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GSi75

Stereo Integrated Amplifier

User Guide



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Thank you for choosing the GSi75 to be a part of your high performance music listening system. Since 1970, Audio Research has been creating some of the world's finest audio equipment. Each piece is handcrafted in Minnesota, and has been fine-tuned in our listening room to provide many years of listening enjoyment.

We understand you are eager to begin listening; however, please take a few minutes to read through this guide for useful information concerning the operation of your new integrated amplifier. Once installed, please allow an appropriate break-in period to fully appreciate the benefits this amplifier will provide to your system.

After reading the user guide, if you have any further questions regarding your integrated amplifier, contact your dealer or Audio Research customer service - they will be happy to help you make the most of your new component.

Happy Listening!

Thank You.

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Warnings

To prevent fire, or shock hazard, do not expose your GSi75 to rain or moisture.

Do not place objects containing water on top of this unit.

This unit contains voltages which can cause serious injury or death. Aside from the tube cover, do not operate with covers removed. Refer servicing to your authorized Audio Research dealer or other qualified personnel.

The detachable power cord on your GSi75 is equipped with a heavy gauge, 3-conductor cable and a standard three-prong grounding plug. For absolute protection, do not defeat the ground power plug. This provides power line grounding of the GSi75 chassis to provide absolute protection from electrical shock.

The appliance coupler (a.c. power connector) at the rear of this unit must be accessible for emergency power disconnect.

The GSi75 is shipped with a protective, ventilated cover. While the cover may be removed, its use is recommended to prevent accidental contact with the hot vacuum tubes.

For continued protection against fire hazard, replace the fuse only with the same type and rating as specified at the fuse holder.

The power button on the front of this unit, when off, does *not* disconnect all power from this unit. This unit is in sleep mode when not on. Complete power down of the unit only occurs when AC Power is removed from the unit.

This unit is RoHS compliant.

A note about packaging...

Save all packaging in a dry place away from fire hazard. Your GSi75 integrated amplifier is a precision electronic instrument and should be properly cartoned any time shipment is made. You may not have occasion to return your unit to the factory for service, but if that should prove necessary, or other occasion requiring shipment occurs, the original packaging will protect your GSi75 from unnecessary damage or delay.

Installation

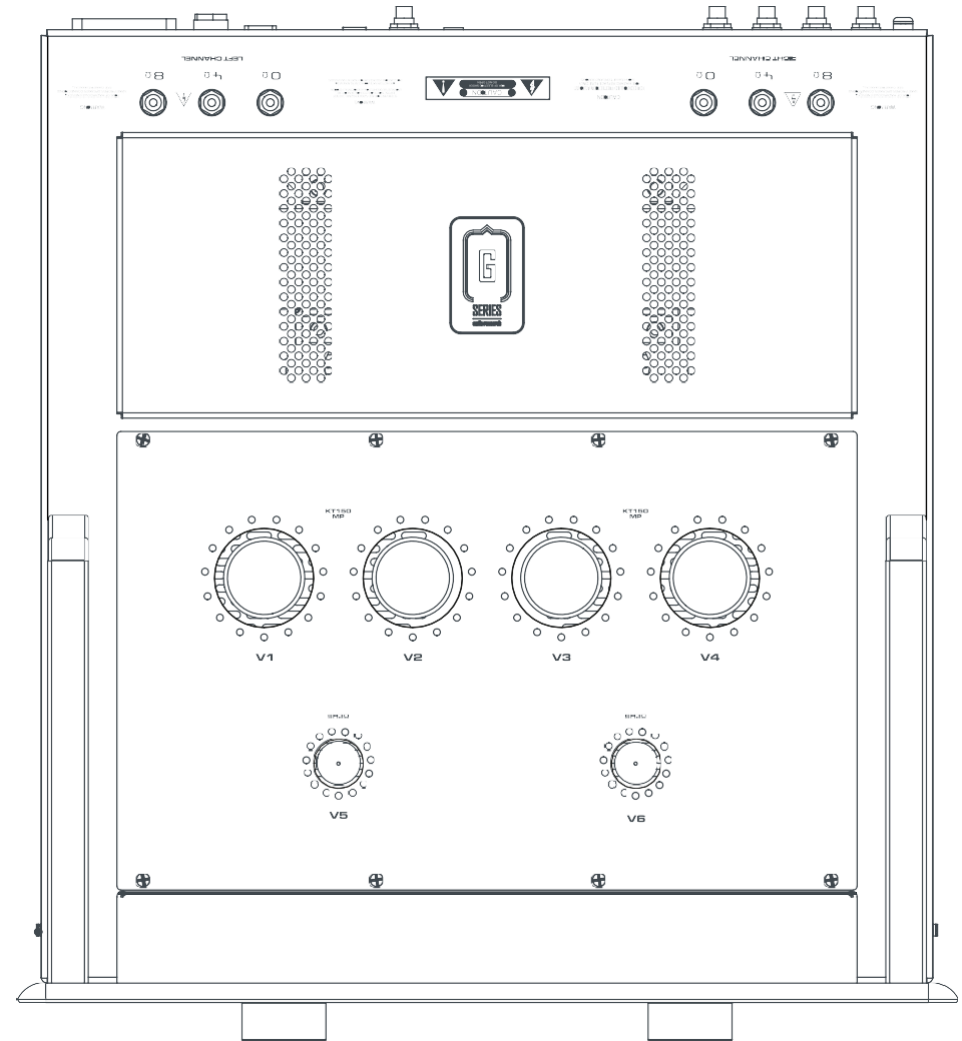
Before operating the GSi75

This unit has been shipped with the vacuum tubes installed in protective foam in separate boxes packed inside the shipping carton. Included are two matched pairs of KT150 power output tubes and two 6H30 tubes. Remove the tubes carefully from the protective foam.

To remove the top cover

Use a phillips-head screwdriver to remove the fastening screws from the front and back edges of the tube cover (you do not need to remove any screws from the side panels of the cover). Note that the screws between the tube cover and transformer cover can be difficult to reach; the included screwdriver will reach them as well as provide a magnetic tip to remove the screws. Once all of the screws have been removed, carefully lift the cover away from the chassis making sure not to scratch the other surfaces. Note the two plastic strips mounted between the tube cover and chassis. Remove these and store with your packing material in the event you need to ship the unit in the future.

After removing the top cover and the vacuum tubes packed in protective foam, see the accompanying illustration for instructions on installing the tubes for your GSi75 in their proper locations in the chassis. Note that the numbers written on each tube correspond



to a 'V' number etched on the chassis next to each tube socket. Insert each tube firmly, carefully aligning the tube pins with the corresponding socket holes.

Installation

In your system

To insure normal component life and safe operation this unit must be operated only in an upright position. Adequate airflow and proper cooling can occur only if there is no restriction above and behind the unit and on either side.

The special non-marring elastomer feet provide adequate spacing and stability only on a smooth, hard surface, and also assist to isolate the amplifier from spurious vibrations. For upright stability and best performance, never operate the unit while it is sitting on a soft surface such as a thick rug or carpet.

Due to its weight, this amplifier must be supported on a surface specifically rated for such a load. Check with the manufacturer of your support system to be sure it is rated to handle this weight.

If the unit is to be operated in an enclosure such as an equipment rack, make certain that adequate airflow above and to each side of the unit is provided.

The 'ambient' operating temperature should never exceed 120 F or 49 C. Improper installation will cause premature tube failure and will affect your warranty, as well as the service life of the unit.

It is normal for a vacuum tube power amplifier to run quite warm, and if used for prolonged periods, hot to the touch. All components within are, however, operated at safe, conservative levels and will not be improperly affected thereby, providing the requirements outlined above are adhered to.

