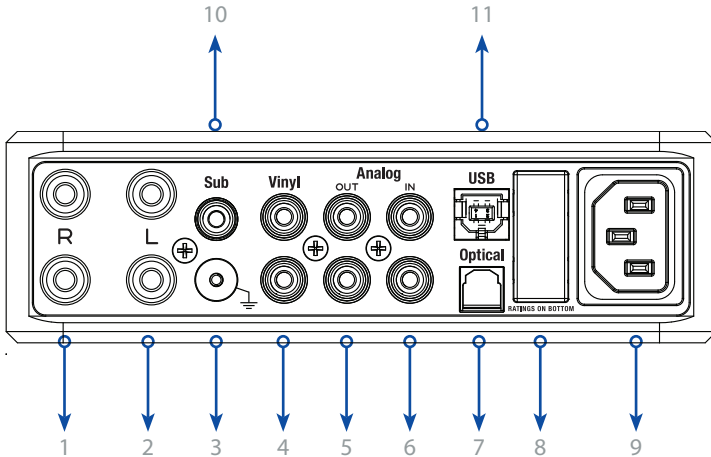
Front Panel View



- | | |
|---|-----------------------|
| 1 | 1/4" Headphone output |
| 2 | Input Selector Knob |
| 3 | Volume Knob |
| 4 | IR Sensor |
| 5 | LED Status Indicator |



Rear Panel View



- | | | | |
|---|----------------------|----|-------------------|
| 1 | Right Speaker Output | 7 | Optical Input |
| 2 | Left Speaker Output | 8 | Bluetooth Antenna |
| 3 | Ground Terminal | 9 | AC Power Input |
| 4 | Vinyl Input | 10 | Subwoofer Output |
| 5 | Analog Output | 11 | USB Input |
| 6 | Analog Input | | |



What else is in the box?

Accessories

Other than Sprout100, you've got:

- Remote Control
- 4x Gold Banana Speaker connectors
- Power Cable: 6ft
- Headphone Adaptor: 3.5mm to ¼" Stereo TRS
- 2x Sprout100 Decal
- Owner's Reference

Where is your music?

Phone or tablet, computer or MP3, CDs, TV, tape deck, vinyl records, or gaming console. Sprout has you covered.

Sprout100 has four inputs:

- Vinyl
- Analog
- Digital
- Bluetooth

No Power switch

Sprout100 does not have a dedicated AC mains switch. As such it is recommended to make all input and output connections before connecting the AC mains voltage.

LED status Indicator

Sprout100 has an LED indicator to display different playback conditions.

- | | |
|-------------------|---|
| White: | Sprout100 is on with Bass boost enabled. |
| Blue: | Sprout100 is on with Bass boost disabled. |
| Dim White / Blue: | Sprout100 is on and muted. |
| Red: | Sprout100 is in protection mode. |

To enable or disable the bass boost simply long press the volume knob to toggle the feature on or off.



Connect the inputs first

Sprout100 has four rear panel inputs you can connect your sources to: two digital, one analog and one phono for your vinyl. It can also connect wirelessly via Bluetooth.

Digital Sources

Sprout100 can connect to three digital devices, two from the rear panel connections and one wirelessly via Bluetooth from your phone, computer or tablet.

USB input

USB connects Sprout100 to your computer. Once connected, Sprout100 will become the audio output of your computer, playing from programs like TIDAL or iTunes. Using a standard USB 2.0 certified cable, connect Sprout100 to your computer's USB port. Then be sure to select the digital input on the front panel.

If you are running a Mac computer or a Windows 10 PC the driver for Sprout100 is built in. If you are instead on a Windows 8.1 or earlier computer, you will need to download and install the USB driver.

To download the USB driver go to PS Audio's website: www.psaudio.com. Go to Support->Downloads and download the USB driver.

It will be necessary to unzip the file and install it on your computer. This will connect your Windows computer to Sprout100. You must then select "PS Audio USB 2.0 Audio Out" (on a Mac) as your output device or, "PS Audio Sprout100" on Windows.



TOSLINK Input If you have a CD player, transport, gaming device, or any digital audio device with a TOSLINK digital output, use a standard fiber optic cable to connect the digital output of your device to Sprout100's TOSLINK input as shown in the back panel diagram. Then select the Digital input on the front panel.

NOTE* If you have a USB cable connected to the USB input this will disable the TOSLINK input.

NOTE* The Sprout100 cannot process Dolby Digital inputs. If taking the output from a Television make sure that the digital signal is set to PCM.

Bluetooth Input

Sprout100 is equipped with a class 2.0 Bluetooth transceiver. You will need to select the Bluetooth input on the input selector to enable this input. Sprout100's Bluetooth transmitter will broadcast its ID automatically. You only need to enable Bluetooth on your device and select Sprout100 from the available devices.

Vinyl Input

To use Sprout100 for vinyl, the vinyl input must be connected only to a turntable. The vinyl input on Sprout100 was optimized for 5-6mV moving magnet cartridges and was designed to support moving magnet cartridges ranging from 3-10mV.

