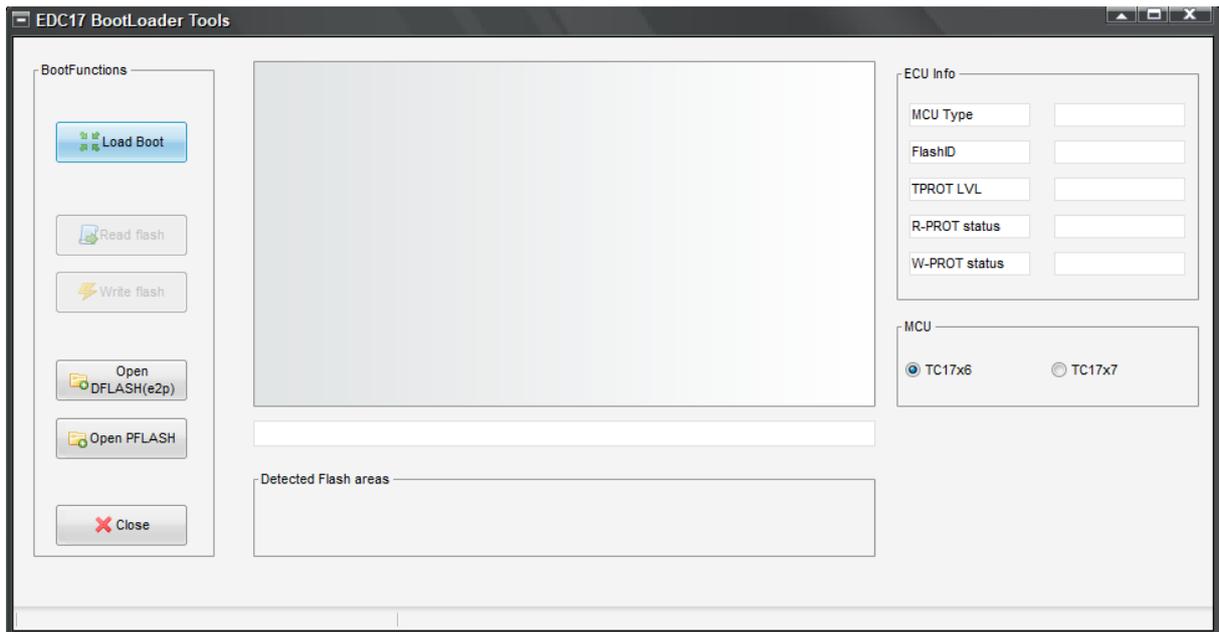


BACKGROUND

EDC17, based on Tricore processor is currently the latest evolution of Bosch Electronic Diesel Control (EDC) units. Special mode, named "Bootmode" gives an opportunity to access internal flash memory directly using special, external loaded program called "Bootloader"

EDC17 BOOTLOADER TOOLS



FEATURES:

- Able to boot Tricore TC17x6 and 17x7 series
- Read / write PFLASH (Program area) and DFLASH (emulated EEPROM) areas
- Auto checksum calculation for both PFLASH and DFLASH
- TPROT bypass for TP7-10

Currently tested EDC17 revisions are CP04,CP14,CP20,CP24,C46,C54 without external flash.

AUTOCHECKSUMMING

VCP can recalculate PFLASH area checksums in 2 ways:

- Method1: Hash+CRC
- Method2: Hash+CRC+RSA

Method 1 is usable mainly for "data" sections (those containing maps) Please note, that some ECUs may reject simplified security zones and then, full recalculation has to be performed.

Method 2 is much slower comparing to method 1, however recalculates security zone fully and guarantees, that ECU will accept the modded flash. Note: depending to amount of sections to recalculate, whole process can take up to 2 hours. VCP will ask for a method before checksum update.

DFLASH (emulated EEPROM) is always fully recalculated.

