

# ENGEL

---

**TUBE POWERAMP**

**930/60**

**930/120**

Operator's Manual

*Please, first read this manual carefully!*



*In addition to a first class tube tone, the **ENGL** poweramp offers a number of practical features in a powerful 2x60 watt (Model 930/120=>2x120 W) package. A switchable input system (INPUT A/B) enables you to switch back and forth between two preamps; each of the two stereo channels features two volume and two presence controls (A and B), so you can dial in diverse volume and presence settings for each preamp. The A/B controls, in combination with one preamp, also enables you to activate different volume and presence settings for an incredible range of switching options. The DEPTH BOOST button delivers loads of low end. Similar to the A/B functions, it is also switchable via an external footswitch or MIDI commands via the **ENGL MIDI Interface**. The GAIN button provides optimum input signal levels for both poweramp sides and the MONO/STEREO function enables you to activate the mono mode where both poweramp channels receive identical signals. You can assign the INPUT A/B button's function to the A/B VOLUME switching via a button located on the rear panel.*

*Comprehensive connection options offer you maximum flexibility: the Stereo Master FX Loop enables you to patch in FX devices in combination with two preamps. The 930 is equipped with 4, 8 and 16 ohm speaker outputs for virtually any kind of cabinet rig you care to devise. Separate Standby switches provide a single p.a. side operation option.*

*The integrated **E.C.S. (Emergency Circuit System)** protects the amp from damage due to power tube defects/failure and ensures the amp does not shut down. It continues to function on both channels; the affected channel operates at a reduced power output level.*

*This amp is defined by the effort and materials that went into it: intelligent design features, superior craftsmanship, impeccable finishing and quality components. However keep in mind, that a few precautions will radically extend tube life (**see handling and care guidness**). The entire **ENGL** -Team would like to thank you for your faith in our product; we hope you derive a great deal of joy and satisfaction from your **ENGL -TUBE POWERAMP 930**.*

**PLEASE NOTE:** *Read the Operator's Manual carefully and thoroughly, especially the Handling and Care section as well as the **guidelines in bold-face type**. 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 on side 3 of the manual.*

**TIP 1**

The VOLUME A/B switching feature can be used for the following applications:

- 1) In combination with one preamp, to activate two different volumes, for instance one for rhythm work, the other for soloing.
- 2) In combination with two preamps, to define a separate volume level for each preamp. In this case, set the button 32 to the VOLUME A/B mode, then VOLUME A is assigned to INPUT A and VOLUME B is assigned to INPUT B automatically.
- 3) In combination with two preamps, to define separate volume levels than can be assigned to either preamp. Set button 32 to the INPUT A/B mode so you can assign the volume levels freely to the two inputs. In this case select inputs via the INPUT A/B button(11).

**TIP 2**

The PRESENCE A/B switching feature can be used for the following applications:

- 1) In combination with a two-channel preamp (Clean/Lead) a possible option could be a setting of 1 to 4 o'clock for the two PRESENCE A controls and a setting of 8 to 12 o'clock for the two PRESENCE B controls. Use PRESENCE A when the preamp is in the clean mode, and PRESENCE B for lead tones.
- 2) In combination with two preamps, to define a separate PRESENCE setting for each preamp, or
- 3) to assign the PRESENCE controls freely to the two preamps.

**TIP 3**

If you encounter a ground loop in your 19" rack (usually caused by a double connection between grounded devices and the audio signal ground), you can sever the ground from the housing by setting the GROUND LIFT switch to the GROUND FLOATED position.

**TIP 4**

The ENGL MIDI INTERFACE offers even more comfortable handling features and loads of interesting combinations. This interface allows you to switch the four 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, equipped with the MIDI Interface Port.

**TIP 5**

The switching functions VOLUME A/B (3), PRESENCE A/B (8), INPUT A/B (11) and DEPTH BOOST (12) can also be executed via a looper/switcher or other MIDI devices that feature four freely-programmable (switching-)inputs. Depending on the type of MIDI device, you may have to split the FOOTSWITCH stereo jacks into four mono jacks. Each switching function requires the mono or stereo contact see 26 and 27 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 6**

The MASTER FX LOOP offers you the opportunity to run two preamps through an FX processor without requiring a separate complex looping system!

