PSA-COM
User manual

www.obdtester.com/psacom
PRELIMINARY VERSION
SECONS Ltd. is not connected with PSA Peugeot Citroën S.A. in any way.

SECONS Ltd. is not liable for damages caused by using of PSA-COM software.

Please read carefully this user manual before using the PSA-COM software.

Before using the software please read license agreement.
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1 Introduction

Thank you for purchasing the PSA-COM diagnostic interface and software. PSA-COM is professional tool for diagnostics of Peugeot / Citroën vehicles. Please read carefully this User Manual before using the product.

We hope you'll find our products useful. In case you have any questions, problems or feedback please contact us at support@secons.com. We're here to help!

1.1 Key features

• Fully multiplexed all-in-one smart USB2.0 interface
• Automatic ECU recognition
• Automatic vehicle scan
• ECU Identification
• Fault code (DTC) reading
• Fault code clearing
• Measured values / live data
• Live data recording
• Diagnostic protocol printing
• Actuator tests
• Configuration

Please note that Peugeot Boxer/Bipper and Citroën Jumper/Nemo are not supported by this application, because they are based on Fiat platform. Please use FiCOM to diagnose these vehicles. Peugeot 4007 and Citroën C-Crosser (based on Mitsubishi platform) is not supported as well. On the other hand, this program can be used to diagnose Fiat Scudo/Ulysse, Lancia Zeta/Phedra.

List of supported cars and control units including diagnosis capability is available at http://www.obdtester.com/psacom-eculist

1.2 Software updates

Updates of purchased software version are available for free download at www.obdtester.com/downloads. User name = serial number of PSA-COM diagnostic interface. Password leave blank. The serial number can be found on a silver label of the interface or in settings of PSA-COM after performing “Test interface”. We recommend you to install updated version at least once a month, because updates provide support for new ECUs and fix various issues.

We recommend you to update firmware in diagnostic interface by clicking on Settings → Upgrade firmware every time you update the software. Interface must be connected during upgrading the firmware.
1.3 Early release

PSA-COM is ready to meet all requirements even of the most demanding customers. The product is capable of performing advanced diagnosis of hundreds of Peugeot / Citroën control units and remains still intuitive and easy to use.

Despite the fact of a long-term development, the software may still contain some bugs or missing functions. We started to offer the PSA-COM as early release due to high demand from customers. However, our work on the product continues without slowing.

Based on feedback from our testers and customers around the world, we continue to improve the software, expand its features, vehicle coverage and fix all software bugs. We fulfill tasks from our development list in the shortest possible period.

Your feedback is very important to us. We want to hear your requests for improvement or bug fixes. Based on your feedback, we expect to release software updates frequently. For the most effective communication with our technical support, please see the following chapter:

7 Reporting bugs and improvement requests
2 PSA-COM software and driver installation

2.1 Microsoft Windows operating System

1. Insert PSA-COM installation CD to your CD-ROM drive
2. Run installation file PSAComSetup.exe
3. Choose language for the installer

4. Choose your destination folder for the PSA-COM and click on Install button and after successful installation click on Close button.

PSA-COM drivers are automatically updated during the PSA-COM installation. When prompted to install „unsigned“ drivers, click on Install this driver software anyway (Microsoft® Windows® 7) or Continue Anyway (Microsoft® Windows® XP).

Microsoft® Windows® will automatically install drivers when you plug-in the PSA-COM to USB port. Driver installation isn't required for operation on GNU/Linux system.
2.2 Microsoft Windows 8 driver installation

In case of problem with installing drivers on Windows 8, please follow these steps:

1. Press Windows Key + R
2. In the window that appears, type: “shutdown.exe /r /o /f /t 00”
3. Press "OK" button
4. The System will restart to a "Choose an option" screen
5. Select "Troubleshoot" from "Choose an option" screen
6. Select "Advanced options" from "Troubleshoot" screen
7. Select "Windows Startup Settings" from "Advanced options" screen
8. Click on "Restart" button
9. System will restart to "Advanced Boot Options" screen
10. Select "Disable Driver Signature Enforcement" (press number on keyboard for option shown on screen)
11. Once the system starts, install the diagnostic interface drivers as you would on Windows 7

Windows Vista & 7 required signed all .sys files (we use usbser.sys shipped by Microsoft with valid digital signature). Final version of Windows 8 requires also signed .inf file (which is not in our case). The above procedure helps to override unsigned .inf file. Once driver is installed, the program will work properly.

