

PS.10mk2 Powered Subwoofer  
Owner's Manual

# PS.10mk2

Snell

## SAFETY INSTRUCTIONS

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**Warning:** To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.



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 you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**Read Instructions:** All the safety and operating instructions should be read before the appliance is operated.

**Retain Instructions:** The safety and operating instructions should be retained for future reference.

**Heed Warnings:** All warnings on the appliance and in the operating instructions should be adhered to.

**Follow Instructions:** All operation and other instructions should be followed.

**Water and Moisture:** The appliance should not be used near water—for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

**Carts and Stands:** The appliance should be used only with a cart or stand that is recommended by the manufacturer.

**Wall or Ceiling Mounting:** The appliance should not be mounted to a wall or ceiling.

**Ventilation:** The appliance should be situated so that its location or position does not interfere with its proper functioning. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may obstruct the heat sink sur-

faces; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air near the heat sink surfaces.

**Heat:** The appliance should be situated away from heat sources, such as radiators, stoves, or other appliances that produce heat.

**Power Sources:** The appliance should be connected to a power supply only of the type described in the operation instructions or as marked on the appliance.

**Power Cord Protection:** Supplies should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.

**Cleaning:** The appliance should only be cleaned as recommended by the manufacturer.

**Non-Use Periods:** The power supply cord should be unplugged from the outlet when left unused for long periods of time.

**Object and Liquid Entry:** Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the appliance.

**Damage Requiring Service:** The appliance should be serviced if any of the following events occur:

- ▶ *The power supply or plug has been damaged.*
- ▶ *Objects have fallen, or liquid has been spilled into the appliance.*
- ▶ *The appliance has been exposed to rain.*
- ▶ *The appliance does not appear to operate normally or exhibits a marked change in performance.*
- ▶ *The appliance has been dropped, or the enclosure is damaged.*

**Servicing:** The user should not attempt to service the appliance beyond what is described in the operating instructions. For all other servicing, consult your dealer or contact Snell Acoustics.

## SPECIFICATIONS

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Specification	PS.10mk2 Powered Subwoofer
Frequency Response ( $\pm 3\text{dB}$ )	32-125Hz 27Hz at -6dB
Amplifier Power	330 watts
Crossover Low Pass for Subwoofer	Variable from 50 to 125Hz
Crossover High Pass for Line Out	Fixed at 80Hz, 12dB/octave
Bass Unit	10-inch (250mm) custom-built bass unit with dual spiders, top-mounted heat sink, and die-cast aluminum chassis. With coated paper cone and butyl surround. Video-shielded.
Cabinet Construction	Hardwood veneer on $\frac{3}{4}$ -inch MDF. Internal Double-H bracing.
Grille	Black cloth covered grille
Controls	<ul style="list-style-type: none"><li>▶ Phase Switch</li><li>▶ Turn On switch with instant On, and ten-minute Off delay</li><li>▶ Front mounted volume control</li></ul>
Dimensions (HxWxD)	16 $\frac{1}{8}$ x 15 $\frac{3}{4}$ x 16 $\frac{1}{8}$ " 41cm x 40cm x 41cm
Weight	57 lbs (26kg)
Finish	Hand-sanded, hand-painted Black on American Oak veneer or Cherry veneer

## INTRODUCTION

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We designed the PS.10mk2 for maximum output in an incredibly compact enclosure. With bass extension to 27Hz (-6dB) and output over 105dB at a typical listening position in a 3,000 cubic-foot room, the PS.10mk2 meets the demands of digital 5.1 formats. Yet, the PS.10mk2 is so compact, it easily fits within a typical AV cabinet.

