

*Owner's Manual*



## *Hello from the Tone Farm*

*Congratulations on your choice of the TRIPLE CROWN™ and welcome to the MESA/Boogie® Family! The instrument you've selected has a deep heritage that combines the best attributes of vintage tube amplification with pioneering innovation that brings high-gain channel switching performance to a new frontier. One look at the thoroughness of the feature set of this amplifier tells you it's loaded with inspiring tools, but underneath the hood, the authenticity of these groundbreaking circuits and features (beware imitators) dates back to our MARK I™ and the very beginning of Modern guitar amplification. So congratulations on your choice... you should feel a sense of pride that you're playing an amp like no other, an original in every way! Just like you!*

*Our 45+ year commitment to excellence along with our solemn promise to musicians - to treat each of them as we ourselves would wish to be treated - guarantees you an experience that will make you feel truly justified in your choice. We're confident your new amplifier will have you smiling and inspired within minutes of plugging in for the first time...but what's really gratifying is that you will be finding new and inspiring sounds years after the price of admission has faded from memory and the TRIPLE CROWN continues to unveil it's true worth.*

*It's with our sincere thanks for trusting us with your TONE and our best wishes for all your musical endeavors that we welcome you home. Should you ever need assistance or guidance we're here to help. You now have in your hands an instrument of limitless expression. Our hope is that it takes you and your playing to new and unimagined places throughout your musical journey. From all of us here at MESA®...Enjoy!*



*Table of Contents*

|                 |     |
|-----------------|-----|
| PRECAUTIONS     |     |
| OVERVIEW        | 1-3 |
| GETTING STARTED | 4   |
| HELPFUL HINTS   | 5   |

## FRONT PANEL

|               |       |
|---------------|-------|
| GAIN          | 5-6   |
| MASTER        | 6     |
| PRESENCE      | 7     |
| TREBLE        | 7     |
| MID           | 7-8   |
| DRIVE/TIGHT   | 8-9   |
| BASS          | 9     |
| OUTPUT & SOLO | 9-10  |
| POWER         | 10    |
| STANDBY       | 10-11 |

## REAR PANEL

|                                 |       |
|---------------------------------|-------|
| AC MAINS SOCKET                 | 11    |
| FUSE                            | 11    |
| REVERB                          | 11-12 |
| SOLO SWITCH                     | 12    |
| EFX LOOP (SERIES)               | 12-13 |
| SPEAKERS                        | 13-14 |
| SPKR ON/SPKR OFF                | 14    |
| HEADPHONE                       | 14-15 |
| LINE OUT                        | 15    |
| CABCLONE™ D.I.                  | 15-17 |
| • CLOSED BACK/OPEN BACK/VINTAGE | 16-17 |
| • CABCLONE D.I. (XLR OUTPUT)    | 17    |
| • LIFT/GROUND                   | 17    |
| MESA FTSW                       | 17-18 |
| MIDI THRU/OUT                   | 18    |
| MIDI IN                         | 18    |
| MIDI CHANNEL                    | 18    |



*Table of Contents*

## **MIDI OPERATING INSTRUCTIONS**

|                                |       |
|--------------------------------|-------|
| FEATURES                       | 20    |
| POWER-UP                       | 20    |
| MESA FTSW                      | 20    |
| MIDI INPUT                     | 20    |
| MIDI THRU/OUT                  | 20    |
| MIDI CHANNEL                   | 21    |
| USER PRESET                    | 21-22 |
| USER PRESET DUMP & LOAD        | 22-23 |
| MIDI CONTROL CHANGE NUMBERS    | 23    |
| SOFTWARE UPDATES               | 24    |
| SOFTWARE VERSION SysEx MESSAGE | 25    |
| TRIPLE CROWN FACTORY PRESETS   | 25    |
| FACTORY SAMPLE SETTINGS        | 26    |
| USER SETTINGS                  | 27    |
| TUBE TROUBLESHOOTING GUIDE     | 28-29 |
| SPEAKER HOOKUP GUIDE           | 30-35 |
| TUBE TASK CHART                | 36-37 |
| PARTS LIST                     | 38    |

## **IMPORTANT SAFETY INSTRUCTIONS**

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with dry cloth.

Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

To insure proper ventilation always make sure there is at minimum four inches (101.6mm) of space behind the rear of the apparatus. The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc. Do not impede ventilation by placing objects on top of the apparatus which extend past the rear edge of its cabinet.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

The AC plug is the mains disconnect. The plug should remain accessible after installation.

**WARNING:** EU: permission from the Supply Authority is needed before connection.

**WARNING:** Always make sure proper load is connected before operating the amplifier. Failure to do so could pose a shock hazard and may result in damage to the amplifier.

Do not expose amplifier to direct sunlight or extremely high temperatures.

Always insure the amplifier is properly grounded. Always unplug AC power cord before changing fuse, tubes or removing chassis. Use only same type and rating when replacing fuse.

Avoid direct contact with heated tubes. Keep amplifier away from children.

To avoid damaging your speakers and other playback equipment, turn off the power of all related equipment before making the connections.

Do not use excessive force when handling buttons, switches and controls. Do not use solvents such as benzene or paint thinner to clean the unit.

Always connect to an AC power supply that meets the power supply specifications listed on the rear of the unit. Export models: always insure unit is wired for proper voltage. Make certain grounding conforms with local standards.

**YOUR AMPLIFIER IS LOUD! EXPOSURE TO HIGH SOUND VOLUMES MAY CAUSE PERMANENT HEARING DAMAGE!**

*Your Mesa/Boogie Amplifier is a professional instrument. Please treat it with respect and operate it properly.*

**READ AND FOLLOW INSTRUCTIONS OF PROPER USAGE.**



# Operating Instructions

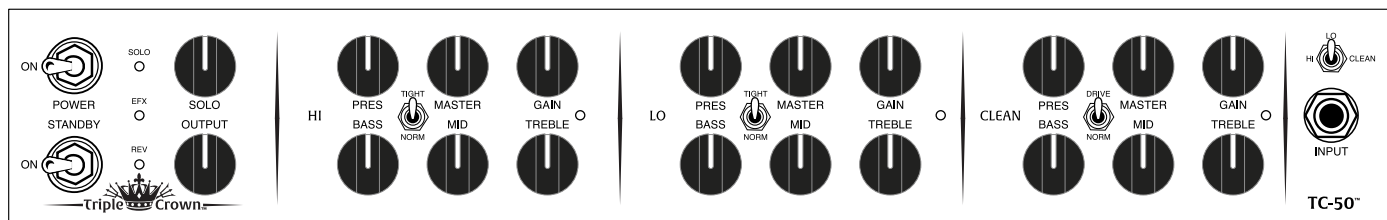
## Overview:

Introducing the Triple Crown™ TC-50™, arguably the most fully evolved amplifier to date emanating from the “other side of MESA” which has spawned such Rock classics as the Dual Rectifier® Heads, the TransAtlantics®, the Royal Atlantic™ and the Electra-Dyne™.

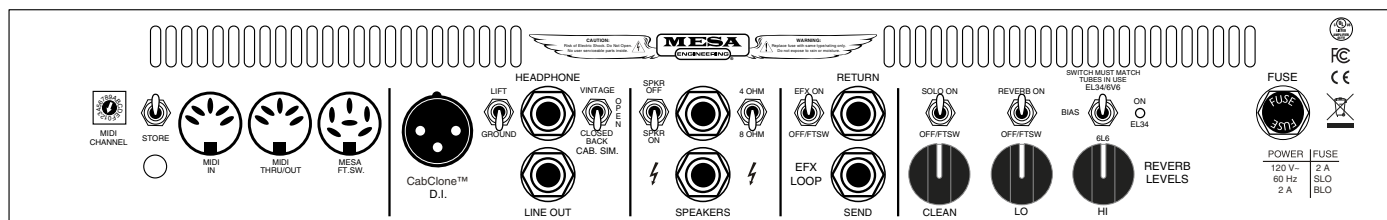
This 3 Channel platform covers all sounds and styles ranging from sweet, bouncy Cleans with a fat bottom end to mid gain Crunch with attitude, through singing late 70s Lead sounds and all the way up to grinding walls of modern high gain, all containing gorgeous harmonic content and touch sensitive dynamics.

It's got the Cleans of a MARK amp in Channel 1, the Classic Rock Crunch and beyond in Channel 2, and in Channel 3, the most gain of any MESA to date with Dual Rectifier-esque top-end, but a higher “EL34” harmonic spread and higher, tighter Bass response blended with a MARK amp's soaring, vocal sustain and effortless, inviting feel. And all this versatility is delivered with an immediacy of attack and gut-punch midrange all its own in our line.

## FRONT VIEW: TRIPLE CROWN™ TC-50™



## REAR VIEW: TRIPLE CROWN™ TC-50™



## Overview: Front Panel

### CHANNEL SELECT

This 3-position mini toggle switch determines which Channel is called up when the Footswitch is not connected. It triggers an LED indicator in the Channel that's active to assist you on stage.

**NOTE:** To use the Footswitch to select Channels/Modes, select the center CLEAN position of the Toggle and connect the Footswitch Cable to the MESA FT.SW. Jack on the Rear Panel.

### CHANNEL 1 (CLEAN)

Channel 1 focuses on the Clean response and delivers a bouncy, bubbly rhythm sound that is also very capable of great single note solo sounds when run in the highest region on the GAIN Control. Add the midrange boost and compression of the DRIVE feature and Channel 1 becomes a hard driving Blues machine capable of driving Rhythm parts and howling solo potential.

### CHANNEL 2 (LO)

Channel 2 starts out in the lower saturation GAIN ranges and offers a very expressive, furry, clipped, edge of clean response up until the halfway point. Then it gives way to a more complete saturation that's right at home for either heavier crunch rhythm or soloing in the middle to higher range of the GAIN Control.

### CHANNEL 3 (HI)

Channel 3 delivers full-blown, yet controlled, mayhem with even more saturation and harmonic layering than Channel 2. This makes it great for the Heaviest Crunch Rhythm below 12:30 on the GAIN control and singing liquid sustain reminiscent, but perhaps even more of the high gain voice MARK Series amplifiers showcased above 12:30. The highest range on Channel 3's GAIN control offers surely the most saturation and sustain available from any MESA amplifier, past or present.

### DRIVE/TIGHT

In addition to their gain differences, all three Channels in the Triple Crown feature a Voicing switch. In Channel 1 it is DRIVE and in Channels 2 and 3 it is called TIGHT, but the circuit is basically the same. The difference in names refers to the sonic changes that occur in relation to the gain region of the Channel. This voicing switch tightens low end response and adds a little bump in the tighter, more focused midrange frequencies. In effect, this alternate EQ shape adds a second voice to each of the three Channel's already great sounds. In Channel 1 DRIVE shines for howling Blues single note Soloing and edge-of-clip chording by pushing the sound into the threshold of saturation and adds midrange attack. In Channel 2 TIGHT brings the low end into focus and creates a more articulate response that's perfect for Blues soloing in the lowest gain range and amazing Nu-Metal Chording in the higher ranges. In Channel 3 TIGHT can add articulation and focus to even the highest gain soloing, adding definition to levels of saturation that might otherwise be indistinct and mushy. While DRIVE/TIGHT imparts something different and useful to each of the three Channels, it also changes the "feel" on the strings and allows more aggressive picking techniques to be both more easily accommodated input-wise and more expressive in terms of impact and punch.

### OUTPUT

The TRIPLE CROWN features a global OUTPUT control enabling you to raise and lower the overall playing volume with just one control once you have setup your preamp sounds and balanced the Channels with each other using the individual Channel MASTER controls. The OUTPUT is located just before the power section's DRIVER stage and acts as an EFFECTS Return.

### SOLO

This footswitchable/MIDI programmable feature enables a pre-settable boost in volume to be engaged by either the SOLO button on the included Footswitch or by storing it "ON" under a MIDI program number. It is essentially an additional OUTPUT control that is wired in series and can achieve levels above that of the setting on the OUTPUT.

## Overview: Rear Panel

### REVERB

Lush all-tube Reverb drenches the TC-50's three Channels with a beautiful 3-D halo and provides you with assignable choices on where to use it for the best footswitchable results. And if you still need more control than this sophisticated approach to applying REVERB offers... we've provided a "hidden Reverb kill" jack on the tube side of the chassis giving those who "don't mind the dance" total control.

### BIAS SWITCH

An old favorite, we've included our handy BIAS SWITCH that allows you to swap the stock compliment of EL34 with the fatter, rounder sounding 6L6... for those who want a warmer, rounder response.

6V6s can be used safely in the EL34 Setting with just a direct swap over, creating a “Half-Power” scenario that exudes a more bubbly, vintage voice and creamier top end harmonic content.

**NOTE:** Make Sure Bias Switch Setting Matches The Tubes In Use!

**REVERB, EFX, SOLO SWITCHES** These three mini toggles control the activation of the REVERB, EFX LOOP and the SOLO feature. These functions can be activated by either the mini toggles or the Mesa foot switch. These mini toggles are also used when creating a MIDI preset as explained later in this manual.

**SPEAKERS** The TRIPLE CROWN handles the interfacing of speakers with a slightly different set-up from other MESA amplifiers. The dual ¼” jack setup can handle most of the common speaker impedances from 4 to 16 Ohms. 2 Ohm Loads are not supported and are not recommended and this will likely be no inconvenience as 2 Ohm ratings are very rare in the world of guitar cabinetry anyway. A mini toggle flips you between the 4 Ohm and 8 Ohm taps on the output Transformer and between these two positions, most popular cabinet configurations and load requirements can be accommodated.

**SPKR ON/OFF** The CabClone features a SPEAKER ON/OFF feature that allows silent recording or live Direct to Console applications for “In Ear” monitoring in stage performance scenarios. While on the TRIPLE CROWN this switch is located in the SPEAKER SECTION of the Rear Panel, it is part of the CabClone DI circuit.

Be sure to check this switch if you get no signal (Live using Cabinets/ internal speakers) when all other Controls and Switches are at settings that should produce sound. It is common for this switch to be accidentally turned off during setup or connecting speaker cabinets, or even when programming MIDI information. This is especially true when demo-ing the amplifier in music stores where the previous party to audition the amplifier may have switched it on and off.

**HEADPHONE JACK** The TRIPLE CROWN features a HEADPHONE Output for personal enjoyment of the amplifier when it is not possible — or you don’t want to — play through a speaker. This stereo ¼” jack derives its “speaker simulated” signal from the on-board CABCLONE™ D.I. feature circuitry and delivers a surprisingly good rendering of the TRIPLE CROWN’s sound and feel to your headphone set of choice.

**CABCLONE™ D.I.** Here in the TRIPLE CROWN we’ve included our popular CABCLONE™ D.I. Recording Interface for convenient Direct recording without the need for mic-ing, although you can do that as well for a blend of live speaker and Direct sounds. The full compliment of Voicing options from our stand-alone CABCLONE has been included here; CLOSED BACK, OPEN BACK and VINTAGE, and this greatly increases the versatility of this feature for different sound styles. Other features aboard in addition to the balanced XLR Output include SPEAKER MUTE (located near SPEAKER Outputs), GROUND/LIFT options and an uncompensated LINE OUT.

**NOTE:** When using the SPKR ON position, make SURE you have a working speaker connected to one of the SPEAKER OUTPUTS. Failure to do so may result in damage to your amplifier that is not covered under Warranty. Using the amplifier in the SPKR ON position without a speaker or external load (resistor, soak, etc) connected will likely cause damage to your output transformer and render your amplifier inoperative. Damage caused in this manner will not be covered under warranty.

**FTSW and MIDI** Three DIN jacks, one 6-Pin for the TRIPLE CROWN Footswitch, and two standard 5-pin DIN jacks for MIDI IN and THRU/OUT are included for true connectivity and a number of ways to access the amazing sounds and pro features in the TRIPLE CROWN. A STORE toggle switch allows simple one-touch writing of your desired sounds in all the Channels to any of 256 MIDI Program Numbers. There is also a MIDI Channel mini Rotary Selector for syncing of the MIDI Channel to be used by your Controller of choice.