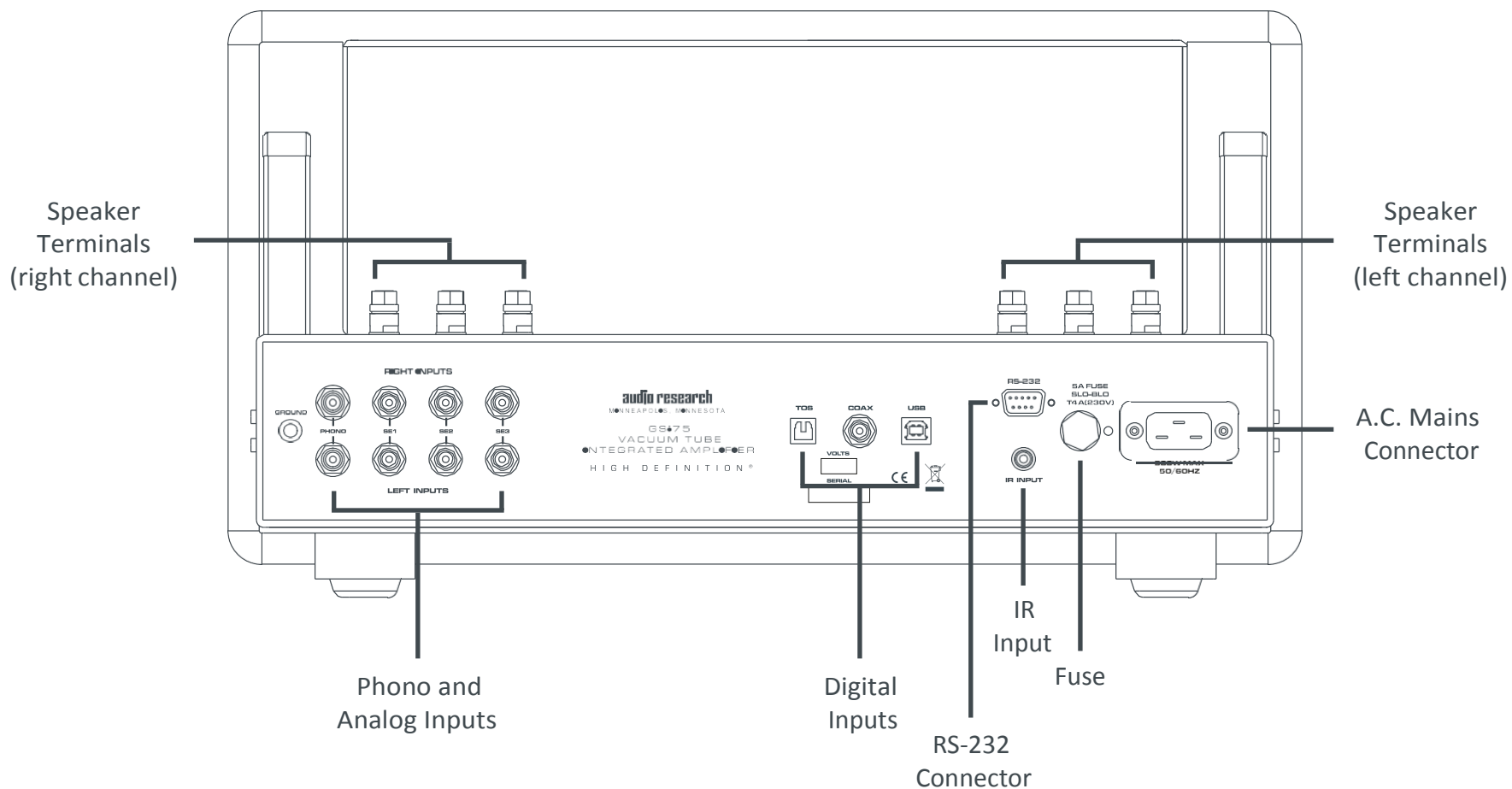
Do not stack components or other objects directly on top of the GSi75.

Note

Double damping rings are installed at the factory and positioned on each 6H30 tube for maximum sonic performance.

Connections

Back Panel Connections



Connections

Input Connectors

The GSi75 provides four pairs of single-ended, analog input connectors: SE1 - 3, and PHONO, and three digital input connectors: USB, TOS, and RCA. Please note that input SE3 can be selected as a unity gain 'processor' input; in this case, SE3 should only be connected to a component with a volume control (such as a home theater processor). For further information about the SE3 processor mode, see the section 'Processor' on page 16.

Note

The phono stage of the GSi75 has two gain settings of 45 and 62 dB; please keep this in mind when selecting a phono cartridge to pair with your preamplifier. For further information about connecting a turntable, please see page 22.

Output Connectors

Heavy-duty output terminals are provided on the rear panel for 4 or 8-ohm speaker impedance loads. Using high-quality speaker cables, securely fasten the (-) speaker lead to the '0' (black) terminal, then the (+) lead to the '4' or '8' (red) terminal. Follow your speaker manufacturer's impedance specification to determine if you should use the 4 - or 8 - Ohm tap. The GSi75 puts out the same amount of power whether the 4 or 8-ohm terminals are used.

RS-232 Connection

The RS-232 connection allows for remote control via systems such as Creston or other automation systems.

IR Input

The IR input can be used to link the GSi75 to an IR repeater system with a standard mono 1/8" connector.

Matching

It is important to use as close as possible an impedance match between the amplifier and speaker for optimum transfer of power to the speaker with minimum distortion. In the case of speaker systems with significant variations in impedance throughout the frequency spectrum, such as most electrostatic types, determine the best impedance match empirically for best overall sonic results.

Matching the speaker's impedance to the appropriately labeled amplifier output will normally provide the highest sound quality and smoothest frequency response, as well as provide the greatest output as the amplifier source is then matched the speaker load.

In some cases, due to a speaker's varying impedance, the best sound quality is subjectively found by listening to each amplifier output taps.

Connections

A.C. Power Connection

It is important that the GSi75 be connected via its supplied 15 amp IEC 14-gauge power cord to a secure, dedicated A.C. power receptacle. Never connect to convenience power receptacles on other equipment. Only use the power switch on the front of the GSi75 for On/Off control of the amplifier.

The AC power source for the GSi75 amplifier should be capable of supplying 10 amperes for 100 or 120 volt units, or 5 amperes for 220 or 240 volt units.

For the very best performance on 100 or 120 volt circuits, the GSi75 should be connected to its own AC power circuit branch, protected by a 15 amp breaker. The other audio equipment should be connected to a different power circuit and breaker.

The GSi75 should be turned on after the other components of your system. If the GSi75 is turned on before other components, the amplifier will amplify any extraneous turn-on noises those components might generate, which could potentially damage the loudspeakers. Good operating practice dictates that the amplifier should be turned on last, and turned off first in an audio system.

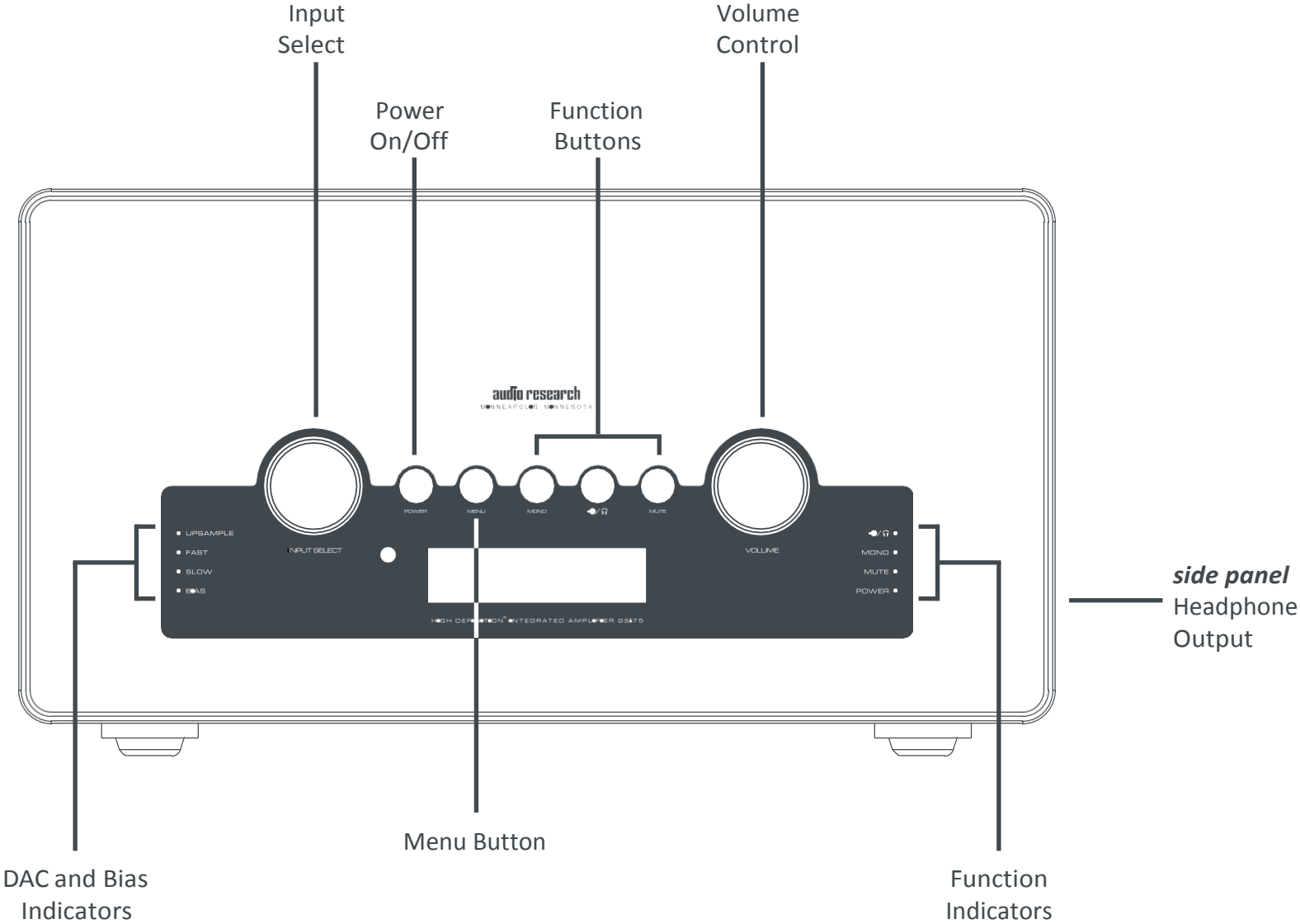
The GSi75 uses a grounding system that does not require a ground-lifter adapter plug on the A.C. power cord to minimize hum. The power cord supplied with the GSi75 has a standard grounding plug to provide maximum safety when properly connected to a grounded wall receptacle. If there is any question regarding proper grounding procedures in your installation, seek help from a qualified technician. Caution should be taken before using custom after-market power cords: they must be at least 14-gauge and have a standard grounding plug properly installed. These power cords are to be used with caution, at the sole risk of the owner.

