The TRIO

OPERATING MANUAL

(for models built in 1992 and after)



Congratulation on your good taste, you've just purchased the best sounding tube preamp in the world! The TRIO produces all the classic guitar tones with a simple operational format. The three "front ends" are designed to be very different and they each emulate one of the great vintage amps.

The 3 channels are: #1, the CLEAN channel (Blackfaced era); #2, the MEAN channel (classic Tweed era): and #3, the SCREAM channel (early hotrodded overdrive amps). The new TRIOS also have a fourth possible sound with the "13th Floor" switch. This switch allows an optional mode for the SCREAM channel by pre-driving it with the CLEAN channel allowing 1 & 3 channel to operate simultaneously.

ABOUT THE TONE CONTROLS:

The TRIOs tone controls are classic passive tone controls (also called shelving tone controls), and are the same type and design found on all desirable amps made in the 50's, and 60's. These tone controls are very different than modern "active" type EQ controls found on most preamps and amps available in todays market.

We chose this type of vintage tone control because they sound better, do not add noise and have more feel, in short...they breath and expand the range of expression for the player. However, they are interactive so if you just crank up any one of them, the others will become less effective. Each channel is "voiced" with the tone controls set at 12 o'clock and that's the best place to start to adjust your tone. If you want more highs, turn up the Treble, and leave the others at 12 o'clock, or close to it. Also, reducing the Bass and turning up the Volume will produce an relative increase of highs.

ABOUT CLEAN, MEAN AND SCREAM:

The #1 CLEAN channel has been voiced to respond like an early Blackfaced Fender preamp, and has very low gain so it almost can not be driven into distortion. Therefore, we recommend that with most normal output guitars, that you set the Gain and Volume of this channel ***fully turned up*** and adjust your power amp level to the right volume for the stage, then set the other two channels to this CLEAN channel volume level. This may sound unorthodox, but do not worry about driving the CLEAN channel full up, that's the way we've designed it, just think of your slave power amp's level control as your final amp volume control. The lower

gain nature of the CLEAN channel guarantees for plenty of headroom without preamp distortion, no matter how hot the signal from your guitar pickups are! Once you've set up your preamp/amp level with the clean channel full up, now the other two channels last Volume control will balance them to the Clean output level.

The #2 MEAN channel is designed to produce a round smooth distortion like old Tweed era amps when cranked up. Great for Blues solos, or rhythm crunch, and it never loses it's great tone on power chords, even when the Gain control is cranked up. Set the Gain level to the desired distortion you want, then adjust the Volume to match the level of the CLEAN channel. The MEAN channels tone section is a different design from the other two channels, it's a cathode follower type, and this means there is alot of gain/tone interaction. That is to say the tone section will change as you push it harder or softer. Try experimenting with this MEAN channel by playing hard, then soft and listen to the distortion and tone change responding to your touch. Still, these tone controls are also the shelving type so the same rules apply, that is start at the 12 o'clock position, then slightly adjust to taste. Don't just crank 'em all full up because they will each become less effective.

The #3 Scream channel has two operational modes, (applies to TRIOS built beginning in 1992), the small toggle switch above it's Middle control will switch between these two modes. The first mode is #3 Scream channel all by itself, which has alot of gain and accompanying compression and sustain. This channel's design uses three cascading gain stages from two 12AX7s and produces a maximum level of gain, without the usual unwanted squeal. The basic circuit design is similar to what amp techs, or "Mod Masters" do to ordinary Fender and Marshall amps, the difference is that our channel is an original factory design and therefore is stable and relatively quiet. Many players, especially those into Metal, will prefer the straight #3 channel for its' shredding overdrive tone, soft compression and forever sustain. However, players looking for more of a classic Rock tone with more dynamic range, might prefer the sound of the second selectable mode of the Scream channel, the 1+3 mode.

The second mode can be selected by switching the small toggle switch on the front panel to the 1+3 mode (to the right). This will pre-drive the #3 Scream channel with the #1 Clean channel. Both channels 1+3 control functions are now fully operational simultaneously! This 1+3 will create a wide range of desirable guitar tones found between Scream and Clean. ***The balance between Clean and Scream is altered by changing the ratio between the Gain and Volume controls of the #3 Scream channel,*** these controls on the Clean channel should be fully up for best results. For Example, more Scream Gain level while using less Scream Volume level produces the most distortion in the 1+3 mode. Reducing the Scream Gain and increasing the Scream Volume will produce an increasingly cleaner, more dynamic tone balance in the 1+3 mode. Once you have the desired balance, use the Scream Volume as the final level control to mix with the levels of the other two channels. ***The tonal seasoning of the 1+3 mode is best done with the #1 Clean channel Bass, Middle, and Treble controls,*** because this channel is not producing distortion so the controls are more effective. This second mode will basically reduce the distortion level. However it will also provide more dynamics, touch, and edge...especially if you keep the Clean channels Gain and Volume controls turned full up and add a little Treble from the Clean channels controls.

Following these simple directions will get you started. This will provide you three very different sounding and responsive channels that cover a multitude of classic guitar tones. We recommend a real tube power amp, like our Dual 75, for best results. Our D75 amp can be set up stereo or A/B switching with each channel capable to be customized to accept either EL34, 6L6, KT88, KT90, or 6550 output tubes and either a 12AX7 or 12AT7 driver. Therefore either side of the D75 can sound like any of 20 different classic tube power amp output stages from the cleanest HIWATT to the gnarliest old Fender, from 75 RMS down to 35 RMS just depending on which output tubes you select for either side. Switch between them (A/B), or combine them (BOTH) and play two different amps at the same time for the ultimate tone!

