

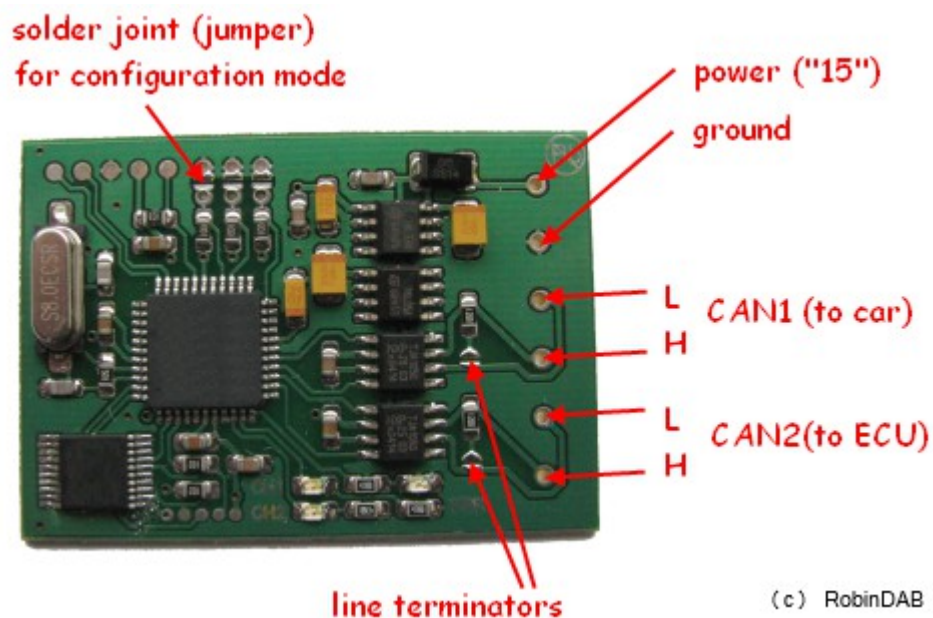


EWS4 emulator

for CAN HS 500kB

Reason: device is designed like CAN filter between engine control unit (ECU) and all remaining control units on car. It fully emulates BMW EWS4 system from ECU point of view. This allows to create ECU for swapping without any additional need for alignment. ECU with device installed is plug&play ready. It is very useful when necessary to find vehicle malfunctions, faults in wiring, wrong / tuned software etc.

How to configure:



At first it is necessary to short both solder joints for line terminators (if necessary). “configuration mode” jumper must be removed (solder joint **NOT** shorted). Must connect any suitable CAN logger with a possibility to send frames to **CAN1**. Attach power supply. What is necessary to do is - must store SK_SERVER (16 bytes of security key) into device memory.