### Tuned for Flexibility

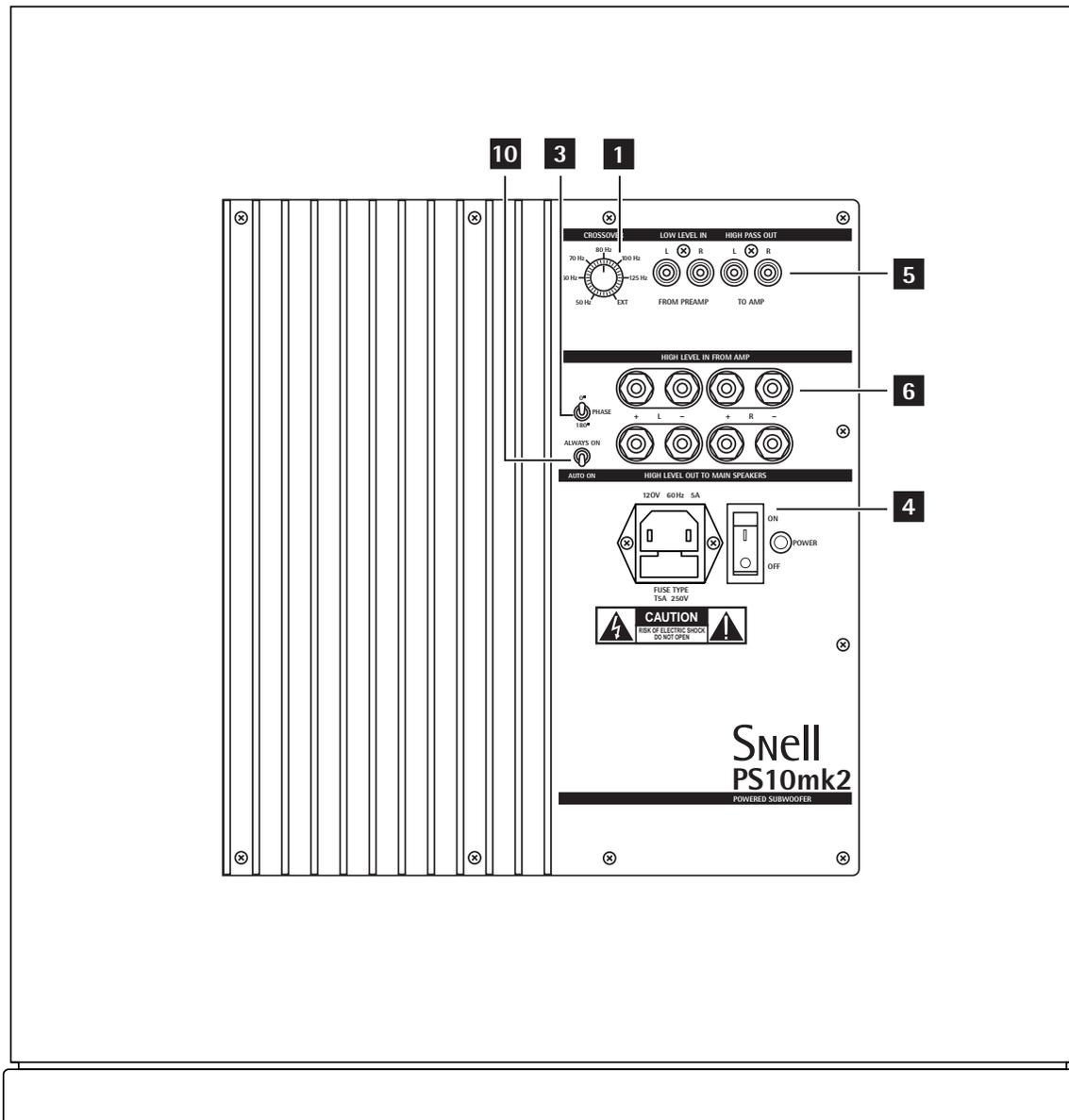
We tuned the PS.10mk2 to match the speed and sonic presentation of the Snell E.5mk2 Tower and K.5mk2 Monitor. We included a system-specific electronic crossover that automatically adjusts the output of your front speakers, so you are assured of a seamless blend between the PS.10mk2 and your E.5 or K.5 speaker systems.

Plus, we incorporated a number of user-definable settings, giving you the flexibility to fine-tune the PS.10mk2 to match your existing system.

### Easy to Hide

The PS.10mk2 cabinet is small enough to tuck behind furniture or place in a closet. Because the bass unit and ports are on the front of the cabinet, you can place the PS.10mk2 directly inside a typical AV cabinet system without performance degradation.

# FEATURES



### 1 Low-Pass Filter/Crossover

This control sets the frequency of the low-pass filter, and is fully adjustable from 50 to 125Hz. The "EXT" (external) setting effectively removes the filter from the network, allowing you to use the subwoofer filter from your electronics.

### 2 Level Control/Volume

The Bass Level control adjusts the sound level output of the PS.10mk2. It is located on the front of the cabinet, behind the grille.

