K001-00777-00

EVO-HD User's Guide

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Section 1: FCC Notice

Federal Communications Commission

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by Digital Ally, Inc. could void the user's authority to operate the equipment. For compliance with RF exposure requirements, please maintain 20cm of separation between the ~~device~~ antenna and all users during operation.

Section 2: Introduction to the EVO-HD HD System

2.1. Overview of Features

- External road facing 1080p High Definition IP camera with 10x variable optical zoom
- A back seat 1080p camera built
  - IR illumination.
- Capable of recording two video channels simultaneously
- Integrated 3:4 monitor to trigger and review videos
- Wireless Microphone with 3000 foot range
- Recordings can be started by any of the following:
  - Automatically by the G-Force sensor (cornering, braking, and collision), GPS coordinates, Vehicle Speed, IF Box sensors (sirens, lights, covert switch, etc.)
  - Manually by using the Record Button
  - Wireless Microphone
  - Body camera FVHD
  - Mobile Data Terminal (MDT) EVO Application
- Recordings end:
  - When active input sensor trigger ends
  - Manually by using the Record Button

- Pre-Event recording will capture up to 30 seconds prior to the start of a recording. Pre-Event Record time is adjustable in 6 second increments
- Records metadata with the audio and video, including device serial number, vehicle speed, date, time, sensors, radar, and GPS coordinates
- Automated wireless 802.11b/g/n upload of video events to your back office server
- Configuration and device updates can be wirelessly downloaded to each vehicle
- Easy to use with minimal or no driver interaction required
- Secure user login to the EVO-HD
- User may add traffic stop profile information at time of event
- Integrated playback controls for in-vehicle viewing
- LED and monitor status indicators
- Configurable monitor brightness for day and night modes
- VuVault® back office software available for organizing and viewing video event files, and advanced device configuration

2.2. EVO-HD Features Diagram

1	**Wireless Microphone input**
2	**GPS Port: The GPS antenna is connected here.**
3	**Cell Port: The 4G LTE antenna is connected here.**
4	**Wi-Fi Port: The Wi-Fi antenna is connected here.**
5	**Ethernet Port/ RJ45: POE switch or MDT is connected here**
6	**USB ports: USB cameras connected here**
7	**LED Status Indicators (Green Power good, Red Cell disconnected, and yellow uploading)**
8	**PWR port: 12 to 30V input to power EVO-HD**
9	**MON port: the monitor connected here**
10	**I/O port: the trigger inputs and outputs connected here**
11	**External SD Card: A removable SD card is installed at the bottom of the device** 12
	Reset Button: Used to perform a hard reset of the system.
13	**EVO-HD FCC Label & Serial Number**

Section 3: EVO-HD Configuration Overview

3.1. Wireless Configuration Update

The EVO-HD will check for the latest firmware updated after or before uploading the videos. This process is automated the user will not need to initiate the process.

Once the update process has started:

- **Do not remove power**
- **Do not remove the external SD card**

3.2. Using VuVault to Configure your EVO-HD

VuVault® is used to manage EVO-HD settings as well as activate your device or an external.

Before you can configure your device for use within VuVault, the EVO-HD serial number must be added into the system. Add your device into VuVault by selecting Admin > Devices > Advanced > Add Device. Find the device serial number located on the back of the EVO-HD and type it into the wizard (do not include the hyphen). Assign it a name and description. When done, press Save. For more information consult the "VuVault Administrator Guide" Adding Devices section.

Go to the Admin > Devices Tab. A separate configuration field for EVO-HD Settings will be available once a valid serial number for the device has been added into the system. These settings will define how all users will interface with the EV)-HD. Click on each subheading to reveal the available configuration options. When finished, press Save.

The Default button in the lower part of the main screen configurations for this device to the factory settings

Section 4: EVO-HD Power

The Power operation is configurable and specifies how the EVO-HD will operate when the vehicle ignition is turned to the ON or OFF positions. Two parameters control the power operation in order as follows:

4.1. Ignition Shutdown Timer

The Ignition Shutdown Timer specifies the amount of time the remains EVO-HD fully powered when the vehicle ignition goes from ON to OFF.

