

INSTRUCTION MANUAL

Orion® MicroXplore™ Digital Handheld Microscope

1.3 MegaPixel, Illuminated,
40x and 200x magnification

#52177



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Welcome to a new world of adventure. Your new Orion® MicroXplore™ Digital Handheld microscope is capable of capturing detailed, high resolution, full-color images and movies of microscopic worlds awaiting your discovery.

Examine specimen objects at high and low powers of 40X and 200X.

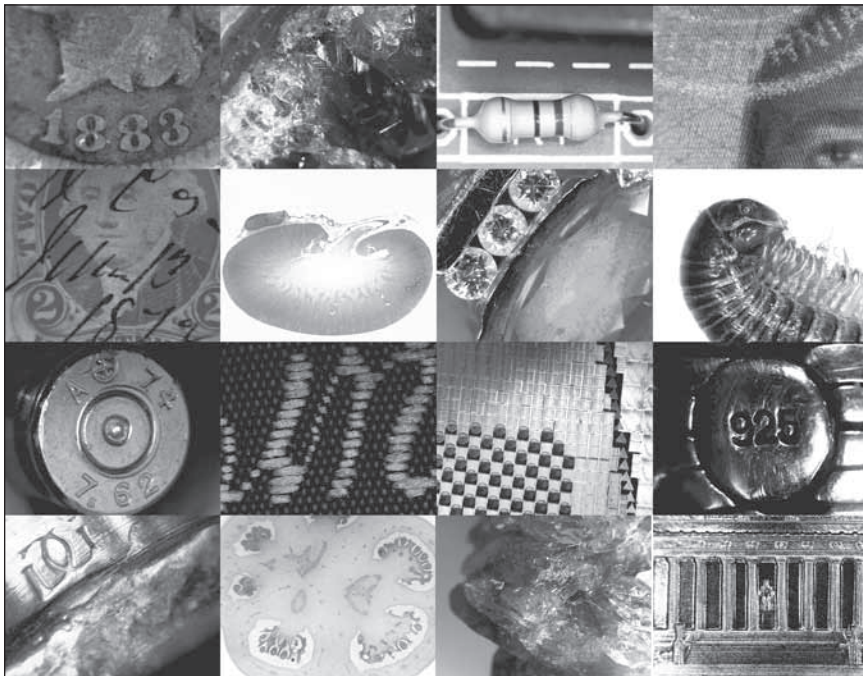
With 8 LED illumination and dual magnification a wide variety of specimen objects such as slides, coins, stamps, rocks, relics, insects, plants, gems, circuit boards and much more can easily be studied and digitally captured.

Easy to use rubber focus wheel provides a precise one-handed focusing mechanism.

Please read this instruction manual before attempting to use the microscope or install the needed software.

Typical applications

- Education and Scientific Research
- Coin and Stamp Collectors
- Electronic, Printing, Textiles and other industry inspection
- Medical Examining
- Law Enforcement & Security
- Beauty Treatment and Skin Care



Parts List

- Digital Handheld Microscope with built In USB cable
- CD-ROM (XP, Vista, Windows 7)

System Requirements

Operating System

Windows XP, Vista and Windows 7

Computer

A computer is required for normal use of the microscope.

Future WinJoe software requires Windows XP, Vista or 7.

The following hardware is required:

- Processor – Pentium III™ or equivalent, or higher
- Recommended minimum memory size is 256 MB.
- Disk Space – 100 MB minimum, 500 MB or more recommended for saving images.
- Video Display – 800 X 600, 16-bit color or higher. 1024x768 or higher is recommended.
- Mouse (external or built-in)
- High Speed USB 2.0 port

Software Installation

Before the microscope can be used, Future WinJoe image capture software must be installed onto your computer. Turn on your computer and allow the Windows operating system to load as normal. Insert the included CD-ROM into your computer's CD-ROM drive, and the Launcher will appear (Figure 2). This allows you to install the Future WinJoe image capture software.



Figure 1. The Orion MicroXplore Digital Handheld Microscope.



Figure 2. The launcher provides an easy menu for software installation.

