

**audio research**  
HIGH DEFINITION®

**Thank You.**

Thank you for choosing the I/50 Integrated to be a part of your 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 designed 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 sonic performance this integrated will provide to your system.

After reading the user guide, if you have any further questions regarding your I/50, contact your dealer or Audio Research customer service - they will be happy to help you make the most of your new component.

Happy Listening!

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The lightning flash with arrowhead symbol with 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 the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the product.



The 3 wavy lines symbol within an equilateral triangle is intended to alert the user to the presence of a hot surface on the exterior case of the product.

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a soft, damp (not wet) cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

- Warning: The apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
- DO NOT EXPOSE THIS APARATUS TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THE APPARATUS.
- TO COMPLETELY DISCONNECT THIS APPARATUS FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD FROM THE AC RECEPTACLE.
- THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY ACCESSIBLE.
- The user-replaceable rear panel fuse of the I/50 shall only be replaced with a fuse of the correct breaking capacity and voltage rating as specified below and on the rear panel of the amplifier.

100-127V	T5AL250V MDQ (ARC part 34600501)
220-240V	T3.15AL250V (ARC part 34600301)
- Speaker terminal banana jacks are plugged/capped for units sold in countries where this is required due to power cord plug pin shape.

To prevent fire, or shock hazard, do not expose your I/50 to rain or moisture.

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

This unit contains voltages which can cause serious injury or death. Do not operate with covers removed. Refer servicing to your authorized Audio Research dealer or other qualified personnel.

The detachable power cord on your I/50 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 I/50 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 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.

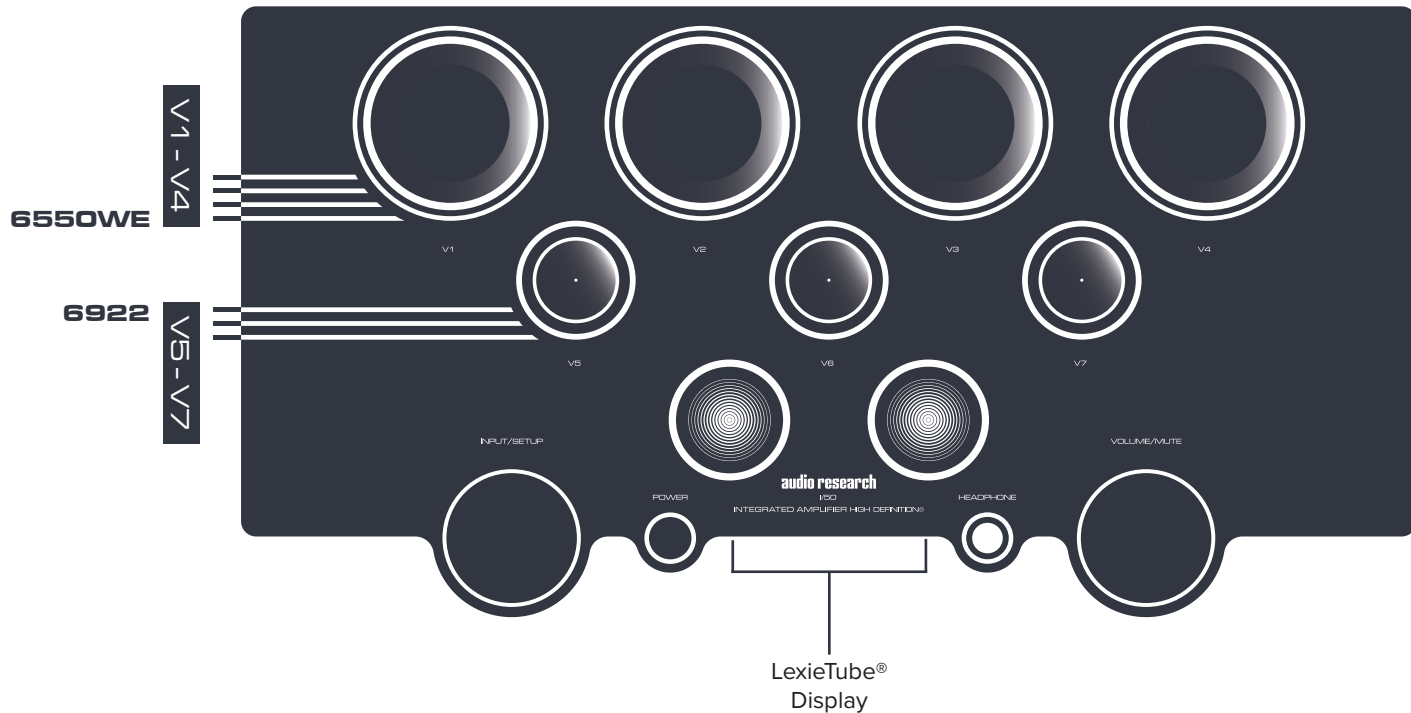
For continued protection against fire hazard, replace the fuse only with the same type and rating as specified at the fuse holder (see page 19 for fuse information).

