

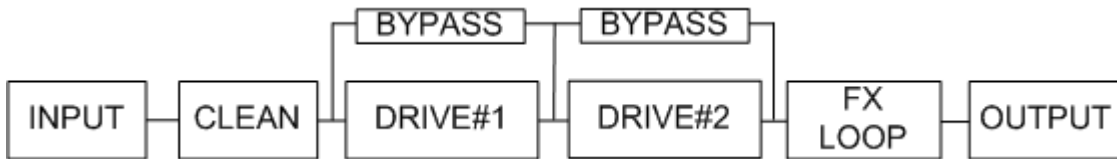


- Amps That Sing -

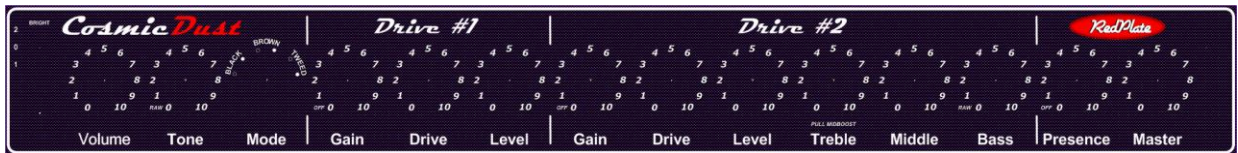
CosmicDust Operations Manual

Welcome to the RedPlate Family, thank you for your purchase of a RedPlate CosmicDust. 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 CosmicDust models produced after 06/01/2010. Check the **ADDENDUM** Section for CD2 model updates.

Signal Path Block Diagram:

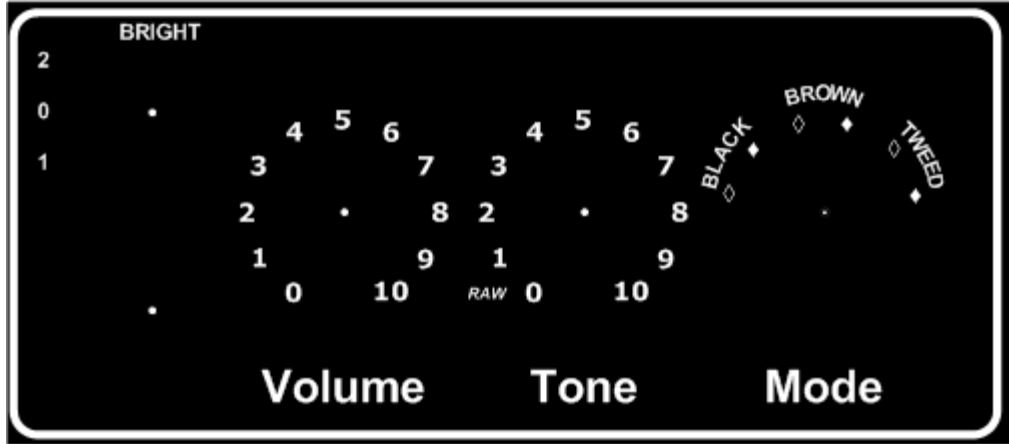


FRONT PANEL:



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 CosmicDust.

CLEAN PREAMP SECTION



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 Tone (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.

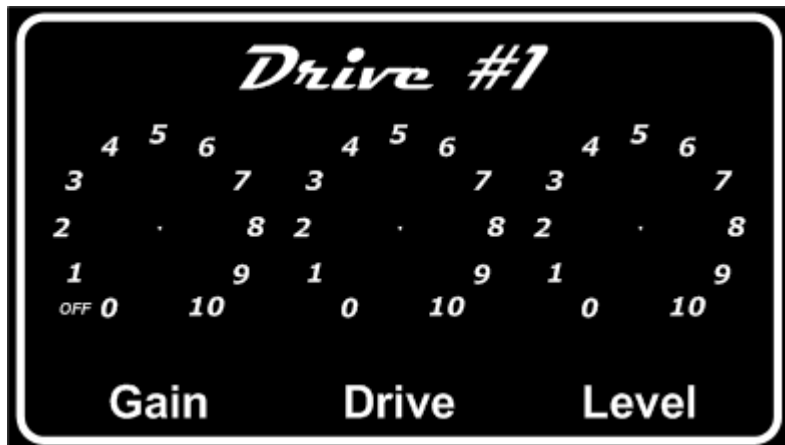
Bright Switch – Center = OFF, Down = sound of new strings, Up = normal Bright response.

