Dino-Lite
Digital Microscope

WF-20
Instruction Manual

Contents

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance.

Federal Communication Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

IC statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC Radiation Exposure Statement

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance **20cm** between the radiator & your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de **20cm** de distance entre la source de rayonnement et votre corps

IC Caution:

The transmitter module may not be co-located with any other transmitter or antenna.

Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou antenne.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

Pour les produits disponibles aux États-Unis/Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection d'autres canaux n'est pas possible.

Introduction

The WF-20 is a Wi-Fi streamer, as well as a wireless router, to use combinedly with Dino-Lite Edge AF series for viewing and sharing observation without wire. With high quality image transmission and long battery life, the WF-20 is well suited for field applications.
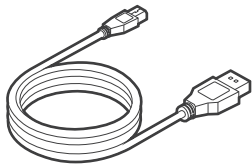
System Requirement

Mobile device or computer with operating system:

- iOS 10.X or later
- Android 6.0 or later
- Windows XP (SP3)/Vista/7/8/10

Compatible Dino-Lite Digital microscope:

- Dino-Lite Edge AF series

Package Contents

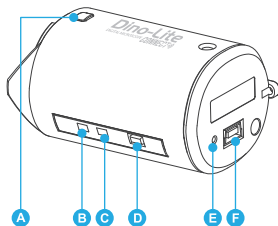Mini USB charging cable   Rubber lid   Dino-Lite WF-20
                                                      Wi-Fi streamer

Overview and Function

- Ⓐ Interface release button
- Ⓑ Wi-Fi signal LED indicator
- Ⓒ Battery LED indicator
- Ⓓ On / Off power button
- Ⓔ Reset pinhole button
- Ⓕ Mini USB port
  (for charging purpose)

Button usage and description:

Buttons	Description
On / Off power button	Press and hold for 1.5 seconds to turn on/off.
Reset pinhole button	Press and hold the pinhole button for 3 seconds to restore factory settings.

LED status and description:

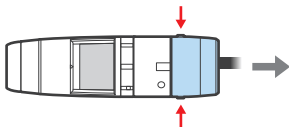| Indicator			Status
Green LED (Wi-Fi signal)		Blinking	Data transferring
Red LED (battery level)		3 flashes per cycle	Battery remains >70%
		2 flashes per cycle	Battery remains <70%
		1 flash per cycle	Battery remains <40%
		Solid	Battery full charged
		Blinking repetitively	Battery under charging

Getting Started

Charging the Battery

Charge the WF-20 by connecting to a computer or a USB charger using the Mini USB charging cable.

Assembling the Device

The WF-20 needs to be used with Dino-Lite AF series. The assemble procedure is as described below.

1. Pressing the two interface release buttons at the same time to remove the USB interface adapter cap.

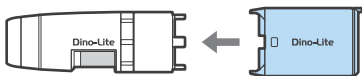**Notice:**
Do not bend the join part anytime especially when releasing the USB adapter cap or WF-20. Doing so may cause damage on the devices.

2. Remove the rubber lid from the WF-20. Suggest to cover the rubber lid onto the USB adapter cap for preventing dust build-up inside.

3. Attach the WF-20 onto AF series with the Dino-Lite logos facing the same side.

Downloading the APP or software

iOS/Android

Download and install DinoConnect from the Apple© App Store© or Google Play™.

Windows

Install DinoCapture 2.0 version 1.5.30 or above via CD. The latest version of DinoCapture can also be downloaded from https://www.dino-lite.com/download01.php.

Powering on

Press the power button for 1.5 seconds to power on. The startup process may take about half minute until the Dino-Lite's LED lit up.

To power off

Press the power button again for 1.5 seconds.

Setting the Network

iOS/Android

1. Go to settings of your iOS/Android device.
2. Turn on Wi-Fi.
3. Select WF-20's SSID (default: "Dino-Lite WF-20"), and input password (default: "12345678").
4. Launch DinoConnect for using the Dino-Lite.
5. (Optional) When multiple WF-20 are used nearby, be advised to change WF-20's SSID and password in DinoConnect settings ⚙ for distinguishing purpose.

iOS & android devices   WF-20

Windows PC/laptop

1. Turn on Wi-Fi of your computer, and select the Network by clicking ⏸ or 🔿 icon in the notification area.
2. Select WF-20's SSID (default: "Dino-Lite WF-20"), and click the **Connect** button.
3. Enter the security key (default: "12345678"), and click **Next** to connect.
4. Launch DinoCapture 2.0 for using the Dino-Lite.

Joining Wireless Network

You may further setup the WF-20 as a router to build connection between your mobile and a wireless network.

1. Open DinoConnect settings ⚙.
2. Tap "Choose a network".
3. Choose a network, then enter password.

Now your device is able to connect with the chosen network via the WF-20. The device will remember the last connected wireless network.

iOS & android devices   WF-20   Access Points

Note:
The WF-20 may connect up to 10 mobile devices at the same time, however, image fluency may be affected as more devices are connected.