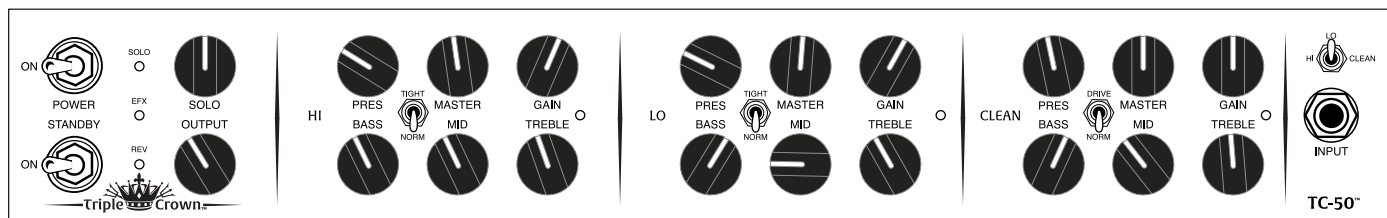
## GETTING STARTED

1. After unpacking the amplifier, check to make sure all the tubes are firmly seated in their sockets as some may have loosened a bit during shipping.
2. Connect the A.C. Cord to a grounded (3 pin) A.C. outlet.
3. Unpack the TRIPLE CROWN Footswitch and connect the 6 pin DIN Footswitch cable to the FOOTSWITCH DIN jack on the right side of the Rear Panel. If you intend to use a MIDI Controller to access the Channels and Features, connect your Controller (or Computer) to the MIDI IN jack on the TRIPLE CROWN Rear Panel.
4. Connect your speaker enclosure to the proper matching impedance SPEAKER OUTPUT on the left side of the TRIPLE CROWN Rear Panel. An 8 Ohm load is preferable for your first experience with an amp this dynamic and explosive as you will hear the full power potential and best Tonal balance. .
5. Flip the POWER Switch to the ON position while leaving the STANDBY Switch in the STANDBY position for at least 30 seconds. This allows the filaments to warm up in the tubes before being put to use. Following this cold-start procedure every time you power up will increase the toneful life of your tubes.
6. If you intend to connect processing devices to your loop, do so now and look up EFX LOOP in this manual for proper connection and operation, although we recommend auditioning the TRIPLE CROWN without processing for the first time. If the Loop is to be in, check the INPUT levels on your processor to make sure they are in the medium to lower range so you can increase the level slowly once you have lifted STANDBY on the TRIPLE CROWN and run through the Channels to view the SEND level coming from the amp.
7. Follow the Sample Settings examples below and set the Controls at these approximate settings for a tour through your new world of TONE. Remember these are just a glimpse at the vast possibilities and are meant to give you a taste of one possible way to set up your Channels. Feel free to fine tune the sound as you go...you can't hurt a thing and you will be learning by feel...the best way.
8. Flip the STANDBY to the ON position and enjoy the ride!

## INSTANT GRATIFICATION

In case you haven't yet played your new amplifier, below is just one example of the many ways to set up the Channels. This example demonstrates a pristine Clean sound in Channel 1, a heavy Crunch Rhythm in Channel 2, and a burning high gain lead tone in Channel 3.

### Instant Gratification Settings (Head Version)



## HELPFUL HINTS

**NOTE: REDUNDANT INFORMATION:** Throughout this Operating Guide you will encounter redundant information and sections that are repeated for your continued awareness and as reminders. This is done so a person can read only the sections they are interested in, and yet still get the important points they should know or NEED to know about the TRIPLE CROWN. We apologize if this gets annoying for the cover-to-cover reader, but even they may appreciate it some time in the future when referencing this Guide quickly for a specific topic.

- Beware of high settings on the BASS control in Channels 2 and 3, especially when the GAIN is set high. Too much BASS will produce a flubby, indistinct attack and “slow” the response time. A basic rule regarding the BASS control might be this; As the GAIN goes up...the BASS should come down.
- The GAIN and TREBLE Controls are the most powerful tone shaping controls in each Channel and should be used with taste. They determine much about the attack characteristic and the overall personality of the sound in all the Channels. Many of the great sounds in all the Channels will find these two Controls in their middle ranges.

**NOTE:** Avoid setting the TREBLE high (above 2:00) when the GAIN is to be set high as this brings about the tendency for a slightly microphonic tube to ring or squeal.

- Your TRIPLE CROWN will sound better and feel better to play if you have at least one speaker cabinet touching the floor you are standing on while you play. The coupling effect and especially the transmission of bass frequencies will cause the amp to sound fatter and the strings to feel more substantial and tangible when the amp (or cab) sits on the floor. Wood floors (like stages) are really great! Let's face it... the guitar can be one of those weird instruments that rarely feels the same way two days in a row, night to night, from room to room... and we can use all the help we can get. This usually helps... with the only exception being a stage filled with too many live mics...sometimes then you are forced to lift the amp to avoid the coupling effect.
- Use the STANDBY switch every time you power-up (from cold or hot), during set breaks, cable hook-ups and anytime you are not playing for a few minutes. Doing so will increase the toneful life of your tubes.
- Be sure to check the SPKR ON/OFF switch if you get no signal (Live using Cabinets or the internal Combo speaker) when all other Controls and Switches are at settings that should produce sound. It is common for this switch to be accidentally turned off during setup or connecting speaker cabinets, or even when programming MIDI information. This is especially true when demo-ing the amplifier in music stores where the previous party to audition the amplifier may have switched it on and off.
- Circuits emanating from this “other side” of the MESA Line and sharing that DNA tend to favor TREBLE and PRESENCE control settings on the lower side for sounds in the warmer domain. Depending on guitar woods, pickups and technique, don't be surprised if you find great sounds below 12:00, or even all the way off on the TREBLE and PRESENCE, with the MID's broad Q that carries substantial top end providing all the top end cut you need.

## FRONT PANEL

**GAIN** This is, by far, the most powerful control in the TC-50 and its setting determines the style and personality of the Channels. It meters the gain in different tube stages depending on the Channel called up – and it sets Input Stage headroom - which determines whether the sound will be clean or overdriven. It also acts as a subtle Tone control as the tube stages' gain is increased and decreased and imparts its own “color” on the sound.

In all the Channels, there are three regions of the GAIN control – a low gain zone between 8:00 - 11:30, a warmer, more saturated zone from 11:00 - 2:00 and a higher gain zone from 2:30 – 5:00. Each of these zones can be used for many different applications and all can be used for both chording and single note solo work. As the GAIN control is swept throughout its range it imparts different textures and tonal characteristics.

Generally speaking, the lower end of the control (8:30 – 11:30) in both Channels and Modes produces a brighter, more open char-

acter that has more dynamic content available. This region is great for clean, sparkling chording in Channel 1, where the maximum headroom is available, the top end harmonics are bubbly and the attack is lightning fast. Channel's 2 and 3 are tuned to deliver threshold sounds in this zone where the gain is warm and furry, but there is still plenty of the guitar's personality intact. This zone is great for all the Channel 2 sounds when used for clipped chording, as there is plenty of dynamics intact that have not yet been compressed by too much saturation.

The middle region of the GAIN control (11:00 – 2:00) is where the most balanced sounds live and you will find this region delivers warm, full sound, detailed attack and good dynamics and the Tone controls still have a powerful effect on the signal. Channel 1 CLEAN delivers great chording response, sounds richer and has more body here. Depending on pickup style and strength you will have to watch for clipping as you are nearing the crossover point - gain-wise. Some of Channel 2's best sounds are to be found here as things start smearing nicely as they start getting into tube overdrive. As you approach 12:00 in Channel 3 there will be plenty of saturation to keep chords grinding and single notes hanging – but not too much to start compressing the life out of the sound. If you aren't getting great results in this region for your gain sounds in Channel 3, you may want to look at trying some pickups with a bit hotter output.

The highest region of the GAIN control (2:00 – 5:00) is all about saturation, especially in Channel 3. Up here the signal gets much fatter in the low end and the top end begins to recede to create a round, compressed sound. Dynamics become slower with lower peaks and a more legato, creamier feel is produced. In Channel 1 the high end of the GAIN control produces some great “clipped clean” sounds as the Input stage gives it up and starts to saturate.

Channel 3 gets truly wild at the top end of the GAIN control and both gain Channels unveil their true potential for soloing. There is ample gain up here to rip into any style you wish with the Channel 3 pumping out ridiculous levels of thick creamy overdrive for single notes. With the GAIN maxed you can achieve virtually infinite sustain... if you can keep your guitar stable and from feeding back.

At the highest GAIN settings you will notice the Tone controls have a diminished effect on the sound. The notes are so saturated and their character has been pre-determined by the way each Channel is voiced and how it reacts to this level of gain. May we humbly suggest using the GAIN control in its middle range whenever possible to achieve the best balance of overdrive and still retain the full shaping power of the Tone Controls. Also, your attack will remain definitive and focused in the middle range and not get over saturated and “slowed down” as it can in the highest region of GAIN settings.

## **MASTER**

This control determines the overall output level of each Channel and is located at the very end of the preamp. By using it in combination with the GAIN control, any amount of preamp signal strength – gain – (Within a Channel's parameters) can be achieved at any playing volume. Once you have dedicated the Channels to their respective sounds, you can then balance the volume levels of the Channels using the MASTER controls.

In addition to adjusting the playing loudness of the Channels, the MASTER functions as an EFFECTS SEND control for the EFX LOOP when the LOOP is activated (by connecting plugs to the LOOP SEND and RETURN jacks).

For general applications and to get the best performance out of all the Channels we recommend MASTER settings in the 9:00 – 12:00 range with most people settling in around 10:00 – 11:00 for average playing volumes.

Some purists like to run the MASTER all the way up and raise the GAIN until they reach their desired sound—the thinking there is that this achieves the purest sound. In theory, they believe this resembles removing the control altogether from the signal path, and in a way it does. However, most all the “vintage non-master” amplifiers they are seeking to emulate have discrete resistors in that place in the circuit anyway to adjust or “tune” the output of the preamp to the power section sensitivity.

The MASTER is nothing more than a variable resistor(s) that offers an infinite range of settings possibilities and makes the amplifier many times more versatile with no sonic penalty. If you prescribe to this old school approach, then by all means, use the Triple Crown this way... it won't hurt the amplifier. However you will be severely limiting the potential sounds you can achieve by removing the limitless great sounding combinations of GAIN and MASTER settings.

## **PRESENCE**

This control adjusts high frequencies - above those of the TREBLE - and is farther downstream in the signal path than the Tone Controls at the end of the preamp. Unlike a PRESENCE circuit located in the power section, the TC-50 utilizes a preamp roll-off type PRESENCE to maintain a level of urgency and simplicity in the power section for tonal reasons. This is part of its urgent character and ability to hit so hard in the midrange frequencies.

You can think of the PRESENCE as a control that allows you to either clamp the highs down, compressing and darkening things - or open it up and let the full spectrum of upper harmonics come blazing through. It also has a great deal to do with how dynamic the signal is and how a sound will cut through the mix in an ensemble environment.

At low settings (7:30 – 10:30) the sound will be warm and round with a more compressed feel and dynamic fluctuation will be limited. As the PRESENCE is increased (11:00 – 2:30), the top end starts to become more dominant and that compression gives way to “cut” and dynamic peaks jump out with startling speed and accuracy. At the top end of the control (2:30 – 5:30), a super aggressive blend of upper harmonics dominate the sound and this region can be somewhat dangerous if it's not applied in small measures. Higher notes will slice and dice even the bravest set of ears and we suggest using this region mostly in the studio for recording heavy crunch rhythm parts and even then – mostly on parts that feature the lower strings. This region – especially when coupled with the inherent curve of many of the microphones typically used in P.A. (sound reinforcement) applications can be truly punishing.

Clean sounds in Channel 1 can generally benefit from a bit higher settings (10:30 – 12:30) than sounds in this or any Channel that has overdrive involved in its makeup. Once saturation begins the frequencies carried in the PRESENCE control can make things edgy or brittle... even buzzy, real fast if you aren't careful. Overdriven chording sounds can tolerate higher settings (10:30 – 12:30) better than can single note sounds, which usually want to roam the zone below 11:00 to stay round, focused and vocal.

## **TREBLE**

While the GAIN is the most powerful control in the TC-50, the TREBLE comes in a close second. The TREBLE is responsible for shaping the character of the entire Channel. It can overpower the rest of the Tone controls easily and therefore its setting is crucial to a rich and balanced sound in all three Channels. Setting the TREBLE with care and taste in mind is critical for the Tone control string to work in harmony.

In all three Channels the middle region of the TREBLE delivers the best balance and creates sounds that are plenty bright enough but still rich and warm. We suggest that you start with the TREBLE at 12:00 and adjust up or down slightly until the desired blend is achieved. However, circuits emanating from this “other side” of the MESA Line and sharing that DNA tend to favor TREBLE and PRESENCE control settings on the lower side for sounds in the warmer domain. Depending on guitar woods, pickups and technique, don't be surprised if you find great sounds below 12:00, or even all the way off on the TREBLE and PRESENCE, with the MID's broad Q that carries substantial top end providing all the top end cut you need.

In Channels 2 and 3, the MID control carries frequencies that are somewhat close to the TREBLE along with the upper mid and lower mid frequencies it is centered around. Use this idiosyncrasy to your advantage and experiment with setting the TREBLE lower than “normal” and running the MID up a bit and vice versa. Some very cool sounds can be found with the TREBLE lower, even very low or “off” and the MID higher. Be sure to check this interaction between these two powerful controls, as it will be critical in achieving the sounds you hear in your head.

## **MID**

The MID control in the TC-50, while very powerful, acts a little more like a standard tone control and doesn't have quite the massive global shaping power of the GAIN and TREBLE controls. However, its setting does impart a strong character on the sound of all three Channels. It brings in and out a broad band of midrange frequencies and – as we have mentioned earlier in the TREBLE section – along with these rides a fair amount of higher “low treble” range frequencies. These highs are lower than that of the TREBLE, but they are important for the punch and cut of the amplifier in a mix.

For rhythm playing in the CLEAN Channel, but really globally in all the Channels, a lower MID setting (7:30–10:00) scoops some of this midrange attack and makes the bottom end breathe more. This range will also make things more resilient and create an easier to play, more elastic feel on the strings. Single coil guitars work very well here for the slinky, rubber band attack and bouncy bass character associated with Blues, R&B and Country clean styles.

The middle region (10:00–1:00) is where the punch and attack begin to come on with more urgency and this is where mahogany guitars really like to see the MID set for adding the cut and definition. Here the top end begins to show itself in the mix of the MID controls' spectrum and chording sounds start to chime and slash with a more forward and very present character.

From here on up (1:00–5:30) the MID introduces an aggressive range of sounds that are still full, but quite forward as the dominant frequencies become those present under control of the MID. In this range you will likely have to increase the BASS to add back in the richness and warmth that gets overshadowed when the MID control is set high. If you like the attack and urgency found in this range of the MID, all the other controls (except maybe the MASTER, which you may have to back down as the sound gets more forward) may have to be set higher to keep up with the MID dominant curve. This is fine, although there will reach a point of diminishing return as the headroom in the preamp gets eaten up by this tonal arms race and you begin to clip the preamp with the high signal from the Tone control string.

For gain sounds in Channels 2 and 3, a similar story unfolds as the MID is increased. Lower settings (7:30 – 10:30) will produce wider sounding, more elastic feeling chording sounds and the single notes will have a creamier, smoother character. High harmonics created by the gain and controlled largely with the TREBLE, will put a patina of three-dimensional haze on things that smears nicely with vintage soul.

As the MID is increased past the 10:00 range, cut and bite begins to creep in along with the chesty midrange punch. This is where some classic Crunch is found in the middle range of the GAIN control. This MID kick is an integral part of the impact and tight-tracking accuracy of this iconic mid-gain sound that has been a Rock staple for the last four decades. In Channel 3, the single notes leap forward with greater authority, speed and the warmer, juicier sound begins to give way to a fire-breathing blow torch ... especially at high GAIN settings.

Passing the 1:00 mark unleashes the brash attitude pent up in the MID frequencies and top end joins the party in a big way. Here is where you look for the most forward and aggressive attack over a wider range than that of TREBLE control. The feel on the strings will become less forgiving and your playing will be put under a microscope in the time domain. This region is great for pushing Rock rhythm sounds to the forefront of a mix in Channel 2, no matter how much gain you thicken it up with on the GAIN control. Single note solo sounds in Channel 3 will be lightning fast and deadly accurate and certainly will be heard by all, as they will have a definite point of origin in the bar line.

One suggestion, or maybe more of a word of caution... the MID control contains frequencies that can be a little tough on the ears if not used with some discretion. Be sure to put your head down by the cabinet at some point and sample what you are dealing out to the audience and/or the microphone. You might be surprised how much impact – and possibly even pain – can be dialed in with higher settings of the MID. Unless you are out to hurt people, which is never a good idea, you may find the middle to lower range of the MID gives you plenty of attack and definition but still sounds balanced and warm and lets others enjoy your playing without wincing at every note.

**DRIVE/TIGHT** This switch re-voices the midrange, adding a boost in the medium to upper midrange frequencies usually associated with punch and attack. It also compresses the top end a bit and tightens the low end and all these characteristics in combination have the effect of tightening the sound, thus its name. In Channel 1, the effect is experienced as a slight overdrive effect. To avoid confusion and unnecessary phone calls to our Customer Service Department, this feature is labeled DRIVE.

In Channel 1, the DRIVE is effective at adding the extra push and subtle saturation for Blues or Roots sounds when the GAIN control is run in the top of its range. It provides the little bit of extra gain needed to push this threshold sound into a more viable clip for driven rhythm work or jabbing solo phrases.

For gain sounds in Channel 2, the TIGHT feature tightens the low end and adds percussive midrange gain. This can also be useful for Blues sounds in the lower range of the GAIN (below 12:30) or when the Gain is above 1:00, adding aggressive attack and controlling the low end for Crunch Rhythm sounds. Channel 3 high gain sounds benefit from the enhancements found in the TIGHT voicing as the low end control and mid bump can add articulation to really high GAIN settings (extreme saturation in the higher range) that can otherwise be too slow, are oversaturated or are just in need of some added focus.

