

OPERATOR'S MANUAL



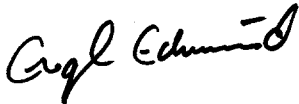
SAVAGE 120

Please, first read this manual carefully!

Congratulations!

You chose a first rate product, the **ENGL SAVAGE 120**, a quality all-tube head that sets the standard for sound technology and versatility in the high-end sector.

This amp is the product of a concentrated effort; all of us here at ENGL invested all our experience and innovative ideas in the design and construction of this amp. You are now the owner of one of these quality heads and we, the ENGL-Crew, think congratulations are definitely in order:



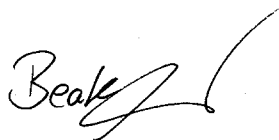
EDMUND ENGL

Product concept and realization, production and assembly line design, mechanical construction and electronic layout (via CAD), soundcheck, production control



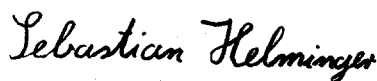
HORST LANGER

Idea, concept, technical and electronic design, acoustic research, electronic finishing and authoritypist of this operator's manual



BEATE AUSFLUG

Procurement, sales and financing



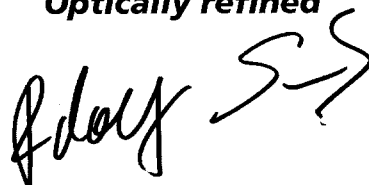
Production, initial operation and quality control, bureau

Other project contributors included:



DETLEV MEINERZ, DIRK HESSE,

Optically refined



ALEX AUER (Shyboy), RUDOLF SCHENKER (Scorpions)

Sound quality check during R&D phase

and a special "Thank you!", to EGON and KÄTHE ENGL, whose efforts made this project possible.

The **ENGL SAVAGE 120** is on the cutting edge of modern guitar technology, it boasts a number of efficient features and operating modes: four channels; Clean, Crunch 1, Crunch 2 and Lead assigned to two main channels, each featuring an individual voicing section. Four gain pots and a separate volume control for each channel allow for precision-tuning between channels. The Rough/Smooth mode selector for the Crunch 2 and Lead channels is a unique innovation: It generates two completely different types of overdrive which produce two distinctive tonal variations. This feature plus the four channels lets you access six individual sound modes! Additionally, diverse switching functions allow you to shape the main channel's tonal characteristics to your taste. The power amp's two voicing sections and two master volume controls have proven to be both practical and effective. These, along with the channels, can be selected and accessed via the front panel, a footswitch, a MIDI switching system or the **ENGL MIDI Interface** (optional).

This amp also features a number of signal paths: a passive parallel/serial (!) FX loop for each main channel or a switchable master FX loop, a variable balanced line out featuring speaker simulation and an overload LED, and precision-tuned 4, 8 and 16Z speaker outputs for numerous cabinet connection options.

The integrated **ECS (Emergency Circuit System)** protects the amp from damage due to power tube defects/failure and ensures the amp continues to function, albeit with reduced power. Intelligent design features, superior craftsmanship and finishing and quality components are what this device is all about.

However keep in mind, that a few precautions will radically extend tube life (**see handling and care guidness**).

PLEASE NOTE:

Read the Operator's Manual carefully and thoroughly, especially the following Handling and Care section as well as the **framed** guidelines. Avoid operating errors and potential damage to the amp by heeding the guidelines and cautionary remarks in this manual. The **footnotes** also cover a few **convenient pointers** and **interesting tips** on several functions. These are listed at page 11 and 12 of the manual.

This manual contains a great deal of information. It covers all the features, operational guidelines, technical specifications and many helpful hints and tips. It should answer all your questions, so keep it in a safe place and refer to it when necessary.

