

TECHNICAL DOCUMENTATION

MX X2G2 and MC Dismantling Guide

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Revision History

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Glossary of Terms, Acronyms and Abbreviations

Term /Abbreviation	Definition
PCA	printed circuit board assembly
CSP	Chip scale package

Introduction

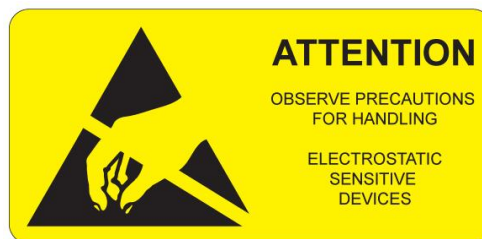
This document describes procedure how to dismantle several camera models with minimal risk of damaging components. Please keep in mind that following this steps still voids warranty.

Handling precautions

Static Electricity

Because semiconductor components are particularly susceptible to damage by static electricity, you must take the following precautions:

1. Maintain relative humidity in the working environment between 40% and 70%. Use of an apparatus for ion generation may be needed to remove electricity.
2. Electrically ground all conveyors, solder vessels, soldering irons and peripheral equipment.
3. Use rings or bracelets connected to ground through high resistance (on the level of 1 MΩ). Wearing of ESD clothing and shoes, the use of conductive floor mats and other measures to minimize shock loads is recommended.
4. Avoid the use of styrofoam or other highly static-prone materials for storage of completed board assemblies.



Shear forces

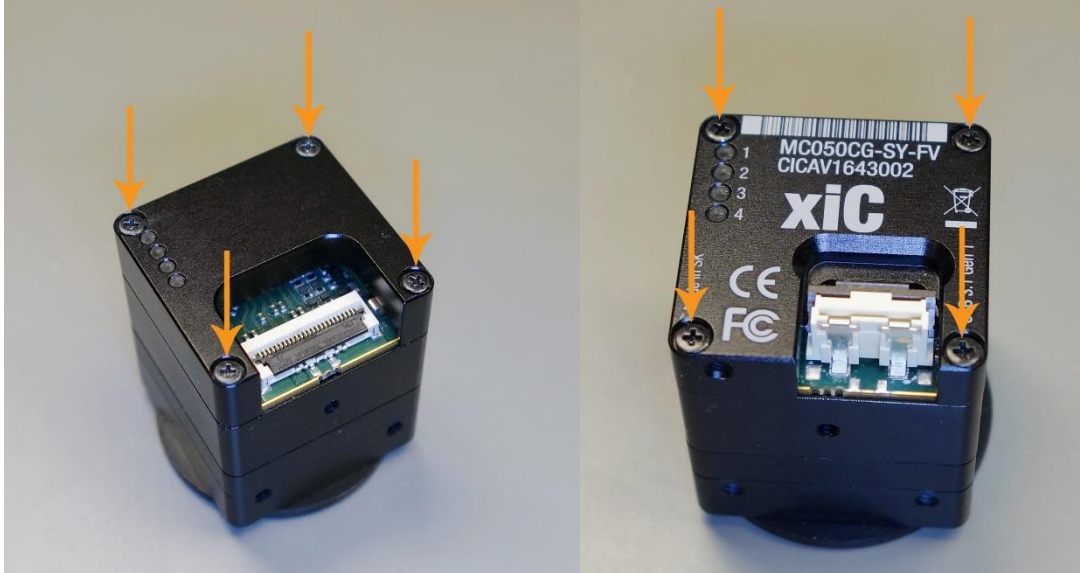
Camera contains CSP packages. Avoid shear forces above 40 g.