If other AC powered equipment is used with the GSi75 it may be necessary to use 'ground lifter' adapters on the power plugs of that equipment to minimize system hum. Generally, the lowest hum is achieved when the only direct connection between audio common 'ground' and true earth ground occurs in the integrated amplifier, through its grounded power cord. Other equipment in the system should have some form of isolation to prevent ground loops and associated hum.

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Operation

Front Panel Controls and Displays



Operation

Start-Up

- Secure all rear-panel connections between GSi75, input sources, and speakers.
- Plug three-prong power cord from rear of chassis into grounded A.C. wall outlet. The Power switch defaults to 'off' when the unit is plugged into a power receptacle.
- Press power switch (either on the remote or front panel). The amplifier will begin the warm-up sequence, which lasts approximately 45 seconds, during which 'MUTE' will flash on the display. After the warm-up sequence is complete, the unit will be muted. Depress the front panel 'MUTE' button or the Mute button on the remote to initiate normal operation. You may depress the Mute button prior to the unit completing the warm-up cycle; 'MUTE OFF' will flash on the display until the warm-up cycle is complete.
- Select input source and adjust the volume as necessary.

Shut-Down

- Activate 'MUTE' function.
- Press Power switch to 'off'.
- Turn off input sources.

Break-in

All quality stereo equipment benefits from a break-in period; during this time, the various components, wiring and solder connections change as electrical signals pass through them. While your GSi75 will sound fantastic out of the box, it will only improve with continued use.



example of display after warm-up sequence is complete.

Operation

Front Panel Controls

The GSi75 has two microprocessor-driven rotary controls and five buttons (Power, Menu, Mono, Speaker Off, and Mute).

Left Rotary control (Input Select)

Select input by rotating the control to the left or right. The screen displays the current input at the top left.

Right Rotary control (Volume)

Adjust volume (output level) up or down for both L and R channels. Volume control is also selectable via VOL UP and VOL DN buttons on the remote control. Volume adjustment is indicated in the display window by numeric digits on 0–103 scale.

Do not turn volume up beyond normal listening levels when ‘mute’ is engaged to avoid unexpected or possibly damaging sound levels. Reduce volume level whenever changing input sources, even when muted.

Power On/Off

Supplies power from A.C. wall outlet to the GSi75; indicated by active display window. The GSi75 requires approximately 45 seconds to warm up; this time is required to stabilize the vacuum tubes. See ‘Start-Up Procedure’ on page 11 for details.

Menu

The menu button enters the setup menu of the GSi75 to allow customizing certain settings of the integrated amplifier. See page 15 for further details about using the setup menu.

Mono

Toggle between Stereo and Mono output.

Speaker Off

Toggle between the speaker outputs and the headphone jack, located on the right side of the unit. Please note that the GSi75 maintains individual volume settings for the speaker and headphone outputs.

Mute

When activated, Mute electrically disables all output of the GSi75; indicated by ‘MUTE’ in display window. This control should be activated before switching inputs, changing connections or shutting down your audio system to help protect your amplifier and speakers from unexpected signal pulses. When deactivated, ‘MUTE’ disappears from the display window allowing normal operation.

Operation

Remote Only Functions

In addition to the controls found on the front panel, the remote control offers access to the following additional features of the GSi75.

Display Brightness Adjustment

The front panel display has six brightness settings, as well as the ability to dim the display completely. To change the brightness, use the 'DSP UP' or 'DSP DN' buttons on the remote. Note that when the display is completely dimmed, a small illuminated square in the middle of the display appears after 6 seconds of inactivity to indicate the unit is powered on.

Hours

Pressing the 'HOURS' button will display the total accumulated hours of operation for the GSi75. This is useful to determine the approximate number of hours the vacuum tubes have been in use. After five seconds, the display will revert to the normal operation screen. After replacing vacuum tubes, the hours counter should be reset (see instructions under 'Settings Menu' on page 17).

Cartridge Impedance

The load button allows you to change the input impedance associated with the 'Phono' input; this feature only operates when the 'Phono' input is selected. To match the impedance of the GSi75 with your cartridge, refer to the specifications included with your phono cartridge. If no impedance is indicated, contact the manufacturer. If your cartridge impedance is different from the five settings offered on the GSi75, select the number which is closest to that of your cartridge.

Gain

The gain button allows you to change the gain for the 'Phono' input; this feature only operates when the 'Phono' input is selected.

Note

Because it offers an additional gain stage, the Phono input should only be used with a turntable. Connecting another source, such as a CD player or TV to this input, may cause significant distortion which can cause serious damage to your amplifier or speakers. Both the gain and cartridge impedance functions are only operable when the Phono input is selected.

Operation

Remote Only Functions, continued

Sample

The sample button will switch the DAC in the GSi75 between native rate sampling (whatever the bit rate of the original signal is) and upsampling when using the digital inputs. The upsampling feature will use an integer multiplier (with no quantization) to a sampling frequency of 352.8 kHz (all multiples of 44.1 kHz) or 384 kHz (all multiples of 48 kHz). The upsampling circuit will not upsample to DSD. An LED to the left of the display indicates whether upsampling is on or not.

Filter

The DAC in the GSi75 has two different filter settings - fast and slow. These two settings represent the filter curves available for playback. While there is not a single 'correct' setting for the filter, you may find you prefer the sound of one filter over the other on different recordings. LEDs on the left of the display indicate which filter is selected.

Bias

The bias button enters the GSi75 into bias adjust mode; for further details on how to properly check and adjust bias, please see page 21.

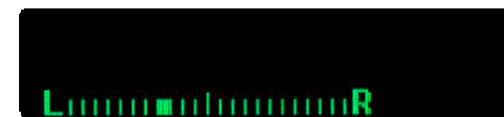
Balance

The Balance control adjusts the output from center position to the left or right channels, which in turn will shift the center point of the sonic image. This is useful in the event the main listening position is not centered between the speakers, or can help with certain room anomalies.

To adjust the balance, press the 'BAL L' or 'BAL R' button on the remote. The balance scale will appear at the bottom the display, and the indicator block will move in the selected direction:



Balance scale in center position



Balance scale shifted left

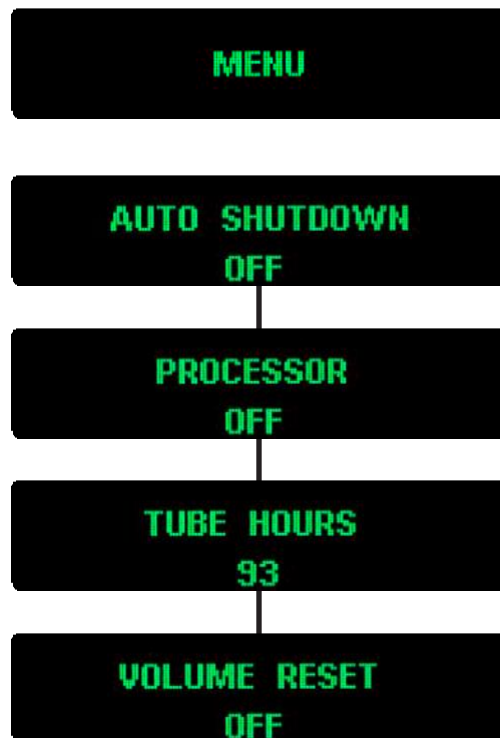
After five seconds of inactivity, the balance scale will disappear from the screen. If the balance has been shifted to the right or left, 'R+' or 'L+' will appear at the bottom left corner.



