

MICROPRO Mach 2

Guitar Amplifier Series

MP200-8 • MP200-10 • MP200-12 • MP200 HEAD • HD SERIES



OPERATING MANUAL

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IMPORTANT SAFETY INSTRUCTIONS

- 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 apparatus.
- 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.

Explanation of symbols



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.

The Quilter MicroPro Series MICROPRO Mach 2

The Ultimate Performance Amplifier

The Mach 2 stands on the shoulders of giants. Pat Quilter has benchmarked the world's most beloved tone standards, and created an amplifier with the same glorious analog behaviors -- all of the warmth and feel with none of the drawbacks. A complete selection of presets provides a full quiver of classic amps in a compact, fully professional, and performance oriented package.

Power:

Don't underestimate the Mach 2; it's no mere practice amp. Quilter technology delivers massive amounts of warm, musical headroom -- the essential "big white canvas" that supports a rich and versatile array of tonal possibilities.

Portability:

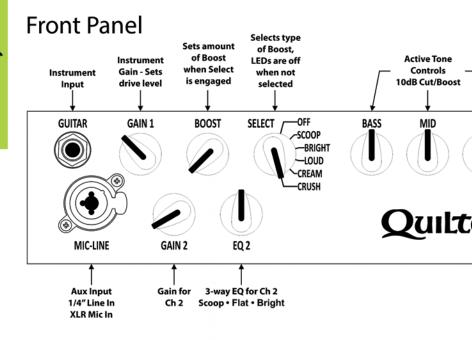
Today's smaller stages and awkward load-ins call for a lightweight design, but don't let the small size fool you — the Mach 2 punches well above its weight class. One trip in with guitar and amp in hand, and a quick plug-in, leaves plenty of time to tune up and help less fortunate bandmates with their rigs.

Technology:

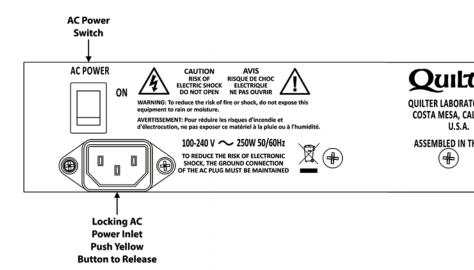
The time has come for new and better tools. Pat Quilter's patented combination of Class D power, robust "nightclub-proof" power supply, and warm analog tone shaping circuitry finally advances the state of the art beyond the possibilities hinted at by classic tube amps. Leave those treasured classics safely at home, and use the consistent and reliable Quilter to explore new heights of artistic satisfaction.

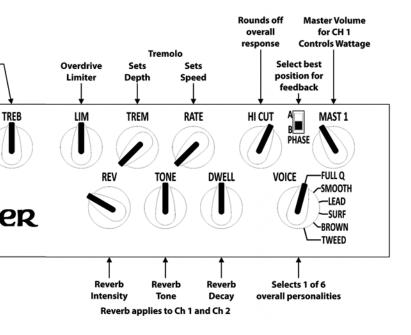
A WHOLE NEW CATEGORY OF AMPLIFICATION

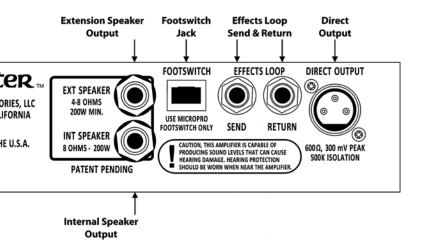




Rear Panel









The first time you use your amplifier, we recommend that you set up the front panel controls as shown in the illustration above:

Initial Settings:

- Set GAIN 2 to its minimum position (we'll use CH 2 later).
- Set GAIN 1, BASS, MID and TREB to 50% (halfway up).
- Set LIM, TREM, HI CUT and REV to minimum position.
- Set MAST 1 to about 25%.
- Set the VOICE switch to FULLO.

