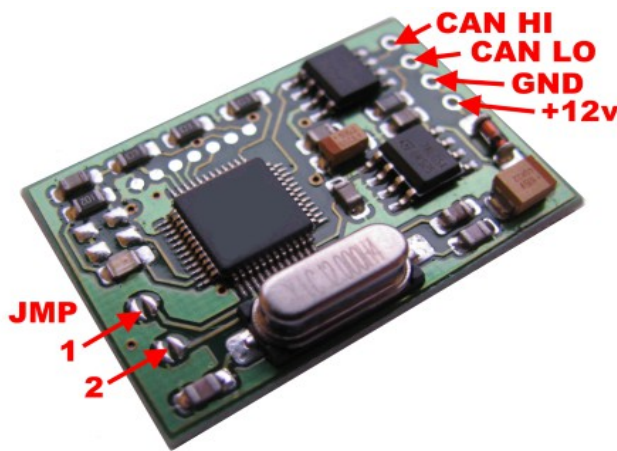# Renault immo emulator

250 / 500 kB

for CAN BUS

Purpose:

Designed for ECU start authorization. Supported CAN speeds: 500 and 250 kb. Supported architecture – Renault cars with Hitag-2 keys / keycards.

Installation:

Connect device directly to PT-CAN, attach ground wire and power supply (terminal "15", hot when ignition switched on).

Mode is selectable by applying solder joints – JMP 1 and JMP 2 (see picture).

0 means joint is left open,
1 means joint is shorted.

Select mode according to table below:

| JMP 1	JMP 2	
0	0	Normal working mode, CAN 500 kb
0	1	Normal working mode, CAN 250 kb
1	0	Normal working mode, CAN 250 kb
1	1	For configuration, CAN 500 kb

Alignment with ECU:

- Common method – make ECU "virgin". In this case ECU will perform "self – alignment" procedure at first start using ISK (6 bytes) already stored into emulator.

- Another method is to copy ISK bytes from ECU (or matched UCH) into emulator. To do that any suitable CAN logger is necessary. Or you can use MBcan hardware (if you already have it) using special utility.

How to write ISK into emulator using CAN logger:
- emulator must be in configuration mode (JMP 1 and JMP 2 both shorted).
- Request actually stored ISK - `770 7 DD 00 00 00 00 00 00` , emulator must respond with `771 7 EE xx xx xx xx xx xx` , where xx are 6 bytes of ISK...
- Store ISK into emulator - `770 7 CC xx xx xx xx xx xx` , emulator must respond as previously, with 6 bytes actual ISK: `771 7 EE xx xx xx xx xx xx` - response must match the request.

How to use configurator (with MBcan):
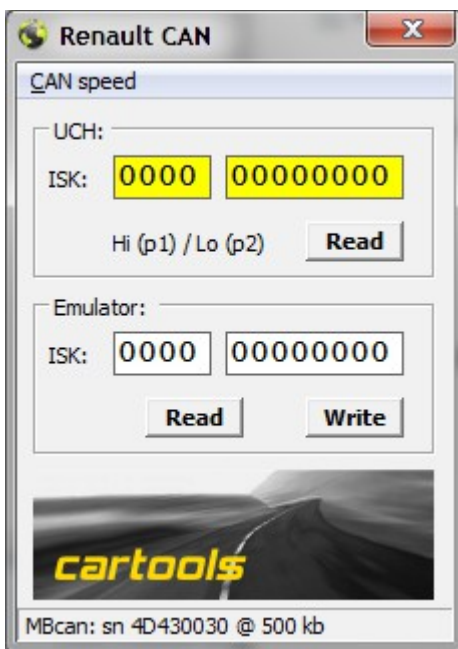
- To read UCH: attach MBcan to OBD plug. Choose necessary CAN speed (250 and 500 both possible). Working ignition key is mandatory. Disconnect ECU, turn on ignition, press "Read". If success, you will see ISK.

- Read or Write emulator: if success, background will change color to green. If no success it goes red (must repeat procedure). Emulator must be in configuration mode, CAN speed 500 kb.

Some additional notes:
- If UCH and emulator both are connected to ECU and their ISK bytes are different, with some earlier UCH collisions are possible. To avoid this must authorize ECU first, before UCH starts to communicate.

LED on emulator:
- one long blink (about 1 second): ECU is authorized, start allowed.
- Short blink after power on: emulator is ready, but no authorization request received.
- Eight short blinks: ECU not authorized, error (may be wrong ISK bytes?)