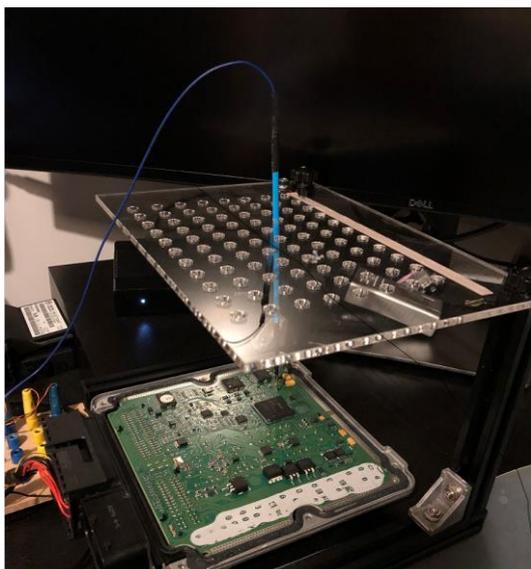
USING BOOTLOADER TOOLS:

1. To read an area:
 - a. Connect bootpins, connect power to ECU
 - b. Press "Load Boot"
 - c. Disconnect power, press OK and connect power to ECU
 - d. When boot loads, protection info will be displayed.
 - e. Select area to read from „Detected flash areas“
 - f. Press "Read flash"

2. To write an area:
 - a. Press Open DFLASH or PFLASH, basic filesize check will be performed
 - b. After checksum correction you can save the checked file
 - c. Connect bootpins, connect power to ECU
 - d. Press "Load Boot"
 - e. Disconnect power, press OK and connect power to ECU
 - f. Boot will be loaded along with protection info.
 - g. Select area to write from „Detected flash areas“
 - h. Press "Write flash"
 - i. Follow the screen instructions

BOOTPINS

During startup, CPU checks state of HWCFG pins and when they are set correctly, transfers control of further booting steps to external loader. We do recommend using special frame and needle probes, to position ECU and connect bootpins without soldering wires to the mainboard.