Handling and Care

- Protect the amp from mechanical knocks (tubes!).
- Let the amp cool down before you transport it (app.10 minutes).
- Tubes need about 30 seconds to warm up after you switch the power on.
- Avoid storing the amp in damp or dusty rooms, they are hard on jacks, switches and potentiometers.
- Ensure air can circulate at the front and top of the amp to allow for adequate cooling (increases component life).
- Never operate the power amp without an adequate load.
- Replace tubes with **select ENGL replacement tubes** (special selection criteria) to avoid microphonic properties, undesirable noise and unbalanced performance.

Fold out the middle page with Front- and Backpanel illustration!

FRONT PANEL

EXPLANATION:

MCH 1 (Main Channel 1)

Pushbuttons / Controls marked with MCH 1 are assigned to Main Channel 1 and only active in this channel

MCH 2 (Main Channel 2)

Pushbuttons / Controls marked with MCH 2 are assigned to Main Channel 2 and only active in this channel

P.A.Section (Power Amp Section)

Pushbuttons / Controls marked with P.A. Section are assigned to the Power Amp Section and only active in this section

1 SENS. (Lo/Hi) TIP 1

MCH 1 • Input sensitivity for Main Channel 1 (Clean und Crunch 1)

2 BRIGHT (Lo/Hi) TIP 2

MCH 1 • Alters the EQ by boosting the upper treble range; effectiveness decreases at higher GAIN (3) settings.

3 GAIN TIP 3

MCH 1 • Input sensitivity control for the Clean and Crunch 1(Light Crunch) channel

4 PRESHAPE

MCH 1 • Two different filtering characteristics can be preset:

OFF position: reduces bottom end and boosts midrange

ON position (pushed in): boosts bass and treble, cuts midrange in the 300 to 1200 Hz range.

5 CRUNCH1 GAIN TIP 4

MCH 1 • Additional sensitivity control feature for the Crunch 1 mode; allows you to increase and decrease the signal level for the Crunch 1 (Light Crunch) and balance its Gain in relation to Main Channel 1's GAIN (3) setting.

6 BASS TIP 5

MCH 1 • Bottom end voicing control for Main Channel 1.

7 MIDDLE TIP 5

MCH 1 • Mid-range voicing control for Main Channel 1

8 TREBLE TIP 5

MCH 1 • Upper range voicing control for Main Channel 1

9 CONTOUR TIP 6

MCH 1 • EQ alteration in Main Channel 1's voicing section; voicing control features response differently when the contour feature is active; affects two midrange frequencies:

OFF position: boosts lower midrange (around 500 Hz)

ON position (pushed in): boosts upper midrange (from 1200 Hz upwards) and cuts lower midrange

10 CLEAN VOL.

MCH 1 • Volume control for the Clean channel.

11 CLEAN/CRUNCH 1

MCH 1 • Channel selector pushbutton for the Clean and Crunch 1 modes:

OFF position: the Clean channel is active when the CHANNEL pushbutton (32) is in the OFF position (Main Channel1);

ON position (pushed in): the Crunch 1 channel is active when the CHANNEL pushbutton (32) is in the OFF position (Main Channel1);

an LED located next to the respective channel's volume control illuminates when the channel is activated:

Clean channel: green LED;

Crunch 1 channel: yellow LED

This feature can also be switched via the MIDI INTERFACE PORT (40), or the footswitch jack (41) (stereo terminal); the channel selector pushbutton is deactivated once a footswitch is connected to the footswitch jack (41).

12 CRUNCH 1 VOL.

MCH 1 • Volume control for the Crunch 1 channel.

13 MIDI MODE

This red LED illuminates when the ENGL MIDI INTERFACE is connected and activated; the LED flashes when the amp is operating in the MIDI mode.

14 PRESENCE A

P.A.Section • Treble control A in the power amp

15 DEPTH BOOST (Lo/Hi)

P.A.Section • Boosts the bottom end at 80Hz at + 6 dB in the power amp; this pushbutton is assigned to the PRESENCE A control.

