

Amp Head

Two all-valve amp heads in one: a guitar head with spring reverb and a 2x12 or 4x12 cabinet, and a bass head with an 8x10 cabinet and a DI blend.



Overview

Amp Head replaces the former Guitar Head and Bass Head.

Amp Head holds two all-valve amplifier heads, and the MODEL keys choose which one is in the circuit:

- **GUITAR** - a guitar amp in the spirit of the classic 50-watt heads: a clean and a DRIVE channel, a tone stack, a spring reverb, a push-pull power stage and a 2x12 or 4x12 cabinet, in true stereo.
- **BASS** - a bass amp in the spirit of the classic 300-watt heads: a valve preamp, a tone stack with a five-position midrange, a push-pull power stage, an 8x10 cabinet and a clean DI blend.

Each model is the former plug-in, sample for sample: with the same settings Amp Head sounds exactly like Guitar Head or Bass Head did. Each keeps its own faceplate, controls and layout under a shared header with the MODEL keys and the preset display. Only the selected model runs, so it costs no more CPU than the old plug-in on its own.

Changing model crossfades over 20 ms, so it is click-free even while you play; the model you switch to starts from a clean state, and each model keeps its own settings while you use the other one.

Reach for it for

- Clean, crunch and lead guitar tones from a DI recording (GUITAR)
- Spring reverb on guitars (GUITAR)
- The weight and growl of a big bass rig on DI bass or synth bass (BASS)
- Blending amp and DI for definition and low end together (BASS)
- A head into your own cabinet plugin or impulse response (CAB off)

Controls

The header

Name	Amp Head; beside it, the selected model's badge (ALL VALVE 50 for GUITAR, ALL VALVE 300 for BASS).
MODEL	GUITAR or BASS (GUITAR by default). The lit key is the model in use. Changing model crossfades over 20 ms; the model you switch to starts from a clean state.
PRESETS	Opens the preset list (a click on the preset display does the same). The list ends with Reset all to defaults.
◀ / ▶	Step to the previous or next preset.
Preset display	Shows the number and name of the preset in use. New instances open on Init.
Pilot lamp	Shows the amp is on. It takes the theme's accent colour.
Theme picker	Changes the colour of the control panel, its pinstripe and the pilot lamp. Graphite (the default) keeps the aluminium panel with a red stripe and lamp on GUITAR and a blue one on BASS.
HW	Switches between the hardware-style head and the flat look.
S / M / L	Panel size: small, medium or large (Large is 1.3 times Medium). The panel also scales to fit the plugin window.
?	Opens a pop-up with the design credit, the GFX website address, the address of this manual, and MAINS / EQUATOR PROXIMITY (see below). Click outside it to close it.

Shared settings (parameter list only)

These settings are not on the panel; you find them in REAPER's parameter list. Both models share them.

Input trim / Input guard	The input stage in front of the amp. TRIM is a plain level, -24 to +12 dB (0 dB by default). GUARD (off by default) eases very hot sources down towards about -18 dBFS and catches fast peaks above -6 dBFS, so a loud source does not slam the preamp.
Drift	The valves' bias wanders very slightly over time, so the sound is never quite static. Drift (%) scales it: 50% (the default) is the standard amount set by Drift amount (25%) and Drift speed (0.25 Hz), 100% is twice as much and a little faster, 0% switches it off.
Output stage	The house output stage, CLIP always on: a soft clip at the Ceiling (-0.3 dBFS by default), with no latency. Below about 2 dB under the ceiling it does nothing. Band sat (0% by default), Bias, Sat low band and Sat high band add a gentle saturation of the lows and highs before the clip.

Every control is also in the parameter list; the names start with the model they belong to (GUITAR Gain, BASS DI blend ...).

GUITAR - guitar head



Overview

An all-valve guitar amplifier in the spirit of the classic 50-watt heads. The preamp has a clean channel with one valve, from sparkly to edge-of-breakup, and a DRIVE channel that cascades a second valve for more gain. Then come a tone stack, a spring reverb tank, and a push-pull power stage that sags and crunches as you drive it.

A cabinet stage follows, with a 2x12 open-back or 4x12 closed-back cabinet and a microphone that you can move from on axis to off axis. Turn the cabinet off to use the amp as a line-out head into your own cabinet plugin or impulse response.

The amp runs in true stereo: left and right each go through their own identical amp, preamp to cabinet, with all the controls linked and one shared power supply. Every valve stage is anti-aliased (the house drive standard), so the amp runs at the host sample rate with no latency. The two spring tanks differ slightly, so the reverb opens out into stereo; for a mono guitar, switch MONO IN on. A built-in noise gate and tuner complete the head.