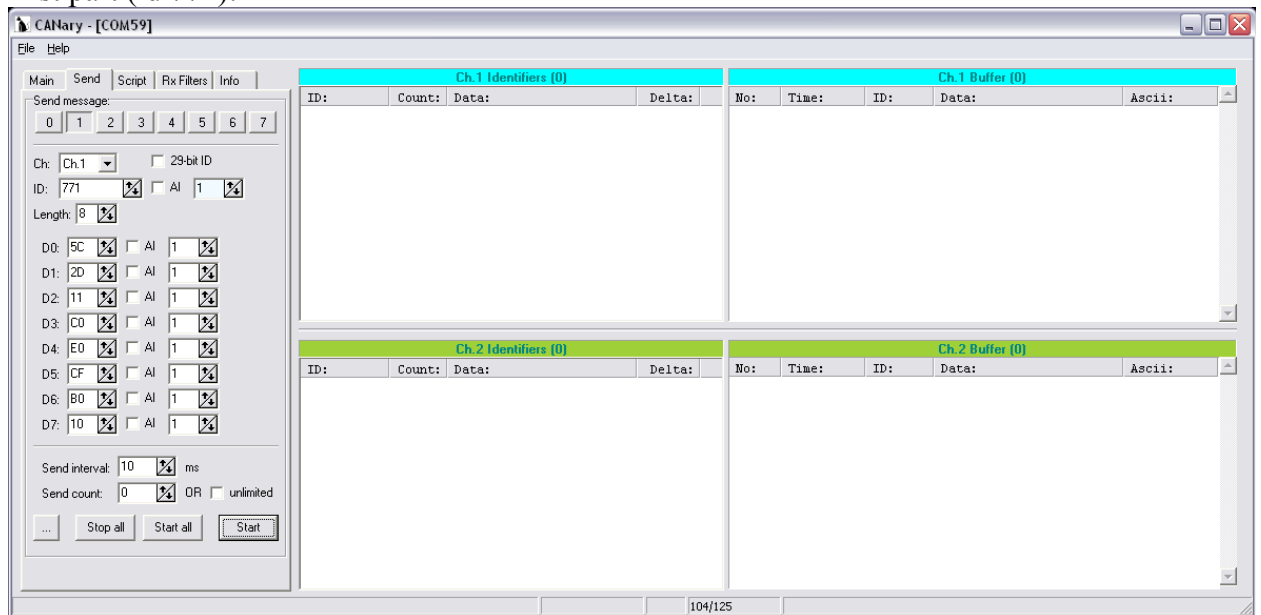
How to do that (example):

SK to store **5C2D11C0E0CFB010176AF583C443911B**

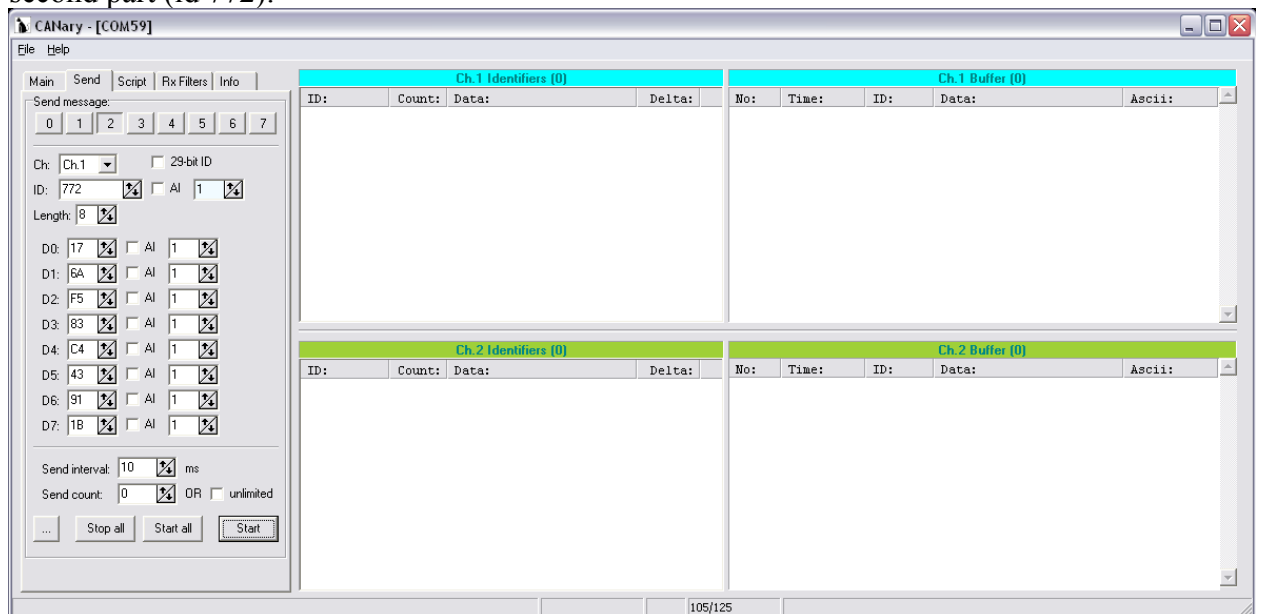
It is necessary to send two CAN frames, ID 771 with first 8 bytes and ID 772 with last 8 bytes of SK:

```
771  8    5C 2D 11 C0 E0 CF B0 10
772  8    17 6A F5 83 C4 43 91 1B
```

first part (id 771):



second part (id 772):