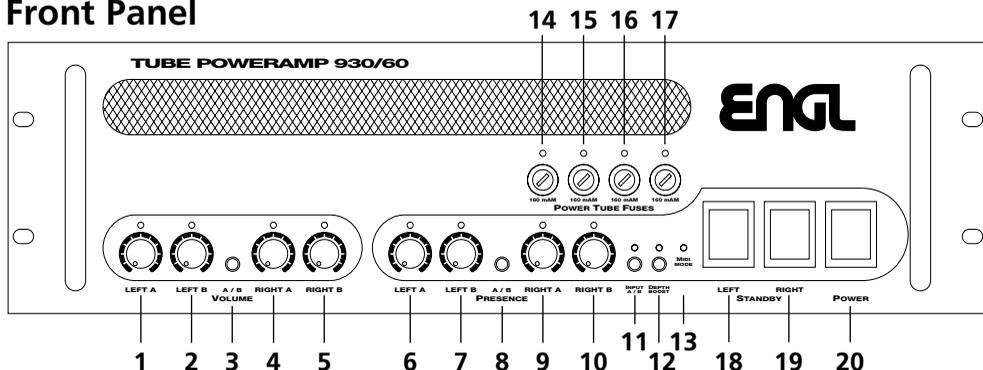
**TIP 7**

Choose only one of the following cabinet options for each channel:

- A. One 4 ohm cabinet connected to a 4 ohm jack,
- B. Two 8 ohm cabinets connected to the 4 ohm jacks,
- C. One 8 ohm cabinet connected to a 8 ohm jack,
- D. Two 16 ohm cabinets connected to the 8 ohm jacks,
- E. One 16 ohm cabinet to the 16 ohm jack.

If you are using one stereo speaker cabinet for both channels, ensure it actually operates in the stereo mode, otherwise you may damage the power amp!

# Front Panel



**1 VOLUME LEFT A**  
volume control A for the left power amp.

**2 VOLUME LEFT B**  
volume control B for the left power amp.

**3 VOLUME A / B**  
switches between VOLUME A and VOLUME B, the active VOLUME controls are identified by LED's next to the respective controls:  
VOLUME A: red LED's  
VOLUME B: green LED's  
This feature can also be switched via the MIDI Interface Port (25) or a footswitch connected to jack 27; the VOLUME A/B pushbutton is deactivated once a footswitch is connected.

**4 VOLUME RIGHT A**  
volume control A for the right power amp.

**5 VOLUME RIGHT B**  
volume control B for the right power amp.

**6 PRESENCE LEFT A**  
treble control A in the power amp, left channel.

**7 PRESENCE LEFT B**  
treble control B in the power amp, left channel.

**8 PRESENCE A / B**  
switches between PRESENCE A and PRESENCE B, the active PRESENCE controls are identified by LED's next to the respective controls:  
PRESENCE A: red LED's  
PRESENCE B: green LED's  
This feature can also be switched via the MIDI Interface Port (25) or a footswitch connected to jack 27; the PRESENCE A/B pushbutton is deactivated once a footswitch is connected.

**9 PRESENCE RIGHT A**  
treble control A in the power amp, right channel.

**10 PRESENCE RIGHT B**  
treble control B in the power amp, right channel.

**11 INPUT A / B**  
switches between INPUT A and INPUT B, red LED indicates INPUT B is active.

This feature can also be switched 1) via the MIDI Interface Port (25) or 2) a footswitch connected to jack 26; 3) It also can be assigned to the VOLUME A/B function (see button 32). The INPUT A/B pushbutton is deactivated in case 2) and 3).

**12 DEPTH BOOST (Lo/Hi)**  
Boosts the bottom end in both channels of the poweramp; red LED indicates active function. This feature can also be switched via the MIDI Interface Port (25) or a footswitch connected to jack 26; the DEPTH BOOST A/B pushbutton is deactivated once a footswitch is connected.

**13 MIDI MODE**  
This red LED illuminates when the ENGL Interface is connected and activated; the LED flashes when the poweramp is operating in the MIDI mode.

**14 POWER TUBE FUSE**  
Power tube fuse (E.C.S. - read description!) for the power tube V4 assigned to the left channel. The red LED indicates a defective fuse.

**15 POWER TUBE FUSE**  
Power tube fuse (E.C.S. - read description!) for the power tube V5 assigned to the left channel. The red LED indicates a defective fuse.

