

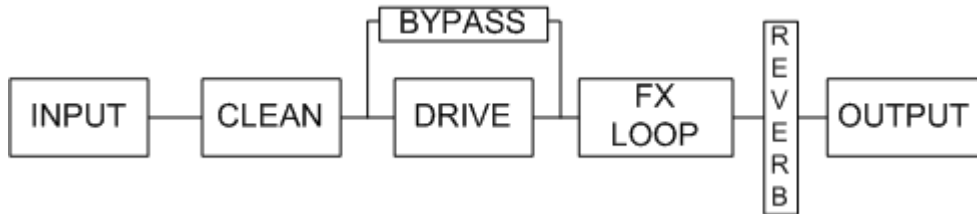


*- Amps That Sing -*

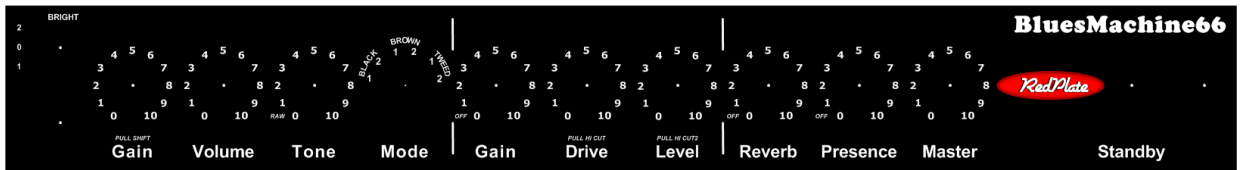
# **BluesMachine66 Operations Manual**

Welcome to the RedPlate Family, thank you for your purchase of a RedPlate BluesMachine66. Please take a moment and review this manual for an understanding of all the available features (or just put all the knobs at noon and play). This Manual applies to BluesMachine66 models produced after 10/01/2013.

### Signal Path Block Diagram:



### FRONT PANEL:



**Input Jack** – Typical High impedance input to the amplifier. Designed to be “Pedal Friendly” in the unlikely event you will ever use a pedal in front of the BluesMachine66.

The Clean Preamp is based on the classic Tweed Style design with some important differences:

1. Get into the “sweet spot” and still be able to play at various volume levels and venue sizes.
2. Imitate the more traditional Treble Middle Bass style amps when needed.
3. Footswitch control of preamp Mode and Boost for instant personality changes.
4. Select the amount of Bass gain appropriate to your guitar choice (via Humbucker/Single coil switch covered in the **Rear Panel** Section of this manual).
5. Fully buffered FX loop and built-in spring reverb.

**Bright Switch** – Center = OFF, Down = sound of new strings, Up = normal Bright response.

**Gain** – Works in conjunction with the Volume to set the “sweet spot” – adjust this for the amount of character you desire in your tone. Typical setting is between 3 and 5 but experimentation is encouraged.

**Volume** – Also sets the “sweet spot” – adjust this in concert with the Gain control for the amount of character you desire in your tone. Typical setting is between 3 and 5 but experimentation is encouraged.

**Tone** – Treble is emphasized at settings past 5, more bass at the lower numbers. When rotated to zero it clicks off for a full tone lift. The tone lift can also be accessed instantly via the Boost button on the footswitch (see the **Other Features** section of this manual for details).

**Mode Selector** – A six position rotary switch, it steps through 6 progressively fatter positions of midrange and girth. The fattest Tweed setting is position 6, The Tweed section can be instantly accessed via the Tweed button on the footswitch (see the **Other Features** section of this manual for details).

## **DRIVE SECTION**

The Drive section controls the amount of character to add to the clean tone. The section’s range of effect can be just a hint of early break up or a full on aggressive heavy metal distortion.

**Gain Control** – Bypasses the section when rotated to zero, this control sets the amount of signal for the first gain stage of the section. Low settings are smoother and higher settings are more aggressive.

**Drive Control** – Sets the amount of distortion by controlling the level between the 2 gain stages of the section. Pull this control to shift into a less treble form of distortion.

**Level Control** – Sets the output volume of the section. Higher settings are “bigger” and more 3 dimensional. Pull out for a HI CUT feature to reduce fizz.

## **MASTER SECTION**

**Reverb Control** - Sets the amount of reverberation effect, takes the reverb out of circuit when rotated to zero (there will be a slight volume and tone change).

**Presence Control** – The presence circuit uses global negative feedback to remove low frequencies which frees up bandwidth for more midrange and highs. Think of it as a tone control to balance the relationship between highs and lows, especially when the amplifier is naturally producing increased low end at louder volumes. The control clicks off when rotated to zero for no presence.

