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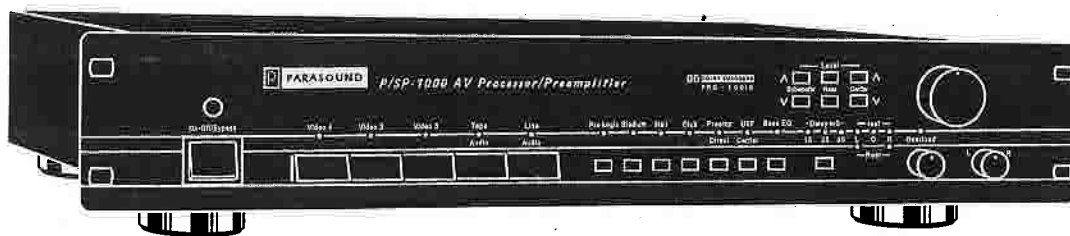
PARASOUND

affordable audio for the critical listener

P/SP-1000 AV Processor/Preamplifier

Congratulations on your purchase of this precision component and thank you for your selection of Parasound. Your P/SP-1000 AV Processor/Preamplifier has been designed with the latest technology to become the heart of the finest home theater systems. Premium parts and advanced design combined with full remote control make the P/SP-1000 one of the finest AV Processor/Preamplifier values ever offered. You have made an excellent choice.

Please take a few moments now to read these instructions thoroughly so you may fully understand the sophisticated capabilities of your new AV Processor/Preamplifier.



Unpacking

Remove the remote control handset and the AC cord packed separately inside the carton. We recommend using only this specially selected cord for the best musical reproduction.

Save your carton and the inserts for future safe transport in case you move or the unit requires shipping for repair. The actual printed carton is not strong enough for safe shipping by itself; you must place this carton into an additional outer carton before shipment.

Before you proceed, find the serial number which is located on the rear panel of the unit and note it here for future reference or in case the unit is ever stolen. _____

Placement of the P/SP-1000

Keep your Parasound P/SP-1000 out of direct sunlight that will interfere with the remote control infrared sensor. It should also be placed away from heat sources such as hot air ducts or radiators.

Input Connections to Your P/SP-1000

Refer to Drawing # 1

Before making any connections, make sure your P/SP-1000's power is off and its volume control is turned fully counterclockwise. Also, make sure the power is turned off to your power amplifiers. After making connections, make sure there is no strain or tension on any wires that could cause them to pull loose later on.

Audio/Video Input Connections

Your P/SP-1000 comes equipped with three audio/video inputs and two audio-only inputs. The audio inputs are compatible with any typical analog line level source such as a CD player, D-A converter, tuner, DAT, cassette deck, or the audio output of a laser disc player or VCR. The three audio/video inputs also have switching capability for both NTSC composite and S-Video. Two of the A/V connections and one of the audio-only inputs also provide recording capability. You may also use just the audio sections of the A/V inputs if you wish.

LD Input (Play Only)

Connect the audio and video outputs of any audio/video source such as a laser disc player to this input. The LD input accepts either S-Video or NTSC composite video connections, but it does not provide an A/V record output.

Video Input 1 (Play Only)

Connect the audio and video outputs of any audio/video source such as a VCR or TV tuner. The VIDEO 1 input accepts either S-Video or NTSC composite video connections, but it does not provide an A/V record output.

Video Input 2 (Record and Play)

Connect the output of a audio/video source such as the VCR you use for recording. The VIDEO 2 input has accompanying NTSC and S-Video video switching and full A/V recording output capability.

Tape Input/Play (Audio Only)

Connect an audio tape deck, DAT or DCC to this input or any other line level source. This input has play and recording capability for audio only. Connect the OUTPUT of your analog deck to the PLAY jacks of the P/SP-1000 and connect to the INPUT jacks your deck to the REC jacks of the P/SP-1000.

Line/Audio Input

This input is for the connecting a line level audio source such as a CD player or D-A converter. You may also connect this input to the main line output of your existing preamplifier. When using your P/SP-1000 primarily as a processor, use this input to take advantage of the Off/Bypass feature. Whenever the P/SP-1000 is powered off, a precision gold-plated relay automatically loops the signal from the Line/Audio input directly to the Bypass output jacks making a direct connection from your preamp to your power amp this makes the P/SP-1000 "sonically invisible".

