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> IFWATER USB Camera 2MP 2.8-12mm Varifocal Lens 1080P Instruction Manual

IFWATER SFV-2.8-12mm

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Model: SFV-2.8-12mm

1. INTRODUCTION

This manual provides detailed instructions for the IFWATER 2MP 1080P USB Camera with a 2.8-12mm varifocal lens. This camera is designed for various applications requiring high-definition video capture, manual zoom, and low-light performance. It offers plug-and-play compatibility with multiple operating systems.



Image 1.1: The IFWATER 2MP 1080P USB Camera, showcasing its varifocal lens and compact design.

2. PRODUCT FEATURES

- **2.8-12mm Varifocal Lens:** 1080P Full HD 2.8-12mm 5X optical zoom lens for simple zoom and manual focus. Allows for close-up or long-distance shots with wide-angle capabilities. Manual adjustments for focal length, focus, and exposure provide creative control.
- **2MP CMOS IMX323 Image Sensor:** High-quality 1/2.9" CMOS IMX323 image sensor delivers HD picture and video capture with accurate color reproduction. Max. Resolution: 1920(H)x1080(V) at 30fps; also supports 1280x720 at 30fps and 640x480 at 30fps.
- **H.264 Compression & 0.01LUX Low Illumination:** Ultra-low light performance with 0.01lux illumination for sharp 2K full HD images and 1080p@30fps video. H.264 compression saves storage space and enables faster, smoother video uploading. Supports MJPEG / YUV2(YUYV) compression formats.
- **Versatile System Compatibility:** Works with general software such as Blue Iris, ContaCam, Yawcam, Ispy, Motion Eye OS, Amcap, Webcam Viewer, IP Camera Viewer, ZoneMinder V4L2, Camerafi, VLC Player. Compatible with Linux, Windows, Raspberry Pi, and Mac OS.
- **USB 2.0 Free Driver Plug and Play:** Features an aluminum case with a standard 1/4-20UNC tripod screw hole

mount and a 3-meter USB cable. No driver installation required; simply plug into a computer USB port for video display and recording. High-speed OTG USB 2.0 data transmission.

IFWATER | Multiple Applications



Image 2.1: Exploded view illustrating the camera's components, including the varifocal lens and 2MP 1080P resolution sensor.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- IFWATER 2MP 1080P USB Camera (SFV-2.8-12mm)
- USB Cable (3 meters)

4. SETUP

4.1 Connecting the Camera

1. Locate an available USB 2.0 port on your computer or device (e.g., Linux, Windows, Raspberry Pi, Mac OS).
2. Connect the provided USB cable to the camera's USB port.

3. Plug the other end of the USB cable into your computer's USB port.
4. The camera is plug-and-play and does not require additional driver installation for most operating systems.

