"…small box with great possibilities"
Mitri abu El Nasr.
"It is the most outstanding device…"
Hani abu Haidar.

M163K Explorer

ML(163 body) key programming tool.

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Intro

Mercedes Benz ML-class 163 body have own (unique) Drive Authorization System (DAS) not similar to other Mercedes cars as more old, as more new.
Be based on transponder it have radio remote control. 163 body was manufactured from 1998 to 2005 years. At 2000 years the body was uplifted. Uplift was affected some modification in Drive Authorization System. Most service operations and troubleshooting for Drive Authorization System can be done with dealer diagnosis device - Star Diagnosis, but possibilities of Star Diagnosis restricted by manufacturer and at many cases repair work follow to order new parts from official dealers. It increase repair cost and reduce possibilities independent workshops participate Drive Authorization System service.

The main goal to create alternative device for service Drive Authorization System of 163 body was design simple and portable device with high reliability and superset to Star Diagnosis possibilities.

Such device was designed. After release the device was fully tested and modified. Further enhancing give us best such device on world market.

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Description

Hardware description

Follow main idea to have portable device - the device consist of two parts only: the first part is device itself at small box form; the second part is OBDII cable.
No other additional parts (such as: adapters, power units, antennas, coils, laptops, on-line internet access etc) need for device's work. All functionality of the device will do by the two parts only.

Pic1. The device set

LCD and keyboard

The LCD have 2 string at 16 symbols each. The first (locate above) string have load to display info, messages, status, menu. Messages with length more than LCD screen length display by scrolling mode. The second (locate below) string have load to display context keyboard buttons help and directives to user.
Keyboard consist of 6 buttons. The buttons is: left RED button; right GREEN button and four navigation WHITE-GREY buttons. The up WHITE-GREY button moved some right and down WHITE- GREY button moved some left. It allows error free substitution context keyboard buttons help to buttons. The order of buttons on help string (from left to right) is: RED, left, down, up, right, GREEN.

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Menu tree description
All device functionality organized in tree view menu form. Each menu/submenu items have serial number for better navigation. Function affect an object (i.e. transponder, radio remote control) united in a cluster.
Menu tree view:

Guided work
Main menu
- Keys info
  - Actual transponder key
  - Last used radio remote key
  - Revocable disabled keys
  - Irrevocable disabled keys
  - Identified keys
  - Learned radio remote keys
  - Transponder keys with low level security of code
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- Entwicklung
  - Copy EEprom
    - AAM module
    - EAM module
    - DAS module

About info
Feedback
End of work

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Guided work - in this mode device work like expert system. it read car current state and give user most suitable solution. This mode is legacy from first generation of the device and present for compatibility with previous versions mainly. Guided work mode use base device's functions only. Use this mode if you are new with Drive Authorization System of Mercedes Benz ML-class 163 body or have not enough time to check a car. Guided work mode don't have sub-menu items. Instead it in progress this mode you will be asked to choose direction of way. Take decision meet your goal if there will be or quit Guided work mode and go to main menu to execute needed procedures manually.

Main menu have all device's functionality. Each function can be executed alone to achieve user goal. Use this if you are familiar with Drive Authorization System of Mercedes Benz ML-class 163 body and have good understanding task need be done, right operation order. Main menu have following submenu items:

Keys info

It consist of submenu topics allow to get various info on the topic.

Actual transponder key

It inform about key's number currently locate in ignition lock.

Last used radio remote key

It inform about key's number last activated by a radio remote operation.

Revocable disabled keys

It inform about all revocable disabled (disabled with possibility reauthorization by STAR DIAGNOSIS) keys on this car. Each revocable disabled key displayed by corresponded digit (from 1 to 8). Each non revocable disabled key displayed by "." (dot) sign.
For example:

.23….. - keys 2 and 3 is revocable disabled.

Irrevocable disabled keys

It inform about all irrevocable disabled (disabled without possibility reauthorization by STAR DIAGNOSIS) keys on this car. Each irrevocable disabled key displayed by corresponded digit (from 1 to 8). Each non irrevocable disabled key displayed by "." (dot) sign.
For example:

..34…. - keys 3 and 4 is irrevocable disabled.