Plug your guitar into the **GUITAR** jack. As you play, use **GAIN 1** and **MAST 1** controls to adjust the overdrive versus the overall loudness of the amplifier.

The tone controls (BASS, MID and TREB) are neutral (flat) at 50%. Turn them up and down to boost or cut their respective frequencies.

The **HI CUT** control "takes the edge off" the amplifier's naturally wide bandwidth as it is turned up, creating the effect of a mellower speaker.

For increased overdrive, turn up the BOOST control as desired and use the SELECT switch to choose one of five types of boost.

- SCOOP: Adds treble and bass for more punch and less mid clutter.
- BRIGHT: Enhances treble gain for incisive leads.
- · LOUD: Boosts overall gain to increase natural overdrive.
- CREAM: Internal "tube overdrive" for smooth soaring distortion.
- CRUSH: Activates serious internal "fuzz" distortion.

The selected boost *can be footswitch controlled*; the panel LEDs go dark when BOOST is bypassed.



Turning up the overdrive limiter (LIM) progressively reduces master overdrive distortion (but not Cream or Crush), while maintaining lower-level sustain, effectively replacing the "brick wall" of overdrive distortion with a "soft cushion" of limiting.

Turn up **TREM** to adjust tremolo depth, and use **RATE** to adjust the speed of the pulsations.

To add reverb, turn up the **REV** control. The **DWELL** control sets the decay time of the reverb tail. The **TONE** control between these two knobs selects mellower reverb to the left and brighter to the right.

LIM, **TREM** and **REV** are all foot-switchable, and their respective panel LEDs will go dark when the effect is bypassed.

The VOICE knob selects six overall amplifier personalities:

- FULL Q: Flat frequency response and smooth "EL-84" type overdrive.
- SMOOTH: Bright creamy triode overdrive with a flute-like quality.
- LEAD: Bright crunchy high-power "British" overdrive.
- SURF: Bright and clean with crisp American-style "6L6" breakup.
- BROWN: Full range, high gain, with crisp breakup.
- TWEED: Smooth vintage overdrive with a small-cabinet tone balance.

The **PHASE** switch reverses the polarity of the amplifier, which can reduce or increase guitar feedback as desired for particular playing styles.

FOOTSWITCH: All effects are "normally enabled" and are usable without a footswitch. Effects are bypassed when selected by the footswitch. The footswitchable effects include **Boost**, **Limiting**, **Tremolo**, **Reverb**, and **Effects Loop**. When bypassed, the panel LEDs above the affected controls turn off.

2 CHANNEL OPERATION

The MicroPro Mach 2 features two independent amplifier channels, combined into a single speaker, which can be used separately or simultaneously. Each channel has a maximum RMS output of 100 watts.

CH 1 is the "full service" guitar channel, as explained above.

CH 2, the MIC/LINE channel, supports a microphone or auxiliary input. It may also be used as a "clean" Guitar channel pre-set, with its own GAIN 2, EQ 2, and shared REVERB. (Footswitch required for multi channel application.)

When the two channels are used separately, **GAIN 1** and MAST 1 control the GUITAR input, and GAIN 2 controls the MIC/LINE input.

Using CH 2 for "Clean-Dirty" Presets

GAIN 2 may be used as a "Clean" preset for **CH 1**, using **EQ 2** as an alternate tone control, thus enabling distinctive rhythm and lead voicings. Use the **CH 1/2** mode on the footswitch to switch from **GAIN 1** to **GAIN 2**. LEDs above **GAIN 1**, **BASS, MID, TREB,** and **MAST 1** will go dark, indicating the controls that have been bypassed, but all of the guitar-channel effects are still available in either mode (unless footswitch bypassed, of course).

By adjusting the **GAIN 1** + **MAST 1** controls, and **GAIN 2** + **EQ 2**, you can achieve a desired loudness and tonal balance between "clean" and "dirty".

The **MIC/LINE** input is still active when assigning **GAIN 2** to **CH 1**, but its level may vary slightly and it will be routed through **Ch 1** effects, if any.