This unit is RoHS compliant.

***A note about packaging...***

Save all packaging in a dry place away from fire hazard. Your I/50 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 I/50 from unnecessary damage or delay.

## VACUUM TUBE INSTALLATION





***Before operating the I/50***

Your I/50 amplifier is shipped with the vacuum tubes packed in a separate foam-lined carton. These must be unpacked and installed before you attempt to operate the amplifier. Included are three 6922 tubes for the input and driver stages, and a matched pair of 6550WE for the amplification output stage. Proceed according to the following instructions.

Remove tube cover. Carefully remove each vacuum tube from its protective foam and match its location 'V' number (written on the base of the tube) to the 'V' number printed next to each socket. Firmly seat each tube in its matching socket, taking care to 'key' the tube pins to the socket holes. Retain the tube carton with other packing materials for possible future use. Refasten tube cover on the I/50.

***In your system***

To ensure 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 rug or carpet.

Due to its weight (40 lbs/18.1kg), 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. Audio Research recommends a minimum of 6-8 inches (15-20 cm) of clearance above the I/50 to maintain proper ambient operating temperature. It is not recommended to operate the I/50 in an enclosed cabinet.

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 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.

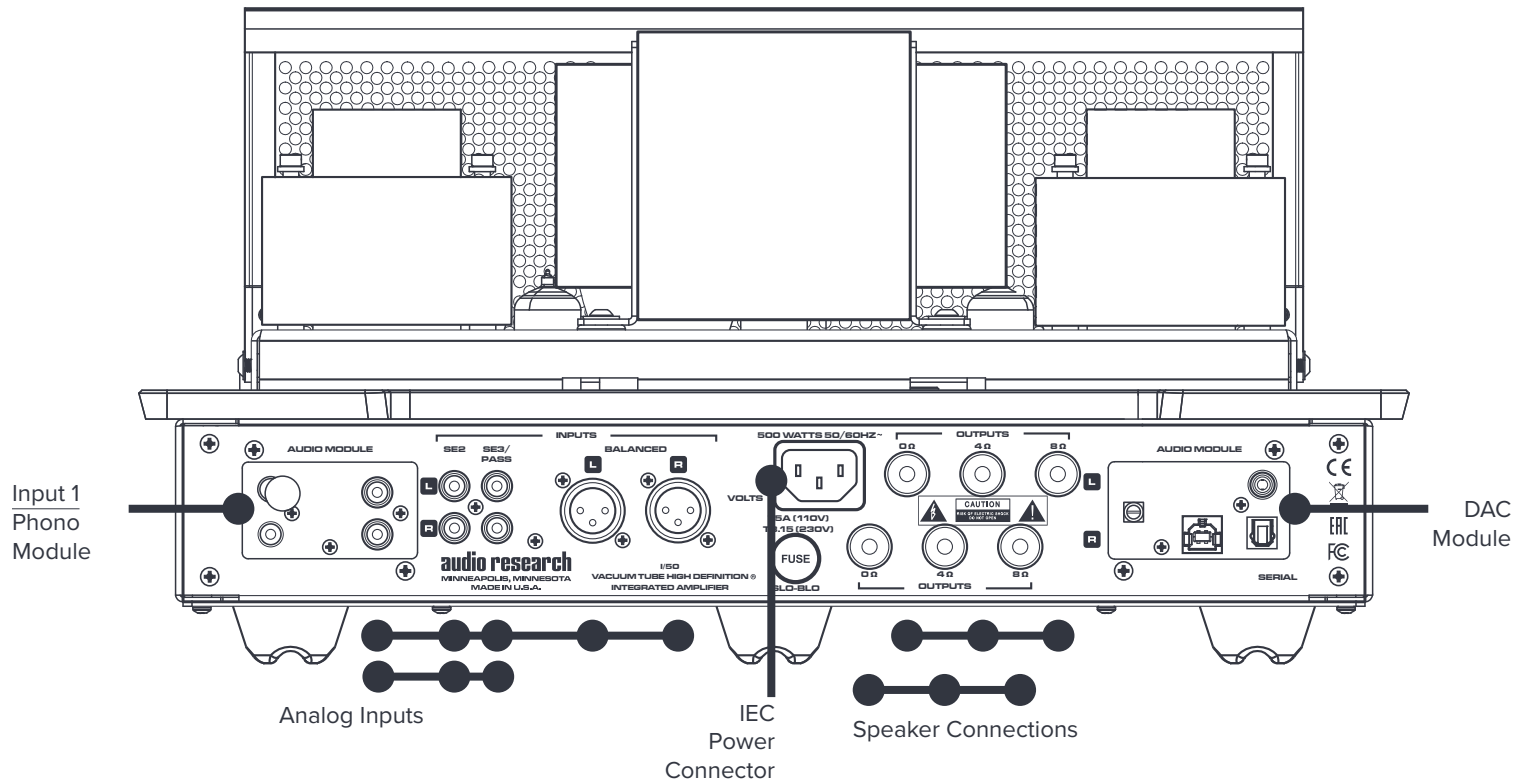