![Startup Settings](image)
2.3 Interface busy issue [Microsoft Windows]

In case you receive error “Interface busy” while testing your interface, please make sure:

1. You’re not running any modem, mobile phone, or printer monitoring application that blocks “COM ports” from being used by other applications.
2. You’re not running Hella Gutmann software on the same PC. Process called “GMPortal.exe” prevents SECONS diagnostic applications from properly accessing the diagnostic interface. You may temporarily resolve this problem by running “Windows Task Manager”, right-clicking on GMPortal.exe process in “Processes” tab and selecting “End process”.
3. Software modem drivers do not block COM ports.
4. You have selected correct COM port (use “Device manager” button to find port number under “Ports (COM & LPT)” group.

2.4 GNU/Linux System

Our diagnostic applications are tested to work under Linux. No native Linux binary is available, however we have created our programs to work under Linux and other systems using Wine.

2.4.1 Requirements

- Linux 2.6.x with USB support (or FreeBSD)
- USB CDC Driver
- Wine 1.0.1 or newer

Recent Debian Linux or Ubuntu meet the above requirements.

2.4.2 Setting up devices

Driver installation isn't required for operation on GNU/Linux system. Diagnostic applications require access to /dev/ttyACMx devices from Wine environment. This can be set-up very easily using these commands:

```
ln -s /dev/ttyACM0 ~/.wine/dosdevices/com5
ln -s /dev/ttyACM1 ~/.wine/dosdevices/com6
ln -s /dev/ttyACM2 ~/.wine/dosdevices/com7
ln -s /dev/ttyACM3 ~/.wine/dosdevices/com8
```

Diagnostic interface should be then visible from the PSA-COM diagnostic application.

2.4.3 Installation

Programs can be installed by launching setup.exe file using wine, e.g. `wine PSAComSetup.exe`.

You can download the latest version of PSA-COM from [www.obdtester.com/downloads](http://www.obdtester.com/downloads).
3 Diagnostic connectors used in Peugeot/Citroën vehicles

Location of OBD-II and manufacturer-specific (OBD-I) connectors is available in DLC location database available from the PSA-COM main menu.

3.1 OBD-II VAN vehicles

Standard OBD2 connector is used usually since 1996 models to approx. 2006 (all vehicles using PSA VAN-BUS).

| - | 1 9 | ISO9141 K Line |
| - | 2 10 | - |
| ISO9141 K Line | 3 11 | ISO9141 K Line |
| Ground (GND) | 4 12 | ISO9141 K Line |
| Signal ground (GND) | 5 13 | ISO9141 K Line |
| 6 14 | |
| ISO9141 K Line | 7 15 | ISO9141 L-Line |
| ISO9141 K Line | 8 16 | Battery voltage |

3.2 OBD-II CAN vehicles

Used mostly on 2006 and newer vehicles with CAN-BUS.

| - | 1 9 |
| - | 2 10 |
| CAN-H Diag | 3 11 |
| Ground (GND) | 4 12 |
| Signal ground (GND) | 5 13 |
| CAN-H Powertrain | 6 14 | CAN-L powertrain |
| ISO9141 K Line | 7 15 | ISO9141 L-Line |
| CAN-L Diag | 8 16 | Battery voltage |

For some specific tasks related to CAN-BUS diagnostics or PIN code retrieval you need to use SECONS PSA InjCAN adapter, which can be purchased from www.obdtester.com/obd2_adapters.

3.3 Communication protocols

PSA-COM supports following communication protocols:

ISO15765 | PSA2000 | Bosch KW71 | PSA2 | UDS |
### 3.4 PSA-specific 30-pin connector