No matter where you apply it, the enhancements found in this voicing add another dimension to the sound and a valuable additional voice to each of the three Channels.

**BASS** Much like the MID, the BASS control responds like a typical Tone control and blends in a fairly wide slice of rich bottom end to round out the sound. Internal switching that occurs when the different Modes are selected re-voices the frequency and amount of bass present for each circuit. This difference is crucial to the sounds and a big part of their character.

Channel 1 incorporates a much lower bass frequency that adds depth, dimension and air to the sound. Both Channels 2 and 3 utilize a higher frequency of bass that produces a more resonant, thumping quality and keeps things tighter and more bouncy. This frequency can be used in greater proportions as compared with the lower – and possibly more tone-hampering – frequency used in Channel 1. Therefore the need to be able to have different amounts of these two different frequencies is critical to both great sound and great footswitching compatibility between the Channels.

In Channel 1 we like the balance of the BASS control when it is blending in warmth and body, but not overpowering the attack and sparkle in the mix. Depending on the setting of the GAIN control this can be different, as the lower GAIN settings can handle a little higher BASS settings. You will have to experiment with the exact spots and below is a rough guideline example, but basically, as GAIN goes up - BASS should come down;

Example;

With the GAIN at 12:00 – BASS at 1:00

With the GAIN at 1:00 – BASS at 12:00

With the GAIN at 2:00 – BASS at 11:00

The higher frequencies found on the BASS control in the Channels 2 and 3 are much more forgiving and can be used in higher amounts than the lower frequencies present in Channel 1. BASS settings between 12:00 and 3:00 will be commonplace - with lower GAIN settings needing higher BASS settings and higher GAIN settings calling for a more careful use of the BASS. As the gain goes down (GAIN 9:30 – 12:00) and things get tighter, there is a need for the rich low-end air that is created by the BASS control. When the gain saturates things as it's cranked up (GAIN 12:00 – 5:30), the notes thicken up and less bass is needed to create girth until - at a certain point - the bass frequencies start to slow things down and can even get in the way for some styles.

**OUTPUT** The TRIPLE CROWN features a global OUTPUT control enabling you to raise and lower the overall playing volume with just one control once you have setup your preamp sounds and balanced the Channels with each other using the individual Channel MASTER controls. The OUTPUT is located just before the power section's DRIVER stage and acts as an EFFECTS Return.

Be sure to zero out the OUTPUT control before each session and after hitting STANDBY, raise the level slowly so that you avoid accidental high volume surprises, especially at gigs or in the studio where sudden spikes in signal could cause damage to speakers, engineers or an audience.

Some traditionalists like to effectively “remove” the Channel MASTER controls from the circuit and use the OUTPUT control as the MASTER by cranking the Channel MASTER(s) all the way up. Others feel the opposite approach (turning the OUTPUT all the way up and using the Channel MASTER controls as the OUTPUT) produces a better response. Either approach is fine and each will produce a slightly different response, but both those scenarios may make it more difficult to get a uniform signal level at the Effects Loop depending on dynamics and saturation levels in the Channels.

We find that using both the Channel MASTER and the OUTPUT in their middle range produces great response and offers both the maximum flexibility in balancing the Channels and your playing volume as well as more uniform levels at the Effects Loop.

**SOLO** The SOLO feature enables a pre-settable boost in volume to be engaged by either the SOLO button on the included Footswitch or by storing it “ON” under a MIDI program number. It is essentially an additional OUTPUT control that is wired in series and can achieve levels above that of the setting on the OUTPUT.

This footswitchable/MIDI programmable feature allows “on the fly” showcasing of parts at the click of a switch or allows you to have to different levels of the same preamp sound, thus adding flexibility and even more footswitchable sounds.

**NOTE:** When using the MESA Footswitch to control all the Channels and features, set the Rear Panel SOLO switch to the OFF position. This allows activation of the SOLO from the included MESA Footswitch.

Programming it to be active under MIDI programs is easy and is achieved in this manner:

1. Select a MIDI Program number on your MIDI Controller where you wish the SOLO to be active.
2. Toggle the SOLO mini toggle on the Rear Panel (in the row of switches near the BIAS switch) OFF, then ON once to trigger the SOLO Feature.
3. Press the STORE Key.

The SOLO will be active under that (just Stored) program number along with the Channel, REVERB and LOOP configuration you chose before pressing STORE.

**NOTE:** When the SOLO is active (switch set to SOLO ON) but the MESA Footswitch is NOT connected, both the SOLO and the OUTPUT will have an effect on the signal with the OUTPUT being the determining factor of what is possible, as in, if the OUTPUT is either on zero or all the way up, the SOLO will have no effect on the signal. With the OUTPUT in the usable range of its sweep, the SOLO will allow an increase in volume.

**POWER** This switch controls the AC power Mains in your amplifier. Always make sure the (supplied) IEC Power Cable is connected to a grounded Outlet delivering the proper AC voltage –117v USA. Never alter the Power Cable as doing so may cause damage to the amplifier, increase the risk of electric shock for you, and will void your Warranty. Always follow the Cold Start Procedure below and allow the tubes to warm up before turning the STANDBY on (switch up) as this will help the tubes and all other components in your amplifier to provide years of reliable service.

**STANDBY** This large toggle controls the high voltage to the power tubes and from cold start, helps minimize the inrush of current and reduces the “shock” on them, which ultimately helps increase their useful life. Just like a light bulb, much of the wear on tubes happens at the instant of power up. Minimizing this shock and allowing them to warm up more slowly ensures they will give you the longest life possible. Before Power is switched on, make sure the amp is in STANDBY. Wait at least 30 seconds and then flip the STANDBY switch to the ON position. STANDBY is also very useful as a MUTE for either short interruptions—like changing instruments or patching cables—as well as longer intervals such as Set Breaks or other extended periods. While you can leave the amplifier in STANDBY mode for hours with no harm, it is probably wise to power down if you know you won’t be playing for an hour or two. Why waste the electricity? Just remember to follow the Cold Start procedure mentioned above when you power back up, even if the amp is still “warm”. The filaments in the tubes cool much more quickly than even the glass they are encased in, and they return to their “cold” state even after a short time with the power off. This procedure, when followed religiously, will help prevent tube problems and extend their useful life substantially.

#### **COLD START PROCEDURE:**

*(Use every time amplifier has been switched off for more than 3 minutes)*

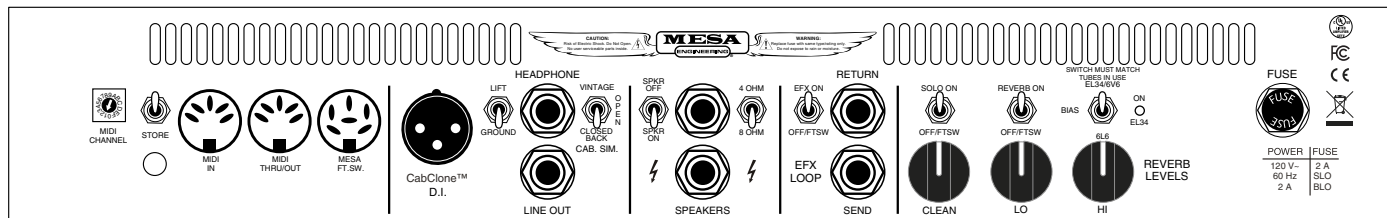
1. Switch to STANDBY
2. Turn POWER to ON.

3. Wait AT LEAST 30 Seconds, preferably longer, for tubes to warm up.

4. Flip STANDBY to ON

**NOTE:** This Cold Start Procedure is an important part of ensuring maximum tube life and reliability. Like a light bulb, the most wear occurs in the instant (short period, first few seconds) voltage is first applied. Like a light bulb, if a dimmer is used to reduce the voltage for the first few seconds or so of use, increased longevity is the result. The STANDBY is the amp's equivalent to a dimmer and using it in the above described method will ensure the longest life and best performance from a set of tubes (especially Output tubes).

## REAR PANEL (Head Version)



**AC MAINS SOCKET: Underneath Rear Panel (Quick Disconnect Style)** This is the AC MAINS Power Cord Socket. The standardized removable power cable supplied with your amp can only be plugged in one way. Always connect the male end to a grounded (3-Hole) wall socket with the proper voltage present (117 Volts on U.S.A. Models). To Avoid The Risk Of Shock, Never Alter The Power Cable in any way. Altering the Power Cable will void your warranty and put you at risk while leaving your amplifier open to the possibility of damage.

**FUSE** This is the A.C.'s (Alternating Current) main fuse and provides protection from outside A.C. fluctuations as well as power tube failure damage. Should the FUSE blow, replace it with the same rating in a Slo-Blo type package. The Domestic 117V and Japanese 100V versions requires a 2 Amp Slo-Blo fuse. A power tube short or failure is often the cause of a blown fuse. Follow the cold start procedure mentioned in the STANDBY switch section and watch the power tubes as you flip the STANDBY to the ON position. If a power tube is going bad or is arcing, you will see it! Flip the STANDBY switch down immediately and replace the faulty power tube and the FUSE if necessary.

If you see nothing abnormal as you move the STANDBY switch to ON, it is possible that a power tube shorted 'temporarily' and caused the blown Fuse. Occasionally, whether from just luck or from cooling down, a short in a power tube 'reconnects' itself temporarily and can operate normally again for a time... but this tube should be considered faulty and replaced as soon as possible to ensure uninterrupted performance. If you can identify a tube that is arcing or shorting by the method mentioned above and the tubes have minimal use, consider replacing the obviously faulty or failed tube and leaving the others installed.

If you haven't changed tubes for a while after heavier use, a failure may be telling you it's time to change all your power tubes. Save any working but used tubes as spares.

Spare fuses (of the proper type and rating) are a must for the fabled cord bag along with at least one set of spare tubes. Always have both on hand—at the gig or at home—since tubes decide, not you, when it's time to stop working. Spare tubes and fuses can be worth their weight in gold should you ever experience a tube failure, especially on a gig. We STRONGLY recommend making them a permanent fixture in your gig bag.

**REVERB** Lush all-tube Reverb drenches the TC-50's three Channels with a beautiful 3-D halo and provides you with individual control of the REVERB mix in each of the three Channels. It can be controlled via the included Footswitch or via MIDI messages once the circuit is active.

You can utilize the REVERB in three ways, “on” all the time, manually activated using the included Footswitch and engaged automatically under MIDI Programs.

In the REV ON position the circuit is active all the time and the REVERB controls determine the dry/wet blend of each Channel. In the OFF/FTSW Position, the REVERB circuit is off until triggered on with the REVERB Button on the included Footswitch or via a previously written MIDI program.

Programming the REVERB under a MIDI Program number is quick and easy with the following simple procedure:

1. Select a MIDI Program Number with your MIDI Controller.
2. Select the Channel, and Feature combination you wish to include in the MIDI Program at that Program Number location using the Front Panel Channel Select and these Rear Panel MIDI Control switches by turning them OFF and then ON once.
3. Press The Rear Panel STORE Key.

The REVERB will now be called up under the MIDI Program location you have just stored it in.

**NOTE:** See the MIDI section of this manual to control the REVERB with MIDI commands.

**SOLO SWITCH** The SOLO feature enables a pre-settable boost in volume to be engaged by either the SOLO button on the included Footswitch or by storing it “ON” under a MIDI program number. It is essentially an additional OUTPUT control that is wired in series and can achieve levels above that of the setting on the OUTPUT.

This footswitchable/MIDI programmable feature allows “on the fly” showcasing of parts at the click of a switch or allows you to have to different levels of the same preamp sound, thus adding flexibility and even more footswitchable sounds.

**NOTE:** When using the MESA Footswitch to control all the Channels and features, set the Rear Panel SOLO switch to the OFF position. This allows activation of the SOLO from the included MESA Footswitch.

Programming it to be active under MIDI programs is easy and is achieved in this manner:

1. Select a MIDI Program number on your MIDI Controller where you wish the SOLO to be active.
2. Toggle the SOLO mini toggle on the Rear Panel (in the row of switches near the BIAS switch) OFF, then ON once to trigger the SOLO Feature.
3. Press the STORE Key.

The SOLO will be active under that (just Stored) program number along with the Channel, REVERB and LOOP configuration you chose before pressing STORE.

**NOTE:** When the SOLO is active (switch set to SOLO ON) but the MESA Footswitch is NOT connected, both the SOLO and the OUTPUT will have an effect on the signal with the OUTPUT being the determining factor of what is possible, as in, if the OUTPUT is either on zero or all the way up, the SOLO will have no effect on the signal. With the OUTPUT in the usable range of its sweep, the SOLO will allow an increase in volume.

**EFX LOOP (SERIES)** These two ¼” jacks provide the interfacing patch points for your processing needs. The Effects Loop is basically a circuit bridge from the end of the preamp to the Driver stage, with the SEND interrupting the signal at the preamp’s end and the RETURN feeding the power section just before the Driver tube.

Using this patch point usually ensures the best sonic performance as well as signal to noise ratio with your outboard processors.

That said, it is important to point out that this is a critical junction in the TRIPLE CROWN's circuit path and whatever is inserted here can have an effect on the overall performance of the amplifier.

The Effects Loop is a Series Loop, meaning that the entire signal goes through it, unlike a Parallel Loop where a percentage of the unaffected pure signal is taken around the Loop. Therefore, the quality of the devices used in the Loop and their performance is critical to achieving the best sound and performance from your amplifier. We recommend auditioning any processor with your TRIPLE CROWN BEFORE buying it to ensure it delivers a good match in performance. One clue is price. Like in any segment of the marketplace, you get what you pay for most times and there is a wide range of quality in regards to both build and sonic performance. While technology has raced ahead at a frightening pace and features are at an all time pinnacle, it is sound and feel you've likely chosen your amplifier for, and therefore we recommend a similar degree of discretion when it comes to choosing your processing devices and ultimately,... what you will insert in the middle of your pure analog tube amplifier.

When using MIDI to control the TRIPLE CROWN, the EFX (Loop) status will be determined by either the Factory-burned settings in the TRIPLE CROWN's processor or whatever was last stored at a given MIDI Program Number location (as is possible as a result of a prior demo at a MESA Dealership).

**NOTE:** Always use quality (low capacitance) cables of the shortest possible length in the Effects Loop when connecting your processors. Doing so will help avoid any sonic degradation due to capacitance and help maintain optimum performance when the Loop is in use.

To Store the Effects Loop status in a Channel under a MIDI Program location, as with all the other features, you must first "reset" its location in the TRIPLE CROWN's switching buss.

Follow these steps to store the EFX (Loop) Status in a Channel under a MIDI Program location;

1. Go to the desired MIDI Program number on your MIDI controller of choice.
2. Call up the desired TRIPLE CROWN Channel with the Front Panel Channel Select mini toggle located near the input jack.
3. Set the EFX mini toggle located on the rear panel to OFF/FTSW.
4. Move the EFX mini toggle to "EFX ON" (switch up).
5. Toggle the STORE switch in the MIDI section of the Rear Panel of the TRIPLE CROWN one time. The current Channel and FX (Loop) status has been written to the currently displayed MIDI Program Number location in the TRIPLE CROWN's processor.

The Channel and EFX (Loop) status is now saved under the current MIDI Program Number displayed on your MIDI controller and should be called up again when next you return to that Program Number. If it is not, repeat steps 1–5 and check again.

## **SPEAKERS**

The TRIPLE CROWN handles the interfacing of speakers with a slightly different set-up from other MESA amplifiers. The dual ¼" jack setup can handle most of the common speaker impedances from 4 to 16 Ohms. 2 Ohm Loads are not supported and are not recommended and this will likely be no inconvenience as 2 Ohm ratings are very rare in the world of guitar cabinetry anyway. A mini toggle flips you between the 4 Ohm and 8 Ohm taps on the output Transformer and between these two positions, most popular cabinet configurations and load requirements can be accommodated.

When using the TRIPLE CROWN Combo by itself or the TRIPLE CROWN Head through a standard MESA 8 Ohm 4x12 or 1x12 Extension cabinet, use the IMPEDANCE SWITCH set to the 8 OHM setting. Most MESA 2x12 Cabinets are also wired to 8 Ohms and they can be used in this setting as well.

Adding a second 8 Ohm speaker or Cabinet to the other SPEAKER Output, we suggest setting the IMPEDANCE SWITCH to the 4 OHM setting. This will provide a better impedance match and ensure the full power and headroom is available.

A single 4 Ohm Cabinet should be used with the IMPEDANCE SWITCH to the 4 OHM setting. A 16 Ohm 4x12 Cabinet or 2x12 Cabinet

should be used in the 8 OHM setting and will see a slight reduction in maximum power, though it will likely be unnoticeable with the additional coverage four or even two speakers provides. Two 16 Ohm Cabinets connected in the 8 OHM setting will produce a better impedance match and will offer the full power and headroom.

**NOTE:** We do not recommend using two 4 Ohm cabinets as this will present a 2 Ohm load to the Output transformer and put undue strain on it as it was not designed for this application.