Identified keys

It inform about all identified (used to turn ignition ON) keys on this car. Each identified key displayed by corresponded digit (from 1 to 8). Each non identified key displayed by "." (dot) sign.
For example:

.2.4…. - keys 2 and 4 is identified.

Learned radio remote keys

It inform about all learned (disabled with possibility reauthorization by STAR DIAGNOSIS) radio remote keys on this car. Each learned radio remote key displayed by corresponded digit (from 1 to 8). Each non learned radio remote key displayed by "." (dot) sign.
For example:

.234…. - radio remote keys 2,3 and 4 is learned.

Transponder keys with low level security of code

It inform about all keys on this car with deleted programming code. If a car have key with deleted programming code most probably the car was affected by pirate software/hardware on Drive Authorization System. Each transponder keys with low level security of code displayed by corresponded digit (from 1 to 8). Each transponder keys with non low level security of code displayed by "." (dot) sign.
For example:

…….8 - key 8 is have low level security of code.

Modules info

It inform about part number modules of Drive Authorization System. Modules can be read this function is: AAM, AAM2, EAM, DAS. It is need choose desired module manually at first to activate the function. Displayed information depend on MY of the car.

Transponder

It consist of submenu topics concerned transponder key.

Learn transponder

It make ready for use transponder. Transponder must be previously prepared by "Prepare transponder" function. It is need to chose desired key number (from 1 to 8) and follow messages on screen. Transponder is ready for use right after learning will be done. If in learning process some troubles occur - corresponding message appear on screen.

Erase transponder

It is erasing (delete) information from current transponder. After "Erase transponder" operation transponder cannot be used for star engine. It is possible erase only previously learned transponders right after learning or after usage. It is not possible erase original (from car manufacturer) transponders. It is not possible erase transponders belong to another car. Before erase will start reverse order count timer proceed. It is possible discard erase at the time. If in erasing process some troubles occur -corresponding message appear on screen. After erasing will be done transponder is in prepared state (no additional "Prepare transponder" operation need be done) and ready to be learned on this or another car.

Repair transponder data

It fix damaged transponder data. It work with transponders belong to current car only. It work with original (from car manufacturer) transponders too.. If in repairing process some troubles occur - corresponding message appear on screen.

Prepare transponder

It prepare non used transponder for be ready to "Learn transponder" operation. Prepared transponder can be used with current car or with another car.

Transmitter

It consist of submenu topics concerned radio remote control.

Learn transmitter key

It "marriage" radio remote key with Drive Authorization System of current car. Radio remote key's number determines by transponder key number used in this operation. Frequency of radio remote key and car must match. It is not possible learn radio remote key number 1 on car with MY after 2000 because internal limitation of Drive Authorization System.

Test transmitter key buttons

It test functionality radio remote key. Radio remote key number and name of active button will be displayed if radio remote key belong to current car. It is possible test radio remote key not belong to current car. Name of active button only will be displayed in this case. Frequency of radio remote key and car must match to do test radio remote key not belong to current car.

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Keys control
It consist of submenu topics a car's key
Revocable disable key
It is able to block (stop functionality) a key. Revocable disabled key can be authorized by Star Diagnosis or this device.
Authorize revocable disabled key
It is able to unblock (restore functionality) previously revocable disabled key.
Irrevocable disable key
It is able to block (stop functionality) a key. Irrevocable disabled key cannot be authorized by Star Diagnosis. Irrevocable disabled key can be authorized by this device.
Authorize irrevocable disabled key
It is able to unblock (restore functionality) previously irrevocable disabled key.
Entwicklung
It is able to copy data stored in nonvolatile memory of a Drive Authorization System module to another one. All data will be copied at once. It is strongly recommended do copy between the same module's part number.
Copy EEprom
AAM module
EAM module
DAS module

About info
It display device's name, version number and MEHACO contact information.
Feedback
It display device's support e-mail address.
End of work
It is safe place for end of work and disconnect the device.

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