□ **8" LCD Screen**

□ **10.4" LCD Screen**

LCD Zoom Microscope
Operating Manual

Please read the operating instructions
attentively before installation and application
and keep it for future use.

INSTRUCTION MANUAL

1. CONTENTS

2. SPECIFICATIONS

2.1. Brief introduction
✧ Total Magnification: 3.3x-147x (For 8" LCD Monitor) or 3.2x-198x (For 10.4" LCD Monitor)
✧ Compact and light weight, low power consumption
✧ 16MS high definition color, Intelligent screen image setting
✧ High contrast and brightness
✧ Additional Video out delivers high resolution color images for microscopy documentation with capture software compatible with Windows based system.
✧ Different stand and illumination are available.

2.2. LCD monitor
✧ LCD Screen size: 8 inches
　　　　　　　　　　10.4inches (according your order)
✧ Native resolution: 800 X 600 (For 8" Monitor)
　　　　　　　　　　1024 X 768 (For 10.4" Monitor)
✧ Dot pitch: 0.297 mm
✧ Contrast: 300:1 (For 8" Monitor), 350:1 (For 10.4" Monitor)
✧ Viewing angle: about 150°
✧ Response time: ≤25ms
✧ Brightness: 250cd/m²　(For 8" Monitor), 300cd/m² (For 10.4" Monitor)
✧ Video out: BNC Connector

2.3. Optics
✧ Total Magnification: 3.3x-147x (For 8" LCD Monitor) or 3.2x-198x (For 10.4" LCD Monitor)
✧ Zoom Body: 0.7-4.5x, with Detents.
✧ Zoom Ratio: 1:6.5
✧ Optional Objective Lens: 0.3x, 0.5x, 0.75x, 1x, 1.5x, 2x.
✧ 3D Attachment: 35 degree for 0.75x objective lens.
　　　　　　　　Or 35 degree for 0.5x objective lens (according your order)

2.4. LED ring light, brightness adjustable.
✧ Optional illumination is available.
✧ Laser Pointer: DC 5V
✧ Body Size: 76mm, suitable for all the microscope stand, boom stand and flexible arm stand.
✧ Power Supply: AC 85-265V, 50/60Hz
✧ LED Ring Light: DC 12V, 0.5mA

2.5. Optical Data (1/3" CCD, 8" monitor, 0.5x CCD Coupler)

Coupler	0.5x		
Auxiliary Lens	Mag.	FOV mm	W. D. mm
0.3x	3.3x~22x	58.8~8.9	331
0.5x	6x~37x	35.2~5.3	198
0.75x	8x~55x	23.5~3.6	131
1.0x	11x~74x	17.6~2.7	96
1.5x	17x~110x	11.8~1.8	63
2.0x	22x~147x	8.8~1.3	46

Note: The working distance is 52.5mm for 0.75x objective lens with 35º 3D Attachment.
0.35X CCD Coupler and 1/2" CCD for optional.

3. PACKING LIST

1--------LCD Zoom Microscope
1--------35º 3D attachment
1--------Laser pointer
1--------Power cord
1--------Operating Manual
1--------Registration Card

 --------Stand（Optional）

4. INSTALLATION

4.1. Open the packaging and remove the individual components from it. Please contact the manufacturer or local dealer for missing part.
4.2.1. Place the stand on the table.
4.2.2. Lift out LCD Microscope carefully, and place the scope body to the arm holder (dia.size:76mm) on the stand and lock it with screw.
4.2.3. Install 3D attachment on the lens subject to application as shown. (The objective lens in side). If no 3D attachment with your order, you need add on the objective lens.
4.2.4. Install Laser pointer and connect the plug with the socket marked "Laser" on the

Microscope body as shown.

4.2.5. Connect the power cord with the mains as shown.

To attached the View Angle Attachment

Never put the microscope body with view angle attachment into the scope holder. Before take out the scope body from the scope holder, take off the view angle attachment first.

5. ADJUSTMENT AND OPERATING INSTRUCTIONS

5.1. Adjustment of optic unit

5.1.1. Turn on the Main Power on the Microscope Body first, and turn on the LCD Screen Power.

5.1.2. Turn on the light and press the button to adjust the brightness till the appropriate lighting

5.1.3. Zoom out the lens at 0.7x position.

5.1.4. Adjust the knob on the post to get the image in focus.

5.1.5. Zoom in the lens at 4.5x position and make the image in focus. After that, the image will be always in focus while zooming.