▶ *Grasp the top and bottom edges of the grill and pull it straight off the front of the cabinet. A typical setting for the control is around the 12 o'clock position.*

### 3 Phase Switch

Determines whether the subwoofer adds or cancels in the crossover region. The proper setting changes based upon the current location of the speaker.

### 4 Power

The main power switch is located next to the power cord socket. Push in the top side of the switch to turn on the main power to the system. Push in the bottom side to turn off the main power. Usually the only time the main power switch should be turned off is when the subwoofer will not be used for an extended period of time, such as when you are away on a vacation.

### 5 Line-Level Inputs

The line-level inputs incorporate a fixed 80Hz high-pass filter. When used in conjunction with the line level outputs, these inputs will redirect all bass information below 80Hz from your main speakers to the PS.10mk2.

### 6 Speaker-Level Inputs

The PS.10mk2 utilizes high-level inputs. The 5-way gold-plated terminals accept spade lugs to 5/16 inch, pins, banana plugs, and up to 12-gauge bare wire. When main speakers are connected to the speaker level outputs, all bass information below 80 Hz is filtered out.

### 7 Bass Driver

The PS.10mk2 uses a 10-inch (250 mm) custom-built bass unit with dual spiders, a coated paper cone with butyl surround, and a die-cast aluminum chassis. The driver has a front-mounted heat sink that draws heat away from the voice coil, increasing power capacity.

### 8 Handmade Cabinets

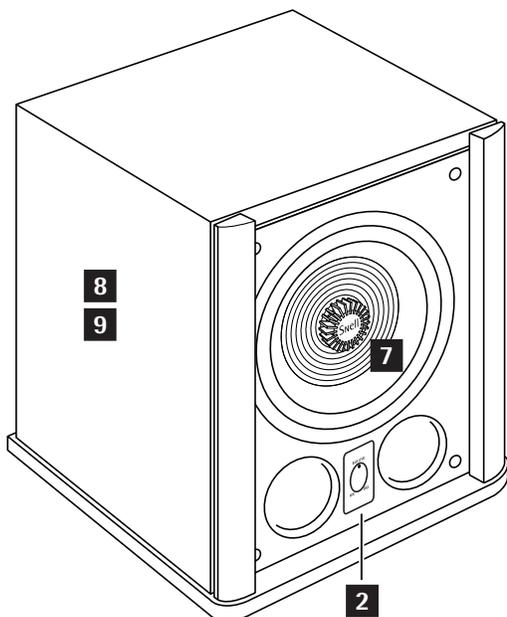
Our cabinet department hand assembles each unit, and then hand sands each several times. The result is a cabinet of exceptional workmanship, with sharp corners and smooth sides.

### 9 Veneers

We use premium, book-matched veneers, chosen for grain consistency and aesthetics. Our cabinet shop sequences the veneer, maintaining a match from the left side, across the top, to the right side of the speaker. We even veneer the inside of the cabinet. This way, as the humidity in your home changes, the cabinet won't warp or separate at the edges.

### 10 Turn On Mode

This switch controls the automatic power up function. When the switch is set to Auto On, the amplifier will power up when it senses an input signal. If no input signal is present, the amplifier switches to low power standby mode after 8-10 minutes. The LED next to the Power switch lights green when the amplifier is on, and yellow when it is in standby mode. Put the switch in the Always On position to defeat the automatic power down feature.



## CONNECTIONS

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**Line-Level Input:** Line level is the preferred choice in systems using a separate amp and preamp or in receivers that have a line level or preamp out. These inputs include a built-in fixed high-pass filter at 80Hz. You should use this input for "SUBWOOFER OUT" connections.

**Speaker-Level Input:** Use these inputs if your receiver does not allow access to the preamp.

## GENERAL GUIDELINES ON WIRING

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**Warning:** *To reduce the risk of electric shock, always switch off the subwoofer and the amplifier and or receiver when making connections to the subwoofer and speakers.*

**When to use line connections in conjunction with the internal crossover:**

As a general rule, the best results come from using the line-level connections, where sound is passed from the preamplifier's outputs to the subwoofer and on to the amplifier. Many receivers and integrated amplifiers include a "PREAMP OUT" and "AMPLIFIER IN" on the back panel. If this is the case with your electronics, or if you are using separates, use this input.

