

# The ZROCK<sub>3</sub>



**MODEL ZROCK3**

**DECWARE**

# OWNERS MANUAL

## INTRODUCTION

The ZROCK3 is our most loved 'little black box' because it fixes your sound with a single tube, a switch and a knob. It is completely unrivaled as a tone adder because it does it with transparency in front of Decware amplifiers which says a lot.

Part of the reason it is unrivaled as a tone device is because just adding tone to a dry recording or sub-reference grade source component isn't going to fix much if your frequency balance isn't optimal. The ZROCK3 allows you to fix the frequency balance by either adding a fully adjustable bass shelf to the low end, or by acting as a tilt control where it can at the same time roll off the top end.

It accomplishes the tone shaping passively and without negative feedback which is why it often improves dimensionality rather than hampers it. So in summary, the ZROCK3 adds transparent tone to your system and allows you to adjust the low end and if needed roll off the top end as well.



Shown left is the front of the ZROCK3. From left to right is: Adjustment knob, EQ switch and the tube.

The 12AU7 tube can be removed and installed from the front without requiring internal access.

There is no power switch, the unit employs lower tube voltages to reduce heat and extend tube life, improve sonics and is designed to be left on all the time.

The rear of the unit features one pair of RCA inputs and one pair of RCA outputs, and output level control that you set to match your amplifier or preamp and of course the power cord connector.

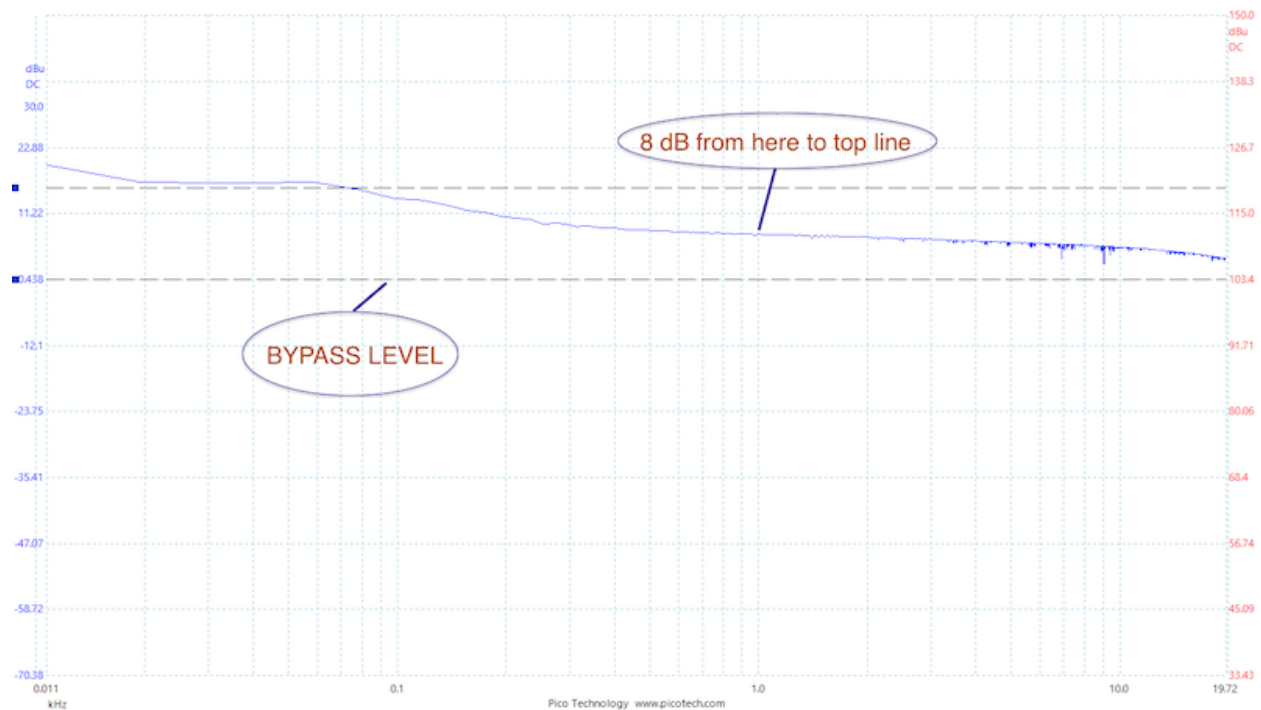
Using a ZROCK3 is pretty much a set it and forget it component most of the time. It is so easy to use that it can be used to remaster recordings on the fly and or as needed which is the idea. Never again will you have to listen to something you like sound too thin. You can just fix it.

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## EQ Slopes

Below you can see on this frequency response graph what a ZROCK2 or ZROCK3 can do.

The bypass level shown in the graph represents the adjustment knob at unity gain (1/2 way up). At this position the response would be flat just like the dotted line. As you get near max on the adjustment knob you have the response shown in blue below. Also the EQ switch was set to ON intentionally causing the highs to gradually roll off during this measurement.



The 8dB signification shown above falls in the midrange at 1kHz where humans will perceive the loudness level. So from that reference there is an 8dB bass shelf and 4dB drop by 20kHz shown in the plot. In extreme circumstances both of these figures can be higher when the knob is fully cranked. Also remember that with the EQ switch off, the response remains dead flat from 1kHz on up to 20kHz allowing you to adjust the bass slope independently.

