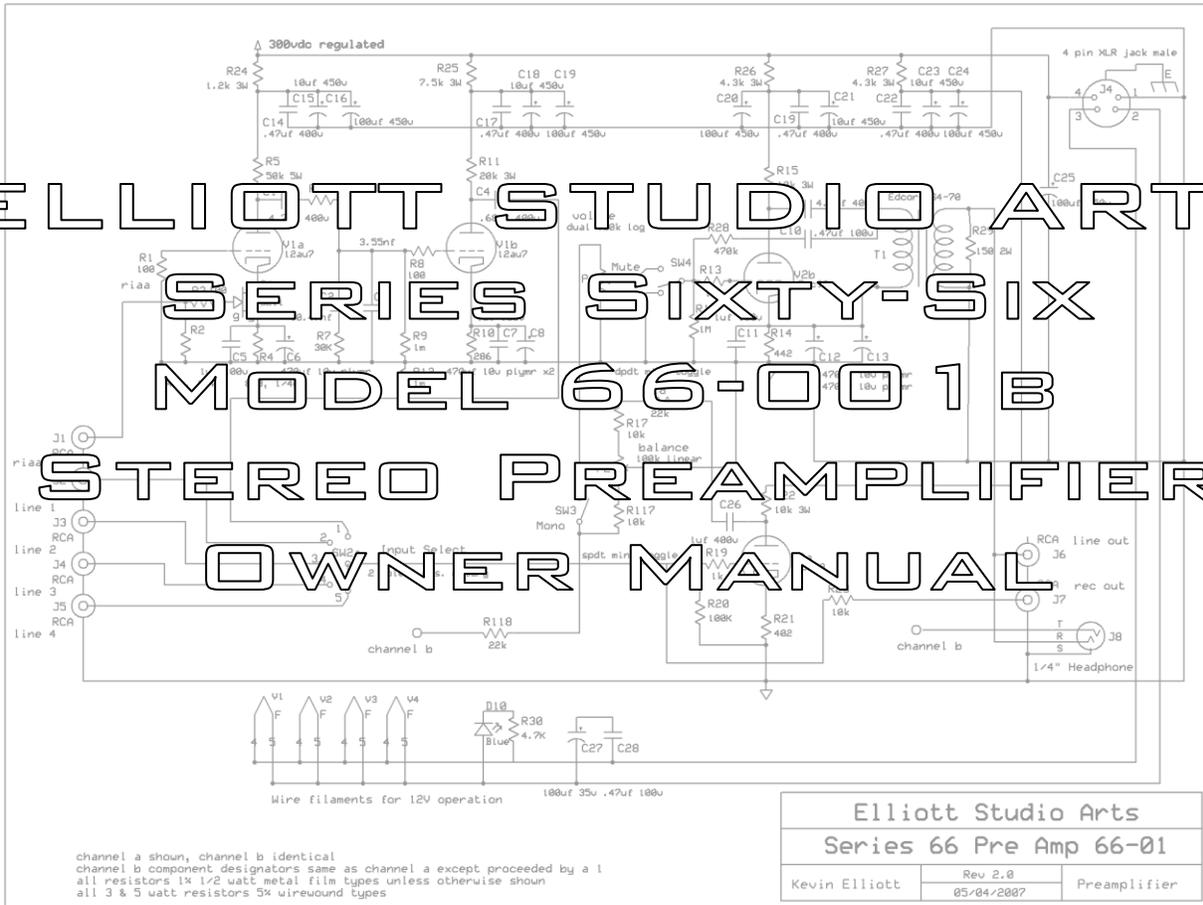


# ELLIOTT STUDIO ARTS SERIES SIXTY-SIX MODEL 66-001B STEREO PREAMPLIFIER OWNER MANUAL



**Elliott Studio Arts Series Sixty-Six  
Model 66-001b  
Vacuum Tube Reference Stereo Preamplifier**

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## Welcome to the wonderful world of vacuum tube audio!

