Innersound
RCP–1 Reference Preamplifier
Owner's Manual
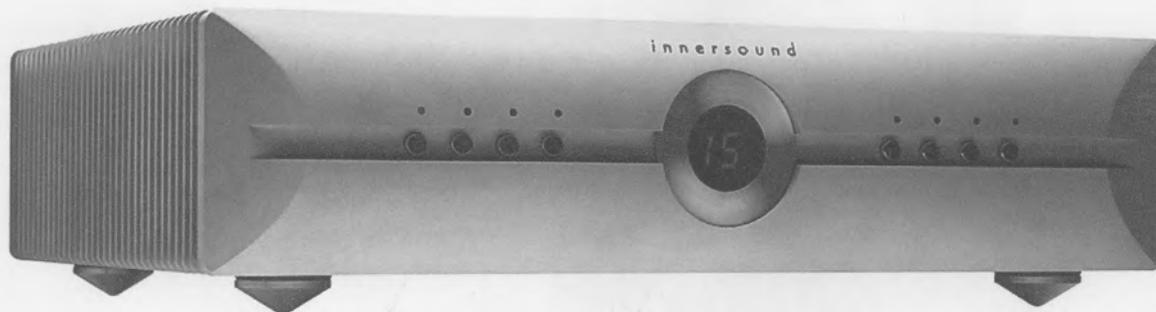
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INSTALLATION

LOCATION

Our Reference Preamplifier is best situated on its own shelf in a rack or bookshelf where it will perform at its best.

INPUT CONNECTIONS and SYSTEM TURN ON/OFF

Signal input is made through gold plated RCA (unbalanced) or XLR (balanced) connectors. A total of six inputs are available, three of which provide both XLR and RCA. The other three inputs are RCA only. This is a "line stage" preamp, so although the inputs have specific labels, they are all at line level, are identical in function, and can be used with any line-level component.

The first 5 inputs (CD, Tuner, Video, Aux, Processor) are "main" inputs. The last one (Monitor) is a "loop" with a fixed level output associated with it. The "Monitor" loop is sometimes called a "Tape Monitor." It is designed to be used with an audio recorder (cassette, DAT, CDR, minidisk, etc.) where the currently selected input source is recorded. This output is unaffected by the overall system volume, so the recording level is not altered if you need to adjust the listening level.

OUTPUT CONNECTIONS

There are two separate output channels through gold plated RCA (unbalanced) or XLR (balanced) connectors. The balanced and unbalanced connectors are not to be used simultaneously on a single output channel.

POWER CONNECTIONS

Be certain all associated equipment is turned off before plugging in the preamp. Insert the power cord into the AC LINE INPUT on the back panel and then connect it to an appropriate power source. Then you may turn on your other components.

The preamplifier is designed to be left on continually. By leaving the electronics on, they stay warm and are always in their optimum operating state and ready for immediate use. However, there is a power switch provided on the rear panel for occasions when you would like to turn your preamplifier off (i.e. you go away on vacation or there is a lightning storm). The preamplifier uses just a few watts of power so power consumption is not an issue. All indicator lights are light emitting diodes (LEDs), including the digital display, so they will never burn out or need replacement.

ELECTRICAL PROTECTION

Although not essential, it is a good idea to use a surge protector to prevent damage to your expensive equipment in the event of an electrical storm or other causes of abnormally high voltage. These are inexpensive and can be obtained from any hardware store. You do not need to use an expensive line conditioner, but if you do, these normally will have surge protection built-in so you do not need to use additional surge protection.

The AC line voltage and line fuse of the preamplifier are preset at the factory for your location. If it is necessary to change these settings, contact the factory for instructions.

OPERATION

The Innersound Reference Preamplifier is a sophisticated, computer operated unit that has many functions. Despite its complexity, it appears very simple. Great care and thought were put into making it "user friendly" and ergonomically well designed. All of the following functions are available from the front panel controls and by remote control. Each function is listed below with directions on how to operate it.

INPUT SELECTION

Press the appropriately labeled button on the front panel to select a source. When activated, a small, blue LED above the switch will light. The four "main" inputs (CD, Tuner, Video, Aux) operate together so that selecting any one of these inputs switches out the others.

The "Monitor" button toggles between your recorder and whatever main input is selected. If the recorder has a monitoring function (where the recording can be played back during recording), you can set your recorder for playback and by pressing the "Monitor" button, you can switch between the input source and the recorder's playback. This way you can "monitor" and compare the quality of your recording to the source.

STANDBYE

Use this switch to toggle between standbye mode and operation mode. When in standbye, the display is turned off while the blue "standbye" LED is illuminated. Standbye turns off the signal outputs while still keep the remaining audio circuits in full operation.

RESET

Use this function to reset all preamplifier settings to their default factory setting. Resetting the unit is done by holding in the "RESET" button until "rE" is displayed in the center display. Since some of the preamplifier functions are only accessed by the remote control, the reset button is provided to get back to a "normal operating mode if the remote control is not available.

