

Please note:

In order to keep the file size small this PDF-File exists only of the internal pages of the original manual which contains the important technical information!

The last page contains a front- and backpanel illustration!

FRONT PANEL

1 INPUT

Unbalanced 1/4" input jack

2 GAIN TIP 1

Input sensitivity control, functions as a pre-gain for both channels

3 BRIGHT (Lo/Hi) TIP 2

Alters the EQ by boosting the upper treble range; effectiveness decreases at higher GAIN (2) settings.

4 RHYTHM BOOST(Lo/Hi) TIP 3

Boosts the sensitivity in the Rhythm channel

5 LEAD

Controls the amount of distortion in the LEAD mode; the GAIN (2) and LEAD controls are used to define the relationship between the Rhythm and Lead signals.

CAUTION: *Extremely high gain and volume levels in the Rhythm and Lead mode can produce strong feedback. Avoid feedback squeals, they lead to hearing loss and damaged speakers!*

6 LEAD BOOST

Boosts the degree of distortion in the Lead channel, with primary emphasis on the bottom end.

7 BASS TIP 4

Bottom end voicing control in the main EQ

8 MIDDLE TIP 4

Mid-range voicing control in the main EQ

9 TREBLE TIP 4

Upper range voicing control in the main EQ

10 HI RANGE SUPPRESSOR TIP 5

This control suppresses mid-/high range frequencies, and defines the control range of the TREBLE (9) feature.

11 VOLUME RHYTHM

Volume control for the Rhythm channel

12 VOLUME LEAD

Volume control for the Lead channel.

13 VOLUME MASTER

Master volume control for power amp output; the feature to switch between two Master volume levels (Hi/Lo-Master Volume) can be accessed by means of a footswitch (See 22)

14 RHYTHM/LEAD

Channel selector pushbutton for the Rhythm and Lead modes, red LED indicates Lead mode is active.

15 PRESENCE RHYTHM

Treble control for the Rhythm channel in the power amp

16 DEPTH BOOST (Lo/Hi)

Bass boost feature for the Rhythm channel in the power amp

17 PRESENCE LEAD

Treble control for the Lead channel in the power amp

18 DEPTH BOOST (Lo/Hi)

Bass boost feature for the Lead channel in the power amp

19 POWER

AC power on/off

REAR PANEL

20 AC SOCKET

Connect AC cord here

ATTENTION: *Ensure you use an intact AC cord with an insulated plug only!
Before you power the amp up, ensure the voltage value printed beside the AC socket corresponds to the available current.*

21 AC FUSE BOX

Contains mains fuse (rear chamber) and spare fuse (front chamber)

NOTE: *Ensure replacement fuses bear identical ratings (refer to the table)!*

22 FOOTSWITCH: RHYTHM/LEAD; VOLUME LEVEL SWITCHING TIP 6

1/4" stereo jack for double footswitches, executes the following functions:

- 1.Channel switching RHYTHM/LEAD (mono terminal)*
- 2.Switching between the two Master volume levels Hi and Lo (stereo terminal)*

23 F.X. LOOP SEND

Signal output for the Effects loop. Connect this output to a signal processor's input/return jack via a shielded cable with 1/4" plugs.

24 F.X.LOOP RETURN

Signal input for the Effects loop. Connect this input to a signal processor's output/send jack via a shielded cable with 1/4" plugs.

25 BALANCE

FX mix control for the Effects loop: Rotate the knob to the DRY position for the pure amp signal, i.e. no effect on the signal. Turn clockwise to blend in an effect connected to the loop to the dry signal (parallel/passive). At the EFFECT position, only the wet signal, i.e. the signal sent from the FX device is fed to the power amp (serial/passive).

NOTE: *If no effects processor is connected to this loop, leave this control in position DRY!*

26 POWER TUBE FUSE

Power tube fuse (E.C.S.) for the left power tube (as seen from the rear of the chassis); LED illuminates when a fuse is defective.

27 POWER TUBE FUSE

Power tube fuse (E.C.S.) for the right power tube; LED illuminates when a fuse is defective.

28 LEVEL

Signal level control for the frequency-corrected line output; it is used to match the amp's signal amplitude at the LINE output to the mixing console or recorder's input.

29 OVERLOAD

This LED denotes the LINE output is overloading; in this case, reduce the signal's amplitude via the LEVEL control.