Vacuum tube audio components can add a life to music that only the most expensive solid-state gear can match. The Elliott Studio Arts 66-001p stereo preamplifier was designed to give many years of musical satisfaction and add fun to your listening experience. Although not inexpensive the 66-001b was designed for the 'real-world' music lover and is a high value in performance and no-nonsense design.

The 66-001b is custom designed and hand-built. It features point-to-point circuitry, hand matched high-temperature components and wiring, and custom wound input and output transformers. The casework is heavy gauge steel. The aluminum circuit panel floats on nitrile dampeners to minimize microphonics. The entire circuit panel provides a low-impedance ground plane for ultra low noise. The input transformer is a 2:1 step-down unit wired in 'balanced to ground' configuration, which is the absolute best way to cancel common mode noise (induced AC hum and spuria, RF, etc) coming in from the interconnects. Additionally, all unbalanced inputs are routed through the same transformers, but at a 1:1 ratio. This will allow switching between balanced and unbalanced sources without the usual 6dB increase in gain from balanced sources. It also ensures that all signals have the same path through the circuit. The line stage runs in 'parallel feed' mode and utilizes local feedback to stabilize gain and lower distortion, and the output transformer lowers the overall gain and noise at the same time lowering the output impedance. Extensive capacitive bypassing at every amplification stage ensures powerful dynamic sound. The separate power supply is overbuilt utilizing computer-grade filter capacitors and a choke for an ultra-clean and 'stiff' reservoir. Both the high voltage for tubes and the filament supply is regulated. The AC input has RFI filtering and surge limiting.

Functional features include balance control, mono and mute switch, along with the volume and source select. There is a 1/4" stereo headphone jack for private listening, suitable for low to medium impedance headphones.

Please be aware that this is tube preamp, *it gets hot and has high voltage potentials inside that can be hazardous to your health*. Please refer all service to a qualified technician; we will gladly supply full schematic documentation and replacement parts upon request.

You are qualified to replace the tubes and fuse. Please carefully follow the procedures outlined below so you don't cause harm to yourself or the preamp.

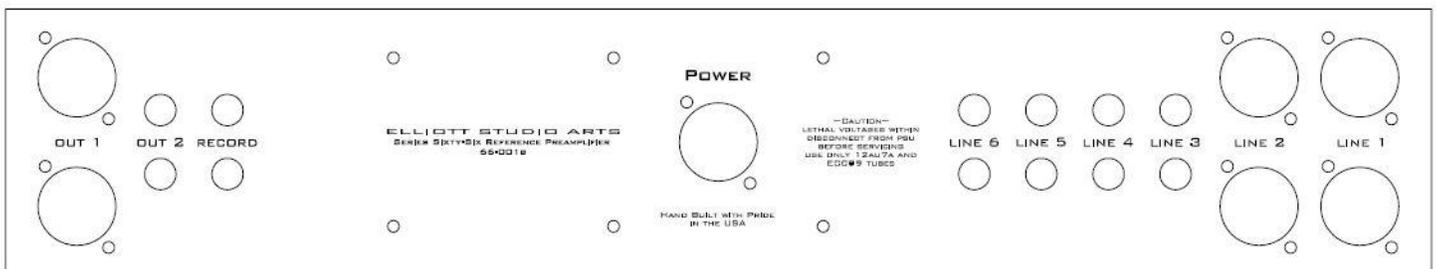
### *Placement and hookup of your shiny new preamp*

Place the preamp on a level non-resonant surface with plenty of ventilation above and below. The power supply umbilical is 6 feet long, make sure to locate the power supply well away from the preamp and its sensitive input circuitry. It also should live on a level non-resonant surface with plenty of ventilation.

Using the provided power umbilical, connect the preamp to the power supply. The cable has a male 4-pin XLR on one end and a female on the other. The male plugs into the power supply and the female plugs into the preamp. The AC cable is a shielded IEC type; plug into the IEC socket on the back panel of the power supply. Since the preamp has built in RFI filtering it is not necessary to plug into any additional filtered power strips or conditioners, but feel free to experiment.