Important Note: When the unit is off in its bypass mode, the signal from the source connected to the Line/Audio input is passed to the P/SP-1000 Bypass output jacks at its full level. Be sure to turn on the P/SP-1000 *before* you turn on the source component connected to the LINE/AUDIO input and Bypass output. Otherwise, the high signal level may overdrive the amplifier and speakers.

Video 2 Record/Playback Connections

Audio Connections

Connect the left and right audio INPUT jacks of the VCR you will use for recording to the VIDEO 2 REC jacks of the P/SP-1000.

Connect the left and right audio OUTPUT jacks of the VCR you will use for recording to the VIDEO 2 PLAY jacks of the P/SP-1000.

S-Video and NTSC Video Connections

Your P/SP-1000 comes equipped with NTSC composite RCA and S-Video circuits with separate video amplifiers for each. If you connect a video signal to the NTSC composite RCA input, the signal will only be available through the NTSC composite RCA output connections. Likewise, if you connect a video signal to the S-video input, the video signal will only be available through the S-video output connections.

NTSC Composite Video Connections (Yellow RCA Jacks)

Connect the video INPUT jack of the VCR you will use for recording to the VIDEO 2 REC jack of the P/SP-1000.

Connect the video OUTPUT jack of the VCR you will use for recording to the VIDEO 2 PLAY jack of the P/SP-1000.

S-Video Connections (5 Pin DIN Jacks)

Connect the S-video INPUT jack of the VCR you will use for recording to the VIDEO 2 REC jack of the P/SP-1000.

Connect the S-video OUTPUT jack of the VCR you will use for recording to the VIDEO 2 PLAY jack of the P/SP-1000.

Connections to the TV Monitor

Connect the RCA composite or S-video Monitor OUTPUT jack of the P/SP-1000 to the INPUT jack of the TV monitor or projector. If you have a monitor with separate inputs for S-video and NTSC composite, connect the S-video OUTPUT to one input (such as External 1) and the NTSC composite RCA OUTPUT to another input (such as External 2).

Tape Record/Playback Connections

Connect the left and right audio INPUT jacks of the audio tape deck to the TAPE REC jacks of the P/SP-1000.

Connect the left and right audio OUTPUT jacks of the audio tape deck to the TAPE PLAY jacks of the P/SP-1000.

Output Connections to Your P/SP-1000

Refer to Drawing # 1

Front Left and Right Preamp Output

Connect the left and right FRONT/LINE outputs of your P/SP-1000 to the inputs of the amplifier that will power your front left and right speakers. If you are using your P/SP-1000 as a processor with an existing preamplifier, use the FRONT/LINE BYPASS jacks in order to take advantage of the Off/Bypass feature (see page 2). You can also use these jacks to drive an auxiliary zone amplifier.

Center Channel Output

Connect the CENTER output of your P/SP-1000 to the input of the amplifier that will power your center channel speaker(s).

Rear Left and Right Preamp Output

Connect the rear left and right REAR outputs of your P/SP-1000 to the power amplifier channels that will power your left and right surround speakers.

Subwoofer Output

Connect the SUBWOOFER output of your P/SP-1000 to the input of the power amplifier that will power the subwoofer, or to the line input of a powered subwoofer.

Subwoofer and Center Channel Selection Switches

Subwoofer Low Pass Frequency Selector

This rear panel switch allows you to select the built-in 12 dB per octave roll-off frequency for the subwoofer. The roll-off points can be selected at 80 Hz, 120 Hz, or FLAT (full range). If your subwoofer has a built-in crossover set this switch to the FLAT position. Note that this is a low pass filter only, it does not attenuate low frequencies to the front speakers.

Center Channel Speaker Selector

Set this rear panel switch to accommodate the type of center channel speaker you will be using.

Small (Normal)

Switch to the SMALL position for smaller size center channel speakers. In this position, bass frequencies are diverted to the left and right channels to insure front channel imaging remains tonally balanced even with the limited bass capability of a smaller center channel loudspeaker.

Large (Wide Band)

Switch to the LARGE position for center channel speakers that have the same low bass response as your front left and right speakers. In this position the entire audio bandwidth is sent to the center channel output.

