



FCA immo emulator:

- Fiat / Alfa Romeo / Jeep: Rfhub with FCA engines,
- IVECO: BCU with edc17 ECU
- DUCATO (sid208 ecu: PSA Jumper, Boxer)

CAN BUS, 500kB

Purpose:

Designed for ECU start authorization – Jeep Cherokee, Alfa Romeo, Fiat 500x etc after 2012, cars with Rfhub (Chrysler ideology) and FCA (FIAT) engines – FIAT authorization scheme based on 6 bytes SYNC. In addition supports some IVECO and FIAT commercial vans (from 2006 up to 2021).

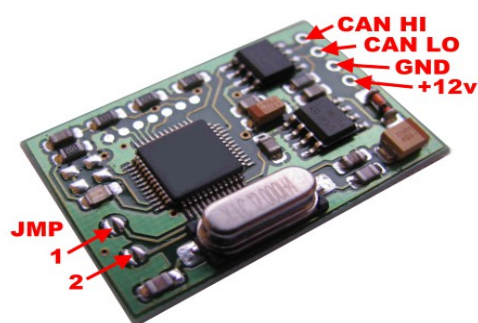
Installation:

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

JMP settings:

- both open: CFG (configuration) mode, SYNC update allowed;
- both or any short to ground: SYNC updates prohibited.

To store SYNC must use any suitable CAN logger. Alternative: MBcan hardware and configurator software, same as for classic FIAT CAN immo emulator.



How to write SYNC into emulator using CAN logger:

- emulator must be in configuration mode (JMP 1 and JMP 2 both open).
- Request actually stored SYNC - **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 SYNC...
- Store SYNC into emulator - **770 (7) CC xx xx xx xx xx xx**, emulator must respond as previously, with 6 bytes of actual SYNC: **771 (7) EE xx xx xx xx xx xx** - response must match the request.

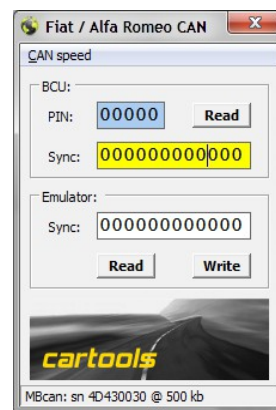
How to use configurator for MBcan hardware:

Attach Mccan, launch configurator software, choose CAN speed 500 kb, write SYNC. Note: you can't read BCU on RFhub architecture!

It is highly recommended to disable configuration mode after desired SYNC is stored - short JMP, both or any, by placing solder joints.

LED on emulator board:

- one short blink in 1 second after power up: emulator is powered on, no matching requests from ECU.
- one long blink (about 1 second): ECU is authorized by emulator, start is allowed. Or SYNC stored (CFG mode).
- series of short blinks: something went wrong.



Things to know:

- emulator is silent if wrong SYNC actually stored (what means wrong request from ECU received).
- Usually SYNC in ECU is not stored directly, must reorder bytes in such case. Some examples:
 - IVECO: SYNC **11 22 33 44 55 66** in TC1797 can look like **66 44 22 55 33 11**
 - FIAT/Jeep: SYNC **11 22 33 44 55 66** in TC1793 is stored as **66 55 44 33 22 11** (reverse order).
- If not sure, use some symmetric value like **66 66 66 66 66 66** for SYNC, update ECU dump and recalculate ECU checksums.