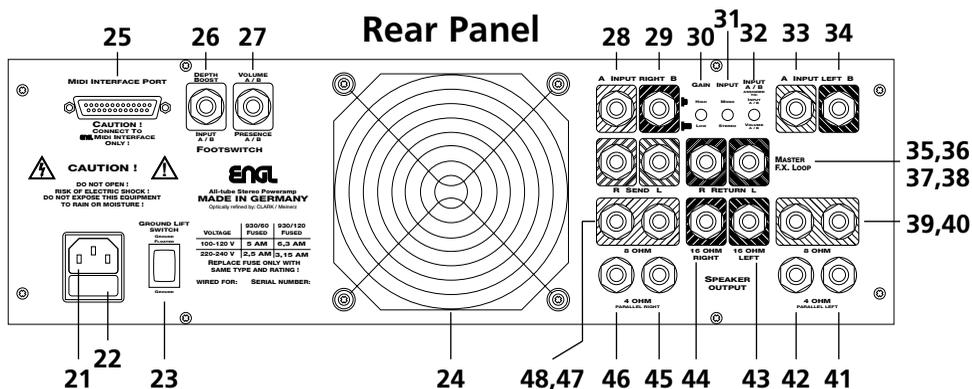
**16 POWER TUBE FUSE**  
Power tube fuse (E.C.S. - read description!) for the power tube V6 assigned to the right channel. The red LED indicates a defective fuse.

**17 POWER TUBE FUSE**  
Power tube fuse (E.C.S. - read description!) for the power tube V7 assigned to the right channel. The red LED indicates a defective fuse.

**18 STANDBY LEFT**  
left channel standby

**19 STANDBY RIGHT**  
right channel standby

**20 POWER**  
AC power on/off



## 21 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!

## 22 AC Fuse Box

contains mains fuse (rear chamber) and spare fuse (front chamber).

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

## 23 GROUND LIFT SWITCH

**TIP 3** GROUND-position: direct connection between amp's ground and outlet ground. GROUND FLOATED-position: no direct connection between amp's ground and outlet ground => use this feature, to avoid ground loops in combination with other grounded 19" units.

## 24 Fan Shaft

ultra-quiet fan ensures your poweramp remains cool; fresh air is sucked in via this shaft.

**ATTENTION:** Install the amp in a 19" rack in such a manner as to ensure air circulation is not impeded. Do not block or cover the fan shaft, the side and the front coolant vents.

## 25 MIDI INTERFACE PORT

**TIP 4** You can connect the ENGL MIDI INTERFACE to this jack (Sub D, 25 pins) and then execute VOLUME A/B (3), PRESENCE A/B (8), INPUT A/B (11) and DEPTH BOOST (12) 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.

## 26 FOOTSWITCH: DEPTH BOOST, INPUT A/B

**TIP 5** 1/4" stereo jack for connecting a two-way footswitch for the following functions:

1. DEPTH BOOST-switching Lo/Hi (Mono contact).
2. Switching between INPUT A and INPUT B (Stereo contact).

## 27 FOOTSWITCH: VOLUME A/B, PRESENCE A/B

1/4" stereo jack for connecting a two-way footswitch for the following functions:

1. Switching between VOLUME A and VOLUME B (Mono contact).
2. Switching between PRESENCE A and PRESENCE B (Stereo contact).

## 28 INPUT RIGHT A

Signal input A to right power amp channel.

## 29 INPUT RIGHT B

Signal input B to right power amp channel.

## 30 GAIN Hi/Lo

power amps' input sensitivity

## 31 INPUT MONO/STEREO

In the MONO position, the left and right inputs are bridged and the two poweramp sides receive the same signal.

## 32 INPUT A/B ASSIGNED TO

**TIP 1** Use this button to assign the INPUT A/B switching function to:

1. INPUT A/B position (button depressed): Input A or B is activated via the INPUT A/B (11) button.
2. VOLUME A/B position (button not depressed): Input A or B is activated via the VOLUME A/B button (11) is deactivated. VOLUME A: Input A activ, VOLUME B: Input B activ.

## 33 INPUT LEFT A

Signal input A to left power amp channel.

## 34 INPUT LEFT B

Signal input B to left power amp channel.

### 35 MASTER FX LOOP: SEND RIGHT

**TIP 6**

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

### 36 MASTER FX LOOP: SEND LEFT

**TIP 6**

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

### 37 MASTER FX LOOP: RETURN RIGHT

**TIP 6**

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

### 38 MASTER FX LOOP: RETURN LEFT

**TIP 6**

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

### 39, SPEAKER OUTPUT: 40 8 OHM PARALLEL LEFT

**TIP 7**

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

### 41, SPEAKER OUTPUT: 4 OHM

### 42 PARALLEL LEFT

**TIP 7**

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

### 43 SPEAKER OUTPUT: 16 OHM LEFT

**TIP 7**

16Z left channel speaker output jack for the connection of one 16Z cabinet.

