Korg M3: Touch Screen and Battery Replacement Guide

Cautions:

1. Never open your M3 module with the mains still plugged in – there are live contacts inside.

2. Opening your M3 module will invalidate any remaining Korg warranty (although the warranty may not be much value if Korg cannot supply the replacement part).

3.. I can't accept any liability if you damage your M3. If you think that the steps below are beyond your technical skill, get the module repaired by a professional. Taking the utmost care as you work, and a small amount of technical skill will help avoid damage.

4. Tools and materials required:

- 1pt and 2pt Philips (not Pozidrive) screwdrivers.

- Sharp bladed knife (e.g. Stanley knife).

- Double-sided sticky tape.
- Something to protect the knobs on the module when you put it upside down on the table (e.g. foam, a **pillow/cushion**
- **LCD screen cleaner and a lint free cloth.**
- **CR2032 Battery**

An anti-static wrist-strap is strongly recommended if you have one. If not, make sure you're not wearing manmade fabrics (e.g. nylon), and ground yourself to something earthed regularly when you are working on the M3 module.

5   Replacement of touch-screen:

5.1 Remove the M3 module from the keybed (M3 with keybed)
Disconnect the module from the mains
Disconnect all connections from the module (inputs, outputs, damper etc.)
Disconnect the module from the keybed (mini-din connector on bottom of module)
Unscrew and lift off the retaining bar above the keys (4 screws on M3-73, not sure about other models):

Detach the LH1 bracket(s) from the frame at the rear.
Lift the module clear of the keybed.

5.2 Remove bottom plate of M3 module:

- Mount the module upside-down on something soft (e.g. foam, a cushion, pillow etc.) so that knobs / sliders etc. don't get damaged. Seen here mounted on a couple of foam blocks:

- With a **Philips** screwdriver, remove the 3 screws on each side of the bottom plate at each end of the module. These screws are longer than the others in the module, so keep these separately:

- Remove the 5 screws on the front and back of the module that secure the bottom plate. This includes the two large slot-headed screws on the back of the module used for securing the LH1 brackets:


- **Carefully** lift the bottom plate away from the unit. It is still attached by the cable connecting to the keybed connector. Disconnect this cable:


- Now you can remove the bottom plate from the module, and keep to one side.

