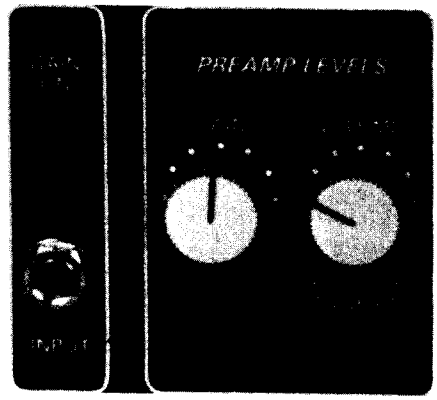
THE FRONT PANEL FEATURES
PREAMP LEVELS

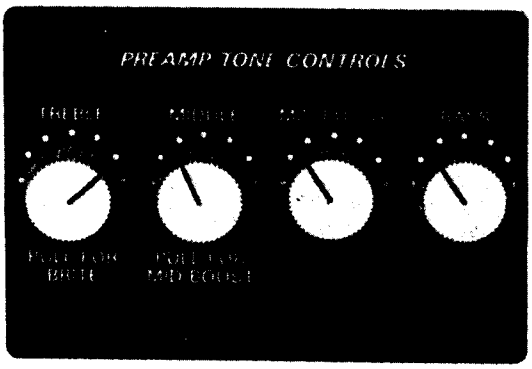
GAIN ON/OFF switch and GAIN level control - Turn the GAIN switch ON to activate the GAIN level control, a Red LED indicates that the GAIN stage is activated. Increasing the level of the GAIN control increases the gain and distortion of the signal as it drives the VOLUME control stage. Turning the GAIN level control completely off will silence the preamp unless the GAIN ON switch is turned off, then just the VOLUME control will adjust the signal level.
The GAIN stage has more than enough boost to drive the weakest single coil pickup into high overdrive distortion. However, because it can provide so much gain it may also provide too much gain for some of the hotter output guitar pickups. Too much gain will produce a hard to control mushy tone. Therefore, always adjust your GAIN level according to the instrument's individual gain characteristics. Just a slight amount of GAIN level, coupled with a larger amount of VOLUME level will add a fatness to the clean tonal settings you may use. A "Tone Trick" for the STP-G II is to use less BASS level as you increase the GAIN level. Try adjusting the GAIN level to the desired distortion level, then turn the BASS level completely off and add back BASS level just until the low end mush starts to reappear...that's the setting where you can have high gain tone and still keep that tight bass response. However, to achieve a very clean tonal setting, turn the GAIN switch off, and use only the Volume control to adjust playing level.



VOLUME control and PULL FOR -10dB PAD - The VOLUME control adjusts the signal level before the EQ section and MASTER volume level control. The STP-G II is designed to produce only a slight amount of distortion character with the VOLUME level control on full. If more distortion is desired, you will need to activate the GAIN switch and GAIN level will need to be increased. The VOLUME control is also a pull switch that activates a -10dB PAD in the event you are using a high output instrument pickup and want to increase the gain/distortion headroom ratio. Too strong of an instrument level can create overload distortion too early in the signal of the STP-G II and limit it's tonal versatility. High output guitars or basses and also most electronic keyboard instruments with those higher output levels will benefit from using the PULL FOR -10dB PAD which is located on the Volume control.

PREAMP TONE CONTROLS

Special Note: The STP-G II has a classically inspired guitar preamp section that uses passive tube circuitry. This means that the entire tone section is interactive. Using any one of the 3 controls in the full on position will decrease the effect of the other 2 controls. Therefore, we recommend starting your "tone seasoning" process with the TREBLE, MIDDLE, and BASS at the 12 o'clock position, then adjust them each left or right of center to dial in your desired tonality.

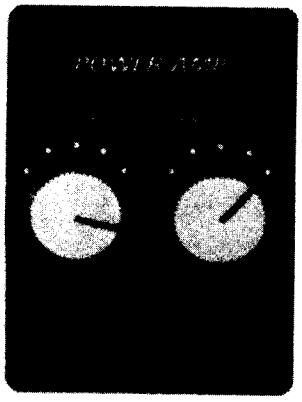


TREBLE LEVEL control and PULL FOR BRITE - The TREBLE level control obviously increases the treble response of the STP-G II preamp stage. However, it also functions as a pull-switch to activate the Brite circuitry for extra edge.