None (Phantom)

Switch to the NONE position when a center channel speaker is unavailable. In this position the mono center channel signal is partly reproduced by the right and left speakers to create a "phantom" center image. However, without the center channel, you will be missing one of the key benefits of Dolby Pro Logic processing.

Other Rear Panel Connections

External Remote Control Input

Your P/SP-1000 is compatible with most popular infrared repeater systems for remote control operation from another room or when it is installed in a cabinet where remote control handset signals cannot reach its front panel remote control sensor. The EXTERNAL REMOTE INPUT connector is a standard 1/8" mini jack. The outer conductor is for "-" and the center conductor is for "+". Your Authorized Parasound Dealer or Custom Installer can recommend a compatible repeater system.

AC Line cord

The IEC standard AC cord supplied with your P/SP-1000 is an audiophile-grade component. Please connect it directly to an AC wall outlet that is always live. Avoid use of an extension cord or power strip; these can degrade sound quality.

Calibrating Your Home Theater System

Once you have decided where you are going to locate your speakers, you'll need to adjust the relative output levels of each speaker for equal sound pressure level. System calibration should be performed at your listening/viewing position. Although this can be done by ear with good results, you may prefer to purchase a sound pressure level (SPL) meter to verify proper levels. You can purchase an inexpensive SPL meter such as the Realistic Sound Level Meter (cat. # 33-2050) available from Radio Shack for around \$30.00. System calibration can be performed with any mode or source selected.

Test Tone and Indicators

The test signal can only be activated with the remote control and can only be activated in the Dolby Pro Logic mode. Begin by setting your P/SP-1000's master volume at a nominal level. First, make sure the P/SP-1000 is in the Dolby Pro Logic Mode. Next, press the TEST button on the remote and listen for the pink noise signal; it will start in the left channel. Each time you press the test button, the test signal will advance in the order of left, center, right, both left and right surround, and then off. The TEST LEDs on the front panel will illuminate in response to the pink noise sequence heard through the speakers.

Adjusting Level

Adjust the individual channel levels on the remote control so they have the same apparent loudness. This is where the SPL meter is especially handy. Of course, you may want to adjust the individual levels to suit your particular tastes, but equal levels in all channels is a good reference point.

Operating Your P/SP-1000

Refer to Drawing # 2

Front Panel and Remote Control Functions

The front panel and remote control share all functions with the following exceptions: the front left and right BALANCE and input OVERLOAD control can only be controlled from the front panel and the MUTE function and TEST tone can only be activated with the remote control.

On-Off Switch

Push once to turn on. Push again to turn off. The MUTE LED mounted in the VOLUME control knob will flash during a 3-4 second delay after turn on. After the circuits stabilize, the protective muting is defeated. Whenever you turn your P/SP-1000 on, it will select the same source and resume the same volume setting you were playing before the last time you turned it off. This memory feature is dependent upon leaving your P/SP-1000 plugged into an AC outlet that is always live.

