

circuitbenders.co.uk MVB – Alesis Microverb 1 & 2 OS switcher:

This guide details the installation of the MVB operating system switcher, and the upgrades you need to do to turn the Microverb I circuit into a Microverb II.

The Alesis Microverb I and II are pretty much the same unit. Purely in terms of the hardware the two units are absolutely identical other than some minor resistor differences that restrict the bandwidth very slightly on the Microverb I, and the Microverb I system runs slightly slower with a 6mHz ceramic resonator for the system clock. The Microverb II runs at 8mHz.

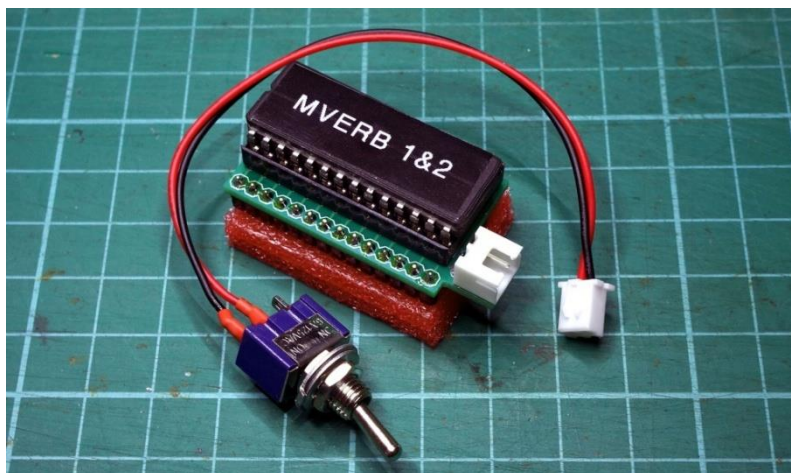
In any respect that matters, the operating system is also identical apart from the preset effects parameters. This means that its entirely possible to copy the data on the operating system EPROM of each unit and burn both of them to one higher capacity EPROM, with a switch to select which operating system is in use. The fact that the OS files are so similar also appears to mean that you can make the switch live without the unit crashing, which is unusual for this kind of mod.

This mod essentially gives you the 16 preset reverb effects from both the Microverb I and the Microverb II in one unit. It doesn't matter which unit you start with, but if you have a Microverb I you may want to make some optional resistor changes to upgrade the circuit to that of a Microverb II, as the Microverb II does have a very slightly brighter sound. Maybe you lose a little of the Microverb I's muffled 'character' when you upgrade it, and the effects will run slightly faster at 8mHz so reverbs are a little shorter, but the difference is very small, and if you were reclocking the thing anyway then the clock difference is irrelevant.

Basically on any standard dual OS unit with Microverb I resistors and clock, the Microverb I effects will run as normal, but the Microverb II effects will run slightly darker than they would on an actual Microverb II, with marginally longer reverb tails.

On a dual OS unit with a Microverb II resistors and clock, the Microverb II effects will run as normal, but the Microverb I effects will run slightly brighter than on an actual Microverb I, with shorter reverb tails.

We've made it sound unnecessarily complicated there, but in the real world it probably doesn't really make much difference either way. We normally upgrade a Microverb I to the Microverb II setup purely for the sake of it, but its entirely up to you.



The dual operating system MVB kit consists of a programmed EPROM and a custom PCB with a switch on the end of a cable. In order for the kit to be thin enough so we can ship as a cheaper large letter rather than a parcel, the EPROM will not be plugged into the socket when it arrives. You will need to carefully insert it with the orientation as shown above. Be **VERY** careful not to bend the pins on the EPROM or the underside of the PCB when you push it into place, and try to ground yourself briefly before touching the EPROM pins to avoid static damage, like you would with computer RAM.

The first thing to do is open up the case and locate the original operating system EPROM on the board. You can find this at the back just by the input sockets. It might say something else on the sticker, but it'll definitely have some kind of sticker on it.