MIDDLE level control and PULL FOR MID BOOST - The MIDDLE level control adjusts the amount of Midrange frequencies in the overall tonal blend of the STP-G II preamp. The same level control also functions as a pull switch to activate the MID-BOOST section which has 5 individual tonal characters ranging from high midrange (on the left) to low midrange (all the way right). Activating the MID-BOOST is a great way to fatten up the higher gain distortion tone settings (with the GAIN switch on) as well as beef up cleaner volume settings for Jazz chords and Blues solos. However, activating the MID BOOST will definitely interfere with getting real clean tonal settings.

BASS level - This controls the amount of BASS frequencies in the overall tonal character of the STP-G II preamp stage. Turn the BASS level down in the higher GAIN settings so as not to mush or over compress the bottom end of the sound.

POWER AMP CONTROLS



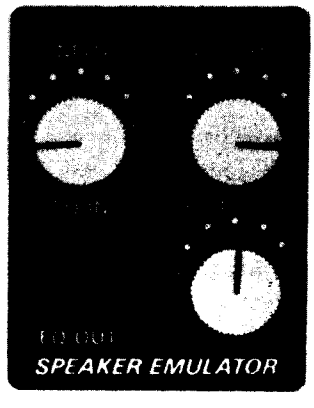
PRESENCE level - This controls the overall brightness of the amp by regulating the amount of high frequency allowed to pass back into the feedback loop of the amplifier stage. Since the PRESENCE circuitry is in the output power stage of the amplifier, using more or less of it will effect the gain of the power stage, and hence the type of output distortion produced. Generally speaking, if you have a shrill guitar, use less PRESENCE level, and if your guitar is abnormally dark or if the room is dull or dark sounding, use more PRESENCE level.

MASTER volume level - This controls the final stage of the preamp signal chain and feeds the power amp. The MASTER is useful when playing through a speaker in a live application. The MASTER is usually left in the full on position (and thereby out of the signal chain) when using the STP-G II in recording applications. That is because the secret to the great distortion tone of the STP-G II is in getting the power stage to overdrive. Lowering the MASTER reduces the signal that drives the power stage and therefore reduces power level and it's output power section distortion. However, the MASTER volume level control can be used moderately to soften harsher distortion overtones created in the high gain preamp section, producing a creamy distortion tone many players love.

SPEAKER EMULATOR CONTROLS

INPUT level control - This controls the sensitivity of the input stage for SE circuitry. Reducing the INPUT sensitivity will prevent the unwanted harsh clipping sounds that can occur if the amplifier stage (from the STP-G II) is set very high, thereby producing clipping at the first stage of the SE section. Generally, this level should be cranked up as high as possible when the preamp/amp stage of the STP-G II is set for clean tones and it should be turned down as the preamp/power stage is cranked up to produce more power (and distortion). The secret for optimum tone from the SE section is to set the INPUT level control as high as possible without overloading the SE circuitry.

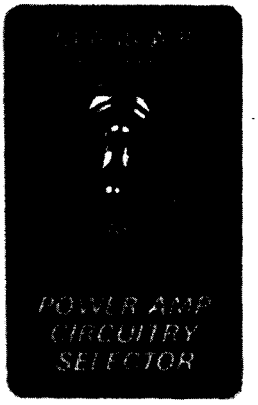
OUTPUT level control - This controls the signal level out of the SE circuitry and adjusts level according to the next production application. Best results are usually achieved by using it at full strength. However, if the output level from the EMULATOR OUT is too strong for the lowest input sensitivity setting of the mixing console. In this case, you may reduce the signal SE level with this control. However, it is always better to reduce the sensitivity of the channel's input trim control at the mixer to accommodate the output level of the STP-G II's SE section to achieve the best tone and lowest signal to noise ratio.



