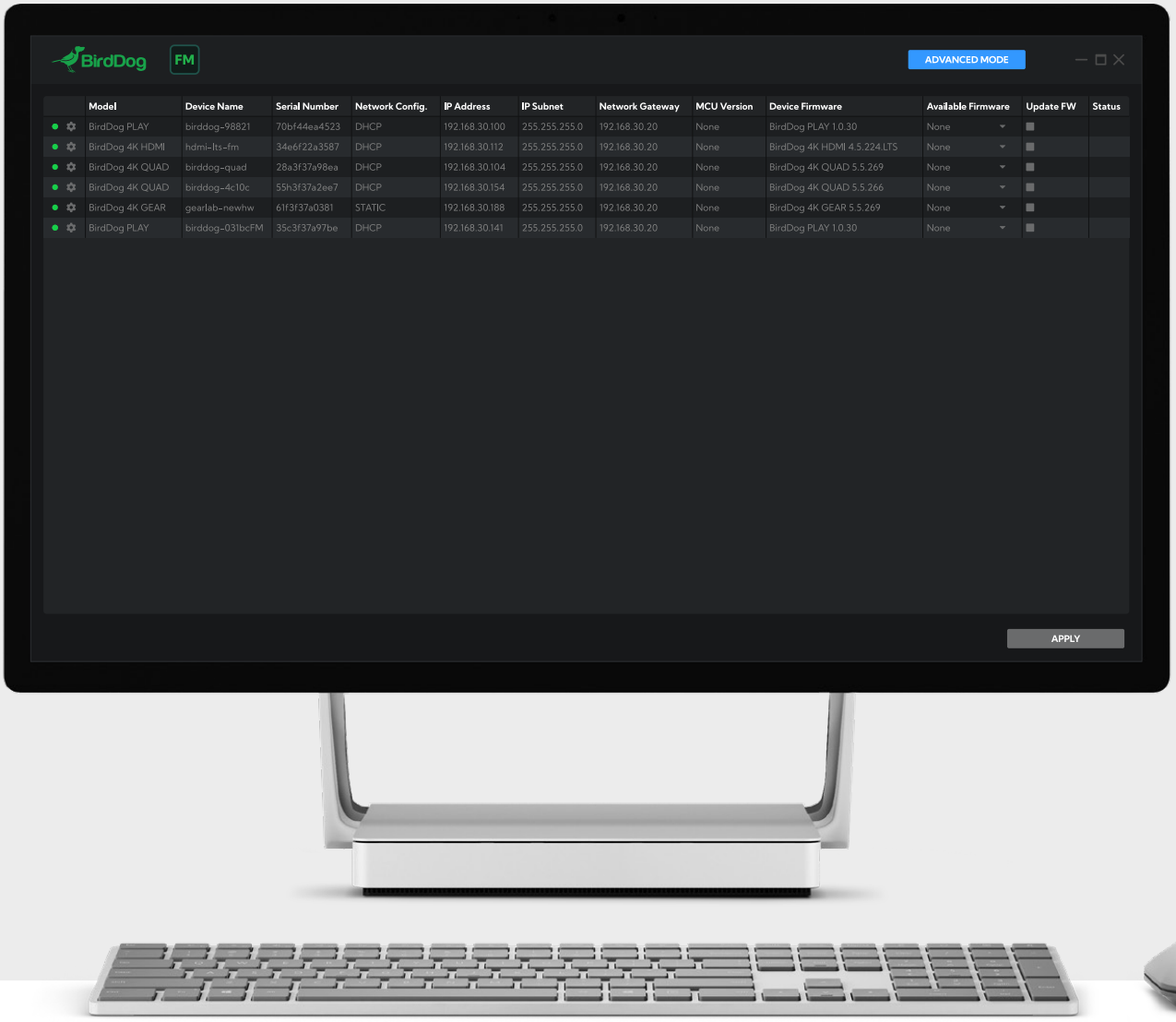

BirdDog

FLEET MANAGER

USER GUIDE

FM

NDI

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IMPORTANT INFORMATION

Legal Notice

The contents of this document are subject to change without prior notice. Updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.

Best effort has been made to verify the integrity and correctness of the contents in this document, but no statement, information, or recommendation in this manual shall constitute formal guarantee of any kind, expressed or implied. We shall not be held responsible for any technical or typographical errors in this manual.

The product appearance shown in this manual is for reference only and may be different from the actual appearance of your device.

Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual.

Use of this document and the subsequent results shall be entirely on the user's own responsibility.

Welcome to BirdDog

Thank you for using Fleet Manager. We hope you find this application useful.

We're Invested In Your Success

At BirdDog, we pride ourselves on being approachable and easily contactable. We'd love to hear from you.

Dan Miall

Co-Founder and CEO
dan@birddog.tv

Welcome to the Future

What is NDI®?

NDI® (Network Device Interface) is a high-quality, low-latency, frame-accurate standard that enables compatible devices to communicate, deliver, and receive high definition video over your existing Gigabit Ethernet network.