APPENDIX: BOOTMODE PINS

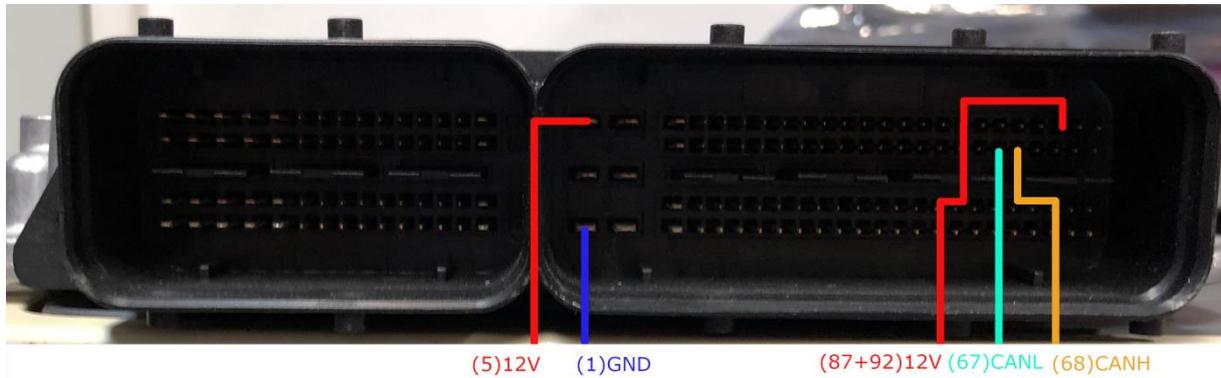


Figure 1 Main connector pinout



Figure 2 EDC17 CP14/20 BootMode Pin

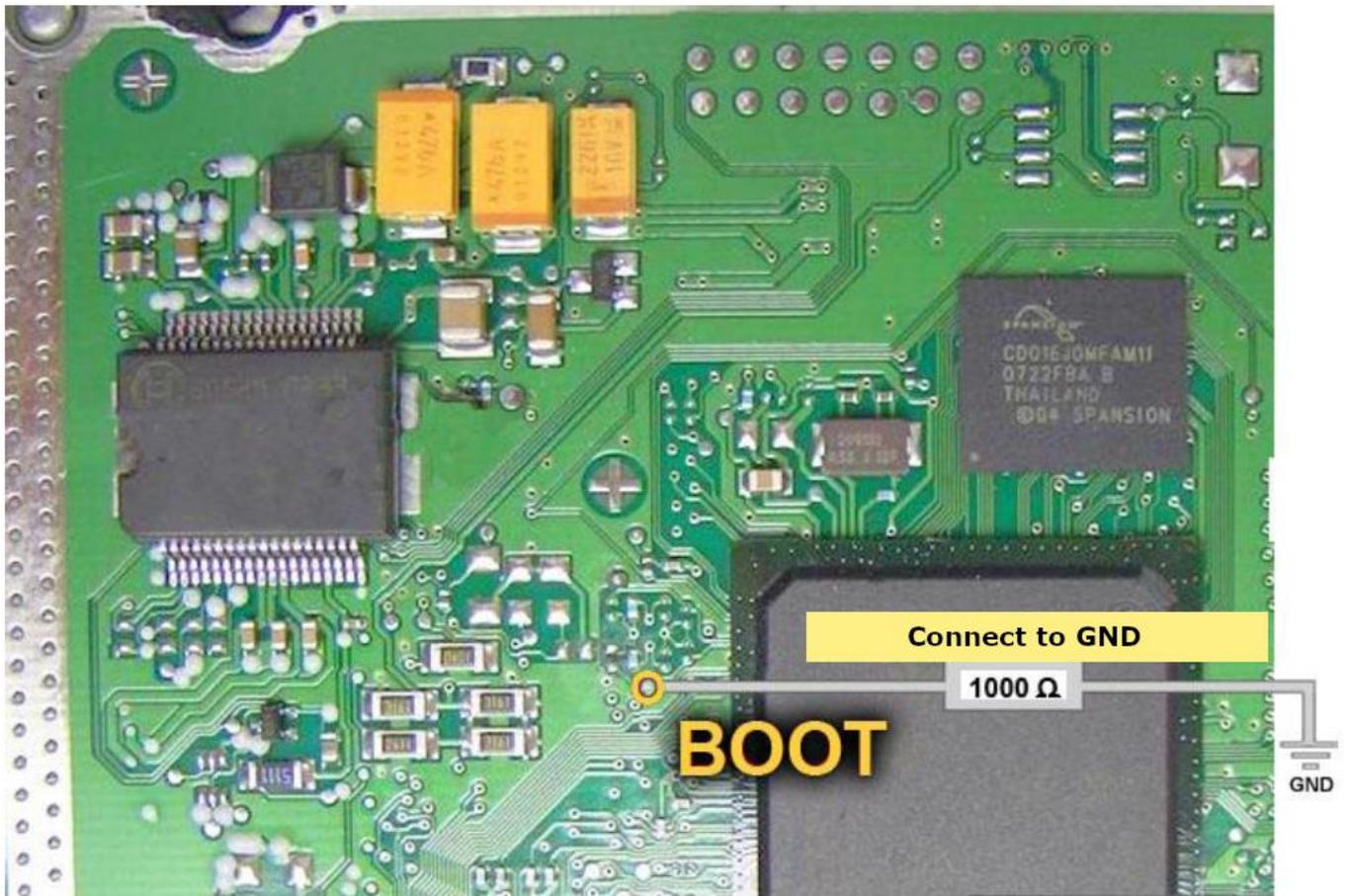


