

SFS-80
STEREO TUBE AMPLIFIER

OPERATING MANUAL

We at Sonic Frontiers are sure that you will derive many years of listening pleasure with your new SFS-80 Stereo Tube Amplifier. This brief operating manual contains important information regarding the operation and care of the amplifier, so be sure to read this manual carefully and follow these simple instructions in order to keep it looking, operating and sounding its best!

VACUUM TUBES

Handling

We suggest that you do not handle the large power tubes with your bare hands or fingers as skin oils deposited on the glass surface can "leach" through the glass envelope and cause the tube to become "gassy." In other words, your tube life may be shortened unnecessarily. Use a paper towel or one of the cotton gloves (supplied) instead. This is also the recommended procedure for handling the small input tubes. Also, check to be sure that none of the 6DJ8 tube pins are bent when you install them.

Installation

Whenever you remove or insert the input or power tubes into their sockets, handle them gently and do not force them into the sockets. Instead, "rock" them slightly as you slowly push them into place, making sure that they are properly seated.

Recommended Tube Types

Your SFS-80 amplifier is supplied from the factory with 6DJ8 tubes for the input and driver stages (installed into the small sockets). You may also use tubes of the following designations: ECC88, 6922, or 7308/E88CC.

The power tubes are factory supplied matched pair KT99a's but you may also use 6550/6550A or KT90/KT99 types. EL34/6CA7 tubes may also be used but the available output power will be reduced by about 50% to 40 watts. Although not essential, we recommend the use of matched pairs of power output tubes for lowest distortion.

Tube Biasing

This is a simple yet important function of the front panel meter, the selector switch and the four slotted adjustment controls protruding above the top surface of the chassis.

It is essential that the following procedures be followed before you turn on your SFS-80 amplifier.

OPERATION

1. Connect your speaker leads, input cables and power cord to the amplifier, making sure the power switch is in the "OFF" position (down).
2. Using a long-handled slotted screwdriver, rotate all 4 of the adjustment controls fully counter-clockwise.
3. Turn "ON" the amplifiers. After approximately 5 seconds you should see an orange glow appearing inside each tube. Wait one minute, then turn the selector switch to the "V3" position marked on the chassis. Insert the screwdriver into the corresponding bias control and watch the meter pointer as you slowly rotate your screwdriver clockwise. Adjust the control until the pointer indicates "50" on the meter. Now rotate the selector switch to the "V4" position and rotate the V4 bias control clockwise to set the meter pointer at "50." Follow the same procedures for LV3 and LV4. Wait a few minutes and recheck the settings for all 4 output tubes.

Once you have finished adjusting all 4 bias controls, return the selector switch to the "OFF" (centre) position.

Your SFS-80 amplifier is now ready for use.

NOTE: The red mark at the "50" point on the meter scale is the maximum recommended bias point for the KT99a output tubes. Setting the bias meter to read in excess of this value will exceed the rated dissipation rating of the tubes and unnecessarily shorten your tube life with no redeeming sonic benefit. You may, if you wish, operate the tubes at the "40" mark for somewhat longer tube life. If you are unable to perform the previous adjustments, turn to the "Trouble-Shooting" section of this manual on Page 3.

CLEANING

The beautiful stainless steel (non-magnetic) finish of the chassis and transformer top covers will last for years. A regular dusting with a soft, non-abrasive cloth will generally keep the finish looking like new. Fingerprints may be removed with a small amount of silicon spray, such as WD-40 TM. Be sure to apply any liquid into a soft cleaning cloth, not directly onto the chassis. At no time should you allow any liquids to drop onto the amplifiers; it may run into the electronic circuitry underneath and cause damage which will not be covered under your warranty!

TROUBLE-SHOOTING GUIDE

If at any time your SFS-80 amplifier fails to work, follow this simple checklist:

1. Make certain that the A.C. power cord is plugged in firmly, both at the A.C. wall socket and at the A.C. amplifier socket.
2. Make sure that you have biased the output tubes.
3. Remove the A.C. power cord at the amplifier and open the fuse hatch on the A.C. input socket. Check that:
 - A. A "slo-blo" fuse, with a rating of 5 amps 250V (0.25" x 1.25"), is installed (or 2.5 Amp 250V (5mm x 20mm) for European and Asian versions).
 - B. That the A.C. power fuse is intact and has not blown.

4. If the power line fuse has blown, replace it with a same size and type fuse of the same rating (5 Amp 250V. slo-blo - 100 to 120 Volt Countries / 2.5 Amp 250V. - 220 to 240 Volt Countries).
5. Turn on the amplifier. If the amplifier fails to operate, turn off the amplifier, remove the four KT99/KT88 power tubes (using a glove, cloth or paper towel) and turn the amp on again. If the four small 6DJ8 type tubes glow and the A.C. line fuse remains intact, it is likely that one of the four power tubes has shorted and should be replaced.
6. If the fuse blows again without the power tubes installed, then you should return the amplifier to your dealer or to a service depot for repair.

NOTE: Under no circumstances should you replace the A.C. power fuse with one of a higher current rating! Doing so may cause further damage to the amplifier in the event of a fault condition and will also void your warranty! In addition, your continued protection from the risk of fire or shock would be seriously compromised.

NOTE: The surge capabilities of slo-blo fuses from different manufacturers vary. If in doubt, replace your fuse with one supplied by SONIC FRONTIERS or your distributor.

7. If at anytime you are unable to adjust the meter pointer to read at least "35" on the meter, for any one of the four power tubes, you should replace the tube as it is nearing the end of its useful life.
8. If you experience a slight "HUM" in your system, you may have a "Ground Loop." This is caused by having more than one grounded component in your system when all these components run off the same AC circuit. To eliminate this problem, "lift the ground" (either remove the ground prong off your AC cord or use a 3-to-2 adapter plug) on one of the components, preferably a source component such as a Preamplifier. If you are still unsure, please contact your dealer for further assistance.