The ONLY time it is safe (but NOT RECOMMENDED), to run the amplifier with no Load connected to a SPEAKER Output is when you are using the CABCLONE D.I. to record Direct and the SPKR ON/OFF switch in the SPEAKER Section is set to SPKR OFF (switch down). Even THEN, we HIGHLY RECOMMEND keeping a cabinet connected at all times... just in case someone ELSE (Tech, Recording Engineer, etc.) starts flipping switches on the Rear Panel of your amplifier.

Below are some common and correct SPEAKER Output Connection Examples;

- One 8 Ohm Cabinet – To 8 Ohm SPEAKER Output (One MESA 8 Ohm Cabinet).
- Two 8 Ohm Cabinets – Each to a separate 4 Ohm SPEAKER Output or One Cabinet to PARALLEL Input on MESA Speaker Cabinet and 2nd Cabinet to other PARALLEL jack On MESA Cabinet.
- One 4 Ohm Cabinet – To 4 Ohm SPEAKER output. (Any 4 Ohm Cabinet)
- Two 4 Ohm Cabinets – NOT RECOMMENDED! Output Transformer NOT setup to run on 2 Ohm Load.
- One 16 Ohm Cabinet – To 8 Ohm SPEAKER Output. (Slight reduction in maximum power)
- Two 16 Ohm Cabinets – Uses Parallel box or “Y” connector to 8 Ohm SPEAKER Output.

These common Cabinet connection scenarios will cover most of the widely used setups you will run into. There are likely others less common that we have not identified here, and some may also be safe and unique sounding. Feel free to call us if you are concerned as it is always better to be safe than sorry when it comes to ensuring proper loading of an expensive amplifier/piece of equipment like the TRIPLE CROWN. Our Product Specialists will be happy to guide you and/or get you the proper information regarding this important topic.

**SPKR ON/SPKR OFF** This mini toggle mutes the SPEAKER Output for when you want to record “silently” with the CabClone D.I. (direct with no speaker sound from the amplifier). This switch allows you to decide if you’d like to utilize both a live speaker cabinet AND the CabClone’s XLR Direct Out, or just the XLR D.I. OUT. Also, while it’s not needed as you have the STANDBY on the Front Panel for this purpose, this switch may be used as a Mute switch, though with its Rear Panel location this is a less desirable way to achieve that function.

**NOTE: IMPORTANT!** The SPKR OFF switch position automatically connects a Load Resistor to the SPEAKER Outputs to prevent damage to the output tubes and transformer and allow silent (no cabinet connected) direct recording with the XLR D.I. OUT. Selecting SPKR ON defeats the internal Load and connects the signal to the SPEAKER Outputs. DO NOT USE THE AMPLIFIER IN THE SPKR ON SWITCH POSITION WITHOUT A CABINET (LOAD) CONNECTED! Damage to the amplifier will likely occur and this is not covered under the Warranty! For this reason, we recommend keeping a cabinet or Load connected even when you are using the SPKR OFF position as an extra measure of safety in case someone other than you (Tech or Sound Engineer) was ever to switch to SPKR ON in a “Silent” session. It won’t hurt anything and only add a degree of safety.

**NOTE: REMINDER!** If you have everything ON... POWER, STANDBY, GAIN and MASTER (as well as Input and Output Volume Controls on any Effects in the FX Loop) and get no sound; Check the SPKR OFF/SPKR ON switch in the SPEAKER Section of the Rear Panel to make sure the toggle switch is set to SPKR ON. This may have been bumped during shipping, transport or set up.

**HEADPHONE** The TRIPLE CROWN features a HEADPHONE Output for personal enjoyment of the amplifier when it is not possible—or you don’t want to—play through a speaker. This stereo ¼” jack derives its “speaker simulated” signal from the on-board CABCLONE™ D.I. feature circuitry and delivers a surprisingly good rendering of the TRIPLE CROWN’s sound and feel to your head-

phone set of choice.

The CABCLONE circuitry is able to produce this great representation of the amplifier's sound because it starts with a signal taken right off the SPEAKER OUTPUT. This means you have the entire amp—including the output transformer and tubes—imparting all the Tone, nuance, natural tube compression and bouncy feel you are used to hearing through your cabinet.

Granted, the speaker cabinet shapes a lot of what you hear when playing your amp live, but the CABCLONE circuitry does an impressive job of retaining much of the experience of playing live through a cabinet and in trade, allows you to skip the hours and sometimes frustrating chore of mic-ing up your rig. One cable and you're up and running. And the fact that you get this good sounding HEADPHONE Output for personal practicing anytime is a real bonus.

The volume of the HEADPHONE Output is determined by the Channel MASTER controls and you will need to adjust the HEADPHONES volume there as this circuit is passive and therefor has no op-amp driven volume control.

**NOTE:** *Headphones can vary greatly in both sound and efficiency (volume) and therefore the performance of the HEADPHONE jack can be optimized or compromised by the headphones connected to it. We recommend trying a few sets of different types and manufacturers with the TRIPLE CROWN before choosing headphones for this application*

**NOTE:** *Headphones and their proximity to your ears are vastly different from that of your favorite speaker cabinet, therefore, it is important to note that the settings of your amplifier will more than likely require adjustment to get the best results to match the inherent qualities of your headphones.*

**NOTE:** *Introducing a bit of internal REVERB into the mix or even an outboard processor into the FX Loop set to a Delay Preset can help the HEADPHONE Output sound more alive and natural, as it helps compensate for the air and "expansion" present when using a speaker cabinet in a live room.*

The TRIPLE CROWN is the fourth, and probably not the last, MESA amplifier to include the CabClone D.I. circuitry and associated HEADPHONE Output. This comprehensive direct recording and private monitoring feature greatly enhances the value, versatility and convenience of the amplifier and will provide you with new options for quick, hassle-free, direct recording options as well as late night (or any time) personal enjoyment of the TRIPLE CROWN's inspiring sound and feel.

**NOTE:** *Plugging into the HEADPHONES jack defeats the CABCLONE D.I. XLR BALANCED Output. It is not possible to use the HEADPHONE and D.I. OUT simultaneously as the headphones would load down the circuitry further and compromise the sound.*

**NOTE:** *As there is no HEADPHONE Volume Control in the CABCLONE™ passive circuit, you will need to use the Channel MASTER Controls to determine the volume of the HEADPHONE output.*

**NOTE:** *When using the SPKR ON position in the CABCLONE section, make SURE you have a working speaker connected to one of the SPEAKER OUTPUTS. Failure to do so may result in damage to your amplifier that is not covered under Warranty. Using the amplifier in the SPKR ON position without a speaker or external load (resistor, soak, etc.) will likely cause damage to your output transformer and render your amplifier inoperative.*

#### **LINE OUT**

This 1/4" OUTPUT offers an untreated (non-compensated) duplication of the amplifier's SPEAKER OUTPUT signal for sending on to a console or other destination for alternate treatment. As labeled on the Rear Panel, this signal is wired for a nominal +4dB Output Level signal. It will however vary depending on the MASTER Volume (level) setting on the front panel of the amplifier and how loud the power section is being driven.

**NOTE:** *The LINE OUT jack uses a standard MONO 1/4" phone jack and is not a STEREO (or as sometimes seen a TRS BALANCED jack). Use a mono phone plug when using the LINE OUT for connection to the Console. If you only have a stereo TRS plug, you will need to only insert it part way into the CABCLONE LINE OUT jack to get a signal.*

#### **CABCLONE™ D.I.**

As mentioned in the OVERVIEW in the Front of this Manual, the TRIPLE CROWN features one of — if not the — coolest feature ever to grace a MESA Rear Panel, the on-board CABCLONE D.I. and Cabinet Simulation feature. This built-in

direct recording solution allows you to capture a wonderful representation of the TRIPLE CROWN's inspiring sound and feed it direct to a Console, Converter or even direct to a Recorder without the need to mic up a speaker. Impossible you say... a long list of well known producers, engineers and players would beg to differ with you.

Taken directly from our acclaimed stand-alone CABCLONE™ D.I. unit, this speaker-compensated D.I. XLR Balanced Output (and HEADPHONE Output) does an incredible job of capturing the signal from the SPEAKER OUTPUT and turning it into direct-injection gold. The five elements here in this section of the Rear Panel allow for use with a live speaker or without, so you can blend the direct signal and a mic'd speaker cabinet if you so desire.

The CabClone™ Section features include:

- **SPKR ON/SPKR OFF** – SPEAKER Status (Located in SPEAKER Section )
- **CLOSED BACK/OPEN BACK/VINTAGE** – CABINET Style
- **CabClone™ D.I.** – XLR BALANCED D.I. Output
- **LIFT/GROUND** – XLR Pin 1 Float .

This array of controls and Output comprises perhaps one of the most valuable and welcome feature set on any MESA amp, expanding both the functionality and enjoyment potential many fold. The TRIPLE CROWN is the third of our amplifiers to include this powerful tool built right in for speedy and convenient recording applications without sacrificing authenticity and Tone. It's sure to increase the professional potential of this MARK model and help this compact package usher in a new era of MESA high power performance combined with Studio ready convenience.

**CLOSED BACK/OPEN BACK/VINTAGE** Here in the TRIPLE CROWN, the on-board CabClone™ D.I. feature offers three classic “cabinet simulated” VOICING Modes and gives you the full feature set of the stand-alone CabClone DI minus the OUTPUT control. The simulations are an analog representation achieved through passive means (without op-amps to add gain for shaping) and were created using our 45 years of experience co-designing custom speakers with the world's top makers and designing cabinets to load them in.

These CabClone “virtual-cabinet” options allow you to tailor the Direct circuit's EQ response for different cabinet styles, gain regions and/or different instruments and pickups. The choices range from bright and open with enhanced top end for buffed clean sounds in OPEN BACK, to a more compressed voice with the upper harmonics shelved for warm, singing single note sounds and thick high gain rhythm work in VINTAGE Mode, to a scooped mids and boosted top and bottom response curve in the CLOSED BACK setting that excels at heavy Crunch rhythm and high gain Lead work.

Because clean and overdriven sounds really need these different cabinet types to sound authentic, you will need to experiment with the three voicing options with your range of sounds for increased accuracy when employing the CabClone for direct recording.

The lower VINTAGE Mode position rolls off the upper harmonics and compresses the sound to create a warm, round voicing that's perfect for Jazz Cleans, Blues and Rock soloing—and most especially—high gain single note work for Fusion, Rock and Metal styles. This mode allows greater freedom with the controls on the amp, enabling you to dial in more TREBLE and PRESENCE to add top end focus and cut.

The middle OPEN (BACK) position takes the lid off the top end so the upper harmonics can shine through and provide a more open, three-dimensional sound with accentuated brightness. This position works well for clean work and overdriven rhythm applications where a brighter, “faster”, more urgent response is in order.

The upper CLOSED BACK Mode is voiced to deliver a similar response to a closed back 4x12 with British-style 60 watt speakers and pays tribute to our Rectifier® Traditional cabinet. Here the mids are scooped and the top end is, for the most part, intact to create a huge, wide sound. This position shines for overdrive and crunch rhythm work where you need big “tuned” lows and smooth vintage-inspired lead sounds. The CLOSED BACK mode is the first thing to try for high gain sounds, especially when using a combination of live speaker and CABCLONE DI direct. The added top end a reactive load (live mic'd speaker) may impart on the sound is nicely balanced by the fatter, tuned response of the CLOSED BACK mode.

When blending a live cabinet mic'd and the CabClone direct, you can also try selecting the Cabinet Voicing option that has an opposite (or different) response to that of the cabinet you are mic-ing for a blend-able difference later when mixing.

Within these three selectable Cabinet Style Voicing Options, you'll find the ability to tune the CabClone D.I.'s response to work well for almost any sound style. Keep in mind that adding the live speaker may affect the sound of these VOICING choices... making things more reactive dynamically and perhaps brighter as well, depending on the inherent characteristics of the speaker and/or cabinet that you have chosen.

**NOTE:** Remember that the CabClone circuit gets its feed from the **SPEAKER Output** and whatever cabinet (Load) you are using "reflects backwards" and has an effect on the characteristics (both in regards to dynamics and frequency response) of the amplifier's power section.

**CABCLONE™ D.I. (XLR OUTPUT)** This male 3-pin XLR Output provides a balanced signal for direct interface to a Console, Preamp or possibly even a Recorder. Use a standard 3-Pin XLR mic cable (of any reasonable length) to connect to your direct interface destination of choice. Next choose whether you wish to record with the CabClone speaker compensated signal alone, or whether you wish to blend a live speaker cabinet with this Direct signal using the SPKR OFF/SPKR ON mini toggle in the **SPEAKER Section**.

As the CabClone circuit is passive, there is no dedicated Output Level Control, so the Channel **MASTERS** and the Output and Solo will determine your send level strength at the CabClone D.I. Output.

**NOTE:** It is a wise practice to get in the habit of beginning every Direct session with the **TRIPLE CROWN's Channel MASTER Controls** set to "0" and the **STANDBY switch** set to "0" (switch down). This will help avoid unpleasant and/or embarrassing level surges through the Console and/or Playback Monitors should the **Faders (INPUT Attenuator)** be up already or set too high.

It is ALSO wise to "zero-out" the Console or Preamp/Recorder **INPUT Trim** to help avoid similar unpleasant surprises.

**LIFT/GROUND** This switch allows you to lift the CABCLONE BALANCED D.I. Output's XLR jack (PIN 1) GROUND, from Circuit and Chassis GROUND and in many cases (but not all) remove hum caused by a ground loop. In silent recording environments every little noise stands out and ground loops can produce one of the more common (and annoying) sources of hum and/or buzz. It is not a cure-all to this common problem by any means, but it can often make a positive impact on the noise floor and at least help you rule out one common source of "hum".

**MESA FTSW** This 6-Pin DIN jack accepts the MESA TRIPLE CROWN Custom Footswitch cable or any other standard 6-Pin DIN style cable, which is wired with all conductors straight-through, should you misplace the included cable. The TRIPLE CROWN Footswitch allows instant access to the three Channels and the REVERB. It comes in very handy for those players who don't use MIDI to control their stage or studio set up and also provides easy demonstration of the sounds and Features of the amplifier in Dealership environments.

**NOTE:** DO NOT connect any MIDI devices to the MIDI INPUT jack when using the MESA FT.SW. jack!!

To use the TRIPLE CROWN Footswitch; Connect the 6-Pin Din Cable to the MESA FTSW jack on the Rear Panel (left most DIN jack when facing Rear Panel) making sure to line the pins up correctly with the guide on top and the pins on the bottom. Do NOT force the cable into the jack! When the pins are aligned it will fit easily though snugly, into the jack.

Connect the other end of the 6-Pin DIN cable to the similar jack on the TRIPLE CROWN Footswitch. The STORE LED will illuminate briefly and at least one of the footswitch LEDs should light up upon connection of the TRIPLE CROWN Footswitch. If not, unplug the cable and try connecting it again making sure the pins are properly aligned. Check the amplifier connection as well to be sure the cable is seated all the way home there also.

Use the TRIPLE CROWN Footswitch to access the Channels, Reverb, FX Loop and Solo.

**NOTE:** You cannot use the TRIPLE CROWN Footswitch and a MIDI controller at the same time. Choose one or the other to control your amplifier and **DO NOT CONNECT THE JACK** that corresponds to the switching method **YOU DO NOT INTEND TO USE**.

**MIDI THRU/OUT** This 5-pin standard MIDI jack is the THRU/OUT for the MIDI control portion of the TRIPLE CROWN. As you might guess, any standard 5-Pin DIN cable will connect to this jack, though albeit, some fit more snugly (with difficulty at times) than others due to the thickness of the plastic housing surrounding the Pin area of the cable.

Depending on your set up and whether the TRIPLE CROWN is the first (only) device receiving MIDI commands from a controller in your system, or the one of many “downstream” in a chain of devices receiving MIDI commands, the information will either be from the master unit or a slave passing information on to the next in the chain. Either way, the TRIPLE CROWN sends all pertinent MIDI information on as either THRU or OUT via this jack.

**MIDI IN** This 5-Pin female DIN jack accepts standard 5-Pin MIDI cables and passes all incoming MIDI commands to the TRIPLE CROWN's processor for interpretation. Whether from a MIDI Footcontroller, Sequencer, Librarian Software or DAW, all MIDI messages sent to the TRIPLE CROWN will be received here and, if pertinent, appropriate action will be taken by its processor. The TRIPLE CROWN can respond to MIDI Program Change, Control Change and SysEx messages, but all MIDI messages and/or commands will be passed on via the THRU/OUT jack.

