

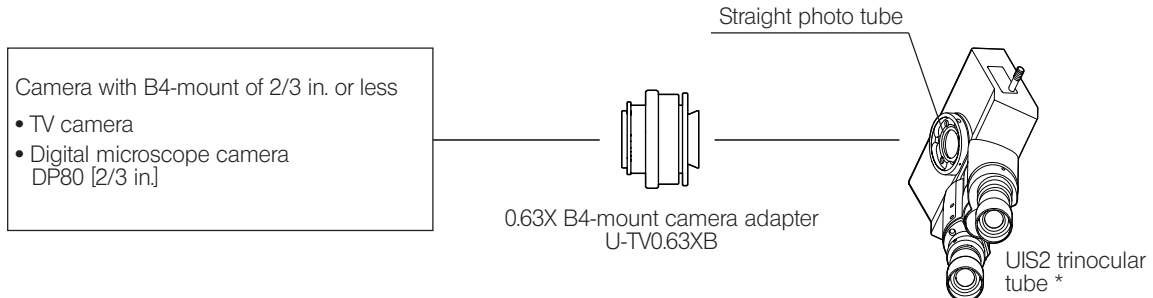
# B4-Mount Camera Adapter U-TV0.63XB

## INSTRUCTIONS

The U-TV0.63XB is a camera adapter with B4-mount (2/3 inch bayonet mount lens), which allows an imaging device such as a digital camera to be installed on a microscope for use in capturing wide-angle images.

Before disposing of this product, be sure to follow the regulations and rules of your local government.

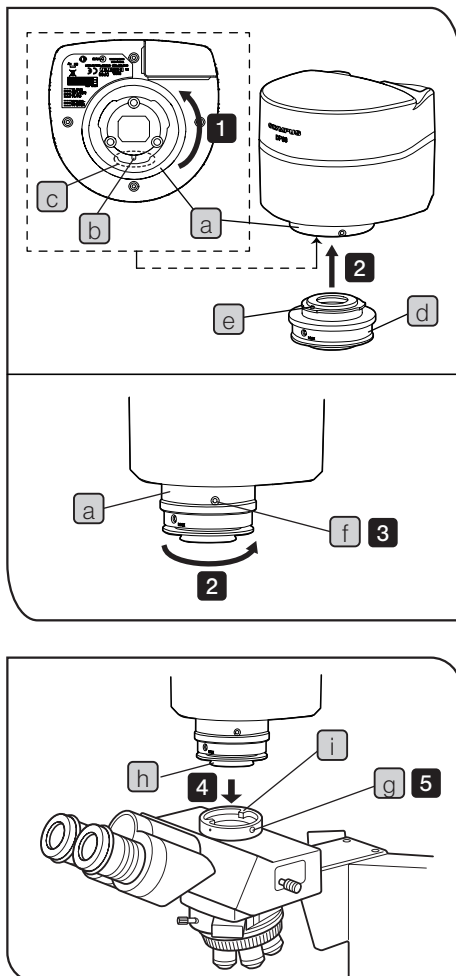
### 1 System Chart



\* This product can be mounted on the straight photo tube of a UIS2 (UIS) trinocular tube (U-TTR-2, U-TR30-2, U-TR30NIR, U-SWTR-3, U-SWETTR-5, U-SWETR, U-ETR-4, U-CTR30-2, U-TLU-1) or the side port of the IX83/73/53, IX81/71/51 microscope.

- ⊙ If the camera uses a larger CCD than specified, the image may lack brightness in the peripheral areas or part of image may be cut off.
- ⊙ If the camera has high sensitivity or is not provided with auto light control, the monitored image may become whitish. Should this happen, lower the light intensity level of the microscope.

### 2 Assembly



**CAUTION** When you attach/detach the camera, be sure to keep placing it on the stable table or desk.

⊙ The following procedure details with the case using the DP80 microscope digital camera.

⊙ When the lens components get dirty, clean it by referring to the instruction manual for the microscope.

**1** Rotate the adapter mounting area (a) under the camera head in the arrow direction to loose it sufficiently, and adjust it so that the positioning groove (b) comes roughly in the center of the notch (c).