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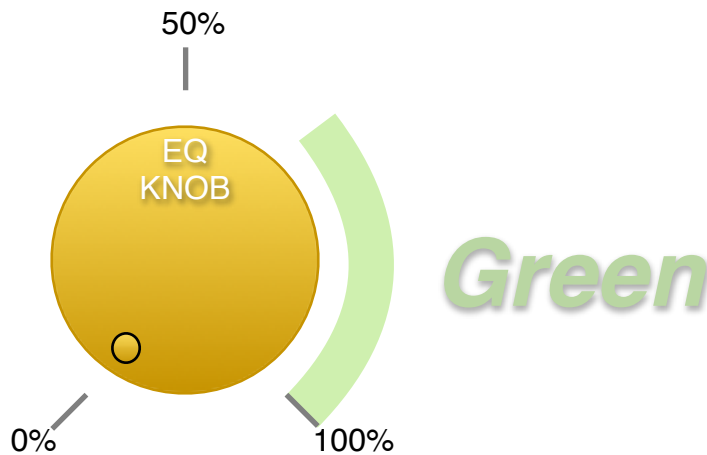
## OPERATION

It is helpful to understand how the ZROCK3 adjustment knob functions as well as the EQ switch directly next to it.

The control works like a volume control from zero to 50% at which point you are at unity gain. Unity means the same amount of voltage comes out of the ZROCK3 as is entering it from your source. From 50% on up the bass shelf begins to kick in until it becomes noticeable in the green zone shown below.

The EQ switch in the off position leaves the highs alone. They remain flat and untouched. In the on position they begin to roll off about midway into the green zone. This means that at your normal listening position somewhere between the 50% mark and the beginning of the green zone, you would not hear anything happen to the top end when you flip the switch but often will hear a subtle change in signature.

From the 50% mark, which is unity gain, the ZROCK3 begins to make gain. Into a 100K impedance you can expect around 6dB through the mid band frequencies. You can adjust this to anything you want with the output level control on the ZROCK3.



The output level control on the ZROCK3 is basically like an input gain control for your amplifier or preamp. It makes it possible to run a ZROCK3 directly into a power amp that has no gain control and get the output from the ZROCK3 adjusted to your liking.

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The output level control can also be used to fine tune the green zone which will want to change from amplifier to amplifier. For example it will shrink into lower impedances making the green zone smaller. This is the fundamental difference between a ZROCK2 and a ZROCK3. Because of the output level control the ZROCK3 will have lower noise and greater compatibility with higher power solid state gear and another level of macro adjustment that will improve the overall operation on any system.

## DIFFERENCES BETWEEN ZROCK2 and ZROCK3

In addition to output level control mentioned above, another difference is that the bypass switch on the ZROCK2 has been eliminated and the EQ switch that was previously on the rear has been moved to the front. This further improves transparency, and while a lot of fun to hear the difference of ZROCK and no ZROCK, over 95% of those polled never turned their ZROCK2 off (bypassed it).

The linear power supply has been redesigned with a custom made toroidal transformer floating in a silicon bed that eliminates 50/60 cycle vibrations on the case of the ZROCK3. It also has a slightly lower noise floor. This further improves clarity and focus.

## TUBE

The ZROCKS all use a single 12AU7 tube. This is a popular 9 pin low mu dual triode that can still be found in new old stock supplies. Compatible substitutions would be 12AU7A, ECC82, CV491, 5814 and 6189.

In cases where lower output impedance isn't needed, like with tube gear, a 12AT7 can be used. This will sound different and have more gain. Do not use a 12AX7. Do not use Adapters.

## TUBE REPLACEMENT

Since the tube is mounted through the front tube replacement is easy, but there are some things to remember. The tube must be no hotter than warm, which is its normal state, and must be cleaned with alcohol prior to removal. This gets finger oil off the glass. Your finger tips should also be cleaned with same. This will allow your fingers to easily grip and remove the tube which would otherwise be nearly impossible.

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## TUBE INSTALLATION

When the ZROCK3 is new, the socket will be very tight. Many have been afraid to push hard enough to fully seat the tube in its socket resulting in intermittent operation of one or both channels. It is always helpful to gently rock the tube a few degrees in all directions as you both insert or remove the tube.

Some new old stock tubes have special pins that are brushed to make it very hard to install and remove on purpose such as is required in industrial applications. This of course makes it even harder to install or remove in a ZROCK3. For these tubes it is helpful to coat the pins with radio tuner cleaner/lubricant prior to installing the tube in the socket.

## TUBE LIFE - HEATER GLOW

Tube life is typically double the manufacture rating due to the lower heater and plate voltages. These lower voltages make it harder to see the tube glowing during the daytime. The tube should feel warm to the touch if it is on for awhile.

## FUSE SIZE & LOCATION

The fuse is a 1.6 amp or a .5 amp depending on your countries voltage. It will be written on the bottom sticker of your ZROCK3. The fuse is located in the IEC connector for the power cord. Remove the cord and pry the compartment open. There is also a spare fuse inside.

If fuse replacement is required, it is prudent to remove the tube first. A shorted tube is really the only thing that can blow the fuse. Always have a known working spare tube on hand.

## RCA CONNECTIONS

The RCA input jacks and output jacks are arranged in vertical pairs. The outside pair (closest to the side of the box) are the outputs. Outputs go to the amplifier or preamp.