**NOTE:** DO NOT connect a footswitch to the MESA FT.SW. jack when using the MIDI INPUT jack!!

**MIDI CHANNEL** This mini detent pot allows selection of a specific MIDI Channel among the 16 Standard MIDI Channels. Set the MIDI CHANNEL pot so that it receives on the same MIDI Channel as that which your Controller is set to send on. If it is a guitar specific rig using MIDI commands only for calling up Channels and Features on the amplifier, often players will only ever use Channel 1 or Channel 16. This is easy to remember and stays out of the way for them, while leaving ample room to grow a system that might get more complex sometime in the future. If it is to be used in a more expanded MIDI set up, you may have need for a specific higher MIDI Channel number to isolate the data stream used to control different instruments or a Computer used as a sequencer The TRIPLE CROWN MIDI Channel pot detents correlate to the MIDI Channels in this manner; Pot Detent Position (Rotating Clockwise From 0) = MIDI CHANNEL

### MIDI CHANNEL SELECTION

| Rotary DIP Switch Position | Selected MIDI Channel | Rotary DIP Switch Position | Selected MIDI Channel |
|----------------------------|-----------------------|----------------------------|-----------------------|
| 0                          | 1                     | 8                          | 9                     |
| 1                          | 2                     | 9                          | 10                    |
| 2                          | 3                     | A                          | 11                    |
| 3                          | 4                     | B                          | 12                    |
| 4                          | 5                     | C                          | 13                    |
| 5                          | 6                     | D                          | 14                    |
| 6                          | 7                     | E                          | 15                    |
| 7                          | 8                     | F                          | 16                    |

That pretty much wraps up our tutorial of the TRIPLE CROWN's features. Now it's your turn to take this powerful tool into your musical world and put it to use exploring uncharted frontiers. We sincerely hope it takes you places you've never been and allows you to express in new and exciting ways. Learning it's Controls and Features will make you fluent in the language of TONE and enable you to roam wherever you feel inclined stylistically with confidence.

From all of us here at MESA/Boogie, welcome to the Family and we wish you many years of inspiration and enjoyment from your new instrument.



# MIDI OPERATING INSTRUCTIONS

## FEATURES

- Intelligent Footswitch control
- Works with all Midi Footcontrollers
- Up to 256 presets can be saved in memory
- Quick and easy User Preset Dump and Load
- Painless programming via amp toggle switches
- Immediate Midi channel selection via rotary switch
- Responds to Midi Program & Control Change messages
- Midi software updates and software version identification

## POWER-UP

When the amp is turned on, the default channel (LO) is selected, all other functions are off, as is the STORE LED. After half a second, the channel and other functions will be selected as per the toggle switch settings, and the STORE LED will illuminate briefly.

## MESA FTSW

**NOTE:** DO NOT connect any Midi devices to the Midi INPUT jack when using the MESA FT.SW. jack!

MESA FT.SW.: 6-pin female DIN jack accepts a male DIN cable, connect the Footswitch here.

When a TRIPLE CROWN Footswitch is first connected, the amp's STORE LED and all of the Footswitch LEDs will illuminate briefly.

When a button on the TRIPLE CROWN Footswitch is pressed, the STORE LED will flash quickly, indicating a button has been pressed.

CONTROLLING MULTIPLE TRIPLE CROWNS: Controlling multiple amps with a single TRIPLE CROWN Footswitch is easily accomplished by connecting the TRIPLE CROWN Footswitch to the MESA FT.SW. jack on one amp, and connecting the Midi THRU/OUT from this amp to the Midi INPUT on a second amp. For a third amp, connect the Midi THRU/OUT from the second amp to the Midi INPUT on the third amp, and so on...

When controlling multiple amps as indicated above, only the amp with the TRIPLE CROWN Footswitch connected should be set for Midi Channel 1, all the other amps should be set to any other Midi Channel. Additionally, the Front Panel toggle switches should be positioned identically, from one amp to another.

## MIDI INPUT

**NOTE:** DO NOT connect a TRIPLE CROWN Footswitch to the MESA FT.SW. jack when using the Midi INPUT jack!

Midi INPUT: Standard 5-pin Midi DIN jack. Connect a Midi Footcontroller output or the Midi OUTPUT of another device to send Midi commands to the amp, here. Phantom power for a Midi Footcontroller or any other device is not provided.

## MIDI THRU/OUT

Midi THRU/OUT: Standard 5-pin Midi DIN jack. Any Midi commands received at the Midi INPUT are passed through this jack, unchanged, and can be sent to other Midi devices. It also acts as a Midi OUTPUT when sending a User Preset Dump.

## MIDI CHANNEL

A rear-panel rotary DIP switch is used to select which Midi Channel the amp will receive Midi messages on. Changing the Midi Channel will briefly illuminate the STORE LED as a confirmation that a change has been made.

### MIDI CHANNEL SELECTION

| Rotary DIP Switch Position | Selected MIDI Channel | Rotary DIP Switch Position | Selected MIDI Channel |
|----------------------------|-----------------------|----------------------------|-----------------------|
| 0                          | 1                     | 8                          | 9                     |
| 1                          | 2                     | 9                          | 10                    |
| 2                          | 3                     | A                          | 11                    |
| 3                          | 4                     | B                          | 12                    |
| 4                          | 5                     | C                          | 13                    |
| 5                          | 6                     | D                          | 14                    |
| 6                          | 7                     | E                          | 15                    |
| 7                          | 8                     | F                          | 16                    |

## USER PRESET

The amp can receive Midi messages from any Midi Footcontroller. By saving different presets, or “patches” for different Midi Program Change Numbers, you can automatically recall a saved preset by sending the correct Midi Program Change Number from your Midi Footcontroller. You can assign which channel and other functions are on or off, for each and every preset. The amp allows saving up to 256 presets, using Midi Program Change Numbers 1 through 128, in two banks.

- Bank 1 is the power-on default, and Midi Program Change Numbers will recall presets in this bank.
- Bank 2 is accessible using the Midi Bank Select Message, which is Midi Control Change Number CC#0.
- Sending the amp Midi Control Change Number CC#0 with a Control Value of 0 from your Midi Footcontroller, will select Bank 1.
- Sending the amp Midi Control Change Number CC#0 with a Control Value of 1 (or greater) from your Midi Footcontroller, will select Bank 2.
- Bank selection on the amp is semi-permanent, meaning any subsequent Midi Program Change Numbers received, will recall a preset in the selected bank. For example; after selecting Bank 2, all subsequent Midi Program Change Numbers will recall presets (129 through 256, which are) in Bank 2. After selecting Bank 1, all subsequent Midi Program Change Numbers will recall presets (1 thru 128, which are) in Bank 1.

### To save a preset for a Midi Program Change Number:

- Select the Midi Program Change Number on your Midi Footcontroller.
- Manually select the TRIPLE CROWN Channel and other functions you would like on or off in the preset, using the amp's toggle switches.
- Engage the STORE SWITCH, and the STORE LED will illuminate briefly as an indication that the preset has been saved.

PRE-STORE “Reset” Required: Continuing with the Mesa/Boogie tradition of robust toggle switches to select the amp's channel, and on/off functions, instead of the ever so common momentary push-button switch, requires sophisticated software algorithms that allow Midi to control the amp at the same time. The mix of these control methods requires that toggle switches be double-actuated before it will have an effect (be allowed to be STORED). For example; if the amp's Channel Select toggle switch has CLEAN selected, but LO is active (ON) as a result of a Midi preset or command, and you would like to change the channel to CLEAN, the amp's channel toggle switch will need to be moved to the LO position, then back to the CLEAN position, in order to activate it. All Features must also be reset in this manner before the STORE toggle will commit (write) them to a Midi Program Number.

Whenever a Midi Bank Select Message or Midi Program Change Number is received on the same Midi Channel as selected by the Midi Channel rotary DIP switch, the STORE LED will flash quickly, indicating a valid Midi message has been received.

**A preset cannot be saved under the following conditions:**

- The TRIPLE CROWN Footswitch is connected to the MESA FT.SW. jack.
- On power-up and/or when the amp has not yet received a Midi Program Change Number.
- A User Preset Dump was received, whether successful or not, and the amp has not received a subsequent Midi Program Change Number.

**USER PRESET DUMP & LOAD** A User Preset Dump will send a Midi SysEx (System Exclusive) file with the amp's 256 presets out through the Midi THRU/OUT jack. This User Preset Dump File includes CRC (Cyclic Redundancy Check) bytes for error detection.

To dump the presets from one amp, and load them into another, connect its Midi INPUT jack to the Midi THRU/OUT jack of the amp with the presets to be copied.

The User Preset Dump File can also be saved to a computer, as a backup or to load the presets into another amp. In addition to the computer, you'll also need a Midi/USB Interface and a Midi app/utility capable of sending and receiving Midi SysEx files (there are many free ones available, we recommend SysEx Librarian by [www.snoize.com](http://www.snoize.com) for Mac users and for Windows users, Midi-OX via [www.Midiox.com](http://www.Midiox.com)).

**A User Preset Dump can be performed after:**

- The amp is first turned on, and prior to receiving any Midi messages.
- The amp has received a User Preset Dump (whether successful or not).

**NOTE:** The Midi INPUT and MESA FT.SW. jacks, should be left unconnected when performing a User Preset Dump.

- To perform a User Preset Dump, connect the Midi THRU/OUT jack to the Midi INPUT jack of another amp or Midi/USB Interface.
- Press the STORE SWITCH, the STORE LED will illuminate briefly and the User Preset Dump File will be sent via the Midi THRU/OUT jack.
- The STORE LED will briefly illuminate again after the amp has finished sending the User Preset Dump File - it should only take a second or two.

**A User Preset Load can be performed anytime!**

The Midi THRU/OUT and MESA FT.SW. jacks, should be left unconnected when performing a User Preset Load.

- To perform a User Preset Load, connect the Midi INPUT jack to the Midi THRU/OUT jack of another amp or the Midi OUT jack of a Midi/USB Interface.
- Send the User Preset Dump File, the STORE LED will illuminate briefly as soon as the amp starts receiving it, via the Midi INPUT jack.
- The STORE LED will briefly illuminate again after the amp has finished receiving the User Preset Dump File - it should only take a few seconds.

When receiving a User Preset Dump File, it is first saved in the TRIPLE CROWN's RAM memory, and does NOT overwrite the existing presets saved in the non-volatile EEPROM memory. The existing presets will ONLY be overwritten after the entire User Preset Dump File has been completely and successfully received, without errors!

If a User Preset Load fails, the STORE LED will remain illuminated until the amp begins receiving a User Preset Dump File again, or

any other process occurs that turns the STORE LED on and/or off. Any failures could ONLY be due to a corrupted file, and the amp's built-in CRC error detection will prevent a corrupted file from overwriting existing presets.

## MIDI CONTROL CHANGE NUMBERS

In addition to supporting Midi Program Change Numbers, the amp also accepts Midi Control Change Numbers (messages... also known as Midi Continuous Controllers or CC messages).

When using a Midi Footcontroller capable of sending CC messages, you can assign buttons on the Footcontroller for direct-control or instant-access to individual functions on the amp, which allows any Midi Footcontroller to act as a dedicated TRIPLE CROWN Footswitch.

Typically you would control the amplifier using either Midi Control Change Numbers or Midi Program Change Numbers, but not both, though it is possible. Using Midi Program Change Numbers saves presets in the amp's memory, but does not allow instant-access to the TRIPLE CROWN's Channels and Features (FX Loop, Solo & Reverb) from a Midi Footcontroller. Using Midi Control Change Numbers saves preset combinations in the Midi Footcontroller's memory, and does provide instant-access to the amp's channels and on/off functions.

Whenever a Midi Control Change Number is received on the same Midi Channel as selected by the Midi Channel rotary DIP switch, the STORE LED will flash quickly, indicating a valid Midi message has been received.

**NOTE:** If you experience any odd or unexpected Midi behavior, it is more than likely a result of the TRIPLE CROWN receiving both Midi Control Change and Program Change Numbers at the same time, ensure this is not the case before contacting us for support.

### TRIPLE CROWN™ MIDI CONTROL CHANGE NUMBER ASSIGNMENT

| Amp Function                                                                                       | MIDI CC Number | Control Values                | Comments                              |
|----------------------------------------------------------------------------------------------------|----------------|-------------------------------|---------------------------------------|
| CL                                                                                                 | 20             | 64 - 127 (ON)                 | LO and HI will turn off automatically |
| LO                                                                                                 | 21             | 64 - 127 (ON)                 | CL and HI will turn off automatically |
| HI                                                                                                 | 22             | 64 - 127 (ON)                 | CL and LO will turn off automatically |
| FXLP                                                                                               | 23             | 0 - 63 (OFF)<br>64 - 127 (ON) |                                       |
| RVRB                                                                                               | 24             | 0 - 63 (OFF)<br>64 - 127 (ON) |                                       |
| SOLO                                                                                               | 25             | 0 - 63 (OFF)<br>64 - 127 (ON) |                                       |
| <b>Notes:</b><br><b>(1) CC#20-#22 are mutually exclusive, most recent received takes priority.</b> |                |                               |                                       |

## SOFTWARE UPDATES

Software updates should be performed with the amp in STANDBY, and the Midi THRU/OUT and MESA FT.SW. jacks, left unconnected.

To perform a software update, you'll require a firmware update file (which can be obtained from us via the web or e-mail), a computer, a Midi/USB Interface, and a Midi app/utility capable of sending and receiving Midi SysEx files (the two free ones that we recommend are SysEx Librarian by [www.snoize.com](http://www.snoize.com) for Mac users and Midi-OX via [www.Midiox.com](http://www.Midiox.com) for Windows).

**IMPORTANT!!!** Midi app/utility settings are below for Software updates:

### Mac - SysEx Librarian

Menu > Preferences

*Transmit Speed = 50% max.*

### Windows - Midi-OX

Main Menu > View > SysEx

SysEx Window Menu > SysEx > Configure

*Low Level Output Buffers, Size = 256 & Num = 64*

*Output Timing & Delay Between Buffers = 192ms min.*

*Auto-Adjust Buffer Delays If Necessary = Off/Unchecked*

As with any piece of modern gear, it's always a very good idea to BACKUP YOUR PRESETS BEFORE PERFORMING A SOFTWARE UPDATE!

To perform a Software update, the amp MUST be powered-up with the STORE SWITCH engaged AND the CHANNEL SWITCH set to CLEAN. The STORE LED will remain on, indicating the software update mode.

Changing the amp's Channel prior to sending the firmware update file will abort the Software update process, the STORE LED will turn off, and the amplifier will return to its normal mode of operation.

Upon receiving a firmware update file, the STORE LED will begin to blink steadily, and will continue to blink during the update.

Software updates will take about 30 seconds to complete.

After performing a successful software update, the STORE LED will stop blinking, and the amplifier will return to its normal mode of operation.

If a software update fails, the STORE LED will remain illuminated until the amp begins receiving a firmware update file again. Any failures could only be due to either a corrupted file, or because the file is being sent to the amp faster than it can be processed. Midi app/utility settings have been provided (above) which will prevent the firmware update file from being sent to the amp faster than it can be processed, avoiding any speed related failures.

If, after a failed software attempt due to a speed related failure, the STORE LED does not blink when another firmware file has been sent, simply turn off the amp, then power-up again with the STORE SWITCH engaged and the CHANNEL SWITCH set to CLEAN (as before). To prevent having to turn the amp off, and on again, always let a firmware file transmission finish on its own, before retrying.

The SysEx Librarian app/utility includes two different methods of calculating the checksum of a file. You should check one or both of these against the checksums we've published to ensure your file has not been corrupted.

Unfortunately Midi-OX does not provide a checksum feature, but Microsoft does offer a free utility called "Microsoft File Checksum Integrity Verifier".

**SOFTWARE VERSION SysEx MESSAGE**

A short Midi SysEx message will follow every User Preset Dump, as a simple means of ID'ing the amp's Midi interface software version.

To view this message, you'll need a computer, a Midi/USB Interface, and a Midi app/utility capable of sending and receiving multiple Midi SysEx messages in succession (the two free ones that we recommend are SysEx Librarian by [www.snoize.com](http://www.snoize.com) for Mac users and Midi-OX via [www.Midiox.com](http://www.Midiox.com) for Windows users).

