

# GX Microscopes

## XTL-1 Series product datasheet Stereo zoom microscopes



XTL-1AT with RFL-8 lamp



XTL-1B



XTL-1C



Trinocular 'T' Head



Camera + Camera Adapter Attached

The **XTL-1** series are robust workhorse stereo zoom microscopes designed for industrial, teaching and research use. Each microscope is supplied with a plain metal base suitable for PCB and component inspection, a variety of optional illuminators are available. They are equipped with very high quality optics providing continuous zoom magnification of 7X to 45X which can be increased to 3.5X to 210X with the addition of optional auxiliary objectives and eyepieces.

These microscopes are supplied with **3 stand types:**

- **XTL-1A** has a compact metal base ideal for small object examination. The stand includes a reversible black/white insert and stage clips.
- **XTL-1B** has a large flat base suitable for PCB or larger object inspections.
- **XTL-1C** has an integrated graduated mechanical stage mounted on a XTL-1A stand which is ideal for fine movement control and measurements, especially when used in conjunction with a crosshair eyepiece or crosshair camera.

Each microscope can be supplied with a binocular or trinocular (**T**) head. The trinocular head provides an additional phototube onto which a camera can be attached with the appropriate camera adapter.

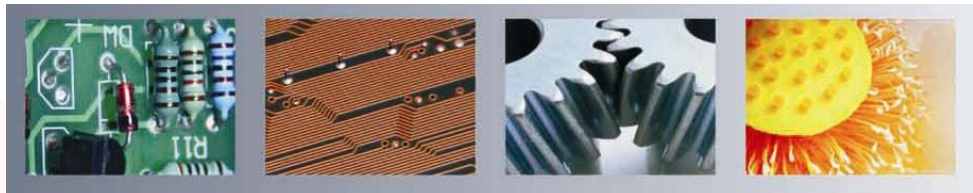
The XTL-1 stereo zoom trinocular microscope is ideal for industrial inspection of PCB, components, assembly work, entomologists, botanists, zoologists, geologists, teaching and forensics. It is simple to use, advanced and very robustly constructed with excellent optical performance and has a full 1 year manufacturer's warranty.

The head of the microscope has a pair of eyepieces. In the trinocular head (T) versions the optical quality of the image going to the camera port is one of the best available making this microscope a must for serious microscopists who need the very best images. There is diopter adjustment on both of the eyepiece tubes to ensure not only that differences between your eyes can be comfortably accommodated but also to aid the parfocality of the eyepieces with the camera image. The distance between the eyepieces is also cleverly adjustable, using advanced optical designs to achieve it without affecting the optical clarity. The microscope is supplied with a pair of 10X widefield eyepieces, higher power eyepieces are available from the manufacturer if required. There is even a pair of rubber eyeguards which protect spectacles and the eyepieces from damage whilst making observations.

Magnifications are selected using the zoom knob on both sides of the microscope head which provide a continuous range from 7X to 45X (with 10X eyepieces). When set up properly the image remains in focus throughout the focus range. This range of magnifications can be extended to 3.5X to 210X by adding optional auxiliary objectives and higher power eyepieces.

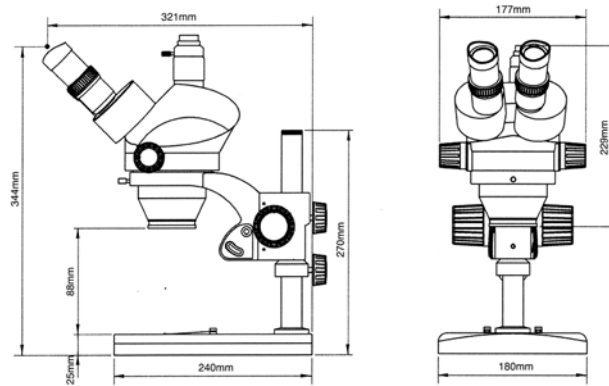
The head of the microscope is mounted in a focussing ring which has a tension adjustable focus knob controlling a rack and pinion. The focussing ring in turn is mounted on the high quality pillar stand which has a variety of bases. The stand is the pillar type which is the most versatile laboratory stand available as the head of the microscope can not only be focussed up and down, but the entire focus mechanism and head can be moved up and down the pillar to accommodate very large subjects if needed.

The head of the microscope is all metal and both the stand and head have a tough stain resistant paint finish. The optics within the head of the microscope are considered to be some of the best quality available in the industry and give excellent, bright, crystal clear images to both the eyepieces and camera. The microscope is supplied with a full manual.