***WARNING!*** Do not power up supply before connecting power umbilical to preamp; also, do not unhook preamp from power supply when powered. This could cause damage to the regulator circuits. Always wait 1 minute for the supplies to discharge before hooking up or disconnecting the units if previously powered.

**Figure 1 - Rear panel of Preamp**



The preamp has four unbalanced stereo line inputs, two balanced inputs, one unbalanced stereo outputs and one balanced stereo output. Also included is an unbalanced stereo recording output. Connect your source components accordingly with high quality RCA or XLR style cables.

Once you have your new preamp installed its time to fire it up! (The power switch is located on the power supply). It takes a few minutes for the tubes to come up to temperature. Though you will get music after about 1 minute it's best to let the preamp warm up for at least 20 minutes before any critical listening.

***Now some more things to consider as you're enjoying the music:***

Currently only one manufacturer makes the ECC99 tube, so no tube swapping opportunities exist. The circuit is optimized and voiced to the ECC99 tube and swapping in different tube types is not recommended as it will change the overall sound of the preamp and hinder its performance.

If you need to replace the tubes be careful to order them with matched sections or have them tested (they're dual triodes, two tubes in one bottle). Most reputable suppliers can provide tubes with matched sections.

Don't handle the tubes too much- keep them clean and free from fingerprints; they'll stay cooler and last longer. It is good to swap tubes once a year (V1 to V2). This insures that the DC filament current is reversed periodically which is good for tube life. The filament current polarity is reversed between like tube sockets to facilitate this process.

The tubes should last a very long time, however they do have a finite life span. It is perfectly safe to leave the unit powered up constantly but this will shorten tube life.

I believe that the quality of speaker, input and power cables affects the sound so use good quality wire. I also believe there is a law of diminishing returns; one could easily spend more on a set of interconnects than the cost of the entire amplifier. Use your own judgment here; it's subjective and a matter of personal taste. If you're into DIY there's plenty of websites featuring homemade speaker and interconnect cables you can try. That's what I've done.

You can try different 'feet' under the preamp; some like the solid cones, some like the squishy pods. The rubber feet provided will support the weight and isolate the vibrations adequately. Cones will drain away vibrations into whatever the preamp rests upon, and squishy pods will keep vibrations from getting out but may help damp them in the process. I haven't tried them.

The 66-001p has very low output impedance thanks to the use of output coupling transformers. This enables you to use long runs of cable between the preamp and your power amplifier without affecting the frequency response. You can then locate your amplifier wherever is most convenient - closer to the loudspeakers for shorter speaker runs perhaps. The gain is also on the low side by design. You may have to turn the volume control higher than you are accustomed to. This is OK, most amplifiers will clip with as little as 1.5 volts – the 66-001p will put out a full 6 volts p – p without distortion. This gain structure was chosen to reduce noise and put the volume pot in a more linear region of its travel for average listening levels.

If you experience hum try dressing the input cables differently. You will find that as you move them around behind the preamp the hum level will go up and down. It is an EMI (electromagnetic) field from power transformers that causes the hum. This is usually not a problem; a little experimentation should reduce or eliminate the hum. Make sure to locate the power supply unit well away from the preamp and input cables.

If there is a nasty buzz there may be a ground loop or an open ground between your source and the 66-001p. Check your input cables for continuity. The use of a high quality isolation transformer is recommended to remove ground loops, especially from video sources that have cable TV connected.

Do not float the AC ground on the 66-001p or any other grounded component in your system in an attempt to isolate the hum! This is a safety ground and is there to protect you if there is a fault that could energize the chassis of the component and cause electrocution.

### *Maintenance of your amplifier*

Tube equipment requires periodic maintenance to ensure optimum performance.

