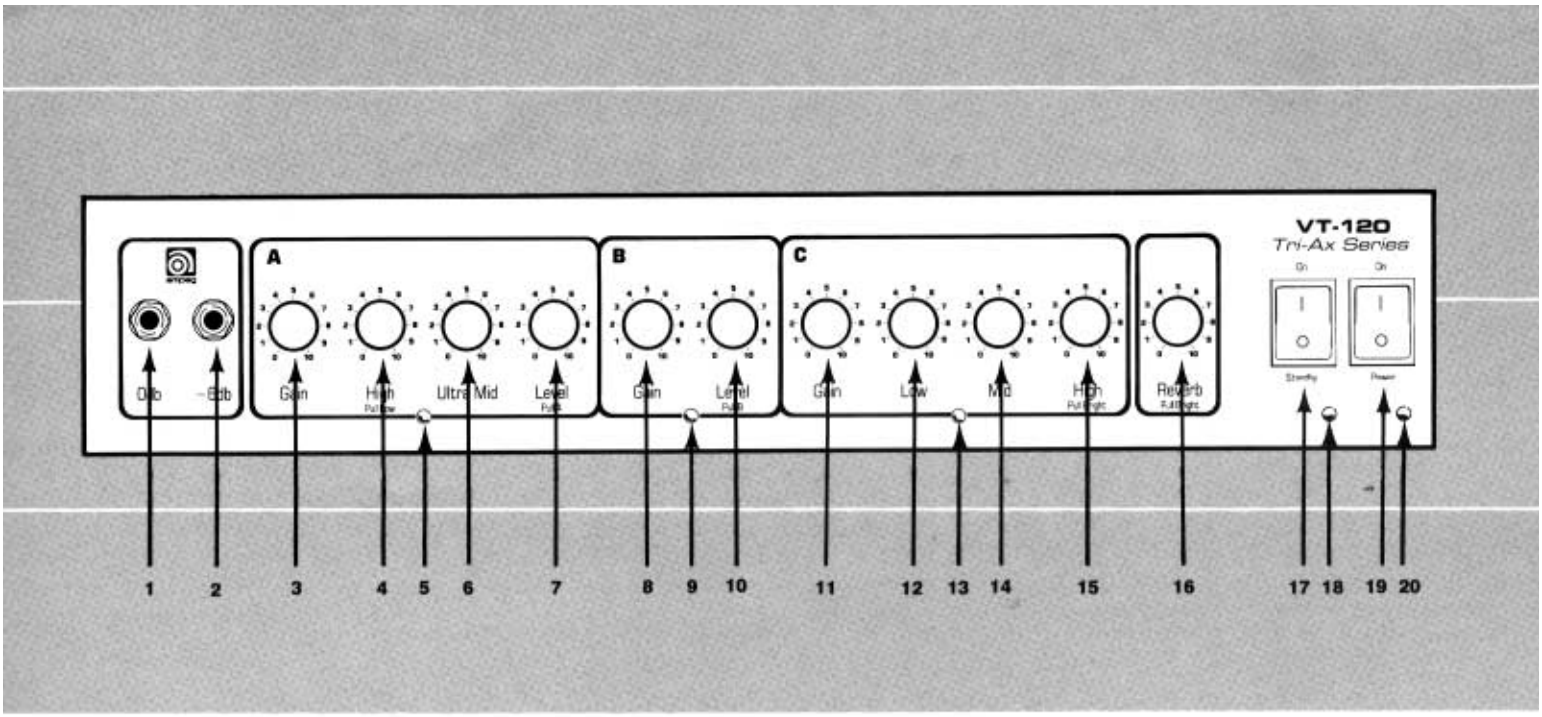

# VT-120 Guitar Amplifier
# Owner's Reference Guide




This Ampeg Tri-Ax Series guitar amplifier features all-tube circuitry with three channel operation. The patent pending preamp design provides minimum control interaction between channels for ease of operation and maximum versatility.

Channel C is the basic clean channel. Channel B is similar, but has the addition of more gain and a Level control. It is also slightly brighter. This channel can be used as a second clean setting with a slight boost for solos. With higher gain settings it can give an "amp on 10" sound for crunch rhythm or bluesy soloing. Channel A is the high gain, overdrive channel, capable of producing everything from cool, jazzy tones to mega-metal assaults.