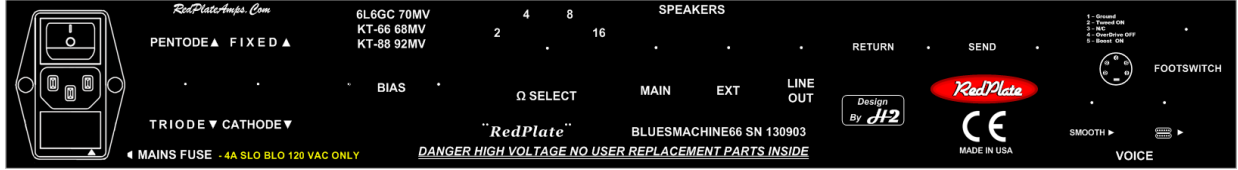
**Master Volume** – This is an active control and actually adds gain at the higher settings. The cleanest tones are achieved at settings below 7.

**Standby Switch** – This switch allows the tubes to warm up before operating the amplifier. Wait 1 minute after power on to move it up to the operate position. For improved tube life and

performance do not leave the amplifier in Standby position for longer than 20 minutes (better to just leave it in operate mode during performance intermissions).

## REAR PANEL SECTION

### Domestic (USA):



**IEC Module** – contains the main power switch, power cord inlet connector and the fuse drawer which doubles as the voltage selector on export models. To access the fuse(s) use a small flat blade screwdriver in the notch at the bottom of the power cord inlet connector, the drawer snaps out in a rearward direction. The BluesMachine66 can accept both the larger (3AG footprint) or smaller European (5mm X 20mm) fuses. A time delay variety (SLO-BLO) is recommended. A fuse in the range of 2.5 to 3 Amps is fine for domestic use (110 – 125 VAC) and 1.25 to 1.5 amps is fine for the Export model (220 – 240 VAC).

**FIXED/CATHODE Switch** – This switch changes the bias architecture of the output tubes from fixed bias to cathode biased.

**PENTODE/TRIODE Switch** – The Pentode/Triode switch reduces output by 66% and adds “sag” and compression.

**Bias adjustment and bias test point** – Allows external access for bias adjustment (see bias procedure in the **Maintenance** section).

**Impedance Selector  $\Omega$**  - Set this to the total impedance of all attached speakers. When 6V6 tubes are used, set to the next lower number.

**Speaker Jacks** – The MAIN and EXT jacks are wired in parallel. The MAIN jack must be used first because it has a protection device. ALWAYS HAVE A SPEAKER CONNECTED TO AVOID PERMANENT AMPLIFIER AND OUTPUT TUBE DAMAGE.

**LINE OUT** – A line level signal jack derived from the speaker output which contains the whole tone of the amplifier.

**SEND and RETURN Jacks** – The send jack connects to the input of an external effects device and the return jack connects to the output of an external effects device. The return jack interrupts the signal path so the external effects unit must mix the wet and dry signals.

**Footswitch Jack** - This is a standard 180 degree 5 pin DIN jack for footswitch connection. The pinout is conveniently located on the rear panel for use with automated switcher conversion boxes.

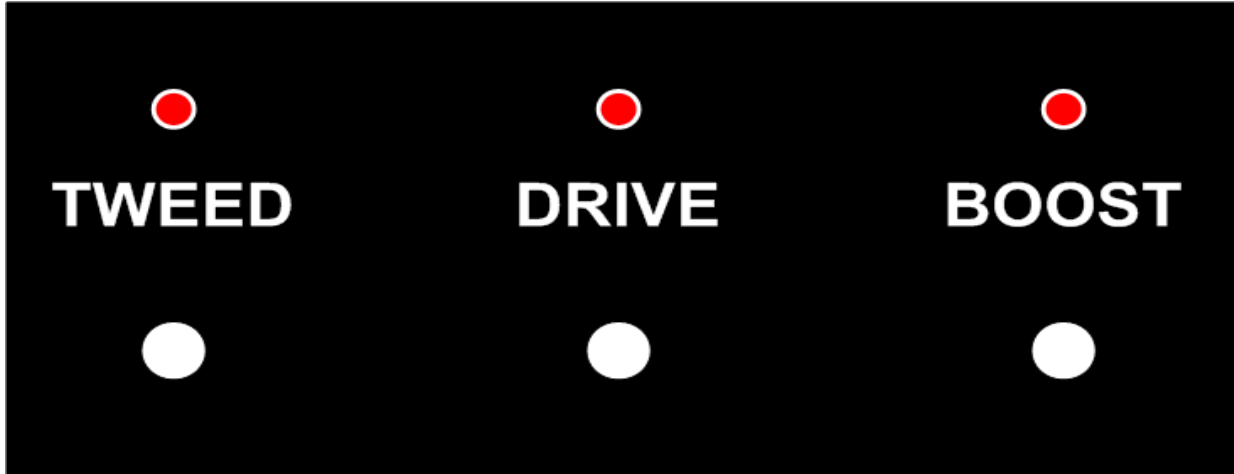
**SMOOTH Switch** – Employs local negative feedback in the clean preamp for a hint of compression.

