

Quilter[™]
Amplification est. 1968



MACH 3

IMPORTANT SAFETY INSTRUCTIONS (PRE FLIGHT SAFETY)

- 1 - Read and keep these instructions.
- 2 - Heed all warnings and follow all instructions.
- 3 - **WARNING:** To prevent fire or electric shock, do not expose this equipment to rain or moisture. Do not use this apparatus near water.
- 4 - Clean only with a dry cloth.
- 5 - Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 6 - 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 plug has two blades and a grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for the replacement of the obsolete outlet.
- 7 - Protect the power cord from being walked on or pinched, particularly plugs, convenience receptacles, and the point where they exit from the appliance.
- 8 - Unplug the apparatus during lightning storms or when unused for long periods of time.
- 9 - The appliance coupler (or attachment plug) is the mains disconnect device and should remain readily accessible when amplifier is in use.
- 10 - 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.
- 11 - This device complies with 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.
- 12 - Changes or modifications made by the user that are not expressly approved by the manufacturer may void your authority to operate the amplifier.
- 13 - For full performance, use in a shirtsleeve environment protected from direct sunlight, with a maximum ambient temperature of 40C (105F)



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.

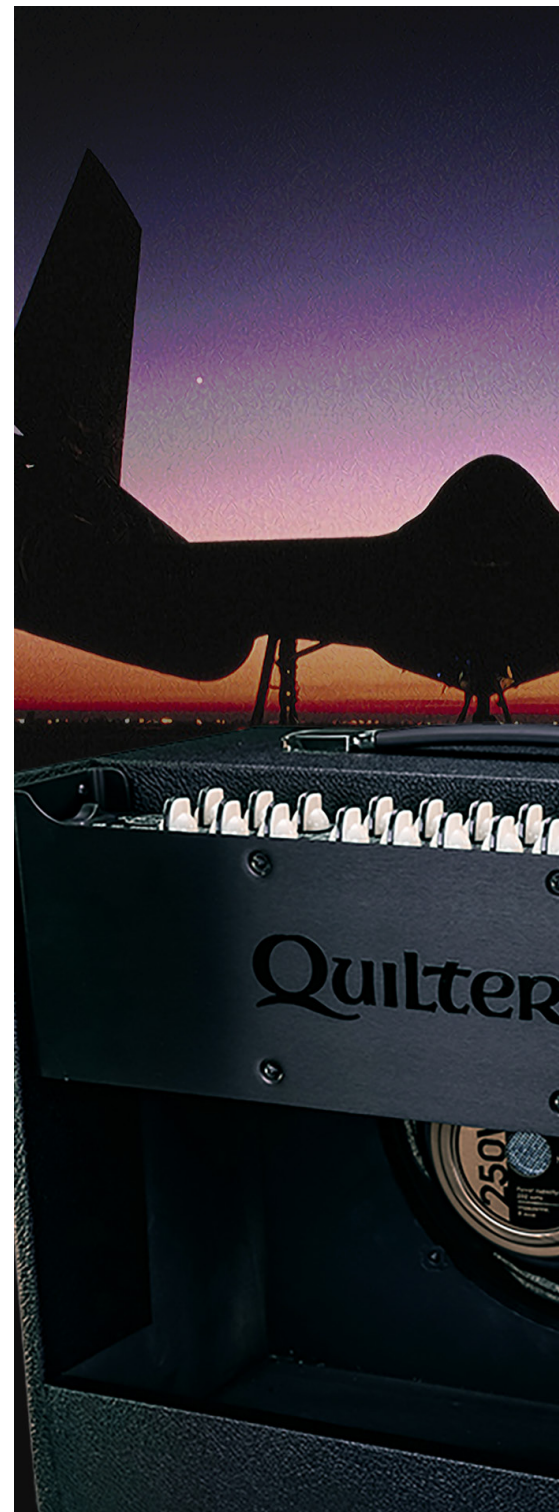


The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in this manual.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

WARNING: To prevent fire or electric shock, do not expose this equipment to rain or moisture.



CONTACT!
(AC power, and Ignition)

Basic Controls
(Inputs, Gain, Limiter, Master)

Onboard effects
(Reverb, Tremolo)

Outboard connections
(Effects Loop, Controllers
Speaker Outputs)

Getting the most
(From your Mach 3 amplifier)

Care and Service
(How to care for your Mach 3)

Specs/Warnings
(Specifications & Notices)

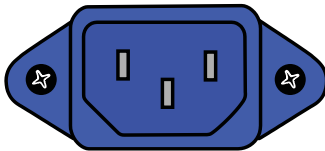
Troubleshooting
(Emergency Checklists)

POWER CORD

The power cord that comes with your Aviator Mach 3 locks into the AC inlet to reduce the chance it will come unplugged during use. Press the yellow button on the cord to release it. Any normal 3-prong IEC cable may also be used if required. Always ensure that the ground contact is intact on both the cord and the receptacle.

Pro Tip: It is okay to coil the AC cable and lay it carefully in the bottom of the cabinet during transport and storage. We recommend using a cable tie-down (not included) to prevent the AC cable from bouncing around and puncturing the speaker during takeoff and landing.

The Mach 3 accepts all world-wide AC voltages, and the "auto-pilot" power supply keeps surges and "club turbulence" from affecting the amplifier performance.



CONTACT!