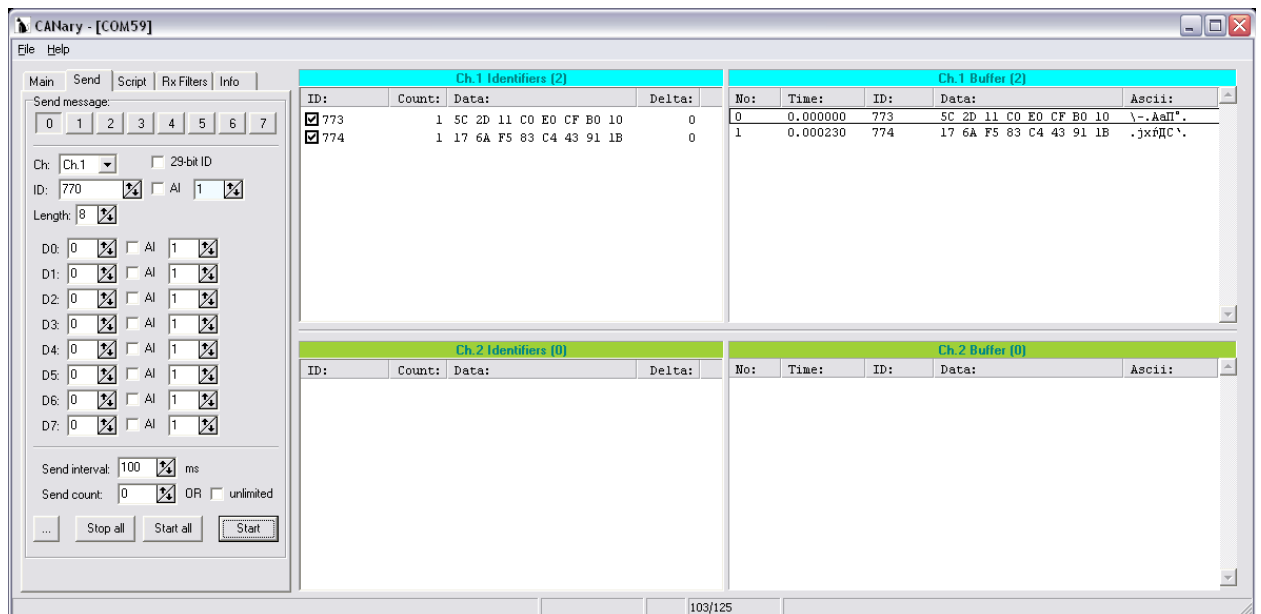


To verify what happened, must disconnect power supply from device for some short time and then send frame with ID 770, any data, any length. Like this one:

```
770 8 00 00 00 00 00 00 00 00
```

Device responds with two frames: id 773 and 774 with first and last part of SK as data::

```
773 8 5C 2D 11 C0 E0 CF B0 10
774 8 17 6A F5 83 C4 43 91 1B
```



Now you see SK actually stored.

If everything seems OK (stored SK match desired one), must short “configuration mode” solder joint or put jumper in place and integrate device into ECU. In case of integration into wiring loom, put it as close as possible to ECU.

Important: it is possible to use screw connections (“terminal block”) too, installed on demand. By default device is shipped **without** them.

Power supply: according to usage specifics. Must note that usually device must be powered even after ignition is switched off to keep car and ECU communications alive before entering SLEEP mode.

Status LED's:

CH1, CH2 — show activity on CAN network,
 ERR – lights in case of CAN communication errors (buffer overrun, lost messages etc.).
 For permanent installation it is highly recommended to remove all LED's to avoid device overheating.