Cleaning – Keep the tubes clean and free of dust and oily deposits. Remove and clean with a soft towel and a mild solvent if necessary (every couple of years). Be careful not to spill the solvent on the painted surface of the casework! The casework can be cleaned with a mild detergent and soft towel. In both instances, apply the liquid to the towel, not directly to the amplifier! Always clean when the preamp is *off* and has *cooled down*. The added benefit of this is that by removing and re-inserting the tubes you are cleaning oxidation off of the tubes' pins and the socket.

Be sure to swap their positions when re-installing; V1 for V2; this reverses the polarity on the filaments to prolong tube life. You may also want to blow out the dust with compressed air while you're in there.

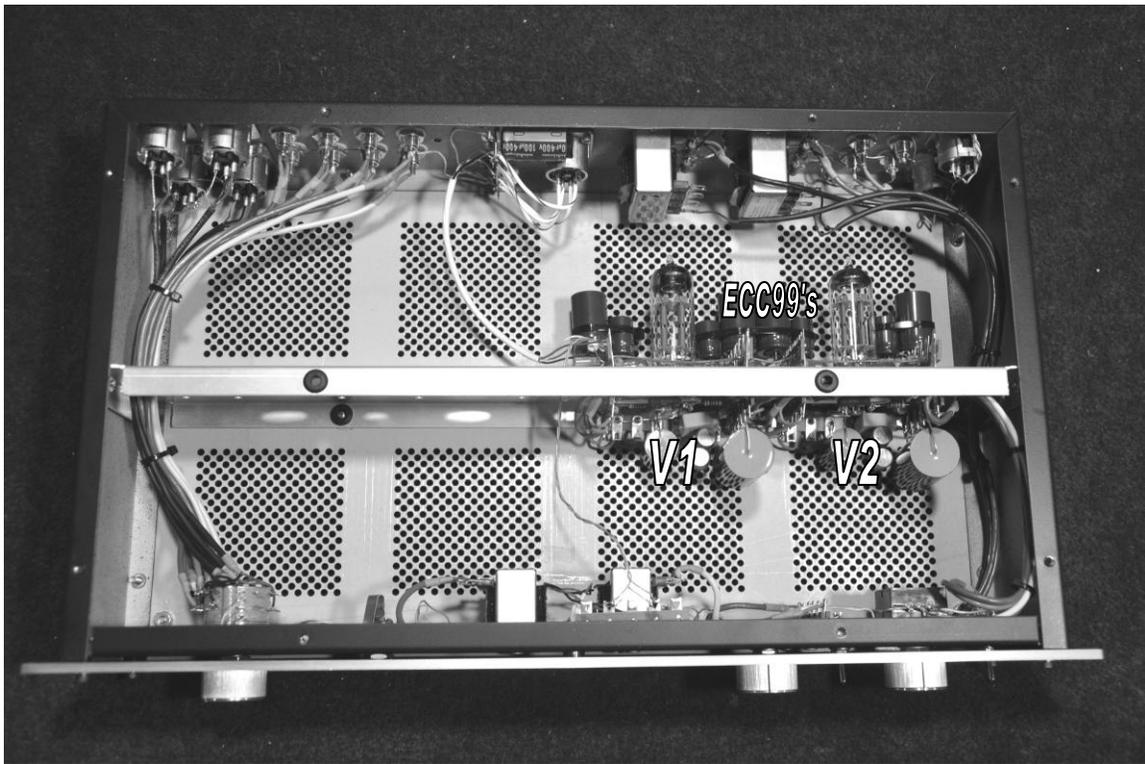
Heat – Your preamp will create heat, that's the nature of tubes. Keep it well ventilated and away from other heat sources

### *Vacuum tube replacement:*

*With power off for more than 5 minutes*, disconnect from the power supply and remove the top cover of the preamp. Refer to figure 2 for tube locations- The linestage tubes (V1 & V2) are ECC99's. Be careful when handling tubes, they are fragile. Carefully remove tubes from their sockets and replace with new ones, observing the pin-orientation; they can only go in one way – do not force them!