**Humbucker / Single coil Switch** – Sets the amount of bass gain in the input stage, useful for matching the amplifier to the guitar type.

## **OTHER FEATURES**

The BluesMachine66 comes complete with a 3 button footswitch and a 25' footswitch cable. The cable used is a regular MIDI cable and is readily available in any length at most music stores. If a replacement cable is needed, make sure all 5 wires are supported.

### **FOOTSWITCH**



**TWEED** - Same as rotating the Mode switch to position 5 or 6 (depending on panel setting), for a traditional fat tweed tone. The footswitch button has no effect when position 5 or 6 of the rotary MODE switch on the front panel is selected because it is a duplicate function.

**DRIVE** – Character Boost feature. When lit, the Drive section of the amplifier is active, not lit, means the section is bypassed. The footswitch button does not work when the front panel Gain control is rotated to zero because it is a duplicate function.

**BOOST** – Girth Boost feature which adds volume and tone by doing a full tone lift. The footswitch button has no effect when the front panel Tone control is rotated to zero because it is a duplicate function.

### **POWER ON/OFF PROCEDURE**

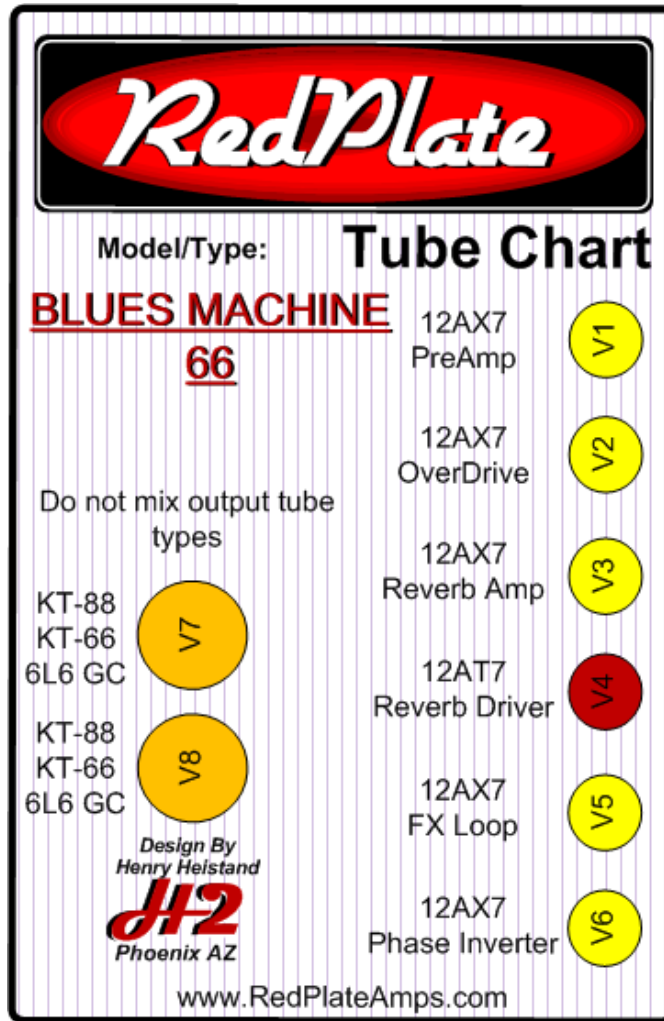
1. Check the front panel Standby switch to make sure it is toggled downward for Standby operation (the Standby switch is located at the right side of the front panel next to the pilot light).
2. Toggle the main power switch to the up position (this switch is located at the top of the IEC input module). The front panel pilot light should be lit.
3. Wait one minute and then toggle the front panel Standby switch upwards to the Operate position.
4. **POWER OFF** – Toggle the main power switch downward, there is no need to go into standby first although it will not hurt anything.

### **MAINTENANCE SECTION**

Your BluesMachine66 amp has been designed for years of trouble free operation. The vacuum tubes will need to be replaced over time. We recommend new output tubes every 160 - 240 hours and new preamp tubes every 320 - 480 hours.

The front and rear panels have a protective finish that can be easily scratched with abrasives so always use a damp soft cloth to clean them (never use paper towels). The cabinetry can be cleaned with our super secret tolex cleaner (on a paper towel - 2 squirts of WD-40 and 4 squirts window cleaner).

