SVT-CL

Bass Guitar Amplifier

Owner's Manual

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What's in the Box

SVT®-CL Amplifier, Power Cable, Quick Start Guide.

Introduction

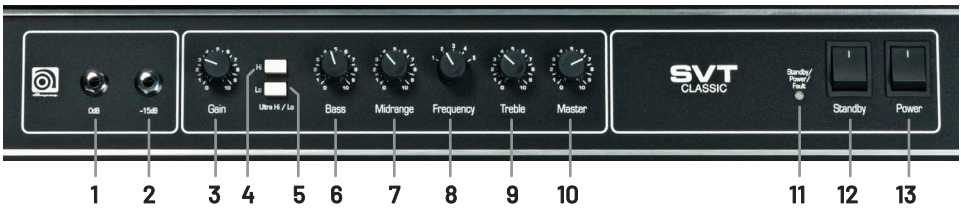
The harmonically rich sound and legendary performance of the classic AMPEG SVT amplifier are redefined in the SVT-CL. This dynamically powerful bass amp delivers a thunderous 300 watts of unsurpassed quality, reliability, and tonal flexibility, offering the classic vibrance of tubes as well as contemporary features. All of the features and controls of your SVT-CL are covered in detail within the pages of this *Owner's Manual* We recommend going over them before you use the amplifier, as well as fully reading and understanding the *Important Safety Instructions* included with your amplifier.

Features

In the world of high performance bass amplifiers, SVT amplifiers stand alone. In true Ampeg tradition, the SVT-CL offers you more power, performance, and flexibility than any other amplifier in its class. Listed below are some of the outstanding features of your new amp: features that set it apart from the competition! Additional information on these features can be found on the pages indicated.

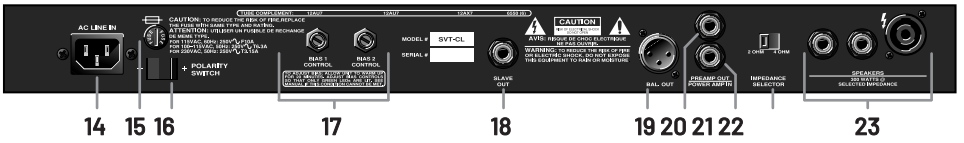
- -15 dB INPUT: This feature is perfect for "active" basses (see page 3).
- ULTRA LO AND ULTRA HI SWITCHES: These enable you to tailor your sound in many different ways at the touch of a button (see page 3).
- 5-POSITION FREQUENCY SELECTOR: Take your pick from the five center frequency points to get just the right midrange voice (see page 3).
- BIAS ADJUSTMENT CONTROLS: These controls allow you to adjust the tube bias for proper operation (see page 4 and page 5) .
- SLAVE OUT: Use for powering another amp from the SVT-CL's preamp (see page 4).

The Front Panel



1. **0 dB INPUT:** This jack accepts the signal from a passive instrument through a shielded instrument cable.
2. **-15 dB INPUT:** This jack accepts the signal from an active instrument through a shielded instrument cable.
3. **GAIN:** This control adjusts the basic level of signal in the preamp.
4. **ULTRA HI:** This switch, when engaged, boosts high frequencies.
5. **ULTRA LO:** This switch, when engaged, provides emphasis to the low end by boosting the low frequencies and selectively cutting the mid frequencies.
6. **BASS:** This is the primary low frequency control. It allows for 12 dB of cut or boost at 40 Hz.
7. **MIDRANGE:** This is the primary midrange control. It allows for 20 dB of cut or 10 dB of boost at the center frequency, as selected by the Frequency control [8].
8. **FREQUENCY:** Allows you to select the center frequency for the Midrange control [7], providing a choice of five "voices" for the Midrange. The center frequencies are (from left to right) 220 Hz, 450 Hz, 800 Hz, 1.6 kHz, and 3 kHz.
9. **TREBLE:** This is the primary high frequency control. It allows for 20 dB of cut or 15 dB of boost at 4 kHz.
10. **MASTER:** This controls the signal level to the power amp and, therefore, the overall listening level. It also controls the level to the Preamp Out jack [21].
11. **STANDBY/POWER/FAULT INDICATOR LED:** This is a multifunction LED. In Standby mode, it glows red. In the On mode (when the high voltage comes on) it glows green. If it does not turn green in the On mode, there is no high voltage present and the unit needs servicing. If the amp detects a fault in the power tube circuit, the high voltage is turned off and the LED flashes between red and green. This usually indicates a bad power tube. The amp will remain in this condition until the unit is turned off.
12. **STANDBY:** The Standby mode allows the tubes to warm, or remain warm, without high voltage being applied to them. This extends tube life. This switch should be OFF when first turning the amplifier on. Allow the unit to warm up for 20 seconds before switching to the ON position. During short periods of non-use, the amp should be put into Standby mode.
13. **POWER:** This supplies AC power to the unit. Turn this switch on before turning on the Standby switch [12], as explained above. This switch must be turned off to reset the amp after a fault condition.