Software Version Number = x.y

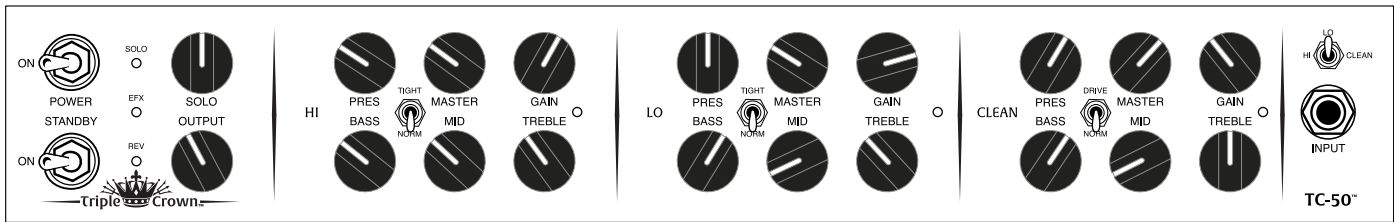
TRIPLE CROWN Software Version SysEx Message = F0 00 01 4B 04 68 x y F7

**TRIPLE CROWN™ FACTORY PRESETS**

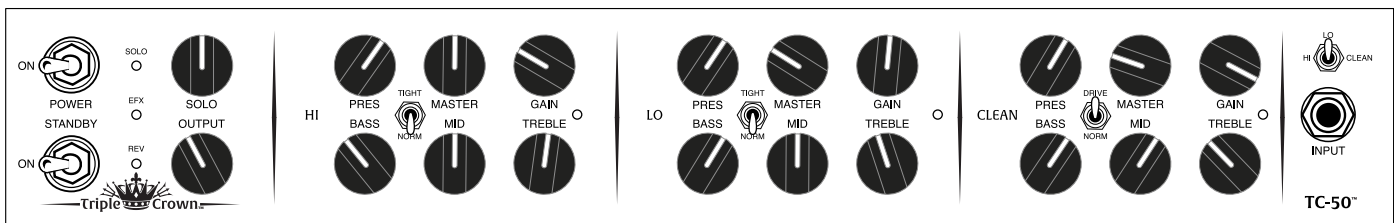
| USER MEMORY / PRESET NUMBER                                                      | CL | LO | HI | FXLP | RVRB | SOLO |
|----------------------------------------------------------------------------------|----|----|----|------|------|------|
| 1, 16, 31, 46, 61, 76, 91, 106, 121, 136, 151, 166, 181, 196, 211, 226, 241, 256 | ○  |    |    |      |      |      |
| 2, 17, 32, 47, 62, 77, 92, 107, 122, 137, 152, 167, 182, 197, 212, 227, 242      | ○  |    |    | ○    |      |      |
| 3, 18, 33, 48, 63, 78, 93, 108, 123, 138, 153, 168, 183, 198, 213, 228, 243      | ○  |    |    |      | ○    |      |
| 4, 19, 34, 49, 64, 79, 94, 109, 124, 139, 154, 169, 184, 199, 214, 229, 244      | ○  |    |    |      |      | ○    |
| 5, 20, 35, 50, 65, 80, 95, 110, 125, 140, 155, 170, 185, 200, 215, 230, 245      | ○  |    |    |      | ○    | ○    |
| 6, 21, 36, 51, 66, 81, 96, 111, 126, 141, 156, 171, 186, 201, 216, 231, 246      |    | ○  |    |      |      |      |
| 7, 22, 37, 52, 67, 82, 97, 112, 127, 142, 157, 172, 187, 202, 217, 232, 247      |    | ○  |    | ○    |      |      |
| 8, 23, 38, 53, 68, 83, 98, 113, 128, 143, 158, 173, 188, 203, 218, 233, 248      |    | ○  |    |      | ○    |      |
| 9, 24, 39, 54, 69, 84, 99, 114, 129, 144, 159, 174, 189, 204, 219, 234, 249      |    | ○  |    |      |      | ○    |
| 10, 25, 40, 55, 70, 85, 100, 115, 130, 145, 160, 175, 190, 205, 220, 235, 250    |    | ○  |    |      | ○    | ○    |
| 11, 26, 41, 56, 71, 86, 101, 116, 131, 146, 161, 176, 191, 206, 221, 236, 251    |    |    | ○  |      |      |      |
| 12, 27, 42, 57, 72, 87, 102, 117, 132, 147, 162, 177, 192, 207, 222, 237, 252    |    |    | ○  | ○    |      |      |
| 13, 28, 43, 58, 73, 88, 103, 118, 133, 148, 163, 178, 193, 208, 223, 238, 253    |    |    | ○  |      | ○    |      |
| 14, 29, 44, 59, 74, 89, 104, 119, 134, 149, 164, 179, 194, 209, 224, 239, 254    |    |    | ○  |      |      | ○    |
| 15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180, 195, 210, 225, 240, 255    |    |    | ○  |      | ○    | ○    |

# FACTORY SAMPLE SETTINGS

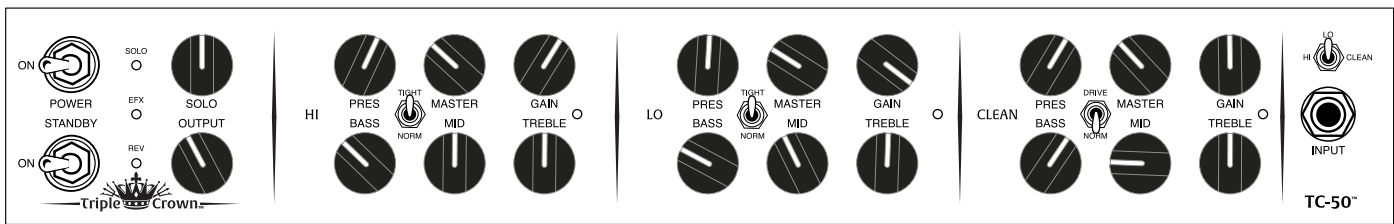
## BIG THREE



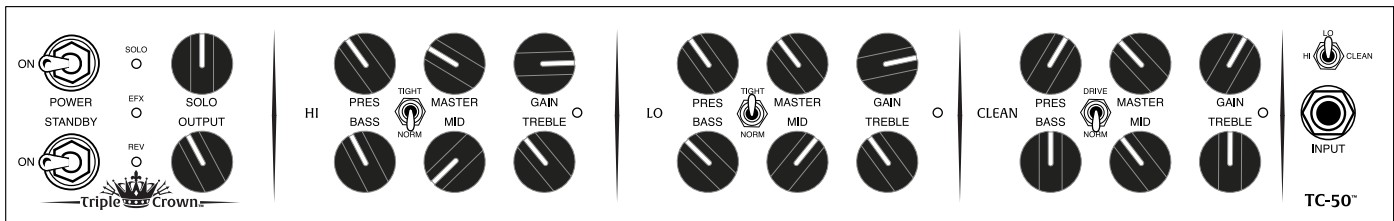
## CLASSIC



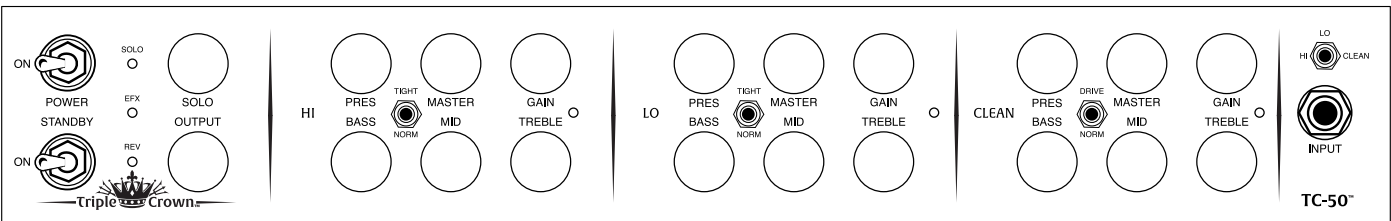
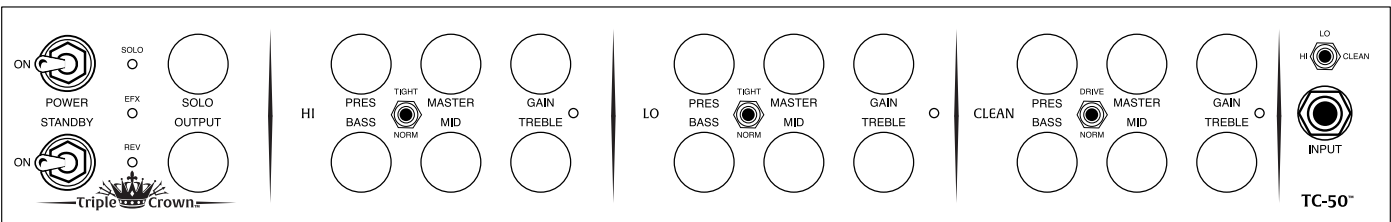
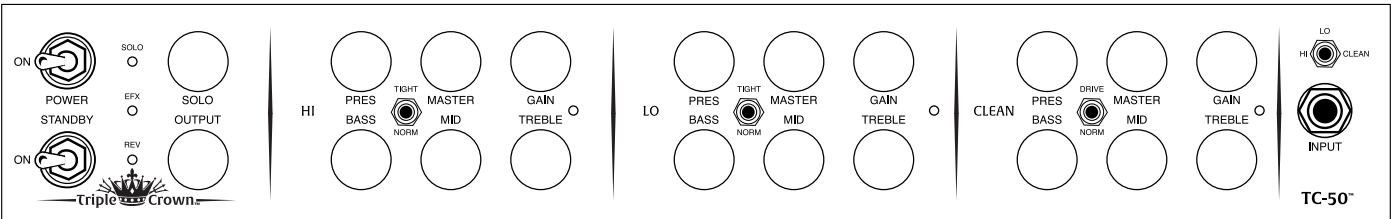
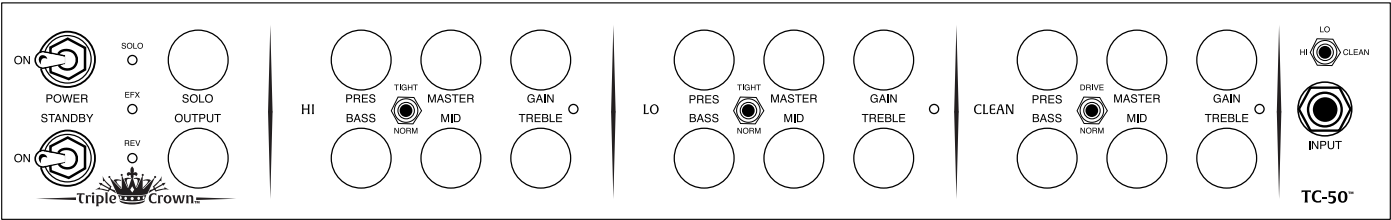
## CLEAN & DROP



## GAINED UP



# USER SETTINGS



**TUBE NOISE & MICROPHONICS:**

You may occasionally experience some form of tube noise or microphonics. Certainly no cause for alarm, this quirky behavior comes with the territory and the Tone. Much like changing a light bulb, you don't need a technician to cure these types of minor user serviceable annoyances and in fact, you'll be amazed at how easy it is to cure tube problems...by simply swapping out a pre-amp or power tube!

First may we suggest that you set the amplifier up on something so that you can get to the tubes comfortably without having to bend down. It also helps to have adequate lighting as you will need to see the tube sockets clearly to swap tubes. **Use caution and common sense when touching the tubes after the amplifier has been on as they may be extremely hot!** If they are hot and you don't want to wait for them to cool off, try grasping them with a rag and also note that the glass down around the bulbous silvery tip is considerably less hot which makes it easier to handle. Gently rock the tube back and forth as you pull it away from its socket.

**DIAGNOSING POWER TUBE FAILURE:**

There are two main types of tube faults: shorts and noise. Both large and small tubes may fall prey to either of these problems but diagnosis and remedy is usually simple.

If a fuse blows, the problem is most likely a shorted power tube and shorts can either be mild or severe. In a mildly shorted tube the electron flow has overcome the control grid and excess current flows to the plate. You will usually hear the amp become distorted and begin to hum slightly. If this occurs, quickly look at the power tubes as you switch the amp to STANDBY and try to identify one as glowing red hot. It is likely that two of a pair will be glowing since the "shorted" tube will pull down the bias for its adjacent mates, but one tube may be glowing hotter — and that one is the culprit. The other two are often fine — unless they've been glowing bright red for several minutes.

Because there is no physical short inside the tube (just electrons rioting out of control) merely switching to STANDBY for a few moments then back to ON will usually cure the problem...at least temporarily. Watch the tubes carefully now. Should the problem recur, the intermittent tube will visibly start to over heat before the others and thus it can be identified. It should be replaced with one from the same color batch, shown on its label. Call us and we will send one out to you.

The severe short is not nearly so benign. In the worst cases, a major arcing short occurs between the plate and the cathode with visible lightning inside the glass and a major noise through the speaker. If this is seen to happen, IMMEDIATELY turn the amp to STANDBY. By this time the fuse probably will have blown. Such a short is usually caused by a physical breakdown inside the tube including contaminate coming loose or physical contact (or near contact) between the elements. Replace it and the fuse with the proper slo-blo type and power up the amp using the power up procedure as we described earlier in this manual.

**TUBE NOISE:**

Often caused by contamination within in a tube, the culprit can usually be identified, and by lightly tapping on the glass, you will probably hear the noise change. Hearing some noise through the speakers while tapping on the 12AX7's is normal however. And the one nearer the INPUT will always sound louder because its output is being further amplified by the second 12AX7.

The power tubes should be all but quiet when they are tapped. If crackling or hissing changes with the tapping, you have probably found the problem. To confirm a noisy power tube, merely put the amplifier on Standby, remove it from its socket and turn it back on. It will cause no damage to run the amplifier briefly with one power tube missing. You may notice a slight background hum, however, as the push-pull becomes unbalanced. Whenever you are trying to diagnose a suspect tube, keep your other hand on the POWER and STANDBY switches ready to shut them off instantly in the unlikely case you provoke a major short.

If you think you've located a problem tube but aren't sure, we recommend substituting the suspect with a new one just to be sure of your diagnoses. You will be doing yourself and us a big favor by just following the simple guidelines previously mentioned regarding tube replacement. You'll probably be successful with much less effort than is required to disconnect everything and haul the unit to a technician who will basically perform the same simple tests. If the tubes are still within their six-month warranty period, we will happily send you a replacement. Just note the color designation on the tube label so that we can send you the appropriate match.

### **DIAGNOSING PRE-AMP TUBE PROBLEMS:**

Because your amplifier is an all tube design, it is quite possible that you will at some point experience minor pre-amp tube noise. Rest assured - this is no cause for alarm and you can take care of the problem yourself in a matter of minutes by simply swapping tubes.

Let us begin by saying; It is a "very good" idea to keep at least a couple of spare pre-amp tubes on hand at all times to insure uninterrupted performance. These minor pre-amp tube problems can take many forms but can generally be described in two categories: Noise and Microphonics. Noise can be in the form of crackling, sputtering, white noise/hiss and/or hum. Microphonic problems usually appear in the form of a ringing or high pitched squealing that gets worse as the gain or volume is increased thus are more noticeable in the higher gain "HI" modes. Microphonic problems are easily identified because the problem is still present even with the instruments' volume off or unplugged altogether - unlike pick-up feedback which ceases as the instrument is turned down. Microphonic noise is caused by mechanical vibration and shock: think of banging a microphone around and you'll understand where the word came from.

The best way to approach a pre-amp tube problem is to see if it occurs only in one specific mode or channel. This should lead you to the tube needing replacement. Then all that remains is to swap the suspect tube for a known good performer. If you cannot narrow down the trouble to a specific mode or channel, the problem may be the small tube that drives the power tubes which is operational in all modes and channels. Though rare, a problem with the driver tube would show up in all aspects of performance - so if you can't narrow the problem down to being mode or channel specific, you may want to try replacing the driver tube. Driver problems generally show themselves in the form of crackling or hum in all modes of performance and/or weak overall output from the amplifier. Occasionally an anemic driver tube will cause the amplifier to sound flat and lifeless, but this is somewhat uncommon, as worn power tubes are a more likely suspect for this type of problem.

Sometimes making the diagnosis is more trouble than it's worth and it's faster and easier to merely replace the small pre-amp tubes ONE AT A TIME with a replacement known to be good. But MAKE SURE you keep returning the tubes to their original socket until you hit the one that cures the problem. You'll notice that tubes located nearer to the INPUT jack always sound noisier...but this is because they are at the start of the chain and their noise gets amplified over and over by the tubes that follow. The tube that goes into this "input socket" (usually labeled V1) needs to be the least noisy of the bunch. The tube that goes at the end of the preamp chain - just ahead of the power tubes - can be quite noisy without causing any problem at all. The tubes in your amp have already been located in the most appropriate sockets and this is why you should NEVER pull them all out at once and ALWAYS swap them one at a time. ALWAYS return a perfectly good tube to its original socket. Also it's a good idea to put the amp on STANDBY when swapping tubes to reduce the heat build up in the tubes themselves and to prevent explosive noises (which can still occur even if you are pulling the tubes away from their sockets gently) from coming through the speaker.

Remember, take your time, be patient and chances are real good that you can fix your amp yourself by finding and replacing the bad tube. It kills us to see someone who has shipped their amp back to us...and all it needed was a simple tube replacement! If you must send back your amp, remove the chassis from the cabinet by unscrewing the four mounting bolts on the bottom top. The chassis then slides back like a drawer and comes out from the back. Remove the big power tubes and mark them according to their location from left to right 1, 2 etc. They need to be wrapped separately with plenty of wadded up newspaper around them and put in a smaller box within the larger carton. Remove the Rectifier tubes and wrap them also. You can leave the preamp tubes in or remove them and wrap them separately being sure to label their location. (See Tube Task Chart.)

To wrap the chassis, use plenty of tightly wadded up newspaper so there is at least six inches of "crush space" between the chassis and the cardboard box. Bubble wrap also works well, but please DON'T use styrene peanuts - they will shift during transit and get lodged inside your electronics as well as allowing your amp to end up at the bottom of the box unprotected and possibly damaged.

Pre-amp tubes don't normally wear out as a rule. Therefore, it is not a good idea to change them just for the sake of changing them. If there isn't a problem - don't fix it. If there is no result from your substitutions, it may be possible that you have more than one problematic tube. Though rare, this does happen and though it makes the troubleshooting process a little more intimidating, it is still possible to cure the problem yourself.

