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"Now You Can Afford Hi-Fidelity Audio"

Tube Amplifier Setup and Maintenance

Please read this document in its entirety, you may be tested if you need warranty service :-).

There are no user serviceable parts inside the unit. Going inside the unit will void your warranty and is also quite dangerous due to high and retained high voltages. Always have a qualified tech perform internal service.

Your Grant Fidelity amp is designed for many years of trouble free use, however like any high-performance product, attention to the fuel that delivers the excitement needs a bit of checking and maintenance. The fuel that drives your Grant Fidelity Tube Amp is the tubes. Tubes are fun, simple to install, maintain and quite a bit addicting.

All Grant Fidelity tube components are factory tested for 48 hours under load prior to shipping with the supplied tubes. However shipping and handling can cause you to receive a defective tube or product. Our retailers and/or Grant Fidelity carry an ample supply of emergency replacement tubes and components in the event you receive a defective product. Please contact your retailer or Grant Fidelity to arrange for an immediate replacement.

We strongly suggest you have a high grade power surge/spike protector 'designed for audio' for your components. Warranty services are not provided for surge related problems that can damage your product. In the event that you return a product damaged by a power surge/spike, you will be charged for service. Grant Fidelity offers an excellent Power Conditioner selection designed for better sound and proper protection for your Grant Fidelity gear. Contact your dealer for further information.

Please read and follow these simple steps to get the most out of your Grant Fidelity amplifier:

Safety First

GF amps are designed to the highest safety standards and there is no chance of injury if you use common sense. All user maintenance is from the outside of the unit or under the tube cover.

Tubes run hot and need to cool down before removing or replacing. Never touch the tubes when on and wait at least 5 minutes for cool down after powering down.

Only use the supplied power cable or a Grant Fidelity upgrade power cable with your GF product. Never connect a GF product to an ungrounded power supply or use a device or method that removes the ground pin.

If you have young children or pets, please select a GF product that is provided with a tube cover and use such cover.

Location Safety

Always place your GF product in a well ventilated area to dissipate heat, with at least 6 inches clearance above and 4 inches on the sides. Always place on a sturdy stand designed to handle at least twice the weight of the product and is located where children or pets cannot cause the product to fall. Never place your GF

product on a carpeted floor. Never place other equipment above or below your GF amp. If your amp is manual bias, please allow for extra top clearance to allow for biasing routines described later.

Grant Fidelity as with all electronic equipment should not be used near water or damp locations. Using outside is not recommended unless you have a licensed electrician provide a properly grounded circuit and you have an enclosure to protect the amp from the elements.

Unpacking

Please keep all of your packaging material for future transport. If you are moving your amp, please re-use the packing materials. Check your manual for supplied components and confirm that all is present. If anything is missing contact GF or your dealer immediately to determine if the missing part is required for start-up.

If your amp is 'Manual Bias' you will need a standard and inexpensive Volt or Multimeter. See Setup – Manual Bias below.

For warranty service, your product must be returned in its original packaging with all accessories to GF or your dealer with proof of purchase from an authorized dealer. Keep your product packaging for at least your warranty period and your product's resale value will be higher with the original packaging. Grant Fidelity will not cover damage incurred by warranty shipping.

Most GF products weigh a lot and require a bit of planning before lifting and placing. Be careful to follow good lifting guidelines to protect your back. Make sure you have cleared your final location and have a clear path to this location and have followed the 'location safety' above.

Setup – Install Tubes

Do not connect GF amp to power, yet. Try to have a soft work area in case you drop the tube (it happens). Even from a few inches, if the tube lands on a hard surface, it will break. Use cloth

gloves or a baggie to hold tubes, wipe off any fingerprints on glass portion of tube with a soft cloth. Fingerprints can lead to premature tube failure. Try to use the base of the tube as much as possible for installing and especially removing tubes. Try not put excess force on the glass of the tube this can (rarely) cause the seal between the glass and base to leak the vacuum.

Some Grant Fidelity amps come with resistors connected between speaker terminals. These are provided as a precaution against powering up the amp without a speaker load connected, which can damage the amp. Remove these as you hook up your speakers.

