Product :	XETK-V1.0			
Title :	Change Information			
File :	XETK-V1.0_Change_Information_V09.doc			
TTNR :	XETK-V1.0A　　　　F-00K-105-755　　XETK-V1.0B　　　　F-00K-105-756			
Comments :	Current shipped (hardware state):　　**D012**　Current released firmware version:　　**HSP 8.0.3**			
Created:	Name　R. Mai	Department　PHW/EES1	Signature　R. Mai	Date　2009-11-16
Released:	Name　G. Maier	Department　PHW/EES23	Signature　G. Maier	Date　2009-11-17

C h a n g e s

Revision	Description	Date	Name	Signature
02	C011　　　　initial hardware version [chapter 4]　HSP 6.0.1　initial firmware version [chapter 5]	2007-08-14	C. Müller	C. Müller
03	D012　　　　Release of XETK-V1.0B [chapter 4]	2007-10-10	R. Mai	R. Mai
04	HSP 6.1.0 / ETK Drivers & Tools V1.1.0　　　Solved Issues added　[chapter 3]　　　New Firmware Modifications added [chapter 5]	2007-11-19	C. Müller	C. Müller
05	HSP 6.1.4 / ETK Drivers & Tools V1.1.3　　　Solved Issues added　[chapter 3]　　　New Firmware Modifications added [chapter 5]	2008-05-08	C. Müller	C. Müller
06	H SP 7.1.0 / ETK Drivers & Tools V2.1.0　　　Solved Issues added　[chapter 3]　　　New Firmware Modifications added [chapter 5]	2008-11-14	C. Müller	C. Müller
07	H SP 8.0.0 / ETK Drivers & Tools V2.1.3　　　Solved Issues added　[chapter 3]　　　New Firmware Modifications added [chapter 5]	2009-06-24	R. Mai	R. Mai
08	H SP 8.0.3 / ETK Drivers & Tools V2.1.4　　　Solved Issues added　[chapter 3]　　　New Firmware Modifications added [chapter 5]	2009-11-16	R. Mai	R. Mai
09	D012　　　　Release of XETK-V1.0A [chapter 4]	2010-10-13	R. Mai	R. Mai

Table of content

1 General Information

1.1 Safety Notice

Calibration activities influence the behavior of the ECU and the systems controlled by the ECU. This may result in unexpected behavior of the vehicle and thus can lead to safety critical situations. Only well trained personnel should be allowed to perform calibration activities.

1.2 System Requirements

Recommended system requirements on a tool PC for Measurement & Calibration:
2 GHz Pentium-PC or equivalent, equipped with

- 512 MB RAM (basic hardware), depending on the use cases 1GB RAM are advantageous
- Hard disk with minimum 10 GB free disk space
- CD-ROM for installation
- XGA-Graphic card with XGA-screen and resolution of 1024 x 768 with 16 bit colors
- Fast Ethernet adapter 100BaseT
  - with full duplex capability
  - configured as component TCP/IP only
  - separate to e.g. company network
- WINDOWS® XP SP2, WINDOWS® 2000 SP3 or higher

For the usage of INCA the user needs read and write access to the registry path HKEY_LOCAL_MACHINE\Software\ETAS.

1.3 Restrictions

WINDOWS® 95b, WINDOWS® NT and WINDOWS® 98SE are not supported

Depending on the used PC hardware and software, the PC performance and thus the performance of INCA might be negatively affected when Hyperthreading is activated. In such a case we recommend not to use Hyperthreading.

1.4 Miscellaneous
To ensure the highest data throughput from the XETK device up to the PC system no other PC software should be run via this Ethernet adapter.

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2 Version Syntax and Tool-Chain Information

2.1 Version-Syntax of the XETK-V1.0

The XETK-V1.0 hardware version information is located on the sticker of the XETK or can be read out of the XETK using the firmware update tool HSP.