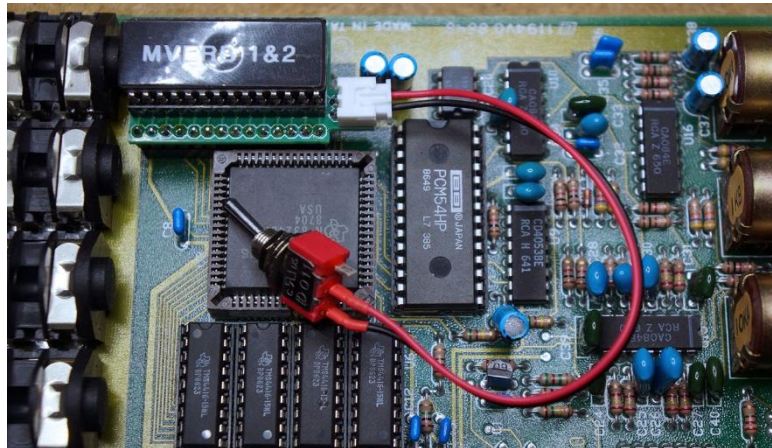
You need to lever this chip out of its socket. This can be a little tricky due to the proximity of the jack sockets making it difficult to get anything under one end of the chip, but you can probably use something like a small screwdriver to alternately ease it out from either end until it pops free. It doesn't really matter if you bend the EPROM pins as you won't be needing it again.

Once you have the old EPROM out you need to install the new switcher PCB in its place. Orient it as shown below and make absolutely sure you have every pin on the underside of the switcher board lined up with the socket before firmly pushing it into place.



If there's any movement once it's installed then you haven't pushed it in far enough. It should feel like it's going to be quite difficult to remove it again. Given that for some reason Alesis decided to mount the main PCB upside down in these units and so the switcher board will be hanging from the main board, it's essential that it's held firmly in place.

Next plug the supplied toggle switch into the connector on the board and power the Microverb up to test it.



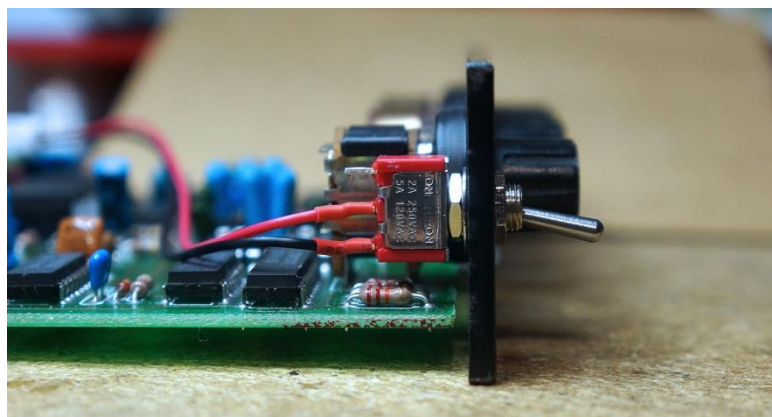
At this point we're all going to ignore the fact that you forgot that the main PCB was upside down, and had a minor panic when the Microverb didn't output any sound because nothing was labelled and you had the input and output jacks in the wrong sockets... ;-)

Assuming everything is still working and you can switch between the presets for the Microverb I and II, you now need to mount the switch. We normally do this by drilling a hole in the position below.



We highly recommend that you take the front panel off to do this. You do not want to be stressing pot connections and flailing around wildly with a drill attempting to do it with the main board still attached.