Removing back of the camera

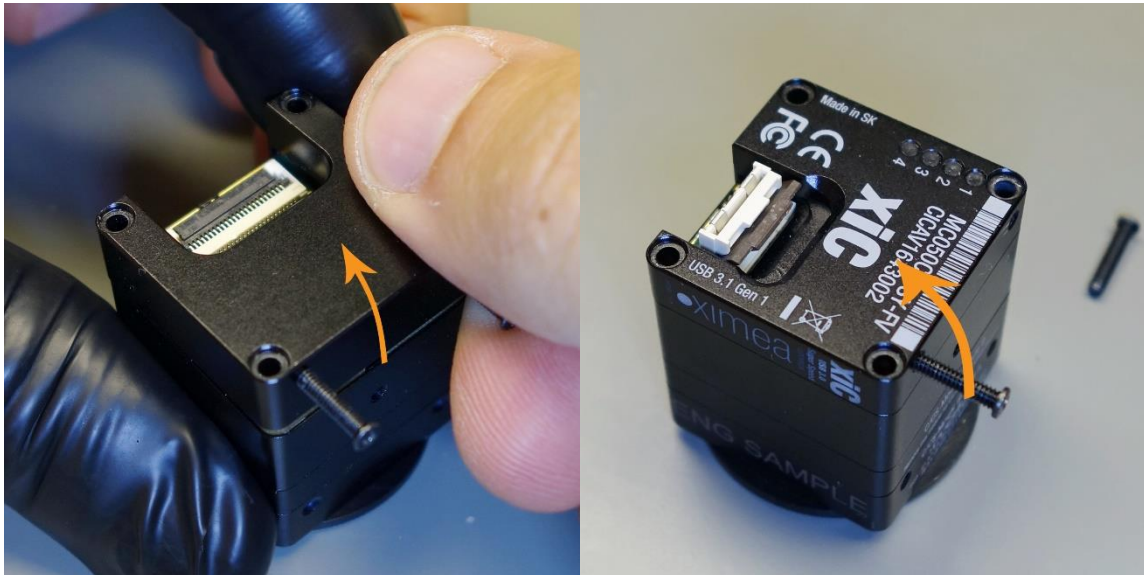
MX X2G2 and MC -FL -FV

For this part of procedure you need type PH0 screw driver, small flat screwdriver and tweezers. Procedure needs to be done in dust free, clean and ESD safe environment.

1. Place camera on the desk facing down. Unscrew and remove 4 screws.

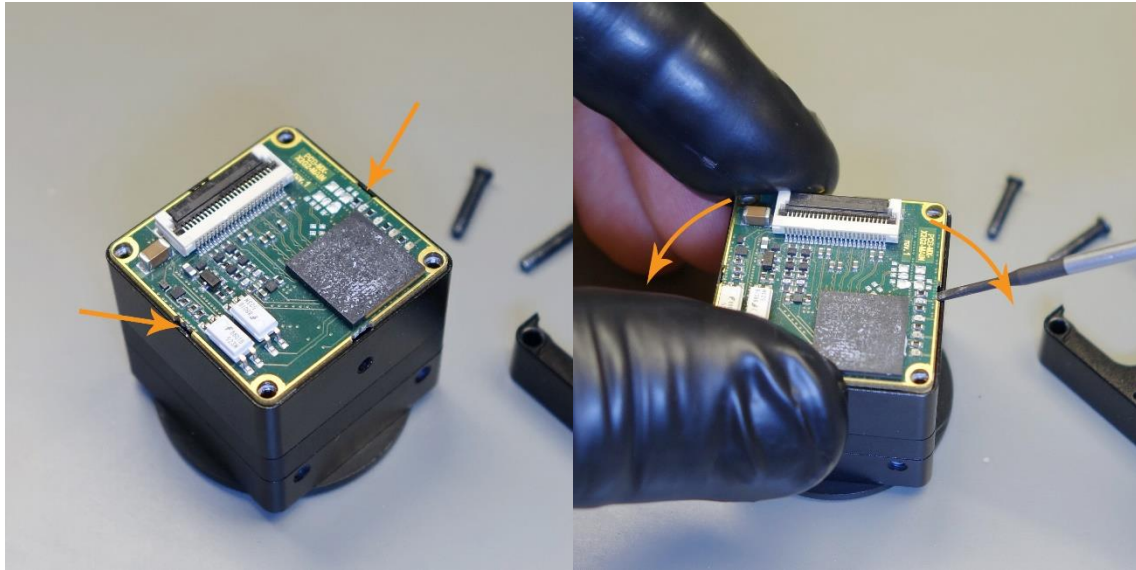


2. To lift the rear part, insert the previously unscrewed screws into the mounting holes as depicted below. Lift the side of the rear part slow. It should not pop out too quickly, as it can damage the PCB or the connector.



Removing back of the camera

3. To detach the main PCA from sensor PCA insert small flat screwdriver in to the marked opening and gently tilt the screwdriver to loosen the board to board connector. Repeat on the other side of camera until the boards are detached.



