## STEP 1: POWER TO THE CAMERA

Plug an external power source into the mini-USB port on side of unit. A USB battery, UAS power cable, or wall charger that outputs 5V ~0.5A all work well. The camera has reverse polarity protection and accepts 5-26 Volts. Use the included Bench cable for initial power, display testing, and configuration.

On initial power-up, LED #2 will flash red for approximately 15 seconds then it will change to solid Blue; at this point LED #1 will flash yellow for about 5 seconds, then change to solid Green indicating the camera is ready for use.

LED #2 RED–BLUE
LED #1 YELLOW–GREEN

MICRO-HDMI CONNECTOR
MINI-USB CONNECTOR
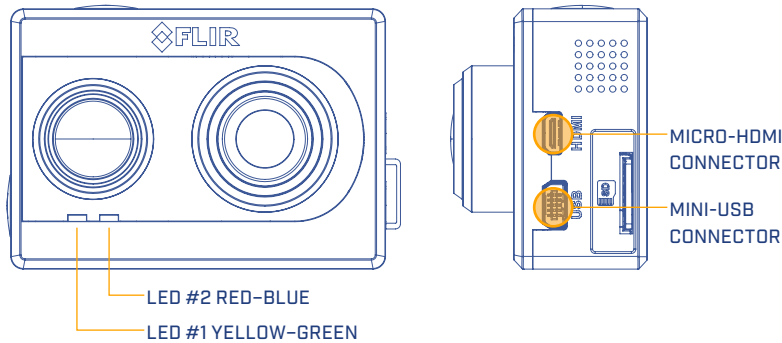
STEP 2: DISPLAY VIDEO

Duo can display either analog or digital video. To display analog video to a monitor or television, use the yellow RCA plug on the supplied Bench Cable to connect Duo to the monitor's video input.

For digital video, power the camera as described in Step 1 and connect Duo to an HDMI display through the micro-HDMI camera port. This will automatically disable the analog video output and turn on the HDMI output.
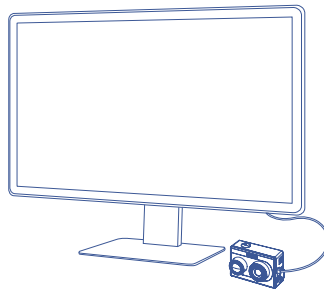

PLEASE READ THE USER MANUAL FOR COMPLETE PRODUCT INFORMATION. HAVE QUESTIONS?

DO NOT RETURN THIS PRODUCT TO THE STORE.

CALL OUR TOLL-FREE CONSUMER HELP LINE AT 866.667.7732 FOR ASSISTANCE WITH YOUR FLIR DRONE PRODUCT.

STEP 3: RECORDING VIDEO

Press the Record button to start recording video to memory card. The LED #1 will blink red to indicate active recording and the camera will beep. Press the Record button again to stop recording video.

RECORD BUTTON

SPEAKER

MICRO SD CARD SLOT

LED #1 BLINKS RED
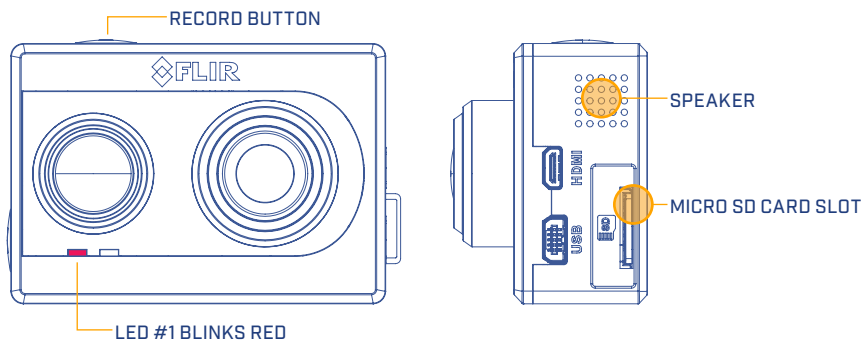
STEP 4: RETRIEVE RECORDINGS

Connect the USB cable to a computer to view SD card as a mass storage device and retrieve files as you normally would. Note that Duo cannot record when connected to a computer. Duo will encode the date and timestamps as part of file name after syncing its clock with the mobile app.

