

viva Analog

Pro Edition 360+

JC Maillet © 2008-2013

Thank-you for purchasing my rendition of the Acoustic 360 © pre-amplifier // fifteen years in the making ! Starting with my original “fidelity enhancing” output amplifier addition in 1996 the 360+ has gone through a number of revisions to finally arrive at the 2008 “Pro” version. This final version contains a carefully chosen set of modern improvements and extensions over the original design.

The 360+ Pro is a pre-amp system that is intended to drive power amplifiers of any sort, tube or transistor. It can also be used to drive line-level recording equipment, sound cards and other audio devices // though caution needs to be observed when feeding the 360+ output to an instrument level input circuit because of its potentially strong output. And, although primarily used by Bass players, the 360+ can also be used to liven up weaker single-coil pickups typical of older vintage instruments. The classic Acoustic 360/361 combo into a pair of Celestion 12’s totally rocks on guitar!

My improvements over the original Acoustic Control Corp. design are listed as follows: (i) low-noise transistors perfectly duplicating the original Acoustic 360 © signal path, (ii) an augmented version of my op-amp based output amplifier which is used for maintaining fidelity over a wide range of loads, (iii) an optical MUTE function (with LED indicator) allowing safe and convenient swapping of instruments, (iv) an improved/quiet FUZZ switching arrangement, (v) an original BLEND circuit in the fuzz section that allows for dry signal to be mixed in, and (vi) internal DRIVE and LED adjustment trimmers for customized response and look. The Pro Edition 360+ reproduces the punchy and penetrating quality of the original class-A circuit while providing basic add-on features modern players need.

Here’s a rundown of the controls :



MUTE // not-Bypass :

The MUTE foot-switch on the lower right-hand-side dims the output amplifier so the input cord to the preamp can be safely pulled to change instruments. A residual signal is allowed to feed through to confirm the system is alive.

The Main EQ and Volume control section lies on the far right-hand-side of the pedal and affects the signal leading into the output driver stage. This means that clean and fuzz signals both get effected by the tone control circuitry.



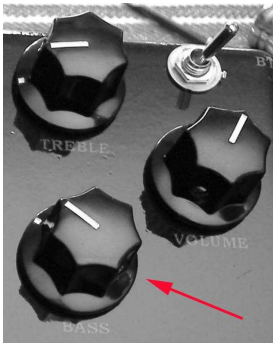
VOLUME :

The VOLUME control lies at the front end of the EQ section and the level that it is set at will determine how hard you drive the circuit with your bass. Active pickups will typically cause the user to set this control lower than with passive ones. The VOLUME control sensitivity is not set by the internal DRIVE trimmer.



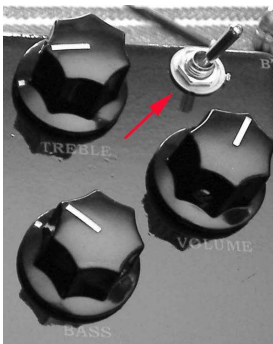
TREBLE :

The TREBLE control is typical of an RCA style tone stack as was common in vacuum tube amplifiers. Unlike the BASS control its control span is even.



BASS :

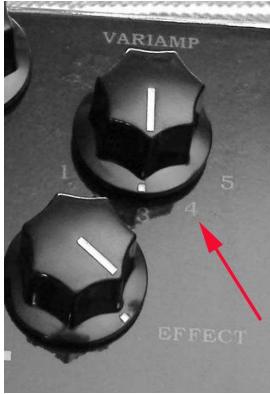
The BASS control is typical of an RCA style tone stack as was common in vacuum tube amplifiers. In this arrangement the BASS control suddenly kicks in at around 20% rotation which is the classic response for this type of circuit. It hasn't been altered to correct this characteristic.



BRIGHT :

The BRIGHT switch imparts a top-end presence to the signal which can vary from subtle to substantial in action depending on how the other EQ and tone functions are set.

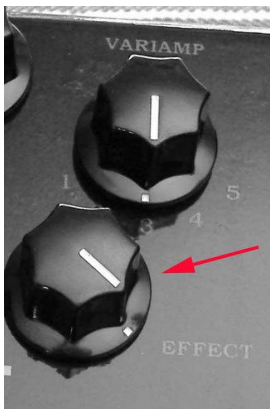
The **VARIAMP** control section lies in the middle part of the pedal and operates in tandem with the main Tone control circuitry. Similar to a wide-band WAH pedal the VARIAMP circuit consists of a semi-parametric single band BANDPASS filter. Again, being tied to the Main Tone circuit means that both clean and fuzz signals get affected by VARIAMP equalization.



POSITION :

The **POSITION** control consists of a five pole rotary switch which selects the center frequency of the VARIAMP filter.

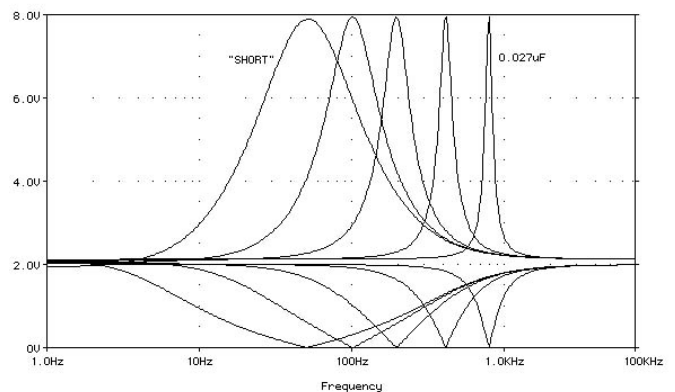
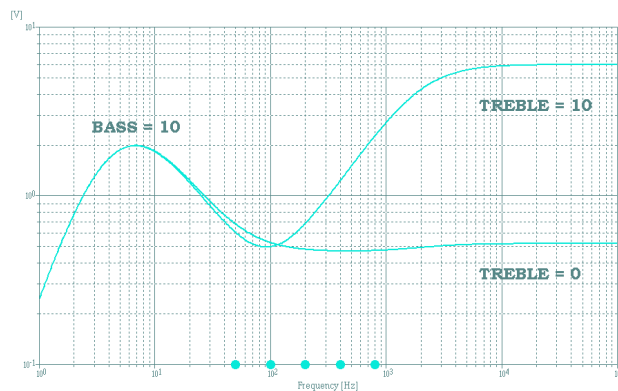
The numbers correspond to the following frequencies :
(1) 50Hz, (2) 100Hz, (3) 200Hz, (4) 400Hz, and (5) 800Hz