16 PRES. A/B

TIP 7

P.A.Section • Switches between PRESENCE A and PRESENCE B; the active PRESENCE control is identified by the illuminated LED, next to the respective control:

PRESENCE A (14) and DEPTH BOOST (15): red LED

PRESENCE B (17) and DEPTH BOOST (18): green LED

This feature can also be switched via the MIDI INTERFACE PORT (40), or the footswitch jack (43) (stereo terminal); the PRESENCE A/B pushbutton is deactivated once a footswitch is connected to the footswitch jack (43).

17 PRESENCE B

P.A.Section • Treble control B in the power amp

18 DEPTH BOOST (Lo / Hi)

P.A.Section • Boosts the bottom end at 80Hz at + 6 dB in the power amp; this switch is assigned to the PRESENCE B control.

19 INPUT

Unbalanced 1/4" input jack

20 GAIN.....

TIP 8

MCH 2 • Input sensitivity control for the Crunch 2 (Heavy Crunch) and the Lead channels; it determines the amount of overdrive in the Heavy Crunch channel.

21 LEAD BOOST

MCH 2 • Boosts the degree of distortion in the Lead channel, with primary emphasis on the bottom end.

22 LEAD

MCH 2 • Controls the amount of distortion in the LEAD mode; the GAIN (20) and LEAD controls are used to define the relationship between the heavy Crunch and Lead signals.

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

23 CONTOUR TIP 6

MCH 2 • EQ alteration in Main Channel 2's voicing section; voicing control features response differently when the contour feature is active; affects two midrange frequencies:

OFF position: boosts lower midrange (around 500 Hz)

ON position (pushed in): boosts upper midrange (from 1200 Hz upwards) and cuts lower midrange.

24 BASS TIP 5

MCH 2 • Bottom end voicing control for Main Channel 2

25 MIDDLE TIP 5

MCH 2 • Mid-range voicing control for Main Channel 2

26 TREBLE TIP 5

MCH 2 • Upper range voicing control for Main Channel 2

27 HI BALANCE

MCH 2 • Treble balance control, operable in the Smooth mode only.

This control allows you to boost or cut the high end in relation to the amount of treble determined by the TREBLE setting.

28 ROUGH / SMOOTH TIP 9

MCH 2 • Switches between two completely unique overdrive characteristics:

ROUGH: emphasis on high and low ends.

SMOOTH: emphasis on midrange, suppresses the gritty upper frequencies;

red LED above the switch denotes the SMOOTH mode is active;

this feature affects both channels, Crunch 2 and Lead, and can also be switched via the

MIDI INTERFACE PORT (40), or the footswitch jack (42) (stereo terminal);

the ROUGH / SMOOTH pushbutton is deactivated once a footswitch is connected to the footswitch jack (42).

29 CRUNCH 2 VOL.

MCH 2 • Volume control for the Crunch 2 channel.

30 CRUNCH 2 / LEAD

MCH 2 • Channel pushbutton for the Crunch 2 and Lead modes

OFF position: Crunch 2 channel is active, when the CHANNEL pushbutton (32) is in the ON position (Main Channel 2).

ON position (pushed in): Lead channel is active, when the CHANNEL pushbutton (32) is in the ON position (Main Channel 2).

This feature can also be switched via the MIDI INTERFACE PORT (40), or the footswitch jack (42) (mono terminal);

the channel selector pushbutton is deactivated once a footswitch is connected to the footswitch jack (42).

31 LEAD VOL.

MCH 2 • Volume control for the Lead channel.

32 CHANNEL

Main Channel selector pushbutton;

selects Main Channel 1 or 2 and, depending on the other channel selector pushbutton settings (11 and 30), activates the Clean, Crunch 1, Crunch 2 or Lead channels.

OFF position: Main Channel 1 (Clean or Crunch 1)

ON position (pushed in): Main Channel 2 (Crunch 2 or Lead)

This feature can also be switched via the MIDI INTERFACE PORT (40), or the footswitch jack (41) (mono terminal);

the channel selector pushbutton is deactivated once a footswitch is connected to the footswitch jack (41).