Operation

Settings Menu

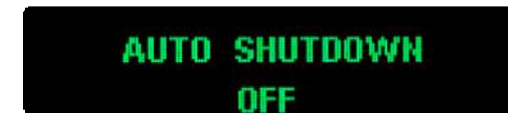
The GSi75 has been designed with a simple, intuitive menu to allow you adjustment of several features of the amplifier. To enter the menu, press the 'MENU' button on the remote or front panel. If no further interaction with the amplifier or remote is taken for five seconds, the GSi75 reverts back to its normal operation screen. Continuing to press the 'Menu' button will toggle you through the different setting options:



Pressing the 'Menu' button will enter the GSi75 into the Settings Menu. Pressing repeatedly will toggle through the menu options.

While a menu item is displayed, rotating the volume knob on the front panel, or using the volume up/down buttons on the remote, will adjust the settings of that particular selection. After making the appropriate change, pressing the 'MUTE' button will confirm the new setting, and the display will show 'OKAY' for five seconds before reverting back to the normal operation screen.

For example:



Press 'MENU' until desired menu item is displayed



Turn volume knob or use volume up/down buttons on remote to make change



Press 'MUTE' button to confirm change



After five seconds, display reverts to normal operation screen

Operation

Settings Menu continued...

Auto Shutdown

The GSi75 is equipped with an auto shut-off feature, designed to turn the integrated amplifier off after a period of time during which it is not used. The auto shut off feature senses any interaction with the GSi75, such as button presses, changing the volume, remote usage, etc. To change/disengage the auto shutdown feature, press the 'MENU' button until the 'AUTO SHUTDOWN' screen is displayed. Using the volume knob on the front panel, or the volume up/down buttons on the remote control, you have the option for 'off' (no auto shutdown) or 1-8 hours. Once you have made a selection, press 'MUTE' to confirm. The display will show 'OKAY' before reverting back to the normal operation screen.

Note

The auto shutdown feature is not in the audio signal path and has no deleterious sonic effect on music playback.


Processor On/Off

The SE3 input of the GSi75 can be selected as a standard, volume-controlled input like the other inputs, or it can be set as a 'unity gain' processor input. This is useful when combining the GSi75 with a multichannel surround sound processor to maintain the same speaker/amplifier system for left and right channels. To use SE3 as a processor input, connect the left and right output channels from your surround sound processor to the left and right SE3 inputs. Press the 'MENU' button until 'PROCESSOR' is displayed:



PROCESSOR
OFF

Turn the front panel volume knob, or press the volume up/down buttons on the remote to change the setting to 'PROCESSOR ON':



PROCESSOR
ON

Operation

Confirm the setting by pressing the 'MUTE' button, and the display will show 'OKAY' before reverting back to the normal operation screen. Now when SE3 is selected, it will display 'PROCESSOR' and the volume control will be disengaged:



PROCESSOR

Tube Hours

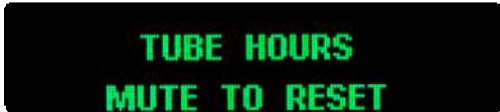
The tube hours display shows the accumulated time the GSi75 has been powered on. This is useful for determining the number of usage hours of the installed vacuum tubes. After approximately 3,000 hours for the KT150, or 4,000 hours for the 6H30, the vacuum tubes should be replaced and the tube hours counter should be reset to zero. To reset the tube hours counter, press the 'MENU'



TUBE HOURS
93


button until 'TUBE HOURS' is shown.

Turn the front panel volume knob, or press the volume up/down buttons on the remote until the display reads 'TUBE HOURS RESET':



TUBE HOURS
MUTE TO RESET

Press the 'MUTE' button to confirm, and the display will read 'CONFIRM?':



TUBE HOURS
CONFIRM?

Then press 'MUTE' a second time to reset the counter. The display will show 'OKAY' for five seconds before returning to the normal operation screen.



OKAY

Note

Once the hour counter has been reset, the total accumulated hours can not be recalled.

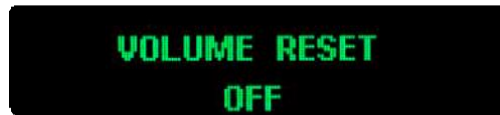
Operation

Settings Menu continued...

Volume Reset

The GSi75 has been designed to remember the individual volume settings for each input, and it will also remember them after a power cycle. You can choose to turn off this feature in the event you are concerned about accidental excessive volumes from a previous listening session.

To change the status of the volume reset feature, press the menu button until the display reads 'VOLUME RESET':



Using the volume knob, or up and down volume buttons on the remote control, change the status to On or Off:



After selecting your desired setting, press the Mute button to confirm the selection. 'OKAY' will be displayed for five seconds and your setting is saved.



Using the Headphone Output

The headphone output of the GSi75 has been designed to accommodate a wide range of headphone designs and should provide excellent results with most any headphone.

To use the headphone output, locate the ¼" headphone jack on the right side of the GSi75 (when looking at the front panel). Connect headphones, and on the front panel, press the speaker/headphone button, or press the 'SPKR OFF' button on the remote control. An LED to the right of the display window will illuminate when the headphones are selected. Sound from the main speaker outputs is muted. You may leave your headphones connected and use the speaker/headphone button to toggle between the two.

Operation

Output Tube Bias Adjust

As shipped from the factory, the output 'bias' adjustments are set for a nominal 65mA per KT150 tube. Under these idle conditions the tubes are each dissipating approximately 27 watts of their 70 watt rating. This point of operation provides 'enriched' Class AB1, and will satisfy the most critical listener.

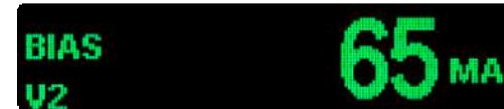
For best results, operate and adjust the GS175 at the voltage specified for your unit. Adjustment must be made under zero-signal conditions after at least 15-20 minutes of uninterrupted stabilization time.

To adjust bias, press the 'BIAS' button on the remote. Using the supplied plastic bias adjustment tool, locate the appropriate adjustment pot on the side of the amplifier, immediately behind the front panel. Insert the adjustment tool into the pot corresponding to the 'V' number selected with the 'Bias/Operate' knob. Slowly turn the adjustment tool, watching the number readout on the front panel display. Continue to adjust the bias until the number reads 65 mA.

Once you have made the adjustment, press the 'BIAS' button again to advance to the next tube to check that the bias of the slaved tube is also within the acceptable bias region on the meter. Continue to the next adjustment tube, and repeat the operation.

Please note there may be slight variances between each tube; this is normal. Though the output tubes of your amplifier are carefully matched before installation at the factory, small changes can occur over the life span of the vacuum tubes.

If the bias difference between the two output tubes can not be maintained within an acceptable range, one or more of the output tubes may need replacement. Contact your dealer or email the Audio Research service department at service@audioresearch.com for a replacement set of output tubes.



Display showing bias information

Operation

Using a Turntable

The GSi75 is equipped with a high performance, flexible phono stage to allow direct connection of a turntable. The adjustable gain and impedance settings allow a wide range of phono cartridges to operate with the GSi75. Note that the 'GAIN' and 'LOAD' buttons on the remote only function when the PHONO input is selected.

Gain

The GSi75 offers two levels of gain; which one is best for you will depend on the output voltage of your cartridge. For the high gain setting, usually the best sound performance occurs when the high gain setting is used for cartridges below 1 mV. To change the gain, simply press the 'GAIN' button on the remote control. The display will show which gain stage is currently being used. Press the 'GAIN' button again to toggle to the other setting. The GSi75 will switch instantly between gain settings; after six seconds, the unit will revert to the operation screen. The GSi75 incorporates "Smart Gain", so that after the gain setting is changed the main volume control is also brought to an appropriate setting, this minimizes any pop sound or an extremely high output that might stress the speakers.



Example of phono gain stage set to 'HIGH'

Impedance

The GSi75 phono stage has five different impedance settings to best match your cartridge: 100, 200, 500, 1k, and 47k Ohms. Consult your cartridge manual (or contact the manufacturer) to determine the impedance of your cartridge, and then select the closest number on the GSi75. To change the impedance, press the 'LOAD' button on the remote control. The current setting is displayed.



Pressing the 'LOAD' button again will toggle the impedance setting to the next option.



Continuously pressing the 'LOAD' button will cycle the phono stage through each setting: 100, 200, 500, 1k, 47k. Stop pressing when the desired setting is reached. After five seconds, the display will revert to normal operation mode.

Note

When pairing a cartridge to use with your system, Audio Research recommends a phono cartridge within an output voltage range of 0.5 mV to 10 mV.

