

Digital Forensics  
IN-VEHICLE  
I N F O T A I N M E N T  
SYSTEMS



# What data is available in an **INFOTAINMENT SYSTEM?**



## System Identification:

- Ford/Lincoln MY2008:
  - » Edge, Explorer, Fiesta, Flex, Focus, Fusion, Taurus, MKS, MKT, MKX, MKZ
- Ford MY2010
  - » E-Series
- Ford/Lincoln MY2009:
  - » Escape, Expedition, F-Series, Mustang, Navigator
- Ford
  - » C-Max, MY2013
  - » Transit Connect, MY2012



OnStar equipped vehicles 2007 and newer  
GM all vehicles 2009+ equipped with OnStar



## System Identification:

- LCD display in center of dash
- Controller on center console
- Optional equipment on all BMW models



## System Identification:

- Optional on many Chrysler vehicles
- 8.4" diagonal touchscreen display
- May or may not have navigation
- Assist/911 buttons on mirror
- Fiat vehicles have a 6.5" diagonal display that is supported, 8.4" is not available in Fiat
- Uconnect control buttons



## EnTune Premium Audio

- Navigation
- **Entune App Suite**

## EnTune Premium JBL Audio

- Navigation
- **Entune App Suite**
- JBL Speakers/Amp

*EnTune App Suite not included in Entune Audio or Entune Audio Plus.*



RNS-510 equipped on vehicles starting in MY2009

- 6.5" touchscreen
- Navigation



RNS-315 equipped on vehicles starting in MY2011

- 5" touchscreen
- Navigation



*Optional equipment on most VW vehicles*

# Mapping of events with **TIME COORDINATION**

## Data Available:

- RECOVER DELETED FILES
- PAIRED DEVICES
  - » Phones
  - » Contact list
  - » Call logs
  - » SMS
    - Incoming or outgoing
    - Body of message
  - » USB and media devices
  - » Includes media file list
  - » Device ID
  - » Last time seen
  - » Bluetooth connections
  - » WiFi connections
- LOCATION TAGGED EVENTS
  - » Track logs
  - » Stored locations
  - » Previous destinations
  - » Last known location
  - » Doors opened or closed
    - Which door
    - Whether opened or closed
    - Time and date of event
  - » Parking lights turned on or off
  - » Odometer readings
    - Time, date, location
  - » Time updates
- VEHICLE IDENTIFICATION
  - » VIN
  - » Part numbers
  - » Serial numbers
  - » MAC address
  - » Bluetooth address
  - » Embedded device identifiers

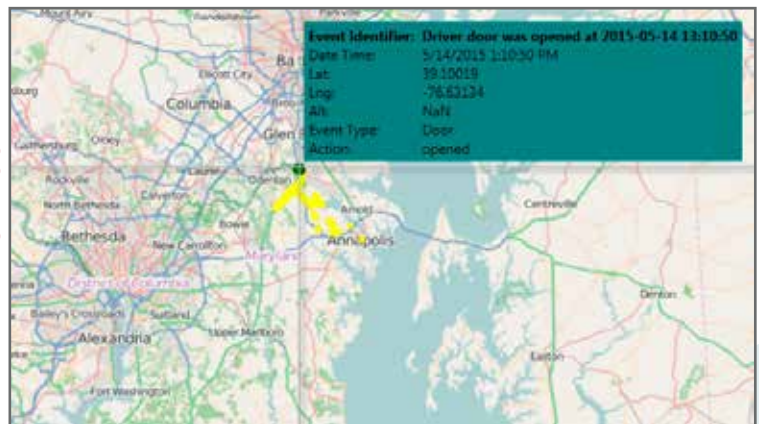
Last Known Location



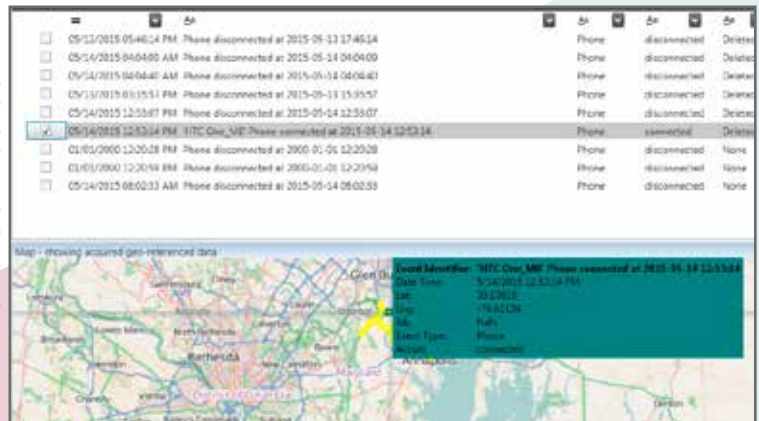
Parking Lights



Driver Door



Phone Connected



# The Kimley-Horn Advantage

In-vehicle infotainment (IVI) systems may well comprise the fastest growing segment of today's automotive industry. While the primary goals of IVI systems are to keep drivers and occupants connected to the world around them while enhancing the driving experience, data available from these systems clearly has forensic applications in both criminal and civil cases. Kimley-Horn should be your consultant of choice because:

- Recognizing the value of the data collected and retained by in-vehicle infotainment (IVI) systems, we are the first engineering firm in Florida to offer IVI data acquisition services.
- We are the first engineering firm in Florida that is actively testing and validating the data contained within various infotainment modules.
- Daniel Barshinger is the first engineer in Florida who has been trained and certified to retrieve and analyze this data.
- Daniel is also able to validate the data retrieved from various infotainment modules for courtroom admissibility.

Please contact Kimley-Horn for additional information or with any questions you may have about this new technology and how we can make the resulting data available to you.

**Kimley»»Horn**

