

SKIM emulator for Chrysler, Jeep, Dodge.

CCD based systems

Purpose:

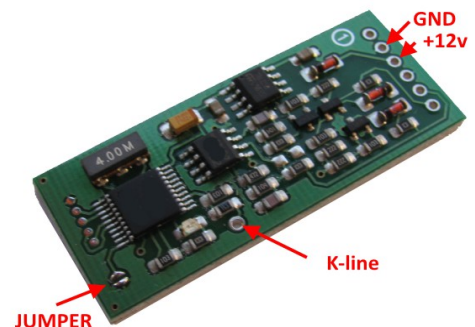
Designed for ECU start authorization. Self-teaching, for CCD Bus based systems.

Installation:

It is possible to use original connector from SKIM module or pin header. Although, only 4 wires are mandatory:

- pin 2: GND (ground),
- pin 3: terminal "15" (+12v IGN ON),
- pin 5: CCD bus MINUS.
- Pin 6: CCD bus PLUS

You can install emulator close to almost ANY control unit because most of them are connected to CCD network.



Usage:

- First use: switch ignition ON, observe LED on emulator board. Must see one short blink at power-on and one long blink in 3 seconds. First blink means emulator is powered on, second blink means ECU tries to authorize (CCD Bus alive, communication with ECU is OK). Indicator on dashboard turns off after some seconds (it doesn't mean ECU is authorized!)
- After about 3 minutes (CCD bus is slow and strange!) must see series of short flashes. This means emulator is ready and aligned now.
- Switch off / on ignition, start a car. Immo indicator (in dashboard) must go off, LED on emulator must go on for 1 second (long flash).
- If everything is OK it is highly recommended to place solder joint (jumper, mcu pin to ground) to avoid further updates by accident.

Advanced options:

It is possible to read / verify stored data in case if self teaching fails for unknown reason:

- attach any **K-line** adapter, apply power supply: **+12v** to pin 3, **ground** to pin 2, **K-line** to pad "K-line" (see picture). Launch software, choose COM port;
- Emulator must be in configuration mode: jumper open (no solder joint);
- enter desired VIN (must match one stored in ECU);
- Do what's necessary - WRITE or VERIFY, observe LED:
 - long blink – verify: VIN match, write: VIN stored,
 - series of short blinks – verify: VIN doesn't match.
- Any VIN update becomes active after restart.
- Place solder joint to avoid any update by accident.



LED on board:

- one short blink at startup;
- long blink (~1 second): request from ECU received / **config mode: VIN match or stored**;
- 8 short blinks: new immo data received, different from already stored value / **config mode: VIN doesn't match**.

CCD bus faults:

always check if CCD Bus isn't shorted to vehicle + or ground. There must be 2.5 volts measured between vehicle ground and CCD bus lines when ignition is switched on. Emulator hasn't any short circuit protection, so be careful.

Some things to know:

SKIM - Sentry Key Immobilizer Module:

older system, separate remote, uses 4D (4E) type keys, 134kHz frequency on label. Both VPW and CCD based SKIM modules looks very similar. How to identify:

- OBD connector: if CAR is CCD Bus based, pins 3 and 11 will be occupied, VPW – only pin 2.
- SKIM wiring: if pin 6 is occupied, most likely you are dealing with CCD bus one.
- SKIM itself: use tester – if pins 2,4,6 are routed all together you have VPW one 100%.
- If pin 6 is not tied to ground internally, it doesn't mean it is CCD because some early SKIM hardwares use same board for CCD and VPW. Open SKIM, look at board. If you are dealing with VPW one you will see a lot of missing components near pin 6.

SKREEM - Sentry Key Remote Entry Module:

later system, remote receiver integrated into immobox, Hitag2 based keys with integrated remote transmitter, 125kHz frequency on label. Always VPW or CAN based, even if same 6-pin connector used.



Emulator works only for SKIM with 6-pin connector and CCD Bus.