

silicon arts design



# Owner's Manual



Silicon Arts Design & Concert Fidelity, Inc.

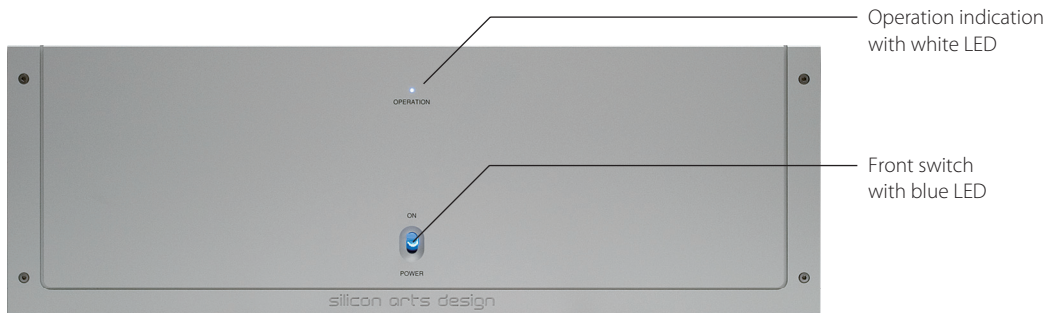
Thank you for your purchase of the ZL-120 monoblock power amplifiers. These amplifiers represent the fruits of over 30 years' design experience by Masataka Tsuda, during which he has continuously pursued the limits of circuit simplification and optimization in order to attain the purest music signal possible.

The ZL-120 represents the pinnacle of our thinking in amplifier design. It is so advanced that we literally could not have designed it two years ago!

**This manual is divided into the following sections**

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**Part names and functions**



Front Panel




Rear Panel

# 1 **Before removing the amplifiers from their boxes, please be careful of the following:**

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The on/off switch located on the front of the amplifier is fragile, so care should be taken not to damage it when lifting the amplifiers from their foam packaging. Similarly, care should be taken not to damage the rear binding posts.

The pearl anodized coating on the industrial-grade chassis of the amplifiers is highly susceptible to fingerprints, so we recommend wearing cloth gloves when handling the amplifiers. Wipe away finger prints using a dry cloth, wiping with the grain of the chassis.

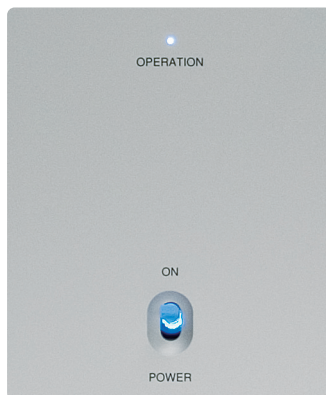
 Do not wipe against the grain or use materials which contain silicon, such as the cloths used for polishing eyeglass lenses.

# 2 **Verifying that the amplifiers have not been damaged in shipping:**


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(Before placing the amplifiers for operating inspection and use in the system, the user may wish to install the attached feet. Please understand that the feet are for convenience only—in order to provide clearance for the user’s fingers when the amplifiers must be lifted—and are not intended to be “audiophile grade.” We believe that because isolation devices do influence the sound to a greater or lesser extent, they should be chosen according to the user’s taste, which is why we do not attempt to provide “high-quality” feet that might imply recommendation of a particular tuning philosophy. Most ZL-120 owners use their own isolation devices between the amplifiers and whatever stands or shelves they are resting upon.)

BEFORE hooking the amplifiers up to the system via interconnects and speaker cables, plug in ONLY the power cord and turn the POWER switch into the on (up) position.



A blue LED should illuminate the POWER switch. After about 25-30 seconds, you should hear the slight clicking sound of the protection circuitry’s relay, and the small OPERATION light near the top center of the front panel should illuminate, showing that the amplifiers are operating properly.

 If either the POWER switch or the OPERATION light are not illuminated, turn off the power to the amps, disconnect them from the wall outlet, and notify your dealer.

# 3 Initial Setup and Cautions

After proper operation is verified per the preceding paragraph, turn the amplifiers off (i.e., turn the POWER switch to the down position until the blue LED fades out) and connect the amplifiers to the upstream component and speakers using interconnect and speaker cables. Be sure to note the CAUTION printed on the back of the amplifiers.