5.2. Adjust and calibrate the position of laser pointer

5.2.1. Calibration of Laser point. Pressing Laser pointer button as shown and adjust the position of laser pointer stand to be in the center of LCD, and then lock it.

5.2.2. Move the object to be inspected to the laser point and then turn off laser pointer.

On the 2D position

On the 3D position

Push or Pull to changing the view angle attachment position.

5.3. Rotate 3D attachment to view the object to be inspected.
5.3.1 Push the reflector attachment to change the view in 2D or 3D.
Note: While change to 3D view from 2D, re-adjust to focus again.

5.4. Lighting Adjustment：Keep pressing the light button till appropriate lighting

5.5．Auto White Balance: One-press of W.B key

5.6 Video Out:
5.6.1 The video out connecter is for connect with the other video monitor when needed. Or you can connect with the computer with a frame grabber when needed.
5.6.2 Note: Push BNC connector and rotate anticlockwise to disconnect the cable.

5.7. LCD Adjustment

5.7.1. Specifications

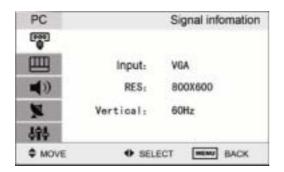| Model Name	8" Monitor	10.4"Monitor
Display size	800× 600	1024× 768
Pixel pitch	0.213	0.253
Viewing angle	170/170 (H/V)	
Horizontal	30-61KHz	
Vertical	60-75Hz	
Display color	16 777 216 colors	
Maximum mode	1024X 768@75Hz	
Sync. video signal	H/V Separate, TTL,P or N.0.7Vp-p@75ohm	
Color system	PAL/NTSC4.43/NTSC3.58/SECAM	
Sound system	BG/DK/I/M	
Video input	1.0Vp-p@75ohm	
Audio input	500mVrms	
Power input	DC 12V	
Power consumption	9W	11W
Power saving	1.0w	
Operating Temperature	10 -40 (50 -104)	
Operating Humidity	10%-80%	
Storage Temperature	-25 -45 (-13 -113)	
Storage Humidity	5%-95%	
Audio Input	3.5Ø Stereo Jack, 0.5Vrms (-9dB)	
Headphone Output	Max. 10mW Output (3.5Ø Stereo Jack, 32)	
Frequency response	RF 80hz-15khz at-3db	
	A / V 80hz-20khz at-3db	

5.7.2. Viewing the Display mode

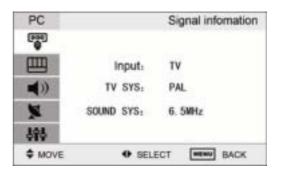Press the "Menu" button.

Display the On Screen Display menu.

The signal information should be display on the screen.

You may see different information on different signal mode.

VGA mode : TV mode :

Press the "Menu" button to exit the OSD menu.
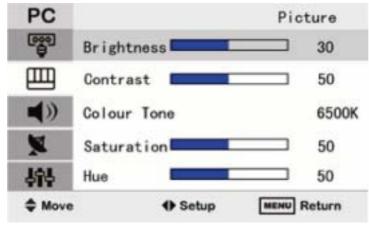
5.7.3. Setup Picture

You can select the type of picture which best corresponds to your viewing requirements.

Press the "Menu" button, display the OSD main menu.

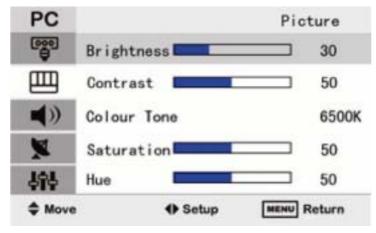Press the "CH+" or "CH-" button, select the option.

Press the "VOL+" or "VOL-" button, adjust the option.

For example , adjust the brightness:

Press the "CH+" or "CH-" button, select the brightness button:

Press the "VOL+" or "VOL-" button, adjust the brightness

5.7.4. System setting

You can choose the language that you need.

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When no TV signal , you can open the Blue Background .

TV		Channel
🔲	Language	English
🔳	Blue	ON
🔊	Auto power down	OFF
✖	Auto adjust	◀▶
🎚	Reset	◀▶
⬍ MOVE	◀▶ SELECT	MENU BACK

You can choose 15 to 20 minutes Auto Power Down time .

TV		Channel
🔲	Language	English
🔳	Blue	ON
🔊	Auto power down	OFF
✖	Auto adjust	◀▶
🎚	Reset	◀▶
⬍ MOVE	◀▶ SELECT	MENU BACK

On PC mode ,you can use the Auto adjust to do adjusting Automatically .

