CEDR Automotive EDR Extraction Tool
Professional · Efficient · Safe
Tianjin Xingzhen Technology Co., Ltd.
TALONS
LABORATORIES
DIGITAL FORENSICS. TRUSTED FOR TRUTH

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Certified by authoritative institutions, industry-leading technology, secure and reliable data protection, enabling efficient forensic analysis.

03 **In-depth Analysis**

Detailed analysis of the technical principles and application scenarios of OBD standard reading methods and direct reading methods of airbag controllers.

04 **Technical Support**

Showcasing the independently developed core technology architecture, as well as relevant software copyrights, patents, and other intellectual property achievements.

# Core Function: Automotive Event Data (EDR) Extraction

## Professional & Precise Extraction

In-depth analysis of automotive EDR “black-box” systems, breaking through original factory protocol limitations to achieve safe, lossless, high-precision reading of underlying data, ensuring that the extraction process is compliant and efficient.

## Comprehensive Data Recording

Complete reconstructs key dynamic parameters before and after vehicle collisions: including real-time driving speed, brake/throttle pedal status, seatbelt locking time, engine RPM, and other critical indicators.

## Authoritative Verification Support

The extracted data possesses originality and objectivity, providing strong first-hand evidence for traffic accident cause analysis and vehicle performance safety assessment, serving as a key basis for judicial determinations.

# Product Advantage Overview

## Authoritative Testing & Certification

- Certified by the Traffic Management Science Research Institute of the Ministry of Public Security in China
- Certified by the Quality Inspection Center for Security and Police Electronic Products of the Ministry of Public Security in China

## Extensive Vehicle Coverage

- Deep adaptation to 4000+ vehicle models, covering more than 100 mainstream automobile brands on the market
- Supports multiple communication protocols with industry-leading compatibility

## Data Security and Reliability

- Built-in automatic data verification algorithm to ensure the extracted data is true and valid
- Verified through more than a thousand real collision vehicle tests, with consistent results

## Efficient & Quick Evidence Collection

- Supports wireless operation via mobile devices, suitable for on-site convenient and deployment
- Data reading can be completed in just 1-3 minutes, achieving zero delay in data processing

# Certified • Trusted

The authority of CEDR products is one of its core competitive strengths. In the field of judicial evidence collection, the reliability and accuracy of the equipment are crucial.  CEDR has passed the stringent testing of two major national-level authoritative institutions, ensuring its full legal effectiveness and high credibility in law enforcement and identification scenarios.

### Traffic Management Scientific Research Institute of the Ministry of Public Security

A national-level core institution for traffic management research, providing rigorous verification of the product's suitability for traffic law enforcement and the accuracy of data collection in all dimensions.

### Detection Center for Safety and Police Electronic Products of the Ministry of Public Security

A domestic authoritative quality inspection institution for police electronic products, providing comprehensive certification of the product's anti-interference ability, system stability, and data originality.

# Industry Leading • Wide Coverage

## 4000+

### Supported Vehicle Models

Continuously investing in R&D resources, continually expanding the range of supported vehicle models, covering mainstream vehicles on the market

## 100+

### Car Brands

Includes all categories of car brands such as luxury, joint venture, and independent brands, meeting diverse market demands

## Adaptable

### Protocol Auto Detection

Built-in multiple communication protocols, device auto recognition and matching, no manual operation required, more efficient connections

Wide compatibility ensures that CEDR can handle the vast variety of vehicles on the market, whether common family cars or high-end imports, providing stable and efficient data extraction.

# Secure and Reliable • Accurate and Correct

The security and reliability of data are lifelines for evidence collection work. From the very beginning of system architecture design, CEDR has prioritized data security and integrity, providing a solid technical foundation for every instance of evidence collection.

## Data Automatic Verification Mechanism

Built-in hash verification and redundancy check algorithms automatically verify each piece of data read at millisecond levels, intercepting abnormal data in real time, eliminating the risk of data being tampered with or damaged.

## Validation through Actual Cases

After validation through in-depth investigations of road traffic accidents, over **1000+** actual collision vehicle black box data extractions and analyses have been completed, fully verifying the system stability and data accuracy.

"**Our promise:** Every data report extracted and generated by CEDR possesses judicial-level authenticity, completeness, and credibility, safeguarding your evidence collection work."

# Efficient Evidence Collection • Ease of Operation

CEDR is committed to simplifying the evidence collection process, enhancing on-site work efficiency comprehensively through mobile optimization and rapid reading technology.

## Mobile • Lightweight Operation

Based on an intuitive interactive interface of the APP, there is no need for bulky laptops on-site; a single mobile phone can complete the entire process of diagnosis, evidence collection, recording, etc., significantly reducing the burden of equipment carrying.