STEP 5: ACTIVATING BLUETOOTH

The camera Bluetooth is enabled on start-up and automatically disables after 2 minutes. To enable or disable it manually, press the Bluetooth button on the side of the camera.

BLUETOOTH BUTTON
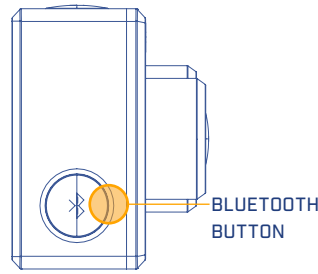
STEP 6: CONNECTING TO CAMERA BLUETOOTH

Download the FLIR UAS mobile phone app from Google Android Play Store or Apple iOS App Store. This connects to the camera over Bluetooth so that you can change camera settings and start or stop recording remotely. Launch the FLIR UAS app and it will automatically display a list of cameras nearby, select your camera and wait for settings to sync.
Note that no images are transferred to the phone and all recordings are saved on the SD card.
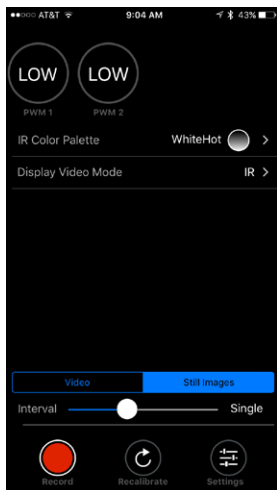
STEP 7: CONFIGURE DUO WITH THE APP

The FLIR UAS app lets you configure lots of Duos functions and options, but here are a few to get you started:

Select IR Color Palette to apply different thermal colorization schemes to your infrared images and video.

Select Display Video Mode to select whether the streaming video is IR only, Visible only, MSX®, or Picture-In-Picture mode.

Select Video or Still Images tabs to configure Duo for recording either videos or still images.

STEP 8: ADVANCED SETTINGS

Press the Settings button on the app's main screen to view advanced recording features, PWM and MAVLink setup, and camera information.
Some of the advanced features you can configure:
· IR Recording with IR Colorized and Raw TIFF selection
· Analog video NTSC and PAL selection
· FLIR JPEG and IR TIFF Image selection
· Camera orientation if you need to mount Duo upside down
· LED and speaker control

FREQUENTLY ASKED QUESTIONS

Why doesn't my camera connect?

Verify Bluetooth is enabled or press the Bluetooth button to manually enable Bluetooth.

Is there an internal battery?

Duo does not have an internal battery, as it is designed for lightweight integration platforms that can provide power to the camera, such as small Unmanned Aerial Systems (sUAS) or drones. Evaluate your sUAS for available power connections.

How do I mount on my airframe?

Duo has familiar action-camera dimensions that allow easy integration onto existing mounts; however, due to the many unique mount configurations it is recommended your system is reviewed for compatibility.

What are Radiometric JPEG images?

Radiometric JPEG images are compatible with FLIR's free FLIR Tools software. FLIR Tools can be used to view infrared, visible, and MSX blended images, as well as to thermally tune images to bring out the details you need.

What is MSX?

MSX stands for Multi-Spectral Dynamic Imaging, which is FLIR's patented real time thermal image enhancement feature. MSX embosses key visible light details onto thermal images so that structural edges, textures, numbers, labels, and other identifiable features captured by the color camera are highlighted. This adds extra perspective to the thermal image for easy orientation.
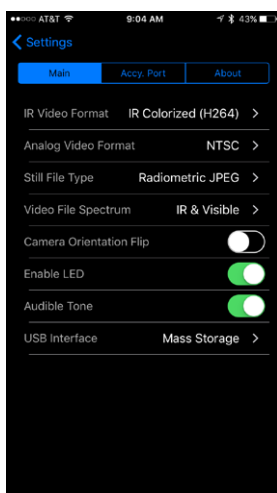
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