33 MASTER A

P.A.Section • Master volume A for power amp output.

34 MASTER A/B TIP 10

P.A.Section • Switches between MASTER A and MASTER B;

the active MASTER control is identified by an LED next to the respective control:

MASTER A (33): red LED

MASTER B (35): green LED

This feature can also be switched via the MIDI INTERFACE PORT (40), or the footswitch jack (43) (mono terminal);

the MASTER A/B pushbutton is deactivated once a footswitch is connected to the footswitch jack (43).

35 MASTER B

P.A.Section • Master volume B for power amp output.

36 STANDBY

Power amp standby switch.

37 POWER

AC power on/off

REAR PANEL

38 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 above the AC socket corresponds to the available current.

39 AC FUSE BOX

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

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

40 MIDI INTERFACE PORT TIP 11

You can connect the ENGL MIDI INTERFACE to this jack (Sub D, 25 pins) and then execute channel selection functions (11), (30), (32), Rough/Smooth (28) Overdrive mode selection, Presence A/B (16) switching and Master A/B (34) switching via MIDI. You can also save the switch settings. The MIDI MODE LED (13) illuminates when the interface is active. Flashing LEDs denote the amp is operating in the MIDI mode.

WARNING: NEVER connect any other device (computer, printer, etc.) to this jack; it will destroy the device and possibly damage the amp!

41 FOOTSWITCH: CHANNEL 1 / CHANNEL 2, CLEAN / CRUNCH 1 TIP 12

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

1. Main Channel switching 1/2 (mono terminal)
2. Channel switching CLEAN / CRUNCH 1 (stereo terminal)

42 FOOTSWITCH: CRUNCH 2 / LEAD, ROUGH / SMOOTH TIP 12

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

1. Channel switching CRUNCH 2 / LEAD (mono terminal)
2. Sound mode switching ROUGH / SMOOTH (stereo terminal)

43 FOOTSWITCH: MASTER A / B, PRESENCE A / B TIP 12

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

1. Switching between MASTER A / B control (mono terminal)
2. Switching between PRESENCE A / B control (stereo terminal)

44 LOOP SELECTION

This pushbutton assigns the two FX loops to the two Main Channels:

OFF position: MASTER LOOP (common FX loop), activates the FX.LOOP CH.1 (common signal processor for all channels)

ON position (pushed in): CH 1 / CH 2 selection (separate FX loops), FX LOOP CH.1 is active for Main Channel 1, FX LOOP CH.2 is assigned to Main Channel 2 (different signal processors for the two main channels).

45 SEND

Signal output for the MASTER LOOP or Main Channel 1's FX loop (depending on selector pushbutton setting 44). Connect this output to a signal processor's input / return jack via a shielded cable with 1/4" plugs.

46 RETURN

Signal input for the MASTER LOOP or Main Channel 1's FX loop (depending on selector pushbutton setting 44).

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

47 BALANCE

FX mix control for the MASTER / CH.1 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 LOOP 1 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!

48 SEND

Signal output for Main Channel 2's FX loop (only active when the selector pushbutton 44 is set to CH 1 / CH 2). Connect this output to the signal processor you want to assign to Main Channel 2. Connect it to the processor's input / return jack via a shielded cable with 1/4" plugs.

49 RETURN

Signal input for Main Channel 2's FX loop (only active when the selector pushbutton 44 is set to CH 1/CH2). Connect this input to the signal processor you want to assign to Main Channel 2. Connect it to the processor's output / send jack via a shielded cable with 1/4" plugs.

50 BALANCE

FX mix control for the CH.2 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 LOOP 2 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!

51 POWER TUBE FUSE

Power tube fuse (E.C.S.– description at page 13) for the left power tube (as seen from the rear of the chassis); LED illuminates when a fuse is defective.

52 POWER TUBE FUSE

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

53 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 mixer desk's or recorder's input.