This connector is used on older vehicles up to 1998.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Terminal 30</td>
<td>Terminal 15</td>
<td>Ground (Chassis)</td>
</tr>
<tr>
<td>B</td>
<td>Ground of TDC-pickup (Diesel)</td>
<td>Shielding of TDC-pickup</td>
<td>Power for TDC-pickup or speed signal</td>
</tr>
<tr>
<td>C</td>
<td>K-Line Engine control</td>
<td>L-Line Engine control</td>
<td>Blink code output</td>
</tr>
<tr>
<td>D</td>
<td>GMV 1 test</td>
<td>GMV 2 test</td>
<td>Speed monitoring relay</td>
</tr>
<tr>
<td>E</td>
<td>K-LINE ABS/ASR</td>
<td>K-LINE Level control</td>
<td>K-LINE Power steering</td>
</tr>
<tr>
<td>F</td>
<td>K-LINE HVAC</td>
<td>K-LINE Seat adjustment</td>
<td>K-LINE Airbag</td>
</tr>
<tr>
<td>G</td>
<td>K-LINE Gear control</td>
<td>K-LINE Rear axle (steerable)</td>
<td>K-LINE Differential lock</td>
</tr>
<tr>
<td>H</td>
<td>K-LINE Speed control</td>
<td>K-LINE On-board computer</td>
<td>K-LINE Central locking system</td>
</tr>
<tr>
<td>I</td>
<td>K-LINE Rear-view mirror &amp; memory</td>
<td>K-LINE Anti-theft ECU</td>
<td>K-LINE Drive-away protection</td>
</tr>
<tr>
<td>J</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### 4 Preparation to diagnose

Before starting diagnosis, make sure that car ignition is turned ON. Connect your PSA-COM diagnostic interface to PC / laptop via USB. Interface test in settings of PSA-COM must pass successfully (more information in chapter Settings). Connect your PSA-COM diagnostic interface to OBD-II connector in the vehicle. You can find the OBD-II connector using PSA-COM OBD-II Connector Location image database.
5 PSA-COM main menu

PSA-COM main menu is divided into two parts → Vehicle diagnostics and Miscellaneous functions. Descriptions of single functions are given below.

5.1 Select Control Unit

Using this function you can connect to a specific control unit you wish to diagnose. Before is connection to control unit (or performing auto-scan) possible, correct selection of vehicle model and diagnostic system type (VAN or CAN) is required for proper diagnostic functions. If connection to control units is not possible at all, please verify if VAN or CAN system is correctly selected.

All control units present in tested vehicle can be detected by Auto-scan function.

Incorrect model selection may result in wrong or incomplete live data, improper function of actuator tests and coding functions, possibly resulting in damaged car components.
5.2 Auto-scan

This function scans for all known ECUs in selected vehicle, and shows the list of ECUs present in vehicle along with number of present or stored fault codes (DTCs).

It is necessary to select exact vehicle type before starting the auto-scan.

5.3 Special Diagnostics

You can find here menu of special diagnostic functions.

Read immobilizer pin is upcoming function. PSA Inj-CAN adapter will be necessary for use this function.

Emergency start-up procedure is used when vehicle will not start (doesn't have immobilizer). PIN code is needed for this function.

High-Speed CAN BUS Analysis functions is described in our manual “CAN-BUS analysis information” available at obdtester.com/downloads. PSA Inj-CAN adapter is necessary for use this function. More information about our adapters can be found at www.obdtester.com/obd2_adapters

5.4 OBD-II Connector Location

Using this database you can check a location of OBD-II connector in the vehicle. The database is constantly updated.
5.5 Settings

All functions in settings are described below.

**Language**
Choose language of PSA-COM user interface in the drop down menu.

**Units type**
You can choose metric or imperial unit system for measured values.

**Interface port selection**

**Refresh** - this button refreshes COM port selection drop down list. Correct COM port number should be already chosen after connecting diagnostic interface via USB to PC and clicking on Refresh button. If not, choose correct COM port number from the list. It is needed in order to perform successful interface test.

**Test interface** – before each use of program, please test proper function of your connected interface by clicking this button. After successful test, you can see a serial number of your interface displayed below the COM port field, then firmware version and information about active licenses.

**Activate license** – this button is used for activating new license/s to use the program or special functions. Internet connection is required. Standard license is already activated for all interfaces before purchase.
Upgrade firmware – use this button to upgrade firmware in your diagnostic interface every time after installing the latest software version (available at www.obdtester.com/downloads). Do not disconnect your interface during upgrading the firmware.

Device Manager – is used to finding out correct COM port number, or to reinstall drivers. Your device appears as “ELM-USB Interface (COMx)” under “Ports (COM & LPT)”.

Bluetooth Manager – is a preparation to upcoming bluetooth feature. The button is currently inactive.