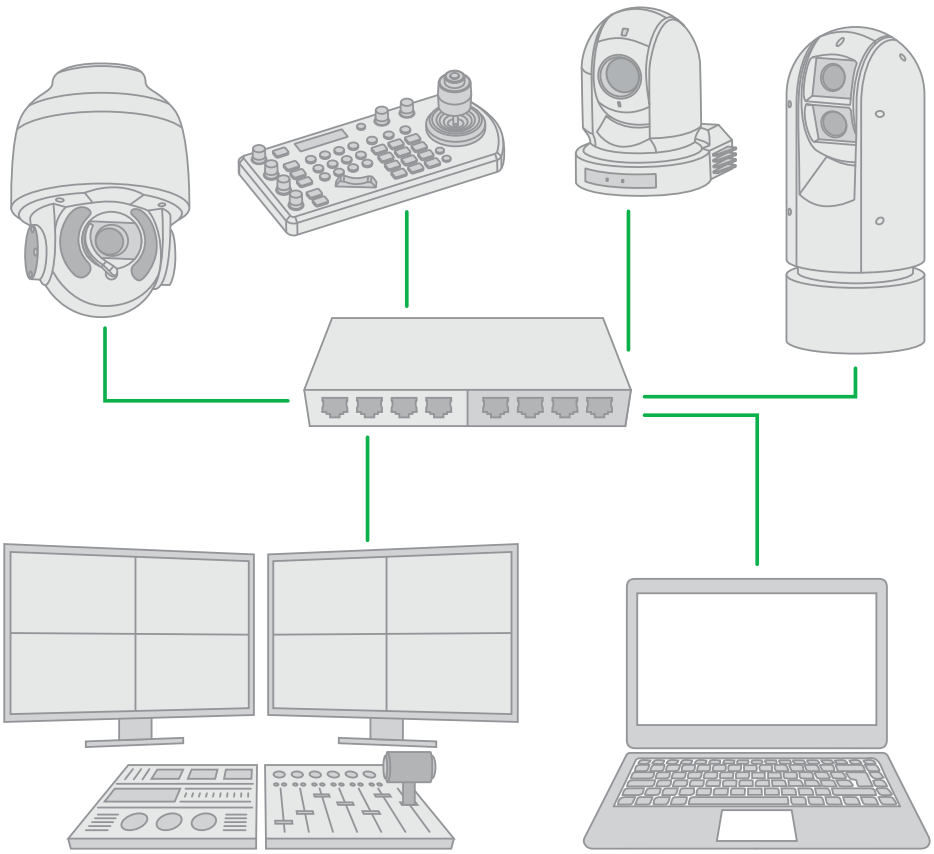
Operating bi-directionally, NDI devices can be auto-detected, powered and controlled over the same Ethernet cable used to send the video and audio. Even fill and key alpha channel information, as well as Tally, can be sent over this same cable. If you have a Gigabit network, you have the potential for a streamlined, interconnected, video production environment.

With the introduction of NDI 5, you can now securely share network sources between remote sites anywhere in the world - on a single network port. Even a smartphone can be a NDI source.

Transitioning to NDI® can also occur gradually. Existing SDI or HDMI signals can easily be converted to an NDI® stream and piped where required on your network and then converted back only at the necessary endpoints.

BirdDog has been on the NDI® journey since the very beginning, and Dyno is just one of our products designed to take advantage of the features and potential of NDI®.

For more information on NDI®, please refer to this page on our website.



Introducing BirdDog Fleet Manager

Supported Devices

This release supports the following BirdDog devices:

- BirdDog HD and 4K cameras
- BirdDog PLAY
- BirdDog 4K HDMI, 4K SDI, 4K QUAD, 4K OG4

Features

Fleet Manager currrently offers different features depending on the BirdDog device.

Discovery

All BirdDog Devices are discoverable and have shortcut access to the BirdUI.

Firmware Updates

The following devices are supported for firmware updates:

- BirdDog 4K HDMI, 4K SDI, 4K QUAD, 4K OG4
- PLAY

Device Parameter Editing

The following devices are supported for device parameter editing:

- P and A series cameras
- BirdDog 4K HDMI, 4K SDI, 4K QUAD, 4K OG4
- PLAY

Recovery

The following devices are supported for Recovery:

- BirdDog 4K HDMI, 4K SDI, 4K QUAD, 4K OG4

Reimaging

The following devices are supported for Reimaging:

- BirdDog 4K HDMI, 4K SDI, 4K QUAD, 4K OG4

System Requirements

- Network connected BirdDog compatible NDI source(s).
- Host machine running at least Windows 10.
- Intel Core i5 series processor and above recommended.
- Minimum 1920 x 1080 screen with no scaling.
- Minimum 4GB drive storage on the partition that Fleet Manager is installed.

NOTE

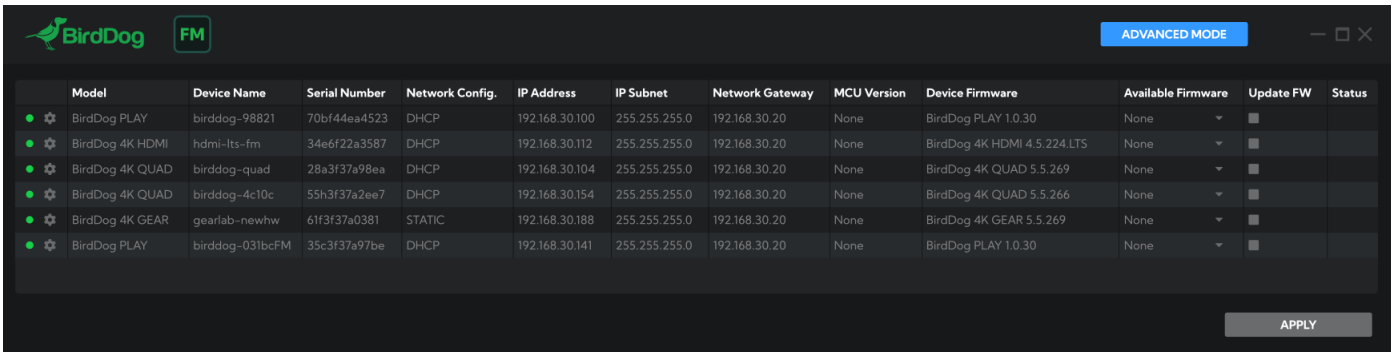
- Devices that are set to DHCP, but are operating on a fallback IP Address with no DHCP server on the network, are not supported.
- Devices that are set to the SFP+ NIC are not supported.

Fleet Manager Overview

Fleet Manager is an application that allows for monitoring, managing and updating all of your BirdDog devices on your network.

All supported devices are automatically recognised and populated into the application, conveniently displaying important information for each BirdDog device. This includes device status, IP address, serial number, and firmware version. You also have convenient access to the BirdUI for all devices, offering an easy portal to all available configuration settings. Supported devices are listed here.

When newer firmware versions for your BirdDog devices become available, Fleet Manager will alert you and give you the choice to update your devices. Fleet Manager also has an Advanced Mode which allows you to reset a device or replace the device OS image.



