

Install your C-mount lens on Fire-i400 camera

Manufacturing a C-mount camera that achieves exactly the required 17.526 mm flange back distance to sensor is very expensive. Your lens needs to be that accurate too.

Fire-i400 has been designed so that a small adjustment is always possible by **unscrewing** the lens slightly, and securing the position with 3 side screws (S). Average unscrewing distance is 0.5 mm.

Following procedure allows a perfect match only for C-mount lenses, **not for CS-mount lenses**. When achieved, correct focus becomes possible for any distance supported by the lens, and focus indications will match true object distance.

- Tools :
- 1 hexagonal key 0.050 inch (1.27 mm)
 - computer with 1394 support and Fire-i software installed
- Time :
- 2 minutes

Step 1 : remove camera cap and screw fully the lens

If any resistance, check that the 3 hexagonal screws (S) located on camera C-mount are unlocked.

Step 2 : open iris fully

Iris ring has indications stepped like 16 11 8 5.6 4 2.8 2 ... Rotate the ring until the **smallest** value comes in front of the reference mark

Step 3 : preset focus to infinite

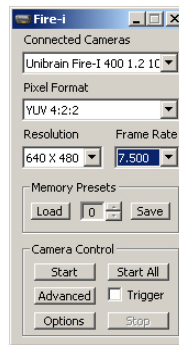
Focus ring has indications stepped like 0.2 0.3 0.5 1 ∞ Rotate the ring until the **highest** limit, or the ∞ symbol if any, comes in front of the reference mark

Step 4 : connect the camera, aim at a FAR, dark, sharp edged object, then open Fire-i application software to display it

Better an object outside, through the window : antenna, tree, post with sky as background. If not possible, select an inside object at minimum 5 m distance.

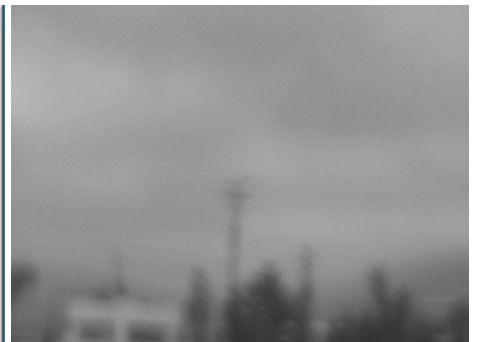
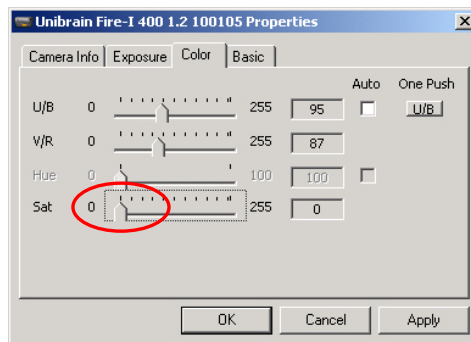
Open Fire-i application, select YUV 4:2:2, 640x480 , 7.500 fps and press Start.

Picture will most probably be blurred.



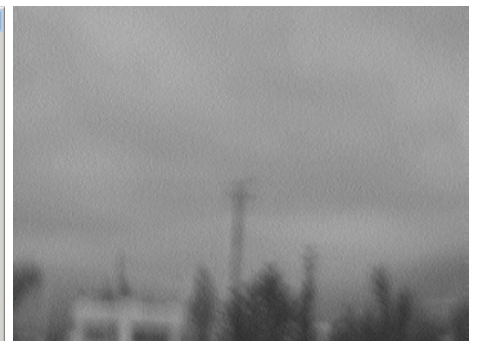
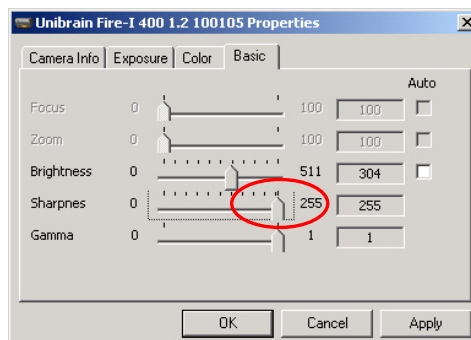
Step 5 : press Advanced, set saturation to 0 in "Color"

Picture becomes Black & White. This helps for adjustment.



Step 6 : set Sharpness to maximum in "Basic"

Picture becomes very noisy.



Step 7 : unscrew very slowly the full lens assembly, until the picture becomes very sharp.

Iris and focus rings may not be touched, and must remain like initially set in step 2 and 3

Hold the lens by the last ring, closest to the camera

Fine tune the best position. Black and White mode and maximum sharpness will help to fine very easily the best adjustment.



Step 8 : secure the lens in adjusted position by locking the 3 hexagonal screws

Use 0.050 inch (1.27 mm) hexagonal key.
Do not apply excessive torque.



Step 9 : check that final result is unchanged, close the Fire-i software, DISCONNECT the camera.

All special adjustments will be reset to default conditions at next power on.