

# XORAYA Connect



**XORAYA**  
high performance automotive platforms

The XORAYA Connect platform is capable of collecting data records on various automotive bus systems with a central 100 nanosecond timestamp while at the same time being able to transmit data anytime. The outstanding X2E FPGA technology provides parallel transmission and receiving paths. Besides the well-known automotive bus systems CAN, FlexRay, LIN, MOST25 and MOST150, the XORAYA Connect platform also supports full access to Ethernet (10Base-T, 100Base-T and 1000Base-T), USB 2.0, RS232, GPS, GPIB, LVDS (Framegrabber) and analog interfaces. Within the integrated development environment (Eclipse Edition) it is very easy to develop, debug and set up any application on the XORAYA Connect platform. Thus the developer can fully concentrate himself on developing the application instead of having to set up cross-compiler tool-chains. The customized Linux 2.6 Kernel guarantees a hard real-time environment at any time.

The XORAYA Connect SDK provides full access to any supported interface (please have a look at the interface extensions available). Beside the standard SDK we also offer an AUTOSAR conform development platform. The XORAYA Connect platform is fully customizable to any available interface extension. Please do not hesitate to contact us and request your customized XORAYA Connect platform.

#### Integrated development environment

- XORAYA Connect IDE, Eclipse Edition with integrated C/C++ cross-compiler and visual cross-debugger
- Target architecture: 500 MHz PowerPC with 256 MB DDR2 RAM and 100 MB persistent storage for application settings (optional: additional mass storage)

- Guaranteed hard real-time environment
- Customized Linux 2.6 kernel
- Integrated floating-point unit (optional)
- Python, Perl, Ruby and Lua scripting environment (optional)
- Software development kit (SDK) to access CAN, FlexRay, LIN, MOST25, MOST150, RS232, GPIB,

- LVDS (Framegrabber), Analog, GPS, USB 2.0 and Ethernet (based on available platform interfaces)
- Software development kit to enable AUTOSAR conform development (optional)

#### Specifications

- Central 100ns timestamp for all interfaces.
- Battery buffered real time clock
- Ambient temperature: -20°C to +65°C
- Dimensions (HxWxD): 70 x 255 x 207 mm
- Operating external voltage: 12-36 V DC
- Current consumption: < 1 A
- Current consumption (standby mode): < 2 mA
- Automatic sleep mode
- Wake-up by CAN, FlexRay, MOST, external wake line or trigger
- Rotary switch and toggle switch for interaction with the running application (optional)

#### Software

- Control using an integrated web server
- Display DBC, LDF and FIBEX message translations within the integrated web server (optional)

#### Scope of delivery

- XORAYA Connect
- Power supply cable
- CD including software and documentation
- Manual
- Equipment bag
- Cable set (optional)

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## Development workflow

The XORAYA Connect platform includes an integrated development environment (Eclipse Edition). This enables the developer to skip setting up a development environment and start immediately with building up next-generation solutions.



## Engineering solutions

The XORAYA Connect platform is a fully customizable standalone product. Additionally, using the XORAYA Connect platform as a standalone product, X2E can help you and provide a ready to work embedded system solution. Please do not hesitate to contact us and discuss your ideas.

### BMW Group

The implementation of the bus system FlexRay within the BMW Group required development of a time-correlated real-time remaining bus simulation. The XORAYA Connect platform will fully support the latest remaining bus simulation as well as the upcoming version.

### MycroTools

MycroTools provides the solution TestGuard for the creation of advanced test plans (ODX based diagnoses with error-case testing) and automated test scheduling. The upcoming MOST150 bus system and high-resolution head-units are pushing the limits for diagnostic software and hardware. X2E is working together with MycroTools to provide a fully automated diagnose solution based on the XORAYA Connect platform for CAN, MOST25, MOST150 correlated (not only) to a display LVDS-output (head-unit).

### Available interface extensions

- The XORAYA Connect platform provides eight customizable slots.
- 3xHSCAN-Interface  
Two separate High-Speed CAN channels on one slot
- LSCAN-Interface  
One Low-Speed CAN channel on one slot
- 3xRS232-Interface  
Three separate RS232 channels on one slot
- 2xLIN-Interface  
Two separate LIN 2.1 channels on one slot
- FlexRay-Interface  
FlexRay channel A and FlexRay channel B on one slot
- Analog-Interface
  - Six analog channels on one slot
  - Sample rate: 100 kHz
  - Resolution: 12 Bit
- MOST25  
MOST25 Spy and MOST25 INIC on one slot
- MOST150  
MOST150 Spy and MOST150 INIC on one slot
- Ethernet 10/100Base-T
  - Advanced 10/100 Mbit Ethernet with error pass-through (spy error frames)
  - No slot is used
- Ethernet 1000Base-T
  - Full Gigabit Ethernet switch
  - No slot is used
- LVDS (TIA/EIA-644)  
Framegrabber
  - Supports APiX
  - No slot is used
- GPIB
  - Supports Controller and Device mode
  - No slot is used
- GPS  
Position tracking using GPS on one slot
- USB 2.0
  - USB 2.0 host and USB 2.0 device support
  - No slot is used

### Additional modules on request



Pictures may differ from actual device. Eclipse 'logo, and 'Eclipse Edition' are trademarks of Eclipse Foundation, Inc.

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