TV		Channel
🔲	Language	English
🔳	Blue	ON
🔊	Auto power down	OFF
✖	Auto adjust	◀▶
🎚	Reset	◀▶
⬍ MOVE	◀▶ SELECT	MENU BACK

Use the Reset , You can replace all settings with the factory default values.

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5.7.5. Display Mode

Display Mode

Resolution	H Frequency	V-Frequency (KHz)	Pixel Rate (MHz)	Standard Type	Remark
720x400	31.46	70	28.32	VESA Standard	DOS
	31.46	60	25.17	Industry Standard	
640x480	37.86	72	31.50	VESA Standard	VGA
	37.50	75	31.50	VESA Standard	
	37.88	60	40.00	VESA Guidelines	
800x600	48.08	72	50.00	VESA Standard	SVGA
	46.88	75	49.50	VESA Standard	
	48.36	60	65.00	VESA Guidelines	
1024x768	56.48	70	75.00	VESA Standard	XGA
	60.02	75	78.75	VESA Standard	

6. TROUBLE SHOOTING

Please check with the following troubleshooting methods before asking for repair. If you need any help, please contact our service center or local distributor.
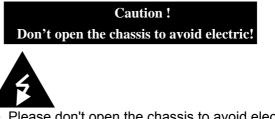
Symptom	Item checked
No image	Check whether the power cord of monitor/PC is disconnected, or whether monitor is off by pressing key ON/OFF.
No input signal	Check whether VGA cable is properly connected or the PV is powered on.
Go beyond synchronization range	Do not support display mode of input signal; please refer to "Display mode".
Image is not in the center of screen	Use "automatic adjustment" function or adjust horizontal and vertical position manually.

Image is too bright or dark	Select appropriate "color temperature", use" automatic color adjustment" or adjust" RGB" manually; please refer to "screen menu system".
Jamming lines appear while closing Windows	Use "automatic adjustment" function or adjust "phase" and "clock" manually; please refer to "screen menu system".
Fail to adjust RGB setting	Check whether "color temperature" is under "USER" mode; only when "color temperature" setting" is under "USER" mode, you can adjust "RGB".
Fail to adjust acutance	Check whether the resolution is 1024x768; if so, there is no need to adjust acutance.

7. SAFETY GUIDE

Important precautions!

<div style="text-align:center">

Caution !
Don't open the chassis to avoid electric!

</div>

Hazardous! High voltage!

The equipment has device with high voltage. Please don't open the chassis to avoid electric shock.
Qualified serviceman is required for repair.
Improper operation may cause electric shock or fire. To prevent the danger, please follow the instructions while installing, using or cleaning the equipment. To ensure your safety and extend
The service life of the equipment, please read the following precautions carefully before operation.

✧ Please read and understand the instructions before using the equipment;
✧ Please properly keep the instructions for future use;
✧ Strictly follow cautions described in the equipment and operational instructions;
✧ Follow all instructions while operating the equipment;
✧ Don't use additional device not recommended by manufacturer; improper use of additional device may cause accident;
✧ Please use the power adaptor provided with the monitor; check whether local power complies with the required voltage by monitor before connecting AC power cord to socket; if you don't know power type, please contact your distributor or local power supply department;
✧ Don't press against or enwind power cord with any article; the damaged power cord may cause electric shock or fire;
✧ Don't try to repair the equipment by yourself because the equipment the equipment has device with high voltage and other vulnerable parts and improper repair may cause damage to body or monitor. Be sure to ask qualified serviceman for maintenance;
✧ Don't touch any control part not mentioned in the operational instructions; improper adjustment on any control part not mentioned control part may damage the equipment

and add repairing work for serviceman;

✧ In case of replacing accessory, confirm with serviceman the new accessory is the one specified by manufacturer or its function is equal to the old one; improper use of accessory may cause fire, electric shock or damage to the monitor;

✧ Mount the monitor on the wall or ceiling with the installing method recommended by manufacturer;

✧ Unplug the equipment while cleaning it ; clean the monitor with slightly wet cloth and don't use any liquid or spraying cleaner;

✧ Remove AC plug from the outlet in case of no use of the equipment for a long time;

✧ Don't put the equipment on unstable handcart, rack, tripod or table;

✧ The LCD is made of sensitized material so don't hit the LCD with any article; if the equipment falls off from higher position or suffers hit, the LCD may go into pieces; stop using the monitor immediately;

✧ Don't expose the equipment to sunlight or place it near hear source such as radiator, heating device, stove and other exothermic articles;

✧ The interval between turning on and turning off the equipment shall not be less than 2 seconds.

The distributor information

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