

Quilter[™]
Amplification est. 1968



AVIATOR

CUB

Pilot Operating Handbook
Preflight Checklist
Flight Procedures

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 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.



CONTACT!
(AC power, and Ignition)

Basic Controls
(Inputs, Gain, Limiter, Master)

EQ
(Bass, Mid, Treb)

Effects
(Effects Loop, Onboard Reverb)

SIG VOL - SPEAKERS
(Line, Head Phones & Speakers)

Care and Service
(How to care for your CUB)

Specs/Warnings
(Specifications & Notices)

Troubleshooting
(Emergency Checklists)

CABLES

The AC power cord that comes with your Aviator CUB plugs into the AC inlet underneath the chassis (yellow arrow).

The special AC cord has an extra friction lock to reduce the chance it will come unplugged during use, but any standard IEC cord will fit. Always ensure that the ground contact is intact on both the cord and the receptacle.

Pro Tip: *It is convenient to stow the plugged-in cord carefully in the bottom of the cabinet during transport and storage but take steps to prevent the AC cable from bouncing around and puncturing the speaker during in-flight turbulence.*





CONTACT!

Turning your amplifier on is easy! The Power switch is located above the AC inlet on the back of the amplifier. Reach over and flip it up for power. It normally takes several seconds for the supply to ramp up from a cold start. When the yellow "ON" indicator lights up, you are ready for takeoff!





AVIATOR CUB - THE BEST OF THE WEST!

TWEED



Based on an actual late 50's 12-inch tweed combo, this voicing delivers a fat honest tone from the days before elaborate EQ controls, with plenty of gain for gloriously rich overdrive.

BLONDE



Based on an actual early 1960s blonde this first generation of the "tone stack" had a wider treble boost, delivering a clear bell-like tone and plenty of oomph for a big sound while staying cleaner than tweed amps.

BLACK



Based on a 1965 black-tolex 12 inch combo, the final "tone stack" alignment with its sweet silky highs and nice full bass is considered by many to be the pinnacle of clean American tone, even when pushed into overdrive.





AVIATOR CUB UK - BRITISH TONE!

JMP



Based on a late 70s head well known for driving punch and voicing that was organic for blues players while having enough gain on tap to inspire a generation of metal.

AC NORM

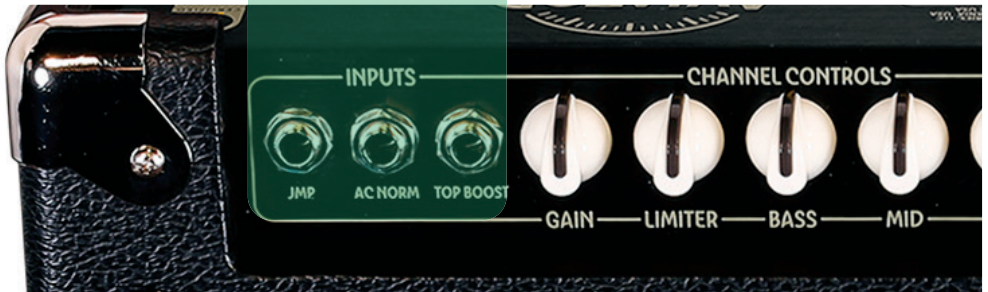


The venerable diamond shaped cloth was more than a "certain look" but a specific sound that characterized many players of fame including The Beatles and Queen's Roger May.

TOP BOOST

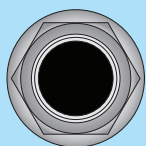


If you want rectifier compression and the total valve sound from one of the most sought after amplifiers of the UK heritage, plug right in here and crank it up. Top Boost adds airy sparkle while delivering that biting distinctive Top Boost tone.





INPUTS



The **three inputs** have independent 2 meg preamps that bring your pickups to life with extra-high impedance to preserve the delicate overtones of all magnetic pickups. Multiple instruments may be connected without cross-loading, or a single instrument can be switched using an external input switcher. Try each one and hear how the sound of iconic amps evolved during the era when the electric guitar first became a hit instrument.



