DRIVECAM
KEEPING AN EYE ON DRIVING SAFETY

DriveCam Video Systems
3954 Murphy Canyon Rd – D104
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Phone (858) 430-4000
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What triggers the DriveCam event recorder to start recording?
The camera makes the decision that when the vehicle is involved in unusual motion it needs to record and save (makes that determination through its g-force accelerometers or sensors). G-forces caused by activities such as hard braking, acceleration, harsh cornering or collisions trigger the DriveCam camera to save a 20 or 30 second event for later viewing. The driver can also manually activate DriveCam at any time by hitting the panic button.

How does a DriveCam capture video before an event occurs?
DriveCam is always powered on and continuously records in a digital loop - recording audio, video, and G-force levels. When triggered by unusual motion or a crash, the camera stores in its digital memory the video already in the loop, as well as the next several seconds for a "before and after" recording (typical setup is 10 seconds before, 10 seconds after). For example, if the vehicle was involved in a crash, the DriveCam video will show the 10 seconds that led up the crash.

Can I adjust the G-force levels on the camera and what are the recommened settings?
Yes. The amount time and people-power to use the DriveCam System really can be calibrated to your internal available resources. We have some customers who use the DriveCam System as a crash recorder only, which requires very little management besides downloading and viewing crash events in a timely manner. For these customers the G-forces on the camera are set so high that they only trigger events a few times per month. On the other hand, other customers set the G-forces on the camera low so that they capture a large number of erratic events (hard braking, swerving, accelerating too aggressively, etc.). These customers use the erratic events to provide feedback to their drivers that have demonstrated to have a direct impact on driving performance. Somewhere in between you can set the cameras to collect a smaller number of more relevant events or visa versa – if available resources (people) are your initial concern, our advice would be to set the G-force triggers higher, creating a lesser number of events. The amount of time required to "do the system" is directly correlated to the number of events – the less events, the less time spent managing them. In addition, keep in mind drivers will inevitably learn the parameters of safe driving that DriveCam defines and the number of events they initiate will go down. At this time you can increase the sensitivity of the DriveCams to capture more relevant driving events. In this fashion, you can effectively balance available people-power with the benefits of the recorded events. Note: Settings are adjusted through the HindSight 20/20 software and uploaded when connecting a USB cable.

How do I measure if the DriveCam Program is working?
The best measure of success is to look at the number of events (triggers). In the first week, your drivers are likely to trigger the camera numerous times. As drivers become accustomed to the presence of the camera and the parameters of safe driving that you defined with the g-force levels, the number of triggers will reduce. This is directly related to less aggressive driving.

Are there different types of DriveCam cameras? *Yes.*
1.) Single lens Forward-facing camera captures data from the front of the vehicle only.
2.) Dual lens Forward & Rear-facing camera captures data both inside and outside of the vehicle.

How long are the recorded events?
Optional 20 or 30 seconds for single lens camera, 20 seconds only on the dual lens camera.

How is the DriveCam camera powered?
No batteries - draws power from the OBD connector or any source that provides a constant 12 volts

What is the size this DriveCam Video Event Recorder (? x? x?)? 4.5" x 3.8" x 2.2" (w/h/d)

How long does it take to install a DriveCam camera?
Installation time will vary by vehicle type, but a trained mechanic or electronics installed can complete it in about twelve minutes.

What media to record? Records to flash memory card

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How many events will the camera hold?
Single lens camera with 32MB flash card = 15-20 events, 64MB flash card = 30-40 events
Dual lens camera with 32MB flash card = approx. 7 events, 64MB flash card = approx. 14 events

Does a DriveCam require any maintenance?
DriveCams are completely solid state. Because there are no moving parts there is no maintenance required. DriveCam houses a small, long-life lithium battery for backup when vehicle power is disconnected or lost.

How do I know when it's recorded fully?
There is a Status Light on the camera.
Lit green = Power on, no recorded events stored.
Flashing Green = Recording event.
Flashing red/green = Writing event recording to memory
Lit red = At least 1 Event recording stored.

Will my driver be able to tell when the camera has been triggered?
Yes. The Status Light is located on the front of the camera.