Capture Software Installation

1. Insert the CD-ROM into the drive. The **Launcher** will appear. If you are using Windows Vista, the **AutoPlay** window will appear first. Select **Run autorun.exe**.
2. Click **Install Future WinJoe**.
3. The **Software Installation** will start.
4. Select language and follow the on screen instructions.
5. When installation is complete click the **Finish** button.

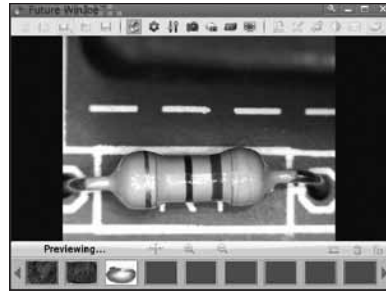



Figure 3. The live video window.

Microscope Operation

To obtain first images with the microscope, follow these step-by-step instructions:

1. Plug the microscope into your computer's USB port. Windows will automatically install the microscope camera driver the first time the device is plugged in.
2. Double click the Future WinJoe icon now installed on your computer's desktop.
3.  Click the connect camera icon on the Future WinJoe toolbar. The software will automatically connect directly to your microscope with a Live Video Window. (Figure 3)
4. Notice the white LED lights shining through the bottom of the microscope; these LED lights indicate that the microscope is connected and receiving power from the computer.

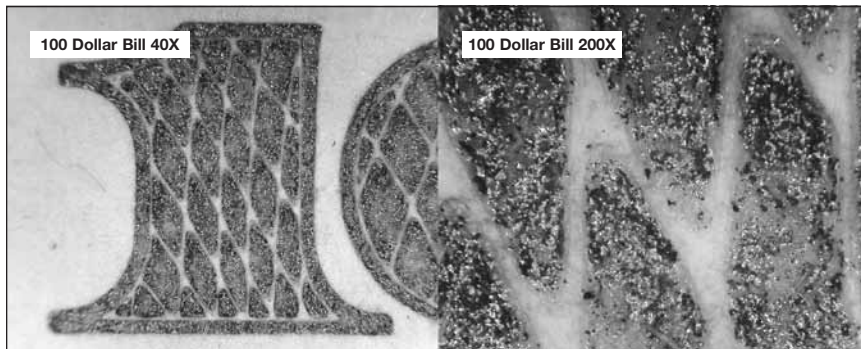





Figure 4. Dual 40X and 200 X magnifications.


5. Place microscope directly over specimen. Turn rubber focus wheel to achieve focus. Turn clockwise for low magnification. Turn counter-clockwise for high magnification.
6. You may need to adjust the exposure (Figure 7) and/or brightness control of the camera before attempting to focus. (Figure 6).
7. View the Live Video Window on the computer screen and adjust the rubber focus wheel accordingly to determine best image focus.
8.  Select the Capture Image Icon on the Future WinJoe toolbar to take a single image in JPG/BMP/PNG format as set in Capture settings (Figure 5).
9.  Select the Burst Icon on the Future WinJoe toolbar to take a number of consecutive images as set in Capture Settings (Figure 5).
10.  Select the Capture Video Icon on the Future WinJoe toolbar to take a movie in WMV format.

You have now taken your first images with the Orion MicroXplore Digital Handheld microscope!

Camera Options

For best images, you can adjust the camera settings to fine tune the image. You can see how the camera controls affect an image in the Live Video Window.

Capture Settings

 Select the capture settings icon on the Future WinJoe toolbar. Record and Preview resolutions, frames per second, video quality and Image output formats can be adjusted. (Figure 5).

The destination file directory can also be changed from the default in Capture settings.

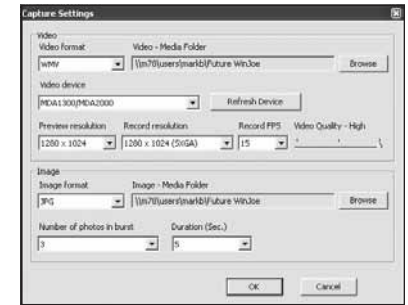


Figure 5. Changing resolution.