Volume – Sets 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.

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.

DRIVE#1 SECTION



The Drive#1 section can control 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.

Level Control – Sets the output volume of the section. Higher settings are “bigger” and more 3 dimensional.



Because the amplifier sections are in series left to right, this section can be driven by the clean channel or the output of Drive #1. The section’s range of effect is amazingly flexible because of its dedicated tone controls.

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.

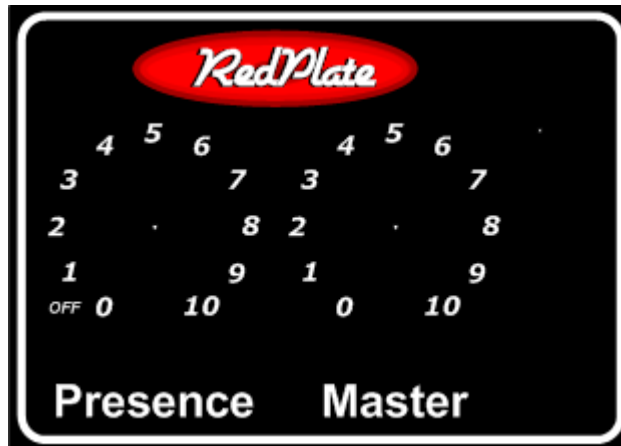
Level Control – Sets the output volume of the section. Higher settings are “bigger” and more 3 dimensional.

Treble Control - Adjusts highs (also upper midrange when pulled for a “MidBoost” effect).

Middle Control – Controls the amount of Midrange frequencies, somewhat interactive with the Bass Control.

Bass Control – Sets the amount of low end. Can be rotated to zero where it clicks off for a full tone stack lift.

MASTER SECTION

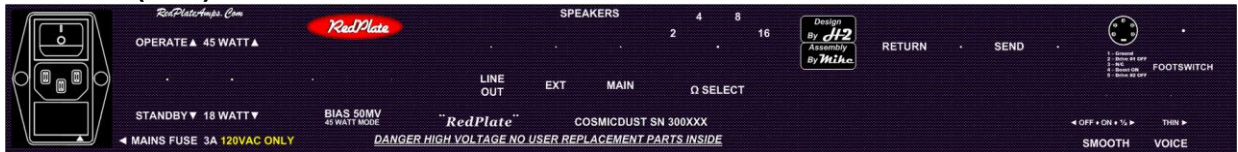


Presence Control – The presence circuit uses global negative feedback to remove low frequencies which frees up bandwidth for more midrange and highs. Think of it as a tone control to balance the relationship between highs and lows, especially when the amplifier is naturally producing increased low end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

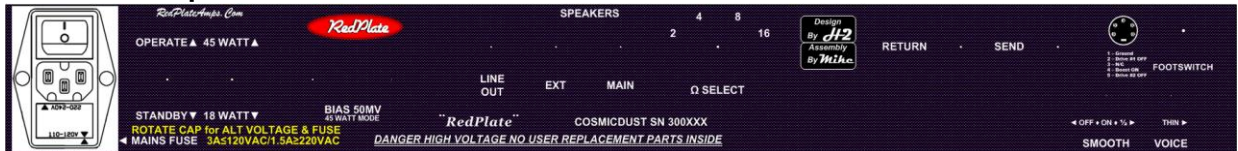
Master Volume – This is an active control and actually adds gain at the higher settings. The cleanest tones are achieved at settings below 7.