Using **BOOST** for "Clean–Dirty" Presets

An overdrive boost can also be engaged by setting GAIN 1 at a comfortable "clean" level and using BOOST SELECT to engage SCOOP, BRIGHT or LOUD, turning up the BOOST control as desired for overdrive. However, these first three functions will generally increase the overall loudness relative to a clean GAIN 1 setting. This works if you want overdrive to jump above your clean level, but if you want to balance clean and distorted levels, try CREAM and CRUSH, which behave like "front end" distortion pedals. On these settings, BOOST controls the amount of distortion, and GAIN 1 sets the output level of the distortion (just like using a pedal). As GAIN 1 is increased past 50%, the signal gets loud enough to trigger output distortion, providing a "layered" distortion effect. Of course, MAST 1 still controls the overall volume of the resulting combination.

Footswitch control:

The **BOOST** and **LIM** footswitches can give you even more switchable clean/overdrive effects using only the resources of Channel 1.

REAR PANEL FUNCTIONS:

AC Power Switch

Simply reach over the top of the right side of the amp to flip the power switch on and off.

AC POWER

ON

International Power Supply

The MicroPro works on any worldwide AC voltage (100-250V), which allows you to play just about anywhere on the planet. This same capability provides smooth steady audio power despite surges and brownouts.

Locking IEC Power Cord

The power cord that comes with your amplifier 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 cord may also be used. Always ensure that the ground contact is intact on both the cord and receptacle.

Speaker Outputs - Combo

The MicroPro combo amps come with the internal speaker plugged into the INT SPEAKER output. An external 8 ohm speaker may be used in place of the internal speaker by unplugging this cable and



connecting the external speaker. An external 4 ohm speaker cabinet should be connected to the upper 4-8 ohm **EXT SPEAKER** output.

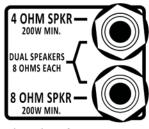
To use two speaker cabinets simultaneously, connect an 8 ohm cabinet (or the internal speaker) to the **INT SPEAKER** output, and a 4 or 8 ohm extension speaker with a minimum of 150 watts continuous power handling to the **EXT SPEAKER** output. Circuitry adjusts the output impedance to split the power between the two outputs.

Speaker Outputs - Head

MicroPro Head: Connect a 4 ohm speaker to the **4 OHM SPKR** output or an 8 ohm cabinet to the **8 OHM SPKR** output.

When using two cabinets, plug an 8 ohm cabinet into the **8 OHM SPKR** output, and a 4-8 ohm cabinet into the **4 OHM SPKR** output.

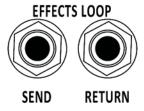
Two 4-ohm cabinets may be used with slightly reduced performance.



SPEAKER CAUTION: the MicroPro amplifier can deliver up to 300 watts peak, well beyond the capacity of many single speakers. We recommend Quilter extension cabinets with power tested speakers. Quilter Labs will not be liable for damage to other speakers.

Effects Loop

The **SEND** jack sends the combined output of both channels at -10dB (1V full scale), to match both consumer and pro effects. The **RETURN** jack interrupts the internal signal, and returns the effects output directly to the power amplifier.



CAUTION: To avoid excessive triggering of the internal "speaker watchdog" protection, do not use excessive levels of boost in the Effect Loop. If the amp appears to be "gagging" or even shutting down momentarily, reduce the level going into Effects Return

Footswitch control:

Without the footswitch attached, the effects loop is activated when using the RETURN jack. The effects loop is enabled when the footswitch LED is on, and bypassed when the footswitch LED is dark.

Footswitch Jack

The foot controller connects to the amp with the supplied cable. Both jacks on the foot controller are wired identically, so you can plug into either one. A standard network cable with RJ-45 connectors may be used as an emergency replacement, or if you need a longer cable.