To power up the amp, flip the rocker switch upwards. Power comes on after a short "spool-up" interval, as indicated by the POWER LED, along with the rest of the panel LEDs. On/Off muting prevents pops; If you get notable power-off pops when using a remote AC switch, it may be coming from other devices connected to the input or FX Loop. Zero the SPKR VOL to suppress external on/off noises.



DUAL CHANNEL SWITCHING

There are many ways to utilize channel switching on your Mach 3 amplifier.

You may switch one instrument between channels

- A single guitar plugged into either input may be assigned to either channel by using the SELECT switch.
- Using the footswitch will also change the selection.

You may select between two instruments, or use both inputs at once

- When using both inputs, each input routes only to its respective channel
- Putting SELECT in the middle allows both inputs to play simultaneously.
- CH 1 or CH 2 may then be solo-activated with the SELECT switch, or by using the footswitch.
- The 1 and 2 LEDs will show which channels are active.

Pro Tip: the CH 1-2 footswitch function is inactivated when SELECT is in the middle position.

VOICE SELECTOR

Each channel provides six distinct voices, representing the history of classic guitar amplification. Use these selections to get "in the zone" and then use the active EQ controls to further shape your tone.



1957

The earliest US-made "Tweed" amps had relatively low power and minimal EQ – a treble control at most. These amps had a fat honest sound with lots of overdrive gain, since there was minimal EQ to siphon away gain. The 1957 Voice is based on a famous 12-inch combo, with no mid scoop and a mild treble boost, typical of how Tweed amps were played.



1961

The "Blonde" era saw the beginning of the "tone stack" circuit, which reduced mid gain and then allowed bass and treble to be dialed back in. The resulting "mid scoop" provides more chime and bass body, while reducing midrange clutter, thus producing a loud but cleaner tone. The Blonde-era tone stack still used the wide treble control derived from the tweed era, giving the "bell-like tone" that rings out on early country and rockabilly guitar parts.



1965

The "black-panel" era used a higher-frequency treble control resulting in a lighter, silkier tone that was even cleaner than the "blonde" era. Fortunately, there is still enough gain to reach full throttle overdrive, and both the 1961 and 1965 voices will deliver ringing clean tones and incisive overdrive tones, which were assisted by the typical use of Jensen speakers which are also voiced for a bright singing tone.



PLEXI

Meanwhile "across the pond", British made amps were following a similar evolution, with a tendency towards more midrange output due to the fatter sound of the UK-built Celestion speakers. Therefore, the Plexi voice activates a lower mid boost that increases overdrive and provides the feeling of using a large speaker stack.



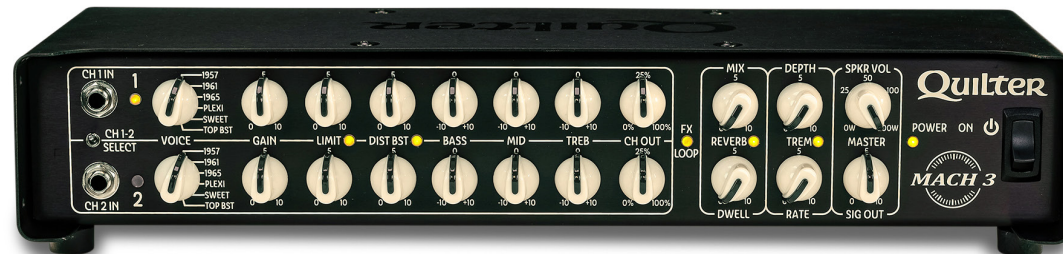
SWEET

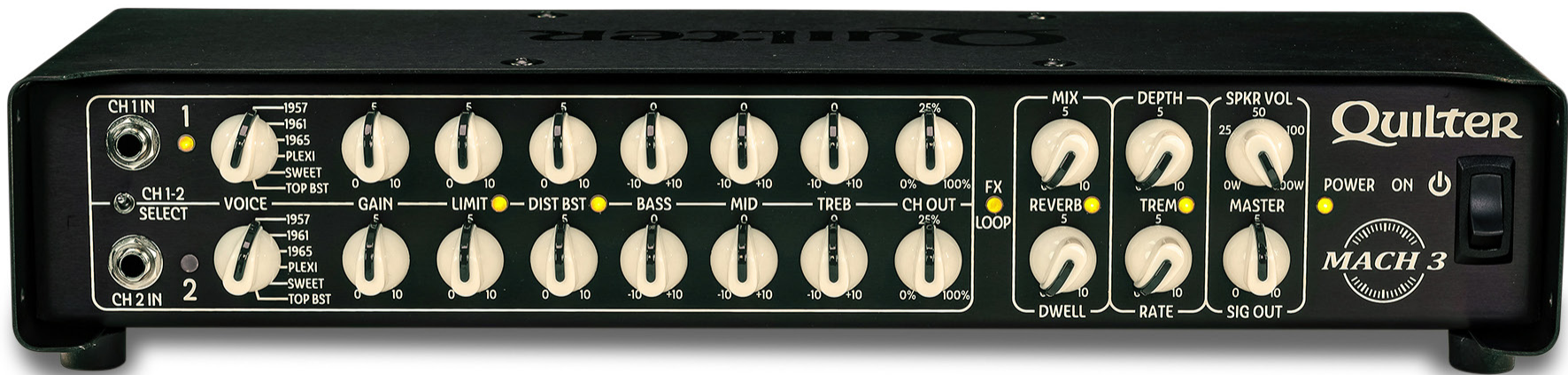
In contrast to the edgy "in your face" sound of PLEXI and TOP BST, the SWEET voice provides a singing soprano-like quality that focuses on the musically important harmonics, even when using overdrive, which is a noted attribute of a certain very expensive and unobtainable high-end amp.