Further tone shaping is provided by control of damping factor, presence, output power, mode of power tube operation, and reverb; all of which are discussed below.

## Front Panel Features and Operation

**Input Jacks (1 & 2):** Use the 0 dB input (1) for most guitars and for maximum overdrive. The −6dB input (2) can be used for a cleaner sound from hot pickups.

## Channel A

**Gain, High, and Pull Low Boost (3 & 4):** These knobs control the gain and tone of the guitar signal pre-distortion. The Pull Low Boost (4) will have a more dramatic effect with the High control (4) set at less than full up; and both tone controls are more effective with lower settings of Gain (3).

**Ultra-Mid (6):** This knob controls the tone of the guitar signal post-distortion. At "0" there is maximum mid cut, progressively adding mids up to about "7". Further rotation rolls off some of the highs to accentuate the mids even more.

**Level (7):** This knob controls the volume of Channel A. To activate this channel, Pull A and Pull B must be in the out position. The red channel LED (5) will be illuminated.

## Channel B

**Gain (8) and Level (10):** These knobs function the same as in Channel A. The tone controls of Channel C are active for this channel. This channel can range from clean to medium overdrive. The tone controls greatly affect the overdrive character; and so, their setting may need to be different than when using Channel C. To activate this channel, Pull B position must be out and Pull A position must be in. The yellow channel LED (9) will be on.