The Rear Panel



14. AC LINE IN: Firmly plug the supplied AC power cord into this socket, pushing it in until it is fully seated. Plug the male end of the cord into a grounded AC outlet.

DO NOT DEFEAT THE GROUND PRONG OF THE AC PLUG!

15. FUSE: This protects the unit from damage due to overload conditions or power line surges. If the fuse blows, replace it only with the same size and type.

16. POLARITY: Place this switch in the position that provides the least electrical buzz from the unit.

17. BIAS SECTION: These two controls and sets of LEDs allow the user to properly bias the power amp. See "Setting Tube Bias" on page 5 for a complete description of how to use this section.

18. SLAVE OUT: This jack receives the same signal that is being sent to the power amp. It is useful for powering another amp (slave) from this unit's preamp.

19. BALANCED OUT: This XLR type jack is the output at the power amp in. Thus, it will include any processing done in the Preamp Out/Power Amp loop [20, 21]. This signal can be used to feed an external power amplifier, mixing console, or house PA system.

20. POWER AMP IN: This jack accepts a signal to be sent to the power amp and the Slave Out jack [18]. Using this jack breaks the path from the signal that was present at the Preamp Out jack [21]. This can be used as a post-Master [10] patch point.

21. PREAMP OUT: This jack carries the post-Master [10] signal. Using this jack does not break the path to the power amp. This signal can be used to feed an external power amplifier, mixing console, or house PA system.

22. IMPEDANCE SELECTOR: Use this switch to match the output impedance of the amp to the speaker(s) being used (2 Ω or 4 Ω). For help in determining the total impedance of your system, consult the table below.

Cabinet Impedance	Number of Cabinets	Total Impedance
2 Ω	1	2 Ω
4 Ω	1	4 Ω
4 Ω	2	2 Ω
8 Ω	2	4 Ω
8 Ω	4	2 Ω

23. SPEAKER OUT: Two 1/4" phone jacks and one Speakon® jack are provided for connecting speakers to the unit. These jacks are wired in parallel to each other. When operating at or near full power, the Speakon jack is recommended for use rather than the 1/4" speaker jacks due to its higher current handling capability.

Use only (non-shielded) speaker cables for speaker connections. Do not use (shielded) instrument cables as they may overheat.

Changing the Tubes

Tube life is directly affected by how often and how hard you play the amplifier. Power tubes should be checked at least once a year—more frequently if you use the amplifier nearly every day. When power tubes wear out, the amplifier will begin to grow weak, lack punch, fade up and down, or lose highs and lows. Power tubes work together in a push/pull configuration and should all be replaced at the same time with a matched or balanced tube set. Your dealer can recommend the best replacement tubes for your amplifier.

Preamp tubes aren't worked as hard as power tubes and typically last longer. When a preamp tube wears out, the amplifier may squeal, get noisy, lose gain and sensitivity, or just quit working. A service center can determine which tube(s) may need replacing.

To access the power tubes in the SVT-CL, the rear screen must be removed and the tube retainer(s) must be moved out of the way. Qualified service persons may follow these steps to change the tubes:

- Turn the amp off, unplug it, and let it cool for at least 5 minutes.
- Remove the screws which hold the perforated metal screen to the rear of the cabinet.
- Set the perforated metal screen aside.
- Remove the tube retainer(s) by lifting them off the tube(s) and moving them to one side.
- Grasp the tube at its top and gently work it out of its socket by rocking it slightly back and forth as you lift upon it.
- When inserting new output tubes, align the tab in the tube's plastic base with the slot in the socket and press the tube gently but firmly into place by pushing down on its top.
- Replace the perforated metal screen and tighten its screws.
- Power up the amplifier and let it sit for at least 20 minutes. Bias the amplifier as directed in the section below.