TOP BST (Top Boost)

Another famous UK amp combo came to life when they created a "top boost" channel to add some zing to a rather bland tone, and so another standard was born. Our TOP BST provides a bright incisive treble boost with lots of overdrive gain, and is somewhat more aggressive than the US-based 1961 and 1965 voices.





INPUTS



Each 2 Meg input provides extra-high impedance to preserve the delicate overtones of magnetic pickups, and uses the best available low-noise FET input stage.

GAIN

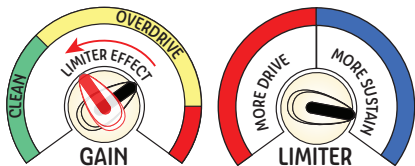


The Gain control acts as a “throttle” to determine how hard the amp pushes against the overdrive limit. Low Gain settings will be clean, and high Gain will venture increasingly into overdrive breakup, with “full drive” on 10. The degree of breakup also depends on the volume of your guitar and how hard you play.

Pro Tip: it is normal for hiss to increase at high Gain, and all other types of guitar noise will also be increased.

LIMITER

The Limiter acts as an “autopilot” that progressively intervenes to limit how far into overdrive the sound can go. You will get full-gain overdrive with zero LIMITER. As you turn it up, you will feel it progressively “holding back” your loudest peaks, so you can “linger” in mild breakup, or when turned fully up, hover just below breakup for long sustained notes. The Limiter is footswitchable and provides a subtle “in-channel” method for changing the amount of “dirt” in the tone.



Pro Tip: the LIMITER only acts on peaks, and does not change softer tones, so you won't hear what it does until you dial in some overdrive and then switch it in and out.

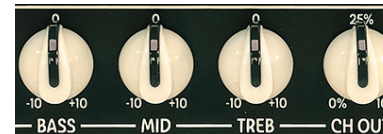
DIST BST



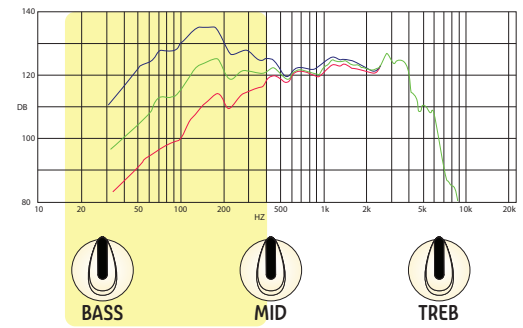
The Distortion Boost lets you add breakup before the VOICE and EQ section, so these settings will also shape the tone of the distortion, much like using a pedal in front of the amp. The control begins to add some juice above 20%, and by 50% you should start hearing overdrive, which can then be ramped up to 100% if needed. It is most useful for jumping into distortion from moderately clean Gain settings, and you can use Gain and EQ settings to balance the relative clean and dirty tones. Select the BOOST setting on your footswitch for remote control.

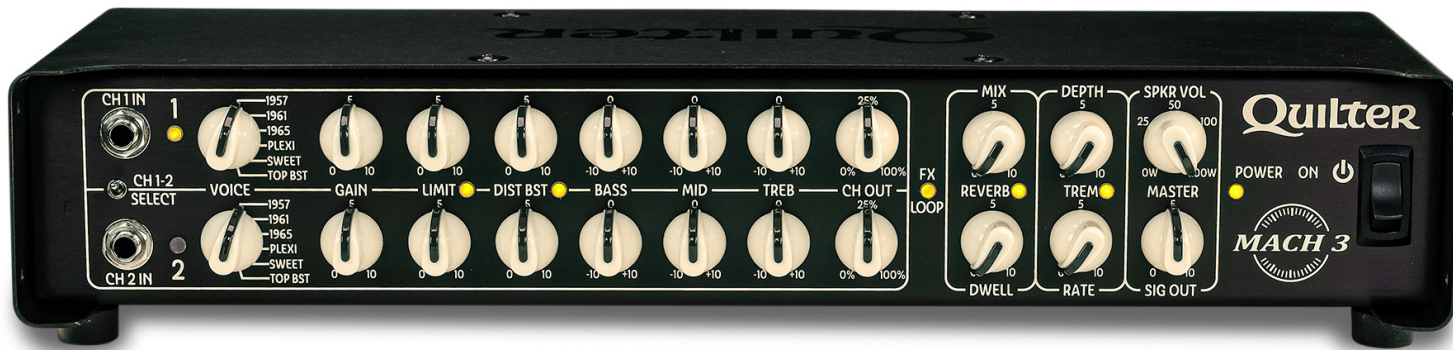
Pro Tip: Listen to the effect of the various Voice and EQ settings while using high Boost. Using high GAIN and DIST BST together will create a high noise floor and practically uncontrollable guitar feedback, but it can all be part of the fun if you like “dive bombing”.

3 BAND ACTIVE EQ - BASS

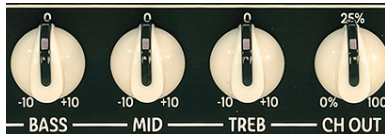


The BASS control boosts and cuts frequencies below 500Hz, with peak action below 150Hz (the lowest octave of the guitar). Adding Bass will fatten up thin sounding pickups and add body to any tone. Reduce Bass if overdrive starts to feel too “flubby”.