## TUBE CHART



The tube chart for the RedPlate Blues Machine 66 is presented in a rectangular frame with a red and black logo at the top. The logo features the word "RedPlate" in a stylized white font on a red oval background. Below the logo, the text "Model/Type: **BLUES MACHINE 66**" is displayed. To the right, the title "Tube Chart" is written in a large, bold font. The chart lists six tube positions, each with a tube type and a corresponding colored circle: V1 (yellow), V2 (yellow), V3 (yellow), V4 (red), V5 (yellow), and V6 (yellow). On the left side, there are two yellow circles labeled V7 and V8, each with a list of acceptable tube types: KT-88, KT-66, and 6L6 GC. A warning "Do not mix output tube types" is placed between the V7 and V8 sections. At the bottom left, the text "Design By Henry Helstand" is followed by a stylized "H2" logo and "Phoenix AZ". The website "www.RedPlateAmps.com" is printed at the bottom center.

**RedPlate**

Model/Type: **BLUES MACHINE 66** **Tube Chart**

Tube Type	Position
12AX7 PreAmp	V1
12AX7 OverDrive	V2
12AX7 Reverb Amp	V3
12AT7 Reverb Driver	V4
12AX7 FX Loop	V5
12AX7 Phase Inverter	V6

Do not mix output tube types

KT-88  
KT-66  
6L6 GC

KT-88  
KT-66  
6L6 GC

Design By  
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**H2**  
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www.RedPlateAmps.com

All tube brands are acceptable, a long plate is preferred in the V6 (Phase Inverter) position.

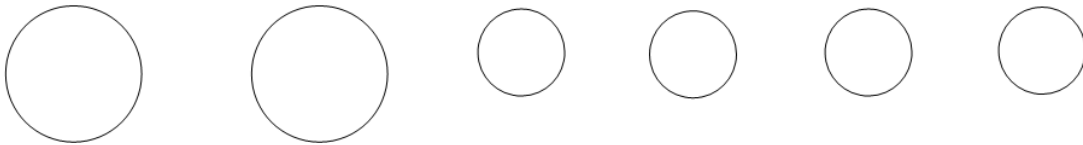
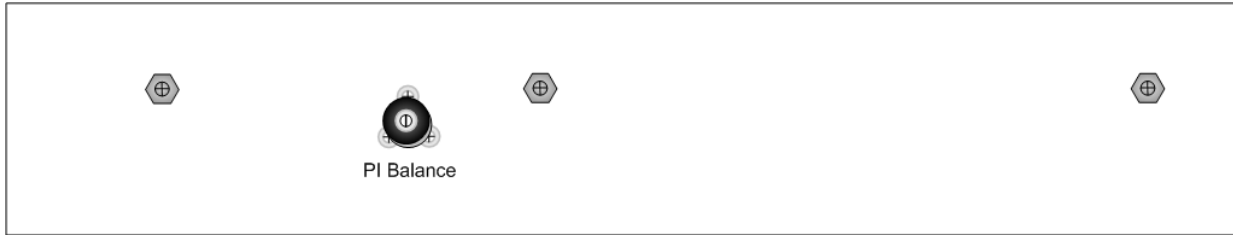
**Warning – No user serviceable parts inside so unless you know what you’re doing please refer to a qualified service person only.**

## BIAS PROCEDURE

1. When new output tubes are installed it is important to re-bias the amp for optimal performance. No biasing needed in cathode bias position.
2. **ALWAYS HAVE A SPEAKER CONNECTED.**
3. Use a digital volt meter set to DC volts at lowest scale (MV). Makes sure the black lead is the common terminal of the meter and the read lead is the DC voltage terminal of the meter.
4. Place the Amplifier in operate mode with the Master Volume and Reverb controls set to zero.
5. Set the FIXED/CATHODE switch to the FIXED position.
6. Place the red meter lead in the test point hole (red tip jack) And touch (or clip) the black meter lead on one of the metal output tube retainer clips.

7. Use a small flat blade screwdriver to adjust the bias pot for a reading of  $\pm 5$  MV from the value listed on the rear panel for your tube type. The reading is the sum of the idle current for both tubes.
8. Recheck the reading after 10 minutes of operation, and again after a week or two of operation.

### **INTERNAL TRIM POT**



The BluesMachine66 has an internal trim pot for the PI Balance – Useful for working with unmatched 12AX7 tubes in the phase inverter position. Refer to qualified personnel for proper setting.

### **RedPlateAmps Warranty**

At RedPlateAmps we pride ourselves making products that are built to last. The workmanship in your RedPlate amplifier is warranted to be problem free for the lifetime of the original owner, or in the event of resale a onetime transfer to a new owner for coverage for 3 years from the original manufacture date (please inform us of an ownership change to insure coverage). The actual electrical components in your amplifier are warranted for a period of 3 years. Exclusions are vacuum tubes, reverb tanks, cables, speakers and cosmetics which are warranted for 30 days. Improper handling or product misuse or product abuse or unauthorized repair work or unauthorized modifications may nullify your warranty. Eligibility for coverage and covered items are at the sole discretion of RedPlateAmps.

#### **RedPlateAmps**

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Thanks again for joining the RedPlate Family – Henry