VOLUME

The stargate knob surrounding the number display adjusts the output level of the preamplifier in precise 1 dB steps across a range of 100 dB. This control rotates continually – it is not limited to the 280 degree rotation of conventional rotary controls. The digital readout shows the output level in 1 dB increments between the numbers "00" and "99"

The volume control is not a conventional potentiometer – it is an optical device that controls a microprocessor. Unlike conventional stepped resistor ladder attenuators, this microprocessor has no transient clicks or pops as you change the volume. Like a resistor ladder, the level of each channel is closely matched so the left/right balance will remain constant as you adjust the level up and down. The tolerance is within 0.1%, which is vastly better than even the best conventional, dual stereo potentiometers.

BALANCE

Use the mode button and the stargate volume knob to control the left/right balance. Pressing the mode button will toggle between "Main", "Right", and "Left." In the window next to the number display are two indicator diodes identifying the right (red) and left (green) modes. In the "Right" and "Left" modes the stargate functions to control the right or left

channel volume. A level of "00" in the number display means zero attenuation (or maximum volume).

SYSTEM GAIN

Innersound's unique balance control makes it possible to adjust the overall system gain. For example, let's assume you want to reduce the gain by 10 dB. Simply press the "MODE" button once, which will switch you to the right channel. Reduce the gain by 10 dB with the volume knob. Press the "MODE" button again, which will switch you to the left channel. Reduce the gain on that channel by 10 dB. Press the "MODE" button again to return to "MAIN."

The channels will be in perfect balance, but their levels will be reduced by exactly 10 dB. As proof of this, you will see that for a given acoustic output level, you will have to turn up the volume so the number indicator reads 10 dB higher.

Why would you want to do this? There are many reasons. For example, if you have relatively delicate speakers and an extremely powerful amplifier, you can overdrive the speakers and damage them. By reducing the gain, you can limit the output to any safe level you wish.

Another reason is for comfort. It is easy to accidently set the volume too high and get a very loud "blast" of music you didn't expect. By setting the gain so that the maximum loudness level is an indicated 99 dB, the level will never be excessive.

REMOTE CONTROL

The RCP-1 Preamplifier is designed to operate via the front panel controls and remote control. The following functions are controllable by remote control.

STANDBYE

Use this function to toggle between operation mode and standbye mode.

VOLUME UP/DOWN

Use this function to increase or decrease the overall volume level.

CD/DISC Select

Use this function to select the source connected to the CD/DISC input.

TUNER/IN2 Select

Use this function to select the source connected to the TUNER/IN2 input.

VIDEO/IN3 Select

Use this function to select the source connected to the VIDEO/IN3 input.

AUX/IN4 Select

Use this function to select the source connected to the AUX /IN4 input.

MONITOR Select

Use this function to select the source connected to the MONITOR input or to listen to the output of your recording device.

PROCESSOR Select

Use this function to select the source connected to the PROCESSOR input or to listen to the output of your video processor.

MUTE

Use this function to temporarily turn off the output of the preamplifier.

MONO

Use this function to toggle between monaural and stereo output. The light indicates the mono position. This function is also useful for checking to see that your speakers are in phase (a solid center image should be present in mono) and for checking system left/right balance.

PHASE REVERSE

Use this function to shift the phase of the output audio by 180 degrees.

DISPLAY BRIGHTNESS

Use this function to adjust the brightness of the center display between four different settings.

MODE Select

Use this function to shift between "right", "left", and "main" volume settings.

CARE AND CLEANING

If you wish to clean your pre-amplifier, use a 90% Isopropyl Alcohol. Window cleaners like "Windex" also work well. Do not use any abrasive cleaners or chemical solvents like "Ajax", Acetone, or paint thinners.

Use particular care not to damage the aluminum chassis. Aluminum is a medium hardness metal and although it is anodized, it can be easily scratched by the careless use of tools during installation, or by rough handling.

The unit may overheat and the finish may fade if exposed to direct, unfiltered sunlight or intense heat for prolonged periods.

Save your box and packing materials. They will be very helpful for moving or if you need to ship the unit for any reason.

SPECIFICATIONS

CIRCUIT SPECIFICATIONS

Inputs

Six inputs at line level, including a tape loop. Three inputs offering balanced using XLR connector.

Outputs

Three outputs at line level. One fixed level output (monitor loop) and two controlled by electronic attenuator, (both with balanced and single ended).

Bandwidth

Distortion

Less than 0.01% from 10 Hz to 40 kHz @ 5 volts peak into 600 ohms or higher, shunted by 1000 pF or less.

Gain

Input Impedance

47k ohms balanced or single-ended

Noise

Greater than 100 dB below 1 volt reference

Output Impedance

50 ohms, non-reactive, balanced or single-ended

Maximum Output

Crosstalk

Better than 70 dB @ 20 kHz

Rated Power

Dimensions

17 inches wide by 4.625 inches tall by 14 inches deep
(44 cm W x 12 cm T x 36 cm D)

Weight

32.5 pounds (14.6 kG)

Note

Specifications are subject to change without notice.
Dimensions and weight are approximate.