How do I manage all the data that the camera captures?
Hindsight 20/20, the Windows based management software component of the system, allows you to view an event and evaluate driving performance for each driver and vehicle as well as produce reports, statistics and individualized counseling forms. HindSight 20/20 is the organizing, reviewing and storage component of the System.

How do I download events off the camera?
When a DriveCam has the top red light on, you will know that there are events that need to be downloaded and viewed. Events automatically download from a DriveCam to the HindSight 20/20 software when the connecting USB cable is inserted. Once they are downloaded, the event videos are cleared from the DriveCam's digital memory. 2 methods of downloading:

1. Bring laptop running HindSight 20/20 software to vehicle

    - Designed for small fleets (typically 10 or less vehicles)
    - Connect USB cable from the laptop into the USB port on the DriveCam
    - Events automatically download into the "Inbox" of the HindSight software

2. USB Docking Station (Hubs)

A docking station will allow a vehicle to come to the HindSight software, instead of an individual going to the vehicle to download an event. A computer (left on) at a desk or other fixed location is at one end of the docking station. The other end is somewhere regularly approached by vehicles as they go to and from the premises. One company, for example, might set one end of the docking station near the car wash. Another company might set it near the gasoline pump, inside a garage, or at a check-in/check-out point. Docking stations can be created for interior use only, or be weather-protected.

Because USB cables cannot be linked further than 15 feet without a data-repeating hub, most models of the docking station contain one or more hubs in their components.

- Designed for larger fleets (typically 10 or more vehicles)
- Connect USB cable from the Docking Station into the USB port on the DriveCam
- Events automatically download into the "Inbox" of the HindSight software
- Allows a vehicle to come to central point to download events
- Typically setup in garage - gasoline pump or car wash area
- Download events anytime day or night, saves time & energy
- Data comes directly into the computer network
- Span distances from 15 feet to 300 feet

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How are events categorized in the camera and within Hindsight 20/20 management software?
Events are downloaded into the Hindsight 20/20 Inbox and remain there until you have reviewed them and either deleted them or logged them to a driver. They are categorized as follows:

- *Event Number:* HindSight 20/20 assigns a sequential number to each event.
- *Event Type:* The "Type" column describes the type of event that was recorded. There are four types of events that a DriveCam creates:

1. Crash - Detects sharp, high-energy impulses such as collisions (adjustable threshold setting starting at 1.0 G up to 3.5 G)
2. Erratic - Detects slower vehicle and driving forces such as swerving, hard braking or accelerating aggressively (threshold set as low as .2 G up to .95 G)
3. Panic - Triggered by the user manually pressing the red panic button
4. Warning - Alerts you that a system error has been detected. This may be loss of power, or some kind of software or system failure. (Note: Event contains a text warning and does not have video and sound)

Will the camera delete events if the camera is full and it is triggered? Yes.
Crash events have the highest priority
Erratic events have 2nd highest priority
Panic events have lowest priority

Events are deleted according to the above priorities, deleting the oldest, least important events first, but also attempting to balance the space for each of these types of events
Important to download regularly to keep space free

How long does it take to download events off the camera?
Between 15-30 seconds per event

Can I have multiple computers in my office setup to access HindSight 20/20 software to review events?
Yes. HindSight 20/20 4.0 software has 2 Models To Select From:

Network – for larger fleet operations and those smaller fleets that have a network in place. Events downloaded off camera to your network server via a DriveCam provided USB Docking Station. Allows for multiple PCs in your office to access the HindSight database to view recordings.

Standalone – for operations without a network or those that have only a few vehicles in their fleet and prefer to implement HS20/20 on a laptop computer (can be used on a desktop as well). Single PC will act as both the database and used for viewing the events.

How much memory space do I need to store DriveCam events?
A good rule of thumb for estimating the correct amount of disk space of an average installation is: NUMBER OF CAMERAS x 250Mbytes = SPACE ALLOCATE FOR HINDSIGHT 20/20

Is DriveCam video admissible in court?
DriveCam video has been used in several states to settle insurance claims and significantly reduce lawsuit payouts, and has been ruled admissible in courts of law.

What is the cost of the DriveCam System?
Approximately $1,100/vehicle