

OBDII interface: Real or fake - that is the question

It's a hobby: Taking on-board diagnostics information from the in-vehicle networks and observe and analyze them on a PC. Of course you want to pay as little as possible for the interface. That is why cheap, faked products are offered more and more often.

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Original and clone: The faked products don't use the original chips but claim to do so

THE ELM327 IS A PRE-PROGRAMMED MICRO-CONTROLLERBOARD produced by ELM Electronics (Canada). It translates and interprets the on-board diagnostics (OBD) data. All of the mandated OBDII (on-board diagnostics) protocols, amongst them CAN and J1939 are supported. The CAN interface operates in the silent mode. The ELM327 command protocol is a popular OBD-to-PC interface and is also implemented by other vendors. When looking for ELM327 diagnosis interfaces, one can find a lot of relatively cheap products on Ebay and similar webpages. Original products are built, amongst others, by WG-Soft, a German company. According to the company's website, many of the cheap products found online do not in fact include the ELM327 interpreter chip, which is a protected brand name. For reading out the OBD data, the chip is accessed by software, which WG-Soft also offers.

The diagnosis interfaces found on Ebay do not include the original ELM327 chip, even though it often says so on the body housing. The 1.0 version of the ELM327 did not implement copy protection, and the PIC code was copied and widely sold in devices claiming to contain an ELM327 device. Although these pirate clones may contain the ELM327 version 1.0 code, they may falsely report the version number as the current version provided by the genuine ELM327 and in some cases report an as-yet non-existent version. The actual function of these pirate clones is nonetheless limited to the function of the original ELM327 version 1.0, with inherent deficiencies. As a result the diagnosis software might not work with these copies. In that case, the customer might lose money twice: once for the faulty device and second they might also have bought the relevant software, which they can't return and can't use without a new interface.

WG-Soft had a look at some of the interfaces offered on Ebay. The housing is mostly made of aluminum; part of the package is also a USB driver and some obsolete freeware or demo-version of the software. Once they opened the housing, they discovered, to no ones surprise, that the interfaces don't include an original ELM327 chip. That makes sense, since the chip costs a bulk buyer about €20. The Chinese copy of the whole device plus cable costs between US-\$10 and US-\$20 and can be found for US-\$20 to US-\$80 on Ebay. This is possible because neither the Chinese manufacturer nor the retailer have any development expenses, or have to pay for, or develop software. They also don't have to worry about customer support.

Some products are offered with a different name, for example 327 or EML. Those are supposed to be compatible with ELM327, which means nothing different than that they are a copy. The producers of these copies are either not capable or do not want to program their own software. Because the copied products do not include the full version of the needed software, the cheap interfaces do not save money, even if they work. With the demo version, the customer can only check if the product works with the vehicle. The full version of the ScanMaster-ELM Software costs about 75 € at WG-Soft, which means the user pays roughly €100 for a cheap product without warranty and support and a working software. WG-Soft's support does then of course not include the interface, only the software. For the same price, or a bit more, the user can buy the complete original system.

In order to avoid buying remakes by mistake, taking a closer look at the supplier is a first step. Lurid advertisement can also be a sign for a dubious offer, as can of course low prices. If you have already been the victim of an imitation, WG-Soft offers 10 percent reduction on their products in return for proof and the name and address of the seller.

ELM Electronics also provides the ELM329 CAN Interpreter. The ELM329 is their CAN-only device that provides more CAN support than the ELM327. The current firmware (v1.1) adds several features that users have requested. It supports ISO 15765-2 CAN transport protocol and the SAE J1939 application profile, provides five user controllable protocols, supports CAN periodic (wakeup) messages, and has a CAN Monitor for automatically switching to low power mode. It also provides single wire CAN transceiver controls and has general-purpose inputs and an output. It can send an arbitrary CAN message at any time and provides an active LED. This latest version improves code speed over the previous chip and adds new filtering for what the company calls 'CAN input frequency matching'. The ELM329 maintains software and pin compatibility with the ELM327.