GAIN



Much like a throttle control, the **Gain** regulates how hard the amp “pushes”, ranging from clean easy “cruising”, to mild breakup, all the way up to “full dive-bomber” overdrive. The

Spkr Vol acts as an overall loudness control, so you can do your “stunt flying” at any level from whisper soft to full stage output.

LIMITER



Sometimes you want a “rev limiter” that keeps you from getting too deep into overdrive while you are focused on your playing. As you turn up the **Limitter**, it progressively

brings down a “soft ceiling” that can keep overdrive to a “rolling boil” in low settings, or stay out of overdrive on higher settings without losing sustain. It’s almost like having “cruise control” for your drive level.

***Pro Tip:** the Limiter will not affect soft signals, it only kicks in above the threshold you set. It may help to have an assistant run the knob up and down while you are playing at fairly high gain, so you can hear what it does. And it can’t clean up external distortion from pedals, it only regulates the internal overdrive.*

SPKR VOL

As noted above, you will generally use less **Gain** and more **Spkr Vol** for clean sound with dynamic headroom, and you will use more **Gain** and perhaps less **Spkr Vol** for overdrive sound at any desired loudness.



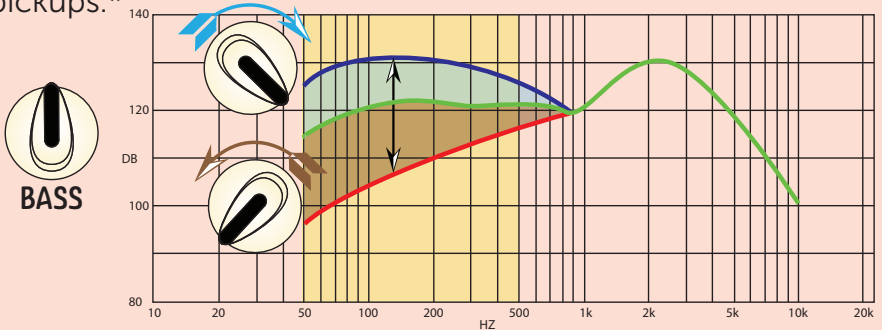
ACTIVE EQ CONTROLS

Early amp designers had to limit tone control range to get high overall gain. Today we benefit from much stronger active EQ controls that greatly extend the possibilities of the three classic input voices. To hear the effect of each control, have an assistant run each knob through its full range while you are playing. Typically controls are set somewhere in the middle, but they are meant to be used if it helps get the sound you want.



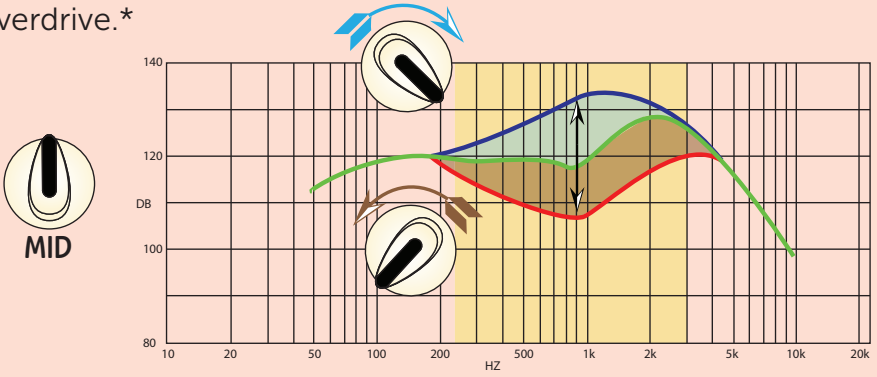
BASS

The **Bass** control boosts or cuts frequencies below 500 Hz, with the strongest action below 200 Hz, primarily affecting the guitar's bass strings. This regulates the fullness of the sound and can compensate for overly thin or heavy sounding pickups.*