Installation

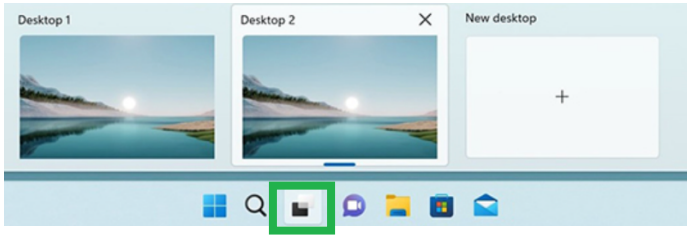
1. Download the installer and, if necessary, unzip the file.
2. Double click the .exe file and follow the prompts to perform a standard Windows install.
    - Accept the BirdDog license agreement.
    - If desired, select an alternate install location.
    - Choose to create a desktop shortcut and display the Readme file.
3. Find the application at Program Files > BirdDog > Fleet Manager.

Running Fleet Manager on a Virtual Desktop

When Fleet Manager is running it cannot be resized, and in Advanced Mode it cannot be minimised. Because of this it may be useful to run Fleet Manager in a virtual desktop.

Opening a virtual desktop

a. On the taskbar, select the **Task view** icon, then select **New desktop**.



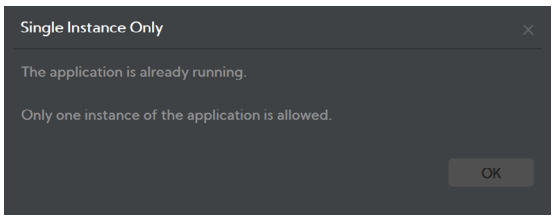
b. Open the apps you want to use on that desktop.

c. To switch to another desktop, select **Task view** again.

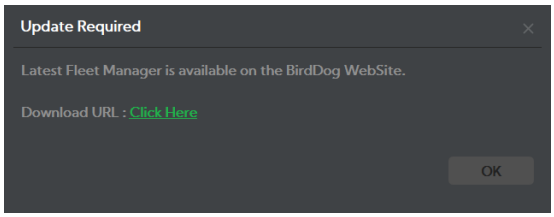
Starting Fleet Manager

When starting Fleet Manager, the following dialog windows may display.

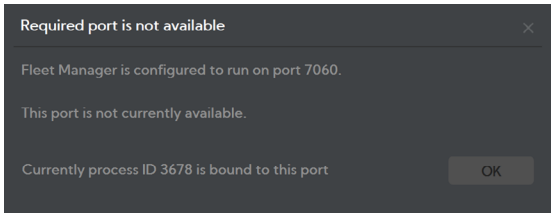
a. Only a single instance of Fleet Manager can be run on your host computer. If you attempt to start another instance, the following warning will display.



b. When Fleet Manager is started, it will check with the BirdDog server if an updated version is required. If a newer version is required, Fleet Manager will inform you of the need to update.



c. Fleet Manager communicates with BirdDog devices on the network via ports 7060, 3000 and 69. Please ensure that these ports are available. If they are not, Fleet Manager will display a warning message.



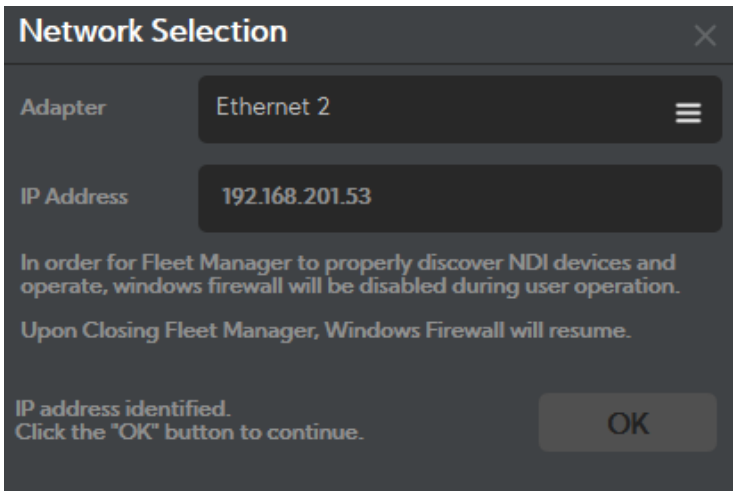
Select the Network Adapter

The following **Network Selection** window is then displayed.

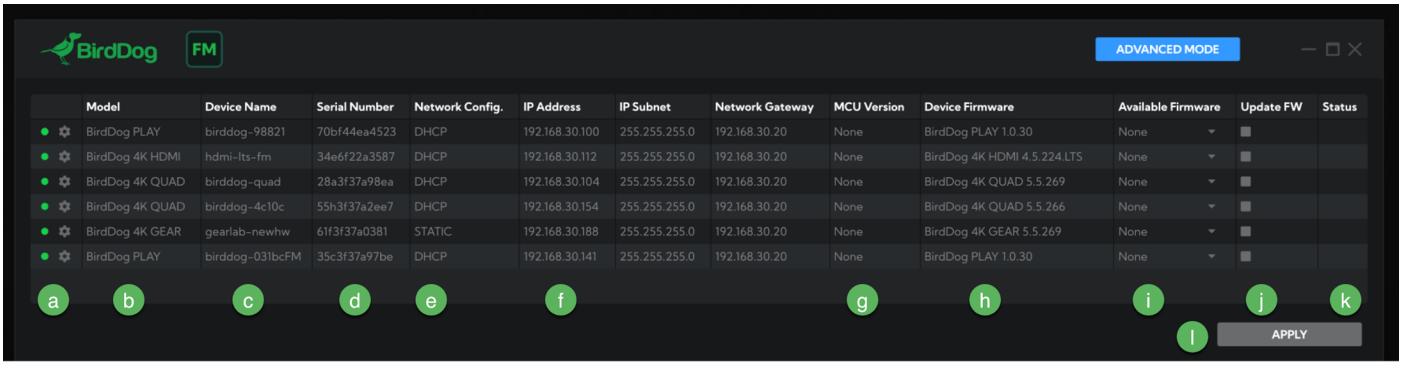
a. Click the **Adapter** dropdown to select the desired network adapter for the computer running Fleet Manager.

b. The IP Address of the computer will be automatically detected and populated into the **IP Address** field.