2.8-12mm 4X

Optical Zoom USB Camera

Focus, Aperture,
Distance Adjustable

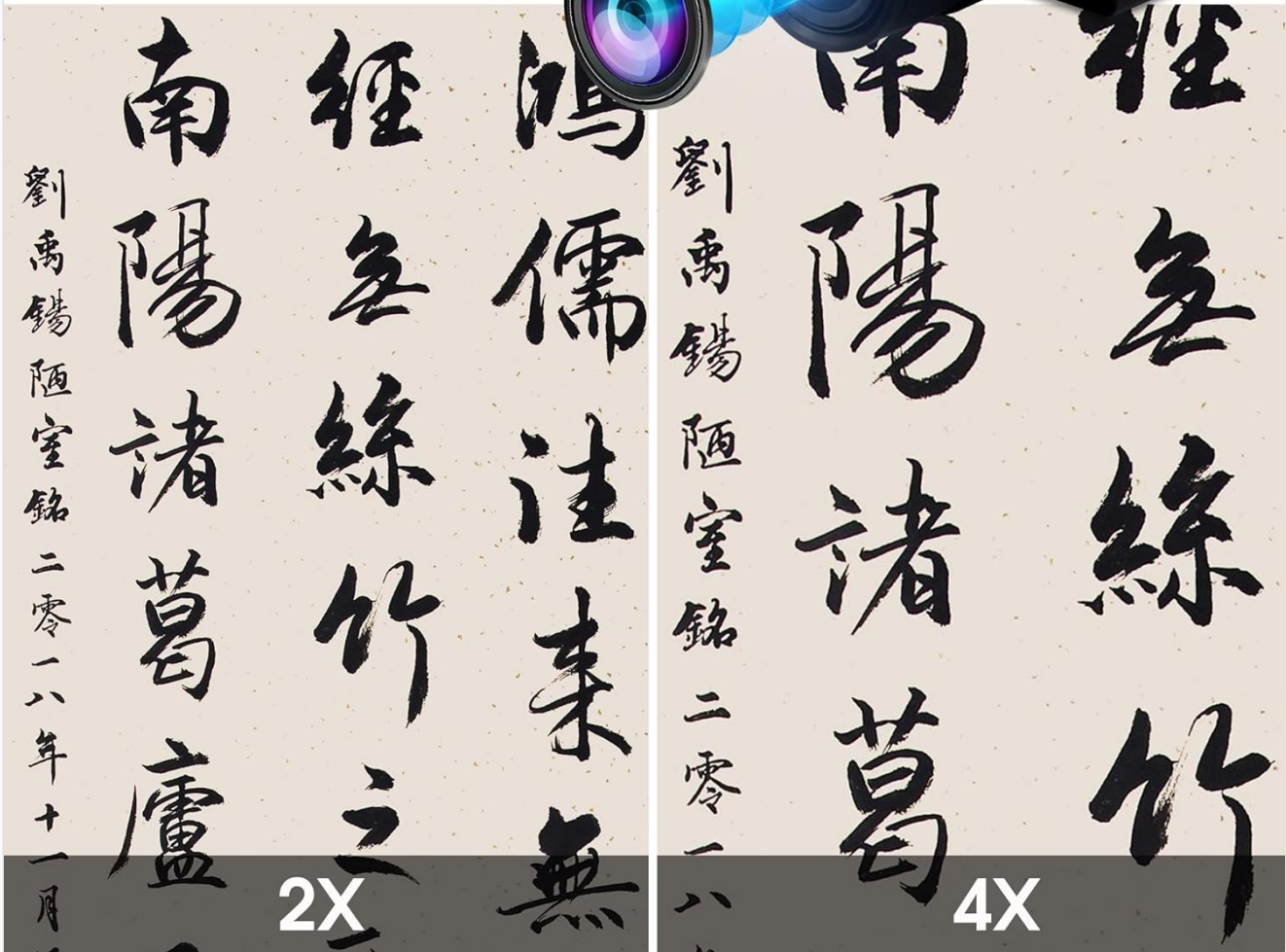


Image 4.1: The camera connected to a laptop, demonstrating its plug-and-play feature and compatibility with various streaming applications.

4.2 Mounting the Camera

The camera features a standard 1/4-20UNC tripod screw hole on both the top and bottom for flexible mounting options. Attach the camera to a tripod or other compatible mounting accessory as needed for your application.

4.3 Adjusting the Varifocal Lens

The 2.8-12mm varifocal lens allows for manual adjustment of zoom, focus, and aperture. These adjustments are made by rotating the rings on the lens barrel.

- **Zoom (Focal Length):** Rotate the ring marked 'W' (Wide) or 'T' (Tele) to adjust the optical zoom level. This changes the field of view.
- **Focus:** Rotate the ring to achieve a sharp image. Start by setting the desired zoom level, then fine-tune the focus.

- **Aperture (Iris):** Rotate the ring marked 'Open' or 'Close' to adjust the amount of light entering the lens. A wider aperture (more open) allows more light, useful in low-light conditions, but reduces depth of field. A narrower aperture (more closed) allows less light, increasing depth of field.

1080P

720P

2MP High-Definition USB Camera


Linux
2.6.24 or above


Windows
XP SP2/7/8/10 or above


Android
Version 5 or above


MAC OS
Version 10.6 or above

Image 4.2: The 2.8-12mm varifocal lens with indicators for adjusting focus, aperture, and zoom.

5. OPERATING INSTRUCTIONS

5.1 Using with Software

Once connected, the camera should be recognized by your operating system and compatible video software. Open your preferred application (e.g., Blue Iris, ContaCam, Yawcam, Ispy, Motion Eye OS, Amcap, Webcam Viewer, IP Camera Viewer, ZoneMinder V4L2, Camerafi, VLC Player) and select the IFWATER USB Camera as your video input device.