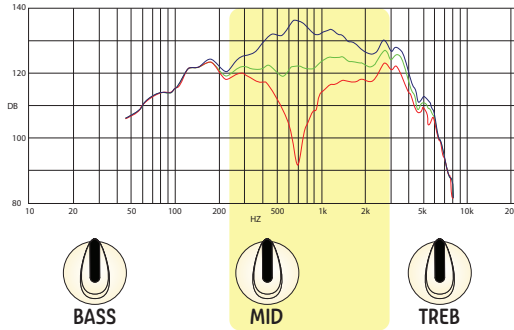




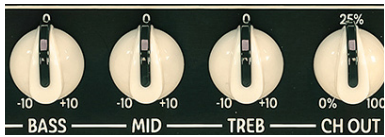
3 BAND ACTIVE EQ - MID



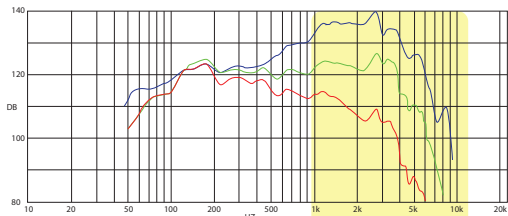
The MID control boosts and cuts a band of frequencies centered at 600Hz, which produces a clean "mid scoop" effect on the left end, and a fat raucous "honk" on the right end for more overdrive and sustain.



3 BAND ACTIVE EQ - TREB

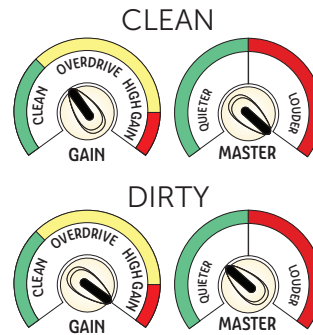


The TREB control boosts and cuts frequencies above 500Hz. The lower range mellows out the sound, ultimately producing the "woman tone" of a sweet jazz or blues guitar, and the upper range increases chime and brilliance for more penetration.



Pro Tip: each EQ control has a wide range, and they partially overlap, so setting them ALL on minimum can cut gain and headroom, and setting them ALL on maximum, especially with high GAIN or DIST BOOST can lead to high noise floors, and possibly uncontrolled feedback. Try extreme settings at low OUTPUT or SPKR VOL levels before playing at normal level.

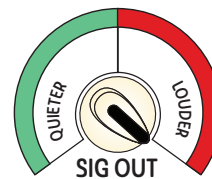
CH OUT & SPKR VOL



Each channel has a sub-master Channel Output control marked from zero to 100%. These percentages relate to the power level selected by the SPKR VOL located in the MASTER section on the far right. For instance, if you set SPKR VOL at 50W, and CH OUT at 25%, the breakup limit will occur at 12.5 watts of output power. For maximum headroom, set CH OUT at 100% and SPKR OUT at 200W. To use overdrive at reasonable levels, reduce CH OUT as desired, and for most sessions, SPKR OUT may also be reduced to match the volume of other performers.

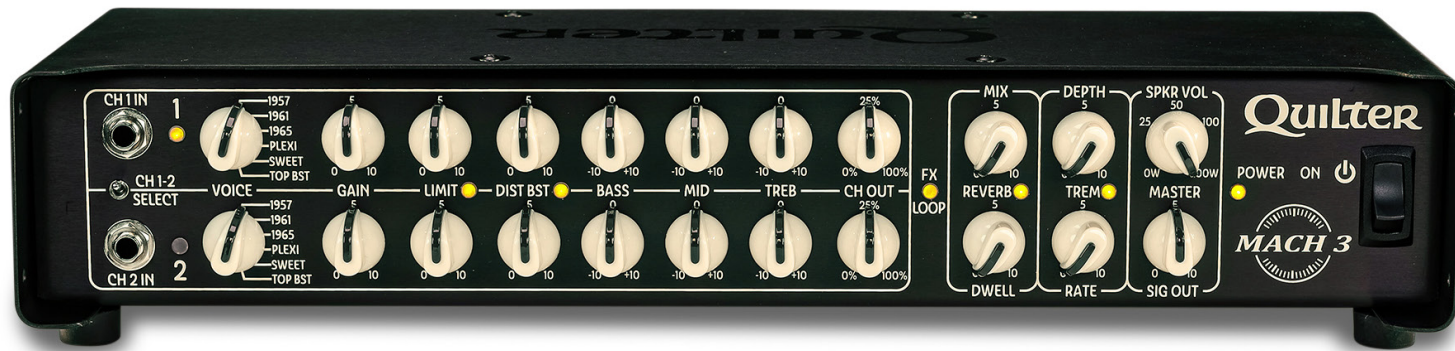
Pro Tip: When using the two channels to set up clean and overdrive sounds, set the clean channel at 100% CH OUT and adjust the overdrive channel as needed to obtain a suitable balance. Adjust the SPKR VOL to raise and lower the overall level of both channels.

SIG OUT



The Mach 3 provides separate controls for SPKR VOL and SIG OUT volume. The SIG OUT controls the volume of headphones and Line Out (connectors located on the rear panel). When playing silently, turn the SPKR OUT all the way down and use SIG OUT to adjust headphone or Line Out volume. (SEE PG 14 to activate or bypass our built-in CAB SIM).