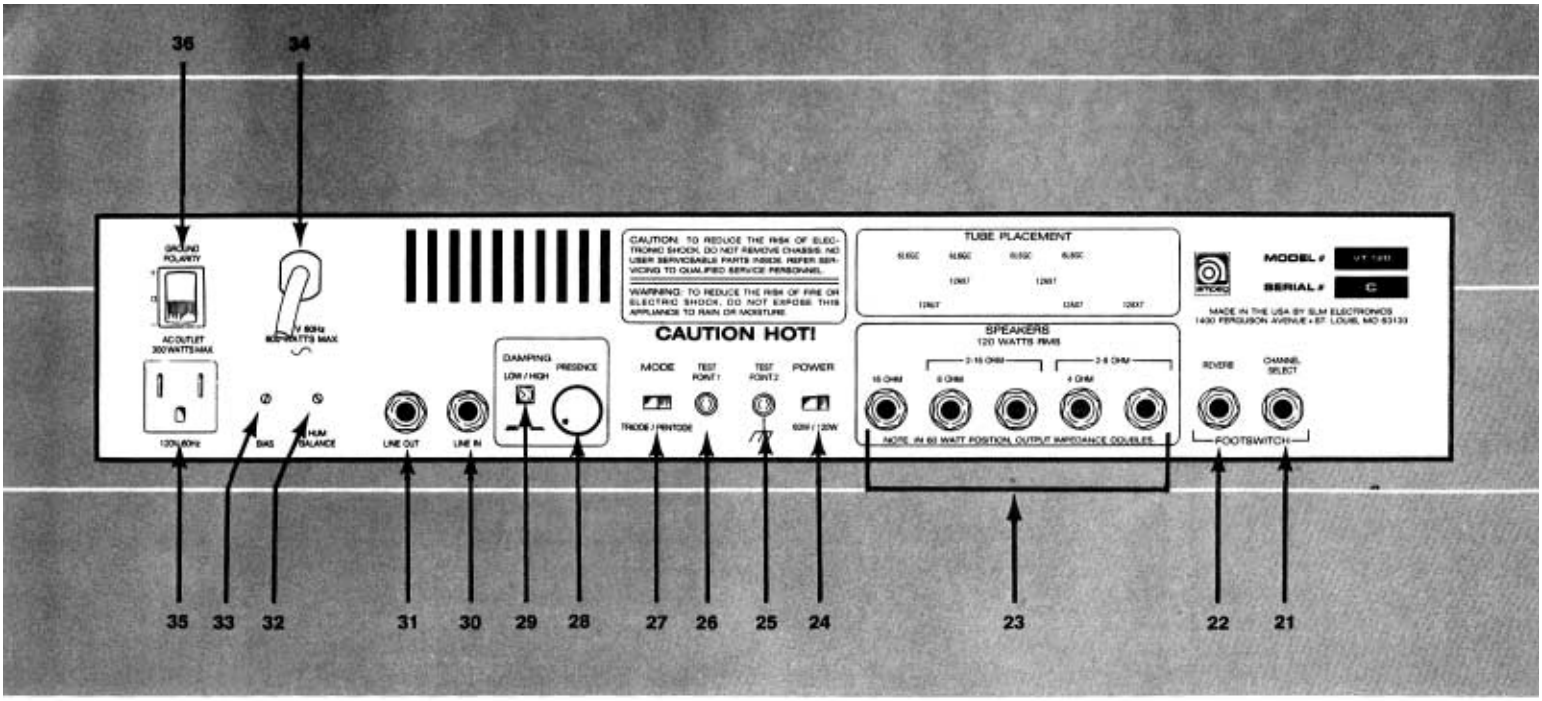
## Channel C

**Gain (11):** This knob is the volume control. To activate this channel,the Pull B (10) position must be in. The green channel LED (13) will be lit.

**Low, Mid, High, and Pull Bright (12, 14, & 15):** These knobs are the tone controls for Channels B and C.

**Reverb (16):** This knob controls the amount of reverb for all channels. With the Pull Bright switch, the reverb can be changed from a traditional deep sound to a brighter sound.

**Standby and Power (17 & 19):** The Standby switch (17) should be left off when the unit is first turned on by the Power switch (19); this allows the tubes to warm up before applying high voltage to them. The Standby switch should also be turned off during short break periods to prolong tube life. The green Standby LED (18) monitors the high voltage to the amp. The red Power LED (20) indicates the unit is on.




## Rear Panel Features and Operation

**Footswitch Jacks (21 & 22):** The Ampeg AFP-4 footswitch (not included) or other standard footswitches can be used to change channels (stereo 1/4" jack) and turn reverb (mono 1/4" jack) on and off. The channel select footswitch (21) overrides the front panel select switches; and the Reverb footswitch (22) allows the reverb to be on/off switchable. The LED's still indicate channel in use. The AFP-4 operates identically to the front panel channel select switches. The middle switch (C) corresponds to the Pull B switch. The left switch (A/B) corresponds to the Pull A switch. The right switch defeats the reverb. The channel LED's duplicate the front panel LED's with the addition of a Reverb LED.

**Speaker Jacks (23):** For maximum power, speakers should be connected to proper impedance speaker jacks. For different tone but lower output power, speakers may be mismatched to the next higher or lower impedance jack with no harm to the amp. Under no circumstances should the amp be operated with no speaker connected as doing so may cause damage to the unit.

Five jacks are provided to allow use of one or two 16 ohm, one or two 8 ohm or one 4 ohm speaker in the appropriately marked jack(s).

**Half Power Switch (24; VT-120 models only):** This switch cuts out two of the output tubes to reduce output power by one-half. To maintain proper speaker impedance match, the speaker(s) should be placed in the next lower impedance jack(s). For example an 8 ohm speaker would be plugged into the 4 ohm output jack when using half power.

**Test Points, Hum Balance and Bias (25, 26, 32 & 33):** These are for use only by a qualified technician.

**Mode Switch (27):** This enables the power tubes to be run in either pentode or triode mode. The pentode mode is the normal full power setting. The triode mode reduces power to 1/3; and the sound is a bit darker. Selecting this mode allows the power amp to be overdriven at a lower volume. On the VT-120 models this switch, along with the half power switch (24), allows four different power levels (20, 40, 60, 120 watts).

**Damping and Presence (28 & 29):** The Damping switch (29) selects the damping factor of the power amp. With low damping, the amp has less control on the speaker, giving a loose sound with boosted highs and lows, With high damping, the amp can better control the speaker, giving a tight, focused sound. In the position, the Presence control (28) is active, allowing high frequencies to be boosted.

**Line In/Line Out Jacks (30 & 31):** This is the patch point between the preamp and power amp. The signal here is at line level for optimum matching to effects units. The Line Out (31) can be used to drive other power amps, etc. Inserting a plug in the Line In jack (30) disrupts the normal connection to the power amp, allowing use as a patch point (with the Line Out) or for using the power amp section alone.

**AC Line Cord (34):** Be sure unit is plugged into a properly wired, grounded power outlet with voltage suitable for the unit. TO REDUCE THE RISK OF ELECTRIC SHOCK, NEVER BREAK OFF OR OTHERWISE DEFEAT THE GROUND PIN ON THE POWER CORD.