OPERATE/MUTE SWITCH

On the back panel of the amplifier, you will see a toggle switch labelled OPERATE/MUTE. This is used to MUTE the input signal. The primary use of this switch is to allow the user to remove (or connect) INPUT interconnect cable from the amplifier, preamplifier (or signal source) without the need to "power down" the amp.

This feature will prevent "speaker destroying" bangs, hums, buzzes and thumps from being passed through the amplifier during these cabling changes.

TUBE CAGE

The tube cage serves to both protect the vacuum tubes in the SFS-80 amplifier from physical damage and to prevent small children or pets from burning themselves. The tube cage snaps easily into the four sockets located at the edge of the chassis, but is quite difficult to remove. This is intentional in order to maintain safety while allowing quick user access to tubes and bias controls when needed. (Please refer to the TOP COVER REMOVAL insert in your literature package).

If possible, the SFS-80 amplifier should be operated without the cage as the tubes will have somewhat better thermal cooling.

VENTILATION

Your SFS-80 amplifier must be placed on a flat hard surface to allow proper air flow through the ventilation slots in the bottom panel. Failure to do so may result in overheating of electronic components inside the unit and possible damage to your amplifier.

PACKING MATERIAL

We recommend that you retain all of the packing material and shipping boxes for your SFS-80 amplifier. They are custom designed to prevent shipping damage from occurring. SONIC FRONTIERS INC. will accept no responsibility for any damage occurring to amplifiers that are shipped in packing material other than the original SONIC FRONTIERS INC. packing material.

SAFETY INSTRUCTIONS

1. **WATER AND MOISTURE** - This product should not be used near water. Do not expose this product to rain or moisture to prevent fire or shock hazard.
2. **HEAT** - This product should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances which produce heat.
3. **POWER SOURCES** - This product should be connected to an AC power source of the same rated voltage. The original shipping containers will stipulate the AC voltage this unit can operate on.
4. **CLEANING** - see previous section in this manual.
5. **SERVICING** - Do not open this product. **NO USER SERVICEABLE PARTS INSIDE.** Refer servicing to qualified service technician.
6. **NON-USE PERIODS** - The power cord of this product should be unplugged from the outlet when left unused for an extended period of time.

DISCLAIMER OF LIABILITY

Under no circumstances does SONIC FRONTIERS INC. assume liability or responsibility for injury or damages sustained in the use or operation of this equipment or for damages to any other equipment connect to it.

SONIC FRONTIERS INC. reserves the right to make design changes or improvements without the obligation to revise prior versions. All specifications are subject to change without notice.

LIMITED FIVE YEAR WARRANTY

SONIC FRONTIERS INC. warrants to the purchaser that each SFS-80 Stereo Tube Amplifier is free of manufacturing defects for a period of five (5) years from the date of purchase. This five (5) year limited non-transferable warranty excludes all vacuum tubes, which we warrant for a period of 1 year. To receive this warranty, the original purchaser must mail to SONIC FRONTIERS INC. within thirty (30) days from date of purchase, the enclosed WARRANTY REGISTRATION FORM completed, along with a copy of the bill of sale from an authorized SONIC FRONTIERS dealer. SONIC FRONTIERS INC. will then validate the warranty to the original purchaser. This warranty is subject to the following conditions and limitations:

1. This warranty applies only to the original purchaser.
2. This warranty is void and inapplicable if the product has been handled other than in accordance with the instructions in the OPERATING MANUAL, abused or misused, damaged by accident or neglect or in being transported, or the defect is due the product being tampered with, modified or repaired by anyone other than SONIC FRONTIERS INC. or an authorized SONIC FRONTIERS repair depot.
3. This warranty does not cover normal maintenance.
4. SONIC FRONTIERS INC. shall not be responsible in any way for consequential or indirect damages or liabilities resulting from the use and operation of the product covered herein or resulting from any breach of this warranty or any implied warranty relating to said product.

During this period, SONIC FRONTIERS INC. will repair or replace any defective components free of charge. A Return Authorization Number is required before any amplifier is returned to our factory for any reason. This number must be visible on the exterior of the shipping container(s) for SONIC FRONTIERS INC. to accept the return.

Units shipped to us without a Return Authorization Number or without a visible RA number on the exterior of the shipping container(s) will be returned to the sender, freight collect.

Units to be repaired by SONIC FRONTIERS INC. must be sent shipping and insurance prepaid by the original purchaser in the original packing material. A returned product should be accompanied by a written description of the defect. Repaired units will be returned by SONIC FRONTIERS INC. shipping and insurance prepaid.

All other warranties or conditions either written or implied are void.

TECHNICAL SPECIFICATIONS

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| Power | 80 watts RMS from 20 Hz to 20 kHz (50 ma. bias, 1 channel driven) |
| Frequency Response (1 watt into 8 ohms) | 6 Hz to 50 kHz + 0.5 dB 3 Hz to 70 kHz - 3.0 dB |
| Input Impedance | 100 Kohms |
| Input Sensitivity | .95V RMS at 1 kHz for 80 watts |
| Power Requirements | 400 VA 50/60 Hz (Maximum) |
| Fuse Requirements | 5 Amp 250V slo-blo - 100V to 120V Countries 2.5 Amp 250V slo-blo - 220V to 240V Countries |
| Tube Complement | 2 - Matched pair KT99 (or KT88) 4 - 6DJ8 |
| Dimensions | 18 in. Wide x 14.5 in. Deep x 9 in. Wide |
| Weight | 70 lbs. (32 kg) - packed |