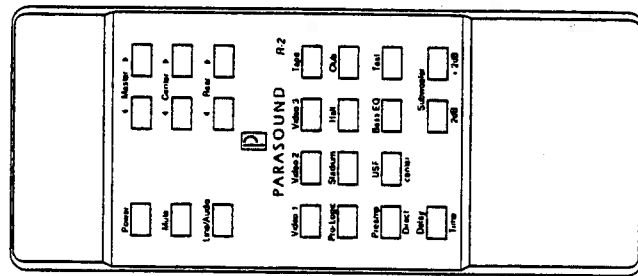
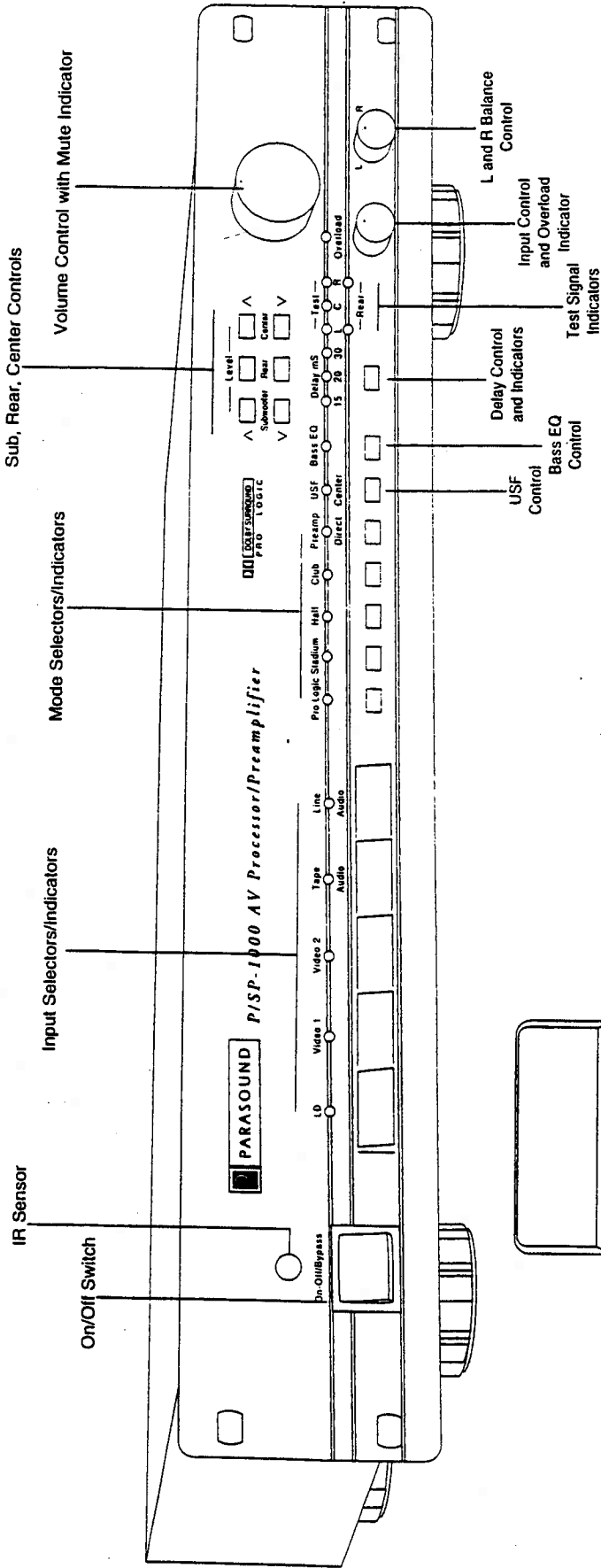


Figure # 2: Parasound P/SP-1000 Front Panel and Remote Control

Volume

Adjusts listening level; the knob controls a premium-quality, precision 6-gang Alps potentiometer. If your power amplifier has gain controls, they should first be adjusted to accommodate an 11 AM - 1 PM setting of your P/SP-1000 VOLUME control knob for your most frequent listening level. The slight resistance you feel when turning the VOLUME control by hand is normal and is caused by the gearing of its remote control actuator motor.

Subwoofer Level

These controls adjust the SUBWOOFER level in +/- 2 dB increments

Center Channel Level

These controls adjust the CENTER channel level in +/- 1 dB increments

Surround Channels Level

These controls adjust the right and left REAR channel levels in +/-1 dB increments

Front Balance

This control adjusts relative left and right volume level in the front channels. If clockwise rotation favors the left channel speaker as you face it, you have reversed right and left hookups between your preamp and power amplifier or between your power amplifier and speakers.

Input Level and Overload Indicator

This control limits the amount of signal sent to the processor from your source components to maximize headroom. Center detent represents a 0.3 V input sensitivity and provides the appropriate overall setting to the surround processing circuitry. You may need to adjust the INPUT LEVEL clockwise for lower source levels and counterclockwise for higher source levels. The LED overload indicator lets you know when the input circuit is being overdriven. This indicator should flicker only occasionally with the highest peak levels. If it frequently flashes, even at moderate levels, reduce the INPUT LEVEL accordingly.