The amplifiers are designed in BTL (bridged tied load) configuration, with the result that they cannot be bridged and also must be hooked up properly to the speakers in order not to be damaged.



The red and black connectors are oriented vertically on each of the two sets of output binding posts on the rear of the amplifiers. Red and black are balanced and floating, NOT hot and ground.

Each run of speaker cables should have its red and black leads connected in vertical orientation to either output 1 only OR output 2 only.

DO NOT connect speaker cable leads horizontally across the two sets of output terminals, or allow speaker cable leads to make contact with the chassis.



**CAUTION :** The protection circuitry of the amplifier is not designed to deal with short circuits. Please pay careful attention not to short the speaker cable leads together. (It is always preferable to connect speaker cables at the speaker end first, before connecting at the amplifier end, in order to avoid accidentally shorting the amplifiers by allowing loose speaker leads to touch each other when the amplifiers are powered on.)

The small protective caps which come with the speaker output terminals are not necessary but can be inserted into any unused terminals (i.e., when not bi-wiring) to meet EU safety specifications.



**CAUTION :** NEVER turn the amplifier on with an input cable connected to it unless that cable is also connected to an upstream component (e.g., linestage). Powering any amplifier on or off with an input cable attached to the amplifier alone can result in severe damage to the amplifier.

The input terminals are connected to a variable input impedance switch which can be set at either 20Kohms or 100Kohms. This is to allow optimum impedance matching with preamplifiers/linestages. Generally, for vacuum tube preamplifiers/linestages, which have higher output impedances, the 100Kohms position sounds best; for solid-state preamplifiers/linestages, which have low output impedances, the 20Kohms position sounds best.



But there are exceptions and personal preferences, so the best position should be determined by listening. This is easy, since the variable input impedance switch can be switched on-the-fly, that is, while music is playing! Selection of either position has no effect on the performance or reliability of the amplifiers; this is only a sonic issue of improved impedance matching.

Before operating the amplifiers for the first time, please check one final time to make sure the connections are correct. Then turn on the upstream components first (the source and, if one is being used, the preamplifier), and make sure these upstream components are functioning. The amplifiers should always be turned on last, after all connections are made and after all the upstream components (source, preamp) have been turned on.



Lift the on/off switch into the on (up) position. A blue LED should light up the switch. After about 25-30 seconds, the small OPERATION light above the on/off switch should light up, indicating that the amplifiers are ready for operation.

When the white OPERATION LED comes on, check quickly to make sure no unusual noises are coming out of the speakers.

Then play a music source and slowly increase the volume to make sure that music is coming out of the speakers normally.

The amplifiers may take a day or two to sound their best if they are new or have been in a cold environment (such as a ship or the bay of an airplane). Because the amplifiers run fairly hot, their parts' life is extended by turning the amplifiers off after each listening session, rather than by leaving them on all the time.



As a general precaution against damage from lightning strikes, it is best when away from the system for several days to unplug the amplifiers from the wall outlet.

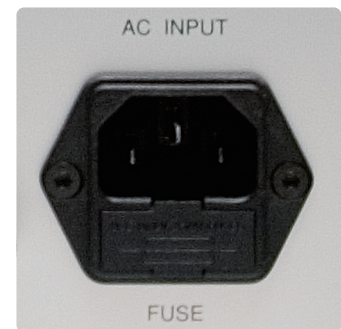
## 4 In case of problems

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The ZL-120 contains no user-serviceable parts (except for the fuse), but it is built to an extremely high degree of reliability.

In the rare event that the white OPERATION LED goes out while playing music, or if it does not come on within 30 or so seconds after the POWER switch is turned on, this is a sign that the protection circuitry has sensed DC leakage and has disconnected the speaker terminals from the amplifier. The presence of DC leakage indicates that something is wrong with the amplifier, which should be turned off, its use ceased immediately, and the dealer notified.

If the POWER switch is turned on but is not illuminated by the blue LED, please check the fuse, which is located immediately beneath the AC inlet on the back of the amplifiers. The proper value is a 7A slow-blow fuse.



## 5 Safety warning and warranty invalidation

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The printed circuit board immediately on the inside of the rear panel is connected to high voltage power, and thus presents an extreme shock hazard if it is touched.



Never open the shielded case which protects the amplifier circuitry, or touch the parts inside. One of the screws protecting the shielded case is covered with a seal.

If that screw is removed, the seal will be broken, and the amplifier will be deemed to have been tampered with or modified, thus invalidating the warranty.