When using these inputs, the signal returned to your amplifier has everything below 80Hz filtered out. This is a fixed high-pass filter and does not preempt the variable low-pass filter built into the subwoofer.

**When to use the line connection without the internal crossover:**

Most surround sound receivers and preamps now offer a "SUBWOOFER OUT" feature. When using this option, the subwoofer filter will most likely be set within the electronics. The signal being sent to your main speakers will be full range. You should then set the PS.10mk2's internal crossover for "EXT" (External).

**When to use the speaker-level connections:**

If your receiver does not offer a "SUBWOOFER" or "PREAMP OUT" option, or if you wish to run your main speakers full range, you should use the speaker-level connection.

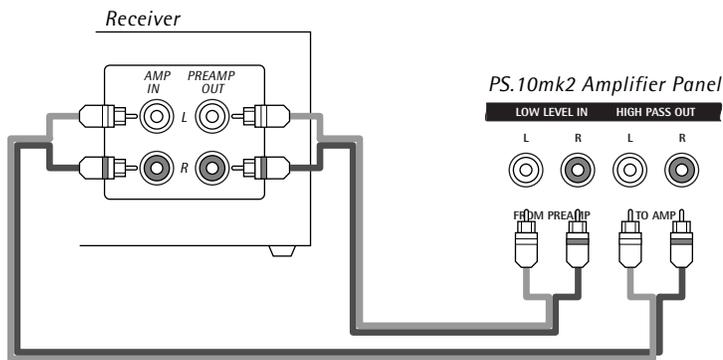
## LINE LEVEL WIRING

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### Using the PS.10mk2 's internal high-pass filter

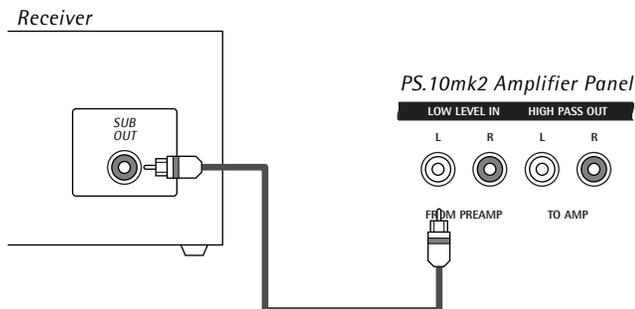
1. Use the line-level RCA inputs, connecting to "PREAMP OUT" on your receiver.
2. From the PS.10mk2 line-level out, connect to "AMPLIFIER IN" on your receiver.
3. Choose a setting for the PS.10mk2 crossover that allows the subwoofer to blend seamlessly with the main speakers.

The high-pass filter is fixed at 80Hz for the main speakers and has a 12 dB/octave rolloff.



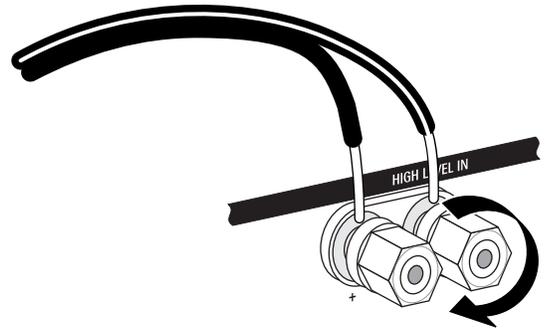
### Using the Subwoofer out connection

1. Connect a single RCA Cable from the "SUBWOOFER OUT" on your processor to either the Left or Right input on the PS.10mk2.
  - ▶ If you want to use the crossover point determined by your surround electronics, set the PS.10mk2 crossover to "EXT" (External).
  - ▶ If you want the PS.10mk2 to cross over lower than determined by your surround electronics, select a lower setting on the PS.10mk2 crossover.



### Speaker-Level Wiring

The simplest way to wire the subwoofer is via the speaker connections. This does not present any additional load to your amplifier. The PS.10mk2 is not sensitive to wire length, therefore you may want to use long wires at first to allow for experimentation with placement. There are three options for wiring using speaker-level inputs. Which option you select will probably be influenced by the placement of the speakers in relation to each other and the electronics. The resulting sound will be the same.



NOTE: Be sure to maintain a consistency of + to + (positive) to (positive) and - to - (negative) to (negative).