REAR PANEL SECTION

Domestic (USA):



Rear Panel Export:



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 CosmicDust can accept both the larger (3AG footprint) or smaller European (5mm X 20mm) fuses. A time delay variety (SLO-BLO) is recommended. A 3 amp fuse is recommended for domestic use (110 – 125 VAC) and 1.5 amps should be used for Export use (220 – 240 VAC). The fuse drawer can be rotated on the export models for voltage selection, make sure the correct value fuse is located on the same side of the fuse drawer as the desired selection arrow. Line up the appropriate arrow on the fuse drawer with the arrow on the bottom right of the module for the proper VAC selection.

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).

45 WATT / 18 WATT Switch – In 45 watt position the inside pair of tubes is running fixed bias while the outside pair is running in cathode bias. In 18 watt position the switch lifts the two fixed bias tubes leaving only the outside pair running in cathode bias mode. It is alright to change the selection of this switch even when the amplifier is in operation

The CosmicDust will support the use of two 6L6 tubes as either an inside or outside pair (see BIAS Section of this manual). DO NOT MIX 6L6 AND 6V6 TUBES.

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

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

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.

Impedance Selector Ω - Set this to the total impedance of all attached speakers.

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.

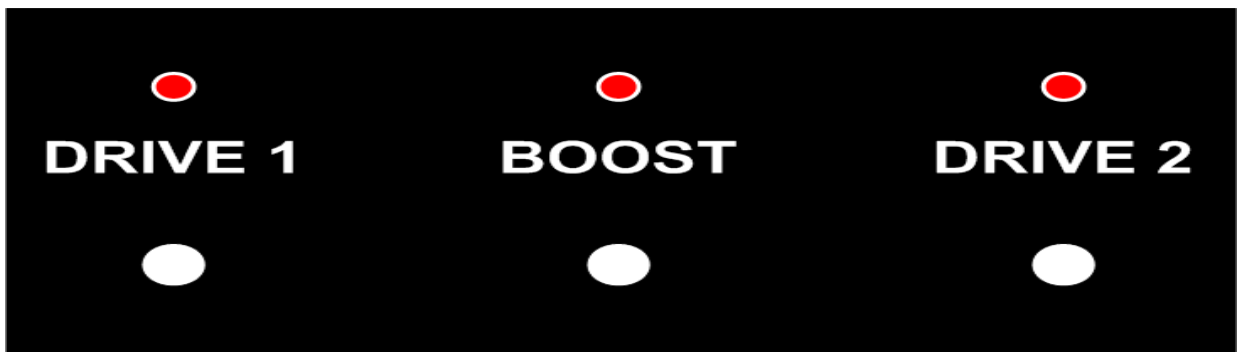
SMOOTH Switch – Employs local negative feedback in the clean preamp for a hint of compression. The ½ position is a more extreme setting.

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 CosmicDust comes complete with a 3 button footswitch and a 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



DRIVE 1 - The indicator comes on when the Drive #1 section is active. The footswitch button does not work when the front panel Drive #1 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.

DRIVE 2 - The indicator comes on when the Drive #2 section is active. The footswitch button does not work when the front panel Drive #2 Gain control is rotated to zero because it is a duplicate function.

POWER ON/OFF PROCEDURE

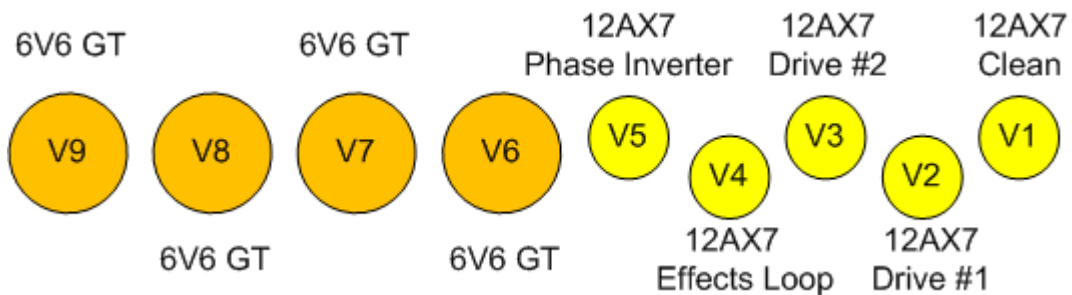
1. Check the Standby switch to make sure it is toggled downward for Standby operation.
2. Toggle the main power switch to the up position (this switch is located at the top of the IEC input module). The front panel pilot light should be lit.
3. Wait one minute and then toggle the Standby switch upwards 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 CosmicDust 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), try it next time you clean your stage cables, it makes them look and feel like new.

