XTUNER CVD-16 User Manual

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1. Product introduction

XTUNER CVD-16 is a commercial vehicle and passenger car diagnostic adapter based on android system. This is an electronic device that connects to your truck or your car, fire engine, or motorhome’s on-board computers (ECUs) and transmits information via Bluetooth to the XTUNER CVD-16 application (CVD+OBD+EOBD full brand vehicle, full systems DAS).

- **Hardware Environment:**
  
  Memory: more than 1GB
  
  Communication port: Bluetooth

- **Software Environment:**
Based on Android 4.4 above the smartphone system

2. Hardware Feature

<table>
<thead>
<tr>
<th>Product</th>
<th>CVD-4</th>
<th>CVD-9</th>
<th>CVD-16</th>
<th>CVD-X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>OBD-8</td>
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<tr>
<td>CVD</td>
<td>√</td>
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<td>√</td>
</tr>
<tr>
<td>ECM Readiness</td>
<td>√</td>
<td>√</td>
<td>√</td>
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<td>Freeze Frame</td>
<td>√</td>
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<tr>
<td>Waveform &amp; Datalog</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
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<td>Data playback</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Data manager</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Dictionary</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Saved Reports</td>
<td>√</td>
<td>√</td>
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<td>√</td>
</tr>
</tbody>
</table>

XTUNER VCD product comparison

The Adapter, made of industrial grade materials, is strong and durable. The smart switch can force the power to protect the car battery. The smart light can prompt the communication information any time.
3. Software Feature

3.1 Function Introduction

XTUNER CVD-16, there are 10 functions, DAS(commercial vehicle and passenger car), I/M Readiness, IDUTEX Store, Quick support, Data Playback, Dictionary, Feedback, Data Manager, Setting, User and etc.

3.2 Software Feature


2. Routine diagnosis for almost all cars, mini vans and light duty vehicle from 1996 to newest utilizing ISO9141, ISO14230, ISO15765, SAE-J1850 VPW and SAE-J1850 PWM.
3. The heavy-duty vehicle model and engine type can be auto detected.

4. OE Level Fault Code Information: display 99% of Heavy-Duty fault codes with detailed OEM level component and trailer descriptions.

5. Read and erase generic codes (P0, P2, P3 and U0), manufacturer specific codes (P1, P3 and U1), and pending codes for cars, mini vans and light duty.

6. Display DTC definition, freeze frame data, monitor and I/M readiness status (emissions), and vehicle information (VIN, CIN and CVN)

7. Read, store and playback live O2 sensor test data.

8. Read PCM live data stream, with professional graphic data Display, includes waveform and instrument mode.

10. Support Multilanguage, includes English, German, French, Korean, Polish, Spanish, Italian, Portuguese, Polish, Russian and etc.
11. Support standard value of data stream for heavy duty vehicle.
12. Support online and offline DTC query.
13. Support online dictionary.

15. The Adapter, made of industrial grade materials, is strong and durable.
16. Support one-key power cut, one-key feedback, one-key update.

17. Software online updatable.

4. Code Coverage

Introduction

Run XTUNER CVD16, The main interface will show:

![Main interface of XTUNER CVD16]

4.1 IDUTEX Store

- Automatic Wi-Fi updates available in new software releases by smart upgrade mode.
- Wi-Fi internet capability allows for wireless access throughout the workshop.
- Extremely easy-to-use with touch-screen operation and intuitive operation in the Android.
4.2 Diagnosis Service System

4.2.2 Heavy-Duty Coverage

Vehicle Coverage:


System Coverage:

Engine, Turbocharger, Transmission, Power Takeoff, Axle, Axle, Trailer, Brakes, Brakes, Trailer, , Instrument Cluster, Trip Recorder, Engine - Vehicle Mgt System, Fuel System, Engine - Cruise Control, Road Speed Indicator, Cab Climate Control, Cargo Refrigeration/Heating, Trailer, Suspension, Suspension, Trailer, Diagnostic System, Diagnostic System, Trailer, Electrical Charging System, Proximity Detector,
Front, Proximity Detector, Rear, Aerodynamic Control Unit, Vehicle Navigation Unit, Vehicle Security, Multiplex, Communication Unit - Ground, Tires, Tires, Trailer, Electrical, Driver Information Center, Off-board Diagnostics, Engine Retarder, Cranking/Starting System, Transmission, Additional, Particulate Trap System, Vehicle Sensors to Data Converter, Data Logging Computer, Off-board Diagnostics #2, Communication Unit- Satellite, Off-board Programming Station, Engine #4 / Rear Axle Steering Controller, Engine #5 / Pneumatic System Controller, Engine #6 / Tires Control Unit, Vehicle Control Head Unit / Vehicle Management System #2, Vehicle Logic Control Unit / Vehicle Management System #3, Vehicle Head Signs, Refrigerant Management Protection and Diag., Vehicle Loc. Unit - Differential Correction, Front Door (Door #1) Status Unit, Middle Door (Door #2) Status Unit, Rear Door (Door #3) Status Unit, Annunciator Unit, Fare Collection Unit, Schedule Adherence Unit, Route Adherence Unit, Environment Monitor Unit / Auxiliary Cab Climate Control, Vehicle Status Points Monitor Unit, High Speed Communications Unit, Mobile Data Terminal Unit, Vehicle Proximity, Right Side, Vehicle Proximity, Left Side, Base Unit (Radio Gateway to Fixed End), Bridge from SAE J1708 Drivetrain Link, Maintenance Printer, Vehicle Turntable / Fifth Wheel Hitch Monitoring Device, Bus Chassis Identification Unit, Smart Card Terminal, Mobile Data Terminal, Vehicle Control Head Touch Screen, Silent Alarm Unit, Surveillance Microphone, Lighting Control Adminstrator Unit, Tractor/Trailer Bridge, Tractor Mounted, Tractor/Trailer Bridge, Trailer Mounted, Collision Avoidance Radar, Tachograph, Driver Information Center #2, Driveline Retarder, Transmission Shift Console Primary, Parking Heater, Weighing System, Axle Group #1 / Vehicle, Communication Unit - Cellular, Safety Restraint System, Intersection Preemption Emitter, Instrument Cluster #2, Engine Oil Control System, Entry Assist Control , Idle Adjust System, Passenger Counter Unit , Fuel Tank Monitor, Axles, Trailer , Diagnostic Systems, Trailer , Brakes, Trailer , Forward Road Image Processor, Body Controller, Steering Column Unit, Tires, Trailer , Brake Stroke Alert Monitor, Tractor, Safety Restraint System #2, Transmission #2, Shift Console - Primary, Shift Console -
Secondary, Power Takeoff - (Main or Rear), Axle - Steering, Axle - Drive, Brakes -
Steer Axle, Retarder - Engine, Retarder - Driveline, Cruise Control, Steering
Controller, Suspension - Steer Axle, Passenger/Operating Climate Control,
Alternator/Electrical Charging System, Aerodynamic Control, Vehicle Navigation,
Electrical System, Starter System, Tractor-Trailor Bridge #1, Auxiliary Valve Control,
Hitch Control, Power Takeoff (Front or Secondary), Off Vehicle Gateway, Virtual
Terminal (in cab), Management Computer, Cab Display, Retarder, Exhaust, Engine ,
Headway Controller, On-Board Diagnostic Unit, Endurance Braking System,
Hydraulic Pump Controller, Suspension - System Controller, Pneumatic - System
Controller, Cab Controller - Primary, Cab Controller - Secondary, Tire Pressure
Controller, Ignition Control Module, Ignition Control Module #2, Seat Controls,
Lighting - Operator Controls, Rear Axle Steering Controller, Water Pump Controller,
Passenger-Operator Climate Control #2, Transmission Display - Primary,
Transmission Display - Secondary, Exhaust Emission Controller, Vehicle Dynamic
Stability Controller, Oil Sensor, Suspension - Stability Controller #2, Information
System Controller, Ramp Control, Clutch/Converter Unit, Auxiliary Heater, Auxiliary
Heater #2, Engine Value Controller, Chassis Controller, Propulsion Battery Charger,
Communications Unit, Cellular, Communications Unit, Satellite, Communications
Unit, Radio, Fan Drive Controller, Seat Control #2, Parking Brake Controller,
Aftertreatment System Gas Intake, Aftertreatment System Gas Outlet, Cab Display #2,
DPF Controller, Atmospheric Sensor, Powertrain Control Module, Power System
Manager, etc.

**Function Coverage:**
- System Info., Read DTC, Clear DTC, Data List, I/M Readiness.

### 4.2.3 Light-Duty/Car Coverage

**Vehicle Coverage:**
- All the passenger cars.

**Functions covered:**
Trouble Code, System Status, Readiness Code, Powertrain Freeze Data, Current Powertrain Diagnostic Data, O2 Monitoring Test, On-Board Monitoring Test, Component Test, Vehicle Information.