EQ IN/OUT switch - This switch activates the EQ section of the Speaker Emulator. When you are using the STP-G II for direct recording, or in a live concert using a full range P.A., or with full range monitor speaker system activating the SE's EQ circuitry is essential to getting a realistic sound thru the speaker system. This SE EQ circuit has specially voiced equalization to make Hi Fidelity speakers systems sound like guitar speakers, which have a much different frequency response character. However, if you are using another guitar speaker system for your monitor or main speaker system in a live concert application, best results will be found by turning the SE section's EQ system OFF. This is because guitar speaker systems, as found in all guitar amps/cabs systems, are already "voiced" to sound good with guitar, so the voicing in the SE EQ system is not necessary and can add too much filtering, which will make your monitor guitar speaker system sound dull and flat.

STANDBY/OPERATE switch - Turns off B+ to power tubes, leaves heaters on.

REAR PANEL FEATURES



ON/OFF switch - Turns on and off the A.C. to the power transformer.

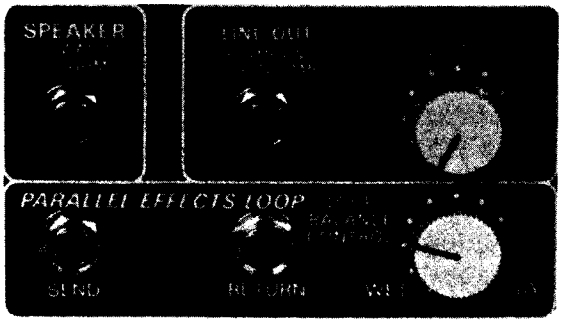
FUSE - Use 2 amp Slo-Blo @ 100-120 VDC or 1 amp Slo-Blo @ 220-240 VDC.

CLASS A or CLASS A/B switch - This switch alternates between two basic types of power tube circuitry. Class A, the older original tube amp circuitry which was used in early Fender amps (Tweed Era, 1954 and earlier) and Class A/B, the more modern way to configure the power tubes and widely used today in most modern Marshall, Fender and other amp companies. Here's a brief description of the tonal differences between each of these power tube circuit configuration.

CLASS A - Warmer, fatter with more compression even in clean operations. Power efficiency is lowered about 1/3, but will appear louder when used at lower volume levels. The power tubes in Class A are pulling full current at all playing levels, and also at idle with no signal present. This means the tubes will wear at a maximum rate while in the Class A position. That's one of the reasons Class A sounds so intense and fat, but the trade off is that the tubes wear out faster than while in Class A/B. Also, various tube types will respond to Class A circuitry in different ways. For instance, 6L6 tubes exhibit the most dramatic change when switched into Class A while EL34 tubes seems to prefer Class A/B, and become very compressed while used in Class A.

CLASS A/B - Tighter, crisper and more dynamics/headroom when the string is plucked. Class A/B is the circuit that will produce the most power from the same given number of output tubes and is also the brighter sounding of the two circuits. While Class A sounds great for solo playing and single track recording, it can be so fat and soft as to be lost in a group performance. That's the time to switch back into Class A/B and get the cutting edge back to the guitar sound as it mixes with the rest of the band.

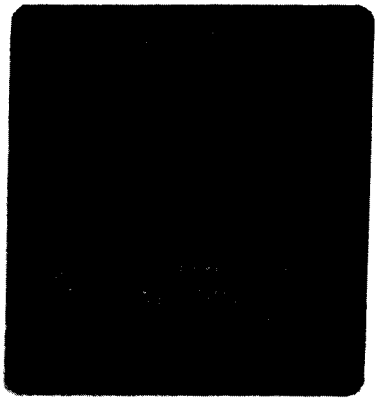
SPEAKER - The STP-G II can be used as a complete guitar amplifier producing about 35 watts RMS into an 8 ohm speaker load. Using the SPEAKER output jack automatically disconnects the power amp section from the Speaker Emulator input so as not to provide too low of a total speaker impedance load on the amplifier section.



