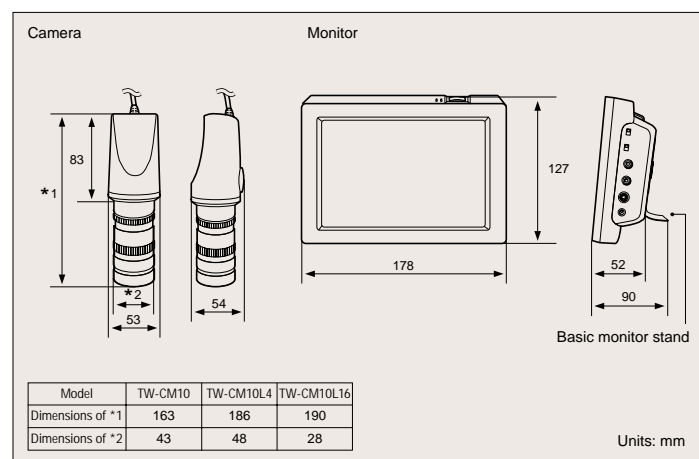


Specifications

Model	TW-CM10	TW-CM10L4	TW-CM10L16
Video signal	NTSC color		
CCD camera	1 CCD, 410,000 pixels		
Lens	C-mounted, Vari-focal lens (manual iris, manual zoom, manual focus), minimum focal distance of 135 mm	C-mounted macro zoom lens TW-CL40 (manual iris, manual zoom, manual focus), minimum focal distance of 153 mm	C-mounted macro zoom lens TW-CL160 (manual iris, manual zoom, manual focus), minimum focal distance of 39 mm
LCD monitor	7-inch-wide, TFT color liquid crystal		
Image magnification	Approx. 4 to 20 times (monitor on Standard mode)	Approx. 4 to 40 times (monitor on Standard mode)	Approx. 20 to 160 times (monitor on Standard mode)
Video input	Pin jack (composite, 75 unbalanced) x 1		
Video output	Pin jack (composite, 75 unbalanced) x 1		
Internal battery	Lithium ion battery, max. capacity: 1,600 mAh		
Power supply, voltage	AC 100 to 240 V, 50/60 Hz (use the supplied AC power adapter)		
Power consumption	24W		
Operating temperature	0 to +40°C		
Storage temperature	-20 to +60°C		
Dimensions	CCD camera: 54 (max. diameter) x 163 (length) mm (not including cable) LCD monitor: 178 (width) x 127 (height) x 52 (depth) mm (Note: depth is 90 mm when the supplied stand is attached.)	CCD camera: 54 (max. diameter) x 186 (length) mm (not including cable) LCD monitor: 178 (width) x 127 (height) x 52 (depth) mm (Note: depth is 90 mm when the supplied stand is attached.)	CCD camera: 54 (max. diameter) x 190 (length) mm (not including cable) LCD monitor: 178 (width) x 127 (height) x 52 (depth) mm (Note: depth is 90 mm when the supplied stand is attached.)
Weight	Approx. 310 g (CC camera), approx. 890 g (LCD monitor)	Approx. 380 g (CC camera), approx. 890 g (LCD monitor)	Approx. 175 g (CC camera), approx. 890 g (LCD monitor)
Supplied accessories	AC power supply cord (2-terminal) 2 m (1), AC power adapter (1), basic monitor stand (1), monitor mounting screw (1), lens-protecting filter (1), lens locking thumbscrew (1), lens cap (1), instruction manual (1), guarantee certificate (1)		

Caution: The lithium ion battery inside the LCD monitor cannot be removed or changed by the customer. If you think the battery has reached the end of its service life, please take the LCD monitor to your Sony dealer to have the battery replaced (a fee will apply).

Diagrams showing product dimensions



Separately sold accessories



Camera stand (standard type)
TW-CT1
A stand (with table) that holds the camera directly over the specimen and allows the camera to be inclined to the left or right.
Dimensions : 250(width) x 320(height) x 300(depth) mm Weight: Approx. 2.6 kg



Camera stand (with X-Y stage)
TW-CT2
While the stand holds the camera steady, the stand table can be moved in the X-Y axes for minute position changes. X-Y stroke 68mm.
Dimensions : 230(width) x 320(height) x 300(depth) mm Weight: Approx. 3.1 kg



Camera stand (basic type)
TW-CT3
A stand with an extendible/retractable arm that can hold the camera at any angle. Can be folded away for storage.
Dimensions : 255(width) x 65 to 420(height) x 310(depth) mm Weight: Approx. 2.55 kg



Macro zoom lens
TW-CL40
A changeable zoom lens for observations in the range of 4 to 40 times magnification. Minimum focal length: Approx. 153 mm. This is the standard lens for the TW-CM10L4 system.
Dimensions: 48 (diameter) x 108 (length) mm Weight: Approx. 280 g



