

**REDSEVEN**  
AMPLIFICATION

DUALITY



model: D50  
User Manual

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## **INTRODUCTION**

Duality is a two channels, modern style, guitar amplifier. Thought as ultimate tone weapon, featuring rich but simple clean crispy sound and a tridimensional multi stage overdriven channel.

Full MIDI implementation (CC and PC), double master volume and a high voltage buffered effects loop make Duality your life as guitarist easier than ever before.

Additional informations and audio/video demos can be found at [www.redseven-amplification.com](http://www.redseven-amplification.com) or you can contact us any time at [info@shivaaudio.com](mailto:info@shivaaudio.com)

## **POWER SUPPLY**

Duality is shipped with hardwired primary voltage. 230V or 115V must be chosen at order time.

## **NOTE: IMPORTANT...NOT TO DO!**

- Do not try to change output jacks (impedance) while the amplifier is on. You must turn STANDBY and POWER switches to OFF position before changing the output impedance.
- Do not try to change input/output levels of you devices plugged into fx loop while the amplifier is on. You must turn STANDBY and POWER switches to OFF position before changing input/output levels of your gear plugged into fx loop or at least disconnect cables form SEND and RETURN jacks.

**THIS OPERATIONS CAN LEAD TO FINAL BREAK OF THIS AMPLIFIER. IN THOSE PARTICULAR CASES RED SEVEN AMPLIFICATION WILL NO BE RESPONSIBLE FOR DAMAGES TO AMPLIFIER ITSELF OR PEOPLE. PLEASE KEEP IN MIND YOU ARE HANDLING A DEVICE WITH POTENTIALLY LETHAL VOLTAGE. PLEASE CAREFULLY READ THIS MANUAL BEFORE TURING ON THE AMPLIFIER. RED SEVEN AMPLIFICATION ARE NOT RESPONSABLE FOR ANY PARTS SUBJECT TO WEAR (LIKE TUBES, POTS, CAPACITORS, ETC).**

## **WARNING!!**

This amplifier uses potential lethal voltage, it must be inspected only by expert people!

## **WARNING!!**

Before insert power cord inside Duality, check the voltage plate under IEC socket and be sure to match wall voltage of your country.

## PREMISE

## PREMISE

By developing this amplifier we had few main visions in our minds:

1 – **THE AMPLIFIER MUST SOUND GOOD IN A MUSICAL CONTEST AND NOT IN YOUR BEDROOM EXCLUSIVELY.**

This can be hard to understand to some people, but in every step of our developing process we recorded it through a professional studio recording system, making sure that all useless frequencies which can fight with bass guitar, synths or maybe cymbals in a live/recording environment are gone. A huge quantity of useless gain and can be a bad thing and we have taken care of this issue as well.

2 – **ALL THE DISTORTION CIRCUITS ARE 100% TUBE BASED, NO DIODE CLIPPING HERE.**

For this project we focused on dynamics. We found by having too much gain and compression (like for example achieving this with diodes or LEDS) are totally useless for this purpose. We're not judging anyone here, only to explain the idea we had on this particular amplifier. You will not find anything like a over- saturated / over-compressed and over-gained sound here. Nothing at all. If you are looking at this type of monothematic distortion sounds, you better search somewhere else. You will find only an amp that talks the best with your pick control and volume control, capable to obtain a multitude of sounds, even on one channel. Dynamics and control are everything for us.

3 – **MIDS IS EVERYTHING.**

The mid frequencies is where your guitar amplifier lives. This mean you need good mids and the right frequencies to pop out of the mix without having any volume problem. We changed quite a bit in the way that a usual mid control works in almost every guitar amplifier. By doing this we have developed a very sensitive mid control on the distorted channel, ensuring a very special and musical way to express this delicate frequencies. We believe in mids, do not underestimate this frequency range, we're serious about this!

## SOUND DESCRIPTION

D50 was born from the demand of our clients to modify so many amps, until they recognized the unique style and sound in our work. This led us to take almost a year to develop this compact 50w all tube amplifier, the very first multi channel amplifier made by RedSeven Amplification.