5.2 Adjusting Camera Settings (via Software)

Many applications provide controls for adjusting camera settings digitally. For example, using software like Amcap, you can fine-tune various parameters:

- **Brightness:** Adjusts the overall lightness or darkness of the image.
- **Contrast:** Controls the difference between light and dark areas.
- **Hue:** Adjusts the color balance.
- **Saturation:** Controls the intensity of colors.
- **Sharpness:** Enhances or softens image edges.
- **Gamma:** Adjusts the tonal response.
- **White Balance:** Corrects color casts so white objects appear white.
- **Backlight Compensation:** Improves visibility in scenes with strong backlighting.
- **Gain:** Increases signal amplification, useful in low light but can introduce noise.

Refer to your specific software's documentation for detailed instructions on accessing and adjusting these settings.



Image 5.1: The Sony IMX323 sensor, highlighting the camera's core imaging technology.

6. MAINTENANCE

- **Cleaning the Lens:** Use a soft, lint-free cloth specifically designed for optical lenses to gently wipe the lens surface. Avoid using abrasive materials or harsh chemicals.
- **Cleaning the Camera Body:** Wipe the camera body with a dry, soft cloth. Do not use liquid cleaners directly on the camera.
- **Storage:** When not in use, store the camera in a clean, dry environment away from extreme temperatures and direct sunlight.
- **Cable Care:** Avoid bending or twisting the USB cable excessively to prevent damage.

7. TROUBLESHOOTING

Problem: Camera not detected by computer.

Solution:

- Ensure the USB cable is securely connected to both the camera and the computer.
- Try plugging the camera into a different USB port on your computer.
- Restart your computer.
- Verify that your operating system is compatible (Linux 2.6.24+, Windows XP SP2/7/8/10, Android 5.0+, Mac OS 10.6+).
- Check your device manager (Windows) or system information (Mac/Linux) to see if the camera is listed.

Problem: Image is blurry or out of focus.

Solution:

- Manually adjust the focus ring on the camera lens until the image appears sharp.
- Ensure the lens is clean and free from smudges or dust.

Problem: Image is too dark or too bright.

Solution:

- Adjust the aperture (iris) ring on the lens to control the amount of light.
- Use your video software's settings (brightness, contrast, gain) to fine-tune the image exposure.
- Ensure adequate lighting in your environment.

Problem: Video streaming is choppy or lags.

Solution:

- Ensure your computer meets the minimum system requirements for your video software.
- Close other applications that might be consuming system resources.
- Check your internet connection if streaming online.
- Lower the video resolution or frame rate in your software settings.

8. SPECIFICATIONS

Feature	Specification
Model	SFV-2.8-12mm
Image Sensor	1/2.9" CMOS IMX323
Resolution	2 Megapixels (1080P)
Max. Resolution & Frame Rate	1920x1080@30fps
Other Resolutions	1280x720@30fps, 640x480@30fps
Lens Type	2.8-12mm Varifocal Lens (4X Optical Zoom)
Minimum Illumination	0.01 LUX
Compression Format	H.264, MJPEG, YUV2(YUYV)
Connectivity	USB 2.0
Driver	Free Driver (UVC compliant)
Cable Length	3 meters
Mounting	1/4-20UNC Tripod Screw Hole (Top & Bottom)
Operating System Compatibility	Linux (2.6.24+), Windows (XP SP2/7/8/10), Android (5.0+), Mac OS (10.6+), Raspberry Pi
Item Weight	3.53 ounces
Package Dimensions	3.94 x 3.15 x 2.76 inches

PLUG & PLAY

NO NEED TO INSTALL DRIVERS



WORK WITH MOST VIDEO AND STREAMING APPS



OpenCV



Ubuntu



Facetime



PotPlayer



Skype



Android TV



XBOX ONE

Image 8.1: Detailed dimensions of the camera's professional industrial box housing.

9. OFFICIAL PRODUCT VIDEOS

Video 9.1: Product Overview (1:17)

Your browser does not support the video tag.

This video provides a general overview of the IFWATER USB Camera, highlighting its key features and potential uses.

Video 9.2: Feature Demonstration (0:41)

Your browser does not support the video tag.

This video demonstrates specific features of the camera, such as its image quality or lens adjustments.

10. WARRANTY AND SUPPORT

IFWATER products are manufactured with quality and reliability in mind. For warranty information, technical support,

or service inquiries, please contact IFWATER directly through their official channels or the retailer where the product was purchased.

Manufacturer: IFWATER



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