In order for Fleet Manager to properly discover NDI devices and operate, Windows Firewall will be disabled during operation. After closing Fleet Manager, Windows Firewall will resume as normal.



The Interface



a. The following Status icons may display:

The device is connected to the network and active.

The device is disconnected.

Click the **Gear** icon to access the BirdUI interface for the device.

b. **Model**: The device hardware ID.

c. **Device Name**: By default, BirdDog devices are named as "birddog-xxxxx", where xxxxx is the last five digits of the device serial number. This name will appear on any NDI receiver (including Fleet Manager) when it looks for devices on the network. The name can be any combination of 'a-z, 0-9, and –'.

d. **Serial Number**: The unique device ID.

e. **Network Configuration**: The network configuration can be either DHCP or Static.

f. **IP Address / IP Subnet / Network Gateway:** If the device has been configured with a Static IP address, the IP Address, Subnet Mask and Gateway Address will be displayed.

g. **MCU Version:** The MCU version number.

h. **Device Firmware:** The device firmware version number.

i. **Available Firmware:** Select the firmware to be installed from the dropdown list.

j. **Update Firmware:** The **Update Firmware** checkbox must be selected to update the firmware.

The following Alert icons may be displayed:

Indicates devices that are supported, but are running older firmware than is required by Fleet Manager. An alert message will display "Current Firmware is not compatible with Fleet Manager. Please update device to version 5.6.112 or newer"

Indicates devices that are not yet supported by Fleet Manager. An alert message will display "This device is not currently supported by Fleet Manager".

Fleet Manager can communicate with the device, but the device cannot receive data from Fleet Manager – usually because of DNS configuration issues.

The **Tool** icon will display if a firmware update has failed and an OS reimage is required.

The **Progress** icon will display if a job is active.

k. **Apply button:** Click the **Apply** button at the bottom of the window to start the updates.

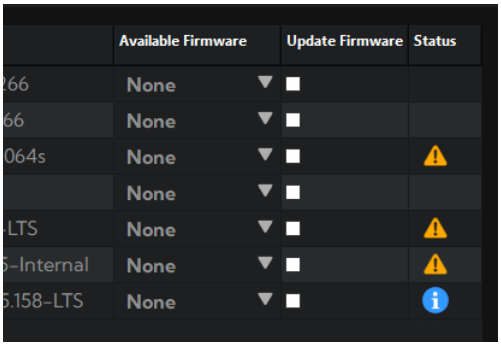
Updating Your BirdDog Devices

Fleet Manager displays the available firmware for each detected device in the **Available Firmwares** dropdown list. When you select the firmware, Fleet Manager checks for its availability inside the local firmware folder. If the firmware is locally available, you can install it into your device. Otherwise, Fleet Manager will download the firmware from the BirdDog server. This means that once firmware has been downloaded for a particular device, it can be used again for other devices of the same model, and an Internet connection is no longer required.

Before downloading an image file, Fleet Manager checks for the availability of free drive space and the download will be initiated only if at least 800 MB of space is available. If there is insufficient space a message will display.

To update:

1. For all devices that you wish to update:
   a. Choose the firmware to be installed from the **Available Firmware** dropdown.
   b. Select the **Update Firmware** checkbox of the device(s) to be updated. When the checkbox is selected for the first device, a window displays the estimated update times and maximum recommended devices for simultaneous update. Warning icons may be displayed.
2. Click the **Apply** button to start the update.
3. The progress indicator will activate for all devices being updated.

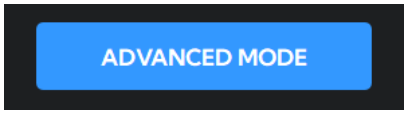


Advanced Mode

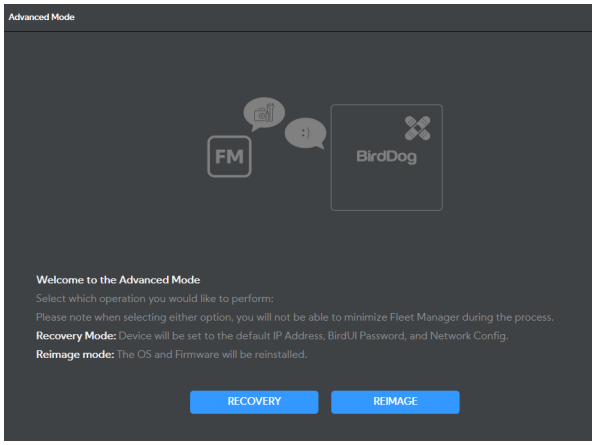
Advanced mode provides two operations, **Recovery** and **Reimage**. You can only update a single device at a time in this mode.

- **Recovery Mode:** The BirdDog device will be reset to default settings for IP Address, Network Configuration, and BirdUI Password.
- **Reimage Mode:** The device OS image will be reinstalled. Fleet manager requires an extra 1GB of drive space for reimaging.

4. Click the **Advanced Mode** button.



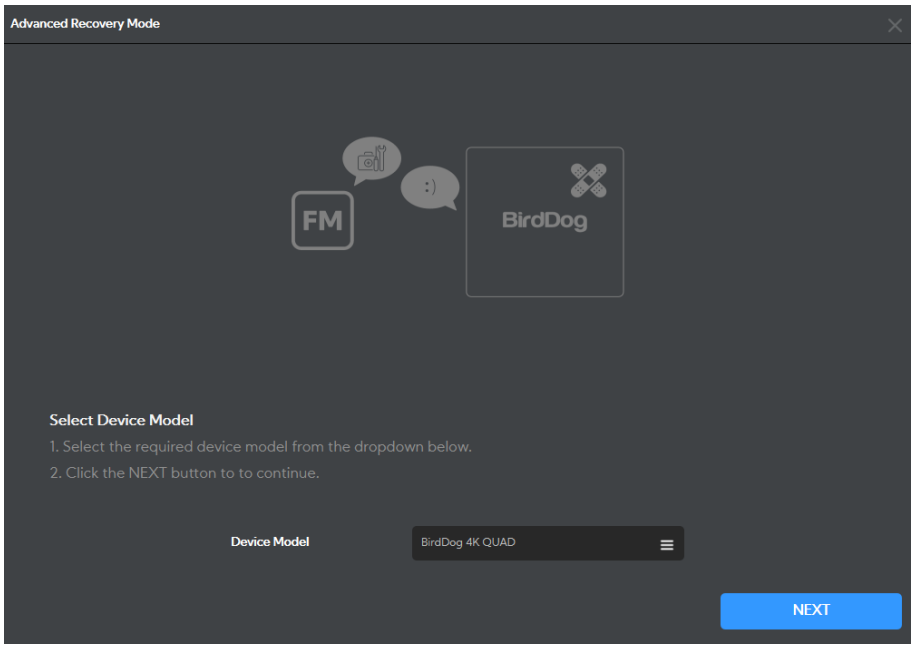
5. Select the desired **Advanced Mode**. Follow the procedures according to your selected Mode.