**2** Fit the positioning pin (e) of the camera adapter (d) with the positioning groove (b) of the camera head, and push the camera adapter toward the camera head. Then, while securing the camera adapter (d) with your hand, rotate the adapter mounting area (a) under the camera head in the arrow direction to fix the camera adapter temporarily.

**3** Using the Allen screw driver provided with the microscope, tighten the mounting screw (f) of the camera head to fix it completely.

**4** Using the Allen screwdriver provided with the microscope, loosen the straight photo tube clamping screw (g) of the UIS2 (UIS) trinocular tube, and fit the mount dovetail (h) of the B4-mount camera adapter into the straight photo tube (i) of the trinocular tube.

⊙ For convenient parfocality adjustment operation, set the B4-mount camera adapter so that the LOCK screws face sideways.

**5** Insert the clamping screw (g) and tighten it firmly.



### 3 Operation

#### Adjusting the Microscope

- 1 Turn on the microscope light source and adjust the required points of the microscope to make it ready for observation.
- 2 Set the light path of the UIS2 (UIS) trinocular tube to the camera light path.

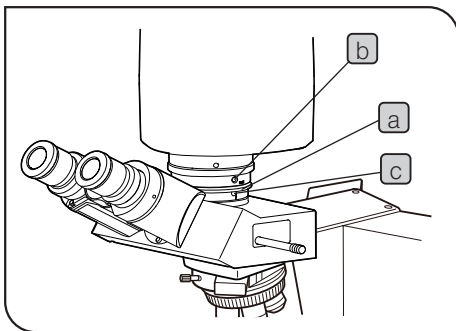
#### Adjusting the Camera and Monitor

- 1 Perform the adjustments such as color adjustment by referring to the instruction manual of your camera and monitor.
  - ⊙ The center of the eyepiece image and that of the monitored image may not coincide correctly. This is a function of the CCD adjustment mechanism of the camera, and not a malfunction.

#### Adjusting the Parfocality between the Observed and Monitored Images

- ⊙ The parfocality adjustment makes re-focusing unnecessary when the observed image is switched to the monitored image. The parfocality adjustment requires the Allen screwdriver provided with the microscope.

**CAUTION** The parfocality adjustment range is  $\pm 1.5$  mm. If the adjustment of the adapter is not enough, also adjust the focusing feature of the camera.

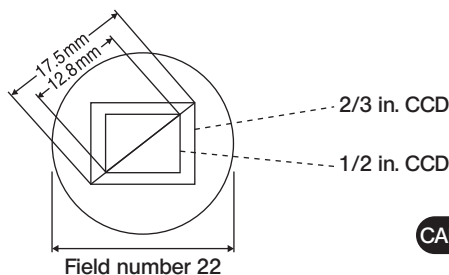


- 1 Using a high-power objective, look into the eyepieces and bring the specimen into focus.
- 2 Switch to a low-power objective, set the camera light path and observe the monitor image.
- 3 Using the Allen screwdriver provided with the microscope, loosen the clamping screw **b** and **c**.
- 4 While observing the monitor image, adjust its focus by rotating the parfocality adjustment area **a** under the camera mount.
- 5 When correct focusing is obtained, tighten the lock screw **b** and **c** using the Allen screwdriver.

#### Rotating the Camera

- 1 Loosen the straight photo tube clamping screw **c**.
- 2 Rotate the camera to the desired position and tighten the straight photo tube clamping screw **c** firmly.

### 4 Imaging Field Area



- ⊙ The following diagram shows the areas of the imaging field when eyepieces with a field number of 22 are used for reference. The image field area is determined by the field of view of the eyepieces and the size of the CCD seen through the camera adapter.

**CAUTION** A part of the image is cut off when a 1 in. CCD is used.

$$\text{Magnification on monitor} = \frac{\text{Objective magnification}}{\text{Camera adapter magnification (0.63X)}} \times \frac{\text{Monitor diagonal length}^*}{\text{CCD diagonal length}^*}$$

\* Differs depending on the manufacturer.

CCD reference: 1 in. camera → 16.16 mm, 2/3 in. → 11 mm, 1/2 in. → 8.08 mm, 1/3 in. → 6 mm, 1/4 in. → 4 mm

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