54 LINE OUT SELECTION TIP 13

Selects the LINE output mode:

OFF position: POWER AMP; the LINE signal is fed from the power amp output, (STAND BY activated!)

ON position (pushed in): the LINE signal is fed from the Savage 120's preamp.

55 OVERRIDE

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

56 LINE OUTPUT TIP 14

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.

57/58 POWER AMP OUTPUT: 4 OHM PARALLEL

4Z speaker output jacks, internal parallel signal path for the connection of one 4Z or two 8Z cabinets.

59/60 POWER AMP OUTPUT: 8 OHM PARALLEL

8Z speaker output jacks, internal parallel signal path for the connection of one 8Z or two 16Z cabinets.

61 POWER AMP OUTPUT: 16 OHM

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! If you want to feed a signal from the preamp (e.g. via LINE OUT) without driving a speaker cabinet, ensure you switch the amp to the STANDBY (36) mode!

Ensure your cabinet's specifications match the respective output's specs.

Choose only one of the following cabinet options:

- A. One 4 Z cabinet to a 4 Ohm jack
- B. Two 8 Z cabinets to the 4 Ohm jacks
- C. One 8 Z cabinet to a 8 Ohm jack
- D. Two 16 Z cabinets to the 8 Ohm jacks
- E. One 16 Z cabinet to the 16 Ohm jack

TIP 1

In the Lo position, the SENSITIVITY pushbutton (1) reduces the input signal level: It may be necessary to utilize this switching feature for a pure clean response when using guitars with high output signals (humbuckers or active systems). This feature influences Main Channel 1 only so you can still overdrive Main Channel 2 to your heart's content.

TIP 2

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

TIP 3

Use the GAIN control for fine-tuning the amp to the diverse pickup configurations. Once you have located the optimum SENS. (1) setting, adjust the GAIN (3): For clean sounds set it to the 12 to 3 o'clock range, anything above will give you a warm, lightly overdriven tone.

TIP 4

The Crunch 1 or Light Crunch channel is ideal for marginal to medium distortion with a pronounced emphasis on the mid- and upper ranges. Response is extremely dynamic; mildly overdriven sounds can be attained at CRUNCH 1 GAIN (5) settings between 11 and 2 o'clock. Rotate the knob clockwise for more powerful rhythm crunch. Furthermore you have the option of dialing in a different clean sound (reduced bass response) in the Crunch 1 channel, by adjusting the GAIN (3) control between 1 and 2 o'clock, and the Crunch 1 GAIN (5) between 10 and 11 o'clock positions.

TIP 5

To get an idea of this amp's capabilities, we suggest you set all tone 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 6

Switch the CONTOUR control OFF for a warm tone with a pronounced emphasis on the lower midrange; the tone retains its warmth even when the TREBLE control is rotated past the 12 o'clock position. Push the CONTOUR pushbutton for a more transparent sound. For a metallic-sounding high end, activate the ROUGH mode and turn up the TREBLE control in the Crunch 2 and Lead channels.

TIP 7

The two power amp's Presence and Depth EQ shaping features are the ideal complements to the preamp's voicing sections in the two main channels. Here is a sample application: PRESENCE A (14) in the 1 to 4 o'clock range for the Clean channel, and/or the SMOOTH mode in Main Channel 2 and switch the DEPTH BOOST (15) on (depending on your cabinet's bass response). PRESENCE B (17) in the 10 to 1 o'clock range, DEPTH BOOST switch (18) in the OFF position for the Light Crunch channel and and/or Main Channel 2's ROUGH mode.

TIP 8

GAIN control settings in the 10 to 2 o'clock range elicit medium distortion from the heavy Crunch channel; higher GAIN levels generate sufficient overdrive for lead playing. The heavy Crunch channel packs a powerful bottom-end punch, especially in the ROUGH mode.

