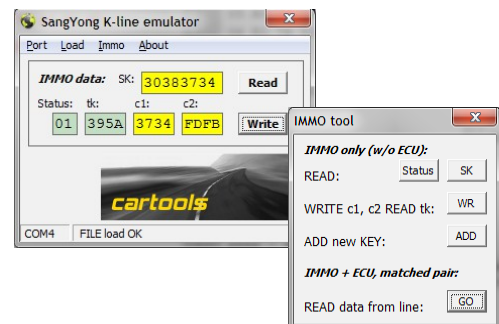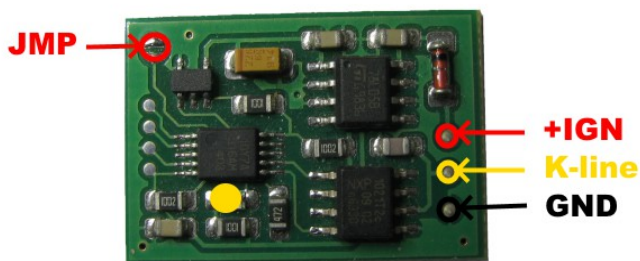# SSANGYONG

immo emulator,

K-line

Description :

Designed for SSANGYONG cars with external k-line immobox, Not plug&Play, must store 7 bytes of IMMODATA using any K-line compatible adapter and configurator software.

Configuration and installation:

JMP must be open for configuration. IMMO data you can load from immo dump - MSP430 mcu INFO memory (transparent case, 4D keys) or 24LC02 eeprom (black case, 8E keys).

Attach power supply and K-line adapter, launch configurator software, choose COM port (1 … 4), load immo dump, write data into emulator. Place solder joint (to short JMP) to avoid further emulator updates. Install on car. **NOTE**: take attention - there is no K-line pullup on emulator board, line is pulled up from ECU side only!

Things to know about IMMODATA:

- SK: key crypto, not mandatory for proper emulator operation,
- STATUS: usually 01 (standard mode),
- TK: type key, by default it is 395A,
- C1: immo part, usually equal to 3rd and 4th SK bytes.
- C2: ecu part, commonly FDFB.

It is possible to read some parts of IMMODATA from immo itself without dismantling (ECU disconnected). If you have working pair, it is possible to get all necessary data by logging IMMO and ECU communication.

LED on emulator board:

- **Short blink** at startup,
- **Long blink**: authorization request received
- **4x short blinks**: config mode - data stored.

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