30 FREQU.-COMPENSATED LINE OUT (BALANCED) TIP 7

The frequency-corrected, balanced LINE output jack (XLR). (Pin 2 and 3 signal, Pin 1 = N.C.). Its signal simulates a 4 x 12" speaker cabinet.

31 POWERAMP OUTPUT: 8 OHM TIP 8

8Z speaker output jack, for the connection of one 8Z cabinet:

32 POWERAMP OUTPUT: 16 OHM TIP 8

16Z speaker output jack for one 16Z cabinet.

NOTE: Never operate the power amp without a sufficient load, otherwise you may damage or destroy the power amp! Ensure your cabinet's specifications match the respective output's specs.

TIP 1

GAIN settings depend on what type of pickups are installed in your guitar. The recommended setting for humbuckers or active pickups lies between the 10 and 1 o'clock positions, and 12 to 3 o'clock for single coils, for a pure clean response. In this case, leave the RHYTHM BOOST pushbutton in the Lo position. More over increased gain will produce a touch of overdrive in the preamp ("light Crunch") that in combination with high volumes (power amp distortion) produces an expressive tone! If your pickups are of the ultra-high output variety (> 1V or 0dB) you may have to back off the guitar's volume to achieve a truly clean tone.

TIP 2

For crisp glassy tones, set the BRIGHT switch to the HI position. This setting boosts the treble response of muddy pickups.

TIP 3

Use the LO position of the RHYTHM BOOST pushbutton for Clean or light Crunch response; the Hi position generates a fantastic Crunch or a powerful Rhythm, depending on then GAIN (2) setting.

TIP 4

To get an idea of this amp's capabilities, we suggest you set all control pots to the 12 o'clock position and then adjust the sound according to your taste, the connected speakers and the room's ambience.

TIP 5

The effectiveness of the HI RANGE SUPPRESSOR depends on the setting of the TREBLE control; the higher its level is set, the higher the efficiency of the H.R.S. The frequency range it operates in, is between 1 kHz and 2,5 kHz; i.e. reach different sonic shapes in the Lead mode by means of the H.R.S. control: a smooth or a hard and metallic lead tone character, especially in combination with higher TREBLE control settings.

TIP 6

The switching functions *CLEAN / LEAD (14)*, and the *(MASTER) VOLUME LEVEL SWITCHING* can also be executed via a Looper/switcher or other MIDI devices that feature 2 freely-programmable switching inputs. Depending on the type of MIDI device, you may have to split the *FOOTSWITCH* stereo jacks into two mono jacks. Each switching function requires the mono or stereo contact (see 22 for assignments) and the ground!

NOTE! If the switching and signal grounds are identical in the MIDI device, then you may encounter a ground loop, especially if the amp and device (e.g. FX processor) exchange signals!

TIP 7

The *LINE OUT*'s output level is influenced by the following factors: By the input level (*GAIN*), the *VOLUME* control settings for the various channels, to some degree by voicing control settings, and by the *MASTER* volume level. First dial in the desired sound combination at the front panel. Then adjust levels for FX devices and signal processors (if connected). Now use the *LEVEL* control to adjust the level. The *LINE* output is not overloaded until the *OVERLOAD LED* illuminates brightly and continuously. You can push the level up to this point to match a mixing console or recorder's input level requirement. Use the respective device's input sensitivity or gain control to fine-tune level adjustments.

TIP 8

This amp is designed for one speaker cabinet (8 or 16 Z). If you decide to connect additional speakers, ensure you keep the overall impedance in mind! For instance, if you want to connect two 8Z systems, you must first connect them in series and then to the amp's 16Z output. The *ENGL Speaker Cabinet Extension* offers a number of options, right up to four cabinets.

Attention! Please read the following!

- **This amplifier can produce high volume levels.**
Exposure to high volume levels may cause hearing damage!
- **Leave tube replacement and power amp biasing to qualified professional.**
Be sure the unit is switched off and unplugged!
- **Caution! Tubes can get very hot and cause skin burns.**
- **Always use high quality cables.**
- **Never operate the amp through an ungrounded outlet!**
- **Never bridge a defective fuse and be sure replacement fuses feature identical ratings!**
- **Pull the AC mains plug before replacing fuses!**
- **Never open the chassis or attempt repairs to your own. Consult qualified service personnel!**
- **Never expose the amplifier to extreme humidity or dampness!**
- **Please read the instructions carefully before operating the unit!**

Technical Data

Rated power:	60 W
Power Outlet Impedances :	8Z, 16Z
Minimum Input level:	- 45 dB
Maximum Input Level:	+ 1,5 dB
Effects loop:	SEND - 10 dB (average), 0 dB (max.) RETURN + 3 dB (max.)
LINE output:	+ 6 dB (at 1kHz!)