### ***A Note about Vacuum Tubes***

The vacuum tubes in your I/50 have been burned in, tested and electrically matched to provide the best performance and reliability of your amplifier. That said, vacuum tubes must be replaced from time to time. The 6922 tubes in the I/50 should have an expected life of approximately 4,000 hours, while the 6550WE tube in the power amplifier should have a life expectancy of approximately 2,000 hours. These life expectancies are only approximate. The damper rings on the 6922 tubes may be reused.

**Important:** When replacing vacuum tubes, please seek assistance from your dealer or local service shop. The bias will need to be readjusted for the new set of installed tubes.



## BACK PANEL CONNECTIONS



### ***Input Connectors***

There are four analog inputs on the I/50: three single-ended (SE) and one balanced (XLR) pair(s). SE 1 is substituted with the phono module in the event it is installed. SE2 is a standard, single-ended input. 'SE3/Pass' is a dual function input, designed to work as a standard (volume controlled) input or a 'pass thru' or unity gain, permitting the connection of a secondary preamplifier such as a multichannel processor. 'BL' is the balanced input with two XLR-type connectors.

When installed, the DAC module is to the right of the speaker connectors.

### ***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 (-/0) speaker lead to the appropriate (black) terminal, then the (+/4 or 8) lead to the matching (red) terminal. It is important sonically that your entire system be connected so that the audio signal arriving at the speakers has correct, or 'absolute' polarity (i.e., non- inverted). Do not over tighten the output terminal connectors on the amplifier (use a hex driver and tighten snugly - *do not over tighten*). Follow your speaker manufacturer's impedance specification. The I/50 puts out the same amount of power whether the 4 or 8 ohm terminals are used.