Setting Tube Bias

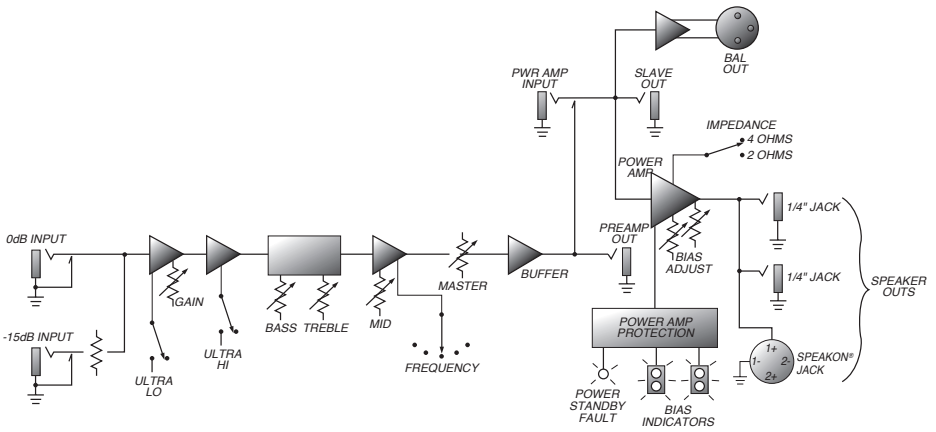
Allow the unit to warm up at proper AC line voltage for at least 20 minutes. With no input signal present, adjust each control so that only the associated green LED is lit. The controls may be slightly interactive. If neither LED is lit, the amp is over-biased. This will result in some distortion in the power amp and a generally thin sound. If the green and red LED are lit, the amp is under-biased and too much current is flowing to the power tubes. This will give a big, full sound but will also reduce the life of the power tubes.

Once set, the controls should not have to be changed except as needed for tube replacement, or to compensate for tube aging. Note that the AC line voltage may vary from place to place and the LEDs will read slightly different. There is no need to fiddle with this every other day. Note that it is normal for the red LEDs to light when there is a signal present. Bias 1 Control adjusts the three left (as seen from the rear) power tubes. Bias 2 Control adjusts the three right power tubes. By observing the LEDs as the Bias Controls are slowly rotated clockwise, a number of tube problems can be diagnosed by the user, as described in the following table.

TUBE BIAS DIAGNOSIS		
Condition	**Problem**	**Solution**
Green comes on, turns red	No problem	The longer the green LED is lit prior to the red LED illuminating, the better matched the set of tubes
Red comes on, then green	Tubes not properly matched	Set slightly prior to when the green LED illuminates. Obtain a matched tube set when possible
Red comes on, no green	One or more tubes are non-functional	Check to make sure tubes are all seated properly; if so, find and replace bad tube(s)
None on	Possibly no high voltage, bad Bias Control, or bad tube(s)	Have unit checked by a service technician
Both on all the time	Possible bad Bias Control or bad tube(s)	Have unit checked by a service technician

If the tubes are bad enough to cause damage to the unit, the Fault Indicator (see #11 - "The Front Panel" on page 3) will signal and the unit will shut down.

Block Diagram



Technical Specifications

Preamp Tube	2 x 12AX7
Driver Tube	1 x 12AX7, 2 x 12AU7 6
Power Amp Tube	x 6550
Output Power Rating	300 Watts RMS minimum continuous @ <3% THD into 2 or 4 Ω, 0.4V RMS input
Signal to Noise Ratio	80 dB (20 Hz–20 kHz, unweighted)
Maximum Gain	67 dB @ 1 kHz, tones centered -3 dB @ 40 Hz and 15 kHz
Tone Controls	Bass: +12/–12 dB @ 40 Hz Midrange: +10/–20 dB @ 220 Hz, 450 Hz, 800 Hz, 1.6 kHz or 3 kHz Treble: +15/–20 dB @ 4 kHz Ultra Lo: +2 dB @ 40 Hz, -10 dB @ 500 Hz Ultra Hi: +9 dB @ 8 kHz
Power Requirements	10 A (Slo Blo), 120VAC, 50-60Hz, 460W (SVTCL) 10 A (Slo Blo), 100VAC, 50-60Hz, 460W (SVTCLJ) 4 A(Slo Blo), 230VAC, 50-60Hz, 460W (SVTCLU) 4 A (Slo Blo), 240VAC, 50-60Hz, 460W (SVTCLW)
Size (H x W x D)	11.5 in/292 mm (with feet) x 24.0 in/610 mm x 13.0 in/330 mm
Weight	80 lb/36.3 kg (approximately)

The SVT-CL amplifier is covered with a durable, fabric-backed vinyl material. Clean with a dry, lint-free cloth. Never spray cleaning agents on the SVT-CL. Avoid abrasive cleansers which would damage the finish.

Ampeg continually develops new products and improves upon existing ones. For this reason, the specifications and information in this manual are subject to change without notice.

Warranty and Support

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