Operation

Using the Digital-to-Analog Converter (DAC)

The GSi75 is equipped with a high-resolution, low jitter DAC to allow direct digital connections to devices with digital outputs. The GSi75 accepts SPDIF (RCA and Toslink) and USB digital inputs. The DAC also offers upsampling to 352.8 or 384kHz, and two digital filter curves.

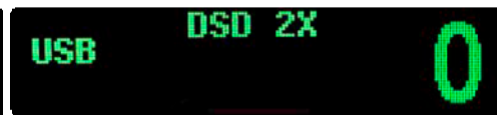
To use the DAC, connect the digital output from a source device into one of the digital inputs of the GSi75. Use the input knob on the front panel, or the direct input buttons on the remote, to select the connected input. The display will show the selected input and, at the top center, the sampling rate of the incoming signal (or the upsampled frequency).



Display showing SPDIF digital input



Display showing the DSD 1X digital input



Display showing the DSD 2X digital input

Filter

The DAC in the GSi75 has two digital filter settings. These two settings offer different frequency curves at the digital filter, and provide the listener the option to choose which setting they prefer.

Please note: there is no 'correct' or 'off' setting for the filter. All digital circuits are designed with a digital filter, and in a fixed design, the choice was made by the designer.

To change the digital filter setting, press the 'FILTER' button on the remote control. The LEDs to the left of the display will indicate whether the 'fast' or 'slow' digital filter is engaged.

Upsampling

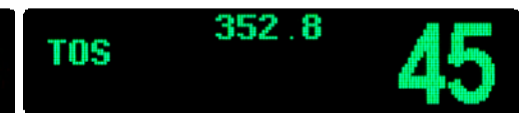
The DAC of the GSi75 offers native rate upsampling; that is, it upsamples to an integer multiple of the original bitstream. The DAC offers two different clocks to ensure no quantization errors during the upsampling process. Signals of 44.1 kHz and its multiples will upsample to 352.8 kHz, and signals of 48 kHz and its multiples will upsample to 384 kHz.

To use the upsampling, simply press the 'SAMPLE' button on the remote. An LED to the left of the display will illuminate when upsampling is engaged, and the sampling rate on the display will show the upsampled frequency. To return to the native sampling frequency, simply press the 'SAMPLE' button again.

Note: Upsampling is not available for DSD files.



Display showing native sample rate



Display showing upsampled sampling rate

Operation

Windows Software Installation

To utilize the USB connection on the GSi75, the connected computer must have driver software installed.

Note: if you are using an Apple computer running Mac OS, you do not need to install any software.

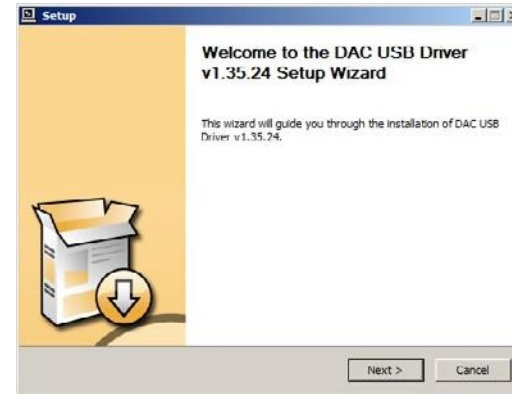
Software Installation

Before beginning, locate the software disc packaged with your GSi75, or visit our website (www.audioresearch.com) and click on 'Downloads' to get the most current version of the driver. Once you have the .zip file, double click to expand it. Navigate the newly expanded folder to located the 'setup.exe' file:

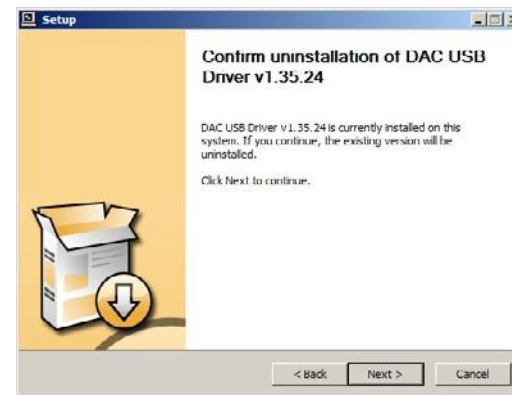
Name	Date modified	Type	Size
dacusb	4/24/2015 3:25 PM	Security Catalog	12 KB
dacusb	4/24/2015 3:25 PM	Setup Information	8 KB
dacusb.sys			
dacusb_x64			
dacusb_x64			
dacusb_x64.sys			
dacusbap.lnx			
dacusbasio.dll			
dacusbasio_x64.dll			
rtanrshcf.hin			
dacusbcp1			
dacusbks			
dacusbks			
dacusbks.sys			
rtanrshks_x64			
dacusbks_x64			
dacusbks_x64.sys			
dacusb12.lnx	4/23/2015 7:38 AM	IHX File	18 KB
dacusbsvc	4/21/2015 3:25 PM	Application	133 KB
ReadMe	4/23/2015 8:14 AM	Text Document	1 KB
setup	4/24/2015 3:25 PM	Application	670 KB
setup	4/24/2015 3:25 PM	Configuration settings	7 KB
usbpalspy	4/24/2015 3:25 PM	Application	376 KB

MacOS core audio does not support DSD directly. Settings in your player software may need to be adjusted for DoP. If your player software does not support the correct DoP format, use PCM. Certain versions of MacOS and Macintosh hardware may not allow all sampling rates. Refer to your player software documentation for DoP or PCM selection instructions.

Double-click or 'run' the program. The next window will begin the installation process:

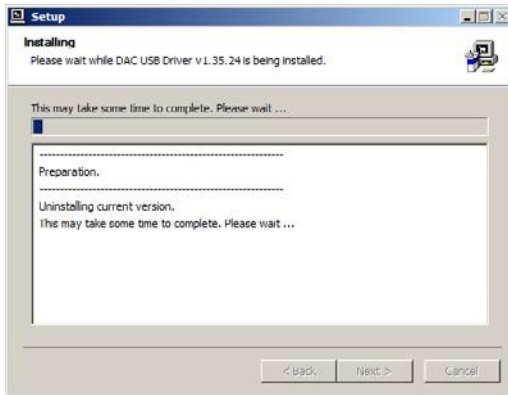


Click next. Note that if a previous version of the Audio Research DAC driver has been installed, the computer will alert you before removing and installing a new version:

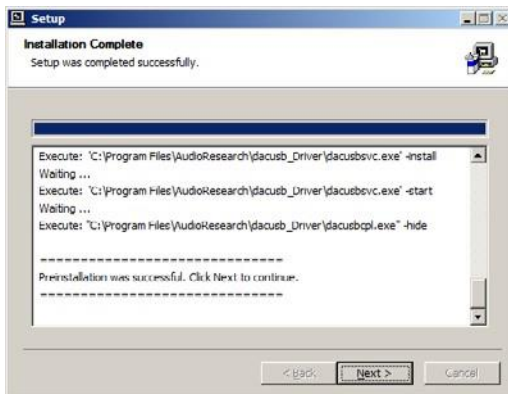


After clicking next again, it will ask you for a destination folder. Please choose the correct folder (or use the default suggestion) and click next to begin the installation.

Operation



The GSi75 will proceed through the install process, and the dialog box on the screen will keep you updated on the progress. Once installation is complete, you will receive a confirmation notice:



Once the install is complete, you will be prompted to disconnect the GSi75 (if it has been connected) and to finish the installation program.



If you do not connect the GSi75, the installer will prompt you again to connect the unit to complete installation.

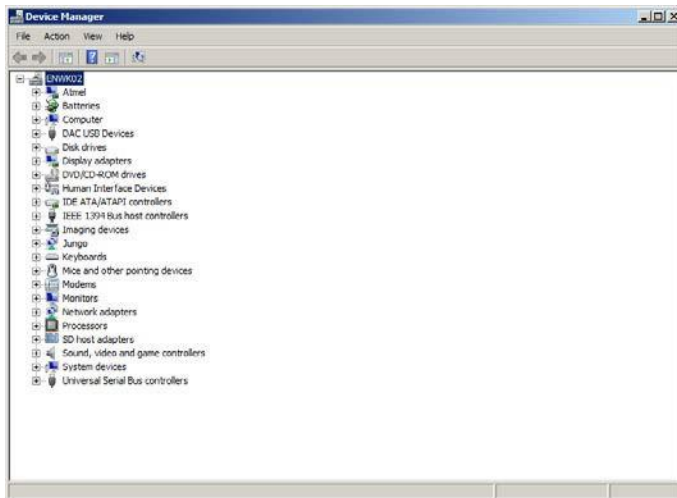


Once the installation is complete and the GSi75 is connected to your computer, you may use your favorite music management software to play music.