EFFECT :

The **EFFECT** control sets the amount of boost or cut at the frequency set by the **POSITION** control. When the **EFFECT** control is set midway at twelve o'clock the response is flat. Counter-clockwise rotation produces attenuation while clockwise rotation produces boost in the selected band. The Pro 360+ produces more boost at extreme rotation compared to the original Acoustic 360 circuit. This allows for original boost/cut levels to occur at lesser rotation and therefore at lesser noise than the original circuit.

NOTE: when the **TREBLE** control is cranked all the way up the top two VARIAMP frequencies don't seem to produce a substantial effect. This normal characteristic of the 360 can be exemplified by noting where the VARIAMP frequencies fit within the response curve of the **TONE** circuit, as seen in the plots below :



The **FUZZ** control section lies on the far left-hand-side of the pedal, above the FUZZ foot-switch, and consists of GAIN, ATTACK and BLEND controls:



GAIN :

The GAIN control independently sets the output level of the FUZZ signal. When the GAIN control is set completely counter-clockwise there will be no FUZZ signal at all.



ATTACK :

The ATTACK control mixes varying amounts of distortion qualities, going between a Silicon (darker) FUZZ sound, at full counter-clockwise rotation; and a Germanium (raspy) FUZZ sound, going clockwise in rotation.



BLEND :

The BLEND control independently sets the level of clean signal added to the FUZZ signal. When the BLEND control is set completely counter-clockwise there is no CLEAN signal added to the fuzz mix. The BLEND affords a x3 boost of input signal for added balls.

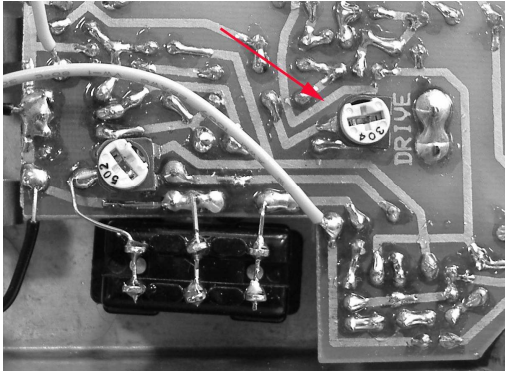


FUZZ Bypass :

The FUZZ bypass foot-switch selects between clean and fuzz modes. It has been reconfigured to shut-off the fuzz when not in use. The feeding network has also been circuit-equivalent modified to avoid producing an electronic “popping” noise.

All in all, the basic essence of the original Acoustic 360 fuzz circuit has been preserved on top of all the enhancements it receives in the Pro Edition 360+

Two user-friendly **TRIMMER** controls can be accessed by removing the back cover of the preamp. A small micro screwdriver can be used here – making sure not to apply much force when turning, especially when reaching the rotation ends.

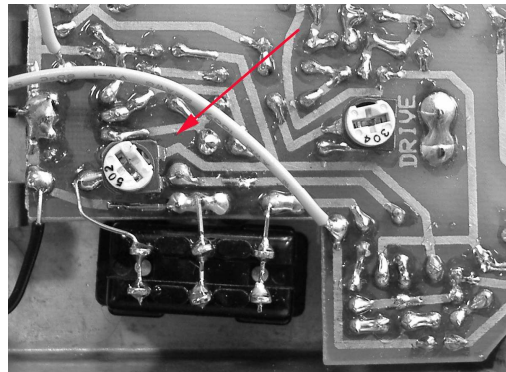


DRIVE :

The DRIVE trimmer sets the gain of the output amplifier stage. The 360+ is shipped with this (now 500k) trimmer set roughly mid-way, yielding common output levels. If you find yourself ever maxing out on the VOLUME control (depending on power amplifier sensitivity) you may want to adjust this trimmer for hotter output drive.

LED Mute-Brightness :

The LED trimmer adjusts the brightness of the LED indicator when the pedal is in MUTE mode. Some players prefer having the LED totally turned off when the circuit is muted while some enjoy having a sign of life. The mute-state LED brightness can be adjusted from full “on” to full “off”. It’s your choice.



AC/DC:

The 360+ is meant to operate on a 24vdc supply voltage that is rated at 200mA with a 2.1mm plug wired center-negative. Please use the same equivalent, or otherwise agreed-to in advance type (when ordering). If the front LED cannot shine bright or dim upon powering please disconnect the external PSU immediately and email me.

CARE:

The Pro Edition 360+ is built with the best components available: 24mm Alpha “amplifier grade” pots; Switchcraft jacks; Lorlin, Carling and C&K switches, a custom wound Cinemag USA Inductor; and a robust Hammond case. A lifetime guarantee comes with the unit provided it is treated fairly.

Thank you for ordering the viva Analog “Pro Edition” 360+ ...☺