

Service Memo for Tactile M 4000:

Problem:

Interrupted control room monitor signal (or headphones)

Cure:

It sometimes may happen that the L or R channel of the control room monitors will be working intermittently. This problem is either caused by one or more dry joints on the MONITOR PCB or the small VCA-piggy-back PCB's on it.

At first please check carefully if the L or R monitor will cut off when you touch the rear connectors of the monitor board (while the console is ON and a signal is playing). Try to force the problem to appear for several times – so you are sure that it really is a mechanical problem.

If the signal is gone and you touch the rear connector again – in most cases the signal will re-appear. Now you can be sure that this is not a faulty electronic part.

Switch OFF the console and open the front panel of the M 430.

Now have your schematics of the M 4000 handy and look up the pages:

Page E-5 M 430 Cable Connection
Page D-9 M 430 Monitor PCB Assy
Page F –4 M 430 PCB Layout
Page I – 16 Monitor Amp
Page I – 17 Monitor Amp

The monitor Amp is the second PCB from the top.

Switch **OFF** the mixer and und all the cabelling from the monitor PCB, then remove the screws holding the XLR-connectors and the PCB on the rear of the M 430.

Now you take a thin soldering iron (approx 30 W) and some solder (SN 60 type). First, apply new solder to all connections of the 6,3mm jack sockets of that PCB. Then, look at the PCB and find the 4 upright piggy-back PCB's with the VCA's. Each PCB is soldered to the main PCB via 8 pins. Carefully re-solder these pins in both sides, and after that all the other joints close to these pins. No matter, if resistor or capacitor -please apply new solder to every joint you see in this area.

The PCB inside the M 430 normally becomes very hot in the area close to the VCA's, so here is the place to look for dry or cracked joints.

When you have carefully finished that job (it will take you approx 30 minutes) you may put back the PCB into it's original position. Connect all cabelling in the same way and position they were in the beginning and fix the PCB into position with the 5 screws on the rear.

Connect your monitor plugas, switch ON the console and apply a signal to the monitor outputs.

All right? Now carefully waggle the jack in the sockets and see if the signal is still intermittant. If not, you have finished your job.

If YES, please repeat the same procedure as before, i.e. look for bad soldering joints.

Note:

If you have full access to the M 430 and if you can open the top lid of it (best is when outside any rack) you can remove the monitor PCB from it's original position and place it on an isolating surface (plastic sheet, strong carton etc.) where you can be sure and safe from any short circuit to any wires or parts of the M 430 frame!! Connect the monitor PCB to it's fully working cabelling, apply a signal and waggle individual parts, such as VCA-PCB's, capacitors, sockets etc.

Always very carefully and one-by-one only!!

Here you may find loose contacts etc. much faster but **don't touch the tracks** on any of the PCB's **with your fingers or a screwdriver** or any other metal-piece!! This may cause a short circuit or make more damage to your PCB!!

If you have found all loose contacts, switch OFF the console before you start soldering the joints.

When you think you have done the job, switch ON the console and check again.

Finally, when everything is working fine, bring the monitor PCB back into it's original position, make sure that all wires are properly connected and fix the PCB into it's position with the 5 screws on the rear of the M 430.

For your information:

We have seen this fault several times, in all cases it was cured the way as described above. There was never a defective component involved!!

If you have done a proper job, this problem will not re-appear (at least this is the result from the 21 consoles I am looking after, of which 5 have shown that problem).