### 44 SPEAKER OUTPUT: 16 OHM RIGHT

**TIP 7**

16Z right channel speaker output jack for the connection of one 16Z cabinet.

### 45, SPEAKER OUTPUT: 4 OHM

### 46 PARALLEL RIGHT

**TIP 7**

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

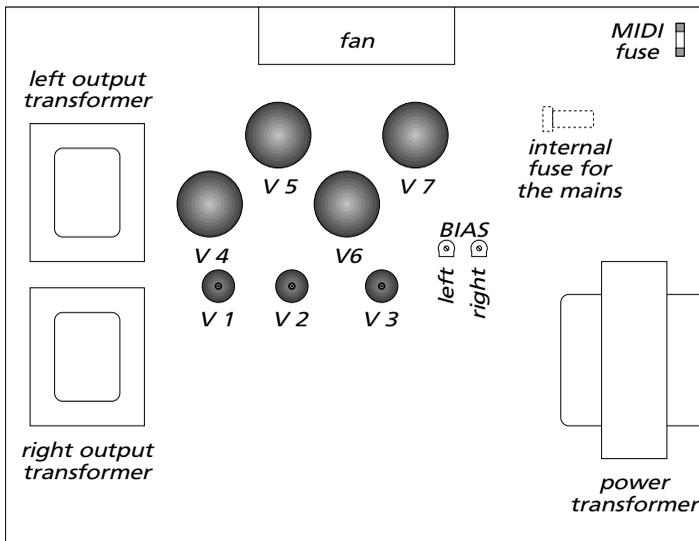
### 47, SPEAKER OUTPUT: 8 OHM

### 48 PARALLEL RIGHT

**TIP 7**

8Z right channel speaker output jacks; internal parallel signal path for the connection of one 8Z or two 16Z cabinets. **IMPORTANT: If you choose to use just one power amp channel, ensure you switch the other channel's STANDBY switch off. Never operate an active stereo channel without a connected speaker, you may destroy the power amp! Ensure your cabinet's specifications match the respective output's specs!**

## Tube array



# Technical Data

Rated power	2x60 Watt (model 930/60) 2x120 Watt (model 930/120)
Outlet each channel	4, 8 and 16 ohms
Input level (0 dB => 1Veff)	GAIN Lo: - 5 dB, max. 15 dB GAIN Hi: -23 dB, max. -3 dB
Tubes	V1 => ECC83/12AX7 selected V2,V3 => ECC83/12AX7 standard
<b>930/60:</b> V4,V5 => 6L6GC, matched set V6,V7 => 6L6GC, matched set	<b>930/120:</b> V4,V5 => 6550A, matched set V6,V7 => 6550A, matched set

## Fuses

### 930/60

AC Mains	230V	100V und 120V
external	2,5 AM	5 AM (medium)
internal	3,15 AT	6,3 AT (slow)

### 930/120

AC Mains	230V	100V und 120V
external	3,15 AM	6,3 AM
internal	4 AT	8 AT

Power Tube Fuses (E.C.S.): 4x160mAM      Power Tube Fuses (E.C.S.): 4x315mAM

**Caution:** Replace fuses only with others of the same rating!

Dimensions                                      19", 3 rack spaces, depth: 350mm (not including handles)

Weight    app.15 kg (930/60), 19 kg (930/120)

## E.C.S. (Emergency Circuit System)

*This circuit ensures the poweramp does not shut down completely when a single power tube failes. You can continue to play, but the affected channel's output power is reduced by 2/3rds (depending on the type of defect). Gas developing in the power tubes can cause a momentary short circuit. The fuse activates, but the poweramp 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.*

---

## Handling and Care

- *Protect the poweramp from mechanical knocks (tubes!)*
- *Let the poweramp cool down before you transport it (app.10 minutes).*
- *Tubes need about 20 seconds to warm up after you switch the power on, and furtheron a few minutes before they reach their full power capability.*
- *Avoid storing the poweramp in damp or dusty rooms, they are hard on jacks, switches and potentiometers.*
- *Ensure air can circulate at the rear, the front and both sides of the poweramp to allow for adequate cooling (increases component life).*
- *Never operate the poweramp without an adequate load!*
- *Replace tubes with select **ENGL** replacement tubes (special selection criteria) to avoid microfonic properties, undesirable noise and unbalanced performance.*

### ***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!*

We reserve the right to make unannounced technical upgrades!