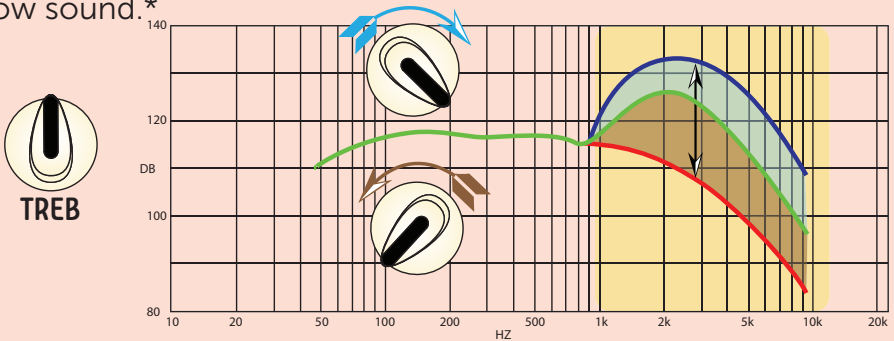
MID

The **Mid** control boosts or cuts frequencies between the **Bass** and **Treb** frequencies. Reducing midrange will “unclutter” or open up the sound, whereas more midrange promotes hotter overdrive.*



TREB

The **Treb** control boosts or cuts frequencies above 500Hz with the strongest action between 1K and 5K. This is the “chime” region, so more **Treb** will increase sparkle and penetration, while less **Treb** will tame clashing pickups and produce a mellow sound.*



* Graphs representative not actual EQ measurements.



EFFECTS LOOP

The Aviator Cub's **Effects Loop** joins classic tone with modern technology. When our beloved vintage amps were first designed, "pedals" had not been invented. As the years went by, early "fuzz-tones" and the ever popular wah-wah pedal evolved into today's rich assortment of drive pedals, modulators, and time-based effects. The early amps were recorded in the studio with effects applied afterwards during mix-down, but if you played live, you had to put your pedals in front of the amp, which often resulted in their sound being buried under amp distortion. Eventually Effect Loops were added to bring the "studio to the stage", but the final power output stage still went straight to the speaker, unable to be modulated by effects. Quilter amps develop all their "tone mojo" in the preamp, prior to the Effects Loop, so modulators and time-based effects can process the entire sound of the amp including its overdrive. This provides the "full studio sound" to any stage or jam session with maximum fidelity and convenience. The **Effects Loop** operates at 1V full scale which matches well with all popular modulators and time-based effects.

JACKS

Effects Send takes the signal to the outboard devices, and **Effects Return** brings it back into the amp. Adjust the outboard devices so there is no significant change in overall volume when engaged. Drive pedals are still typically used in front of the amp so their tone can be fully adjusted using the preamp controls.

Pro Tip: *outboard tracks can be inserted into the signal chain by using the **Effects Return** jack as an input. The preamp's output will be mixed 50/50. Adjust the outboard device's volume to get a nice balance.*

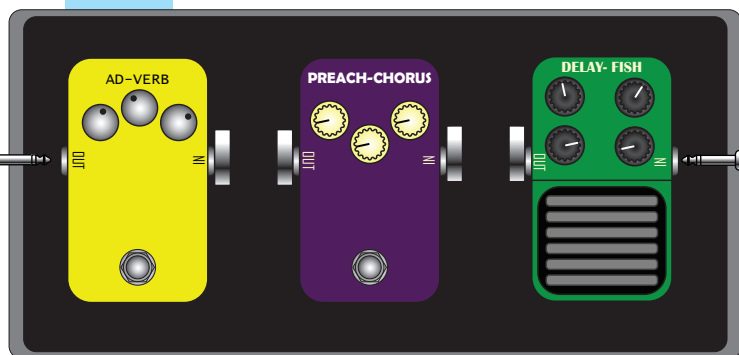




REVERB

The Cub uses a self-contained digital reverb with analog voicing to make it sit comfortably in the mix. The **Reverb** control ranges from “dry” on the left, “normal” in the middle and “drenched” on the right – “Surf’s Up!”