## Rapid Response • Zero Data Delay

Optimized for in-vehicle systems, critical data extraction takes an average of only 1-3 minutes, achieving immediate access to and analysis of on-site data, securing valuable golden-hour for accident response.

# Equipment List

The equipment includes: "Shu Zheng Feng" evidence collection device 1 unit, data cables 6 pieces, mobile power bank 1 unit, DC power supply 1 unit.

**CEDR evidence collection device**

**Mobile power bank**

**DC power supply**

**OBD Data Cable (1 piece)**

**Airbag Data Cable (1 piece)**

**Universal Adapter Cable GM1 (1 piece)**

**Universal Special Cable GM2 (1 piece)**

**Computer Data Cable (1 piece)**

**Mobile Phone Data Cable(1 piece)**

# Detailed Analysis

## Two Methods of Data Extraction

# OBD Reading Method

Applicable to scenarios where the vehicle is in good condition and can start normally. Direct connection through the vehicle's OBD port, convenient and quick.

## STEP 01 • Connect Hardware Device

Connect one end of the OBD data cable to the CEDR device and the other end to the vehicle’s OBD interface; then connect the USB cable to link the CEDR with the phone, completing the physical connection.

## STEP 02 • Start APP to Connect

Open the evidence collection APP on the phone, click “Start Connection”; the software will automatically recognize and obtain the vehicle’s basic information, then follow the prompt to proceed with the EDR reading process.

## STEP 03 • Data Reading and Export

Automatically read all event records in the device, supporting Read All”; and generating a standard PDF format evidence report with one click for export.

# Airbag Controller Reading Method

Applicable to extreme situations where the vehicle is severely damaged, unable to power on or start. Data extraction is conducted by disassembling and directly connecting to the airbag module to ensure key data is not lost.

**01**

## Airbag Controller Wiring

Click the model button in the App to enter the directory and find the wiring method. After connecting the data cable, insert the power into the CEDR device.

**02**

## Open the mobile APP and read

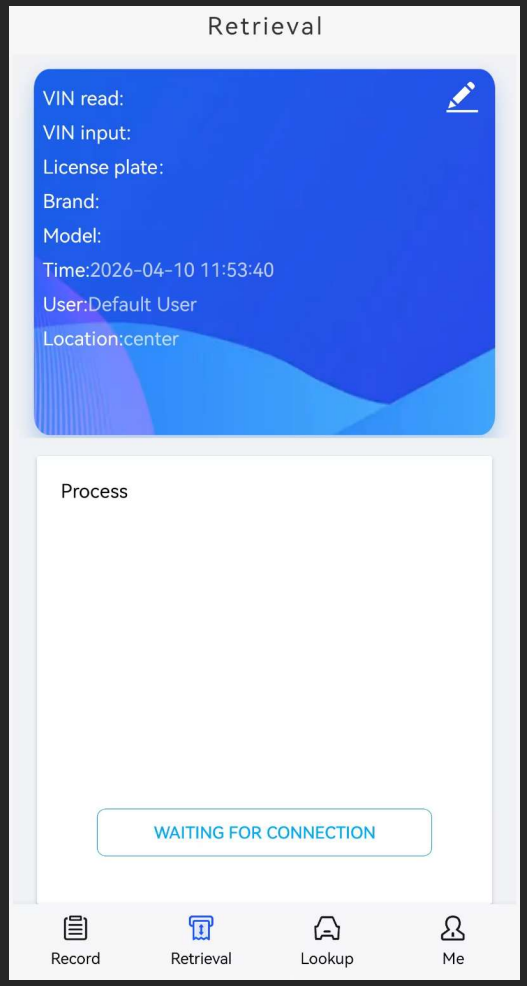
Click to connect to automatically obtain vehicle information and strictly follow the operation guide in the APP to read the EDR data.