DinoConnect 2 on iOS

Overview

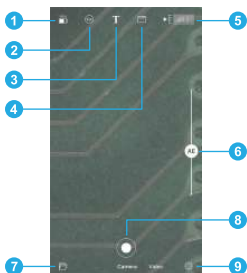DinoConnect 2 is an iOS app, compatible with iOS 12 or later, for using with WF-20 Wi-Fi streamers.

No.	Function	Description
1	Battery	To indicate battery level of the WF-20.
2	LED control	To control Dino-Lite's illumination.
3	Text	To create, edit, or format text.
4	Measurement	To perform or delete measurements.
5	Magnification	To input magnification. Models with AMR display magnification automatically.
6	Exposure	To adjust exposure.
7	Gallery	To view captured images or recorded videos.
8	Shutter	To capture an image or record a video. The camera and video modes can be switched below the shutter button.
9	Settings	To change the resolution or frame rate of the Dino-Lite, as well as the Wi-Fi settings of the WF-20.

Measurement

DinoConnect 2 allows users to perform measurements on the live preview or images captured with magnification recorded.

How to do measurement

1. Check the magnification has been entered correctly for models without AMR.
2. Tap the measurement toolbox and select a measurement tool. Each measurement consists of two or three points.
3. Tap to specify a point on the preview. Before the next point is specified, the point position can be fine-adjusted by sliding the finger anywhere on the preview in the intended direction.
4. Repeat Step 3 until all points needed by the measurement are specified.
5. Tap again on the preview to complete the measurement.
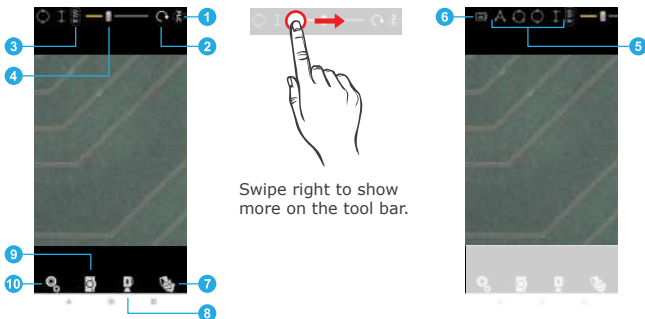
How to delete measurement

1. Select the measurement object. The measurement toolbox will display.
2. Tap the trash bin icon on the toolbox to delete the measurement. Note that the measurements on captured images cannot be deleted.

DinoConnect on Android

Overview

DinoConnect is an Android app, compatible with Android 4.4 or later, for using with WF-20 Wi-Fi streamers.

Swipe right to show more on the tool bar.

No.	Function	Description
1	LED control	To control Dino-Lite's illumination.
2	Refresh	To refresh the live preview.
3	Magnification	To input magnification. Models with AMR display magnification automatically.
4	Exposure	To adjust exposure.
5	Measurement	To perform measurements.
6	Trash bin	To delete measurements on live preview.
7	Gallery	To view captured images or recorded videos.
8	Record	To start or stop a video recording.
9	Camera	To capture an image.
10	Settings	To change the resolution or frame rate of the Dino-Lite, as well as the Wi-Fi settings of the WF-20.

Measurement

DinoConnect allows users to perform measurements on the live preview.

How to do measurement

1. Check the magnification has been entered correctly for models without AMR.
2. Select a measurement tool. Each measurement consists of two or three points.
3. Tap to specify a point on the preview. Before the next point is specified, the point position can be fine-adjusted by sliding the finger anywhere on the preview in the intended direction.
4. Repeat Step 3 until all points needed by the measurement are specified.
5. Tap again on the preview to complete the measurement.

How to delete measurement

1. Tap the trash bin icon.
2. Tap on the preview image, a notice dialog will pop up.
3. Tap "Yes", and all measurements will be deleted.

Battery Information

The built-in battery of WF-20 has a limited lifespan and may eventually need to be serviced. Do not repair or replace the built-in battery of WF-20. Please contact your local dealer and they will help to send back to the manufacturer for replacing the battery, which is not covered under warranty.

The WF-20 was designed to have more than 2.5 hours battery life, but may vary with different Dino-Lite model and the way of using. Charging the WF-20 may take 3-4 hours by a USB charger or a power bank. The WF-20 can still be used while charging, but be noted that extra heat will be generated and may affect circuit performance under poor ventilation.

The battery of WF-20 retains average 80% of its original capacity after 500 charge cycles. The following tips may help to prolong battery lifespan:

- Avoid draining the battery all the way to 0%.
- Prevent exposing or charging the WF-20 at temperature above 30°C (86°F).
- Charge the WF-20 to 50% for long-term storage.
- Store the WF-20 at 15~25°C (59~77°F).

For extending battery life, you may consider to reduce Dino-Lite's LED brightness in APP or software.

Specifications

Product name	WF-20
Support protocol	Wi-Fi IEEE802.11b / g / n
Antenna	2.4 GHz Wi-Fi FPCB antenna
Frequency	2.412 GHz~2.485 GHz
SSID (default)	Dino-Lite WF-20
Battery	1600 mAh
Power consumption	2.5 W
Battery continuous operation time	2.5 hours (tested by using with AF4915)
Operation temperature	10~45°C (50~113°F)
Dimensions	58 mm x 36.5 mm x 32 mm
Weight	approx. 57 g (with battery)