The **Reverb** control is in series with and post **Effects Loop**.



SIGNAL OUTPUT SECTION

The **Signal Outputs** greatly add to the Cub's versatility for recording and silent practice. The **Line** output allows the pilot to connect directly to a mixing console or DAW interface. The **Head Ph** output drives your "cans" for quiet practice. Both of these outputs have an internal cabinet simulator to warm up the tone for recording, house feed, or headphone practice. This direct sound will be "in the zone" but can still be used with outboard IR models or EQ tweaks for greater variety.



Using the cub for live performance

- 1) **House Feed:** Plug a 1/4" TRS (Tip, Ring, Sleeve) cable into the Line jack, with XLR or other connector on the other end as required for the console.
- 2) While playing your loudest, adjust the **Sig Vol** knob until your sound operator is satisfied with the level. Leave it alone after this.
- 3) **Live Stage Sound:** Adjust **Spkr Vol** to get a suitable sound level for you and the band. This volume is independent of the **Sig Vol** and you can adjust as needed without upsetting the sound operator.
- 4) **Silent Stages:** Leave the **Spkr Vol** at zero and work with the sound operator to get a suitable volume in your in-ear monitors or stage monitors.



Using the cub for silent practice

- 1) Turn **Spkr Vol** all the way down.
 - 2) Plug a 1/4" Headphone jack into the **Signal Output** jack labeled **Head Ph**.
 - 3) Start with **Sig Vol** fairly low, and adjust **Gain** etc to get the sound you want
 - 4) Then set the **Sig Vol** at a comfortable level for practicing.
- Pro Tip:** Protect your hearing by keeping headphone volume reasonable. You may get some headphone distortion at excessive levels.



Aviator Cub Red Label Speaker

To truly recreate the classic vintage tones in the Aviator Cub took more than just a clever circuit design. It required a re-imagining of the every component in the tone path from input to speaker. The Aviator Cub Red Label speaker is aimed squarely at the center of the three eras with enough warmth to deliver the rounded tone of a Tweed, enough brightness for the bright clarity of the Blonde, and enough thump to bring the powerful clarity of the Blackface era.

Working closely with our engineering partners, we co-developed a speaker that can do it all. The Aviator Cub is far more than computerized "tone modeling" intended to give an approximation of an amp. It is custom crafted front to back to recreate the very behaviors of these classic and very expensive amplifiers.



Aviator Cub UK Green Label Speaker

The sound of a British accent is at once immediate and recognizable and so too is the sound of a crisp British speaker. Launching from the success of the Aviator Cub, we set out to deliver that distinct British amplifier voicing and just like the Cub, we went after three of the most sought after tones. The Aviator Cub UK Green Label speaker is designed to bring out and enhance the harmonic content of the carefully designed circuits to truly deliver on the promise of the UK sound. From the classic tones of early British rock to the biting and powerful tones of later era UK amplifiers, the speaker works in conjunction with circuitry to deliver UK tones in spades!





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
1700 Sunflower Ave Ste A
Costa Mesa, CA 92626

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.

CARING FOR YOUR AVIATOR CUB

Clean the outer surfaces with a clean damp cloth, or vacuum with a soft brush. Never use abrasives, harsh chemical cleaners, or solvents. When storing or transporting your CUB, make sure any loose items stowed in the speaker compartment are secured, and protect the amp with the included nylon cover.

The CUB is manufactured with high quality components, combining state of the art factory automation and hand craftsmanship to give you a product you can be proud of. Each CUB 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 to supplement the sound level.