TUBE LAYOUT



All tube brands are acceptable, a long plate is preferred in the V5 (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.

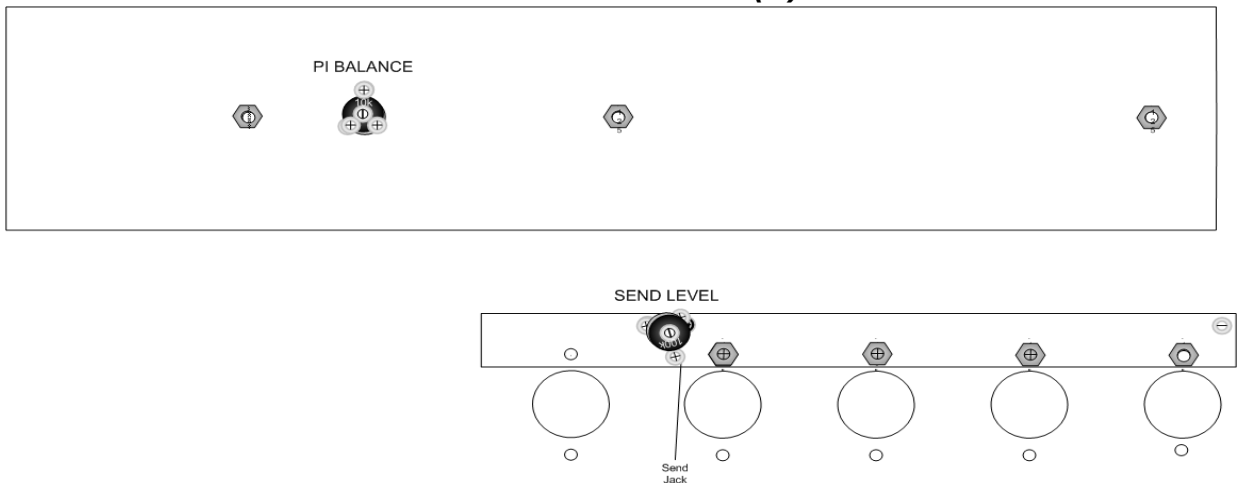
BIAS PROCEDURE 4 6V6 tubes

1. When new 6V6 GT output tubes are installed it is important to re-bias the amp for optimal performance.
2. ALWAYS HAVE A SPEAKER CONNECTED.
3. Use a digital volt meter set to DC volts at lowest scale (MV). Make 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 set to zero.
5. Set the 45 WATT/ 18 WATT switch to the 45 WATT 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 $50\text{MV} \pm 5 \text{ MV}$ (FYI - the plate voltage is 380 volts). 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.

BIAS PROCEDURE - 2 6L6 tubes

1. The CosmicDust can also be configured for use with two 6L6 GC output tubes. No biasing needed for 6L6 tubes installed as the outside pair (V6 & V9) because they will be running in cathode bias mode.
2. CAUTION - REMOVE ALL FOUR 6V6 TUBES BEFORE INSTALLING TWO 6L6 GC TUBES. NEVER MIX 6L6 AND 6V6 TUBES AND ALWAYS HAVE A SPEAKER CONNECTED.
3. Use a digital volt meter set to DC volts at lowest scale (MV). Make sure the black lead is the common terminal of the meter and the read lead is the DC voltage terminal of the meter.
4. Install the 6L6 GC tubes into the inner pair sockets (V7 & V8)
5. Place the Amplifier in operate mode with the Master Volume set to zero.
6. Set the 45 WATT/ 18 WATT switch to the 45 WATT position.
7. 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.
8. Use a small flat blade screwdriver to adjust the bias pot for a reading of $80\text{MV} \pm 5 \text{ MV}$ (FYI - the plate voltage is 380 volts). The reading is the sum of the idle current for both tubes.
9. Recheck the reading after 10 minutes of operation, and again after a week or two of operation.