4.3 Settings

4.3.1 System info

Automatically identify XTUNER and XTUNER version information, when connection has problem (Wi-Fi or Bluetooth), and it can’t read XTUNER Hardware version, usually, it shows as “Unknown” or “---”; If the connection is OK, it shows hardware version. As the picture shows:

![System Info Screen](image)

4.3.2 Unit

Unit switch between Metric and Imperial system:
4.3.3 Search Engine

This feature is based on different browser on your mobile APP and you can set different search engine.
4.3.4 Run Mode

When XTUNER CVD16 is not connected, you can simulate the operation of the vehicle through the operating mode, as shown in the following figure:
4.3.5 OS Versions

If there is a new version, it can automatically prompt to update.
4.3.6 Languages

Choose the language you need, as the picture shows:
Language coverage: Support multi-language include English, German, French, Korean, Spanish, Italian, Portuguese, Polish, Russian.
4.3.7 About US

IDUTEX Technology, headquartered in Shenzhen, China, specializes in developing, manufacturing and marketing of vehicle diagnostic machine, software applications and service solutions in the automotive aftermarket. Since our foundation, we have been committed to creating maximum long-term value for our customers by providing quality-assured, easy-to-use, cost-effective and innovative products, software applications and solutions.

To deliver this value to our customers, we make every effort to understand our end-users' needs and transfer them into superior products by optimizing our R&D manufacturing capabilities. Our team is made of the most distinguished experts and engineers with years of experience in this industry. We have been investing at least 20% of our annual revenue into new service solutions. All our products are manufactured at the strictest standards to meet international quality and environment requirements, including FCC, CE and RoHS, all of our software applications are designed with the elegant aesthetic perspective.

Today, IDUTEX is recognized as one of the fastest growing scanning tool companies by the automotive aftermarket industry.

With strong R & D and OEM capability, we are committed to offering the best price-performance ratio product and one-stop service to our customers.

4.4 Dictionary

You can use this function to query automotive terms, abbreviations or commonly used English sentences.
4.6 Example

4.6.1 Bluetooth pairing

Before communication, please connect XTUNER CVD16 with the car. And then please pair with Bluetooth.

➢ How to connect Bluetooth?

1. Please login IDUTEX Store, and return to the main interface of XTUNER CVD16.

2. Please click to turn on Bluetooth.

3. Click the serial number for pairing.

4. Please enter the pairing code: 1234 or 0000.
5. Please click OK. 

After connection, the indication light turn on red. Please check the connection of Bluetooth, if connect successfully, the \[ \text{ Bluetooth symbol } \] will turn to \[ \text{ blue } \], and the VCI indication light will turn to blue.

### 4.6.2 Communication

After Bluetooth connection is successful, click "[ Bluetooth symbol ]" to enter the diagnostic service system, please select function to start the diagnosis.

Take Heavy-Duty as an example:
### 4.6.3 Read ECU Information

<table>
<thead>
<tr>
<th>System Information</th>
<th>Vehicle Identification Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troubleshoot Code</td>
<td>Hardware Make: CMMNS</td>
</tr>
<tr>
<td>Data List</td>
<td>Hardware Model: 4B e030039</td>
</tr>
<tr>
<td></td>
<td>Hardware Serial Number: 00000000</td>
</tr>
</tbody>
</table>
| I/M Monitor        | Software ID: 00000000*0000000
                      |                             |
|                    |                             |
|                    | ECU ID: J1939              |
|                    | Network:                  |
4.6.4 Read DTCs

<table>
<thead>
<tr>
<th>SPN 100</th>
<th>Present</th>
<th>Engine Oil Pressure - Voltage below normal or shorted to low source</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 627</td>
<td>Present</td>
<td>Power Supply - Data erratic, intermittent or incorrect</td>
</tr>
<tr>
<td>SPN 157</td>
<td>Present</td>
<td>Injector Metering Rail Pressure - Voltage above normal or shorted to high source</td>
</tr>
<tr>
<td>SPN 91</td>
<td>Present</td>
<td>Accelerator Pedal Position - Voltage below normal or shorted to low source</td>
</tr>
<tr>
<td>SPN 102</td>
<td>Present</td>
<td>Boost Pressure - Voltage below normal or shorted to low source</td>
</tr>
<tr>
<td>SPN 110</td>
<td>Present</td>
<td>Engine Coolant Temperature - Voltage above normal or shorted to high source</td>
</tr>
</tbody>
</table>
4.6.5 Erase DTCs
### 4.6.6 Data List