SPECIFICATIONS: AVIATOR CUB

ELECTRONIC PERFORMANCE	
INPUT	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 (LINE)	¼" TRS, balanced line, 40 ohms each leg, 2V full scale
HEADPHONE	¼" TRS, 40 ohms each channel, 0-3V peak (depending on SIG VOL)
SPEAKER OUT	0-50W (depending on SPKR VOL setting)
AC POWER	100-240Vac, 50-60Hz, 100W maximum
LOUDSPEAKER	
AVIATOR CUB	Quilter Red Label Special Design, by Eminence - 8 ohms, 50W
CUB UK	Quilter Green Label Special Design, by Eminence - 8 ohms, 50W
COMBO DIMENSIONS - NET	
H x W x D	Height: 16.5" (41.9 cm) Width: 16.5" (41.9cm) Depth: 10.8" (27.3cm)
WEIGHT	21.55 lbs (9.8kg)
SHIPPING DIMENSIONS	
H x W x D	Height: 19.5" (49.5cm) Width: 20.0" (50.8cm) Depth: 14" (35.6cm)
WEIGHT	26.5 lbs (12.2kg)
COVER	
PROTECTIVE COVER	Ballistic Nylon with pouch on rear

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 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

YOUR AVIATOR CUB REQUIRES SERVICE



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)

Troubleshooting your CUB

LED on top not turning on.	<ul style="list-style-type: none">• Confirm that amplifier power switch is on, and AC cord is plugged in under the chassis.• Be sure to FULLY SEAT the AC cord to prevent it from falling out.• Check the AC strip or wall outlet with a different device.
Amplifier Light is on, but no sound.	<ul style="list-style-type: none">• Confirm that SPKR VOL and guitar is turned up.• Unplug guitar and turn the amp Gain up.• If you hear a background hiss, the amp is working.• Turn the amp off and on. You should hear a small thump if the amp is working.• If there is no sound AT ALL, confirm that the speaker cable is still connected to the speaker terminals; re-seat if necessary. If a meter is available, slide one speaker connector off and measure the resistance between the speaker terminals. A good speaker should measure about 7 ohms. If the speaker is open, contact Quilter Labs for service.
Amplifier sounds garbled at all volume levels.	<ul style="list-style-type: none">• Reduce SPKR VOL and try the HEAD PH output at moderate SIG VOL. If the headphone is clear, the speaker may be bad.• An alternate speaker can be tried by detaching the speaker connectors and clipping them to an external speaker cable. The speaker voltage is safe to touch. Use moderate SPKR VOL until sound level is confirmed.

Troubleshooting your CUB

Amplifier has hum.	<ul style="list-style-type: none">• Unplug the guitar cable from the amp. All hum should go away, with only residual hiss at high Gain. If hum continues, confirm that the amp is plugged into a grounded AC outlet. If there is still hum, the amp may require service.• Restore the guitar cable, and turn down the guitar. If hum persists, the guitar cable is bad, especially if flexing affects the hum.• A good guitar cable should be quiet with guitar turned down. If hum returns when the guitar volume is raised, it is being picked up in the guitar. There is often some “fizzy buzz” until you hold the strings, which grounds your body. Single coil guitar pickups typically pick up hum from external AC fields; usually there is a position or location that reduces the external interference.
Amplifier has hiss.	<ul style="list-style-type: none">• Some hiss is normal at high Gain settings. When you want maximum volume, your guitar should be fully up so you don’t have to use excessive Gain to get overdrive.• Pedals can also contribute hiss. Check each one in turn.
Amplifier makes “chattering” noises.	<ul style="list-style-type: none">• Adjacent cellphones, and some LED lighting products, can generate interference that sounds like “chuffing” or clicking. Keep cellphones at a distance and try alternate outlets for LED lights.
Sudden changes in volume.	<ul style="list-style-type: none">• The number one cause for sudden volume drops is a cable that is going bad.• Check your cables by playing a chord and with your free hand gently twist the rubber ends of the cable where they enter the metal sleeve. Listen for drops in the signal level. Do this in front of every pedal in your chain one by one.• Also, be sure to check switches, jacks, and grounds on your instrument.

QUILTER PART NUMBER

001328 REV A