Macro zoom lens
TW-CL160
A changeable zoom lens for observations in the range of 20 to 160 times magnification. Minimum focal length: Approx. 39 mm. This is the standard lens for the TW-CM10L16 system.
Dimensions: 28 (diameter) x 112 (length) mm Weight: Approx. 75 g



Monitor stand
TW-MT1
A table-top stand for the monitor. Enables the monitor screen to be turned 180° to the left or right, and 90° upwards or downwards.
Dimensions: 180 (width) x 100 to 170 (height) x 225 (depth) mm Weight: Approx. 530 g

Bifocal lens
TW-CL20
A changeable zoom lens for observations in the range of 4 to 20 times magnification. Minimum focal distance: Approx. 135 mm. This is the standard lens for the TW-CM10 system.
Dimensions: 43 (diameter) x 85 (length) mm Weight: Approx. 210 g

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SONY

Video Microscopes

TW-CM10
TW-CM10L4
TW-CM10L16

View subjects from any angle. Upgrade your system with ease. This new system has a separate CCD camera and LCD monitor –for greater ease of use than ever before.



TECHNOLOOK
Component Type

The model shown in this photograph is the TW-CM10. The camera stand and monitor stand are sold separately.

The camera and monitor are separate, for freedom of choice of viewing angle. The lens can be changed, and system upgrades can easily be made.

The separate camera and monitor allow freedom in selection of camera angle for subject viewing.

The CCD camera that films the subject is separate and independent of the LCD monitor that displays the subject. The camera angle can be moved through a full 360° and fixed at the desired angle for observation, even under unusual circumstances such as viewing the surface of a subject that is too large to fit onto the specimen table, or peering inside a subject, or when observation space is limited.

The system can be upgraded depending on the application.

Take advantage of the benefits of the separate camera/monitor design that permits freedom of camera layout. The system can be upgraded to meet the requirements of the job. There is a zoom lens, a camera stand to make it easier to adjust the camera position (a task that becomes more difficult the higher the magnification level), and a monitor stand that allows you to tilt the monitor up or down, or swing it to the left or right. All of these accessories are available and sold separately.

Battery power supply lets you take this system to exhibitions, or make observations in the field.

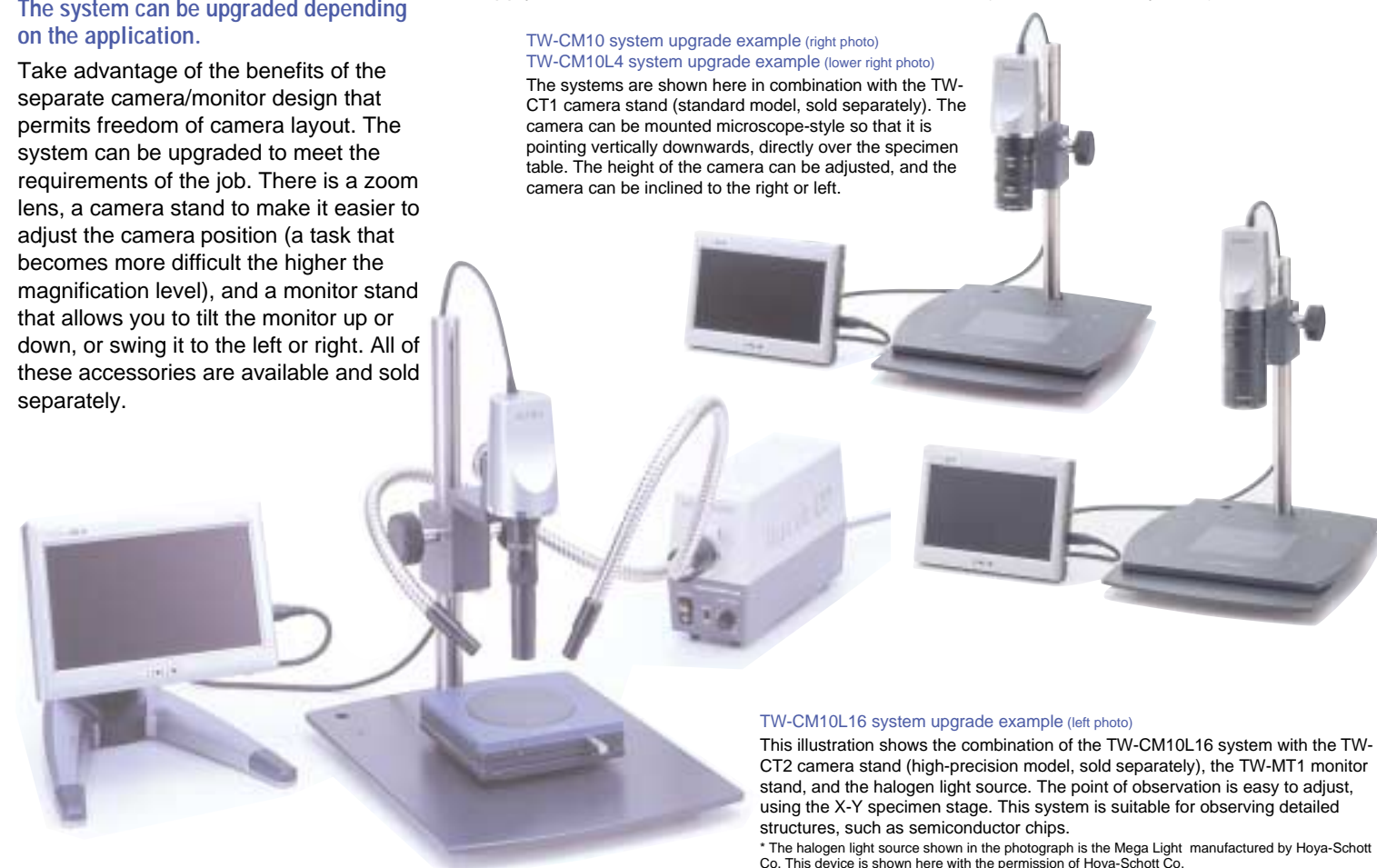
A single cable connects the camera to the monitor. Special connectors allow power to be supplied to the camera while the camera is sending images to the monitor. The LCD monitor has a built-in lithium ion battery. In addition to AC operation, battery operation is available (about 100 minutes of continuous use possible with a fully charged battery) enabling the system to be used in locations that are out of reach of a power supply.