We are proud to say that this is not a clone of anything. You will not find any ingredients from any other builder inside. Like it or not. Here is the sonic features for this amplifier:

- **CH1 (CLEAN):** The clean channel is something between an old '50s Fender and a late '60s Marshall Plexi. A sparkly and rich clean sound, something that is hard to find in modern multi channel amps. It can crunch with some aggressive pickups but it stays almost clean with any guitar with the volume set at 4. With a classic Strat type guitar it stays clean or an early breakup between 5 and 7, with a LP style guitar breakup is little earlier. Tone stack is way more effective than the vintage '50/'60 mono channel amplifiers, you can obtain quite a lot of different sounds from this channel. The "Bright" switch also add some flexibility to it, B1 is a classic bright, and high shelf around 4KHz, B2 is way more effective and start around 1KHz, boosting some nice mids as well.
- **CH2 (VINTAGE/MODERN):** this channel is where you'll probably want to spend most of your time. Gain quantity can be set from a crunchy Marshall-esque sound (think of early AC/DC) to '80s hard rock. Vintage mode gives you that sparkly, always focused and authentic crunch sound. We'd like to call it our today's version of the classic '70s distorted sound. Modern mode has quite a lot of gain and bass frequencies on top, this sound is set for your power chord progression and with gain at 10 you can actually start to play some solo parts. "Lead" boost adds another amplification stage by giving it the right amount of gain and compression to be ready to play solo parts in every moment of the show.

## TECHNICAL FEATURES

### FRONT PANEL:



(from left to right)

- **STANDBY / ON SWITCH:** turn the amplifier in standby mode or in operative mode.
- **RED LED:** (under STANDBY / ON SWITCH): this led will indicate the state of incoming power supply. It will turn on if everything is ok.
- **GREEN LED:** when on, clean channel is activated.
- **BLUE LED:** when on, dirty channel is activated.

### POTS:

- **CHANNEL 1** (clean channel): Bass, Treble, Volume.
- **CHANNEL 2** (dirt channel): Gain, Bass, Middle, Treble, Volume.
- **COMMON:** Master 1, Master 2.

### SWITCHES:

- **CHANNEL 1:** (clean channel): Bright switch (bright 1/ normal / bright 2), Mid (mid 1 / mid 2).
- **CHANNEL 2:** (dirt channel): Bright switch (bright 1/ normal / bright 2).

### PUSHBUTTONS:

- **CHANNEL:** select between clean and dirt channels.
- **MODERN:** select between vintage and modern mode on CH2.
- **LEAD:** activates Lead boost on CH2.
- **MASTER 2:** activates Master 2 on both channels.
- **LOOP:** activates serial loop effect on both channels.

## REAR PANEL



(from left to right)

- **SEND & RETURN:** Connection between pre amp and power amp. Duality is shipped with pedals friendly level.
- **PRESENCE:** global setting for presence control. It acts on both channels.
- **OUTPUT IMPEDANCE:** parallel jacks for connect your cab or cabs.
- **MIDI IN & MIDI THRU:** sockets for midi communications. Midi IN receive midi signal, Midi THRU left midi signal pass thru without modify original messages.
- **STORE SWITCH:** tactile switch for saving combinations of sounds into amplifier digital memory.
- **FOOTSWITCH:** input socket for Duality D50F. Pay attention: it can be used ONLY Duality FS, other FS can damage the amp.
- **HT FUSE:** (1A slo blow) high current fuse. Replace ONLY with same type.
- **MAIN FUSE:** (2.5A slo blow) input voltage fuse. Replace ONLY with same type.
- **IEC SOCKET:** connect power cable here.
- **POWER ON / POWER OFF SWITCH:** turn the amplifier on or off.



## **FIRST USAGE**

Before plug the power cord make sure to check the input voltage of the amplifier and be sure to match it with your wall voltage, and then insert the power chord.

Before plug the speaker cable, check the impedance of your cab and match the output impedance of amplifier with impedance switch on rear panel, than connect the speaker cable from cabinet to amplifier.

Now you're ready to put Power Switch to "POWER ON" position.

Leave the amplifier in this state for at least thirty seconds.

Plug your signal cable into input jack than you're ready to put Standby Switch in "ON" position. Now you can rock'n'roll!

## MIDI

Duality, despite the full tube audio signal path, is equipped with digital memory which can make saving combinations (preset) of functions inside the amp.

Duality is shipped with presetted midi channel #1. You can't change midi channel on the fly after bought it, but you can ask for a different midi channel at order time.