Processing Modes

Dolby Pro Logic

This mode accurately decodes Dolby Surround encoded material to provide multi-channel playback including dedicated center and surround channels. Most video releases of major movies and many stereo TV programs, CDs and video games are now Dolby Surround encoded. You may use the Dolby Pro Logic mode on a wide variety of non-encoded material with very pleasing results. Most stereo recordings will produce surround effects to varying degrees, and center channel signals such as vocals will emanate more naturally from the center channel.

Stadium

The stadium mode provides the "wide field" ambiance of a live stadium experience. This mode is effective for capturing the excitement of sporting events and live concert recordings.

Hall

The hall mode simulates the ambiance of a concert hall. This mode is designed to enhance both classical and rock music recordings.

Club

The club mode recreates the intimacy of a small nightclub or auditorium. This mode is designed to enhance jazz, chamber music, and acoustic rock recordings.

Selecting a Source for Recording

You can use your P/SP-1000 for both audio/video and audio only recording with the VIDEO 2 and TAPE connections. To record a with either of these inputs, simply select the source you want to record on the front panel or remote control and its signal will be simultaneously sent to the audio and video jacks of VIDEO 2 and to the audio jacks of TAPE.

Other Front Panel Controls

Preamp Direct

The PREAMP DIRECT selector routes any selected input sources around all the surround processing circuitry of the P/SP-1000. The audio signal is routed directly to the preamp circuitry. This mode provides a minimum of signal degradation for critical audio listening. An LED illuminates when the PREAMP DIRECT function is activated.

Unified Surround Field (USF)

The USF selector activates proprietary Unified Surround Field circuitry developed by Unity Audio. This unique feature blends and contours center channel information back into the right and left channels and provides a more seamless left, center, right channel soundstage. USF better recreates the ambient effects of a typical theater. It also permits wider spacing of the left and right front speakers without compromising the integrity of the augmented soundstage. An LED indicates that the USF circuit is activated.

Bass Equalization

The Bass EQ circuit provides bass boost of 6 dB between 40 Hz and 70 Hz to add bass authority without obscuring bass detail. Bass EQ is useful to reinforce the low frequency response of your front channel speakers if you have located them more than a foot from the rear wall of your listening room. Bass EQ is not sent to the subwoofer output because the additional equalization would create excessive bass energy in your room. An LED illuminates when the Bass EQ is activated.

Surround Channel Delay

The surround delay circuitry allows you to choose the amount of time it takes for the surround channel signal to reach the listening position. The delay time can be set for 15, 20, and 30 milliseconds. Although the recommended delay time for Dolby Pro Logic is 20 mS, you can adjust the delay time to best suit your listening room or a particular soundtrack. LEDs indicate each delay setting.

Setting Up your Home Theater System

Refer to Drawing # 3

Speaker Placement

Proper speaker placement is essential for optimum performance of your P/SP-1000. Improper placement of speakers can produce an unnatural sound and greatly diminish the home theater experience. Following are basic guidelines based upon idealized conditions. However, it may be necessary to make compromises for furniture, windows, doorways, and other aesthetic considerations.

