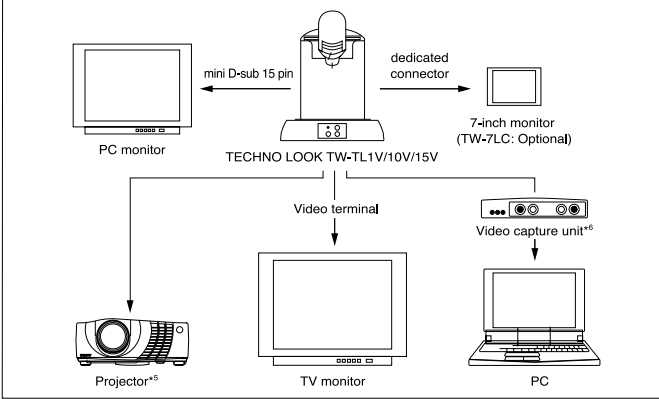


■Specifications

Model name		TW-TL1V	TW-TL10V/10VL*4	TW-TL15V
Lens	Zoom ratio	10x (Manual)		
	Focal adjustment	Manual		
	Iris adjustment	Manual		
	Optical magnification	approx. 0.07x to 0.7x	approx. 0.19x to 1.9x	approx. 0.34x to 3.4x
Camera	Imaging device	1/4 inch Super HAD CCD / 410,000 pixels/ 30 frames/second		
	Swing range (range of horizontal rotation)	±45°		
Magnification*	On 7-inch monitor (Optional: TW-7LC)	approx. 3.2x to 32x	approx. 8.7x to 87x	approx. 15.3x to 153x
	On 17-inch PC monitor (not included)	approx. 6.8x to 68x	approx. 18.7x to 187x	approx. 33.0x to 330x
Vertical observation angle/vertical center adjustment range		approx. 48.5±3°		
Working distance		approx. 155mm		approx. 80mm
Lighting	Lighting device	8 white Power LED units (Full/divided lighting selectable on the front panel)		
	Maximum light intensity*2	7000 lx or more (in full lighting)		
	Light intensity adjustment	Knob adjustment on front panel.		
Laser pointer		Class 1 / Wavelength: 650nm / Spot diameter: φ2mm or less		
External monitor output specification	Dedicated connector on top of main unit	For 7-inch monitor TW-7LC (Optional)		
	Rear mini D-sub 15 pin*3	Video signal (VGA mode): analog RGB / 0.7Vp-p Synchronous signal: TTL negative logic / Horizontal synchronous signal: 31.47kHz / Pulse width: 3.8μs Vertical synchronous signal: 59.94Hz / Pulse width: 63.3μs		
	Rear pin jack	Video signal (NTSC composite signal): 75Ωunbalance		
	Safety standard	CE, DHHS		
Dimensions (W×H×D)		227×290×445mm	227×300×455mm	227×290×445mm
Mass		approx. 5.6kg/lb		
Power supply voltage		DC 12V (with supplied AC adaptor)		
Input voltage of AC adaptor		AC100 to 240V (50/60Hz)		
Power consumption		35VA (without optional TW-7LC, primary side of AC adaptor) 45VA (with optional TW-7LC, primary side of AC adaptor)		
Operating temperature range		0 to 40°C		
Storage temperature range		-10 to 50°C		
Accessories supplied		AC adapter, AC power supply cord (for the voltage at the place of destination), lens cap, table (platform), video cable (pin plug, 1m) and instruction manual		

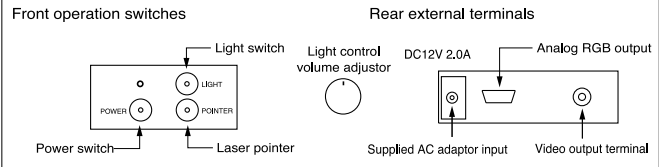
*1: When viewing thin sample on the stage.
*2: Maximum light intensity measured at first use of a brand new product. Light intensity may decrease depending on usage. LED replacements available at Sony service stations or authorized dealers.
*3: Unit not compatible with all PC monitors. Please verify monitor specification as listed above.
*4: TW-TL10VL(TW-TL10V and TW-7LC) is available.

■Sample System Assembly



*5: Connect using a video terminal or a mini D-sub pin according to the input mode of the projector.
*6: Please procure a video capture unit (or a video capture board) for capturing video from TW-TL1V/10V/15V to your PC.