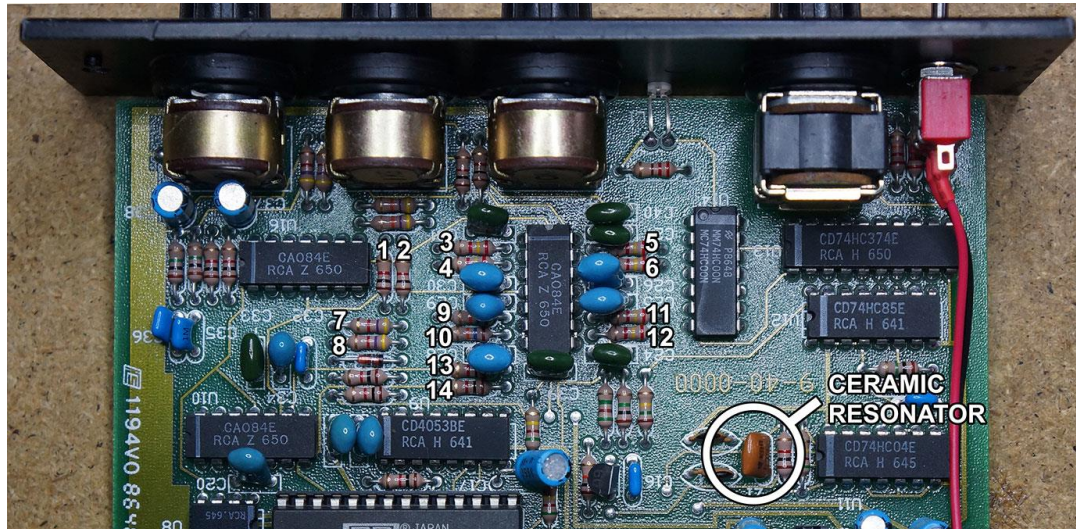
Mount the switch as shown below with the two wired pins closest to the board. When you reassemble everything with the front panel the right way up, the Microverb I presets should be in the upward position and the Microverb II ones in the downward position.



Resistor and clock changes:

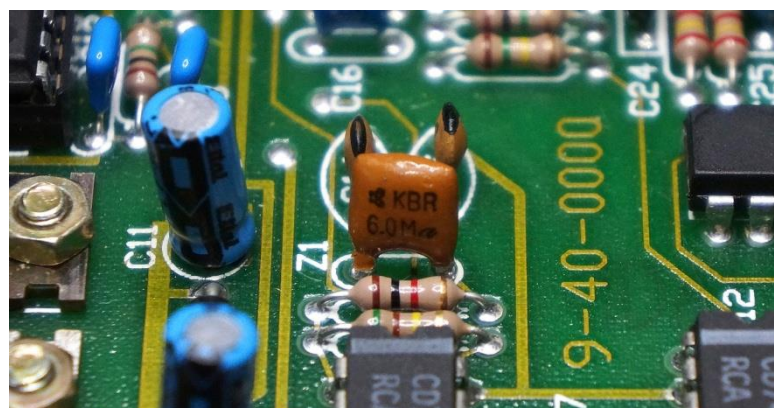
If you want to change components on a Microverb I so that it effectively becomes a Microverb II that also runs the Microverb I presets, you'll need 14 new resistors and an 8mHz ceramic resonator.

The resistors you need to change are shown below:

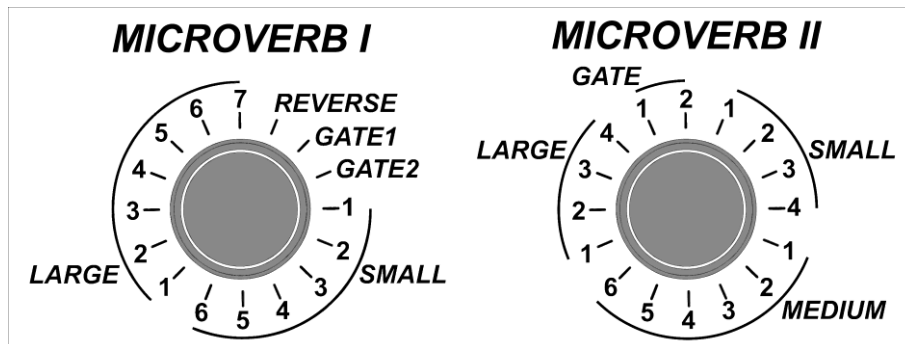


Resistor	Microverb I value	Microverb II value
1	1k	680R
2	1k	680R
3	2.4k	1.6k
4	2.4k	1.6k
5	2.4k	1.6k
6	2.4k	1.6k
7	4.7k	3k
8	4.7k	3k
9	16k	11k
10	16k	11k
11	2.4k	1.6k
12	2.4k	1.6k
13	1k	680R
14	1k	680R

The ceramic resonator is the brown thing shown below. Replace it with a 8mHz one.



Heres an exciting 'cut out and keep' guide to the presets on both the Microverb I and the II that you can stick to the top of your unit.



If you want the reclocking mod instructions, take a look [HERE](#).