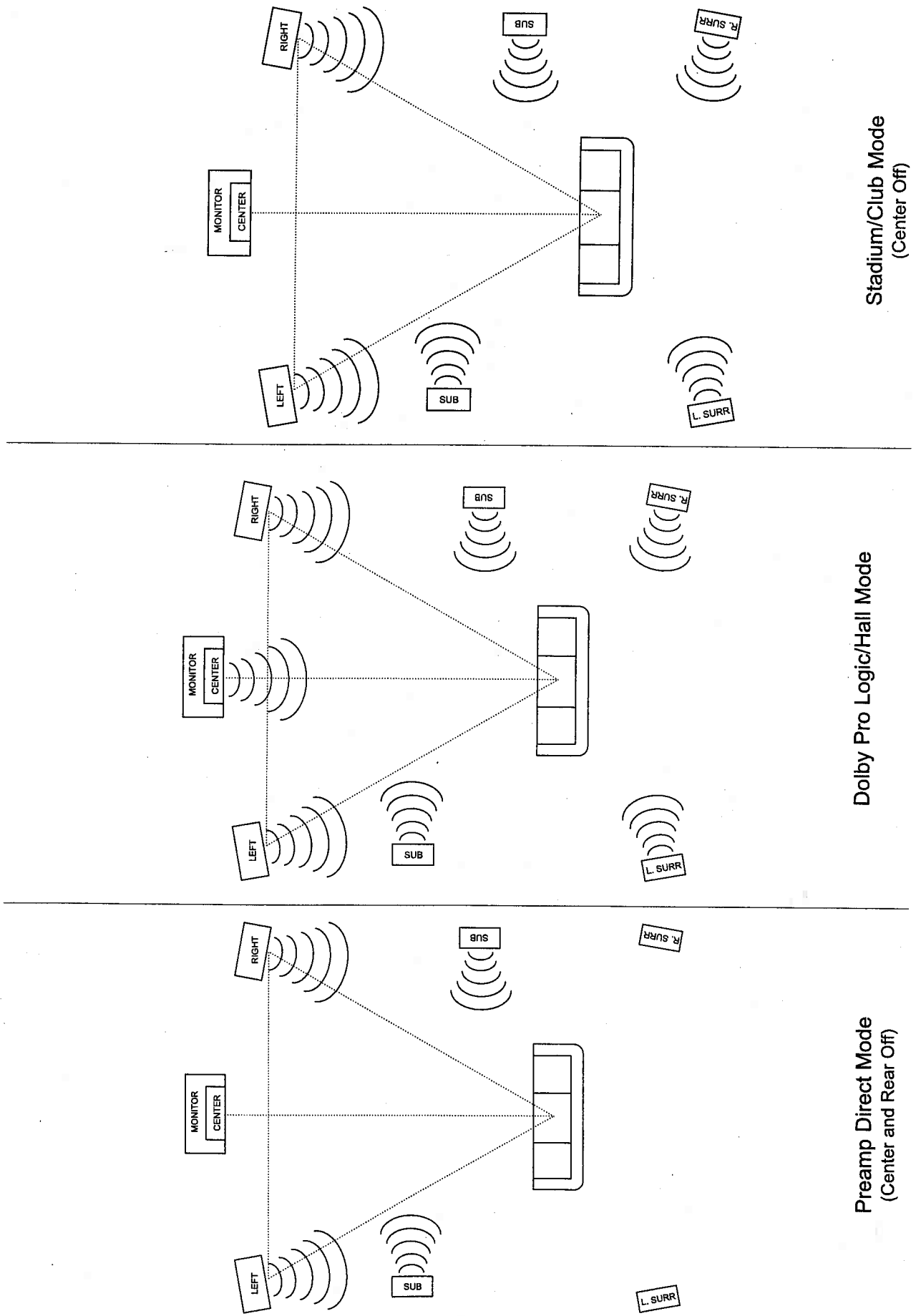


Figure # 3 Speaker Placement and Mode Characteristics

Front Speakers

The front left and right speakers should be placed in equal distance from your TV monitor. There should be an equilateral triangle between your viewing/listening position and your front left and right speakers.

Center Speaker

The center speaker's main function is to reproduce dialog. It is best to place your center speaker directly above or below the TV monitor for a more realistic effect. The distance from your listening position to the center channel speaker should be the same distance as from the listening position to the left and right speakers (see drawing). This will place the center speaker slightly behind the left and right speakers. This placement allows the signal from all three front speakers to arrive at the listening position at the same time and also reduce unwanted sonic reflections off the TV monitor. We strongly recommend a shielded center channel speaker if it is located near the monitor. The magnetic field of an unshielded speaker will cause an extreme discoloration of most TV screens.

Rear Surround Speakers

Placement of the surround speakers is a little more flexible than the front or center speakers because they are intentionally filtered to create an ambient effect rather than a precise sonic image. To avoid drawing your attention away from the action on the screen, you should not be able to localize the sound coming from your surround speakers. In most soundtracks, the surround channels are meant to create ambience and to give you a feeling of envelopment. Try to avoid pointing the surround speakers directly toward your listening position. You may even want to try aiming them at the wall or ceiling for a greater amount of reflected sound to help diminish localization. Experimentation with surround speaker placement will usually yield the best results.

Subwoofer

The best way to position your subwoofer is to first hook it up and place it right at your listening position. Next, stand in various positions within your room and find the location that will give you the most balanced sound without excessive boominess. Once you have found the optimum location to stand, simply relocate the subwoofer to that spot.