FOOTSWITCH



USE MICROPRO FOOTSWITCH ONLY

Direct Output

The isolated direct output allows you to route the output sound of the amp to a mixing board or external powered loudspeakers without using a microphone. The signal level is compatible with mic inputs, and is padded down from the actual signal across the speaker, to preserve as much of the tone quality as possible.



A high frequency rolloff is included to prevent high frequency system instability, and produces the same tone quality through full-range PA speakers as the internal single-cone driver.

Caring for your Quilter MicroPro Mach 2

Clean the outer surfaces with a clean, damp cloth or vacuum with a soft brush. Never use any abrasives, harsh cleaners or solvents.

The provided dust cover will help protect the amp during transportation. A heavy duty, fully enclosed and padded carrying case is available for situations when the amp needs extra protection.

The **MicroPro Mach 2** amplifier is manufactured with high quality components using modern industrial processes that greatly reduce production defects. Each amplifier goes through an intensive testing process before it 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.

Caring for the loudspeaker

Modern loudspeakers are amazingly rugged but they still must stand up to constant vibration and flexing. Even the best available speakers will eventually wear out. Prolonged high-volume playing causes heat buildup in the speaker which reduces its working lifetime.

If you find it necessary to consistently use overdrive at full Master volume, we recommend using an extension speaker to share the stress, prolong speaker life and improve sound coverage.

Amplifier Module Spec	ifications: (All Models)
	Channel 1: 100 W RMS
Power Output:	Channel 2: 100 W RMS
	Total: 200 W RMS
AC Power Req.:	100–240V, 50–60 Hz, 250 W
·	MIC/LINE: Balanced XLR and 1/4" TRS
Input Connections:	INST: ½" mono
	MIC: 4K ohms
Innut Impedance	LINE: 70K ohms
Input Impedance:	GUITAR: 2M ohms
	Output: ¼" mono, -10dB, 1K ohms
Effects Loop:	•
Creation 1 Outrost	Input: ¼" mono, 50K ohms
Speaker 1 Output:	8 ohms, 200 W minimum rating
Speaker 2 Output:	4-8 ohms, 200 W minimum rating
	SPEAKERS, DIMENSIONS, & WEIGHTS
MP200-8	C. 1. TT0010 01
Speaker:	Celestion TF0818 - 8" cone, 1.75" voice coil, 8 ohms
Dimensions:	14.5 in. x 17.5 in. x 9.75 in.
(H x W x D)	36.8 cm x 44.5 cm x 24.8 cm
	Conforms to U.S. airline carry-on limits
Weight:	19 lbs. (8.5 Kg)
MP200-10	
Speaker:	Celestion G10 Vintage - 10" cone, 1.75" voice coil, 8 ohms
Dimensions:	19 in. x 17.5 in. x 10 in.
(H x W x D)	48.3 cm x 44.5 cm x 25.4 cm
Weight:	21 lbs. (9.6 Kg)
MP200-12	
Speaker:	Celestion Classic Lead 80 - 12" cone, 1.75" voice coil, 8 ohms
Dimensions:	19 in. x 17.5 in. x 10 in.
(H x W x D)	48.3 cm x 44.5 cm x 25.4 cm
Weight:	27 lbs. (12.2 Kg)
MP200-12 HD (HEAVY I	DUTY)
Speaker:	Celestion BN12-3005 - 12" cone, 2.5" voice coil, 8 ohms, Neodymium
Dimensions:	19 in. x 17.5 in. x 10 in.
(H x W x D)	48.3 cm x 44.5 cm x 25.4 cm
Weight:	21 lbs. (9.5 Kg)
Mach 2 Extension	21 1001 (510 11g)
Speaker:	Celestion Classic Lead 80 - 12" cone, 1.75" voice coil, 8 ohms
Dimensions:	18.5 in. x 17.5 in. x 10.5 in.
(H x W x D)	47 cm x 45.1 cm x 26.7 cm
Weight:	30 lbs. (13.6 Kg)
Mach 2 Extension HD (. 5.
Wach 2 Extension HD (I	TEAVY DOTY)
Speaker:	Celestion BN12-3005 - 12" cone, 2.5" voice coil, 8 ohms, Neodymium
Dimensions:	18.5 in. x 17.5 in. x 10.5 in.
(H x W x D)	47 cm x 45.1 cm x 26.7 cm
Weight:	24 lbs. (10.9 Kg)
MP200 Head	
Dimensions:	4.5 in. x 17.5 in. x 7.63 in.
(H x W x D)	11.4 cm x 44.5 cm x 19.4 cm
Weight:	7 lbs. (3 Kg)