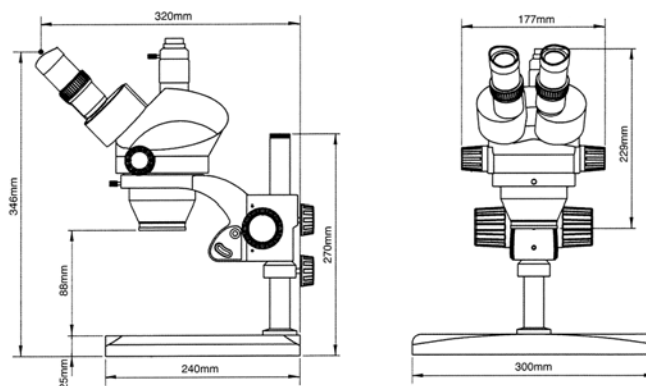


## Specifications:

Model:	XTL-1A	XTL-1AT	XTL-1B	XTL-1BT	XTL-1C	XTL-1CT
Total magnification	7X-45X (with std 10X eyepieces)					
Objectives	Zoom 0.7X – 4.5X					
Eyepieces	Widefield 10X/20mm (std)					
	Optional 15X, 20X, 25X					
Effective working distance	90mm (with no auxiliary objectives)					
Head	Binocular	Trinocular	Binocular	Trinocular	Binocular	Trinocular
	Diopter adjustment on left eyepiece tube Interpupillary distance adjustment Rubber eyeguards supplied as standard					
Illumination	Optional fibre optic, LED and fluorescent lamps see 'GXM Illuminator' range					
Stand Support	Height adjustable clamp, column mounted with head support ring and focus knob					
Stand Base	Standard with white/black insert		Large black		Black with XY Mechanical Stage	
Stand options	Additional stands from the GX Microscopes' Stand range					
Camera options	C-mount adaptors & range of digital and video cameras					
Construction	Head and body is metal painted in scratch resistant finish					



XTL-1A Stand





XTL-1B Stand

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Accessories:

Product Code	Description	Suitable for use with	Specification	
<b>Optional Auxiliary Objectives (for XTL* stereo zoom microscopes only)</b>				
XTLOBJ0.5X	0.5X Objective	XTL3*	Mag range: 3.5X -22.5X WD 137mm	
XTLOBJ 0.75X	0.75X Objective	XTL3*	Mag range: 5.25X -3.75X WD 103mm	
XTLOBJ 1.5X	1.5X Objective	XTL3*	Mag range: 10.5X -67.5X WD 48	
XTLOBJ 2X	2X Objective	XTL3*	Mag range: 14X -90X WD 25	
<b>Optional Eyepieces for XTL* microscopes</b>				
GXMXTLEY15X2	Pair eyepieces	All microscopes	15x magnification	
GXMXTLEY20X2	Pair eyepieces	All microscopes	20x magnification	
GXMXTLEY25X2	Pair eyepieces	All microscopes		
GXMXTLEY10XRET	Reticle Eyepiece	All microscopes	WF 10X focusing Eyepiece with 10mm/100divs Reticule	

Effect of adding of auxiliary objectives and eyepieces to XTL* Microscope Heads						
Eyepiece \ Objective		Main body	0.5X objective	0.75X objective	1.5X objective	2X objective
			0.7x-4.5x	0.35x-2.25x	0.49x-3.4x	1.05x-6.8x
10x (std)	Total magnification	7x-45x	3.5x-22x	5.3x-34x	10.5x-68x	14x-90x
	Diameter of visual field(mm)	31-5.2	62x-9.6x	38-6.4	19-3.2	14.3-2.4
15x	Total magnification	10.5x-68x	5.3x-33	7.9x-51x	15.8x-102x	21x-148x
	Diameter of visual field(mm)	21.4-3.6	42.8-7.2	28.5-4.8	14.2-2.4	10.7-1.8
20x	Total magnification	14x-90x	7x-45x	10.6x-68x	21.2x-136x	28x-180x
	Diameter of visual field(mm)	17.1-2.9	34.3-5.7	22.9-3.8	11.4-1.9	8.6-1.4
25x	Total magnification	17.5x-112.5x	8.8x-56x	13.1x-85x	26.3x-169x	35x-225x
	Diameter of visual field(mm)	12.9-2.1	25.7-4	17.1-2.9	8.6-1.4	6.4-1.1
Working Distance(mm)		88	137	103	48	25

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Illumination Options: (see separate illuminators datasheet for full range of options)				
Product Code	Description	Suitable for use with	Specification	
GXMNORMA341103	LED Ring Light	XTL* microscopes	60 LEDs, separate adjustable intensity power supply	
GXMLEDYK-B144T		XTL* microscopes	144 LEDs, separate adjustable intensity power supply and segment control	
GXML1 with GXML3	Fibre Optic Illuminator	All microscopes	GXML1 150W fibre optic lamphouse with GXML3 dual fibre optic goosenecks	
GXML1 with GXML4		XTL* microscopes	GXML1 150W fibre optic lamphouse with GXML4 fibre optic ringlight	
GXMRFL-8	Fluorescent Ring Light	XTL* microscopes	8W low temperature diffuse ring light	
Camera Options: (see cameras range on <a href="http://www.gxoptical.com">www.gxoptical.com</a> website for full range of options)				
GXCAM-1.3 GXCAM-3 GXCAM-5	Digital USB Microscope Cameras	Fits Binocular Heads Requires eyepiece adapter (included with the camera kits)  Fits Trinocular Head Requires C-mount camera adapter (option - below) GXMADCM0.5XXTLPLAN	Choice of 1.3MP, 3MP & 5MP Live Image Cameras Colour, USB Connection to PC Image processing, camera control and measurement s/w included	
GXMADCM0.5XXTLPLAN	C-Mount Camera Adapter	XTL* Trinocular Head	0.5X Plan	

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#### Accessories:

Within the GX Microscopes range there are many additional optional stand types such as booms stands, articulated arms or floor standing boom arms and illumination sources such as fibre optics - please ask your local GX Microscopes supplier or visit our website if you cannot find what you need in this range. Examples of items available but not detailed in this datasheet are shown below:



GX Microscopes is a division of **GT Vision Ltd** specialising in the design and manufacture of the **GX Microscopes** brand of microscopes.

GT Vision Ltd is the largest independent supplier of microscopes and microscopy imaging and automation systems in the UK.

If you wish to obtain more details of these products please call or e-mail us:

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[www.gt-vision.com](http://www.gt-vision.com)  
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Or contact you local GX Microscopes Dealer:

Due to our policy of continuous development specifications may change without notice