### ***Headphone***

The I/50 has a 1/4" (6.35mm) stereo headphone jack on the top panel capable of driving a range of headphone designs. When headphones are connected, all outputs to the speakers are muted; please note that the amplifier section of the I/50 remains 'on' when headphones are used even though it is muted. The volume knob controls headphone volume when in use.

## ***Impedance 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 by trying different output taps.

## **Important**

Use the best available speaker wires and interconnects. Audio Research cannot emphasize this enough. As better components and systems are developed, it becomes increasingly important to avoid the limitations of inferior system interconnections.

## ***Phono Module***

When installed, the phono module replaces the 'SE1' input and is installed in the Audio Module port on the left side of the I/50 (adjacent the other analog inputs). The phono input is designed to accept moving magnet (MM) and high-output moving coil (MC) phono cartridges. Once installed, the I/50 will recognize the phono module; 'PH' will be displayed on the LexieTubes® in place of 'S1' when selected.

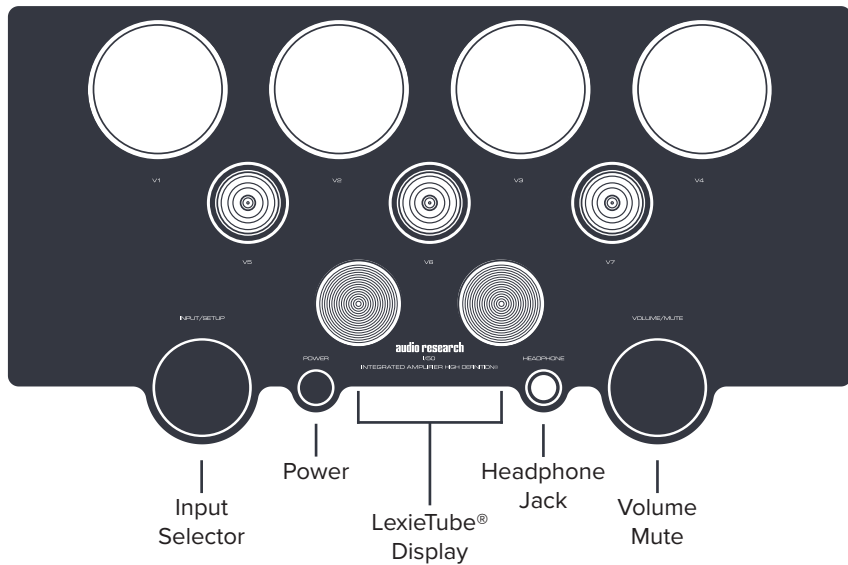
**A.C. Power Connection**

It is important that the I/50 be connected via its supplied 15 amp IEC 14-gauge power cord to a secure, dedicated A.C. power receptacle. Never connect the I/50 to convenience power receptacles on other equipment. Only use the power switch on the top panel of the I/50 for On/Off control of the amplifier or the power switch on the remote control.

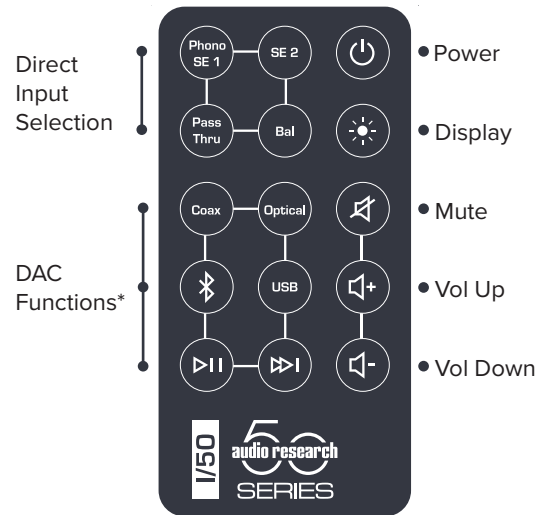
The AC power source for the I/50 amplifier should be capable of supplying 15 amperes for 100 or 120 volt units, or 10 amperes for 220 or 240 volt units.