<table>
<thead>
<tr>
<th>All Data</th>
<th>□ Engine Exhaust Gas Recirculation 1 Cooler Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>After Treatment</td>
<td>□ Aftertreatment 1 DPF Time Since Last Active Regeneration</td>
</tr>
<tr>
<td>Annunciator</td>
<td>□ Aftertreatment 1 DPF Spot Load Regeneration Threshold</td>
</tr>
<tr>
<td>No Gauge</td>
<td></td>
</tr>
<tr>
<td>Percent</td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td></td>
</tr>
<tr>
<td>Switches</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td></td>
</tr>
<tr>
<td>Trip</td>
<td></td>
</tr>
</tbody>
</table>
Click the button to view data reference value, until to click the button to turn off data reference mode:
Click the button  to start data recording, until to click the button  to stop recording:
Please check the button to select the data stream you want, click the button, vertical screen will show the dynamic effect of data stream.
Please click the button to select the data stream you want, click the button, horizontal screen will display dynamic effects of superimposed waveform for data stream.
4.6.7 I/M Readiness

I/M Readiness is a useful function used to check if all monitors are PASS, FAIL or N/A. The vehicle’s computer performs tests on the emission system during normal driving conditions. After a specific amount of drive time (each monitor has specific driving conditions and time required), the computer’s monitors decide if the vehicles emission system is working correctly.

When the monitor’s status is:

- **PASS** - vehicle was driven enough to complete the monitor.
- **FAIL** - vehicle was not driven enough to complete the monitor.
- **N/A** - vehicle does not support that monitor.

Below is an example:

There are two ways to retrieve I/M Readiness Status data:

- One-click I/M readiness key
- Typical way: select I/M Readiness from Diagnostic Menu
NOTE:

- To review I/M Readiness status, make sure that the ignition key is switched to ON with the engine off.
- Not all monitors are supported by all vehicles.

4.7 Screenshot

Chick 📷 to Capture, save and print screenshot anytime and anywhere.

The screenshot files save at the path:

My file/I/Internal storage/IDUTEX/CVD16/UserData/Screenshots
4.8 Save

Using the saving function to generate the corresponding diagnostic report document for the vehicle diagnostic data, it greatly facilitates the diagnosis and management of the diagnosis and management of the diagnostic data.

Click the button ![image](Images) to save the diagnostic report.
Click the button ![button](#) to view the diagnostic report, as the picture shows:
4.9 Screen recording

Click the button to start the screen recording, click again to stop the screen recording. Use the function to record XTUNER operation and generate the appropriate video files. The video can be checked in video management.
4.10 Data Playback

You can quickly browse or delete the video of the diagnostic data you have recorded here.

Click the video to browse the video. Click the button ![Trash Can] to delete the video.
4.12 Feedback

The information of diagnostic software problems can be uploaded to the manufacture by this function. It helps the engineers to fix the bugs quickly.
NOTE: With * information is required; the attachments size cannot exceed 8MB.

4.13 Data Management

4.13.1 Image Management

Here you can browse or delete the Images.

Click the image to browse the picture. Click the button to delete the picture.
4.13.2 APP Management

Users can delete the diagnostic software here, one by one or all-selected delete. Click the button ![trash can](http://www.uobdii.com/wholesale/xtuner-cvd-16-v47-hd-diagnostic-adapter-for-android.html) to delete the diagnostic software.
4.13.3 Video Management

Users can not only browse video but also delete video, including single deletion, multiple deletions, or all deletions.

Click the Video to browse the Video. Click the button 🗑️ to delete the Video.
4.13.4 Report Management

Users can not only browse report but also delete report, including single deletion, multiple deletions, or all deletions.

Click the Report to browse the Report. Click the button 🗑️ to delete the Report.
4.14 User Management

Input workshop information, and Click the button 📋 to change the information.

chick the button 📋 to save the information.
4.15 Quick Support

Run “Quick Support” to receive remote support.
5. Products Website

Please focus on our website www.IDUTEX.com for the updating information and other news.

6. Warranty

XTUNERCVD16 software is free updating within 1 year from the date of product activation.