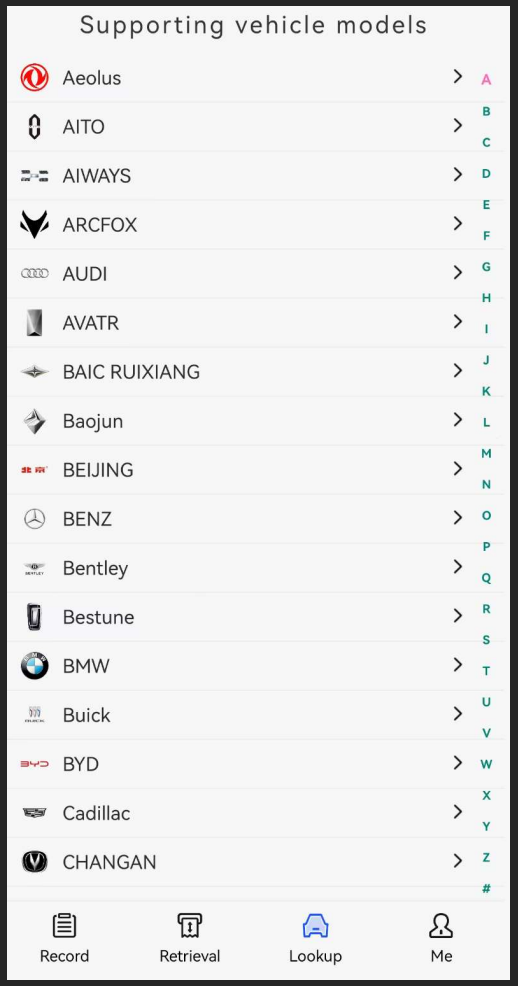
**03**

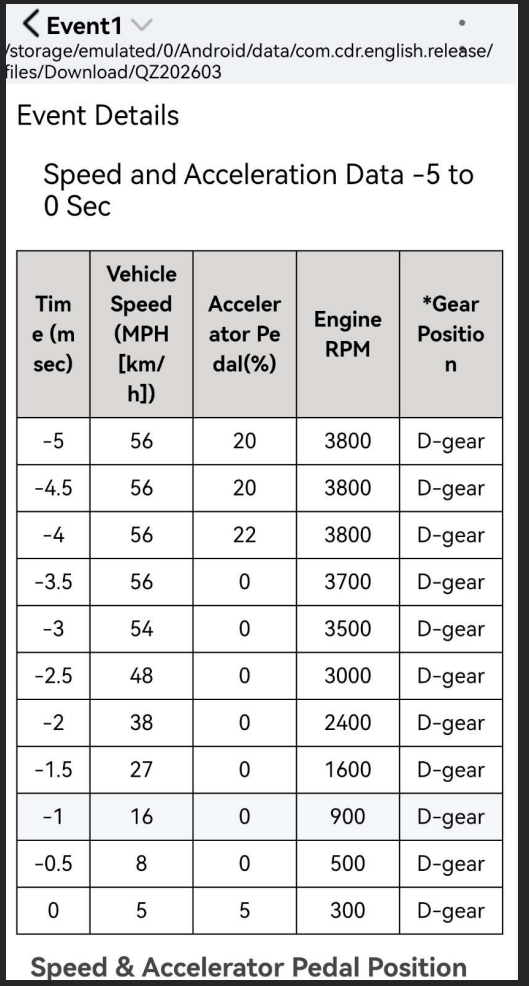
## Data Export Completed

All event data in the device can be read with a single extraction operation, and it supports one-click reading of all reports and exporting as PDF files.

# Software Interface






| Time (msec) | Vehicle Speed (MPH [km/h]) | Accelerator Pedal(%) | Engine RPM | *Gear Position |
|---|---|---|---|---|
| -5 | 56 | 20 | 3800 | D-gear |
| -4.5 | 56 | 20 | 3800 | D-gear |
| -4 | 56 | 22 | 3800 | D-gear |
| -3.5 | 56 | 0 | 3700 | D-gear |
| -3 | 54 | 0 | 3500 | D-gear |
| -2.5 | 48 | 0 | 3000 | D-gear |
| -2 | 38 | 0 | 2400 | D-gear |
| -1.5 | 27 | 0 | 1600 | D-gear |
| -1 | 16 | 0 | 900 | D-gear |
| -0.5 | 8 | 0 | 500 | D-gear |
| 0 | 5 | 5 | 300 | D-gear |

# Report Example



## EDR Events Data Analysis Report

Vehicle Model : Tesla

Vehicle Vin : Data Not Available

Reference Standard : GB 39732-2020

Report Date : 2026-03-12 16:42:55





3.3、Data for the first 5 seconds of the event trigger (Event1)

Vehicle handling and movement status

| Time(s) | Vehicle Velocity (km/h) | *Gear Position | *Accelerator Pedal Position (%) | *Brake Pedal Position (%) | Service Brake | *Parking System Status | *Steering Angle (°) | *Yaw Angle Velocity (°/s) | Revolution Per Minute (RPM) | Full Throttle Position Percentage (%) | *Turn Signal Switch Status |
|---|---|---|---|---|---|---|---|---|---|---|---|
| -5.0 | 56 | D-Gear | 20 | 0 | OFF | OFF | 0 | 0.0 | 3800 | Data Not Available | OFF |
| -4.5 | 56 | D-Gear | 20 | 0 | OFF | OFF | 0 | 0.0 | 3800 | Data Not Available | OFF |
| -4.0 | 56 | D-Gear | 22 | 0 | OFF | OFF | 0 | 0.0 | 3800 | Data Not Available | OFF |
| -3.5 | 56 | D-Gear | 0 | 0 | OFF | OFF | 0 | 0.0 | 3700 | Data Not Available | OFF |
| -3.0 | 54 | D-Gear | 0 | 10 | Open | OFF | 0 | 0.0 | 3500 | Data Not Available | OFF |
| -2.5 | 48 | D-Gear | 0 | 25 | Open | OFF | 0 | 0.0 | 3000 | Data Not Available | OFF |
| -2.0 | 38 | D-Gear | 0 | 25 | Open | OFF | 0 | 0.0 | 2400 | Data Not Available | OFF |
| -1.5 | 27 | D-Gear | 0 | 35 | Open | OFF | 0 | 0.4 | 1600 | Data Not Available | OFF |
| -1.0 | 16 | D-Gear | 0 | 25 | Open | OFF | 5 | 0.6 | 900 | Data Not Available | OFF |
| -0.5 | 8 | D-Gear | 0 | 15 | Open | OFF | 5 | 0.7 | 500 | Data Not Available | OFF |
| 0.0 | 5 | D-Gear | 5 | 0 | OFF | OFF | 5 | 0.3 | 300 | Data Not Available | Double Flashing |