The tubes are matched in the factory and identified as to which tube goes where. Note the tube guide on the bottom of the tube (male); it is a small slot that matches to the slot in the tube socket (female). Line this up to the tube socket and apply gentle but firm pressure to install tube. You may have to wiggle the tube a bit to get it to line up properly. You will feel a slight snap as the tube properly seats in the socket. Align tube so that it is straight up and perpendicular to the socket. There is a bit of play on the seating of the tube.

Install smaller (pre-amp and driver) tubes first, then larger (power) tubes.

If your Grant Fidelity amp is automatic bias, then you are ready to connect your components (first) then connect to your power. Skip to 'powering up - burn in'.

Setup – Manual Bias amps

If at any time during this process you see a flash from the power (large) tubes, hear constant popping or static sounds, see a deep red glow (orange and blue is normal), try to identify the defective tube, if red or purple shut down ASAP and contact your retailer or Grant Fidelity for a solution.

It is normal for some popping sounds on start-up and shutdown from the tubes.

You will need a standard and inexpensive Volt or Millimeter to perform the manual biasing of your system. Manual Bias is often preferred often over automatic bias as it gives you the ability to tune your tubes. Automatic bias is often preferred for larger more expensive tube types (300B, 805, 813's etc) where you blow the tube if the bias is too far off.

Grant Fidelity Manual Bias amps are factory biased but still need re-biasing from shipping up on power up. Only the power tubes require biasing, pre-amp and driver tubes are always auto bias on Grant Fidelity amps, pre-amps and players.

If you are not familiar with the operation of a voltmeter, read the instruction manual for your meter or ask your dealer or ask in the Grant Fidelity forum. Set your voltmeter to the range just above what your manual states or the value indicated on the amp itself. For example on my voltmeter, I set it to read 20 volts DC and dial in a reading of 0.xx where x depends on the amp.

Turn the power on and wait 2 minutes to warm up.

Insert the meter's negative (black) lead into the negative (-) symbol at the tube's bias point and then the positive lead (+). You may have to fiddle a bit to get a constant reading, once you do,

hold the leads in place with one hand. Using the Grant Fidelity supplied Insulated Bias Screwdriver adjust the bias to the required setting using very small increments. Repeat for the rest of the power tubes, matching the readings.

Your first time doing this may take some time, but with practice you can bias the amp in about 2 minutes, again this is kind of fun.

After one hour/one day/one week/one month, repeat 'biasing'. Then check monthly.

Setup – Speakers Connections

If your speakers are rated 8 ohm or greater, connect to the 8 ohm connectors on the back of the amp. If your speakers are rated 4 ohm, connect to the 4 ohm connectors. If your speakers are rated at 6 ohm, connect to 4 ohm first for amp break-in (100 hours), after break-in you can try 8 ohms to see which better suits your speakers, room and ears. This is similar for 4 ohm speakers, you can try them at 8 ohms and may prefer the sound that way, but your power tubes will not last as long, assume a 20% reduction in tube life expectancy.

Never power up your Grant Fidelity Amp without speakers connected.

Powering up, Burn-in

If at any time during this process you hear popping or static sounds, see a deep red glow (orange and some blue is normal), try to identify the defective tube, if red shut down ASAP and contact your retailer or Grant Fidelity for a solution.

Please do not leave your amp unattended for long lengths of time during the 22 hour initial burn-in.

If your Grant Fidelity amp has Switches to change its mode of operation, always power down and wait at least 5 minutes before switching, to allow for power to dissipate from circuit components. Damaged caused by improper mode switching is not warrantable.

All audio electronic components require some burn-in time to perform to specification. Smaller capacitors wake up generally after 50 hours of use; larger capacitors can take months from new. Tubes generally take about 100 hours to sing and get the full benefit of the beauty of the tube sound. When you first turn on your amp you will still get great sound, but to trained ears that sound will be 'choked' and 'tight'. There may or may not be any soundstage. As your amp gets more time on it, it will start to 'open up'.

Ideally during burn-in you Grant Fidelity product will be switched on for at least 3 hour sessions.

Roughly, for the first 10 hours keep the volumes at lower levels, less than, equal to one quarter, then for one hour run it at close to half volume (keep treats handy for neighbors), or less if it is too loud for your room. Then run your amp back at less than, equal to a quarter for another 10 hours, crank it again for an hour. Adjust the volumes slightly during this initial burn-in.