TIP 9

The ROUGH sound mode character is great for rhythm playing with a pronounced bottom end and gritty, biting highs. You should use the BASS knob (24) and the DEPTH BOOST pushbutton (15) (18) sparingly in conjunction with this feature; 11 to 1 o'clock and DEPTH BOOST to OFF are sufficient for cabinets with a good bass response. The SMOOTH sound mode character is most effective for lead playing. In spite of its creamy tube tone, its pronounced mids deliver enough punch to cut through! Cut back on the GAIN, HI BALANCE and PRESENCE settings to avoid undesirable feedback if you play at extremely high volumes.

TIP 10

Use the MASTER control (33) and (35) to preset and access two different master volumes, for instance for each channel or for the ROUGH and SMOOTH modes.

TIP 11

The ENGL MIDI INTERFACE offers even more comfortable handling features and loads of interesting combinations. This interface allows you to switch the six defined functions via a MIDI stage board. You can also save diverse sound combinations as presets in up to 99 MIDI memory locations, assign polychannels 1-8 via the interface and control another ENGL device (e.g. another amp)

TIP 12

The switching functions CLEAN / CRUNCH 1 (11), CRUNCH 2 / LEAD (30), CHANNEL (32), ROUGH / SMOOTH (28), PRESENCE A / B (16) and MASTER A / B (34) can also be executed via a Looper/switcher or other MIDI devices that feature 6 freely-programmable switching inputs. Depending on the type of MIDI device, you may have to split the FOOTSWITCH stereo jacks into six mono jacks. Each switching function requires the mono or stereo contact see 41, 42, 43 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 13

The LINE OUT's output level is influenced by the following factors:

1. in the PREAMP setting, by the input level (SENS./GAIN), the VOLUME control settings for the various channels and to some degree by voicing control settings.
2. in the POWERAMP setting, as above with the addition of the MASTER settings.

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 OVERRIDE LED illuminates brightly and continuously.

You can push the level up to this point to match a mixer desk's or recorder's input level requirement. Use the respective device's input sensitivity or gain control to fine-tune level adjustments.

TIP 14

The SAVAGE 120's preamp and power amp supply two different signals:

The PRESENCE control, the DEPTH BOOST switch, the pair of power tubes and the output transformer in the power amp stage influence the final tone. You may need to adjust the voicing controls at your amp, mixer desk or recorder when identical tones are desirable.

Attention! Please read the following!

- **This Amp is in a position, to produce high volume levels.**
Exposure to high volume levels may cause hearing damage!
- **Leave tube replacement and power amp biasing to a qualified professional.**
Ensure 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 ensure replacement fuses feature identical ratings!**
- **Pull the AC mains plug before replacing fuses!**
- **Never open the chassis or attempt repairs on 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: 120 W
 Power Outlet Impedances: 4Z, 8Z, 16Z
 Input level: SENSE Hi - 44 dB
 SENSE Lo + 37 dB

Maximum Input Level: SENSE Hi - 2 dB
 SENSE Lo + 5 dB

Effects loop: SEND - 10 dB (average)
 - 3 dB (max.)
 RETURN + 3 dB (max.)

LINE output: - 3 dB (at 1kHz!)
 + 6 dB (max.)

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

Switching voltage / -current at the footswitch jacks app. 24 V / 20 mA for each switching operation

Tubes: V1 -> ECC83/7025 F.Q.
 V2, V3, V4 -> ECC83/12AX7 selected
 V5, V6 -> ECC83/12AX7 standard
 V7, V8 -> KT88 matched sets

Lighting: 15 Watt/230 V in the 230 Volt model
 15 Watt/110 V in the 100 and 120 Volt model (export)

ATTENTION: Ensure you never use a bulb rated higher than 15 watts!