Plug the left and right cables from your turntable into Sprout100's input labeled Vinyl. The red vinyl input is right, the white is left.

NOTE* It is recommended to connect the ground lug to your turntable if a ground connection is available.



Analog Input

The connector labeled “In” located under “Analog” on the rear panel is a stereo line input. Use this input to connect the output of a mobile device, television, tape deck or any source with an analog output.

Analog Output

The connector labeled “Out” located under “Analog” on the rear panel is a buffered stereo-line output. This is a variable line level, full audio stereo output. Whatever you are listening to on Sprout100 will be available on this output.

Subwoofer Output

Many system pairs benefit from the addition of a subwoofer which serves to augment the low bass, giving a much richer, full range musical sound. Most subwoofers have RCA input connections. Sprout100's subwoofer output is the single ended, summed Right / Left channel signal and is ideal for Subwoofer with an RCA input and built in low pass filter.

If a cable is inserted into the subwoofer output, Sprout100 will automatically switch to bass boost disabled mode (blue LED). This is because we recommend using the volume





Speaker Connections

Sprout100's power amplifier provides enough wattage to power just about any loudspeaker pair. However, we recommend only one pair of loudspeakers be connected at a time.

Connect red (+) of the right speaker to Sprout100's red (+) right speaker output. Connect the black (-) of the right speaker to Sprout100's (-) right speaker output directly below it. Follow the same convention for the left.

NOTE* The amplifier is a balanced output design. If you were to attempt to ground the black output, the unit will possibly go into protection as soon as music is played. Protection mode is indicated by a Red LED on the front panel.

NOTE* The amplifier has a DC voltage that is present between all of the speaker output jacks and the chassis. DO NOT attempt to connect or disconnect speakers while the power cable is plugged in. Doing so could damage your speakers

Headphones

Sprout100's headphone jack is a standard 1/4" stereo output. We've included a 3.5mm to 1/4" jack headphone adapter if you are using a pair of headphones that has the 3.5mm tip.

NOTE* If Headphones are plugged into Sprout100's headphone jack the audio signal to the speaker output and subwoofer output will automatically disable.



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Connect the AC Power

Using the supplied AC power cable or an aftermarket cable you might have, connect Sprout100 to your home's AC wall socket for power.

Sprout100 is a universal input voltage device and will work with any AC voltage supply from 100-240VAC 50/60Hz.

Powering on Sprout100

To power on Sprout100 you simply need to press the volume button. The indicator light will illuminate. Press the volume button once more to power it down into standby mode.

Volume Adjustment and Memory

Sprout100 will save your volume level when switched into standby mode. As well Sprout100 will save your bass boost setting.

NOTE* Sprout100 reverts back to its factory volume and bass boost settings if the AC mains supply is removed.





Can't get audio output

Make sure that you have the AC cable plugged into wall power and that Sprout100 is powered on / not in standby (Full White or Blue Status Indicator). Double check your connections and ensure that the correct source is connected. Make sure that the correct input is selected on the front panel. Double check that the volume is turned up and that the unit is not muted (Dim White or Blue Status Indicator).

Can't get the TOSLINK input to play

You can connect both the TOSLINK and USB inputs simultaneously, but USB will always override TOSLINK. To allow the TOSLINK input to function turn off the computer or disconnect the USB cable. Make sure that you have the Digital input selected.

Trouble with Bluetooth

It is important to minimize potential Bluetooth interference from some household appliances such as some power sources or other wireless devices:

- 2.4 GHz or 5 GHz phones
- Microwave ovens
- Direct Satellite Service (DSS)
- Wireless speakers
- Certain external monitors and LCD displays

In general any wireless device that transmits in the 2.4GHz range may disrupt the Bluetooth connection to Sprout100. If you are having trouble establishing a solid connection try moving Sprout100 to an isolated area free from any potential interference and test the connection there.



Hum or Buzz with a Turntable Turntables can be prone to RF interference and Ground Loop noise. If you are experiencing this try these three steps first:

Question 1

Turn the volume control up and down.

Does the hum in your speakers go up and down with volume? Take note so we can come back to this answer.

Question 2

Using the front panel input select knob select different inputs.

Does the hum go away? Is it only audible with vinyl selected, or all inputs?

Question 3

Disconnect all inputs.

Remove the cables connecting the receiver, power amplifier, or device powering your speakers. Only the speaker cables, loudspeakers, and AC plug powering the unit should now be connected.

Does the hum go away?



Hum or Buzz with a Turntable
Continued

Examine your answers
Yes, to questions 1 and 2

If the answers to questions one and two are yes, it's likely that one of your sources (CD player, turntable, video feed), is the cause of hum. Remove that piece from the receiver, amplifier, or integrated and the system hum should now be gone.

Once identified you can either replace that piece of gear or read our extended hum fixing guide found here:

http://www.psaudio.com/ps_how/how-to-find-and-fix-hum-extended/

Yes, to question 3

If steps 1 and 2 were "no", but removing all inputs eliminates the hum, it is likely you have what is called a ground loop.