LINE OUT and LINE LEVEL - This output jack provides signal from the preamp section only, and before it arrives at the power section of the STP-G II. This is a line level output that is best suited to drive another slave amp, but can also drive a normal input of a typical guitar amp *IF* the level is appropriately reduced by the LINE LEVEL control so as not to overload and distort the guitar amp. When driving another typical guitar amp with the LINE OUT, it would be best to use the -10dB input (Number 2 input on most Fenders) or an input pad if possible to reduce possible overload distortion at the first stage of the monitor guitar amp.

PARALLEL EFFECTS LOOP and LOOP BALANCE CONTROL - This is GT Electronics exclusive loop circuitry that allows insertion of digital effects into the SE signal chain without loss of true tube tone. Simply stated, it splits the signal from the SE into 2 parallel signal chains in which the first chain is dry and original while the second chain is passed to the effect device (via the SEND jack) and returned (via the RETURN jack) to mixed together with the LOOP BALANCE CONTROL. The effects chain should always be as hot as possible without overloading, *and the wet/dry balance control of the effect should be at the maximum wet setting* in order to achieve best results with the GT PARALLEL EFFECTS LOOP. A typical setting for the LOOP BALANCE CONTROL should be almost all the way toward the DRY side of the pot, mixing in just a small fraction of the effects signal chain.

SPEAKER EMULATOR DRY OUTPUT and WET/DRY OUTPUT - These output jacks deliver the signal after the final stage from the SE circuitry (the EMULATOR DRY OUTPUT) and the same signal which has been balanced with the effects signal chain from the PARALLEL EFFECTS LOOP (the EMULATOR WET/DRY OUTPUT). Either of these SE outputs can drive a recording console, a P.A. mixing console, or a monitor slave amp. These outputs may also be used simultaneously. To better understand the concept and therefore the best application techniques of using the STP-G II with our patented Speaker Emulator, read the following more detailed explanation of the Speaker Emulator.



THE SPEAKER EMULATOR DESIGN CONCEPT

The Groove Tubes Speaker Emulator section provides the power tube amp section of the STP-G II with an *emulated* speaker load. This load has a dynamic and reactive complex impedance which is connected to the STP-G II amp's output stage, instead of a guitar speaker. The Speaker Emulator load acts just like a real guitar speaker as far as the amp is concerned, and you do not need to connect a speaker to safely operate your STP-G II. The Speaker Emulator circuitry absorbs the full power of the amp and converts the energy from your amps power stage into a lower preamp level signal that sounds, feels and *records* just like a big power tube amp cranked up, which of coarse is exactly what is happening!

The output signal from the Speaker Emulator can be used for several different applications. It can be sent through our PARALLEL EFFECTS LOOP then passed on to a "monitor" amp which can be adjusted to the appropriate stage volume level. Crank up the STP-G II amp section to get the real overdriven tube tone your after, then turn down the volume of the monitor amp for the Holiday Inn gig sound level you need. Your ***distortion*** level will depend on how hard you drive the power amp into the SE, but your ***volume*** is determined by the output level of the SE and in turn, the monitor amp you are using. You get true power tube distortion BEFORE the effects are added, just like in the recording studio. More important for studio users, the Speaker Emulator signal can directly feed the mixing console of a recording studio, or of a live sound reinforcement system. This saves time and produces a consistently great sounding guitar sound for the live engineer, while providing another dimension of "direct feel" that can't be duplicated by just using a microphone on the normal speaker cabinet during the recording session. Musicians with home studios can record great sounding guitar tracks late at night and not wake the neighbors. The possibilities are endless.

HOW WE INVENTED THE SPEAKER EMULATOR

The concept sounds simple, but it took years of research, and alot of failures, to finally get the product right. We enlisted some of the world's leading speaker engineers and audio mathematicians to form the research team that developed the product you are about to use. Our new research led to development of the "perfect reactive load" that produced the correct type of negative feedback to the tube amp, which is critical to achieve real tube distortion and give players the "touch" they're used to. The SE load closely emulates the loading properties of an early Celestion speaker like the ones used in the classic Vox and Marshall amps of the early 60's. We chose this speaker to emulate since it has the highest inductance (and the lowest efficiency) and thereby creates a maximum of the negative feedback that contributes to the distortion produced by the tube output stage of your amp. If we were going to emulate a speaker, why not emulate the best sounding and most reactive one we could find.