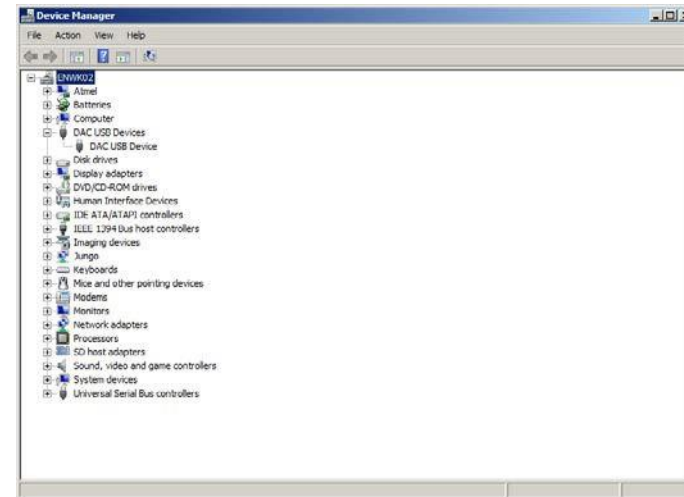
Operation

Configuring the DAC for Windows

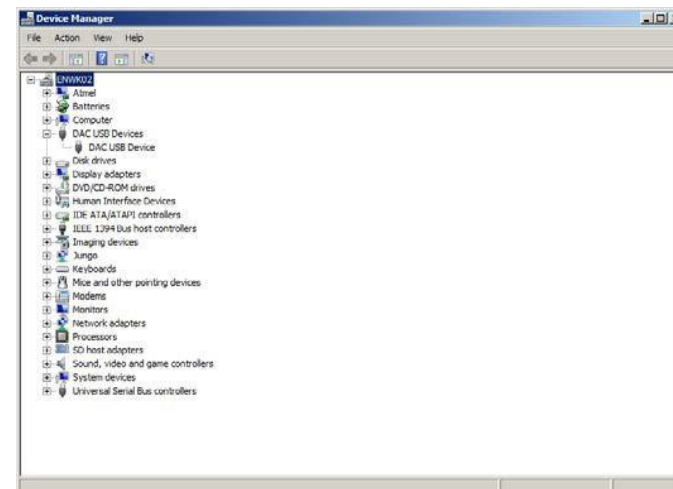
Once the driver is installed on your computer, first check to ensure the GSi75 is connected and operating properly. Please note that in order for the computer to see the GSi75, the unit must be powered on. Open up the Control Panel on your computer, and click on 'Device Manager' to expand:



Expand 'DAC USB Devices':

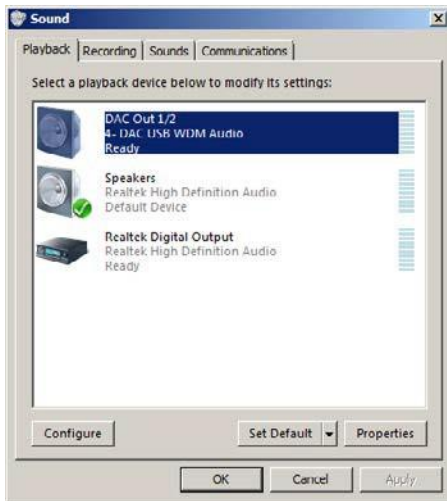


'DAC USB Device' should be present; this confirms the ASIO driver is functioning properly and the GSi75 and computer can see one another. Now check that the WDM driver is functioning. Click on 'Sound, Video and Game Controllers':

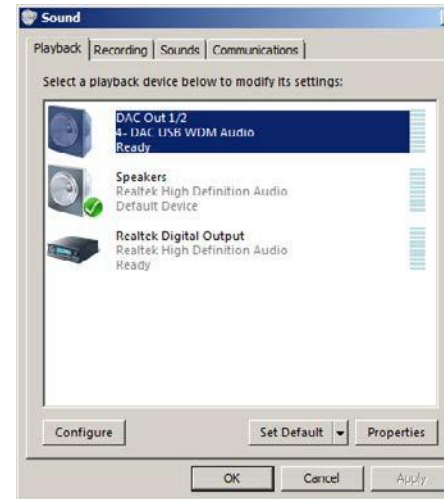


Operation

To set the USB DAC as the default player for Windows Media Player, open up Control Panel and click on 'Sound'. Select 'DAC Out 1/2' and choose 'Set Default':



To change the sampling rate (if using Windows Media Player or another non-ASIO media player such as iTunes for Windows), open up 'Properties' and click on the 'Advanced' tab. Use the dropdown menu to select the sample rate:



Note

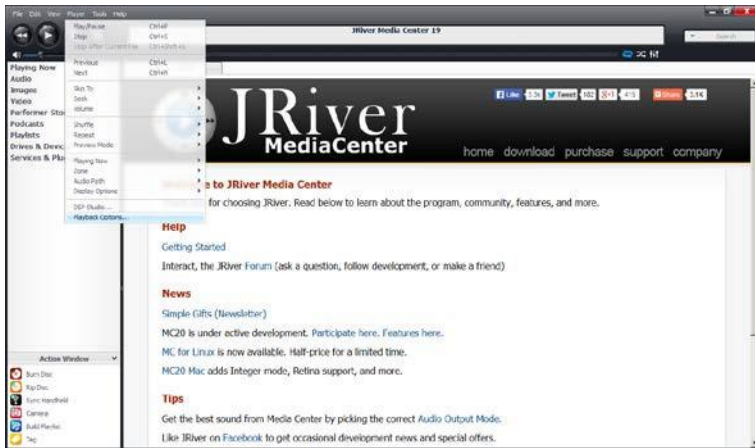
Windows Media Player will only support sampling frequencies up to 192 kHz and 24 bit. Windows Media and iTunes will not automatically switch between varying sampling frequencies. Certain third party software packages will offer this feature.

Operation

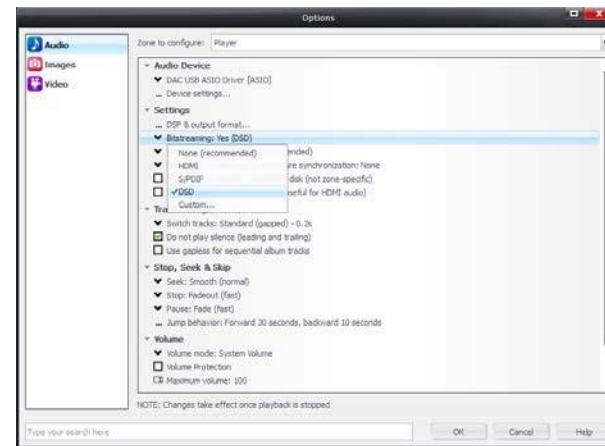
Configuring JRiver Media Center for Windows

Follow these instructions for a simple configuration of JRiver Media Center for Windows.

Once you have installed JRiver Media Center on your computer, open 'Player' and select 'Playback Options':

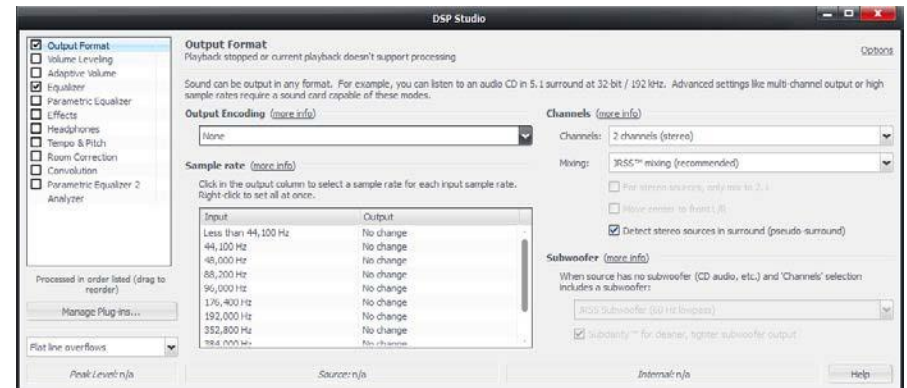
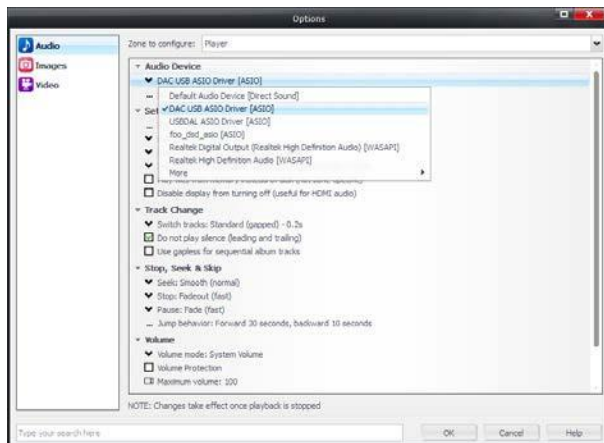