Note: Power ratings are provided by the loudspeaker manufacturer and are only a guide-line when selecting a suitable speaker. Quilter Labs qualifies our speakers using a lengthy power test that ensures that the speaker can withstand the full power output of our amplifiers.

Ensure that the AC cord is fully seated and connected to a live source.	Symptom	Action
Check the AC source by trying another device such as a lamp. Amp feels hot and starts shuttling off. Automatic thermal protection is activating. Reduce the volume at least 30% and keep the amplifier out of direct sunlight or tightly enclosed spaces. Ensure that BOOST and VOICE switches are fully engaged and are not between clicks. Ensure the guitar plug is inserted fully at both ends. Try using a different guitar cable. Check that the pickup selector switch and volume on the guitar are set correctly. Remove any cables from the RETURN jack of the Effects Loop. If this corrects the problem, track down the break in the effects chain. Ensure that the rear panel speaker plug is fully inserted into the INT SPEAKER jack. Listen for the normal on/off click through the speaker. If none, test with another speaker. Ensure that the XLR or %" plug is fully inserted. Try using a different cable. Ensure that the VOL 2 control is turned up. Ensure that the VOL 2 control is turned up. Ensure that the rear panel speaker plug is fully inserted into the INT SPEAKER jack. Lower the Source level. Lower the source level. Lower the yOL 1 control. Exemplate the VOL 1 control. Check Boost settings. Cream and Crush are built-in distortion generators. Confirm that the REV control is turned up. If panel LEDs are off, the footswitch is in Bypass. Confirm that the REV control is turned up. A "warbling" or pulsing or to the right. A "warbling" or pulsing sound is heard Ensure the guitar plug is fully inserted. Try using a different guitar cable. A nya K powered sources or effects should be plugged into the same receptacle as the amplifier to help avoid ground loops. If the hum goes away when you turn down the guitars have a mode where two pickups are in reverse polarity to each other ("humbucking"). This mode can often reduce hum.		Ensure that the AC cord is fully seated and connected to a live
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("humbucking"). This mode can often reduce hum.		sources like light dimmers or neon lights. Some guitars have a mode
- Charle that the quiter controls are well shielded		("humbucking"). This mode can often reduce hum.
 Check that the guitar controls are well shielded. 		Check that the guitar controls are well shielded.

Excessive noise	At high gain settings, some audible hiss or shwoosh is normal.
	Check your cables, guitar and other effects in the signal chain. Pedals are often noisier than the amp.
Amp sounds garbled at	Check speaker by temporarily trying an external speaker.
all volumes	Caution: reduce volume until sound level has been confirmed.
Desire cleaner tone, getting too much overdrive	Turn down the GAIN 1 control and turn up MAST 1.
	Set the BOOST SELECT to OFF, or reduce BOOST volume to
	minimum.
	Turn up LIM.
	If distortion persists, it may be in the source. Try thru a different
	amplifier or PA input.
Desire overdrive tone, not getting enough overdrive	Turn up guitar volume.
	Turn up GAIN 1.
	Set LIM to its minimum setting, or bypass with footswitch.
	Engage one of the BOOST modes, and turn up BOOST control.
	Experiment with VOICE settings. Some of the voices are "hotter"
	than others.
	Try higher output pickups.
Tone sounds "dull" with no high frequencies	Confirm that the HI-CUT control is not turned up too far. This
	control "takes the edge off" the overall sound.
	Check your guitar's tone controls.