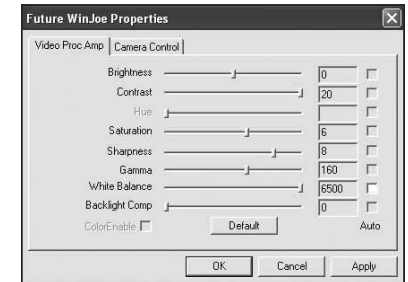


Figure 6. Adjusting brightness.

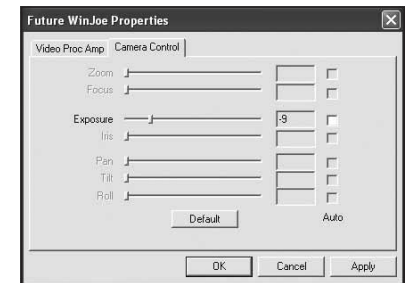



Figure 7. Adjusting exposure.

Camera Settings

 Select the Camera Settings Icon on the Future WinJoe toolbar. Brightness, Contrast, Saturation, Sharpness, Gamma and White Balance can be adjusted. (Figure 6). To return the camera settings to their default settings, click the Default button.

Select the Camera Control tab to modify exposure times using exposure slider. (Figure 7). To return the exposure to its default settings, click the Default button.

Try several different settings to get a feel of how the camera controls work and affect the resultant image on the computer screen. The Brightness and Exposure controls are the ones you will use the most.

The magnification, lighting conditions, and object being imaged will dictate how these camera controls should be set. Usually Exposure will be set first (higher magnification usually requires more exposure), and then Brightness is adjusted as needed.

Tips

Loss of Camera Connection

If the computer connection to the camera is interrupted, you will need to re-establish connection. This can happen due to several reasons; if a cable becomes unplugged, the computer “freezes”, or the software/hardware otherwise temporarily loses the data coming from the camera.

To re-establish camera connection, first close the Future WinJoe program on your computer. Then, unplug and re-plug the camera into the computer’s USB port. Now, open Future WinJoe, click the connect camera icon and the Live Video Window should appear indicating re-established connection between camera and computer.

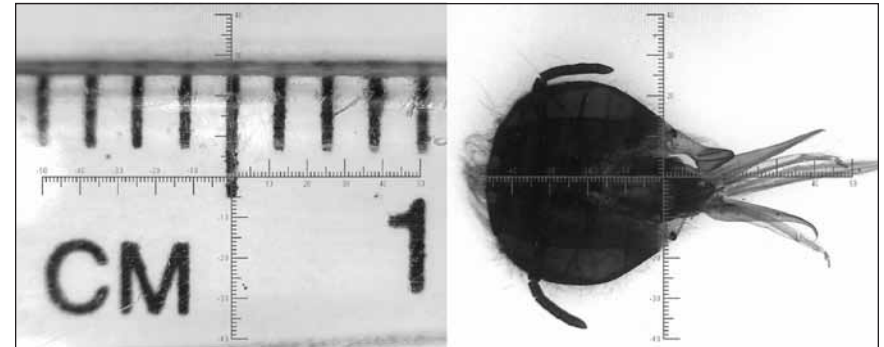



Figure 8. Measuring specimens using on screen reticule.

On Screen Reticule

 The on screen reticule can be switched on and off by clicking on the reticule icon.

By calibrating the units of reticule against a ruler, target specimens can then be visually measured against this reticule for precise measurement.

Specifications

Sensor	1/4" CMOS
Number of pixels	1280 x 1024 pixel layout; 1.3 megapixel resolution
USB Port	USB 2.0
Video frame rate	up to 16 frames/second @ 1280 x 1024
Preview Mode	1280 x 1024, 640 x 480, 320 x 240
Magnification	40x; 200x
Sensitivity	1.0V/lux-sec@550nm
Spectrum Response	400nm – 1000nm
Shutter Type	ERS (Electronic Rolling Shutter)
White Balance	Auto
USB Cable length	1.5 M
Operating System	XP, Vista, Windows7

One-Year Limited Warranty

This Orion MicroXplore Digital Handheld Microscope is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mis-handled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, 89 Hangar Way, Watsonville, CA 95076; (800) 676-1343.



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