Hardware State Syntax: **abbb/cc**

Description (modification details refer chapter 4)
a	PCB version (A=V1.0, B=V1.1, C=V1.2, ...)
bbb	PCB Hardware State (010, 011, 012, ...)
cc	PCB population variant (00, 01, 02, ...)

The XETK-V1.0 Firmware version information can be read out of the XETK using the firmware update tool HSP. It is not printed onto a XETK sticker.

Firmware-Version Syntax: **aaa.bbb.ccccc**

Description (modification details refer chapter 5)
aaa	Major Release (0...255)
bbb	Minor Release (0...255)
ccccc	Revision/Patch (0...65535)

Firmware Packages:
HDC Work	aaa.bbb.ccccc
Firmware Work	aaa.bbb.ccccc
HDC Rescue	aaa.bbb.ccccc
Firmware Rescue	aaa.bbb.ccccc
CPLD	aaa.bbb.ccccc

2.2 Version information of the tool-chain components

To get this XETK running with the other components of the tool-chain please make sure that the version mentioned below or a newer one is used. If your software-, firmware- or hardware version is older, please update it.
If you have any problems to get this XETK running please contact our local customer support or sales representative.

Product Name	Version	Remarks
Firmware / HSP	V6.1.0	Initial version
XETK Configuration Tool	V1.1.0	Initial version
INCA	V6.1.0	Initial version
ASCET-RP	Not supported	
INTECRIO	Not supported	

The registered user will automatically receive the newest INCA-version (CD-ROM)
Updates or refreshes can be downloaded from the ETAS homepage:
http://de.etasgroup.com
http://en.etasgroup.com

3 What's New - Release Notes

This chapter lists the main improvements compared to a previous shipped XETK product. Additionally a detailed list of already known issues can be found here.

3.1 New or Enhanced Functions

3.1.1 In ETK Drivers & Tools V2.1.4 & HSP V8.0.3

Type	Description
Call #1004084	- Supports distab15 when data section is remapped - FW to add new configuration feature for 3rd Party tool usage "Initialization Pattern Address & Initialization Pattern" - HDC to support writing "Initialization Pattern Address & Initialization Pattern" at ECU out of reset
Corrections	Call #75262

3.1.2 In ETK Drivers & Tools V2.1.3 & HSP V8.0.0

Type	Description	
Corrections	Call #85436 Call #83892	Concurrent write access to Measurement RAM on XETK is enabled and makes Adaptive Characteristics usable
	Call #87713	Distab is enabled when only STIM direction of a raster is used

3.1.3 In ETK Drivers & Tools V2.1.0 & HSP V7.1.0

Type	Description
NEW	- Support of Rapid Prototyping with ES910.2 and Intecrio V3.1 - 100Mbit/s Half-duplex mode disabled
Corrections	Calls #75129, #81711

3.1.4 In ETK Drivers & Tools V1.1.3 & HSP V6.1.4

Type	Description
NEW	Support of new micro controller MPC5565, MPC5566 and MPC5567
Corrections	Calls #75078, #80032, #80279, #1003539, #1003542,

3.1.5 In ETK Drivers & Tools V1.1.0 & HSP V6.1.0

Issue Identifier	Description	Remark
Call #75098	Inca Feature "Reset security" is not supported for XETK-V1.0 and Inca V6.0.0	User option "Hardware-> ETK Security" is respected in Inca V6.1.
Call #75662	The Green LED does not blink, when XETK-V1.0 is used in RAM Adaptor mode (different to the behaviour of the corresponding ETK)	The XETK-V1.0 does blink, once it is updated with HSP6.1.0.
Call #75638	Bandwidth limitation does not work, if an existing experiment is opened (may cause XETK overload if an existing experiment will be reused for a new ECU project, when raster speed has been increased)	fixed within Inca 6.1.0
Call #75673	If Triggered Direct Measurement is used, the Distab header has to be located in the XETK DPRAM.	The Distab or Distab header has to be located in XETK DPRAM as for all parallel ETK (correct precondition, no issue).