Protocol settings

You can set various timings for each communication protocol. This is advanced feature used for example when problems occur with connection to control unit caused by slower ECU response and the like.

Restore Defaults – this button restores all modified timings of all protocols to default values.

⚠ Changing protocol settings is not required before normal use of the program. You will be asked to make changes by our tech. support when solving your issue at support@secons.com if necessary.

Debug functions

By clicking on Save Debug button, you can capture the latest data from elapsed communication between control unit and program into one file. Providing this file is required only by our technical support. Based on these data, we are able to monitor the whole process of performed operation and its correctness.

⚠ Use of debug function is important for successful resolution of any program failure or verifying its causes. For more information on how to proceed, please read the following chapter #7.Reporting bugs and improvement requests.

5.6 About

After clicking on “About” button, you can read a license agreement or check application version.
6 Diagnostic functions

After connecting to chosen control unit, the following diagnostic menu is displayed. The diagnostic menu is divided into three parts. Basic functions, Advance functions and Expert functions.

If control unit was identified uniquely, diagnostic menu will be available immediately, otherwise it is necessary to select control unit variant as described in next chapter Unrecognized Control Unit.

Please note that flash programming is in development and is available for selected beta testers only.

Some control units display different messages during diagnostics, or activate different components or reduce their functionality. For example, display will show "Diagnosis session in progress"
6.1 Unrecognized Control Unit

In a case PSA-COM cannot automatically recognize ECU variant for installed ECU, the following screen is displayed and user must select correct ECU variant.

You can get more information about ECU by clicking on Show ECU Identification button.

- It is important to choose correct ECU variant for proper diagnostics functionality.
- In some cases it is not possible to uniquely recognize control unit. For example some Bosch ABS 8.x and ESP 8.x control units have same identification data and cannot be recognized automatically.
- If you make a mistake in identification, do not perform any of coding or programming functions: incorrect usage may damage ECU or vehicle components.

Function “Save ECU Information” make possible to save all development information about ECU to hard disc. In case that:

- the installed ECU is not available in the listing
- or you are not sure which control unit to choose
- or you wish to get the ECU automatically properly identified in next PSA-COM version
- or you just want to help us to improve PSA-COM

We will be more than happy to add support for any unsupported or unrecognized control units to next PSA-COM version. We are usually able to do this within one or two working days based on so called “ECU snapshot file(s)”: In “Unrecognized ECU” window or “Control Unit Identification” window click on “Save ECU Information” button and save the file(s). Please send the generated file(s) to support@secons.com.

Please read also chapter 7. Reporting bugs and improvement requests.
6.2 Control Unit Identification

Works only on selected ECUs, mainly engine control modules. Other control units usually do not support identification functions.

This function can display only identification data accessed by ECU, for example:

- Manufacturer
- Hardware part number
- Software part number
- Calibration (software) identification

Please note that many vehicles do not have programmed VIN code or other data (such as programming date/etc).

You can print identification by clicking on Print Values button or you can copy it to clipboard by clicking Copy Values.

Save ECU Information button is used to save “ECU snapshot” of tested control unit, as mentioned in chapter “#6.1. Unrecognized Control Unit” or “#7. Reporting bugs and improvement requests”.
6.3 Read fault code memory

This function allows you to read and display diagnostic trouble codes saved in control unit memory.

Note: Not all ECUs support fault code reading. In case Fault code memory reading is not available, error message is displayed. Use live data or actuator tests to diagnose ECU problems in such case.

6.4 Clear Fault Codes

This function clears fault code stored in ECU memory.

Fault codes might appear again or under some conditions isn't possible to clear fault codes at all. It's possible that in the presence of some faults control unit doesn't allow to clear fault codes or fault is in no time written back to memory.

It is recommended to read memory by clicking on Re-read fault codes button again.

Please note that number of clearing fault codes may be limited for some control unit types.
6.5 Fault code history

Some control units (engine especially) have a history of clearing fault codes. In such case you can see a list where each clearing is recorded.

6.6 Freeze Frame

* Freeze Frame* (also known as Snapshot or Environment data) function display selected measured values as present at occurrence of selected diagnostic fault code (DTC). This function is available from fault codes window.