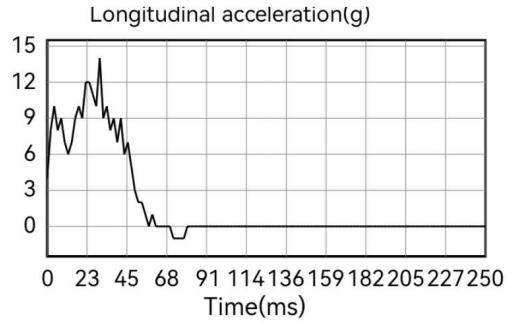
Driver assistance system status

| Time(s) | *Cruise Control System Status | *AdaptiveCruise Control System Status | *Anti-LockBrake System Status | *AutonomousEmergency Braking System Status | *Electronic Stability Control System Status | *Traction Control System Status |
|---|---|---|---|---|---|---|
| -5.0 | 企业自定 | Enable Inactive | Not Active | Invalid | Enable Inactive | Enable |
| -4.5 | 企业自定 | Enable Inactive | Not Active | Invalid | Enable Inactive | Enable |
| -4.0 | 企业自定 | Enable Inactive | Not Active | Invalid | Enable Inactive | Enable |
| -3.5 | 企业自定 | Enable Inactive | Not Active | Invalid | Enable Inactive | Enable |
| -3.0 | 企业自定 | Command Close | Not Active | Invalid | Enable Inactive | Enable |
| -2.5 | 企业自定 | Command Close | Not Active | Invalid | Enable Inactive | Enable |
| -2.0 | 企业自定 | Command Close | Not Active | Invalid | Enable Inactive | Enable |
| -1.5 | 企业自定 | Command Close | Not Active | Invalid | Enable Inactive | Enable |
| -1.0 | 企业自定 | Command Close | Not Active | Invalid | Enable Inactive | Enable |
| -0.5 | 企业自定 | Command Close | Not Active | Invalid | Enable Inactive | Enable |

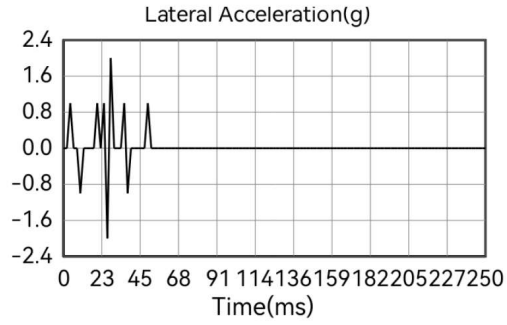




Longitudinal acceleration curve




Lateral acceleration curve



# Technical Support

## Independent Research and Development and Intellectual Property

# Independent Research and Development · Leading Technology

## Core Technology Independent Research & Development

All core technologies of CEDR are independently developed by the team, mastering the underlying core algorithms and architectural design capabilities, without relying on third-party technologies, ensuring continuous iteration and complete control of the technology.

## Complete Intellectual Property System

A comprehensive intellectual property moat has been established, including core patents and software copyrights, achieving a closed-loop management from technological innovation to result protection, safeguarding the core competitiveness of the enterprise.

## Authoritative Testing Certification and Recognition

Core technologies and products have successfully passed rigorous testing and certification by national authoritative institutions such as the Ministry of Public Security, gaining official recognition of technological advancement and product reliability at high industry standards, establishing a leading position in the industry.

# Intellectual Property Achievements

**7** Items of Invention Patents

Covering core algorithms at the bottom layer, building a solid technical barrier

**9** Software Copyrights

Full-stack application development results, supporting rapid product iteration

**1** Item of Design Patent

Creating a highly recognizable product visual and interaction experience

Continuous R&D investment and innovative solutions to provide customers with better quality and competitive product.

# Thank you

CEDR • A trusted partner in the field of automotive data forensics

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