Maximum magnifications from 20 to 160 times. Select from 3 types of zoom lens to suit the application.

The camera has a C-mounted high-power zoom lens. Three models of zoomlens are available to suit the observation requirements, offering maximummagnifications of from 20 times to 160 times. The image magnification ranges displayed on the monitor screen of the various systems are as follows: approx. 4 to 20 times (TW-CM10 system), approx. 4 to 40 times (TW-CM10L4 system), and approx. 20 to 160 times (TW-CM10L16 system).

TW-CM10 system upgrade example (right photo)
TW-CM10L4 system upgrade example (lower right photo)

The systems are shown here in combination with the TW-CT1 camera stand (standard model, sold separately). The camera can be mounted microscope-style so that it is pointing vertically downwards, directly over the specimen table. The height of the camera can be adjusted, and the camera can be inclined to the right or left.



TW-CM10L16 system upgrade example (left photo)

This illustration shows the combination of the TW-CM10L16 system with the TW-CT2 camera stand (high-precision model, sold separately), the TW-MT1 monitor stand, and the halogen light source. The point of observation is easy to adjust, using the X-Y specimen stage. This system is suitable for observing detailed structures, such as semiconductor chips.

* The halogen light source shown in the photograph is the Mega Light manufactured by Hoya-Schott Co. This device is shown here with the permission of Hoya-Schott Co.



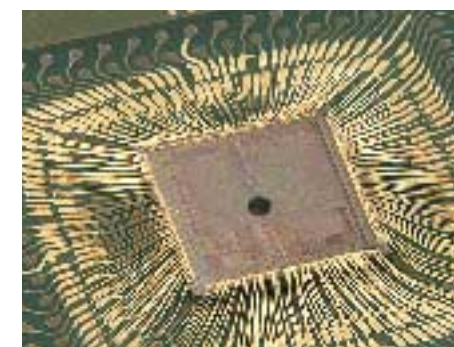
The model shown in the photograph is the TW-CM10. The photograph is a composite.

Other features - The camera and monitor together weigh no more than 1.3 kg. The lightweight, compact design makes the system easy to carry around. - Camera cable, with locking connectors that only fit a certain way, eliminates the risk of cable mix-ups. - Video input and video output for digital still camera playback, image recording to a VTR, etc. - Switch between two screen modes: Full mode (16:9) or Standard mode (4:3). - Supplied with a basic monitor stand. - The camera and monitor come with mounting holes. The camera has standard screw holes to allow the use of video tripods, etc. - Supplied with an AC power adapter compatible with voltages worldwide (AC 100 to 240 V)

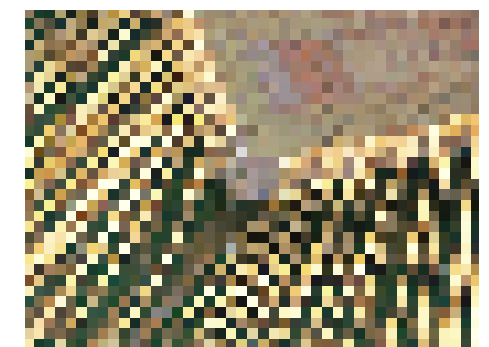
各モデルごとの観察例



TW-CM10
(Using the standard Vari-focal lens)



TW-CM10L4
(Or the TW-CM10 + the separately sold TW-CL10 macro zoom lens)



TW-CM10L16
(Or the TW-CM10 + the separately sold TW-CL160 macro zoom lens)