All the functions are recallable on the fly via midi CC. This is the full CC list:

- Channel selection: CC #100
- Vintage / Modern mode: CC #101
- Lead boost: CC#102
- Master 1 / Master 2: CC#103
- Loop effects on /off: CC#104

All the CC are also be changed for a custom numbers, but only at order time.

## SAVING A PRESET

Saving a preset is quite easy with Duality, it takes only few steps:

- Choose the desired combination of functions (channel, boost, master, etc);
- Keep pressed the "STORE" button for three seconds on rear panel, until corresponding led turn on, than release it;
- By using a MIDI devices able to send Program Change, send the desired PC you want to memorize this particular combination;
- Store led will blink couple time for confirmation;
- Your preset is now created.

You can save and re-save a preset infinite time. With this procedure you can use different midi pedalboards or interface for recall preset without losing data, because all presets are stored inside the amp. You only need to send the exact PC and it will recall the same combination of functions every time forever.

You can exit saving routine anytime by pressing "store switch".

## LOOP FX

Loop effects on D50 is between preamp output and power amp input, right before master volume. It's a buffered 100% serial loop fx with instrument level signal.

When loop effect is engaged 100% of your sound will pass thru the effect wired to send/return jacks. When it's bypassed, the signal goes straight from preamp to power amp.

There's no specific send/return control on back panel but channel volume acts as a "send control" (the amount of signal to be sent to the input of your effect) and master volume acts as "return control" (the amount of signal returning from your signal back into the power amp).

Loop effect can always be activated/bypassed thru the front tactile switch, the footswitch or via midi PC/CC.

**SUGGESTION: if you are hearing some bad clipping sound when loop effect is on, you're probably overloading the input of your effect. Try to lower the preamp signal (by lowering channels volume on the D50 or the input control or your effect) then increase the incoming signal to return jack (by increasing master volume on D50 or output volume of your effect)**

## D50F FOOTSWITCH

Duality comes with D50F footswitch. It can operate only with D50 model, so it can't be used with D100 model.

D50F also can't be used with other amplifiers or devices, since it can be damaged by incorrect uses.

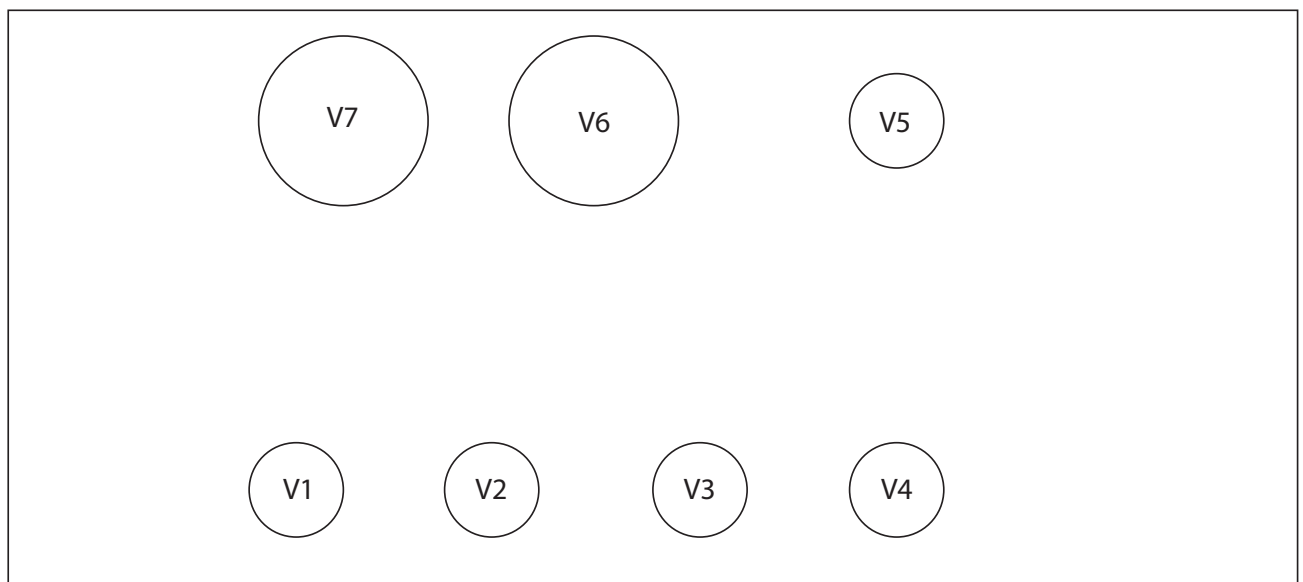
D50F can basically do same things as the player can do with keypad situated on the right side of the front panel. It can:

- skip between CLEAN and DIRT channels;
- skip between VINTAGE and MODERN modes on dirt channel;
- turn on/off LEAD boost on both VINTAGE and MODERN modes;
- turn on/off MASTER 2;
- turn on/off LOOP FX;

## TUBE LAYOUT

This amplifier comes with EL34B type tubes in the power amp section and 12AX7 in preamp, selected by our trusty partners at Tube Amp Doctor. Power tube can't be changed with other type of tubes (i.e 6L6s, KT88s, etc), they can be substitute only with other EL34 type tubes. You need to check the bias every time poweramp tubes are changed. For doing this is necessary to open the amplifier, so please contact us at [info@redseven-amplification.com](mailto:info@redseven-amplification.com)

Do not try swap P.A. tubes without adjusting bias current. In the most case this can lead to a simply tube failure, in some other you can make some serious damages!



FRONT PANEL

V1 - suggested tube: TAD ECC83WA (first and second stage for clean channel)

V2 - suggested tube: TAD 7025 (first stage vintage mode and first stage modern mode)

V3 - suggested tube: TAD ECC83WA (second stage of second channel and lead boost)

V4 - suggested tube: TAD ECC83WA (tonestack)

V5 - suggested tube: TAD 7025 (phase inverter)

V6 and V7 - suggested tube: TAD EL34B (poweramp tubes)

## CABINET AND SPEAKERS

For the best sonic experience ever we highly suggest to play this amplifier with RedSeven Pro Cab series, especially with 4x12 model.

We develop this amplifier thru this cabinet so this is the natural extension for it.

We suggest you to try D100 with Celestion V30 or Greenback or a mix of both first. This is our first choice. Other type and brand of speakers can be good.

## TROUBLESHOOTING

- DUALITY IS NOT TURNING ON  
Check the power chord, sometimes it will be loose and cannot make good contact with IEC socket. Replace it. If this doesn't work check MAIN fuse, if it's blown replace with SAME type and try again to turn on again. If fuse continue to blown, turn off the amp and contact Shiva A.D.
- DUALITY IS TURNING ON (RED LED IS ON) BUT WITH NO SOUND  
First of all be sure to connect speaker cable properly, both amplifier as the cabinet. Check the input signal from guitar too. If this doesn't work check HT fuse, if it's blown replace with SAME type and try again to turn on again. If fuse continue to blown, turn off the amp and contact Shiva A.D.
- DUALITY IS MAKE NO SOUND  
If everything works properly be sure to have both relative channel volume and master volume turned up.
- I'M NOT ABLE TO SAVE A PRESET  
Read "SAVING A PRESET" chapter and do meticulously what it's wrote. You have to follow any step and not swap them. Check midi cable and try to replace it. Be sure to connect your sending devices via MIDI OUT socket and Duality MIDI in socket and not vice-versa.  
If for some reason this doesn't work contact Shiva A.D.

- I'M NOT ABLE TO RECALL A PRESET

Be sure to set up your midi board or midi interface on midi channel 1. Any other channel will not work and you will not be able to recall a preset. Check midi cable and try to replace it. Be sure to connect your sending devices via MIDI OUT socket and Duality MIDI in socket and not vice-versa.

For any problem and in any moment you can contact a qualified tech at:  
[info@shivaaudio.com](mailto:info@shivaaudio.com)

We will reply to you as soon as possible.

## **WARRANTY DISCLAIMER**

Please, do not try to open the amplifier in any case. For any problem contact your seller or write to us. This amplifier runs at very high voltage that can lead to death. Any inexperienced person should not even think of doing anything inside this amplifier. RedSeven Amplification offers a standard two year fully warranty for any component (except to wear subjects).

By removing the amplifier from its wood cabinet or by making any modification to the original state will violate standard warranty and RedSeven Amplification will not be responsible for any damage to people, things or animals.

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