Controls

The control panel

GAIN	The preamp gain, 0 to 10 (5 by default). On the clean channel it goes from sparkly to edge-of-breakup; with DRIVE on it goes much further.
BRIGHT	A treble lift in front of the gain. It is strongest at low GAIN settings and fades as you turn GAIN up, like the bright switch on a real amp.
DRIVE	Off: the clean channel (one valve). On: a second cascaded valve for more gain and sustain, with a tighter low end.
BASS / MIDDLE / TREBLE	The tone stack, 0 to 10 each; 5 is flat.
PRESENCE	The top end after the power stage, 0 to 10 (5 by default).
REVERB	The level of the spring reverb, 0 to 10 (2 by default). The spring tank sits between the preamp and the power stage.
MASTER	How hard the power stage is driven, 0 to 10 (4 by default): first headroom, then sag and crunch as you turn it up.

The lower strip

GATE	A noise gate in front of the amp, from OFF (fully down) to -20 dB. Raise it until the hiss and hum between notes disappear.
TUNER	Switches the tuner on. While it is on, the output is muted and the display shows the note and how far off it is; the note turns green when you are in tune. With no note it reads PLAY A NOTE.
MONO IN	Lit: the two inputs are summed and the same signal feeds both sides of the amp, as with one guitar into one head; the stereo spring reverb still gives width. Off (the default): stereo sources such as keyboards stay stereo.
CAB	The cabinet: OFF (line out, no cabinet), 2x12 OPEN (open back, the default) or 4x12 (closed back, more low end).
MIC	The microphone position, 0 (on axis, brighter) to 10 (off axis, darker and smoother); 3 by default.
OUTPUT	Output level, -24 to +12 dB.
LEVEL	A row of ten LEDs showing the output peak level, from -30 dB up to just under 0 dBFS.

Tips

- For edge-of-breakup, keep DRIVE off, set GAIN around 6 - 8 and let MASTER add the crunch as you dig in.
- BRIGHT is most useful at low GAIN settings, where it adds sparkle to clean tones; at high gain it does little.
- Move MIC towards 10 to smooth out a harsh, fizzy top end before reaching for TREBLE.

BASS - bass head



Overview

An all-valve bass amp in the spirit of the classic 300-watt heads, driving a sealed 8x10 cabinet. The preamp valve is clean and round when GAIN is low and starts to growl as you turn it up. The tone stack has bass and treble shelves, a midrange control with five frequencies, and two voicing switches: ULTRA LO for a deep low end with scooped mids, and ULTRA HI for extra top.

MASTER sets how hard the push-pull power stage works. Low settings give clean headroom; higher settings bring in the sag of the power supply, compression and the output transformer's saturation - the big-amp feel when you dig in. After the amp, the cabinet can be switched out for a line-out sound, and a clean DI signal can be blended in underneath, as engineers often do with a real bass rig.

The amp works in mono, as a real amp does: the two inputs are added together, and both outputs carry the amp. Every valve stage is anti-aliased (the house drive standard), so it runs at the host sample rate with no latency.

Controls

The control panel

BASS, MIDRANGE and TREBLE move in 0.5 dB steps; hold Shift to move them freely. Double-click a knob to reset it.

GAIN

The preamp valve, 0 to 10 (4 by default). Low settings are clean and round; as you turn it up the valve starts to growl and distort.

ULTRA LO

A deep low-end lift (about +4 dB around 40 Hz) together with a scooped midrange (about -10 dB around 500 Hz). The classic

	big, hollow modern bass sound.
ULTRA HI	A bright top-end lift, about +8 dB from 8 kHz up. Adds click and string noise.
BASS	A low shelf at 80 Hz, -12 to +12 dB.
MIDRANGE	Boost or cut at the FREQUENCY set beside it, -12 to +12 dB. Boost for a bass that cuts through a busy mix; cut for a smoother, deeper tone.
FREQUENCY	Where MIDRANGE works: 220 Hz, 450 Hz, 800 Hz, 1.6 kHz or 3 kHz (450 Hz by default). Click a value to choose it, or click / drag / use the mouse wheel on the knob to step through. In the flat look this knob is called FREQ .
TREBLE	A high shelf at 5 kHz, -12 to +12 dB.
MASTER	How hard the push-pull power stage is driven, 0 to 10 (4 by default). Low settings stay clean with plenty of headroom; higher settings add the sag of the power supply, compression and the output transformer's saturation.

The lower strip

GATE	A noise gate before the amp, from OFF (fully down, -80 dB) up to -20 dB. Raise it until the hum and buzz between notes disappear but the notes still ring out.
TUNER	Switches the tuner on. While it is on the output is muted, so you can tune silently. It reads notes from about 35 to 700 Hz. The display shows the note and octave, with a dot that moves left (flat) or right (sharp); the note turns green when you are within 4 cents. It reads PLAY A NOTE until it hears a clear pitch, and TUNER OFF when switched off.
CAB	The 8x10 cabinet in or out (in by default). Out gives the amp's line-out sound, for use with a cabinet simulator of your own.
MIC	The microphone on the cabinet, 0 to 10 (3 by default): from on axis (brighter, with more of the cone's bite) to off axis (darker and softer). Only heard with CAB in.