Ground loops are common when video equipment is connected. In particular, a cable TV connection.

Reconnect each source again, one at a time and listen for the hum to return. The offending piece of equipment will show itself when you follow this procedure.



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Troubleshooting

Owner's Reference Sprout100

If All Else
Fails

If you simply cannot solve the issue you are having you are encouraged and welcome to contact us directly. We are more than happy to assist you with any problem you are having.

Phone

(720) 406-8946
1 (800) PSAUDIO

Email

Or email our team for a prompt written reply at:
Service@psaudio.com



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Limited Three Year Warranty

Should I Register My Product?

- Registering your product validates the warranty start date.
- If you do not register your product within 30 days of service, a copy of your purchase receipt from an authorized PS Audio dealer may be used as a proof of purchase to establish the warranty start date.
- If no proof of purchase from an authorized PS Audio dealer or registration is provided, the production date of the product will be used to determine the warranty start date.
- Registration can be completed online, by phone, by mail, or by email.
- You may wish to sign up for PS Audio's monthly newsletters, specials, product updates, and/or Paul's Daily Posts.

What Does this Warranty Cover?

This warranty covers defects in material and workmanship for products purchased from PS Audio or its authorized dealers and agents.

What Will PS Audio Do to Correct the Problem?

In the event your product fails your sole remedy under this limited warranty shall be to return the product to PS Audio or an authorized PS Audio repair center. The product will be repaired without charge for parts or labor, replaced, or the purchase price refunded through the original point of purchase, at the option of PS Audio.

What is the Period of Coverage?

This limited warranty is in effect for 3 years from the date the unit was first purchased from PS Audio or its dealers and agents.



Who Pays for Shipping?

You are responsible to pay for the safe and proper shipment of the warranted product to PS Audio or its authorized repair center.

The PS Audio authorized repair center will pay the cost of returning the repaired or replacement product to you under this warranty.

What Does this Warranty Not Cover?

This warranty does not cover damage due to:

- Accidents, carelessness, improper transportation, misuse, neglect, or abuse
- Failure to follow the operating instructions that are provided by PS Audio in the owner's manuals (available for download at psaudio.com)
- Use in any manner inconsistent with PS Audio's operating instructions (available for download at psaudio.com)
- Lack of routine maintenance
- Connection to an improper voltage supply
- Alterations or modifications to the unit
- Improper or unauthorized repair, including repairs not authorized by PS Audio or a PS Audio authorized repair center
- Fire, lightning, flood, "acts of God," or other contingencies beyond the control of PS Audio
- Products purchased through an unauthorized source (if you have questions as to whether or not a dealer is authorized, please contact customer support at psaudio.com)
- Products with a factory-applied serial number that has in any way been altered, defaced, or removed

Limitations on PS Audio's Obligations Under this Warranty

- In no event will PS Audio's liability to you exceed the original purchase price of the unit.
- This warranty does not cover the cost of custom installation, customer instruction, setup adjustments, or signal reception



- problems.
- This warranty does not cover consequential and incidental damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
 - In the event your warranted product cannot be repaired, PS Audio will replace or refund the unit. We reserve the right to replace any out-of-stock, discontinued, or limited edition products with a comparable product. Discontinued products may not be available for warranty replacement.

How Can the Warranty be Transferred?

This warranty is for the benefit of the original purchaser of the product. The warranty may be transferred to a subsequent purchaser during the 3 year warranty period. To do this, you must contact PS Audio directly to set up transfer of registration.

How Do I Get Warranty Service?

To locate an authorized PS Audio repair center, for service assistance, or for help with the operation of a product or just for information, please contact PS Audio customer support.

Warranty Service Within the US

- You must first obtain a Return Merchandise Authorization Number (RMA#) to receive warranty service and prior to returning any item. Contact PS Audio or an authorized PS Audio repair center to receive an RMA#.
- You must put the RMA# on all returns. If it is not clearly marked, PS Audio will return the package back to you, freight collect.
- You should include a description of the problem, along with the RMA# inside the packaging.
- Original packaging should be used for the safe transit of your PS Audio unit to the repair center. If you do not have the



original packing, PS Audio can sell and ship to you replacement packaging.

- You are responsible for the cost of shipping the product to a PS Audio authorized repair center. You should insure the product for its full retail cost in the event it gets lost or damaged in transit. PS Audio is not responsible for damage incurred in products sent to us.
- Shipping your product in non-PS Audio packaging may void this warranty. PS Audio reserves the right to charge you for new factory packaging to return your product after a repair.

How State Law Applies

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.


Warranty Service Outside of the US

PS Audio has authorized distribution in many countries of the world. In each country, the authorized importing distributor has accepted the responsibility for warranty of products sold by that distributor. Warranty service should be obtained where the product was purchased.

Changes to Our Products

PS Audio reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any products without notice or obligation to any person.

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