Amplifier Requires Service

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

- · Amplifier emits smoke or burning smells.
- · Amplifier is dropped or chassis is dented or bent
- · Liquid has been spilled into the amplifier
- · Loose parts inside the amplifier are heard
- AC wall breaker trips

LIMITED TRANSFERABLE WARRANTY

IMPORTANT: PLEASE READ THIS DOCUMENT COMPLETELY. IT CONTAINS IMPORTANT INFORMATION ABOUT YOUR RIGHTS AND OBLIGATIONS, AS WELL AS LIMITATIONS AND EXCLUSIONS THAT MAY OR MAY NOT APPLY TO YOU. BY ACCEPTING DELIVERY OF THE PRODUCT(S), YOU AGREE TO BE BOUND BY AND ACCEPT THESE TERMS AND CONDITIONS.

Quilter Laboratories, LLC (Quilter Labs) guarantees its products to be free from defective material and/or workmanship and will replace defective parts and repair malfunctioning products under this warranty when the defect occurs under normal installation and use—provided the unit is returned to our factory via pre-paid transportation with a copy of proof of purchase. (i.e. sales receipt). This warranty provides that the examination of the return product must indicate, in our judgment, a manufacturing defect. This warranty does not extend to any product which has been subjected to misuse, neglect, accident, or where the date code or serial number has been defaced or removed. Quilter Labs shall not be liable for incidental and/or consequential damages. This warranty gives you specific legal rights.

This limited warranty is freely transferable during the term of the warranty period. The warranty on Quilter products is NOT VALID if the products have been purchased from an unauthorized dealer/online e-tailer, or if the factory serial number has been removed, defaced, or replaced in any way.

Customers may have additional rights, which vary from state to state or from country to country. In the event that a provision of this limited warranty is void, prohibited or superseded by local laws, the remaining provisions shall remain in effect. The Quilter Labs limited warranty in the United States is valid for a period of three (3) years from date of purchase except that footswitches, covers, cabinets, handles, and cabinet hardware are warranted for a period of one (1) year and speakers, and all other included accessory products for a period of ninety (90) days from date of purchase.

IMPORTANT: PLEASE RETAIN YOUR SALES RECEIPT OR ONLINE ORDER RECORD, AS IT IS YOUR PROOF OF PURCHASE COVERING YOUR LIMITED WARRANTY. TO TRANSFER THE WARRANTY TO A SUBSEQUENT PURCHASER, YOU MUST ENDORSE THE SALE OF THE PRODUCT TO THE SUBSEQUENT PURCHASER ON THE FRONT OF THE SALES RECEIPT. THIS LIMITED WARRANTY IS VOID WITHOUT SUCH ENDORSED SALES RECEIPT.

Defective products that qualify for coverage under this warranty will be repaired or replaced, (at Quilter Labs' discretion) with a like or comparable product, without charge. To receive warranty service, return the complete product to Quilter Labs, LLC, with proof of purchase, during the applicable warranty period. The Quilter Labs Dealer from whom you purchased your product may also be authorized for warranty service and should be the first point of contact when service is required. TRANSPORTATION COSTS ARE NOT INCLUDED IN THIS LIMITED WARRANTY. Any repair or service performed by any person or entity other than an Authorized Quilter Labs Electronics Service Center is not covered by this limited warranty. Other questions regarding this warranty can be answered by contacting your authorized Quilter distributor, or by contacting the factory: (714) 519-6114.

Email: info@quilterlabs.com

Factory Service

To return an amplifier to Quilter Labs for service under the warranty policy, please visit www.quilterlabs.com and fill out the Return Request Form. If you do not have access to the website, you may send a request by letter to Quilter Labs at 1700 Sunflower, Suite A, Costa Mesa, CA 92626. Please include the serial number of the amplifier and a copy of your sales receipt. Instructions on how to send your amplifier will be provided.

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

NOTICE OF FCC COMPLIANCE

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 www.quilterlabs.com