**Convenience Outlet and Polarity Switch (35 & 36; US models only):** The Polarity Switch (36) can be positioned for least noise from the AC line. The Convenience Outlet (35) should be used with units drawing no more than 300 watts.

**General:** It is recommended to use high quality tubes (such as Ampeg Hot Rods), especially the two 12AX7's nearest the input. These should be low noise types. For longer tube life, the power tubes (6L6GC) should be closely matched so they can work together, evenly. When replacing power tubes, the whole set should be replaced at the same time. If using the VT-120 in half power condition, the inner pair should be switched with the outer pair from time to time to wear the tubes evenly.

EL34 (6CA7) tubes can be used instead of 6L6GC's. For optimum performance, the amp should be rebiased by a qualified technician. Tube amps get hot! Be sure to operate with adequate ventilation.

## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **OUTPUT POWER RATING** | 60 watts RMS @ 5% THD (VT-60)<br>120 watts RMS @ 5% THD (VT-120) |
| **SPEAKER SIZE AND RATING** | 12" 8 ohm 70 watt Celestion G12T75<br>or Ampeg Custom Design (VT-60)<br>12" 8 ohm 150 watt Celestion Sidewinder 150<br>or Electro-Voice EVM12L<br>or Ampeg Custom Design (VT-120) |
| **INPUT IMPEDANCE** | 0dB 1Megohm<br>−6dB 136k ohms |
| **TOTAL CONTROL RANGE** | |
| **CHANNEL A** | LOW BOOST 10dB @ 100Hz<br>ULTRA-MID 13dB @ 800Hz<br>HIGH 12dB @ 1kHz |
| **CHANNEL B** | LOW 10dB @ 80Hz<br>MID 11dB @ 300Hz<br>HIGH 13dB @ 5kHz<br>BRIGHT 8dB @ 8kHz |
| **TOTAL SYSTEM GAIN** | CHANNEL A 96dB @ 1kHz<br>CHANNEL B 76dB @ 1kHZ<br>CHANNEL C 56dB @ 1kHz<br>(VT-120 add 3dB) |
| **SIGNAL TO NOISE RATIO** | 65db nominal<br>45db worst case |
| **LINE OUT-LINE IN LEVEL** | 0.25 v RMS for full power |
| **POWER REQUIREMENTS** | 300 watts (VT-60)<br>600 watts (VT-120) |
| **SIZE AND WEIGHT** | 20.5"H × 20.75"W × 11.75"D<br>50 lb. max (VT-60)<br>67 lb. max (VT-120) |
| | 12.5"H × 27.5"W × 10"D (head)<br>44 lb. (VT-60H)<br>60 lb. (VT-120H) |
| **TUBE COMPLEMENT** | (4) 12AX7<br>(1) 12AU7<br>(2) 6L6GC (VT-60)<br>(4) 6L6GC (VT-120) |

**CAUTION:** to reduce the risk of electric shock, do not remove chassis. No user serviceable parts inside. Refer servicing to qualified service personnel.

**CAUTION:** This amplifier is capable of producing high sound pressure levels (high volume). Continued exposure to high sound pressure levels can cause permanent hearing impairment or loss. User-caution is advised, and ear protection is recommended when playing at high volumes.

Specifications subject to change without notice.

**We would like to take this opportunity to thank you for selecting an Ampeg product, and to tell you of our commitment to the design and manufacture of only the finest musical instrument amplification equipment; built for you, the musician.**

**You have purchased one of the most innovative sound amplification devices available today. Your Ampeg amplifier gives you more performance features than ever before; features that you, the musician, have asked for.**

**Your Ampeg amplifier is an American product, manufactured at our factory in St. Louis, Missouri. Only the finest available components and materials are used in the manufacture of each amplifier.**

**All Ampeg amplifiers are subjected to seven or more inspection and testing steps to assure you of a high quality product. The final test for each amp is conducted by a trained musician with the instrument for which the amp was designed. Any unit that does not meet the standards of our musician's discriminating ear will not be passed.**

**Since all Ampeg products are designed, developed, and manufactured through the cooperative efforts of engineers and professional musicians, the end result is a product that will serve your needs for years to come.**

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