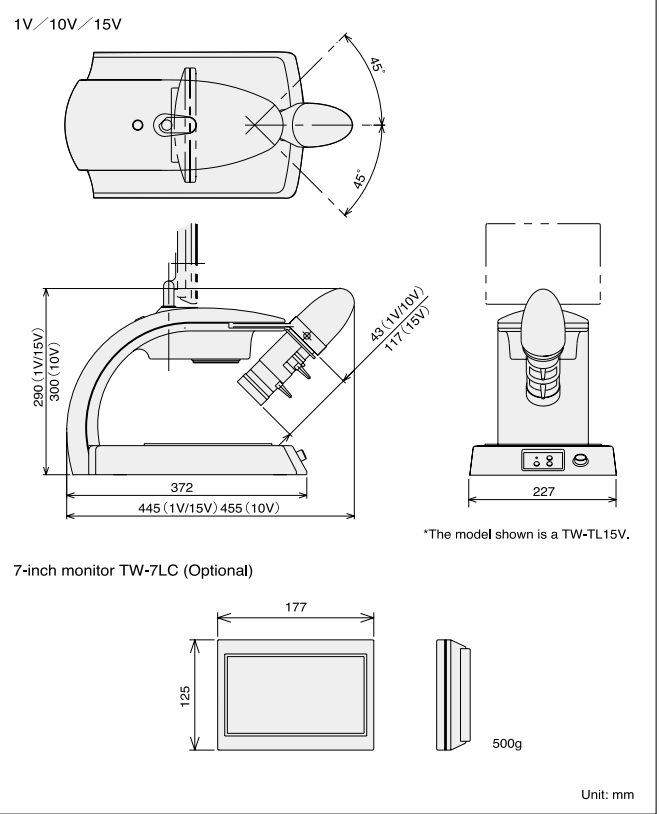
■Front operation switches/rear terminals



■Monitor display magnification (TW-TL1V/10V/15V)

Model name	7"monitor	17"monitor
TW-TL1V	Approx. 3.2x to 32x	Approx. 6.8x to 68x
TW-TL10V	Approx. 8.7x to 87x	Approx. 18.7x to 187x
TW-TL15V	Approx. 15.3x to 153x	Approx. 33.0x to 330x

■Dimensions



⚠ Safety Notice: For your safety, please read the instruction manual carefully before using the product. ●Specifications and appearance are subject to change without prior notice.

Sony Manufacturing Systems Corporation

Sony Manufacturing Systems Corporation
International Sales Dept.
1-10 Kiyoku-cho, Kuki-shi, Saitama-ken, 346-0035 Japan
Tel: +81-480-23-6896 Fax: +81-480-23-1425
http://www.sonymss.co.jp

Sony Manufacturing Systems America, Inc.
20381 Hermans Circle, Lake Forest, CA 92630
Tel: +1-949-770-8400 Fax: +1-949-770-8408
http://www.sonymss.com

Sony Manufacturing Systems Europe
Headquarters
Semiconductor & Electronic Solutions A division of Sony United Kingdom Ltd.
The Heights, Brooklands, Weybridge, Surrey KT13 0XW, UK
Tel: +44-870-7390122 Fax: +44-1932-817024

Stuttgart Office
Hedelfinger Strasse 61, D-70327 Stuttgart, Germany
Tel: +49-711-5858-777 Fax: +49-711-58 07 15
http://www.sonymanufacturing.com

Sony Taiwan Limited
FA Marketing Group
7F, 145 Changchun Road Taipei 104, Taiwan
Tel: +886-2-2522-9760 Fax: +886-2-2522-2396
http://www.sony.com.tw/company/family/FA/FA.asp

Sony Electronics (Singapore) Pte. Ltd.
Sony Precision Engineering Center
No.52 Tuas Avenue 9 Singapore 639193
Tel: +65-6860-8004 Fax: +65-6860-8010

http://www.sonymss.co.jp/

The contents of this literature are as of Aug.2006

eco info Used material: 100% recycled paper, recyclable
Zero-VOC (Volatile Organic Compound) vegetable oil ink

033E-0608-05-01A

SONY

Video Microscope
TW-TL1V/10V/15V

Sony TECHNOLOOK video microscope offers ergonomic design with ease of use functions. The all-in-one solution for your business needs. TECHNOLOOK allows stereoscopic observation of a fixed sample from a broad angle range. (±45 degrees)



TECHNOLOOK



Sony Manufacturing Systems Corporation

Flexible camera head rotation allows stereoscopic observation.