Levels are based on 0db => 1 V eff, measured at 1kHz.

Tubes:	V1 -> ECC83/7025 F.Q.
	V2, V3 -> ECC83/12AX7 selected
	V4 -> ECC83/12AX7 standard
	V5, V6 -> EL 34 /6CA7 matched sets

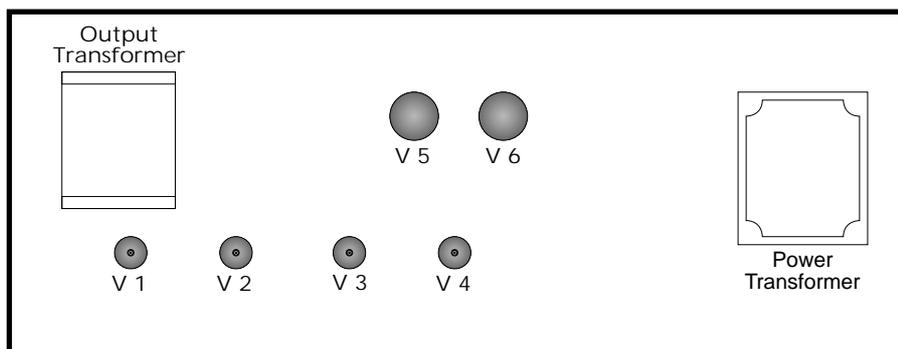
Fuses:	AC mains: 230 Volts	100 and 120Volts
	external 1,25 AM	2,5 AM (medium)
	internal 1,6 AT	3,15 AT (slow)
	Power tubes (ECS): 2 x 160 mAM	

Dimensions: (l x h x d) 60 x 24 x 25 cm (23,6 x 9,5 x 9,8 ")

Weight: app. 15 kg

We reserve the right to make unannounced technical upgrades.

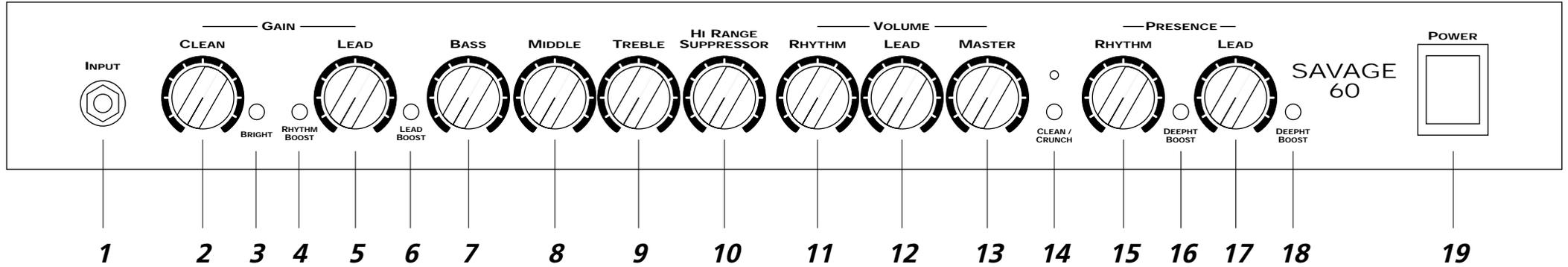
Tube array:



E C S (Emergency Circuit System):

This circuit ensures the amplifier does not shut down completely when a single power tube fails. The amp continues to perform at approx. 1/3 of the rated power, depending on the type of defect. Gas developing in the power tubes can cause a momentary short circuit. The fuse activates, but the amp is not shut down! Often the tube absorbs the developed gas, and is operable after a short circuit. Sometimes the problem can be rectified by replacing the fuse, but if the new fuse activates as well, the defective power tube needs to be replaced.

FRONT PANEL



REAR PANEL