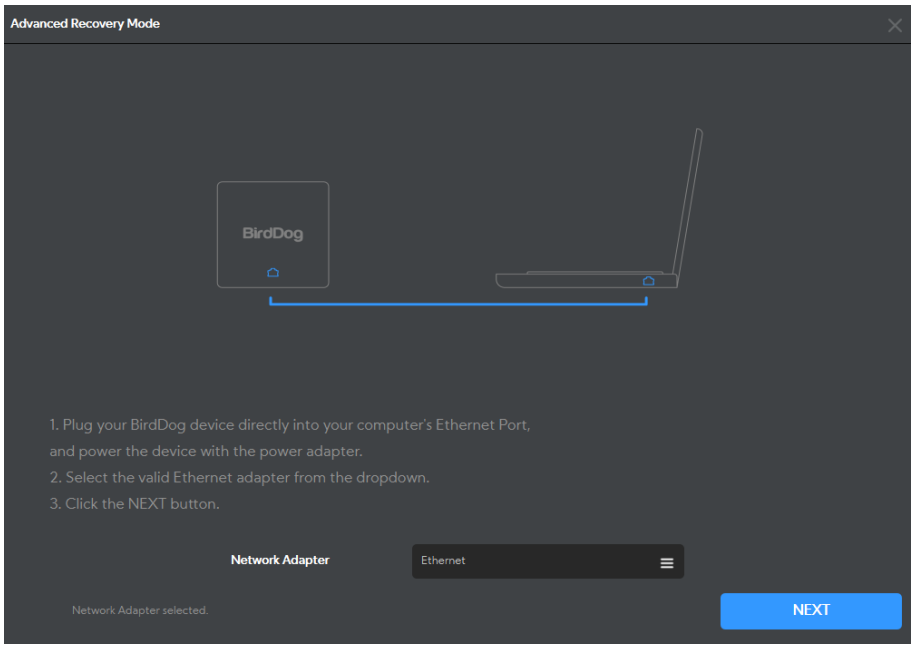
Recovery Mode

NOTE When recovering a BirdDog OG4 card, it's IP Address will be set to the BirdDog default of 192.168.100.100. To prevent conflicts in multiple card installations, please remove the Ethernet connection from all other OG4 cards.

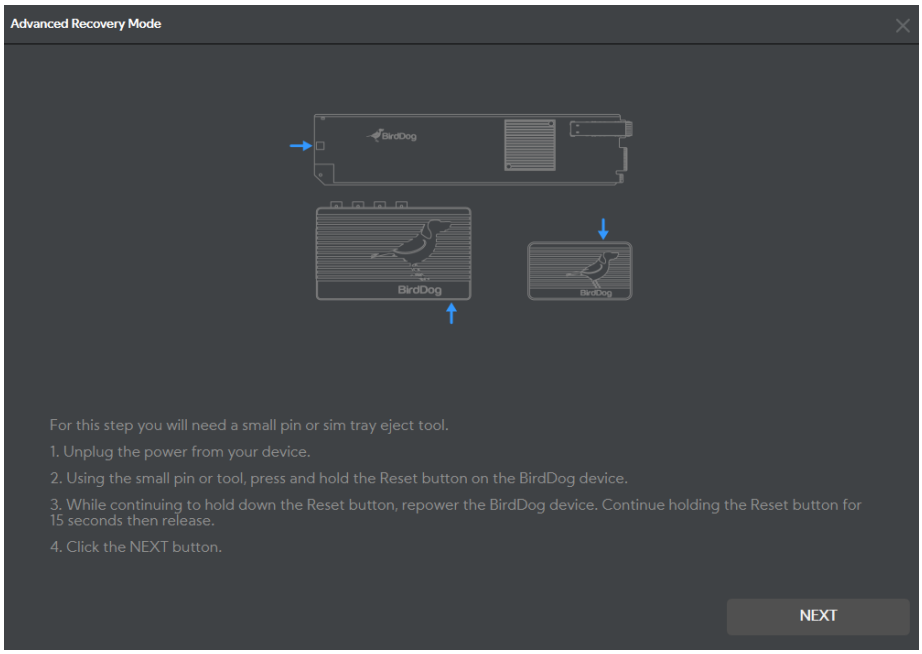
1. Select the **Device Model** from the dropdown. Click the **Next** button.