The 5-way binding posts permit easy connection to banana plugs, spade lugs, and bare wire.

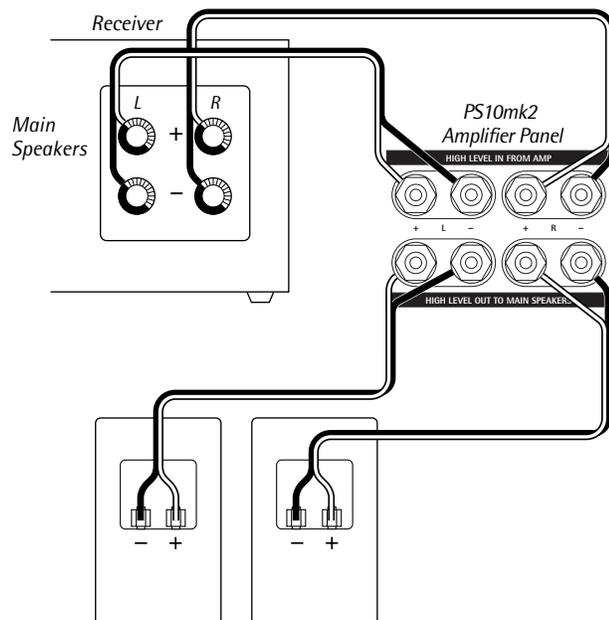
### WIRING FOR 2-CHANNEL AUDIO

Using speaker-level wiring

#### Option 1

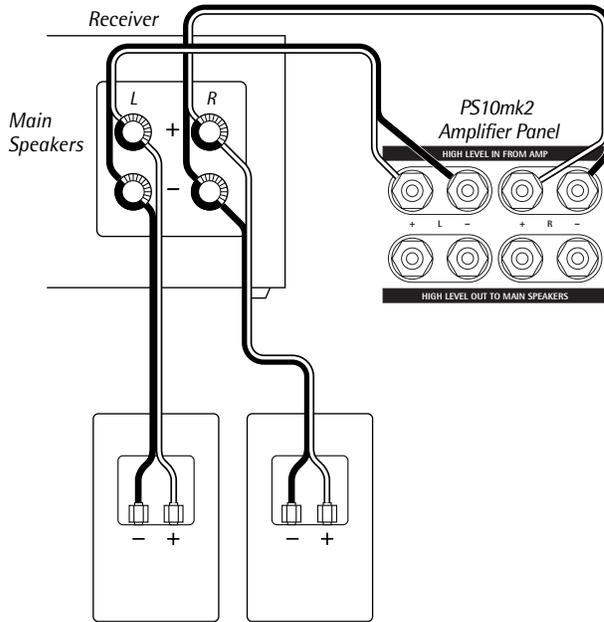
Connect from the main speaker out on the receiver to the PS.10mk2. Connect the main speakers to the output of the subwoofer.

NOTE: The main speakers will be high pass filtered in this configuration.



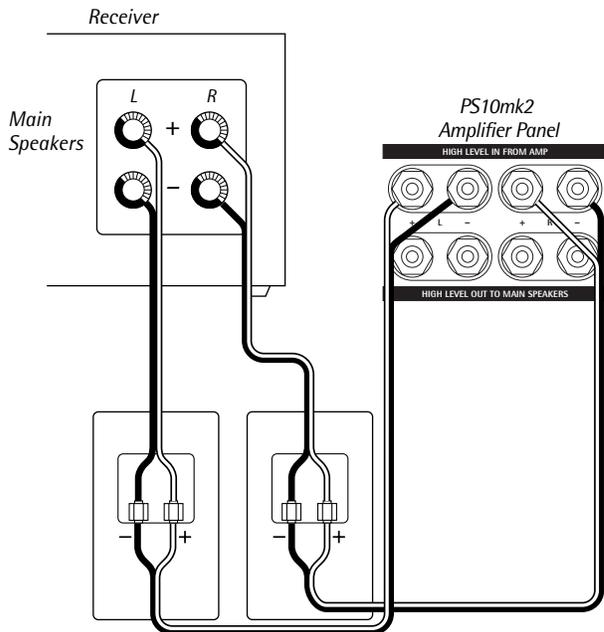
### Option 2

Connect both the subwoofer and the main speakers to the back of the receiver.