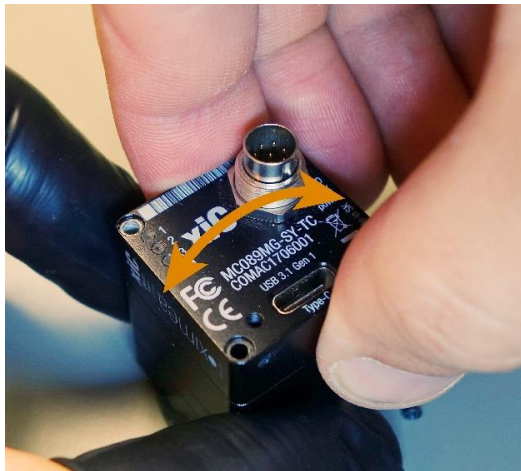
MC -TC -UB

For this part of procedure you need a type PH0 screw driver, small flat screwdriver and tweezers. Procedure needs to be done in dust free, clean and ESD safe environment. This procedure is illustrated in –TC variant of camera.

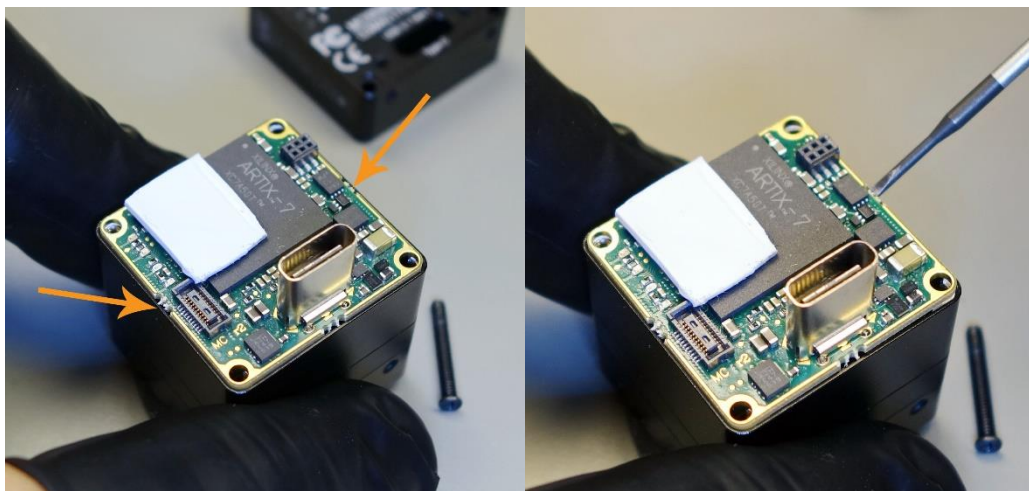
1. Place camera on the desk facing down. Unscrew and remove 4 screws.



2. The camera rear mechanic contains IO circuitry and connector. When removing the rear housing it is possible that the main PCA detaches from the sensor PCA with the rear housing. Be careful not to damage the USB connector. You can gently wobble the rear housing in direction of arrows while pulling it away from the rest of the camera.

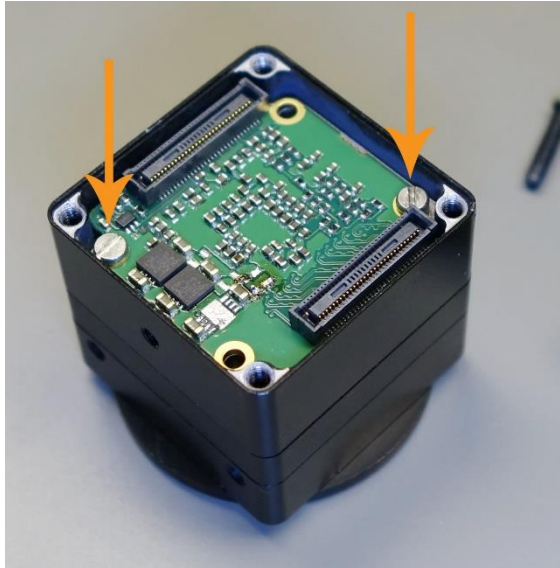


3. To detach the main PCA from sensor PCA insert small flat screwdriver in to the marked opening and gently tilt the screwdriver to loosen the board to board connector. Repeat on the other side of camera until the boards are detached.