The exact specifications of our load circuit are of course kept secret, the concept and approach behind the circuit design was so innovative, our research team was granted a United States Utility Patent (#4,937,874) for this important work. Today, many years after we first introduced the Speaker Emulator for sale, several major amplifier manufacturers, most notably Marshall Amplification of the U.K., have taken out licenses from us on this basic patent and are currently producing their own versions of the device. Make no mistake, each of these versions sound and work differently, but are all based on the same common and basic idea to provide a reactive load device for the power section in order to convert the power amps output into a preamp level signal. Remember that just like speakers do not all sound alike, yet oper-

ate on the same basic principle, so will various makes of Speaker Emulators will also sound and respond differently. Taking nothing away from the many other fine products on the market today....you are about to enjoy what we modestly feel is the best sounding Speaker Emulator available anywhere.....and of course, this *is the original article.*

Our STP-G II with it's built-in Speaker Emulator is straightforward and easy to operate, and has been developed with the vintage or classic player in mind. Our total system concept of using our specially developed and vintage inspired guitar amp to drive the Speaker Emulator in order to produce realistic sounding power amp sounds at preamp signal levels may be new to you, don't feel alone. This modest but sincere owners manual will hopefully instruct you to get the most out of your original Groove Tubes STP-G II with built-in Speaker Emulator, and get truly great guitar tones in any production situation.

A LAST WORD OF ADVICE

The STP-G II with it's built-in Speaker Emulator will produce a sound that will be slightly different thru your full range monitor system than the sound and feel you may be used to when you are playing normally through your usual guitar speakers at higher sound levels. This is partly because normal volume levels of your guitar speakers will probably be much higher than those of a studio or stage full range monitor. Additionally, guitar cabinets are either open back or sealed system designs and have a different feel from the delicately tuned ported designs used in full range speaker systems. In other words, the sound of a 100 watt Marshall pumping through a couple 4x12 Celestion cabs 2 feet from your backside will likely be more esthetically satisfying than what your going to hear and feel from a small full range monitor placed above your head, or at your feet. Relax, this is a normal response. Remember the end product of your sound through the P.A. system or the playback as it is mixed from the tape will be far better than anything you've been able to get before using the Speaker Emulator. The improvement in your tone by using your guitar effects placed *after* the power amps's distortion will amaze you. Additionally, the improved separation of the guitar as it is isolated and mixed back into the complete band's sound will allow for perfect balance in either lead or rhythm passages, and you amp won't bleed into every other mic on stage! Your engineer will love you, and your audience will hear every note at just the right level, from any seat in the house, not just in the front row. When playing this way live, it will take you a little time to adjust to the new way you will monitor your performance, it's just different than what you're used to. In the studio, it will give you an added dimension to either replace or supplement your present recording techniques. Be patient, once you adjust, you won't ever want to play live or record any other way.

WARRANTY

Groove Tubes Audio products are warranted to the original purchaser for ONE YEAR from the date of purchase for defects in material and workmanship. This warranty is void if the product has been damaged due to accident, improper handling, improper installation, shipping damage, abuse or misuse, unauthorized repair and/or attempted repair, custom modification, or in the event that the serial number has been defaced or altered. Groove Tubes Electronics reserves the right to make such determinations on the basis of factory inspection. All liability for incidental or consequential damages for breach of any expressed or implied warranties is disclaimed and excluded herefrom.

SHOULD YOUR PRODUCT NEED REPAIR:
1) Locate your original bill of sale with purchase date.
2) Call or write us with a brief description of the problem.
3) We will issue a return authorization number and advise your next step.
4) Pack the unit carefully, preferably in the original carton, include a copy of your bill of sale, and ship it prepaid to the factory with the return authorization number on the outside of the box. You are responsible for freight and insurance charges when shipping to us. We will repair your product, repack it and pay for freight and insurance when we are finished, if under warranty.py

For further information please call, write, or fax us at...

Groove Tubes Electronics
12866 Foothill Blvd., Sylmar, CA 91342, U.S.A.
818-361-4500 fax 365-9884