3.2 Known issues

3.2.1 In ETK Drivers & Tools V2.1.4 & HSP V8.0.3

Issue Identifier	Description
Call #75487	In case PC does not fulfill ETAS XETK system requirements, data acquisition will be stopped by XETK – no warning will be provided to user.

3.2.2 In ETK Drivers & Tools V2.1.3 & HSP V8.0.0

Issue Identifier	Description
Call #75262	HWC options (Code Check Error Behaviour and Auto Start Behaviour) does not work with XETK-V1.0 and Inca 6.0.0
Call #75487	In case PC does not fulfill ETAS XETK system requirements, data acquisition will be stopped by XETK – no warning will be provided to user.

3.2.3 In ETK Drivers & Tools V2.1.0 & HSP V7.1.0

Issue Identifier	Description
Call #83892	RAMWrite, RAM Calibration and Adaptive Characteristics are not supported
Call #75262	HWC options (Code Check Error Behaviour and Auto Start Behaviour) does not work with XETK-V1.0 and Inca 6.0.0
Call #75487	In case PC does not fulfill ETAS XETK system requirements, data acquisition will be stopped by XETK – no warning will be provided to user.

3.2.4 In ETK Drivers & Tools V1.1.3 & HSP V6.1.4

Issue Identifier	Description
Call #75129	Repeating device replace (like XETK-V1 -> ETK-V1 -> XETK-V1) in HWC does not work in Inca
Call #75262	HWC options (Code Check Error Behaviour and Auto Start Behaviour) does not work with XETK-V1.0 and Inca 6.0.0
Call #75487	In case PC does not fulfill ETAS XETK system requirements, data acquisition will be stopped by XETK – no warning will be provided to user.

3.2.5 In ETK Drivers & Tools V1.1.0 & HSP V6.1.0

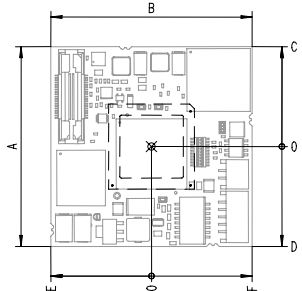| Issue Identifier	Description
Call #75078	Alias name of XETK can not be set in HWC workaround; use the function "Set Alias" in the Ethernet Configuration of the Target server
Call #75129	Repeating device replace (like XETK-V1 -> ETKV1 -> XETK-V1) in HWC does not work in the Inca (EHI 75129)
Call #75262	HWC options (Code Check Error Behaviour and Auto Start Behaviour) does not work with XETK-V1.0 and Inca 6.0.0
Call #75208	Raster filling level works not correct (when arrays will be selected)
Call #75487	In case PC does not fulfil ETAS XETK system requirements, data acquisition will be stopped by XETK – no warning will be provided to user.
Call #1003400	Unable to use remapping feature of memory segments

4　Hardware Modifications

4.1　General remarks to this chapter

Hardware issues or obsolete parts can make it necessary to modify the population of the XETK.
Information about the modifications is listed underneath.
The hardware-state starts with version **C012**. For the version syntax please refer to chapter 2.1.
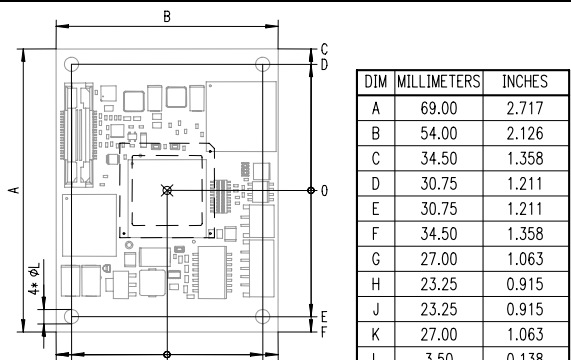
4.2　Product variants

In general the XETK-V1.0 can be purchased in two variants. The electrical and system functionality is identical. Only the dimensions are different.