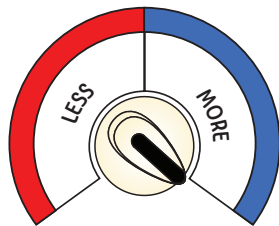
Pro Tip: When playing on stage with PA reinforcement, work with the sound operator to establish a comfortable SIG OUT level, and then use the SPKR VOL to set your personal speaker level without changing the SIG OUT level. The middle position on the rear-mounted CAB SIM switch will probably give the most comfortable tone for electric guitar especially with overdrive.



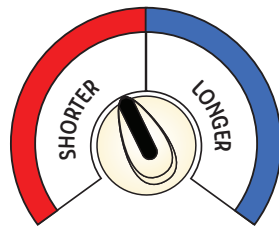
REVERB



The Reverb section applies equally to both channels, and is footswitch defeatable as indicated by the adjacent LED. The upper MIX control adjusts the amount of reverb, and the lower DWELL control sets the length of the decay, ranging from quite short to a long "heavenly choir" effect, with the classic spring-reverb decay at 50%. The lower half of the MIX control will add some nice ambiance to warm up the sound. The upper half of the control puts the reverb increasingly in the foreground for "drenched" effects.



MIX



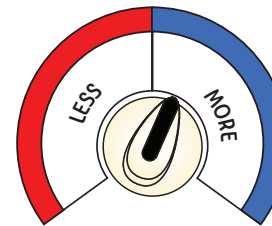
DWELL

Pro Tip: the footswitch mutes the signal going into the reverb, so the effect dies away without an abrupt cut-off. When using very high Reverb MIX settings, the dry sound is largely replaced by the reverb sound, so you will notice that the volume drops off after using the footswitch to defeat the reverb. This won't occur on lower MIX settings.

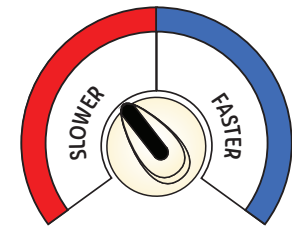
TREMOLO



The Tremolo effect also applies to both channels, and is footswitch defeatable, as indicated by the adjacent LED. The upper DEPTH control regulates the intensity of the volume modulation, and the lower RATE control sets the speed of modulation, from very slow to a rapid "chatter". Setting both controls in the middle will produce a typical tremolo effect that can be adjusted from there.



DEPTH



RATE

Pro Tip: if it seems like the amp is slowly surging in volume, check that the DEPTH and RATE are fully turned down.



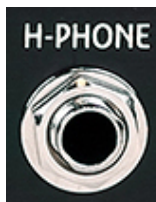
CAB SIM SWITCH

The SIG OUT is processed through our internal Cabinet Simulation circuit, which warms up the tone to simulate the effect of a typical guitar speaker. A three position switch is located on the back panel. The FRFR position sends the full-range unprocessed sound of the amp for use with external Cab-Sim models. The middle NORMAL position sounds like a typical 12-inch guitar speaker and is recommended for headphone listening or PA feeds. The BRIGHT position selects a chirpy singing tone typical of vintage 10-inch speakers.



H-PHONE JACK

The Headphone jack will drive any normal headphone pair to a comfortably loud volume, using the SIG OUT control on the front to set level. Ring and Tip of the stereo quarter-inch plug receive the same signal which should therefore sit in the middle of your head.



Pro Tip: use the CAB SIM switch next to the H-PHONE jack to warm up the sound. The NORMAL position should work well; you can also try the BRIGHT, and if you want to hear what a raw signal sounds like without CAB SIM, use the FRFR position.

FOOTSWITCH JACK

The RJ-45 jack accepts any Quilter footswitch. Our large 6-Position Foot Controller accesses all six functions with large easy to read callouts and LEDs that duplicate the state shown on the amp panel. The smaller and less expensive Universal 3 Position Foot Controller lets you select any 3 functions, and if desired, can be ganged with a second 3-position switch to cover all six functions.



Older 2-Position Controllers will act on the functions shown on their housing. The RJ-45 connector uses any standard CAT-5 or CAT-6 networking cable, should you need to replace it in the field.

Pro Tip: the footswitch operates by grounding low-power analog trigger voltages. A conductor assignment diagram is available in the FAQ section of our web site.

EFFECTS LOOP



Most of the vintage amps represented by the VOICE selections had few if any effects, which were typically added to the overall sound of the amp when recorded in the studio. Even modern amps with Effects Loops insert the signal before the power section, whose inherent tone remains unaffected. The Mach 3 Effects Loop is located after the carefully voiced overdrive sections coming out of CH 1 and CH 2, so effects such as

time delay or chorus are added to the OVERALL sound of the amp, just like in a recording session. You can add "waterfalls" of clean delay on top of a soaring overdrive sound, to get beautiful cascades of tone, and a looper can be used to record clean or distorted backing tracks to play along with. The EFFECTS LOOP is footswitch defeatable, or you may use the bypass button on your external devices.

Pro Tip: The EFFECTS LOOP is the "series type" that passes all signal through the outboard devices, whose mix or blend controls should be used to set dry vs wet levels. The signal level is at 1 volt full scale. Signals are sent at 1K impedance, which will drive long cables without tone loss, and return at 47K impedance which should work with any normal effects device.



