

General check of Encoders.

All rotary potentiometers on the M 4000 are ENCODERS, i.e. they are electronic devices which control a counter for up or down of levels etc.

Only TWO of the potentiometers on the M 410 / M 411 are real potentiometers: Headphone LEVEL and talkback LEVEL.

How to check the ENCODERS:

Switch ON the console and wait until it is ready to work.

Now select any input channel and turn the encoders. To stay in a logical sequence, you should start with the upper one on the left side and go across to the right side.

The last encoders (the data wheel and the PAN for groups) are located on the groups panel.

Turn the Encoder and look at the LED's next to it. They should go up or down smoothly, i.e. follow the direction you turn the encoder.

If the LED's tend to jump or fall back while you are turning the encoder up, the contacts in the encoder are worn out. The encoder needs to be replaced.

Now switch OFF the console.

When you are checking the encoders one –by – one please note down which one of them does not do what it should – this are the ones you should replace.

If your console has been used for many times and is older than 4 years (which most of the consoles are) then you should consider not only to replace one – replace ALL encoders!

You will have to open the console anyway, and all encoders per block are mounted onto the same PCB which you will have to take out anyway. So it would be a wise solution to take them all out and to put in the new ones. Some people try to clean the encoders, i.e. they open the case and spray clean the contacts with a special lube – yes, that is possible – but should only be the last idea to have).

These encoder are made by ALPS and they can be found in other digital consoles or devices of studio equipment. You must look out for the right size of the shaft, the one on the M 4000 is 12mm long and made of plastic. If you only can get the standard 16mm shafts or longer, it is possible to cut them shorter with your plyers or a very sharp knife. Do not use metal shafts, static problems could occur.

When unsoldering the pins be very careful!! Some of the soldering eyes may come loose and will be torn out when taking the encoder from the PCB – or they rip off the tracks if not unsoldered completely (have solder-sucker and vacuum sucker handy)! Always make sure that every track from the connector is making contact with the new encoder – you better do this prior to assembly of the panels!! Use your digital multimeter!

When the new encoders are in, switch ON the console and try them out individually.

More questions? Mail to chris@cwaudio.com