Extracting Sensor PCA

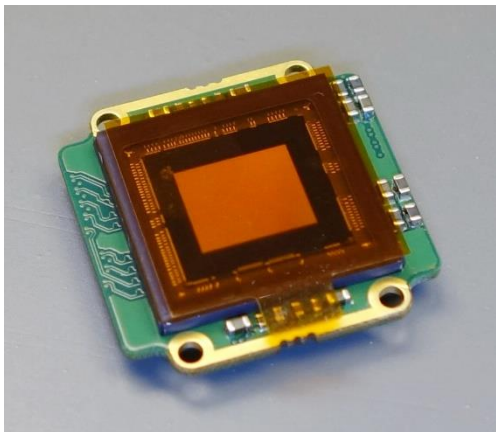
1. Unscrew the screws holding the sensor PCA.



2. Take out the screws and the PCA. Sensor glass is not protected.



3. Cover the sensor glass with protective tape.

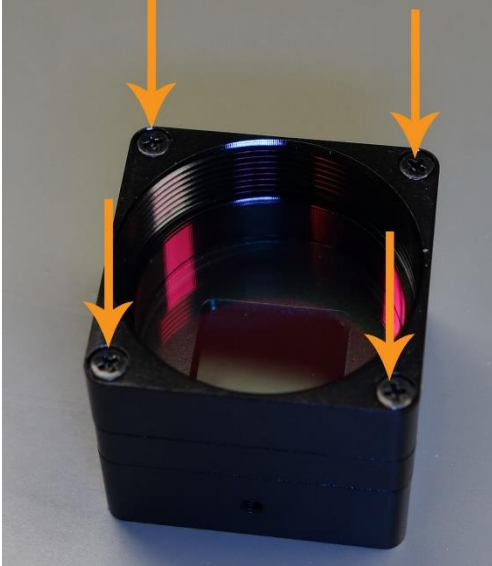


Removing filter glass

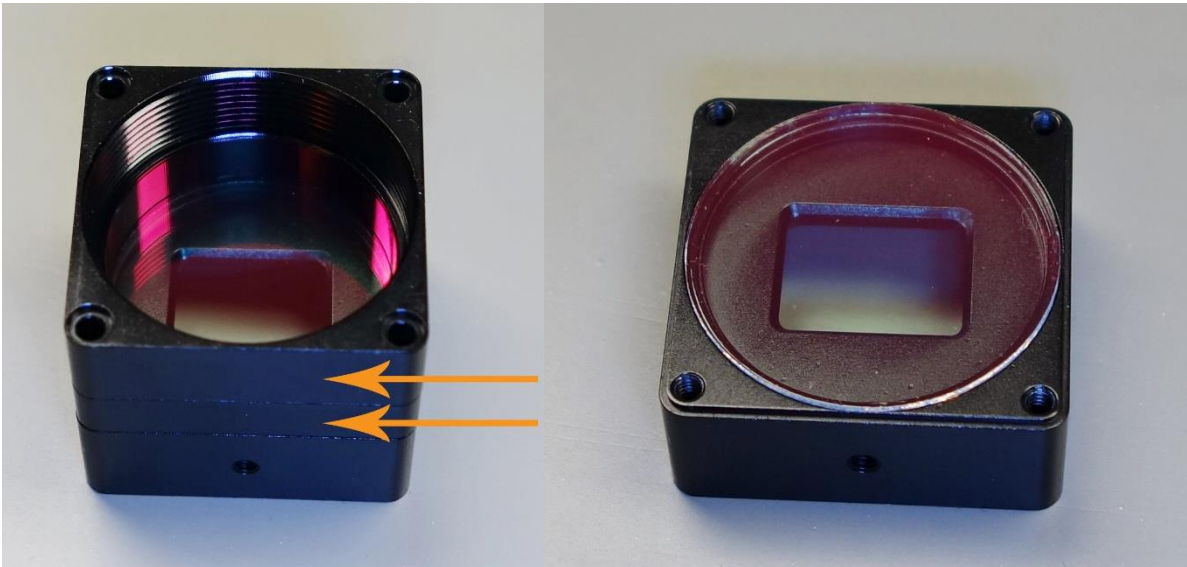
Removing front parts of mechanics

As the filter glass is not glued to the mechanics it might be possible to remove it from camera by dismantling the front part of the camera only and extract the filter glass by vacuum tweezer.

1. Place the camera or the front mechanics on the table with C-mount thread facing up. Unscrew and remove the marked screws.



2. Remove the two front parts. It might be possible to lift the filter glass by using a vacuum tweezer.



Removing filter

Insert toothpick or something similar with soft surface (to prevent scratches on filter glass) through the sensor window and press against the edge of the filter glass as close as possible to the filter edge.



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