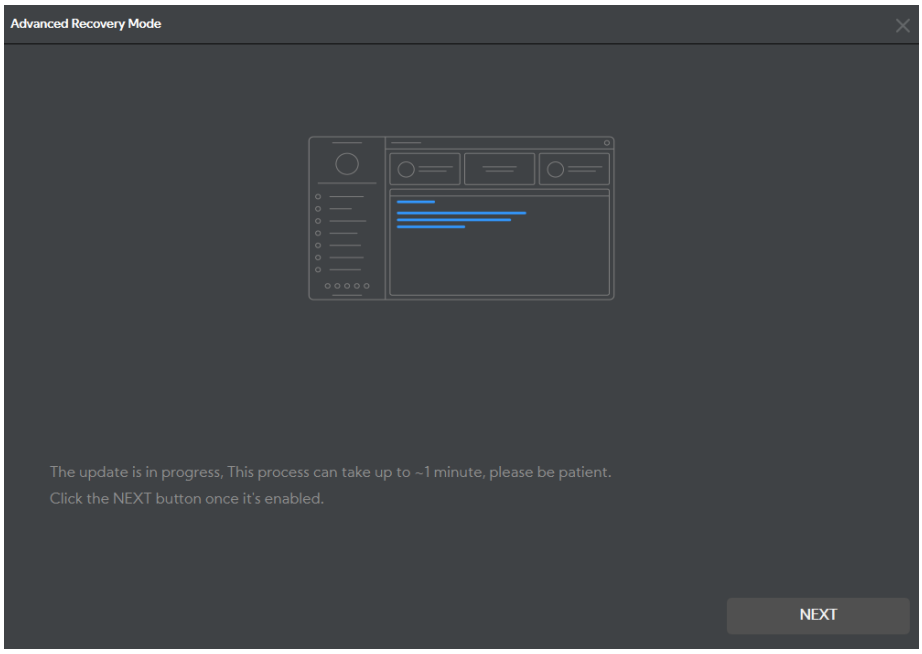
2. Connect the device directly to the computer on which Fleet Manager is installed with an Ethernet cable and power the device with the power adaptor. Select the **Network Adapter** from the dropdown. Changing the adaptor may take up to 30 sec. Click the **Next** button.



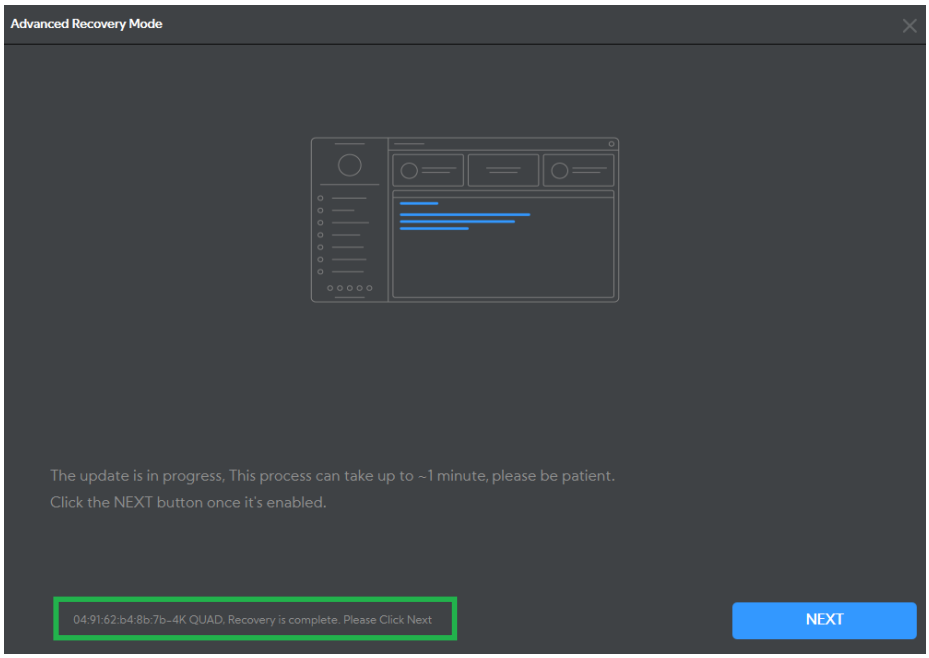
3. For 4K Converter and OG devices, press and hold the **Reset** button for 10 sec while removing and replacing the power adaptor to reset the device and repower to reset the device. For other devices, following the onscreen directions. Click the **Next** button.



4. Recovery is in progress. For 4K Converter devices, the green LEDs will flash after the device has been reset. Click the **Next** button.



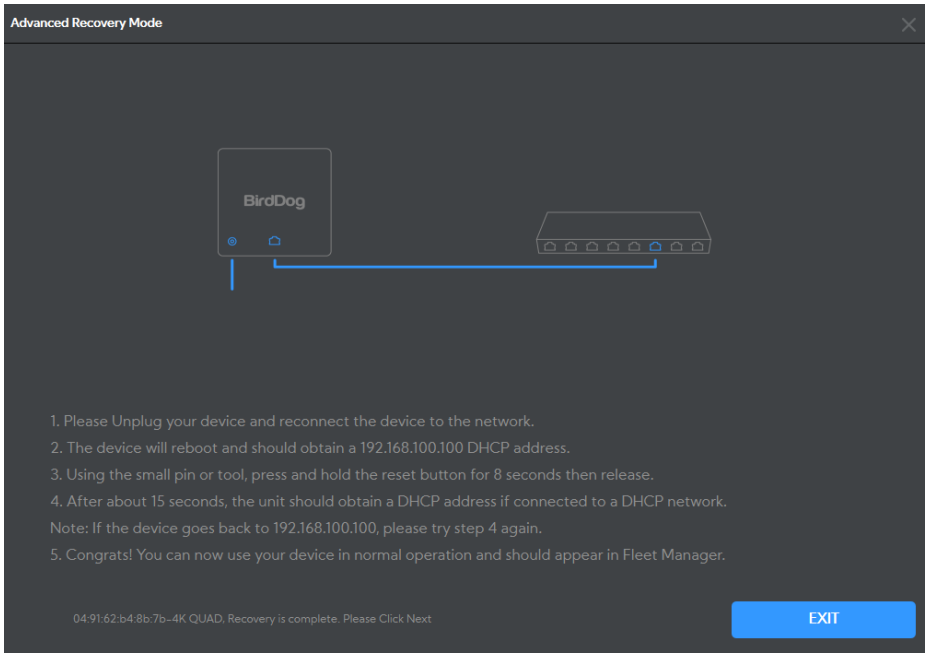
5. Once completed, the device serial number and completion confirmation will display on the left lower corner. Click the **Next** button when it's enabled.



6. Unplug your device and return it to the network. After rebooting, the device should obtain a 192.168.100.100 DHCP IP Address if a DHCP server is present.

   Press the **Reset** button again for 8 seconds and then release. The device should then obtain a DHCP IP address.