Please note that PSA-COM is not capable of decoding freeze frames on all ECUs. In such case raw hex dump is displayed. In order to improve this function, please report such ECUs to support@secons.com - provide us with ECU identification data, listing from fault code + ECU snapshot (this file can be saved in Control Unit Identification by clicking on “Save ECU Information button”).
6.7 Measured values

After disconnecting the battery or turning ignition on, some measured values show threshold values (typically 255, 25.5, 65535, 6553.5, etc.). This is normal. The control unit will start to correctly interpret the sensor data after a while.

Some control units are not equipped with all sensors: in this case, some sensors may show a "threshold" values as in the previous case.

6.7.1 Graph display

This function displays two measured values (also known as live data or sensor values) simultaneously. Measured parameters can be chosen from selectors at the top of the window.

Buttons + and – allow to accelerate or decelerate speed of graph.

6.7.2 Display 3x3

For measuring 9 value simultaneously, click on 3x3 View button.

6.7.3 Display list

To measure all available values simultaneously, click on List view button.

Please note values means slower refresh rate.
6.7.4 Save to log

Measured values can be saved/logged to a file by clicking on Start logging button. The log file is standard csv file and it is compatible with VagScope or can be imported to Microsoft Excel or OpenOffice Calc.
6.8 Actuators activation

This function can activate actuators and perform some actuators actions.

Some actuator tests will be performed automatically till the end (in this case the Stop button is gray).

Actuator tests may end up with an error when the control unit indicates the failure.

If some actuator tests fail, some control units may subsequently reject any additional actuator tests. In such case you must disconnect from the control unit and then reconnect.

Make sure you understand consequences of activating ECU components. Also make sure that activation conditions (engine idle, engine running, etc.) are met. Always consult all tests with car repair handbook.
6.9 Coding and programming functions

More information about programming functions is available at www.obdtester.com/downloads. Please note that this function is currently under development.
6.10  **ECU Configuration**

This function is only in read-only mode yet. Future free update will allow also configuration changing.
7 Reporting bugs and improvement requests

Our customers can take advantage of our full technical support for free. In case you have any difficulties with using PSA-COM, do not hesitate to contact us directly at support@secons.com or through your distributor.

Please read carefully this chapter in order to provide us with all information so as we can resolve your problem quickly.

Note:
Before sending support request for failing operation, please make sure you have met all conditions required for the operation (e.g. you are entering correct data, correct engine temperature for DPF regeneration, correct number of keys for engine start, etc).

In case of communication issues we recommend to check diagnostic plug connection and retry procedure at least once, connection problems may result in erratic communication issues.

In case you encounter to failure of any program functions (e.g. fault codes reading/clearing, coding functions, actuator tests, connecting to ECU ...), or you're missing some function or some function does not work sufficiently, please prepare the following data in your email before sending your request to our technical support:

1. Detailed description of failure or your improvement request
2. Vehicle description - VIN code, model, manufacture year, engine type
3. Attach **Debug Log** (in case that required function doesn't work properly). This file captures data from the latest communication between program and ECU, so we can detect failure causes.
4. Attach **Snapshot** of tested ECU – this file contains important information about tested control unit. In all cases please attach snapshot of **INJ (engine) + BSI (body computer)**.

7.1 How to create **Debug Log**

It is necessary to perform operation that is not working correctly first. Once failure occurs, go back directly to settings in main menu (do not close the program). Click on “Save Debug” button. Name and save the file into well known directory in your computer.

Enable “Debug mode” check box only at our special request.

*This function is used to tell program enable special functions in diagnostics interface and to log more data than required for normal operation.*
7.2 How to create ecu Snapshot

After connection to related control unit, click on “Control Unit Identification”. In the following window click on “Save ECU Information” button. Choose a directory to save the file and confirm. Saving may take a few minutes.

Please send all support requests along with required data attached to support@secons.com. Your case will be assigned with unique ticket number in order to communicate efficiently with you.

Also feel free to contact us with any suggestions for improvements in the software on the same e-mail address. Your feedback is greatly appreciated.
8 Known issues

– Freeze frame functionality is not guaranteed on all ECUs
– Communication problem with Peugeot 806 1998 EDC15C2 control unit
– Magneti-Marelli IAW 8P protocol

9 Planned improvements

The following improvements of user interface are planned for next release:

– Resizable windows
– Font size change option
– Screenshot to PDF or PNG
– Connection to online services