5.3 Remove main board:

To get to the LCD module, you need to remove the main board of the M3. This is the large board seen in the picture below. It has a smaller board piggybacked on top of it – however both can be removed as one unit, so you don't need to remove the smaller board:
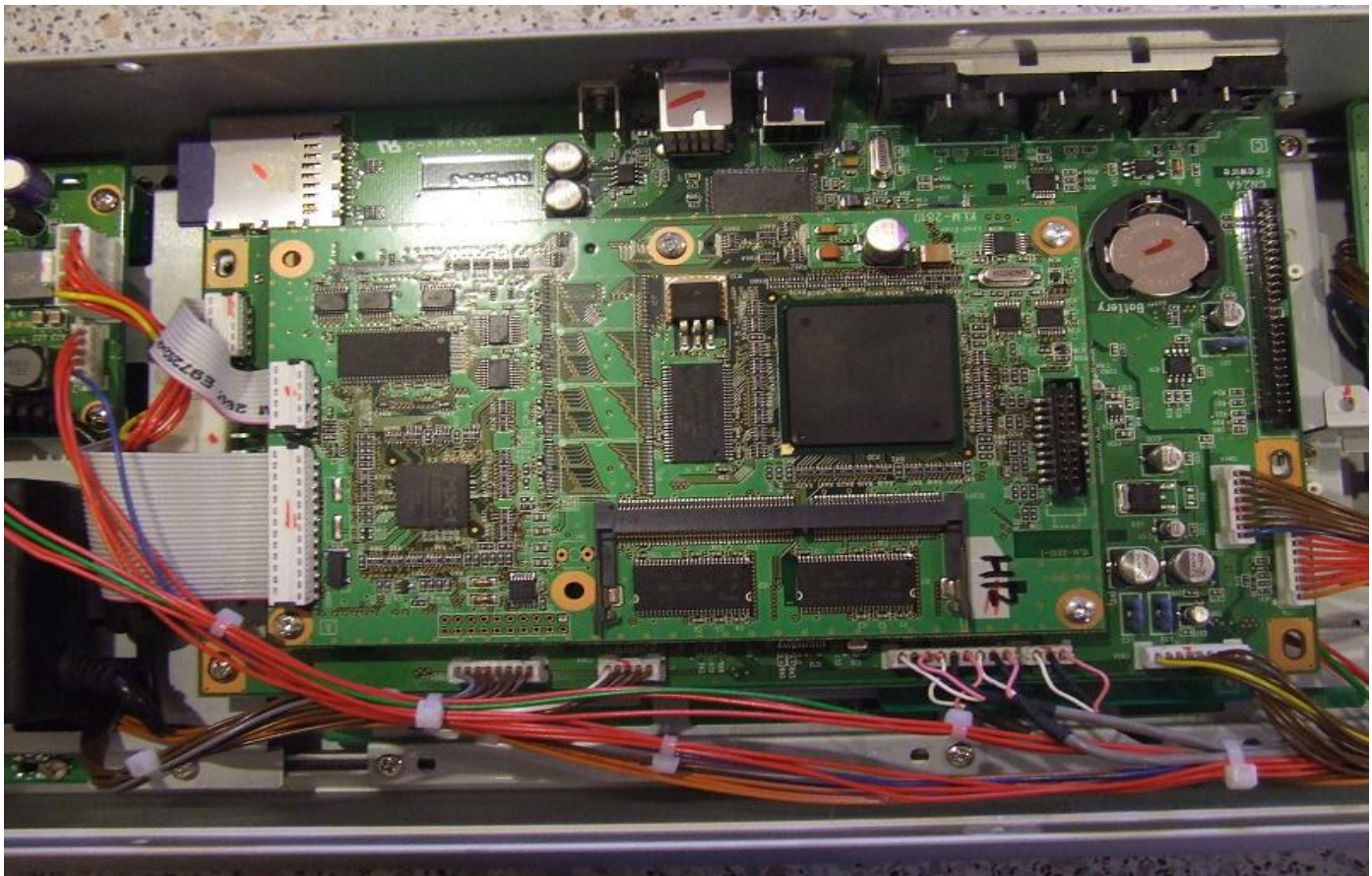
- To start removing the main board, carefully disconnect the 7 connectors highlighted in yellow below. The large LCD flex connector on the left of the picture is the hardest to remove (Note: when I removed the main board, I started by removing the screws, then removed the connectors, however I think removing the connectors first is probably safer!). When disconnecting the connectors, take care not to bend the boards at all:
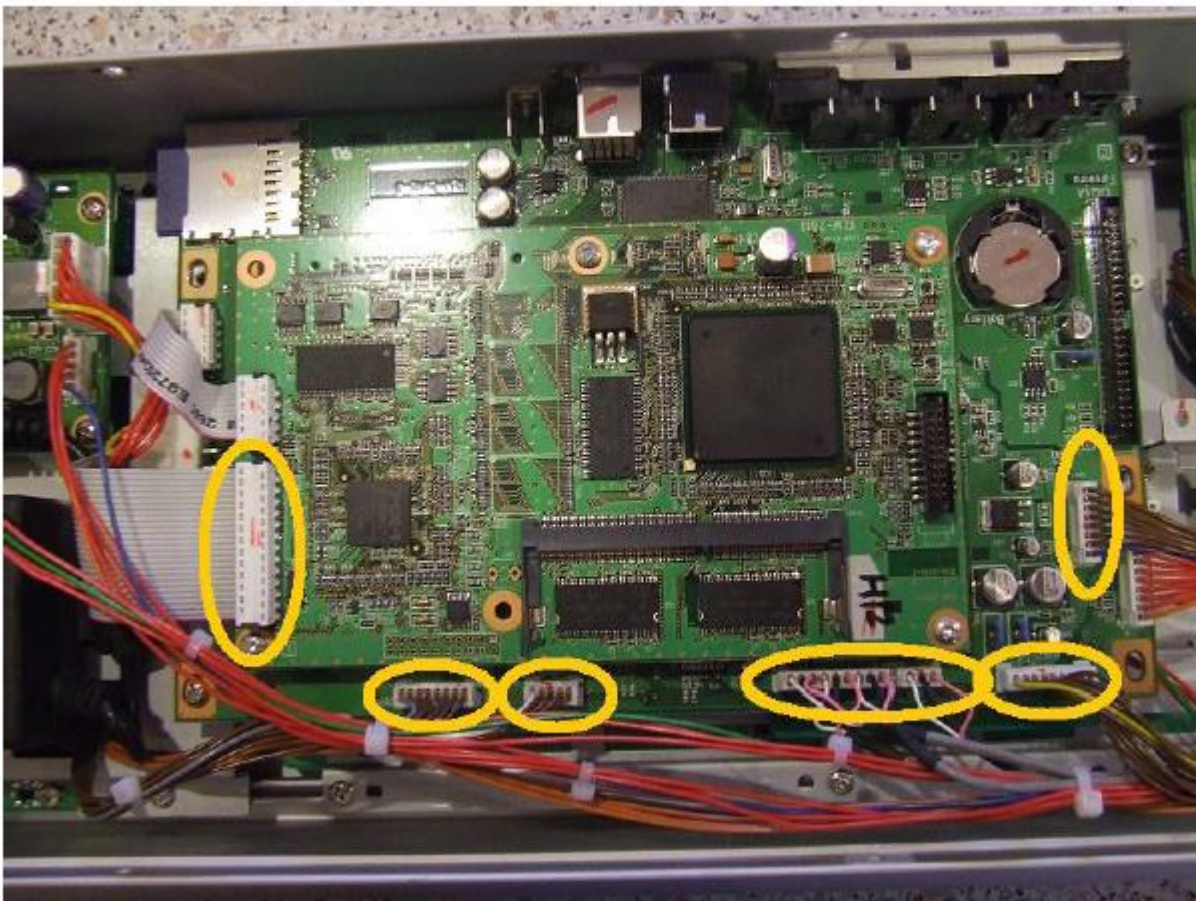
- Remove the 3 screws highlighted in blue below:

Battery CR2032
Verify Polarity then
Replace
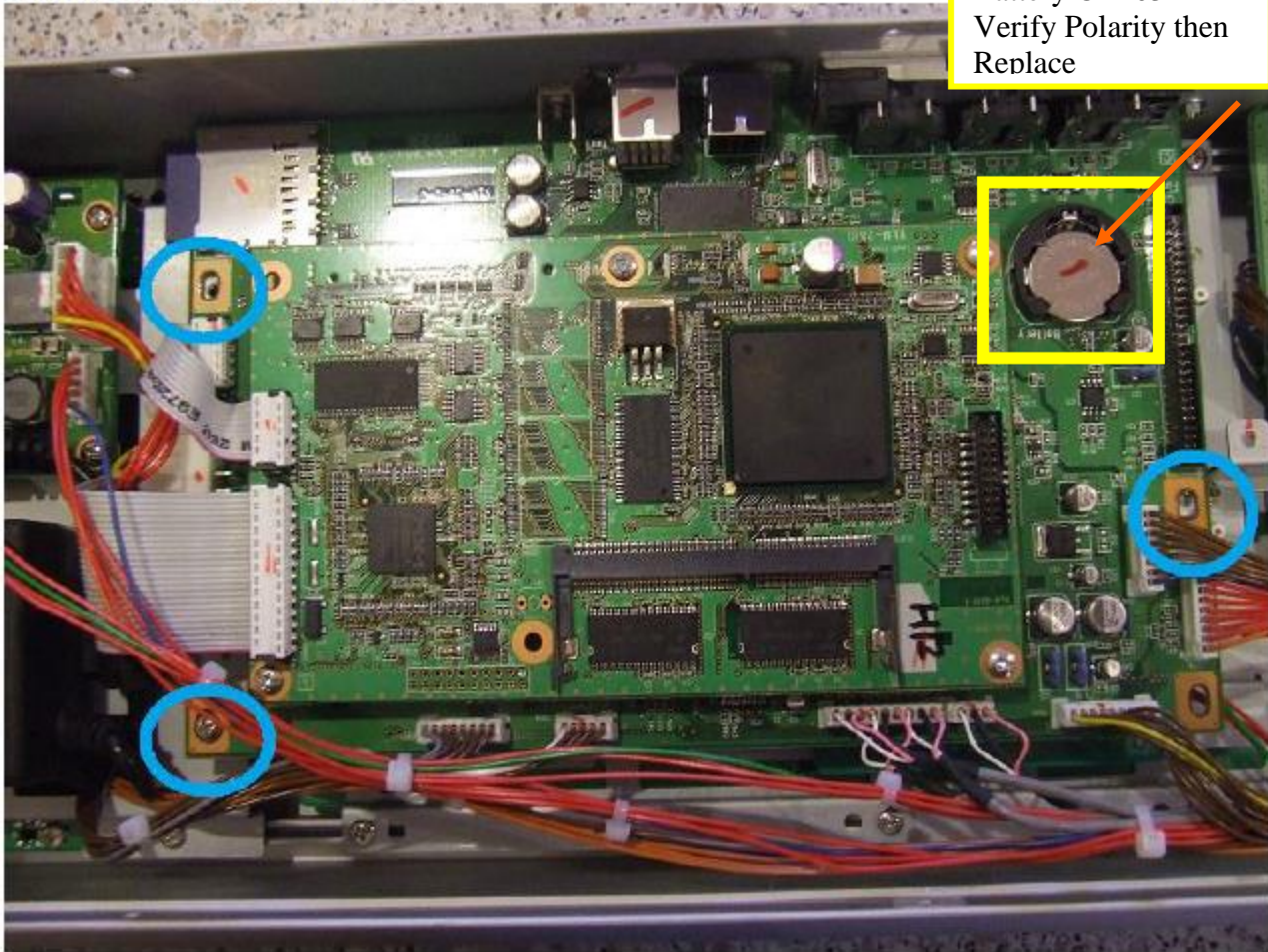
- On the rear of the module, remove the 3 screws that are either side of the midi connectors, and beside the USB connector:

- You should now be able to lift out and remove the main board (note that I took this photo prior to removing the connectors):

Touch Panel Flex Connector
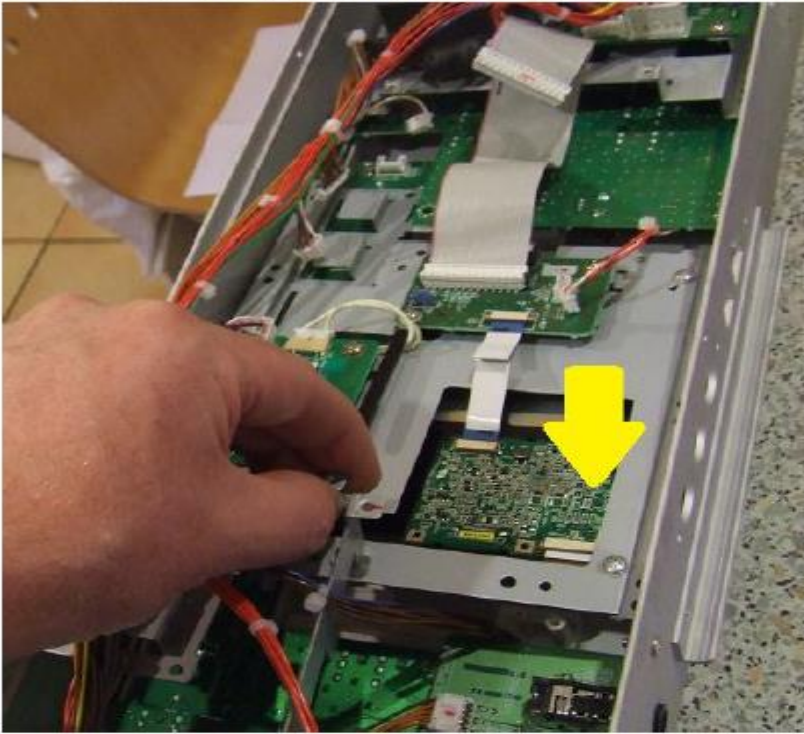
5.4   Remove LCD module:

The inside of the module should now look like this (note that I took this picture after I had removed some further screws, so there will be some more screws visible:


- Remove the screw that holds the vertial bracket to the right of the LCD module to the board to the right of the module (when viewed as in photo above):

- It should now be possible to remove the LCD module by lifting one end (bottom of picture below) and carefully pulling it sideways as in the picture below. Take care not to bend the board beside the LCD module (above module in picture below):