LINE OUT



The SIG OUT control on the front panel regulates the level in the balanced XLR Line Out, which may be connected to a PA or DAW input. Reduce the console's Mic Trim level to accept a line-level signal, or use a Line Input if available, and use the SIG OUT control to obtain a comfortable level that does not clip the console input.

Pro Tip: set the CAB SIM switch to FRFR to use external IR models, and set it on NORMAL or BRIGHT for PA feeds (see CAB SIM section above).

STEALTH INPUT (Auxiliary)



The second amp channel may be used to insert tracks or drum beats as accompaniment. To use both channels for guitar, insert backing tracks into FX RETURN. The internal signal level will then mix 50/50 with the external signal, which should use its own volume control to obtain a good balance.

Pro Tip: When using the Effects Return as an input, the input impedance is at 1K, which should be acceptable for any modern effects pedal or device. If the level seems too low, insert a dummy plug into the EFFECTS SEND, which will disconnect the internal preamp and increase impedance to 47K.

SPEAKER OUTPUTS



The Mach 3 provides up to 200 watts at either 8 or 4 ohms, as determined by the SPKR VOL setting on the front panel. When using the head to drive your own speakers, you should set the SPKR VOL at or below your speaker's power rating to prevent burnout. The amp's output impedance is internally adjusted by using the appropriate speaker jack.

Our combo cabinet hosts a 250W Celestion Copperback speaker which is plugged into the 8-ohm jack. An external 8 ohm speaker may be added by using the 4-ohm jack, which adjusts the amp to deliver the same total power, but split between the two speakers. Since half the power is going to the extension speaker, its power rating should be considered when setting SPKR VOL. (Set it no higher than twice the external speaker's rating).

Pro Tip: DRIVING OTHER IMPEDANCES: The Mach 3 power section is relatively "forgiving" about driving other impedances, especially at less than full SPKR VOL. 16 ohm speakers allow more voltage swing, which will result in delivering MORE power than indicated on SPKR VOL, which should therefore be set at about half the speaker's rating. Loads below 4 ohms may also be used, although the amp may run a little warmer on high SPKR VOL settings.

Pro Tip: remember that the indicated peak power markings around SPKR VOL are multiplied by the "percent output" shown for each CH OUT control. See CH OUT & SPKR VOL on P11 for details.

GETTING THE MOST FROM YOUR MACH 3 AMPLIFIER

FOR LIVE PLAYING

You can use the amp in three major modes:

- One guitar, using either channel at will
- Two instruments, selecting either one at will
- Two instruments, playing simultaneously

ONE GUITAR USING BOTH CHANNELS

- Connect the guitar to either input.
- Use the SELECT switch to send it to CH-1 or CH-2. If you have the footswitch, the CH 1-2 button will reverse the panel setting.
Pro Tip: the footswitch LED will glow when you have selected the “opposite” channel, while the panel LEDs will always show you which channel is active. If the SELECT switch acts in reverse, check the footswitch.
- If you set the SELECT switch in the middle, the guitar will access whatever channel it is plugged into, and the footswitch is inactivated.
- Most players will use the two channels to set up a clean and dirty tone, but you can preset almost any imaginable tonal variation by exploring the limits of the controls.

SETTING UP A CLEAN CHANNEL

- With the SPKR VOL at a comfortable level for the intended session, set the clean CH OUT to 100% to obtain full headroom.
- Use moderate amounts of GAIN, typically between 3 and 5, depending on the output volume of your pickups. You can set Gain to get a bit of breakup on accents, or back it down till your loudest passages are still clean.
- Select the VOICE setting. The 1961 and 1965 Voices are “classic clean” sounds, but other voices can be used at will. You may need to re-adjust Gain to restore level.
- Adjust EQ by ear to fine tune the sound.
- The LIMITER doesn’t kick in on softer tones, but you will feel high LIMIT settings “holding back” a little if you play at the “edge of breakup”.
- The DIST BOOST may be used to jump into overdrive, typically with a different and brasher tone quality than the CH OUT overdrive, which has the rich and chewy sound of the best vintage tube power amp sections. The DIST BST is more of an “effect” while the CH OUT tube-like overdrive is part of the electric guitar’s normal dynamic range.

SETTING UP A “DIRT” CHANNEL

- Typically, you will start with a lower CH OUT setting to balance the drive volume with the clean volume.
- Select a good VOICE with lots of punch.

- Use high GAIN settings to launch your volume into overdrive. The normal CH-OUT overdrive captures the best qualities of classic push-pull tube amps, with lots of chewy bacon sizzle, good chord definition, and fast response on rapid note runs.
- The LIMITER can be used in the 3-5 range to keep overdrive on a “rolling boil”, and as you approach 10, the distortion should pretty much clean up, while keeping the sustain and feedback properties produced with high gains. You can however overcome the limiter with sufficiently high gain.
Pro Tip: if it seems like you’re not getting the usual amount of breakup at high gain, make sure the limiter is turned down or bypassed.
- The DIST BOOST provides an alternate, brasher type of distortion that “loads up” quicker, producing an aggressive tone without using as much gain, which can help with noise and feedback. In addition, the DIST BOOST harmonics are processed thru the VOICE and EQ bank, so you will notice a dramatically different distortion sound on each VOICE setting.
Pro Tip: the LIMIT affects the DIST BST to a lesser degree but still holds back distortion to some extent.
- After setting up a good “dirty” sound, use the CH OUT control to balance the level with the clean channel, typically landing somewhere between 25% and 50% output.