Figure 3 EDC17CP24 BootMode Pin

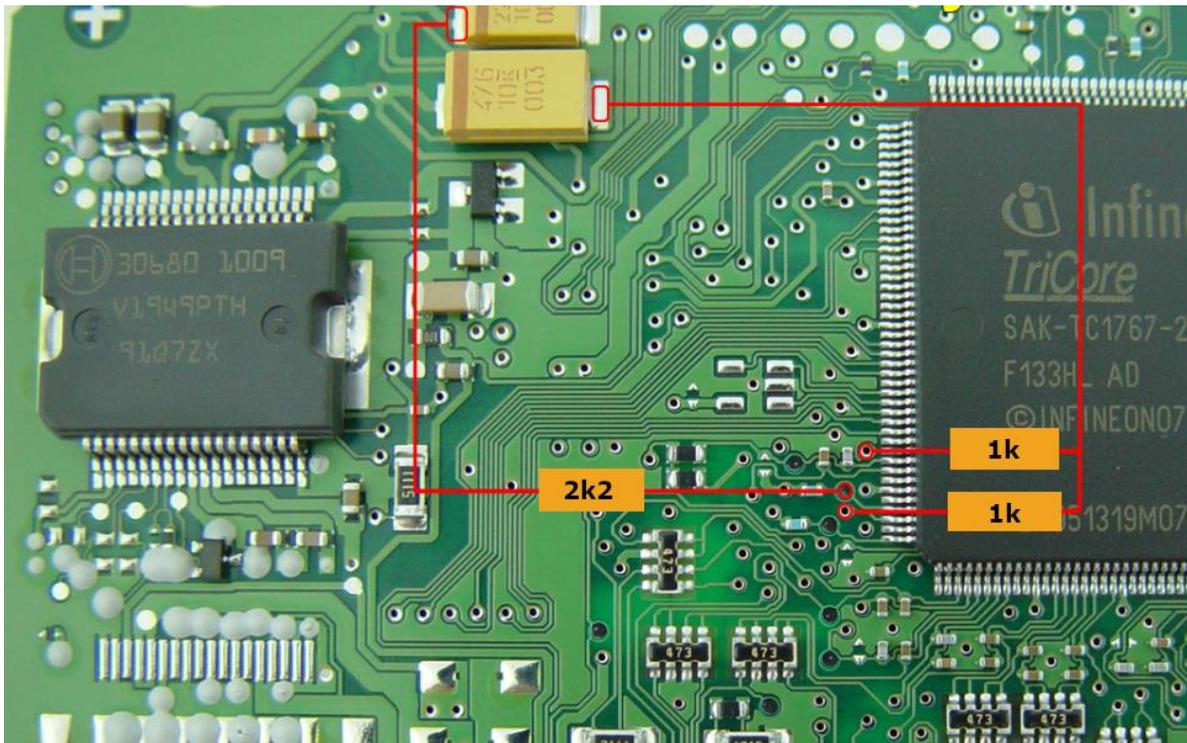


Figure 4 EDC17C46 BootMode Pin

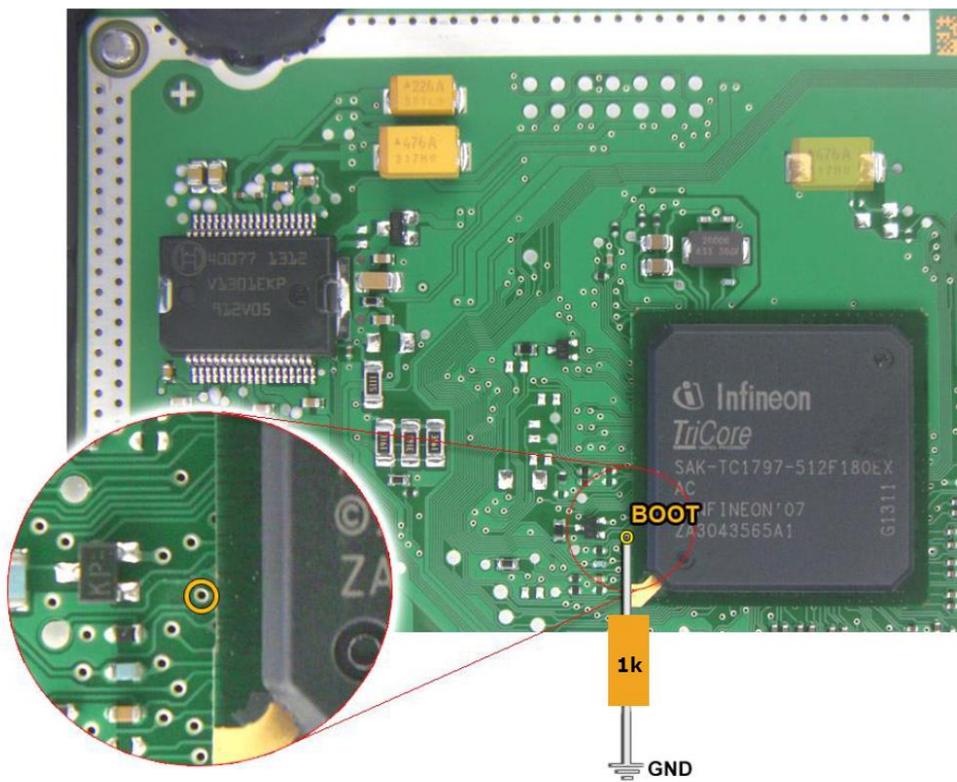


Figure 5 EDC17C54 BootMode Pin