ABOUT THE CHANNEL SWITCHING:

The Trio can be switched in any one of FOUR ways, they are:
1) Front panel switches located next to the input;
2) Rear panel Rackswitching for the various footcontroller switching systems that use 1/4" plugs like the Octopus;
3) GT TRIO foot switch (optional) with lighted LEDs to indicate which channel is on;
4) MIDI switching (optional) which is a full MIDI in/out/thru board attached to a replaceable top panel and comes with a ribbon connector that simply plugs into the IC socket on the main TRIO PC board (no soldering is necessary, just unplug the IC and plug in the MIDI board) The MIDI patches are programed by holding down the desired Front panel channel switch when in the record mode. The MIDI board can be retrofitted to any TRIO very easily and without any major modification, just order one and plug it in! Also, if you have a GT TRIO foot switch, you can still use it with the MIDI switching activated. It will not reprogram your MIDI setting, but when your MIDI patch has selected the CLEAN channel, your footswitch can then be used to select either of the other channels to be used with this setting!

ABOUT THE OUTPUTS AND PARALLEL EFFECTS LOOP:

The TRIOS and D75 amps built since 1992 have a new feature we call a parallel effects loop because it allows you to direct only part of your tube preamp's output through your digital effect device, while preserving the most of the signal directly to the (hopefully) tube power amp. The normal "effect loop loss syndrome" is thereby avoided and you keep the great sound of your tube preamp driving your tube power amp! So, here's an explanation of the various uses of the TRIOs outputs, level controls and parallel effects loop:

1) The PREAMP OUTPUTS, there are two outputs on the rear panel labeled "preamp output", these are in case you do not use effects or wish to use a dry signal for another purpose. The LEVEL control will control the output of these jacks as well as the EFFECT OUT jack located directly to the left of the LEVEL control.
2) The EFFECT OUT & IN, is where you insert your effects, pretty obvious which is for which.
3) The PRE/EFF OUTPUTs will send to your power amp the resulting blend of the direct preamp and the returned EFFECT IN signal. The blend of these two signals is controlled by the PRE/EFF MIX control located directly to the left of these outputs.



OTHER STUFF:

The Trio is equipped with a GROUND LIFT switch which can come in handy when your trying to eliminate ground loop hum problems. It will isolate the TRIO circuitry ground reference from the chassis ground reference. In normal operation, or in European countries, we do not recommend using the GROUND LIFT function.

The TRIO is equipped with a fuse which has a value of 1 amp. This value should NEVER be increased beyond this amperage.

The TRIO employs five Groove Tubes GT12AX7 preamp tubes. You may also use the Groove Tube GT7025 or GTECC83 preamp tube to get slightly different tonal and gain results. Normal life expectancy is about 2 years. The sign of worn preamp tubes is unusually high noise levels and/or adverse microphonics.

The TRIO top panel is vented to allow for air circulation and cooling of the preamp tubes. When rack mounting the TRIO, leave an inch or so between the next unit for better ventilation.

SPECS:

Input Level - HI Impedance, 300 millivolts maximum
Output Level - LOW Impedance, +5 maximum, Adjustable from 0 to 1.5 volts RMS
AC Supply - 100 to 120 volts, or 220 to 240 volts at either 50 or 60 Hz, internally selectable.
Fuse - 1 amp slo-blo
Tubes - (5) Groove Tubes GT12AX7. GT7025 or GTECC83 are optional.
TUBE FUNCTIONS:
V1a - 1st gain stage SCREAM channel
V1b - 2nd gain stage SCREAM channel
V2a - 3rd gain stage SCREAM channel
V2b - Tone controls and output of SCREAM channel
V3a - 1st gain stage and tone controls CLEAN channel
V3b - 1st gain stage MEAN channel
V4a - 2nd gain stage MEAN channel (cathode follower)
V4b - Tone controls and output of MEAN channel
V5a - Output of CLEAN channel

OPTIONS:

Trio Footswitch: A 3 selector footswitch with corresponding LED stasis indicator lights adjacent to each switch. Selects Clean Channel #1, Mean Channel #2, or Scream Channel #3. The Scream channel can be preset at the front controls to be ***either*** Channel #3 ***OR*** Channel 1+3, but not both modes.

Trio MIDI mod: The Trio MIDI switching system is a full MIDI in/out/thru board attached to a replaceable top panel and comes with a ribbon connector that simply plugs into the IC socket on the main TRIO PC board, no soldering is necessary. To install this board, remove the old top cover, unplug the IC on the PBC which is closest to the side of the chassis, and plug in the MIDI board's ribbon connector. The MIDI logic patches are programed by holding down the desired front panel channel switch while in the record mode of your MIDI controller. The MIDI board can be retrofitted to any TRIO very easily and without any major modification, just order one and plug it in! Also, if you have a GT TRIO foot switch, you can still use it with the MIDI switching activated. It will not reprogram your MIDI setting, but when your MIDI patch has selected the CLEAN channel, your footswitch can then be used to select either of the other channels to be used with this setting!

WARRANTY

Groove Tubes Electronic products are warranted to the original purchaser for ONE YEAR from the date of purchase and covers 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 SERVICING, DESIGN UPDATES OR 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. Design updates and/or routine servicing available upon request.

GROOVE TUBES™

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