If you plan to play back native DSD files, select 'DSD' under 'Bitstreaming'. If you will not be playing any DSD files, select 'None':



Next, select 'DSP & Output Format' and configure as shown:

Under Audio Device, use the selection menu to choose 'DAC USB ASIO Driver':



Operation

Configuring the DAC for Mac OS

Connect the GSi75 to the USB port of your Mac. Power on the GSi75. In 'System Preferences', click to open 'Sound':



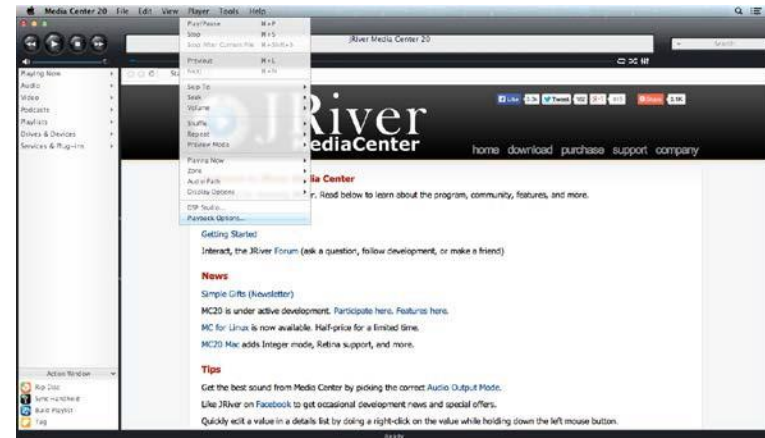
The GSi75 will appear in the list of output devices as 'DAC'. Select this as the output device:



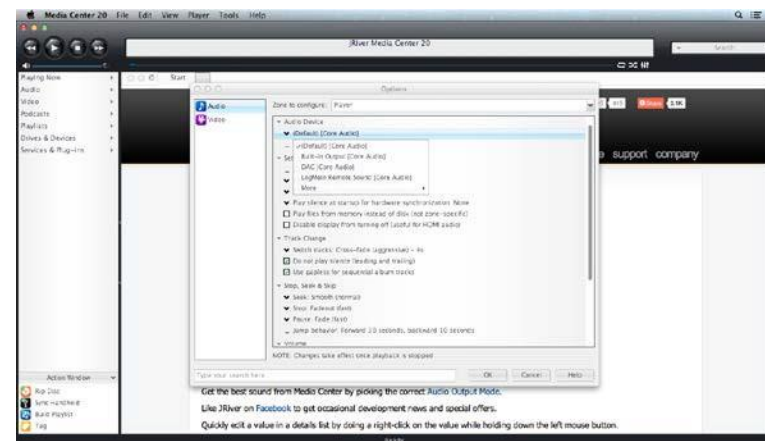
Configuring JRiver Media Center for Mac

Follow these instructions for a simple configuration of JRiver Media Center for Mac.

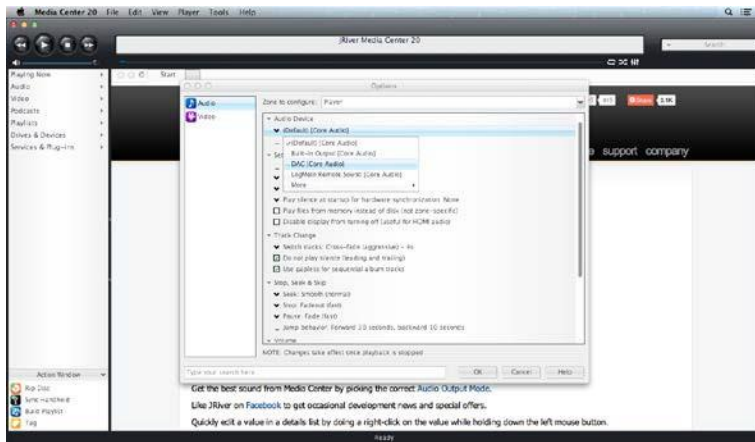
Once you have installed JRiver Media Center on your computer, open 'Player' and select 'Playback Options':



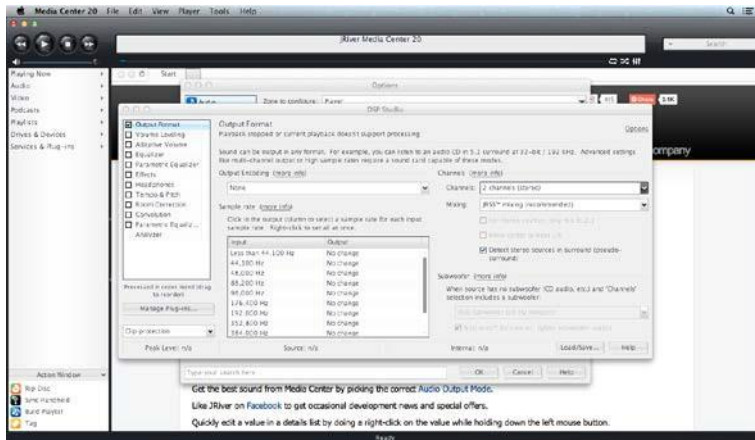
Select the USB DAC device as the output device:



Configuring JRiver Media Center for Mac continued

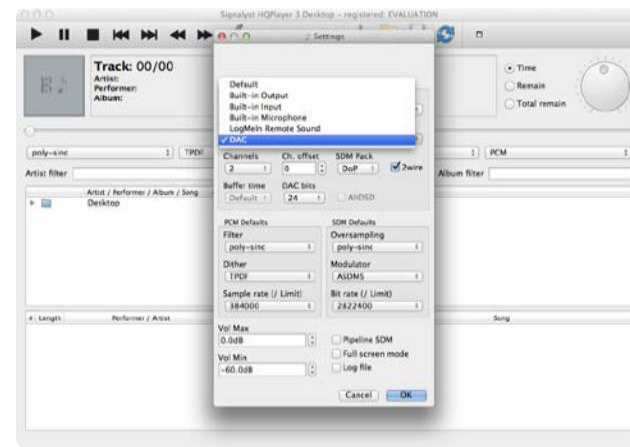


In the options window, please select 'DSP & Playback Options':

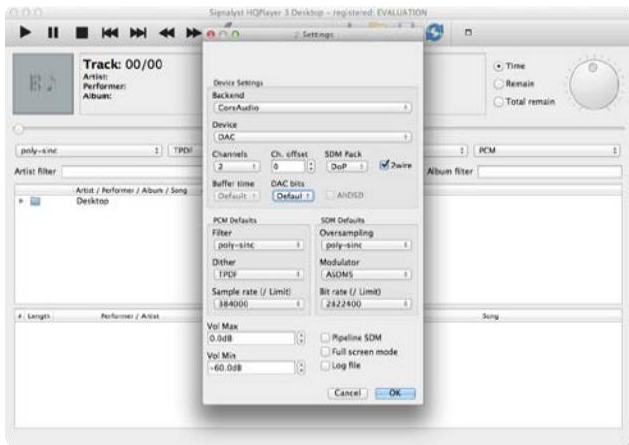


Note
Native DSD playback is not possible with JRiver on Mac. Playback with PCM conversion is supported.

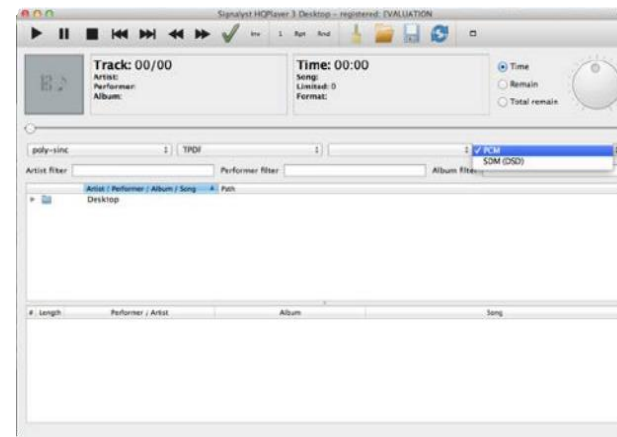
Configuring Signalyst HQPlayer for Mac
Signalyst HQPlayer will support native DSD playback without PCM conversion on a Mac. Once you have installed HQPlayer on your computer, open 'Preferences' and select the USB DAC as the output device:



Set 'Channels' to 2, 'Channel Offset' to 0, 'SDM Pack' to DoP, tick the '2wire' option, and select 'DAC Bits' to default:



Before beginning playback of PCM content, select 'PCM'. If a DSD file is played when PCM is selected, HQPlayer will convert the DSD output to PCM in its software. Before beginning playback of DSD content, select 'SDM' (DSD). If a PCM file is played when SDM is selected, HQPlayer will convert the PCM output to DSD in its software:



Maintenance

Servicing

Because of its careful design and exacting standards of manufacture, your GSi75 integrated amplifier should normally require only minimal service to maintain its high level of performance.