Then run it as you would normally and enjoy.

Normal Operation

We suggest you have some decent interconnects, speaker and power cables to get the most out of your music system. Grant Fidelity offers a complete range of cabling that your retailer can assist you in selecting for your system.

Your Grant Fidelity Tube component is ready to make music once turned on; however the sound will open up after about 5 minutes of warm-up. If you are doing some 'audiophile' listening we suggest at least half an hour of warm-up.

If you are not listening to music for more than an hour then shut your Grant Fidelity product off. Some other 'audiophile' products require that they be left on at all times and can take days to warm-up for ultimate performance. Grant Fidelity products do not need this.

If your amp has switches to change modes of operation, shut down amp first and wait 5 minutes prior to switching modes and then turn back on. This allows for energy to dissipate which can damage your amp. Damaged caused by improper mode switching in not warrantable.

Always wait at least 5 minutes prior to turning your amp back on after turning it off.

Maintenance / Tube Life

A main power fuse is provided at the power supply plug, accessible by pulling out the fuse holder from the outside. Of course unplug the power first. The fuse will blow from large power surges or problems on the inside. A faulty tube will usually pop the fuse too. Replace only with the same rated fuse. It is a good idea to have some spares handy (some GF models ship with an extra fuse in the fuse holder).

If your Grant Fidelity Amp has Manual Bias, you should check the Bias settings on a monthly basis.

If you move your amp, you should check that the tubes are properly seated and check biasing.

Once a year you should use a high quality contact cleaner on the rear connectors and headphone jack if your product is supplied. Follow the directions for the contact cleaner.

Tubes normally run with an orange glow and sometimes a blue glow. If you see red or purple, shut down your amp immediately and replace the tubes.

Approximate tube life is 5,000 hour for power (larger), driver and rectifier tubes. Pre-amp type (smaller) tubes life is approximately 10,000 hours, but can last even up to 100,000 hours. It really depends on what we fondly call the 'tube gods', they occasionally need a sacrifice or feeding of a tube or two. If a tube is going to fail prematurely, it usually does within 30 days, well within the Grant Fidelity tube warranty period of 90 days.

Tubes will either fail drastically, usually when new with a sudden flash and will usually pop the fuse too upon this sudden death failure. After 90 days your tube should last its life expectancy. Your tubes are nearing the end of their life expectancy when you hear a loss of detail or power or when your system loses its clarity. We suggest you purchase replacement tubes (see tube rolling below) while your tubes are still fresh and these can be kept as a backup set.

Whenever swapping out new tubes, we suggest doing in pairs or quads and further suggest replacing driver tubes when replacing power tubes. Always request 'matched' pairs or quads to ensure balanced tonal operation.

Tube Rolling

Of course part of the fun of owning a tube component is that you can drastically alter its sound to suit your ears, system and/or music. This is probably the biggest advantage over solid state components which are quite limited in their ability to be 'modded' to improve or alter the sound.

If you are new to tubes there are lots of forums (including the Grant Fidelity forum) and info on the web about 'tube rolling'. To start with tube rolling, only swap out tubes of the same type, any other 'rolls' will void your warranty and is only recommended for experienced 'tubies' or techs . We suggest you start with pre-amp tubes which are quite affordable and usually offer the most dramatic changes.

If you do decide to roll your power tubes, bias them to the amp's range.

Note that 9 out of 10 GF customer's to date have either been too happy with the stock tubes or have after rolling, reverted back to stock tubes. As with all high-end audio tweaks you should try back and forth testing, it is human nature to perceive a difference (especially if you paid for the tweak) as better.

Enjoy your new Grant Fidelity product and more importantly enjoy your music!

Sometimes we get wrapped up in the gear (the playing with the box syndrome) and tweaking to the point where we forget what it is all about, enjoying the tunes.

Please register your Grant Fidelity purchase online and don't forget to write a short (or any length you want) review of your product and dealings with GF on our forum. This is required for the coupon portion of your warranty.

We hope to see you in the Grant Fidelity Forum.

Best wishes,

Grant Fidelity