INTERNAL TRIM POT(S)

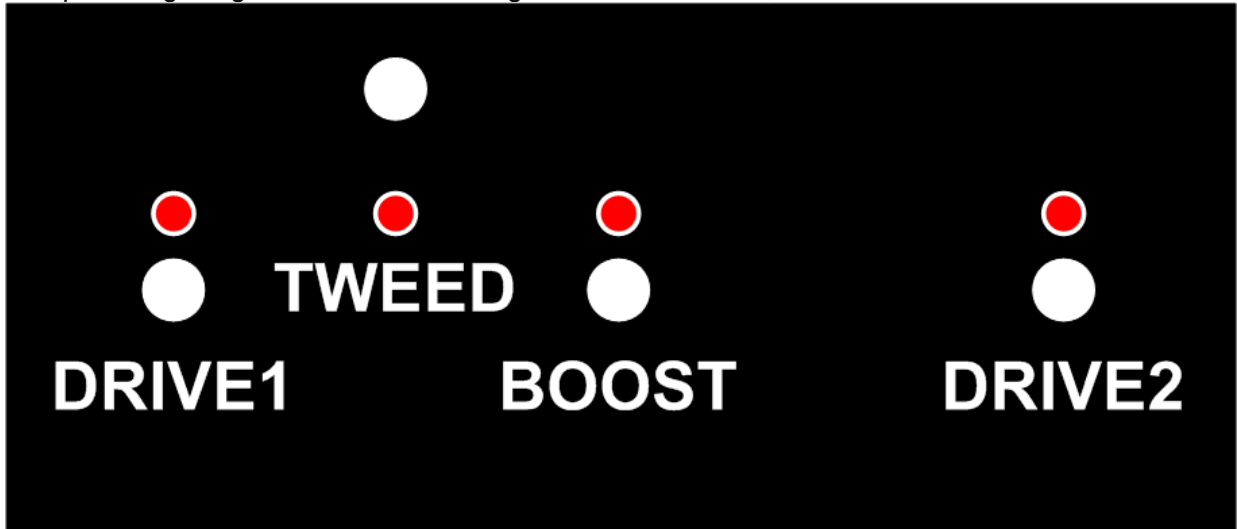


The CosmicDust may have 2 internal trim pots as shown.

1. Send Level – sets the signal size at the Send Jack. Not present on all versions.
2. PI Balance – Useful for working with unmatched 12AX7 tubes in the phase inverter position. Refer to qualified personnel for proper setting.
- 3.

ADDENDUM SECTION

The newer CD2 model is the same amplifier with an additional circuit and footswitch button for the option of getting to the TWEED setting from the footswitch, shown here:



TWEED – Same as rotating the MODE control to TWEED for immediate access to the fattest preamp tone. This button has no effect when the MODE control is already in TWEED position

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

BONUS SECTION - SETTINGS TEMPLATE

[Check the website for future updates to this section]

Copy or print the next page to record your settings. Once you've zeroed in on your signature setting please email the completed template to Info@RedPlateAmps.com – we may include your favorite in the online version of this manual.

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1	.	3	4	5	6	7	8	9	10	RAW	0	1	2	3	4	5	6	7	8	9	10	
2	.	8	2	.	8	2	.	8	2	.	8	2	.	8	2	.	8	2	.	8	2	.
3	.	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1
4	.	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10
5	.	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0
6	.	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0
7	.	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0
8	.	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0
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10	.	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0	10	9	1	0
Volume	Tone	Mode	Gain	Drive	Level	Gain	Drive	Level	Treble	Middle	Bass	Presence	Master									

DRIVE 1 BOOST DRIVE 2

45 ▲	◦	◦
18 ▼	◦	◦
◀ OFF + ON + 1/2 ▶	◦	◦
SMOOTH	◦	◦
VOICE	◦	◦