



## WinCamD 2.65" Case CCD Sensor Replacement

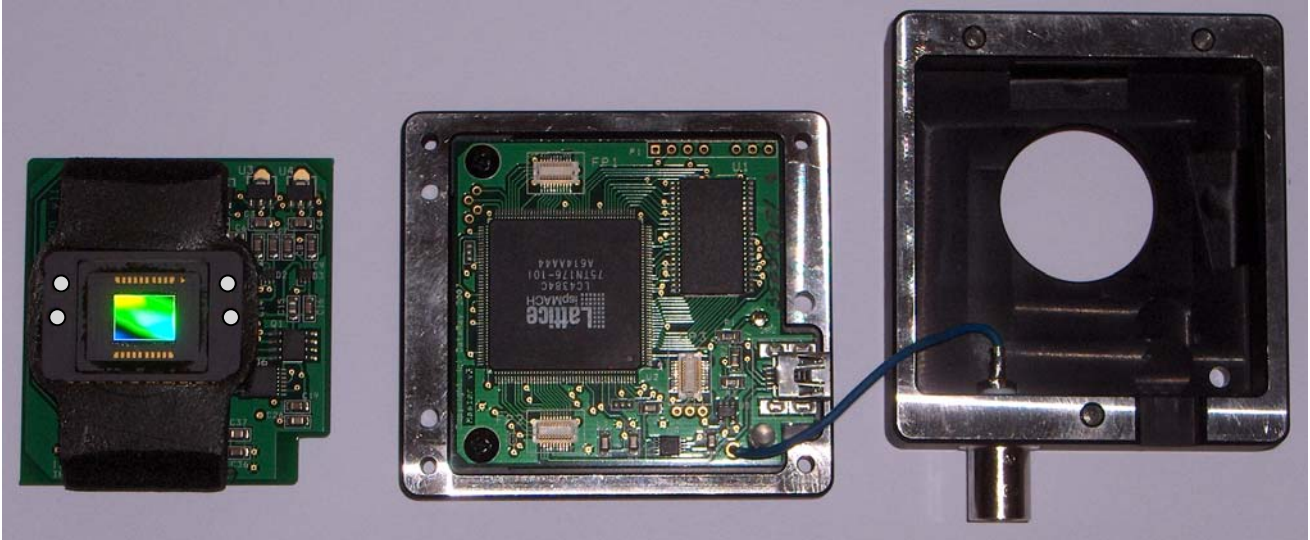
This Application Note describes how to replace the CCD chip in WinCamD products with a 2.65" wide case.

You perform this *at your own risk* in order to save time on shipping the camera back. We charge \$50 over the cost of the sensor for perform a sensor switch. If, after reading the procedure, you feel uncomfortable, and can afford a one week delay, contact [support@dataray.com](mailto:support@dataray.com) for an RMA # and then send the camera back to us.

You will need:

- A dust-free, static-safe work surface.
- A Phillips head screwdriver, size #1.
- A flat blade screwdriver with a thin end and a blade width of ~5 mm. (0.2") for CCD's.

### A. Camera Head Disassembly - Disassembled WinCamD-UCD23 shown



**Carefully read and follow the instructions or you may damage the mother or daughterboard.**

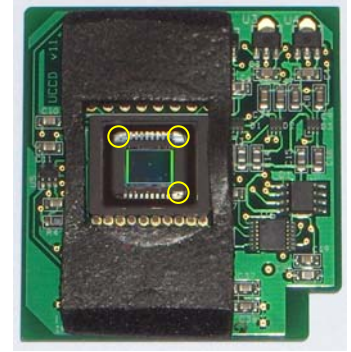
- 1) Disconnect the cable from the camera. Unscrew the ND filter.
- 2) Place the camera face-down on a clean surface (e.g. lint-free paper/wipe). Carefully unscrew the three rear screws that secure the two halves of the camera.
- 3) A daughterboard carries the sensor. It is mounted via three (two on earlier models) white plug and socket interconnects on a motherboard screwed to the back of the case. A piece of compressible black foam around the sensor keeps the daughterboard on the motherboard. This foam is stuck on the daughterboard, and *sometimes* sticks slightly to the inside front of the case. **To avoid shearing the interconnects off the boards, when separating the motherboard and daughterboard, avoid twisting or tilting of one board with respect to the other.**
- 4) Set the camera on its back, USB connector facing right. **Do not tilt up the front of the case.** Carefully lift the case straight up, keeping it parallel to the rear, until the front separates from the back and can be folded to one side. Normally the daughterboard will remain seated on the motherboard.
- 5) Carefully lift the daughterboard straight up, keeping it parallel to the motherboard, until they separate. Set the daughterboard to one side.
- 6) Slide the flat blade screwdriver under the CCD to lift it out of its socket. Work alternately from each side, twisting the blade gently, until the chip comes loose.

## B. CCD Insertion

Leave the temporary CCD cover (opaque, or tape + window) in place as far as possible. When placed in the socket, take care as to the correct orientation:

- a) 1/2" CCD. Orient and align per image on right showing highlighted metallization pattern, with respect to the cutout on the daughterboard.
- b) 2/3" CCD. Orient and align per image on page 1, with the (enhanced) holes in the ceramic towards the 'top' of the daughterboard, the side away from the cutout.

**DO NOT PRESS ON THE CHIP CENTER.** Press evenly on the outer edges of the ceramic. Remove the adhesive cover.



## C. WinCamD Camera Head Reassembly.

If necessary, use a clean, oil-free air jet to remove dust from the assembly and the sensor just prior to reassembly. Do not put the tip close to the bond wires. **Warning:** Standard 'air duster' cans should be held upright and test fired first, or the volatile fluid may emerge from the jet and leave a residue on the CCD chip.

Reassembly is simply the reversal of the disassembly, i.e. Steps 5) through 1), again taking time to sit the daughterboard squarely aligned on the daughterboard before pushing it down.

Connect the camera and verify that it is now working properly.

Problems? Contact [support@dataray.com](mailto:support@dataray.com) or your local distributor.