Maintaining your P/SP-1000

Your P/SP-1000 requires no periodic maintenance and has no user serviceable parts inside. Do not remove the top cover to avoid risk of electric shock. To keep it clean use only a soft cloth and never use any solvents or abrasives. Fingerprints may be removed with a soft cloth moistened only with a few drops of clear water. Your P/SP-1000 has corrosion-free gold plated RCA jacks, but each year it is a good idea to twist the input plugs to preserve perfect signal transfer by removing corrosion which might have accumulated on the connecting plugs themselves. *Make sure the unit and amplifiers are turned off while you do this.* The remote control handset batteries should be removed whenever it will be unused for an extended period. Remove the battery cover annually to inspect and remove leaking batteries.

Power Fuse

If this fuse blows, it is an indication of internal parts failure. Do not replace it with any larger value to avoid damage to internal parts. *Substitution of a larger fuse will void your warranty.*

In Case of Trouble

If you suspect a problem with your unit, first recheck all your connections. If one channel is inoperative, the trouble may be caused by another component or a defective hookup cable. If only one channel remains inoperative, try reversing the left and right cables to your power amplifier (turn it off before moving wires). If the same channel stays out, it indicates trouble could be other than your Processor/Preamplifier itself. Call your Parasound dealer or Parasound Technical Service if you suspect a problem. We will suggest other diagnostic tests you can easily perform and which will save you a lot of trouble.

If we determine that your P/SP-1000 should be returned to Parasound or an Authorized Warranty Center for inspection and possible servicing, call for the location of a Warranty Center near you. If you choose to send it to Parasound, you must call or write to obtain a Return Authorization number. You will be asked to re-pack the unit in its original carton and cardboard packing *plus* an additional outer box over its own box for proper protection in transit. The Return Authorization number must be clearly marked on the outer carton only. You should ship the unit by UPS with adequate insurance specified. You also must include a copy of your purchase receipt to validate your ownership.

Units that arrive without your specific Return Authorization number, without a suitable shipping carton or evidence of improper internal packing will be refused. We do not accept collect shipments. After repair under warranty, the unit will be returned to you via prepaid UPS. In the case of an out of warranty repair, we will advise you repair charges before you ship the unit. The same packing and Return Authorization requirements apply.

P/SP-1000 Specifications

	Pro Logic	Club	Hall	Stadium	Preamp/Direct
Frequency Response (Front, Center +/- 1 dB; Rear, Sub -3 dB)					
Front	12 Hz-60 kHz	78 Hz-16 kHz	12 Hz-45 kHz	200 Hz-42 kHz	10 Hz-100 kHz
Rear	30 Hz-6.5 kHz				
Center (Small)	200 Hz-60 kHz				
Center (Large)	30 Hz-60 kHz				
Subwoofer (Full Range)	20 Hz-100 kHz				
(80 Hz)	25 Hz-80 Hz				
(120 Hz)	25 Hz-120 Hz				
Harmonic Distortion					
Front	< 0.06 %	< 0.04 %	< 0.04 %	< 0.04 %	< 0.01 %
Center	< 0.06 %				
Rear	< 0.6 %			< 0.6 %	
Subwoofer	< 0.15 %				
Input Sensitivity					
Front	310 mV	280 mV	310 mV	290 mV	310 mV
Center	220 mV				
Rear	215 mV		200 mV	180 mV	
Subwoofer	380 mV				
IM Distortion (1 kHz 1V Output)					
Front	< 0.06 %	< 0.04 %	< 0.04 %	< 0.04 %	< 0.01 %
Center	< 0.06 %				
Rear	< 0.6 %			< 0.6 %	
Signal/Noise Ratio (Flat/A weighted)					
Front	70 dB/80 dB	75 dB/83 dB	72 dB/81 dB	72 dB/81 dB	72 dB/81 dB
Center	69 dB/80 dB				
Rear	65 dB/67 dB			63 dB/64 dB	
Subwoofer	82 dB/90 dB				
Overload Level (1 kHz 1V Output)					
Front	2.8 V				9 V
Center	2.8 V				
Rear	1.75 V				
Video Section (Output 1 V/75 Ω Load)					
Sensitivity	1 V +/- 1 dB				
Frequency Response	10-10 MHz +/- 1 dB				
Overload	1.4 V				
Signal to Noise Ratio	120 dB				

Dimensions and Weight

19" wide x 3 1/2" high x 13" deep 4 1/8" high with feet; 16 lb.