**NOTE:** *It is normal to hear a slight metallic ringing sound when tapping on the preamp tubes. As long as the tube does not break into oscillation or start crackling or any other form of bizarre noise, it is considered normal and functional.*

## SPEAKER IMPEDANCE MATCHING & HOOK-UP GUIDE:

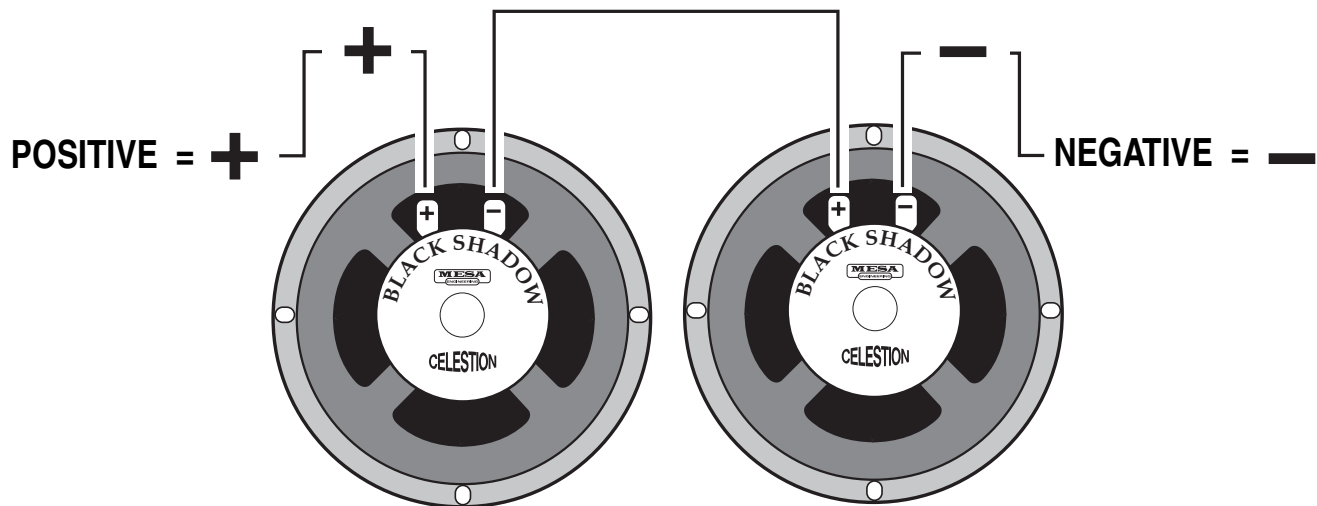
**IMPEDANCE:** Wiring up speakers to provide the most effective load and making sure that all of them are in phase will help in creating the best sound possible. This is not too difficult, as long as you understand a few things about loading and how to connect your speakers to provide an optimal resistive load.

**MESA/Boogie** amplifiers can handle 4 and 8 ohms effectively. Never run below 4 ohms in a tube amplifier unless you are absolutely certain that the system can handle it properly; this can cause damage to the Output transformer. A few amplifiers can handle 2 ohms effectively without damaging them ( for example the **MESA'S Bass 400+** ). You can always have a higher resistance ( 16 ohms, for example ) without damaging results, but too low of a resistance will likely cause problems.

**MIS-MATCHING:** When running a higher resistance ( for example: 8 ohm output into 16 ohm cabinet ), a slightly different feel and response will be eminent. A slight mismatch can provide a darker smoother tone with a little less output and attack. This response is a result of the amplifier running a bit cooler. Sometimes when using more than one cabinet a mismatch will be the only option.

**WHAT IS MY CABINETS IMPEDANCE?:** If you have only a single speaker, you just match that single speakers impedance to the amplifier, and you are done. In many cases, you will have a number of speakers, and then you must calculate the "load" that the amplifier will need to support. There are generally three ways to wire multiple speakers together. They are as follows:

**SERIES:** When you wire ( hook-up ) speakers in Series, the speakers resistance ( as measured in ohms ) is additive - i.e. putting two 8 ohm speakers in Series results in a 16 ohm load.



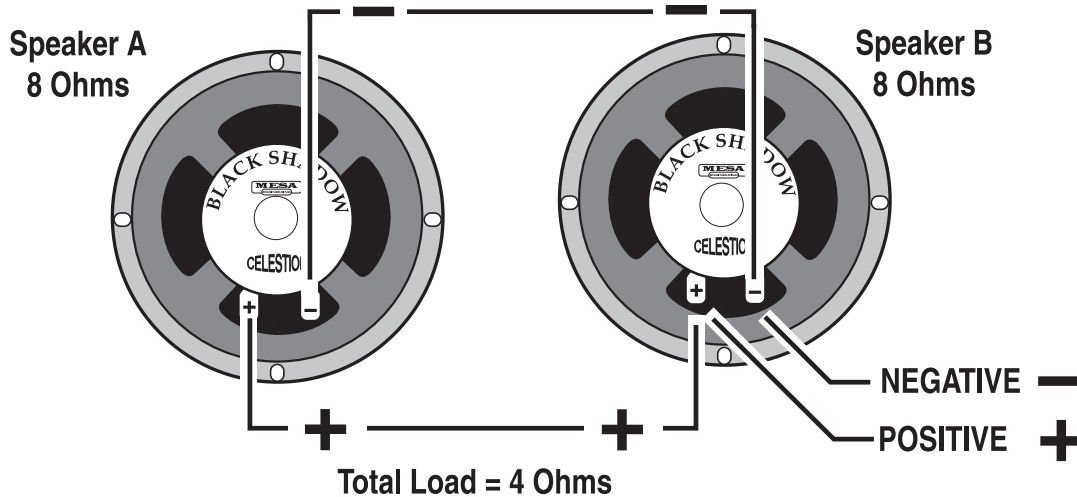
**Speaker A = 8 Ohms**

**Speaker B = 8 Ohms**

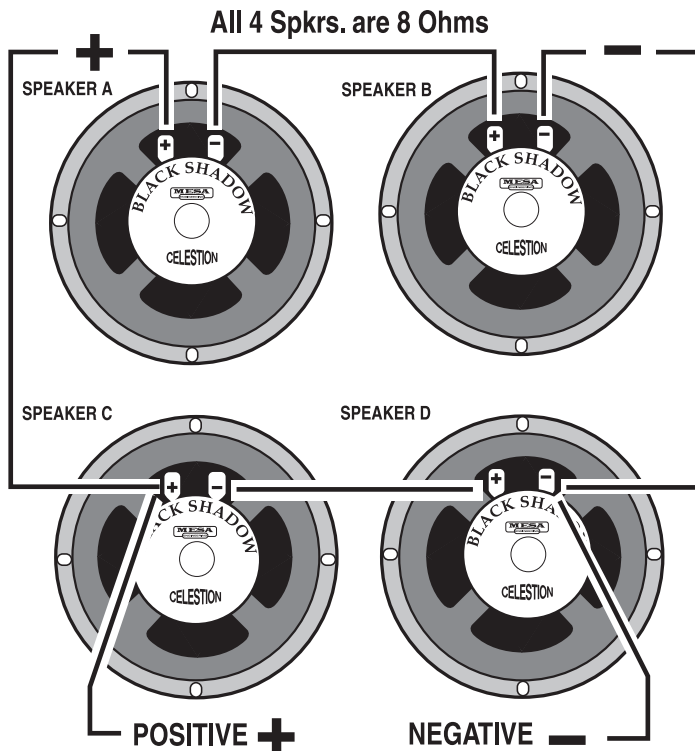
**SERIES: Connect the Negative side of Speaker A  
to the Positive side of Speaker B**

## SPEAKER IMPEDANCE MATCHING & HOOK-UP GUIDE: (Continued)

**PARALLEL:** When wiring in parallel, the resistance of the speakers decreases. Two 8 ohm speakers wired in ( hooked-up ) Parallel results in a 4 ohm load. It's easy to calculate the effect of a resistive load when all the speakers are all the same resistance. It is really not suggested to wire different resistive load values in Parallel ( 8 and 4, 16 and 8 etc. ) The formula for figuring the total impedance in Parallel is the multiplication of the two loads divided by the sum of the two loads - i.e. putting two 8 ohm speakers in Parallel results in a 4 ohm load. Connect the Positive side of Speaker A to the Positive side of Speaker B - Connect the Negative side of Speaker A to the Negative side of Speaker B.



**COMBINATION OF SERIES & PARALLEL:** This is really just two sets of Series wired speakers connected in Parallel. This is how you maintain a consistent load with multiple speakers. The importance of this is more evident when you have more than one cabinet to connect to your amplifier. This is when you need to figure out the loads and how to wire them up without applying too low of a resistance on the amplifier.



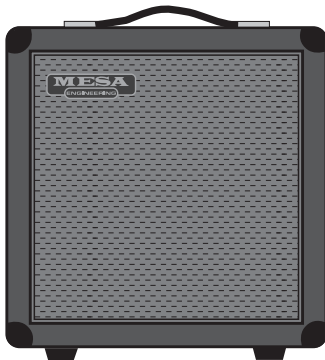
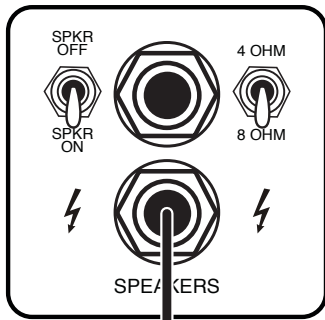
Simply connect the Positive side of Speaker A to the Positive side of Speaker C.

Connect the Negative side of Speaker A to the Positive side of Speaker B. Next, connect the Negative side of Speaker C to the Positive side of Speaker D.

And lastly, connect the Negative side of Speaker B to the Negative side of Speaker D.

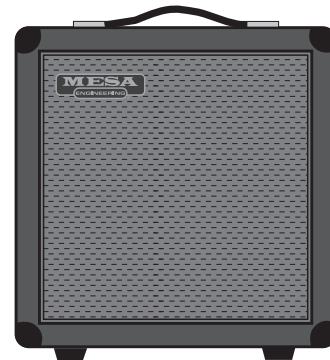
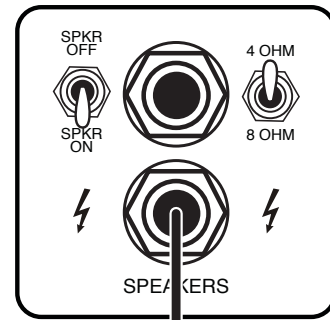
4 Eight ( 8 ) Ohm speakers wired in Series Parallel = a Total Load of 8 Ohms.