### Option 3

Connect the amplifier to the main speaker system and the main speaker system to the subwoofer in.



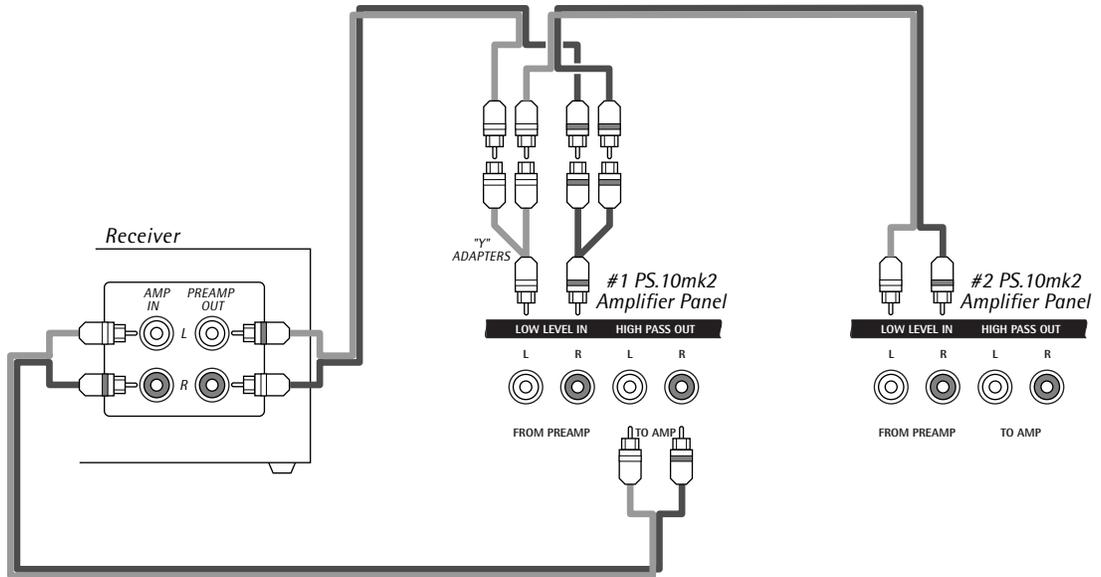
## CONNECTING TWO PS.10mk2's

You may wish to use two PS.10mk2's, particularly if you are in a large room.

- ▶ Double subwoofers may be wired with either speaker-level or line-level connections.
- ▶ Be sure the Phase Switch is set the same on both units.

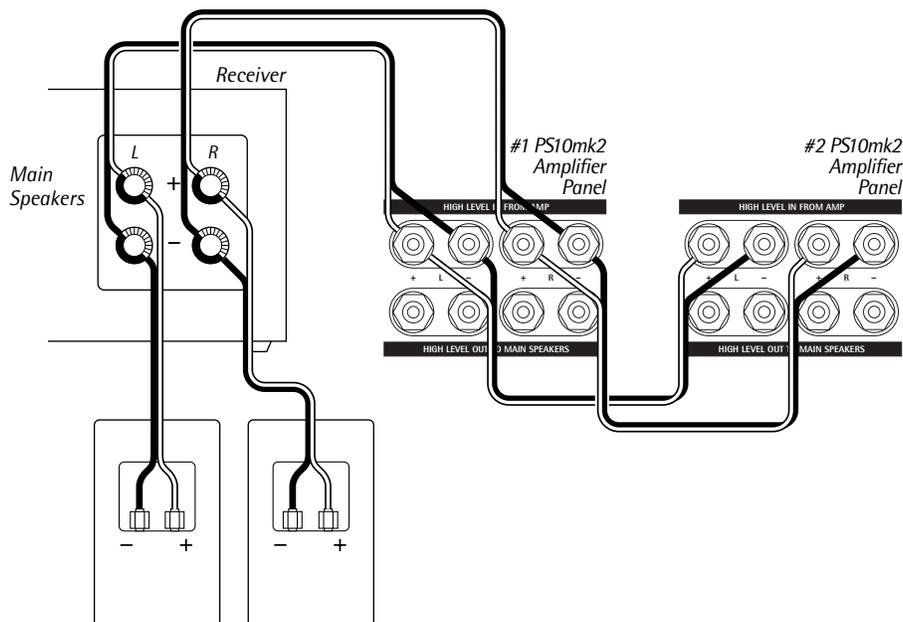
### Wiring two PS.10mk2's using line-level inputs

Use "Y" connectors to daisy chain the "PREAMP OUT" signal to the input of a second PS.10mk2.