Caution

Your GSi75 integrated preamplifier contains sufficient levels of voltage and current to be lethal. Do not tamper with a component or part inside the unit. Even with the power turned off, a charge remains in the energy storage capacitors for some time. Refer any needed service to your authorized Audio Research dealer or other qualified technician. Additional questions regarding the operation, maintenance or servicing of your preamplifier, please contact the Customer Support Department of Audio Research Corporation at service@audioresearch.com or call 763-577-9700. To initiate a service request, visit the Audio Research website (www.audioresearch.com) and select 'Service Repair' at the top right of the home page. Please follow the instructions and submit a completed RMA form.

Cleaning

To maintain the new appearance of this preamplifier, occasionally wipe the front panel and top cover with a soft, damp (not wet) cloth to remove dust. A mild, non-alkaline soap solution may be used to remove fingerprints or similar smudges. Cleaners containing abrasives should not be used as they will damage the anodized finish of the front panel. A small, soft paintbrush is effective in removing dust from bevels, the recessed nameplate and other features of the front panel.



Disposal and Recycling Guidelines

To dispose of this electronic product, do not place in landfill. In accordance with the European Union Waste Electrical and Electronic Equipment (WEEE) directive effective August 2005, this product may contain regulated materials which upon disposal require special reuse and recycling processing. Please contact your dealer or importing distributor for instructions on proper disposal of this product in your country. Or, contact Audio Research Corporation (763.577.9700) for the name of your importing distributor and how to contact them. Packing and shipping materials may be disposed of in a normal manner.

Warranty

Audio Research Corporation products are covered by a 3-Year Limited Warranty or a 90-Day Limited Warranty (vacuum tubes). This Limited Warranty initiates from the date of purchase, and is limited to the original purchaser, or in the case of demonstration equipment, limited to the balance of warranty remaining after original shipment to the retailer or importer.

In the United States, the specific terms, conditions and remedies for fulfillment of this Limited Warranty are listed on the warranty card accompanying the product in its shipping carton. The warranty terms are also available on the internet at www.audioresearch.com/en-us/company/warranty-statement. Outside the United States, the authorized importing retailer or distributor has accepted the responsibility for warranty of Audio Research products sold by them.

The specific terms and remedies for fulfillment of the Limited Warranty may vary from country to country. Warranty service should normally be obtained from the importing retailer or distributor from whom the product was purchased.

In the unlikely event that technical service beyond the ability of the importer is required, Audio Research will fulfill the terms and conditions of the Limited Warranty. Such product must be returned at the purchaser's expense to the Audio Research factory, along with a photocopy of the dated purchase receipt for the product, a written description of the problem(s) encountered, and any information necessary for return shipment. The cost of return shipment is the responsibility of the purchaser.

Specifications

Power Output: 75 watts per channel continuous from 20Hz to 20kHz. 1 kHz total harmonic distortion typically 1.5% at 75 watts; 0.1% at 1 watt. (PEAK). Approximate actual power available at “clipping” 63 watts RMS (1kHz). (Note that actual power output is dependent upon both line voltage and “condition” i.e.: if power line has high distortion, maximum power will be affected adversely, although from a listening standpoint this is not very critical.)

Power Bandwidth: (-3dB points) 12Hz to 70kHz.

Frequency Response: (-3dB points at 1 watt) 4.0Hz to 70 kHz.

Analog Inputs: SE1, SE2, SE3, (Single Ended RCA connectors).

Input Impedance: 51 K Ohms Single-ended.
Input Sensitivity (Analog): 0.55V RMS Single-ended for rated output. (32.5dB gain into 8 ohms.)

Maximum Input: 8.0V RMS

PHONO STAGE

Frequency Response/Phono Equalization: RIAA: $\pm .2$ dB of RIAA, 10Hz to 20kHz;

Distortion: THD Less than .005% at .50V RMS 1kHz output.

Gain: Selectable 45dB (Low), 62dB (High) at 1kHz SE. (MC & MM compatible).

Input Impedance: Selectable 47K, 1000, 500, 200, or 100 Ohms with 10pF Unbalanced.

Maximum Input Voltages: Low Gain: [10mV RMS at 1kHz; 10mV RMS at 10kHz] with 8 Ohm speakers connected. High Gain: [0.5mV RMS at 1kHz; 2mV RMS at 10kHz] with 8 Ohm speakers connected

Noise: 0.06 μ V equivalent input noise, A weighted, shorted input (85 dB below 1 mV 1 kHz input).

DAC

Digital Signal Inputs: SPDIF: TOS, RCA(BNC); digital USB

Frequency Response: +0-3dB, 6Hz to 85 kHz at rated output. 0.15dB 20Hz to 20kHz. (Balanced, 200 kOhms load)@ 384kHz sample rate.

Distortion: THD+N Less than .003% at 1.8V RMS (Internal point)

Signal-Noise-Ratio: 110dB, A-Weighted

Dynamic Range (AES17): 110dB

IMD (SMPTE): .002%

RMS Noise level: -95dBV (20-20kHz)

Gain: 7.0dB SE.

Input Impedance: (SPDIF Digital): 75 Ohms RCA; Optical: 660nm TOSLink fiber 44.1 to 96kHz.

Digital Sample Rates (Native mode):

SPDIF (RCA): 16-24 bits @ 44.1kHz to 192 kHz,
SPDIF (TOS); 16-24 bits @ 44.1kHz to 96 kHz,
USB 2.0 HS; 16-24 bits @ 44.1kHz to 384 kHz, 2.8 MHz, Native DSD 1X (DSD 64),
5.6 MHz Native DSD 2X (DSD 128); DSD DoP (0X06 0XF9 FLACS).

Up-sampling (PCM sources, 44.1 – 192 kHz): Select up-sampling or Native mode; USB, RCA, TOS up-sample to 352.8 kHz or 384 kHz.

Master Oscillator: 22.579 MHz \pm 20Hz for 44.1, 88.2, 176.4, and 352.8 kHz.
24.576 MHz \pm 20Hz for 48, 96, 192, and 384 kHz.

Intrinsic Jitter: <10ps

Channel Separation: 107dB @ 1kHz.

Jitter reduction: High-stability crystal-controlled re-clocking for all DAC signals.

Specifications

AMPLIFIER OUTPUT STAGE

Output Polarity: Non-Inverting (any input).

Output Taps: 8 ohms, 4 Ohms.

Output Regulation: Approximately 2dB; (from 8 Ohm load to open circuit (Damping factor approximately 4).

Overall Negative Feedback: 4dB.

Slew Rate: 8 volts/microsecond.

Rise Time: 5 microseconds. (0-40 Volts, 10%-90%)

Hum & Noise: Less than 1.0 mV RMS -88dB below rated output (IHF weighted, Vol down).

Display: Vacuum fluorescent dot matrix with optical filter;
LED display: Upsample, Fast, Slow, Bias, Headphone/Speaker, Mono, Mute, Power

Controls: Rotary volume selector (103 steps) and rotary input selector. *Push buttons:* Power, Menu, Mono, Headphone/Speaker, Mute. *Remote Buttons:* Power, Tube Hours, INPUTS: SE1, SE2, SE3, TOS, RCA, USB, PHONO; Load, Gain, Mute, Balance Left, Balance Right, Next Track, Play/Pause track, Previous (Repeat) track, Volume up, Volume down (103 steps), Upsample/Native mode (PCM sources), Mono, Filter select, Tube Bias, SPKR ON/OFF, DSP-DN, DSP-UP, Menu,

Power Supplies: Electronically regulated Low and High voltage supplies for input stages. Automatic 45 sec. warm-up/brown-out mute.

Power Supply Energy Storage: Approximately 350 joules.

Power Requirements: 100-125VAC 60Hz (200-250VAC 50/60 Hz)
450 watts at rated output, 625 watts maximum, 250 watts at "idle": 1.5 watt poweroff.

Tubes Required: 2-Matched pair KT150-Power Output; 2 -6H30 driver.

Dimensions: Width 19.0" (48.3 cm)
Height 10.37" (26.3 cm)
Depth 20.41" (51.8 cm)

Weight: 55 lbs (25.0 kg) Net.; 78 lbs (35.4 kg) Shipping

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