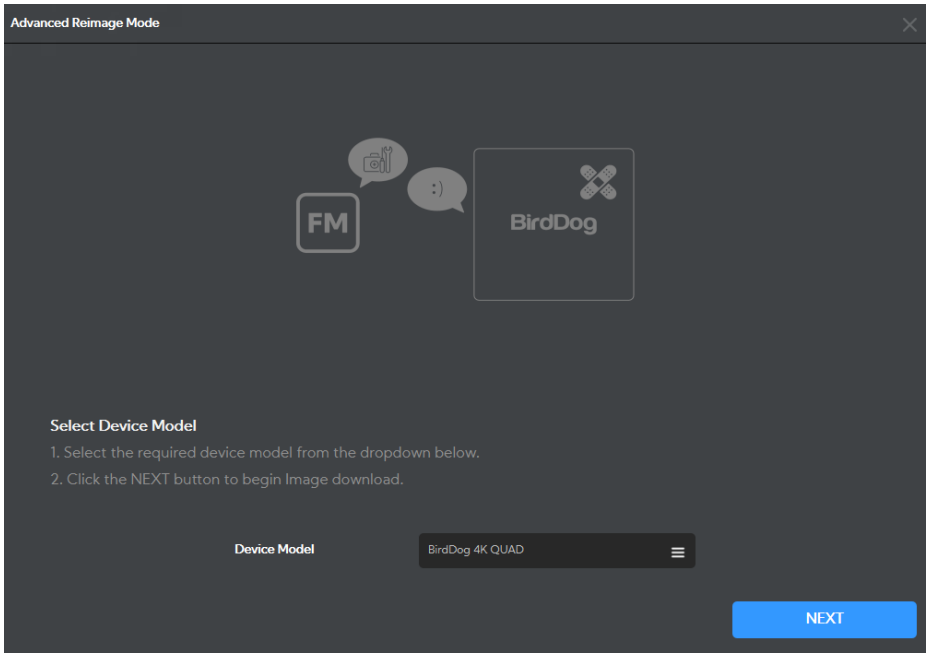
   Your converter should now be fully operational. Click the **Exit** button.



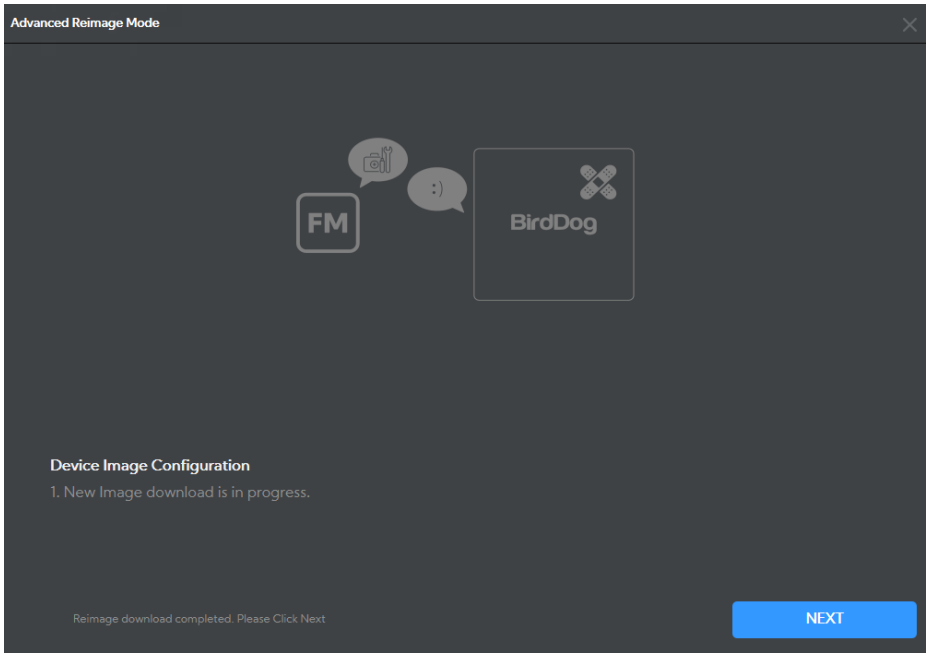
Reimage Mode

NOTE: Currently, only 4K devices are supported in Reimage Mode. A warning message will display if Reimage is attempted with other device types.

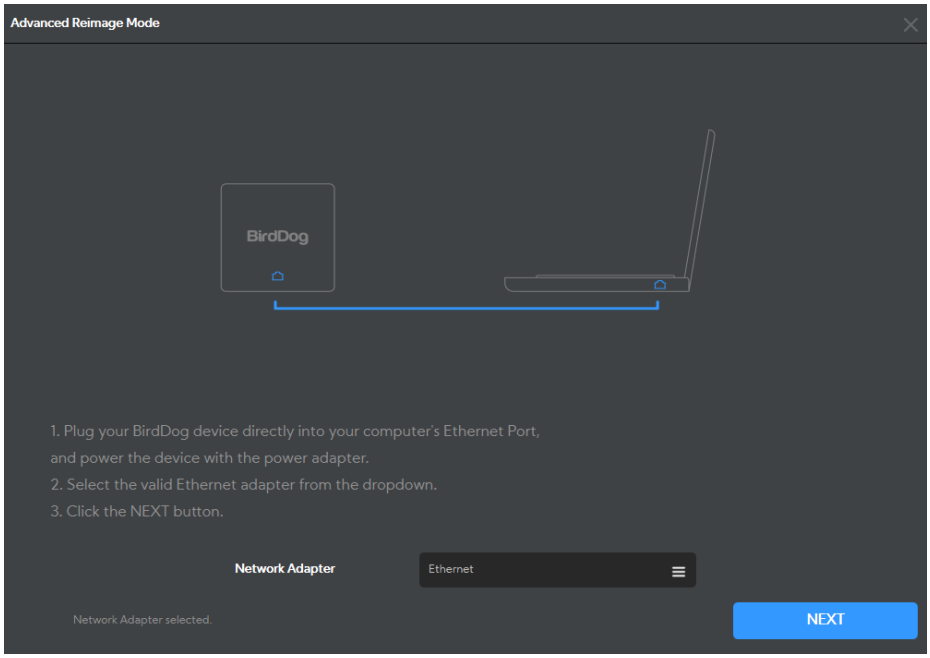
1. Select the **Device Model**. Click the **Next** button.