OTHER USAGES

- You can use the two channels to set up alternate clean tones, or alternate overdrive tones.
- Switching the LIMITER in and out is another way to go from clean or semi-clean to full overdrive.
- If you want to switch the VOICE while playing, set the two channels up identically except for the VOICE setting, and use the footswitch to switch between them. The same idea can be used to test the effect of any other control setting.

STEEL GUITAR PLAYERS

- Steel players will typically use full SPKR VOL and 100% CH OUT to get the full undistorted headroom of the amp on stage, and then set GAIN as required to get their peak volume level, which should be loud and full enough for any stage. Lower SPKR VOL setting may be used for rehearsal or studio sessions.
- The second instrument can also be set up clean with high CH OUT, or for lead playing, you may reduce CH OUT and increase GAIN to get some natural overdrive. Use CH 2 OUT to match levels.
- The Quilter Leg Switch will control all six functions including DIST BST and CH SELECT.

CARING FOR YOUR AVIATOR MACH 3

SHARING THE AMP

- Both inputs can be active at the same time by setting SELECT In the middle. Each channel will now top off at 100W so there is room for both within the amp's 200W power rating.
- Each channel can be independently set up for any sound available, but Reverb and Tremolo will apply to both.
- The footswitch is inactivated on the middle SELECT position. Its LED does not glow.

TIPS FOR SILENT STAGES & HOME RECORDING

- After setting the amp up as usual, use the XLR Line Out on the rear panel to connect to the PA console or DAW input. Set the Mic Trim low, to accept a "hot" signal. Zero the SPKR VOL and increase the SIG OUT till the sound operator gets a good level, and leave it alone for the rest of the performance.
- For natural sounding electric guitar, the CAB SIM switch on the back should be set to NORMAL, which shapes the tone like a typical 12-inch guitar speaker. The BRIGHT setting will sound like a chirpy 10-inch speaker. The FRFR setting will be raw and fizzy sounding unless the console has good internal Cab Sim resources.
- FRFR is a good setting for clean wideband instruments such as keys, synths, acoustic guitar or fiddle, and also provides an unprocessed signal for DAW-based cab sim models.
- The internal SPKR VOL can be inched up if permitted as a personal monitor, or to confirm that you are getting your normal tone while debugging the Direct Out feed.

USING HEADPHONES

- Zero the SPKR VOL, plug the headphones in the back, and use SIG OUT volume to adjust headphone level.
- As noted above, the CAB SIM switch will warm up the tone using NORMAL or BRIGHT. FRFR will sound harsh and fizzy on distortion, but should be suitable for clean wideband instruments such as acoustic guitar.

CLEANING

Clean the outer surfaces with a damp clean cloth or vacuum with a soft brush. Never use abrasives, harsh chemical cleaners, or solvents. When storing or transport your Mach 3, put it inside the included ballistic nylon cover.

The Mach 3 is manufactured with high quality components and are hand built lovingly, with great care. Each Mach 3 goes through an extensive testing process before it ever leaves the factory, ensuring that your amplifier will give you years of flawless service.

There are no user serviceable parts inside the amplifier. Any repairs should be performed by a trained service professional.

Always use the amplifier in a well ventilated environment and protect from external heat sources such as furnaces or direct sunlight.

Prolonged high-volume playing can cause heat buildup in the speaker which reduces its working lifetime. If you find it necessary to consistently use the amplifier at full volume, we recommend using a PA system and the LINE OUT function.





FACTORY SERVICE

To return an amplifier to Quilter Labs for service under the warranty policy, please visit www.quilterlabs.com and look for the support link. If you do not have access to the website, you may also reach us by phone at 714-519-6114 or by mail at this address.

Support - Quilter Labs, LLC
 1791 Reynolds Ave
 IRVINE, CA 92614

Please include the serial number of the amplifier, the Model (Typically located on the serial label.) and a copy of your sales receipt.

DO NOT ATTEMPT to open the amplifier and service it yourself. Servicing by a non-authorized service technician may void the warranty.

SPECIFICATIONS:

ELECTRONIC PERFORMANCE	
INPUT	2 X ¼" Mono, 2 meg impedance, 1.5-5Vpk (depending on EQ)
FX LOOP	¼" mono, 1V full scale, 1K out, 47K inp (with FX Send lifted)
SIG OUT	¼" TRS, balanced line, 40 ohms each leg, 2V full scale
HEADPHONE (SIG OUT)	¼" TRS, 40 ohms each channel, 0-6Vpk (depending on SIG VOL)
SPEAKER OUT	0-200W (depending on SPKR VOL setting)
AC POWER	100-240Vac, 50-60Hz, 250W maximum
SPEAKER	Celestion Copperback.
DIMENSIONS	
COMBO H x W x D	Height: 17" (43.2cm) including feet & handle Width: 18.4" (46.7cm) Depth: 10.6" (26.9cm)
HEAD H x W x D	Height: 3.5" (8.9cm) including feet, 0.45"(1.1 cm) Width: 17" (43.2cm) Depth: 5.6" (14.3cm)
WEIGHT (COMBO)	21 lbs (9.5kg)
WEIGHT (HEAD)	5 lbs (2.3kg)
COVER	
PROTECTIVE COVER	4mm Ballistic Nylon with carry pouch on rear

Your Mach 3 needs service if:

If any of the below occur, immediately unplug the amplifier and refer to a service technician.