During the Ignition Shutdown Time:

1. The EVO is fully powered and operational, including all high power consumption devices, such as; cameras (including Pre-Event), recorded audio, GPS, Monitor, and the pre-event buffer.
2. The EVO-HD will remain fully powered until the *Ignition Shutdown Timer* expires. When the timer expires, the EVO-HD will then follow the operation for the *Days in LPS* configuration.
3. If the vehicle ignition switches on before the timer expires, the *Ignition Shutdown Timer* is canceled and will start over again when the ignition is turned off.

4.2. Days in LPS (Low Power Standby)

When the vehicle ignition goes from ON to OFF the EVO-HD will first follow the operation for *Ignition Shutdown Timer* and then the operation for *Days in LPS* configuration. The *Days in LPS* configuration specifies the number of consecutive days the EVO-HD will remain in *Low Power Standby* before completely powering off. Using a *Low Power Standby* configuration ensures the EVO-HD is fully powered on and ready to record within a few seconds of the vehicle ignition switching on.
Settings: 0 to 10 days [default = **0 days***]*

During Low Power Standby:

4. All high power consumption devices will be turned off, such as; cameras (including Pre-Event), GPS, monitor, ECA® recording, and the pre-event buffer. If configured, Accelerometer, External Triggers, and the Manual Record button events will trigger an event record. All other triggers are unavailable during low power standby.
5. The EVO-HD will remain in Low Power Standby until the number of days expires. When the number of days expires, the EVO-HD will completely power off.
6. If the vehicle ignition switches to the ON position before the number of days in Low Power Standby expires, the EVO-HD will wake up to the full power state and be ready to record within a few seconds.

The EVO-HD will draw a maximum of 20mA of current during *Low Power Standby*. Typically, a new or strong vehicle battery will provide enough current to power the EVO-HD in LPS for at least 10 days without discharging the battery. The vehicle's battery current rating, battery age, and other equipment that remains powered on when the vehicle ignition is off will affect the maximum consecutive days the EVO-HD should remain in LPS.

Section 5: Input Sensor Device Detection, Threshold, and Wiring Guide

To configure an input sensor, the signaling of the device must be known. To determine the signaling, measure the voltage for the normal or inactive state of the device and the voltage for the triggered or active state. Use the input sensor worksheet located in your installation guide to record measurements. When configuring sensors, first determine the Trigger Operation; second, the direction for the Detection Type; then select the Threshold setting nearest to the triggered state. The figure below illustrates these steps:

Detection and Threshold Parameters for Input Sensors

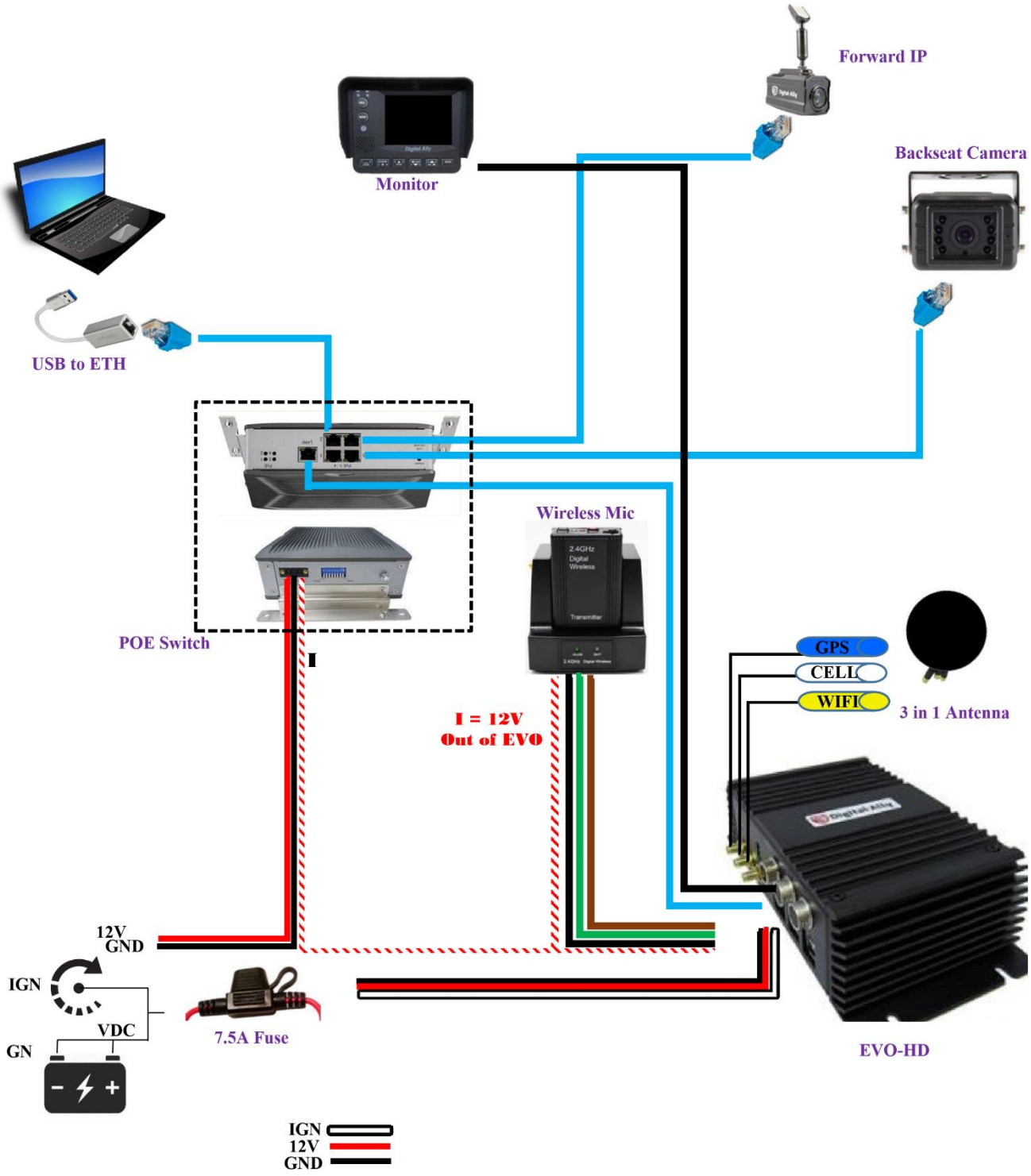
Signal from Trigger Device Configuration Setting

Normal or Inactive State	Triggered or Active State	Detection Type	Threshold
5V	GND	High to Low	Standard
12V	GND	High to Low	Standard
28V	GND	High to Low	Standard
GND	OPEN	Low to High	Standard
GND	5V	Low to High	Standard
GND	12V	Low to High	Standard
GND	28V	Low to High	Standard
OPEN	GND	High to Low	Standard

EVO-HD input/output cable interface and wiring color code

Wire Color/Code	*Assignment*
1. RED WHITE STRIPE	24W Out/ Trigger Out
2. BROWN	OUTPUT (going to Mic Trig in)
3. RED	REVERSE (Input)
4. YELLOW	VEHSS
5. BLUE WHITE STRIPE	OUTPUT 2
6. WHITE	SIREN
7. GREEN	INPUT (going to Mic Trig OUT)
8. ORANGE	LIGHTBAR (INPUT)
9. BLUE	BRAKE (INPUT)
10. BLACK	GND (POE INJ/Wireless Mic)
11. PINK	RADAR IN
12. GRAY	RADAR GND

Wiring Diagram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Backseat Camera
USB to ETH
Wireless Mic
POE Switch
GPS
CELL
WIFI
3 in 1 Antenna
I = 12V
Out of EVO
12V
GND
IGN
VDC
GN
7.5A Fuse
EVO-HD
IGN
12V
GND

Section 6: Contact Information

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