4.2.1　XETK-V1.0A

Item number	F-00K-105-755
Description	Emulator probe with 1MByte EMU RAM (for Freescale MPC5500 on **Vertical** Base Board)
For details refer the datasheet	

DIM	MILLIMETERS	INCHES
A	54.00	2.126
B	54.00	2.126
C	27.00	1.063
D	27.00	1.063
E	27.00	1.063
F	27.00	1.063

4.2.2 XETK-V1.0B

Item number	F-00K-105-756
Description	Emulator probe with 1MByte EMU RAM (for Freescale MPC5500 on **Vertical** Base Board with holes for fixing the ETK inside the ECU)
For details refer the datasheet	

For the dimensional drawing the following dimension table applies:

DIM	MILLIMETERS	INCHES
A	69.00	2.717
B	54.00	2.126
C	34.50	1.358
D	30.75	1.211
E	30.75	1.211
F	34.50	1.358
G	27.00	1.063
H	23.25	0.915
J	23.25	0.915
K	27.00	1.063
L	3.50	0.138

4.3 Changes from Hardware-state C012 to version D012

4.3.1 Details of Change

Changes:
Manually populated Pulldown Resistor at /PWON included
New PCB Variant for XETK-V1.0B extended

4.4 Hardware delivery condition

The following hardware-states will be delivered with all new shipments:

- XETK-V1.0A: **D012**
- XETK-V1.0B: **D012**

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5   Firmware Modifications

5.1   General remarks to this chapter

The programmable logic code within the XETK-V1.0 is stored onto programmable logic devices (FPGA, CPLD). The first released firmware version is listed underneath. For the version syntax please refer to chapter 2.1.

5.2 First delivered version

FPGA Work	1.1.0
Firmware Work	1.1.3
FPGA Rescue	1.1.0
Firmware Rescue	1.1.3
CPLD	1.1.1

Attention:
For updating the XETK - firmware with a later version by using HSP, all XETK firmware packages will be updated one after another. This will last a few minutes and must not be cancelled by the user.
In case the firmware update had been finished unsuccessfully due to some reason, the update will have to be repeated. HSP will program the rescue packages onto the XETK. This procedure makes the firmware update fail-safe.

5.3   Firmware delivery condition

The following firmware versions will be programmed into all XETK shipments:

FPGA Work	1.1.11
Firmware Work	1.1.35
FPGA Rescue	1.1.11
Firmware Rescue	1.1.35
CPLD	1.1.2

In kind of any problems the above mentioned firmware can be programmed to the XETK by using HSP V8.0.3. This HSP version is similar to the currently delivered XETK products. Newer HSP versions could contain bug fixes and / or new features. Refer chapter 3 regarding known issues and new features.

Attention: For updating the XETK - FPGA with a later version by using the
HSP Firmware update tool, all XETK - packages will be updated
one after another and will last a few minutes.

6 Abbreviations

XETK	Product (emulator test probe) which can directly be connected to the tools PC
INCA	Measurement and Calibration Software of ETAS
ASCET-RP	Rapid Prototyping Software of ETAS
INTECRIO	Rapid Prototyping Software of ETAS
XETK Configuration Tool	Configuration Software, in order to configure a XETK
HSP	**H**ardware **S**ervice **P**ack; ETAS product which includes the firmware for the complete ETAS hardware, shipped together with INCA but also available as standalone product, download at ETAS homepage possible
firmware	Software for MC hardware; necessary for implementation of new features or bug fixes
Hot-fix	Software bugfix for a refresh version
tool-chain	MC hardware (e.g. ES690) and software (e.g. INCA)
MC	**M**easurement & **C**alibration
RP	**R**apid **P**rototyping
CPLD	**C**omplex **P**rogrammable **L**ogic **D**evice
FPGA	**F**ield **P**rogrammable **G**ate **A**rray; interface component to the application hardware
PCB	**P**rinted **C**ircuit **B**oard
DPR	Dual Ported RAM; special RAM onto the ETK which allows an access from ECU and application hardware at the same time
/CS	Chip select