- Amplifier or AC cord emits smoke
- Amplifier is dropped or chassis is dented or bent
- Liquid has been spilled into the amplifier
- Loose parts inside the amplifier are heard
- AC service breaker (Wall breaker)

Important Information for Owners:

Factory Service

Please retain the shipping carton and packing materials in the unlikely event your Quilter product needs servicing.

To return a product to Quilter Labs for service under the warranty policy, please contact Quilter Labs by phone or email. Mail can be sent to Quilter Labs at 1700 Sunflower, Suite A, Costa Mesa, CA 92626. Please include the serial number of the product and a copy of your sales receipt. Instructions on how to send your product will be provided.

Do not attempt to open the product and service it yourself. Any attempt to service the product by a non-authorized service technician may void your warranty.

For warranty or service information visit us online at www.quilterlabs.com.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Quilter Laboratories, LLC
1700 Sunflower, Suite A
Costa Mesa, CA 92626
(714) 519-6114
QuilterLabs.com

TROUBLESHOOTING YOUR MACH 3

No power, no lights	<ul style="list-style-type: none"> • Ensure AC cord is fully seated and connected to a live source • Check the AC source by trying another device such as a lamp • Make sure the AC switch is set to ON
Amp loses power and/or shuts off briefly	<ul style="list-style-type: none"> • Automatic thermal protection is activating. Reduce VOLUME by 30% and move the amplifier out of direct sunlight (note: thermal protection starts with power reduction, then maybe a shutdown) • The chassis will feel hot
No sound	<ul style="list-style-type: none"> • Ensure the guitar plug is inserted fully into the INPUT jack • Try a different guitar cable, and try a different instrument • Check that the pickup selector switch and volume on the guitar are set correctly • Remove any cables from the EFFECTS LOOP. If this fixes the problem, be sure that the signal from the SEND jack passes through all effects in the chain • Ensure that the rear speaker jack is fully seated • Check that your channel VOLUME, as well as your MASTER VOLUME and/or SIG OUT is turned up
Distorted audio	<ul style="list-style-type: none"> • Lower the source level (This may apply to pedals in your Effects loop as well) • Lower the VOLUME control • Check the speaker
No reverb	<ul style="list-style-type: none"> • Confirm that REVERB is turned up • If the footswitch is connected, it may override the front panel controls
Reverb sound has too much "echo"	<ul style="list-style-type: none"> • Try adjusting the DWELL control to reduce length of REVERB tail

TROUBLESHOOTING YOUR MACH 3 CONTINUED

Background hum	<ul style="list-style-type: none"> • Ensure the guitar plug is inserted fully into the INPUT jack • Try a different guitar cable, and try a different instrument • Any AC powered sources or effects should be plugged into the same receptacle as the amplifier to avoid ground loops <p>If the hum goes away when you turn down the guitar:</p> <ul style="list-style-type: none"> • Single coil pickups can be a source of hum, especially near hum sources such as light dimmers or neon lights. Experiment with different pickup settings and guitar positions to identify possible null zones
Excessive noise	<ul style="list-style-type: none"> • At high gain settings, there will be some audible hiss. This is normal • Intermittent buzzes and crackles or hum can be caused by bad cables, guitar, or effects connections
Sudden drop out of signal	<ul style="list-style-type: none"> • This is usually a sign of a bad cable. Thoroughly go through each cable including your speaker cable from the rear of the chassis
Tone sounds "dull" with no high frequencies	<ul style="list-style-type: none"> • Confirm EQ settings • Check your guitar's tone controls
A "warbling" or pulsing sound is heard	<ul style="list-style-type: none"> • You may be hearing the tremolo effect. Check that the TREM control is set to its minimum position if this sound is undesired
Amp sounds garbled at all volumes	<ul style="list-style-type: none"> • Check speaker by temporarily trying an external speaker. Caution: reduce volume until sound level has been confirmed.

Desire overdrive tone, not getting enough overdrive	<ul style="list-style-type: none"> • Turn up guitar volume • Turn up GAIN • Set LIM to its minimum setting • Set the VOICE switch to 1957, PLEXI or TOP BOOST • Turn up the DIST BST to add distortion. • Try higher output pickups
Audio drop outs occur when switching FX Loop on	<ul style="list-style-type: none"> • Make sure your FX SEND is going to the input on your effects • Make sure your effects are in proper order (i.e. output goes to input) • Check all instrument cables going from and to your effects from the FX SEND and RETURN • Ensure all your effects are powered • Try putting a known good cable from FX SEND to FX RETURN to confirm proper signal flow
The signal level is slowly surging	<ul style="list-style-type: none"> • Check the tremolo effect, and increase the RATE for a more rapid pulsation • Check that the TREM control is set to its minimum position if this sound is undesired
Excessive noise	<ul style="list-style-type: none"> • At high gain settings, some audible hiss or whoosh is normal • Check your cables, guitar and other effects in the signal chain
Amp requires service	<ul style="list-style-type: none"> • Amplifier emits smoke, sparks, or popping sounds • Amplifier is dropped or chassis is dented or bent • Liquid has been spilled into the amplifier • Something inside appears to be loose • AC breaker trips when amplifier turned on

QUILTER PART NUMBER

001277 REV A