## WIRING SCHEMES...Amplifier to Speaker Cabinets



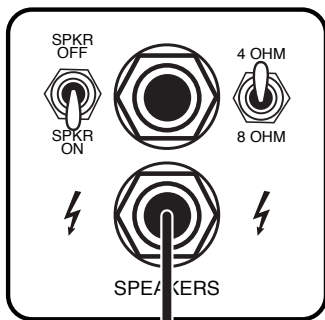
1

8 Ohm Cabinet



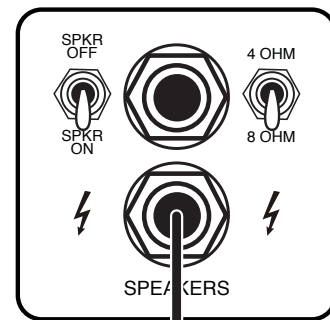
2

4 Ohm Cabinet



3

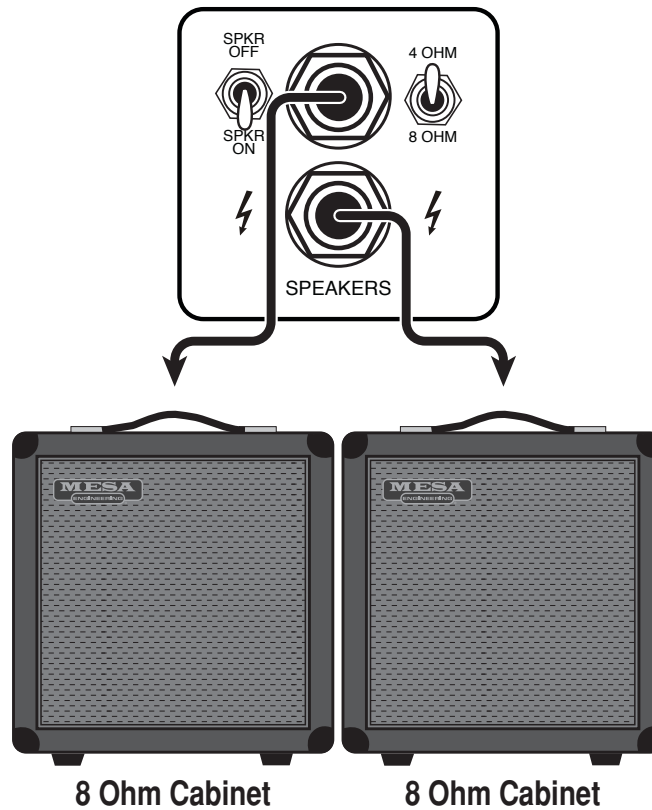
8 Ohm Cabinet  
SAFE MISMATCH



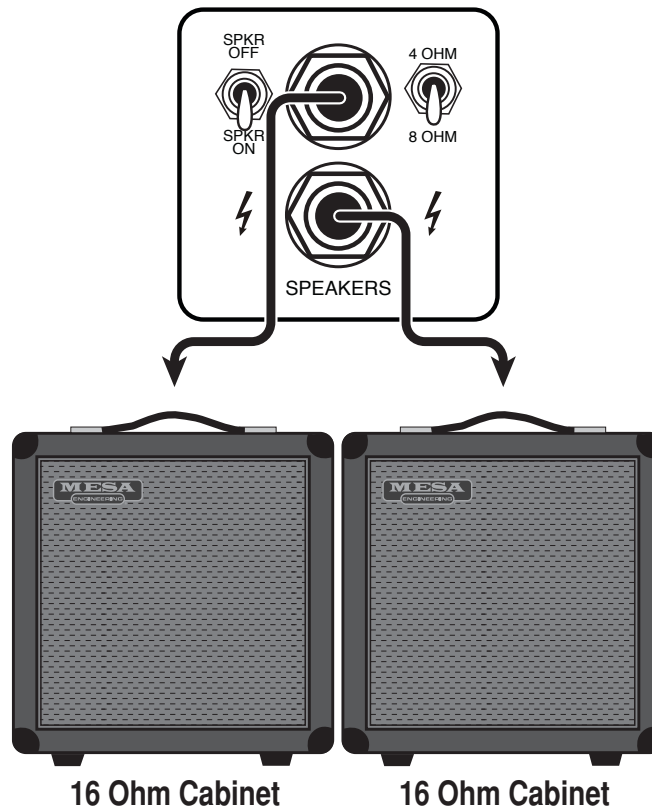
4

16 Ohm Cabinet  
SAFE MISMATCH

## WIRING SCHEMES...Amplifier to Speaker Cabinets

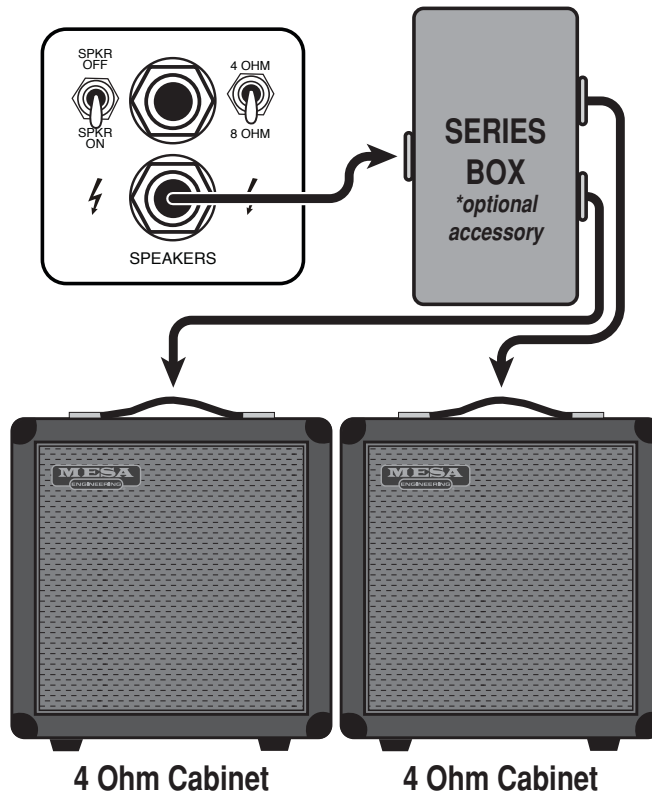


5

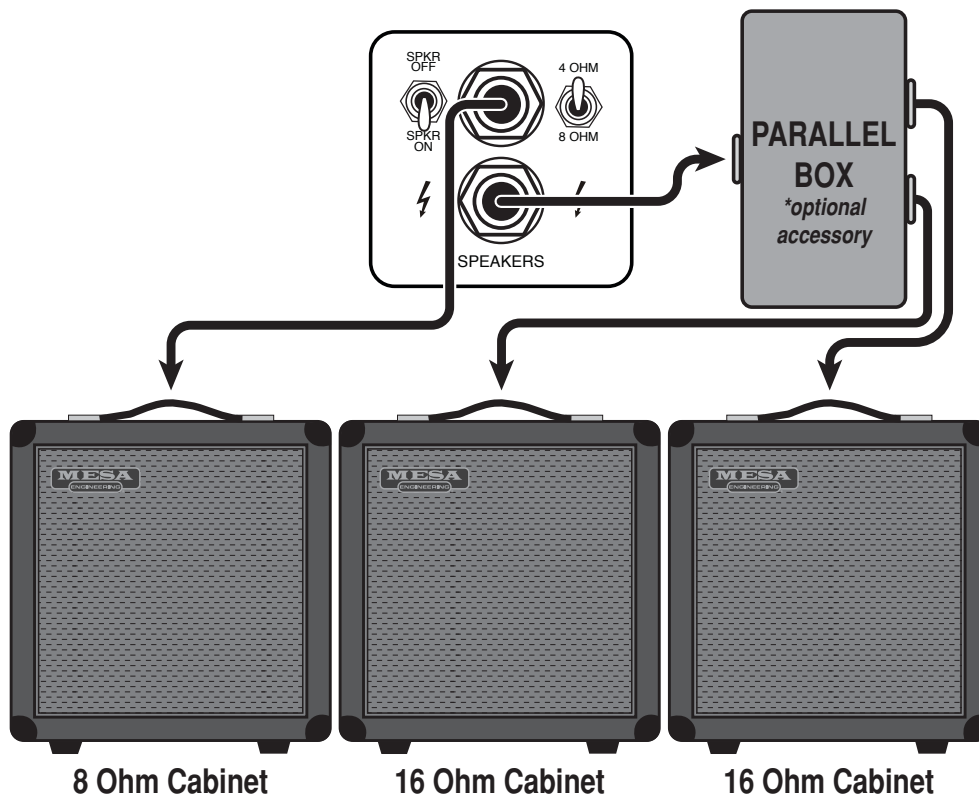


6

## WIRING SCHEMES...Amplifier to Speaker Cabinets

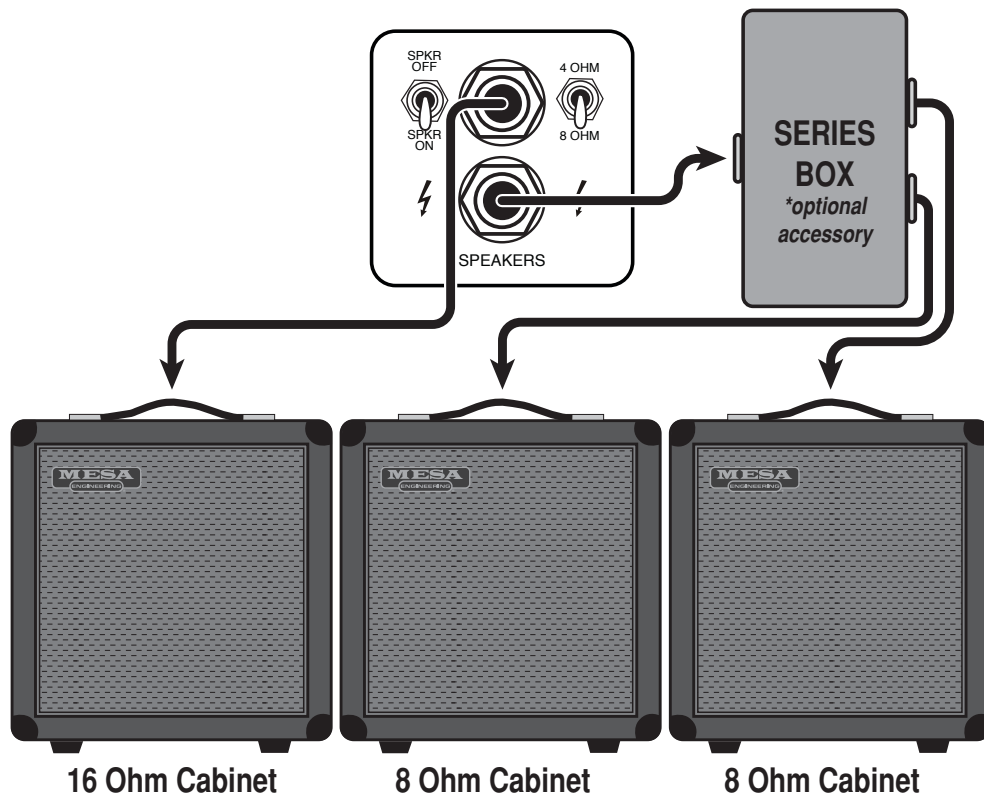


7



8

## WIRING SCHEMES...Amplifier to Speaker Cabinets

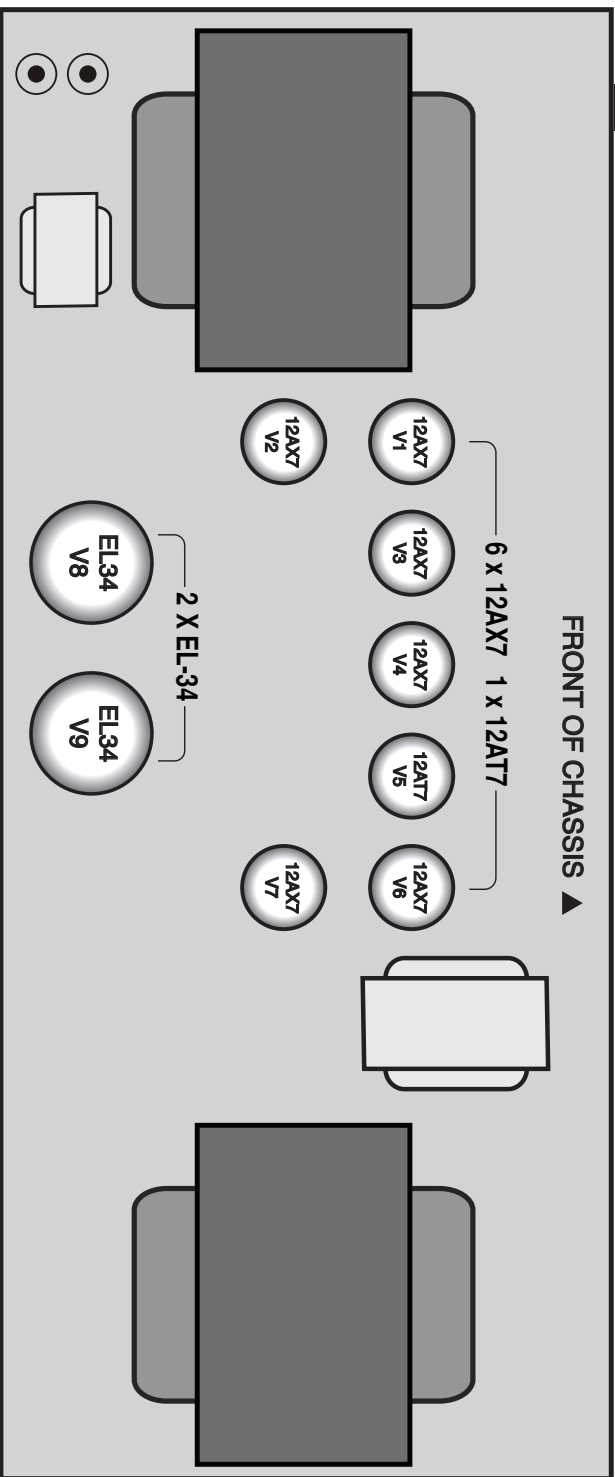


BEFORE CHANGING TUBES FLIP POWER & STANDBY SWITCH TO OFF

# TRIPLE CROWN™ TC-50™ Head

INPUT JACK

## TUBE REPLACEMENT DIAGRAM



| PREAMP TUBES                                |                               |
|---------------------------------------------|-------------------------------|
| V1A - CLEAN 1ST GAIN STAGE                  | V5A - FX LOOP SEND            |
| V1B - CLEAN 2ND GAIN STAGE                  | V5B - FX LOOP RETURN          |
| V2A - CLEAN 3RD GAIN STAGE                  | V6A - REVERB DRIVE            |
| V2B - N/A                                   | V6B - REVERB RETURN           |
| V3A - HI/ LO 1ST GAIN STAGE                 | V7A&B - DRIVER/PHASE INVERTER |
| V3B - HI 2ND GAIN STAGE                     |                               |
| V4A - HI 3RD GAIN STAGE / LO 2ND GAIN STAGE |                               |
| V4B - HI 4TH GAIN STAGE / LO 3RD GAIN STAGE |                               |

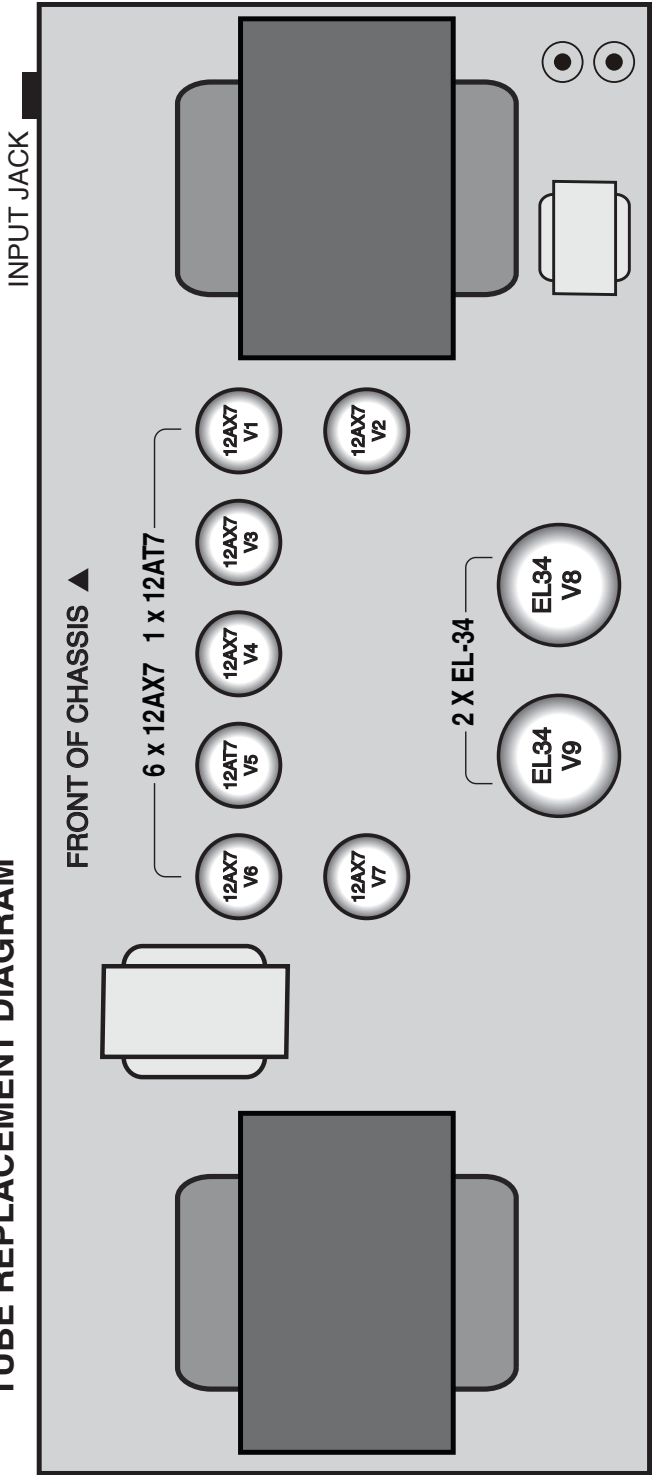
| POWER TUBES       |
|-------------------|
| 50 Watts = V8, V9 |

TO MAINTAIN WARRANTY, USE MESA/BOOGIE® TUBES WHEN REPLACEMENT IS NECESSARY  
 FOR CUSTOMER SUPPORT, PLEASE CALL 707-778-6565 MONDAY-THURSDAY 9-5 PST, OR EMAIL US AT [INFO@MESABOOGIE.COM](mailto:INFO@MESABOOGIE.COM)

BEFORE CHANGING TUBES FLIP POWER & STANDBY SWITCH TO OFF

# TRIPLE CROWN™ TC-50™ Combo

## TUBE REPLACEMENT DIAGRAM



| POWER TUBES       |
|-------------------|
| 50 Watts = V8, V9 |

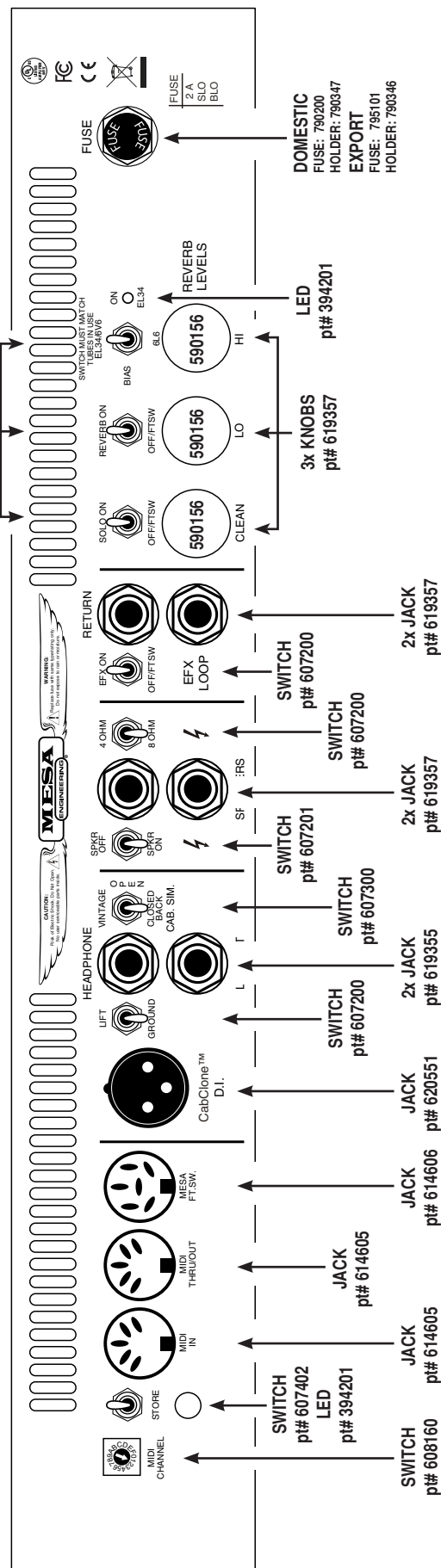
| PREAMP TUBES                                |                               |
|---------------------------------------------|-------------------------------|
| V1A - CLEAN 1ST GAIN STAGE                  | V5A - FX LOOP SEND            |
| V1B - CLEAN 2ND GAIN STAGE                  | V5B - FX LOOP RETURN          |
| V2A - CLEAN 3RD GAIN STAGE                  | V6A - REVERB DRIVE            |
| V2B - N/A                                   | V6B - REVERB RETURN           |
| V3A - HI/ LO 1ST GAIN STAGE                 | V7A&B - DRIVER/PHASE INVERTER |
| V3B - HI 2ND GAIN STAGE                     |                               |
| V4A - HI 3RD GAIN STAGE / LO 2ND GAIN STAGE |                               |
| V4B - HI 4TH GAIN STAGE / LO 3RD GAIN STAGE |                               |

TO MAINTAIN WARRANTY, USE MESA/BOOGIE® TUBES WHEN REPLACEMENT IS NECESSARY  
FOR CUSTOMER SUPPORT, PLEASE CALL 707-778-6565 MONDAY-THURSDAY 9-5 PST, OR EMAIL US AT [INFO@MESABOOGIE.COM](mailto:INFO@MESABOOGIE.COM)

**ALL FRONT PANEL KNOBS  
PT# 408640**



3x SWITCHES  
pt# 607200

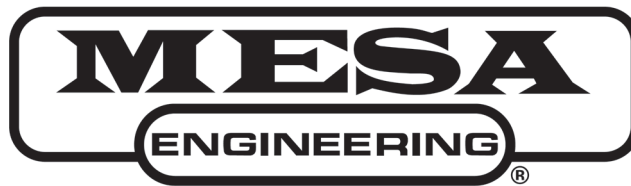


## Notes

# ***MESA/BOOGIE***<sup>®</sup>

*The Spirit of Art in Technology*<sup>™</sup>

***Thank you** for trusting MESA/Boogie<sup>®</sup> to be your amplifier company and we wish you many years of toneful enjoyment from this handcrafted instrument.*





This device has been tested and found to comply with the limits for a Class B device pursuant to part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

*The Spirit of Art in Technology™*



*(707) 778-6565      FAX NO. (707) 765-1503*  
*1317 Ross Street Petaluma, CA 94954*  
*USA*