Make sure the tubes are clean and replace the top cover. Hook up to the power supply as described above and enjoy. New tubes will need to break in a bit and will sound better progressively over the next 10 hours or so of music playback.

**Figure 2 – Vacuum tube layout**



**Specifications:**

- \*Non-inverting design
- \*2 Balanced and 4 unbalanced inputs / balanced outputs
- \*Input transformer configured in true 'balanced to ground' mode
- \*Input impedance = 50K balanced, 20K unbalanced
- \*Fully point to point construction with high temp wiring and silver solder
- \*Hand-matched high quality parts used throughout
- \*Line stage gain = 14dB (can be wired for 20dB on request)
- S/N ratio: 100dB, reference 1V p-p out, no weighting
- \*2 ea. ECC99 - line stage
- \*High-quality Alps Blue volume pot
- \*Balance control out of direct signal path
- \*Volume and balance controls nested between amplifier stages providing constant load on line inputs for consistent frequency response
- \*Mono (true summing) and Mute switches for added convenience
- \*Record output jacks
- \*Dual main output jacks, 1 balanced XLR 1 unbalanced RCA
- \*Optional HT bypass function
- \*Transformer coupled output - headphones and main outs
- \*8 ohm output impedance - will drive 8 ohm speaker to 1 watt!
- \*Fully regulated external solid state power supply for low noise
- \*35lb shipping weight

## 5 Year Limited Warranty on Parts and Labor

Owner must register product within 30 days of purchase by sending in the registration form below. You will be contacted if any upgrades or modifications become available. We will not sell your information.

Elliott Studio Arts will cover under warranty any repair of our products due to defective parts or workmanship, this includes shipping damage from factory to customer. If a defect is discovered Elliott Studio Arts will, at its discretion, repair or replace the product at no charge to you provided it is returned within the warranty period. The customer must pay shipping fees to Elliott Studio Arts for warranty service.

Elliott Studio Arts will not cover under warranty any repairs of our products due to neglect, abuse, accident or misapplication. Elliott Studio Arts reserves the right to determine what constitutes neglect, abuse, accident or misapplication. This includes damage caused by improper connection to other equipment and modifications carried out by any entity other than Elliott Studio Arts. Elliott Studio Arts is not liable for any damage to associated equipment or property due to neglect, abuse or accidental damage to Elliott Studio Arts products.

Any applicable implied warranties, including warranty of merchantability, are limited in duration to a period of the express warranty as provided herein beginning with the original date of purchase and no warranties, whether express or implied shall apply to the product thereafter. Under no circumstances shall Elliott Studio Arts be liable for any loss, direct, indirect, incidental, special, or consequential damage arising out of or in connection with the use of this product.

Elliott Studio Arts warranty will cover for the first 5 years of ownership the following:

- \*All parts replaced under the warranty agreement except tubes and transformers,
- \*All labor for said repairs,
- \*Return shipping to registered owner.

All products must be shipped to factory for warranty repairs. Customer must contact Elliott Studio Arts for Return Authorization Number before shipping product to factory.

Please save original shipping carton for this purpose.

\*\*Tubes are not covered under this warranty\*\*

## Contact Information:

Elliott Studio Arts  
412 NE 80<sup>th</sup> St.  
Seattle, WA 98115  
206-351-7248  
info@elliottstudioarts.com

Feel free to contact us for questions regarding repairs, service information, set up instructions or praise..

-Specifications, parts and design subject to change without notice-

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<b>ELLIOTT STUDIO ARTS PRODUCT REGISTRATION FORM</b>			
<b>MODEL #</b>	<b>SERIAL #</b>	<b>PURCHASE DATE</b>	<b>DEALER / DIRECT</b>
<b>NAME</b>		<b>ADDRESS</b>	
<b>EMAIL</b>			

PLEASE FILL OUT AND MAIL TO:

ELLIOTT STUDIO ARTS  
PRODUCT REGISTRATION  
412 NE 80<sup>TH</sup> ST  
SEATTLE, WA 98115