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## Specifications and External Features

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POWER OUTPUT .....	120W/8ohms
POWER BANDWIDTH .....	0.5Hz to 100 KHz (-0.8dB)/50WATT
FREQUENCY RESPONSE .....	0.5Hz to 30KHz ( $\pm 0$ dB), 0.5Hz to 100KHz(-0.8dB)/0.125WATT
THD+N .....	5W=0.102%/10W=0.32%/50W=0.985%/60W=3.82% @10KHz 5W=0.105%/10W=0.338%/50W=0.85%/60W=3.08% @100HKz +1KHz
IMD .....	<0.1% at rated power, SMPTE 4:1 method
INPUT SENSITIVITY .....	2V for Rated Power
INPUT INPEDANCE .....	20Kohm (Low)/100Kohm (High)
VOLTAGE GAIN .....	20dB
POWER REQUIREMENT .....	110-120V AC/50-60Hz; 140W power consumption in standby mode (Option: 220-230V AC/50-60Hz)
DIMENSIONS .....	450mm (W) X 150mm (H) X 360mm (D)
NETWEIGHT .....	22KG
INPUT .....	Switchable audio input (20Kohms or 100Kohms input impedance)
OUTPUT 1, OUTPUT 2 .....	Speaker terminals
AC Input .....	Connects to 120V AC power using cable terminated with 15A plug
Ground .....	Connected to chassis ground
Ground Lift .....	Disconnects ground of AC inlet from chassis

NOTE : While we make every reasonable effort to insure the utmost uniformity and the highest quality in our products, DUE TO VENDOR PARTS AVAILABILITY, MINOR SPECIFICATIONS CAN CHANGE WITHOUT NOTICE AND WITHOUT UPGRADE OBLIGATIONS TO SILICON ARTS DESIGN.

For servicing or questions, contact your dealer or Silicon Arts design & Concert Fidelity, Inc.  
info@siliconarts.jp

# Warranty

Model : ZL-120

Serial Number : \_\_\_\_\_

Date: \_\_\_\_\_

- 1 Silicon Arts Design & Concert Fidelity warrants your amplifiers against defects in materials and workmanship for a period of one year from the date of purchase. This warranty applies to the original purchaser only and to amplifiers used in normal residential stereo systems.
  
- 2 Silicon Arts Design & Concert Fidelity will repair amplifiers without charge for labor or parts, subject to the following conditions:
  - a. The amplifiers must not have been altered or damaged through misuse, abuse, negligence, accident, or improper operation.
  - b. The amplifiers must not have been used outdoors or in any other environment in which they are subject to excessive heat, moisture, or cold.
  - c. The amplifiers must not have been modified in any way, however slight, except as authorized in writing by Silicon Arts Design & Concert Fidelity or performed at the Silicon Arts Design & Concert Fidelity factory.
  - d. The purchaser must provide proof of original purchase, including receipt, name of purchaser, serial numbers, date of purchase, and dealer.
  - e. The amplifiers must be in their original shipping boxes.
  - f. All repairs will be performed at the factory or other service center designated by Silicon Arts Design & Concert Fidelity.

A return authorization is required for factory service and may be obtained by calling or writing the Silicon Arts Design & Concert Fidelity distributor at the phone number and e-mail address provided below.
  - g. Silicon Arts Design & Concert Fidelity will bear all shipping expenses between the customer and the factory, but only after verifying that this warranty applies and has not been invalidated in any way.
  - h. Normal wear and maintenance are not covered by this warranty.
  
- 3 Product specifications may change without notice, and changes made under repair or warranty to similar Silicon Arts Design & Concert Fidelity products owned by others do not imply obligations to make equivalent changes to this product under this warranty.
  
- 4 Where permitted by law, Silicon Arts Design & Concert Fidelity's liability shall be limited to that set forth in this warranty. Silicon Arts Design & Concert Fidelity shall not be liable for incidental or consequential costs or damages caused to the purchaser by any Silicon Arts Design & Concert Fidelity product.
  
- 5 This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.
  
- 6 Any dispute or claim arising out of or relating to this warranty shall be settled by arbitration in accordance with the rules of the American Arbitration Association, and judgment upon the award rendered may be entered in any court having jurisdiction thereof. This procedure must be resorted to before the customer pursues any legal remedies through the courts.

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