The I/50 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 I/50 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 I/50 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 amplifier, through its grounded power cord. Other equipment in the system should have some form of isolation to prevent ground loops and associated hum.

## Top Panel Controls



## Remote Functions



\*DAC Functions only work when the DAC module is installed.



### ***Start-Up***

- Secure all rear-panel connections between I/50, input sources, and speakers. For the speaker connections, it is recommended that the right channel connections (bottom) be connected first, then the left channel (top) be connected last. If you are using spade terminations, pay special attention to ensure the tips of the connectors do not touch and cause an electrical short. Ensure all vacuum tubes are installed and properly seated in their sockets.
- Plug three-prong power cord from rear of chassis into grounded AC wall outlet. Once power is applied to the unit, the control circuitry will default to standby, illuminating the LexieTubes® with a single dot in the center of each tube. The unit is ready to be powered on.
- Press the power button (either on the remote or front panel). The amplifier will begin the warm-up sequence, where a 50 second count-down will show on both LexieTubes®. The amplifier will be in mute during the warm-up time. After the warm-up sequence is complete, the unit will be in mute, ready for use.
- If powering for the first time after connecting to an AC power source, the default state is input S1 and volume at 0. When turning the I/50 on from standby, the input will be set to the last used input.
- Select input source either with the left knob, or the remote input select. Adjust the volume using the right knob, or the volume (-), (+), or mute (x) with the remote control.

### ***Shut-Down***

- Press Power button to turn I/50 off.
- The displays show a single dot in the middle of each LexieTube® once the amplifier is in standby.

**Caution:** After Shut-down, please wait at least three minutes before turning the I/50 on. This time is required to allow the energy in the power supply to dissipate. Turning the unit on prematurely could cause a tube arc or other issue.

**Note:** Standby power maintains power only for the control system. It is always indicated by a single dot on each LexieTube®. When the amplifier is not connected to AC power, the dots in the middle of the display tubes will not be present.

### ***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 the I/50 will sound fantastic out of the box, and it will only improve with continued use.

## ***Rotary Control Knobs***

The I/50 has two microprocessor-driven rotary controls for volume, input select, and other limited functionality. Each rotary knob is able to rotate or can be pressed down.

The left rotary knob selects input and allows entry into the phono control settings. The right rotary knob controls the volume. The volume range is from 1 to 45. Pressing down on the volume knob mutes and unmutes the I/50. When muted, the LexieTube® display will be dimmed. The inputs will appear as following on the LexieTube® display: S1 (SE 1 input), or PH (Phono input when module is installed); S2 (SE 2 input); S3 (SE 3 input), or PT (PassThru when engaged); BL (Balanced input). See accompanying instructions with the DAC module for an explanation of the display functions when installed.

**Note:** An optional Phono and/or DAC module can be installed in the I/50. The amplifier will automatically recognize when either of these modules are present and add their functionality to the control system of the I50. There is no software to install when adding modules.

## **Remote Control Functions**

### ***Display***

Pressing the display button will cycle the LexieTubes® through various levels of brightness. There are four levels of brightness settings. The display does not turn all the way 'off'.

### ***Direct Input Selection***

The four buttons for input selection are dedicated to each of the four analog inputs - SE1/Phono, SE2, PassThru (SE3), and BL. Select your desired input by simply selecting it on the remote control.

### ***DAC Functions***

The six DAC functions buttons will only work when the DAC module is installed. Please see accompanying instructions with the DAC module for further information.