Operating lever provides user with easy and complete control.

TECHNOLOOK: Smart choice for optimal efficiency.

〈TECHNO LOOK〉 a unique designed video microscope perfect for observing miniature objects difficult to see with the naked eyes and even with a light microscope (Object size from millimeter to micrometer).

Mounting a CCD video camera with a sensitive macro lens and employing a rotating camera head that moves from 45 degrees to the right to 45 degrees to the left,

〈TECHNO LOOK〉 enables clear and flexible stereoscopic observation.

These models offer ease of use function including lever-operated smooth zooming function and the segment lighting adjustment using power LEDs that are unaffected by the observation enviroment.



Rotating camera head function



48.5-degree inclined head offers long working distance.

Camera head rotation function enables optimal observation

The user can observe the sample from different angles at a natural eye level with the rotating camera head moving from 45 degrees to the right to 45 degrees to the left and inclined at 48.5 degrees. Flexible positioned of the camera head provides long working distance (TW-TL1V/10V=155m, TW-TL15V=80mm), and prevents view blocking. It allows quick over view while magnified observation.

Ease of Use

The zoom, focus, and iris are easily adjustable using the levers above the lens. The smooth zooming in and out (up to 10x) allows the user to instantly check which part of the sample is being magnified. The tilting ($\pm 3^\circ$) enables natural stereoscopic observation even when there is a change in the height of the part being observed.



White Power LEDs providing natural color and segment lighting

This video microscope uses white Power LEDs to enhance brightness and to maintain natural color. The user can light up the sample from various angles with the segment lighting function, and easily set the optimum exposure with the light control volume adjuster.



Removable platform and laser pointer offers operational convenience

The simply designed platform can slide both longitudinally and horizontally. The laser pointer accurately determines the exact position of the observation point.



Models available in three different magnifications

Three models are available based on magnification: TW-TL1V (6.0x to 68x); TW-TL10V (18.7x to 187x); and TW-TL15V (33x to 330x). All three models are compatible with optional 7-inch LCD monitor (TW-7LC) or PC display monitor .(not included)

* The magnifications shown are based on use with a 17-inch PC monitor.

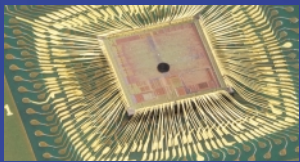
[Application example]




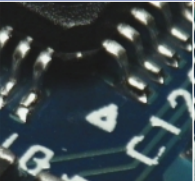
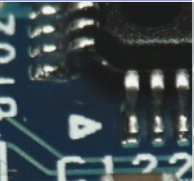
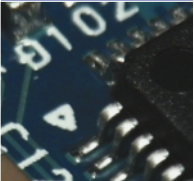





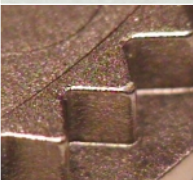



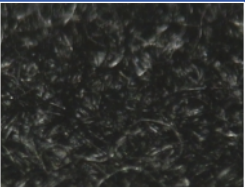

* 17-inch monitor is not included in the unit.

Highly sensitive imaging device—Super HAD CCD

The video camera uses Sony's original Super HAD CCD, boasting high sensitivity. This clearly reproduces precise details of the sample with high magnification.



	 45 degrees to the left	 Center	 45 degrees to the right
Lead of a surface mount IC *When using TW-TL10V at a magnification of 80x (17-inch monitor).			
Damage to the cable * When using TW-TL10V at a magnification of 122x (17-inch monitor).			
Wear and tear of precision gear * When using TW-TL10V at a magnification of 63x (17-inch monitor).			

Tool * When using TW-TL1V at a magnification of 22x (17-inch monitor).	Fiber * When using TW-TL1Vat a magnification of 103x (17-inch monitor).	Plant * When using TW-TL1V at a magnification of 50x (17-inch monitor).
		

*1 Photograph shows a combination of TW-TL1V and the optional 7-inch LCD monitor (TW-7LC).
*2 Image in the 7-inch monitor is inset.