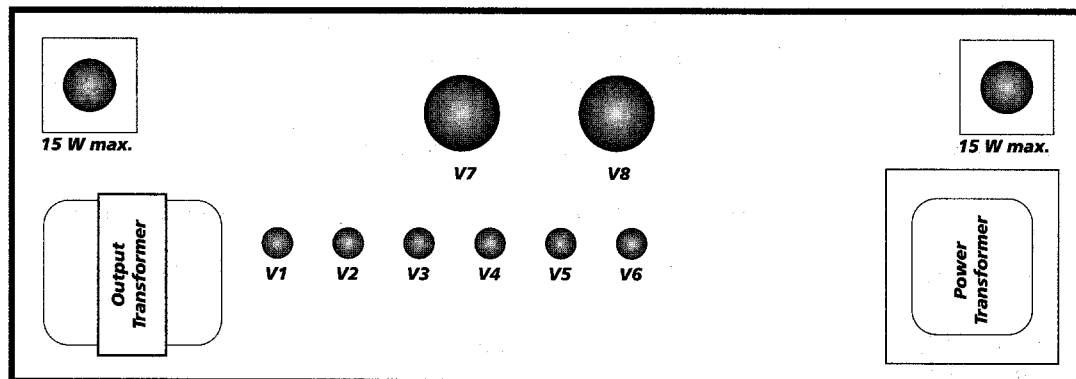
Fuses: AC mains: 230V version 100V and 120V version
 external 2,5 AM 5 AM (medium)
 internal 3,15AT 6,3AT (slow)
 Power amp (ECS): 2 x 315 mA

Dimensions: (l x h x d) 71 x 27 x 27 cm

Weight: app. 19 kg

We reserve the right to make unannounced technical upgrades.

Tube array:



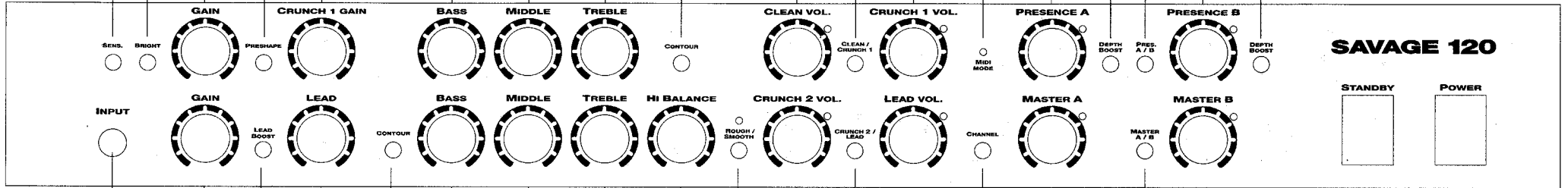
Front

E C S (Emergency Circuit System):

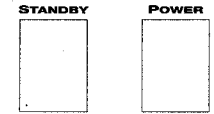
This circuit ensures the amplifier does not shut down completely when a single power tube fails. The amp continues to perform at app. 1/3 of the rated power, depending on the type of defect. Gas developing in the power tubes can cause a momentary short circuit. The fuse activates, but the amp is not shut down! Often the tube absorbs the developed gas, and is operable after a short circuit. Usually 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.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

FRONT PANEL

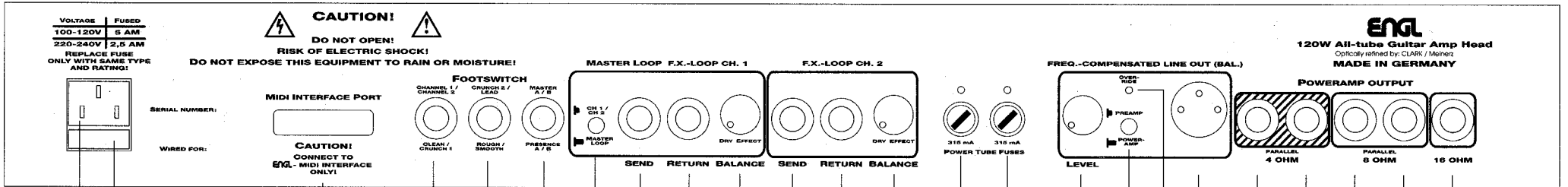


SAVAGE 120



19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

REAR PANEL



38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61