- Remove the 6 screws that hold the LCD module to the top of the module, plus the two screws at the end of the switch / power supply board to the left (in the photo):
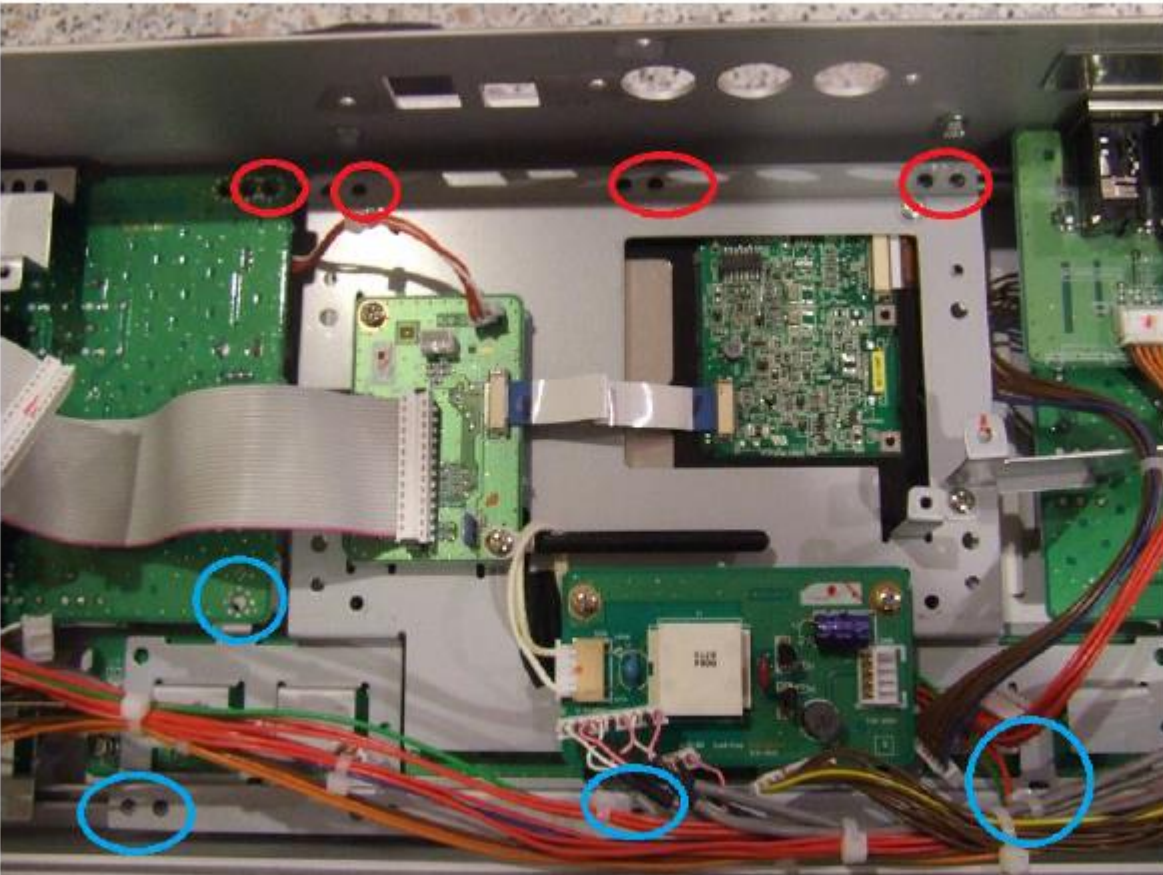
- Remove the two end screws that hold the metal work at the LCD module end of the power supply board (to the left of the picture above). It should be possible to lift the end of the power supply nearest the LCD module slightly.

- The removed LCD module should look like this:

5.5 Remove and replace touch-panel:

- *Carefully* disconnect the touch panel flex from the connector on the board on the back of the LCD module. Note that to disconnect the connector, the front part of the connector slides forward, and the flex will slide out easily.
- *Important Step: Locating the new touch panel exactly is very important, so before removing the old touch panel, we need to draw round it using a permanent marker:*

Pay close attention to what side the existing screen is showing. The new screen will need to be installed the same way, green color side closest to LCD, otherwise the connector will be wrong side up and no connection will be made to the LCD.

- The touch panel is bonded to the TFT display using double sided sticky foam. To remove the touch panel from the TFT display, carefully cut around the sticky foam using a very sharp knife. *Note the following:*
  - *Don't put your hands or anything else in front of the knife when you are cutting, so that you don't injure yourself if the knife slips.*

o *Keep the knife level so that it doesn't touch or damage the front surface of the TFT display:*

- After cutting all the way round, it should be possible to separate the touch panel from the TFT display easily.

- Remove the remains of the double-sided sticky foam from the front of the TFT module:

- After completely removing the remains of the double-sided foam, replace the foam with new double-sided sticky tape or foam (sorry, not very clear on the photo below). Take care not to cover any of the TFT display glass with tape:

- Now clean the front of the TFT with some TFT cleaner and a dry lint free cloth, just to make sure you don't leave any fingerprints or dust on the display.
- *Important Step: Make sure you get the new touch panel the right way up and the touch side facing outwards – compare with the original panel to make sure.*
- *Important Step: Carefully replace the new touch panel (holding it by the edges), lining it up with the lines you drew earlier so that it goes back in exactly the same place as the old panel.*
- Carefully re-connect the new touch panel flex to the connector on the back of the LCD module (pull out front of connector, push flex in, push front of connector back to lock).

5.6 Re-assemble module
- Re-assembly should be the exact reverse sequence of dis-assembly.
- Take care when re-connecting connectors that you don't bend the boards at all.
- I noticed that the backup battery can move slightly when the main board is removed, so make sure this is re-seated after replacing the main board.

5.7 Calibrate and test
- Now the module is re-assembled, power-it up and switch on. **Take care not to power up the module before the bottom cover is replaced to avoid the risk of electric shock.**
- In Global mode, re-calibrate the touch-panel.
- Check that everything works (including pads, as you may have moved these).