### Wiring two PS.10mk2's using speaker-level inputs

Use the "HIGH LEVEL IN FROM AMP" binding posts on one subwoofer to daisy chain to the second PS.10mk2.



## PLACEMENT

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Subwoofers often are smoothest when placed snugly against a side or back wall. Placement in a corner generally offers up the smoothest response. These positions will also increase the subwoofers' sensitivity, allowing you to run them at a reduced power. Experiment with subwoofer placement while at the same time adjusting crossover frequency, output level, and phase. (See section on Fine-Tuning Your Subwoofer below.)

Choose a source with a heavy and continuous bass line, repeat a short section until you have a firm impression of it in your mind then try another speaker location. Repeat this process until you are content with the bass response you are getting. Strive for a solid bass region with no undue emphasis on any frequency.

## FINE-TUNING YOUR SUBWOOFER

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### Setting the Internal Crossover

If you are using a "SUBWOOFER OUT" or "PREAMP OUT" and not returning the signal to the amplifier, set the internal crossover at "EXTERNAL." This will effectively remove the crossover from the circuit.

If you are using line-level inputs and returning the high-pass filtered signal to the amplifier, begin by setting the crossover at 100Hz. Some rooms naturally overemphasize bass in this region, creating an undesirable "bump" or "boomy" quality in the sound. If this is the case with your room, try turning the crossover down to 80Hz. On the other hand, some rooms have a natural tendency to "swallow up" the bass in the 100Hz region, causing the sound to appear thin. In rooms of this type, try setting the crossover at 125Hz. This may help to round out the overall sound.

If you are running your main speakers full range, set the crossover close to the cut-off frequency of your mains. This will help achieve a smooth, seamless blend between your speakers and the subwoofer. Experiment until you are happy with the mix you are getting.

### Crossover versus Bass Level

Interplay between the crossover control and the bass-level control can affect the balance between upper and lower bass frequencies. If you are experiencing too much midbass, adjust the crossover frequency down while increasing the bass level. While decreasing midbass, this procedure will also increase the amount of lower bass energy. Conversely, turning down the bass level while slightly increasing the crossover frequency will increase the ratio of upper bass to lower bass. The result will be a sound with a "quick" quality. Experiment while listening to a variety of sources. If the subwoofer is identifiable as a separate entity, reduce the bass level and further experiment with the settings.

### Setting the Phase

The proper setting for the Phase Switch changes based upon the current location of the speaker. To properly ascertain the correct setting for your room, use a source with a full and continuous bass line. Have a second person repeatedly switch the Phase Switch from one position to the other. You will notice that one position will deliver a fuller midbass. This is the proper position for the Phase Switch. If the midbass now seems too full, compensate by slightly lowering the crossover frequency or the output level.

## LIMITED WARRANTY

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During the warranty period, Snell Acoustics will repair, for the original owner, any defect in materials or workmanship that occurs in normal use of the speaker system, without charge for parts and labor. The warranty period for all parts of the PS10Mk2, except the amplifier, is five (5) years. The warranty period on the amplifier is one (1) year.

Your responsibilities are to use the product according to the instructions supplied, to provide safe and secure transportation to an authorized Snell Acoustics service representative, and to present proof of purchase from an authorized Snell dealer in the form of your sales slip when requesting service.

Excluded from this warranty is damage that results from abuse, misuse, accidents, shipping, repairs, or modifications by anyone other than an authorized Snell Acoustics service representative. This warranty is void if the serial number has been removed or defaced.

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

### **If Service Seems Necessary**

Contact the dealer from whom you purchased the speaker system. If that is not possible, call us at 978-373-6114, or write to:

Snell Acoustics  
143 Essex Street  
Haverhill, MA 01832

We will promptly advise you of what action to take. If it is necessary to return your speaker system to the factory, please ship it prepaid in the original factory packaging. Please note that Snell Acoustics will not be held liable for shipping damage due to improper packaging. After it has been repaired, we will return it freight-prepaid in the U.S. or Canada.

# Snell

143 Essex Street  
Haverhill, MA 01832  
978-373-6114 phone  
978-373-6172 fax