Power Requirements

110 V - 120 V 60 Hz AC, 19 W; may be rewired for 220 V - 240 V, 50 Hz

Special Features

- Three Audio/Video Inputs
- Preamp Direct Circuitry
- S-Video Capability
- Selectable Crossover Frequency
- High Current Audio Section
- Fully Remote Controlled
- Unified Surround Field Center Mode
- Motorized 6-Gang 18 mm Alps Volume Control
- Silver Plated Internal Wiring
- Gold Clad Precision Relays
- IEC Removeable AC Cord
- Precision 1% Resistors
- External IR Input
- Four Processing Modes
- Rear Panel Infrared Input
- Auxiliary Front Preamp Outputs
- Muting Relay
- Automatic Bypass Direct Output
- Adjustable Surround Delay Times
- 40,000 μ F Main Power Supply
- Separate Regulated Supplies
- Gold Plated Audiophile Jacks
- Heavy Duty Chassis
- Center Speaker Selector
- Built-in Low Pass Filter

Specifications and features subject to change without notice.

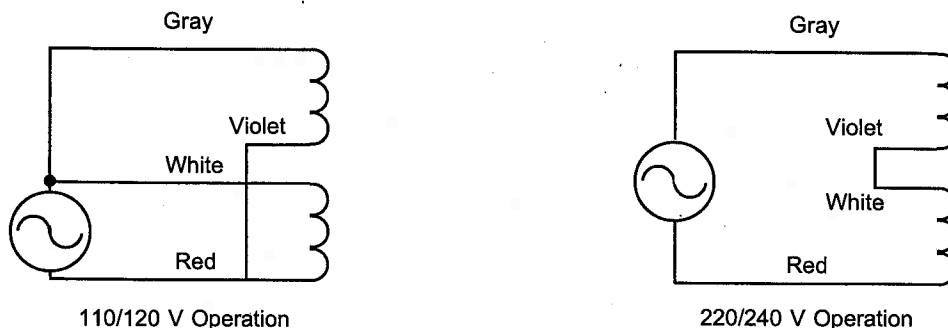
Rewiring for 220 V - 240 V 50 Hz Operation

Your P/SP-1000 may be rewired for operation abroad. This involves changing several wires on the power transformer. Please refer this conversion to a skilled electronics technician to avoid personal injury or possible harm to the amplifier. There are hazardous high voltages present inside the chassis even *after* the power is turned off and the AC cord has been disconnected.

As it is supplied for 110 V - 120 V operation, the red and violet transformer primary wires are attached together. The white and gray primary wires are attached together.

To convert to 220 V - 240 V operation, the white wire is disconnected from the gray wire; the violet wire is disconnected from the red wire. The violet and white wires are then attached together.

It is quite normal for the power transformer to run a little hotter during 50 Hz operation. This is well within its safety limits and no cause for concern.



Parasound Limited Warranty (USA only)

Your Parasound P/SP-1000 is covered by a limited warranty against defects in materials and workmanship for a period of two years from date of purchase. This warranty is provided by the Parasound dealer where the unit was purchased. Warranty repair will be performed only when your purchase receipt is presented to validate your ownership, date of purchase and authorized status of the selling dealer. Defective parts will be repaired or replaced without charge by your authorized dealer's store or the location designated by your dealer that is authorized to service Parasound equipment. Additional information is available by calling or writing to the Service Manager, Parasound Products, Inc. at the address below. Charges for unauthorized service and transportation costs are not reimbursable under this warranty.

This warranty becomes void if the product has been damaged by alteration, misuse, accident or neglect. Alteration includes any removal, obscuration or defacement of its serial number. This warranty becomes void if unit has been connected or operated contrary to printed instructions. The warrantor assumes no liability for property damage or any other incidental or consequential damage whatsoever which may result from the failure of this product. Any and all warranties of merchantability and fitness implied by law are limited to the duration of this expressed warranty.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. 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.

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



PARASOUND
affordable audio for the critical listener

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