DI BLEND	Mixes the clean DI signal in under the amp, 0 to 100%. 0% is amp only; 100% is the clean DI only. The DI keeps a solid, clear low end while the amp provides the growl.
OUTPUT	The final level, -24 to +12 dB.
LEVEL	Ten lights showing the output level, green up to amber and red at the top.

Tips

- For a classic clean bass, keep GAIN around 3-4 and MASTER low, and shape the tone with BASS and MIDRANGE at 800 Hz.
- For growl that still sits under the mix, push GAIN and MASTER, then bring in 20-40% DI BLEND to keep the low end solid.
- If the bass disappears on small speakers, boost MIDRANGE at 800 Hz or 1.6 kHz rather than adding more BASS.
- Set GATE only as high as you need - too high and it will cut off the tail of long notes.

Mains and Equator Proximity

The ? pop-up holds the unit's power supply and its climate. Both start OFF and NEAR, where the unit sounds exactly as it always has.

MAINS: OFF / UK / US	The mains the unit is plugged into. UK and US add a mains hum, very faint (about -83 dBFS: at the edge of hearing), at 50 Hz or 60 Hz with its own overtones. Each instance's hum wanders slowly in phase, so many of them never pile up into one note. The supply also sags when you play hard - the rails drop as you dig in, softening the peaks, more here than on most units - with a faint ripple that grows with the load. UK is tight and recovers quickly; US sags deeper and recovers more slowly.
EQUATOR PROXIMITY	The room's climate, from FAR (a cold northern room) to NEAR (the tropics: always warm). Away from NEAR, the unit starts cold and warms up over a few minutes of use - about five at FAR. A cold amp is a little duller, quieter and grittier; it

settles as the valves warm. Hover over the dial to see how long it takes; double-click (or Ctrl-click) for NEAR.

WARMTH The lamp shows how warm the unit is. The heat is saved with the project: reopen it a minute later and the unit is still warm; leave it overnight and it has cooled. While REAPER bypasses the unit, it cools (about a minute to cold at FAR).

Presets

Choosing a preset also selects its model. A preset for the model in use changes without a click: the output ducks out for a moment, the new settings come in at silence and it fades back in. A preset for the other model crossfades, as a MODEL change does. The factory presets set the model's own controls only (MONO IN and the shared settings stay as they are) and are level-matched with OUTPUT, so you can compare them at the same loudness.

Init	GUITAR at its default settings: the state a new instance opens in.
GUITAR: Clean Jazz	Low gain, warm and round with the treble down and a touch of spring; for jazz chords and lines.
GUITAR: Sparkle Clean	Bright and glassy with BRIGHT on and more spring; for clean arpeggios and chords.
GUITAR: Edge of Breakup	Clean channel pushed so it stays clean when you play softly and breaks up when you dig in.
GUITAR: Classic Crunch	DRIVE channel at moderate gain with a mid push into the 4x12; classic rock rhythm.
GUITAR: Rhythm Crunch 4x12	A tighter, heavier crunch with more low end and little reverb, for driving rhythm parts.
GUITAR: Hot Lead	High gain with the mids forward and some spring, for solos that sing and cut through.
GUITAR: Saturated Lead	Gain all the way up and the power stage pushed: thick, sustaining lead with the mic moved off axis to smooth it.

GUITAR: Blues	Clean channel and power stage both pushed for a touch-sensitive, gritty blues tone through the 2x12.
GUITAR: Spring Surf	Bright, low-gain clean drenched in spring reverb, for surf and twang.
GUITAR: Ambient Clean	Soft, smooth clean with plenty of spring, for swells and ambient parts.
BASS: Init	BASS at its default settings.
BASS: DI Clean	Low gain, line out (no cabinet) with 60% DI: a clean, full-range bass for any style.
BASS: Warm Valve	The valve preamp and power stage just working, with a little more low end and a softer top.
BASS: Vintage Round	A round, dark, thumpy tone with the treble cut and the mic off axis, in the style of old-school soul records.
BASS: Growl	Gain up with a mid boost at 800 Hz and 25% DI, for a bass that growls and cuts through the mix.
BASS: Pick Rock	Midrange at 1.6 kHz and ULTRA HI for a bright, punchy picked rock bass.
BASS: Fat Dub	ULTRA LO, lots of BASS and the top end rolled right off: deep, round dub and reggae weight.
BASS: Bright Slap	ULTRA LO and ULTRA HI with scooped mids and 35% DI, for slap and pop.
BASS: Overdriven	Gain and master high for a dirty, overdriven bass, with 30% DI to keep the low end solid.
Reset all to defaults	(Last in the list.) Every control of both models, the MODEL (back to GUITAR) and the shared settings to their starting values.

Tips

- Each model remembers its own settings while you use the other one, so you can set up a guitar sound and a bass sound and switch between them.
- Set CAB to OFF when you want to use your own cabinet plugin or impulse response after the head.
- Use TUNER between takes; remember it mutes the output while it is on.

File: gfx-amp-head.jsfx