2. If the reimage file is not already locally stored it will be downloaded and configured. Click the **Next** button.



3. Connect the device directly to the computer on which Fleet Manager is installed with an Ethernet cable, and power the device with the power adaptor. Select the desired **Network Adaptor** for the host computer from the dropdown. Changing the adaptor may take up to 30 sec. Click the **Next** button.

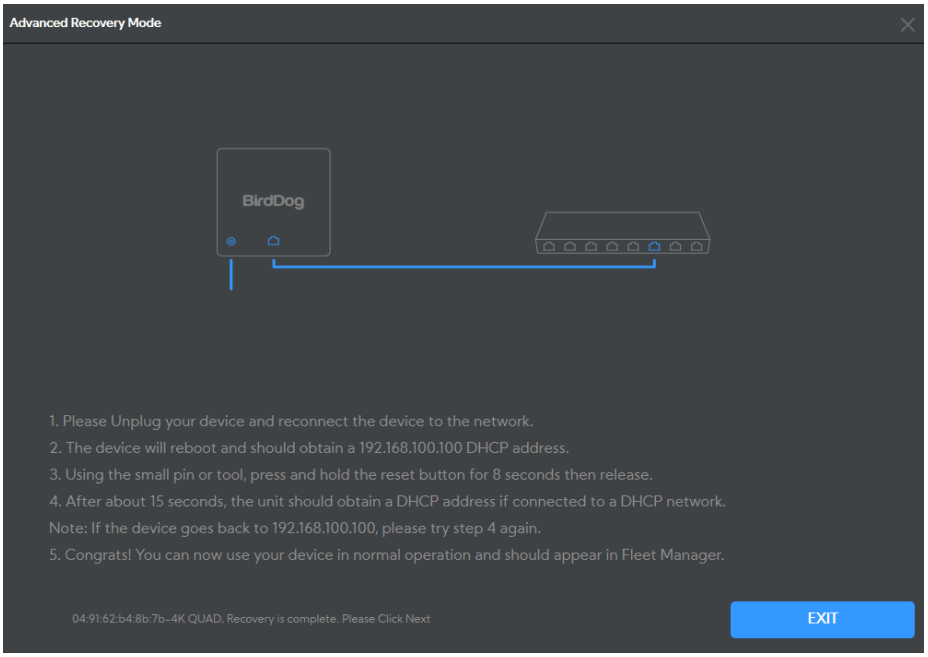


a. Unplug your device and return it to the network. After rebooting, the device should obtain a 192.168.100.100 DHCP IP Address if a DHCP server is present.

b. Press the **Reset** button again for 8 seconds and then release. The device should then obtain a DHCP IP address.

c. Your converter should now be fully operational. Click the **Exit** button.

Switching from Advanced mode back to normal mode will take approx. 10~15 seconds. During that time, the UI will be unresponsive.



Glossary

Domain

A domain contains a group of computers that can be accessed and administered with a common set of rules. Domain can also refer to the IP address of a website on the Internet.

DNS

DNS (Domain Name System) is a system used by the Internet and private networks to translate domain names into IP addresses.

mDNS

mDNS (Multicast DNS) refers to the use of IP multicast with DNS to translate domain names into IP addresses and provide service discovery in a network that does not have access to a DNS server.

Ethernet

Ethernet, standardized as IEEE 802.3, refers to a series of technologies used to connect computers and other devices to a LAN (Local Area Network) or wide area network (WAN).

Firmware

Firmware is a class of software held in non-volatile memory that provides the low-level control for a device's hardware.

Gigabit Ethernet (GigE)

An Ethernet capable of transmitting frames at a rate of a gigabit per second. A Gigabit capable Ethernet network is recommended for NDI® production workflows.

IP

IP (Internet Protocol) is the communications protocol for the Internet, many wide area networks (WANs), and most local area networks (LANs) that defines the rules, formats, and address scheme for exchanging datagrams or packets between a source computer or device and a destination computer or device.

LAN

LAN (Local Area Network) is a network that connects computers and devices in a room, building, or group of buildings. A system of LANs can also be connected to form a WAN (Wide Area Network).

Mbps

Mbps (Megabits per second) is a unit of measurement for data transfer speed, with one megabit equal to one million bits. Network transmissions are commonly measured in Mbps.

NDI®

NDI® (Network Device Interface) is a standard allowing for transmission of video using standard LAN networking. NDI® comes in two flavors, NDI® and NDI®|HX. NDI® is a variable bit rate, I-Frame codec that reaches rates of around 140Mbps at 1080p60 and is visually lossless. NDI®|HX is a compressed, long-GOP, H.264 variant that achieves rates around 12Mbps at 1080p60.

PELCO

PELCO is a camera control protocol used with PTZ cameras. See also VISCA.

PoE

Power over Ethernet

Port

A port is a communications channel for data transmission to and from a computer on a network. Each port is identified by a 16-bit number between 0 and 65535, with each process, application, or service using a specific port (or multiple ports) for data transmission. Port can also refer to a hardware socket used to physically connect a device or device cable to your computer or network.

PTZ

Pan, tilt and zoom.

RJ45

A form of standard interface commonly used to connect computers onto Ethernet-based local area networks (LAN).

RS422, RS485, RS232

Physical layer, serial communication protocols.

Subnet

Subnet or subnetwork is a segmented piece of a larger network.

Tally

A system that indicates the on-air status of video signals usually by the use of a red illuminated lamp.

TCP

TCP (Transmission Control Protocol) is a network communications protocol.

UDP

UDP (User Datagram Protocol) is an alternative protocol to TCP that is used when reliable delivery of data packets in not required.

VISCA

VISCA is a camera control protocol used with PTZ cameras. See also PELCO.

WAN

WAN (Wide Area Network) is a network that spans a relatively broad geographical area, such as a state, region, or nation.

White Balance

White balance (WB) is the process of ensuring that white objects and by extension, all color, in your video are rendered accurately. Without correct white balance, objects in your video display unrealistic color casts.

WELCOME TO THE FUTURE.