***SE3/PassThru Input programming***

The SE3/Pass input can be changed between a volume-controlled input like the other analog inputs, or as a pass-thru when using the I/50 with a secondary processor, such as a home theater processor with a volume control. To change between settings, press down and hold the 'INPUT' knob for three seconds. The LexieTubes® will display 'S3' or 'PT', depending how the unit is currently configured (default from the factory is the SE3, volume-controlled input). Using the 'INPUT' knob, turn to select between 'PT' and 'S3'. Once you have selected the desired function, press down and hold the 'INPUT' knob again for three seconds to confirm your selection.

***Phono Module***

The phono module provides 42 dB of gain and will accommodate moving magnet (MM) and high-output moving coil (MC) cartridge designs. The standard input impedance is 47k Ohms.

***DAC Module***

The DAC module allows the I/50 to make a variety of digital connections and decode them internally. Please see accompanying instructions with the DAC module for further information.

## ***Vacuum Tubes***

It is recommended that you replace the vacuum tubes of your I/50 in sets. All of the tubes in your amplifier have been matched to have similar operating characteristics, to provide the best sound quality and reliability. 6550WE tubes should be replaced at approximately 2000 hours. 6922 tubes should be replaced before 4000 hours. Upon replacing a power tube or tube set, the I/50 must be biased by a trained technician to ensure proper operating values.

## ***Servicing***

Because of its careful design and exacting standards of manufacture, your I/50 amplifier should normally require only minimal maintenance to maintain its high level of performance.

Should you need service, please contact your authorized Audio Research dealer or other qualified technician. Additional questions regarding the operation, maintenance or servicing of your amplifier, please contact the Customer Support Department of Audio Research Corporation at [service@audioresearch.com](mailto:service@audioresearch.com) or call 763-577-9700. You may also initiate a service request by visiting the Audio Research website ([www.audioresearch.com](http://www.audioresearch.com)) and selecting 'Service Repair' found under 'Support' at the top right of the home page.

## **Caution**



Your I/50 amplifier contains sufficient levels of voltage and current to be lethal. Do not tamper with components or parts inside the unit. Even with the power turned off, a charge remains in the energy storage capacitors for some time.

### ***Cleaning***

To maintain the new appearance of the I/50, occasionally wipe the top panel and LexieTubes® with a soft, damp (not wet) cloth to remove dust. Disposable eyeglass wipes can also be used to clean these surfaces. A mild, non-alkaline soap solution may be used to remove fingerprints or similar smudges from the Cerakote finish. Cleaners containing abrasives should not be used as they may damage the finish of the I/50. A small, soft paintbrush is effective in removing dust from bevels, and other features of the front panel. Clean, compressed air can also be used to clean the fan and other hard-to-reach areas.



### ***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](http://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.

Audio Research Corporation does not warrant compatibility of Audio Research products with future operating systems and/or hardware of other manufacturers.

**Power Output:** 50 watts continuous from 20Hz to 20kHz. 1kHz total harmonic distortion typically 1% per channel, below 0.1% at 1 watt (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 critical)

**Power Bandwidth:** (-3dB points) 10Hz to 22kHz

**Frequency Response:** (-3dB points at 1 watt) 7Hz to 30kHz

**Input Sensitivity:** 1.25V RMS for SE input.

**Input Impedance:** 100K ohms Balanced, 48K ohms Single Ended

**Output Polarity:** Non-inverting. Balanced input pin 2+ (IEC-268)

**Output Taps:** 8 ohms, 4 ohms

**Power Requirements:** 105-130VAC 60Hz (210-250VAC 50Hz) 252 watts at rated output.

**Tubes Required:** 2 matched pair 6550WE; 3-6922 (1 input, 2 driver).

**Dimensions:**

**Width** 16.5” (42 cm)

**Height** 8.75” (22.5 cm)

**Depth** 13.75” (35 cm). Total depth with speaker output posts 14” (36cm)

**Weight:** 40 lbs (18.1 kg); 51 lbs (23.1kg) shipping weight.



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