

## **Service Memo for Tactile M 4000:**

### **Topic: Software update M 411 motorfader-system.**

The update-kit contains:

1 x U 12 for M 440 V 3.0  
1 x U 13 for M 440 V 3.0  
1 x TC interface in M 440  
1 x DCC V 110 for Sub CPU in M 411  
4 x M-Fader V 1.10 in M 411  
12 x Sub CPU M 420 V 2.20  
2 x Sub CPU M 430 V 2.20

### **Action:**

### **ATTENTION!!!**

**You will loose all settings and memories which are stored in the E-E-Proms, unless you store them on to your HDD. Make sure that you make a proper backup of your system!!!**

To update the software, you will have to open the units M 420, M 430 and M 440. plus the M 411 motorfader controller.

**All E-E-Proms are mounted on sockets – so they are quite easy to identify on every board.**

SWITCH OFF the console and the audio rack!!

We start the update with the **fader controller M 410 or M 411:**

The DCC E-Prom is sitting on the sub-CPU under the LCD-display.

Take off the fader panel from the group-channels carefully. Then unscrew the 4 screws holding the LCD display, now you have good access to the DCC E-Prom. Carefully remove the E-Prom from it's socket, and then bring the new E-Prom into it's position. Put back the LCD display and tighten the 4 screws.

Now look for the large motorfader-mainboard on the bottom part of the controller.. Here you see the E-Prom and take it out carefully. Replace it with the new version. Then please open the three input fader panels and look for the E-Proms on the main fader drive board in every fader bay, exchange and assemble carefully.

**Make sure all E-Proms are sitting firm and correct in their sockets ( sometimes one is "spreading a leg" out of the socket, so please check carefully!!!**

Next unit to change the E-E-Proms is the **central computer M 440.**

Here the E-E-Proms are mounted on the lower main board of the computer. Access to that board is from the rear of the M 440.

It will be best to take out the M 440 from the 19" rack, place it on a table and unscrew the 4 screws holding the lower part of the rear panels ( there are two ) The correct panel is the one with the many connectors mounted to the rear.

When screws are loose, carefully pull out the rear panel by about 2 to 3 inches ( 5 to 7 centimeters ), as this board is connected with some delicate wires to the other PCB's inside the unit. Through that gap on the rear you can now see the two large E-E-Proms on the main PCB, which are marked with a label of the relevant software version and as U 12 and U 13. Carefully take out these two IC's and replace with the new version. Check that all "legs" of this big IC are sitting in their position on the sockets. Then carefully close the M 440 and tighten the screws.

Put the M 440 into its position in the 19" rack and reconnect all the connectors to the other units and the PSU.

### **Next candidate is the M 430.**

Open the front panel ( 6 screws ) and undo the flat cable for the voltage monitor on the inside of that panel. Be careful not to bend or break that cable.

Now look for the local controller PCB – it is the long PCB on the left hand side on the bottom inside the M 430. It is locked with a barrier strip at the front, and held in position via the screws on the rear. Loosen all these screws, undo the connecting flat cables and the power cable to that PCB, mark these cables correctly and then pull out the PCB. You will see two E-E-Proms on it. Exchange them and then put this PCB back into its position, tighten all the screws and reconnect the cables correctly. Then put the front panel back into its position – but do not forget to plug in the flat cable into the voltage monitor PCB.

### **Finally the M 420**

This will need some more concentration and "logic steps".

Open the two front panel of the M 420. On the upper panel there is the same voltage monitor PCB as you just had on the M 430 – so take off the flat cable as careful as possible.

Now you have the 12 input PCB's in the horizontal position in front of you.

On the left side of the M 420 you can see 6 vertically mounted PCB's, which have a lot of flat cables connected to their front. These flat cables are leading to the input PCB's, where they can be seen and marked in a logical sequence ( which you should think of ). As all these flat cables are fitting to one position on the inputs channels only, I normally mark the rows from top to bottom with 1 / 2 / 3 etc. to identify later for re-connection.

Marked?? O.K. then unscrew the barrier strips holding these six local controllers.

As you can see, the PCB's are interconnected to each other via a flat cable. Mark it and pull it out of the most convenient socket you see. Then pull out all the flat cables running from the local controller PCB to the input channel – but only on the input side. Now you can pull out the controller PCB, place it on a flat table and look for the two E-E-Proms on it. Exchange them and put back the controller PCB into its original position.

**ATTENTION!! Never mix up these controllers, as they are coded for their original position only!!**

Reconnect all the flat cables to the input PCB's, and then repeat that job with controller PCB Nr. 2 , 3 etc.

Take your time – the more care you take at this stage, the less trouble you will have later. Always check if all the flat cables are 100% sitting in their receptacles, they should not be bent, and they should be sitting in a straight 90° angle in their sockets!

When the last PCB has been fitted with the new E-E-Proms, check all connections you have touched inside the M 420 again. Then connect the flat cable to the voltage monitor PCB on the front panel, but do not close the M 420 at this moment.

### **For your information:**

Every one of the six local controllers is taking care of 4 input channels ( 6 x 4=24 ).

The inputs in the M 420 can be located from the top to the bottom as:

1+2 / 3+4 / 5+6 / 7+8 etc. and it is easy to see which of the local controllers is “responsible” for which inputs. Please have that in mind, if you will have a problem at a later stage. It is never “the whole console” it is only a small and easy to trace part of it which may be without a function.

### **Sure everything correct and connected again??**

Then switch ON your console.

The console may wake up in a different way as you were used to before.

Remember: all data are lost – all settings, the clock etc. have to be reprogrammed, this will take you a couple of minutes.

But first, check the functions of your system!

1. In the display of your controller select UTILITY and then VERSION. The display now should show all the sub-CPU's of your console with the actual version number of the software, so it should read 3.0 or 2.2 related to the function. If there is a ----- or xxxx in one of the functions, the new E-E- Prom is either not sitting properly in it's socket, or it has not been recognized by the system. Check which E-E-Prom is not recognized and then look for it in the relevant local controller.
2. Don't panic if this is happening to you.!!
3. Check all the cables again – and maybe you find one which is not sitting correctly in it's socket.
4. Restart the console and check again. Everything O.K.? Now you should make a function check. First, type in the real time clock setting, then type in which of the console presets you wish to have ( were used to ). This is done in the relevant UTILITY and console setup menus.
5. If you have a VCA controller: check every fader and VCA up / down arrow manually – if you have a motor fader controller, you have some comfortable help from the system: Press the blue CLR button twice, then type in 415 825252, followed by ENTER. The menu in the display is changing to FADER CHECK now. Via the F1 to F4 buttons you can select a fader value – and once pressed, all faders will move to that position. Repeat pressing F1 and F3 to see if all the faders are travelling smoothly, if so, press F5 to exit that fader check menu.
6. Now check the memory functions of your console. Select GLOBALS ON and press STORE A, then move some of the faders to a different position and press STORE B, then make a new setting and press STORE C. To check the previous settings, select A ( the faders will move to the original position ) then B and C, so all faders should be travelling to the positions you had selected ( and hopefully remembered ). All correct??

Now you are ready to start working with your new software.