Xoraya N16000

X2E
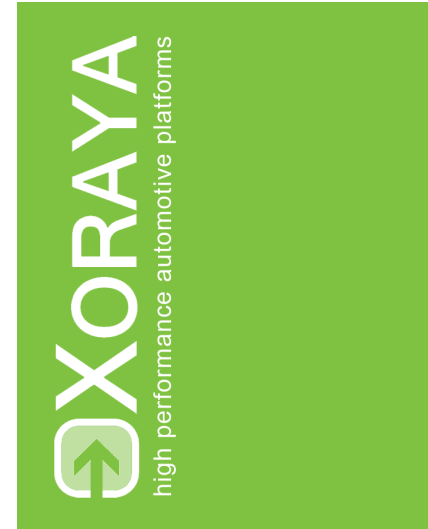embedded system design

XORAYA
high performance automotive platforms

The Xoraya N16000 is the next evolution of the Xoraya N series, now supporting a data rate of up to 16,000 Mbit/s.

It serves as the central hub to connect all data logging devices within the car. Compact and specialized probes, like the cascadable Xoraya µT-Z7, can then be placed close to the source and transfer the data via 1GbE/10GbE to the N16000. A removable PCIe storage unit (Xoraya RSU) is used to save up to 64 TB of log data. Alternatively, data can directly be downloaded to an external computer system via Ethernet.

In addition to the host functionality for other devices, the N16000 is also capable to directly record data. Another feature is the mirroring of traffic from one port to another. A built-in supercapacitor unit is able to bridge power fluctuations and to shut the N16000 down safely in case of power failures.The N16000's slot system allows flexible configuration of interfaces according to customer requirements.

The Xoraya data logging family currently supports the following automotive bus system: CAN, CAN-FD, FlexRay, RS-232, LIN, MOST25, MOST150, Ethernet, 100/1000Base-T1 (OABR), PSI5 and analog signals; support of further bus systems is possible. The software protocols GN-Log and DLT can also be recorded via Ethernet, 100/1000Base-T1 and RS-232.

All Xoraya devices are able to communicate through X2E's Distributed Logger Network (DLN) protocol, while the more general Probe Logger Protocol (PLP) allows linking with third party devices.
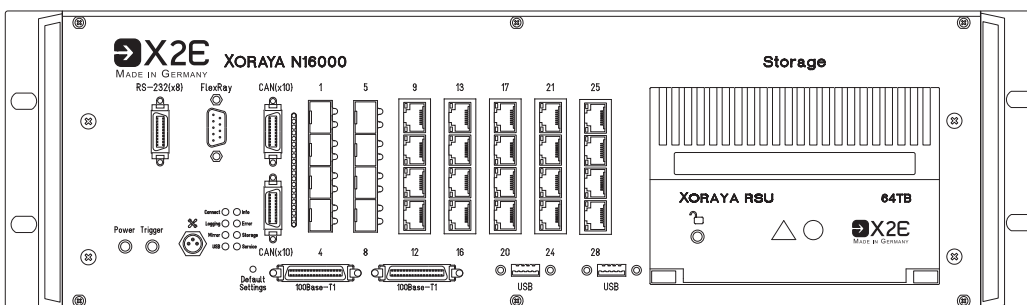
Specifications

- 100 ns logging timestamp
- DLN (Distributed Logger Network) to communicate with Xoraya loggers and probes
- PLP (Probe Logger Protocol) for 3rd party probes
- Data rate up to 16,000 Mbit/s
- Removable storage unit (NVMe SSDs) up to 64 TB
- Dimensions (H x W x D) 133 x 482 x 352
- Temperature range -40 °C to +65 °C
- External operating voltage 6 V to 36 V
- Current consumption max. 16.6 A (at 12 V)
- Current consumption (standby) max. 1 mA (at 12 V)
- Automatic sleep mode, wake up by wakeline or trigger

Record Modes

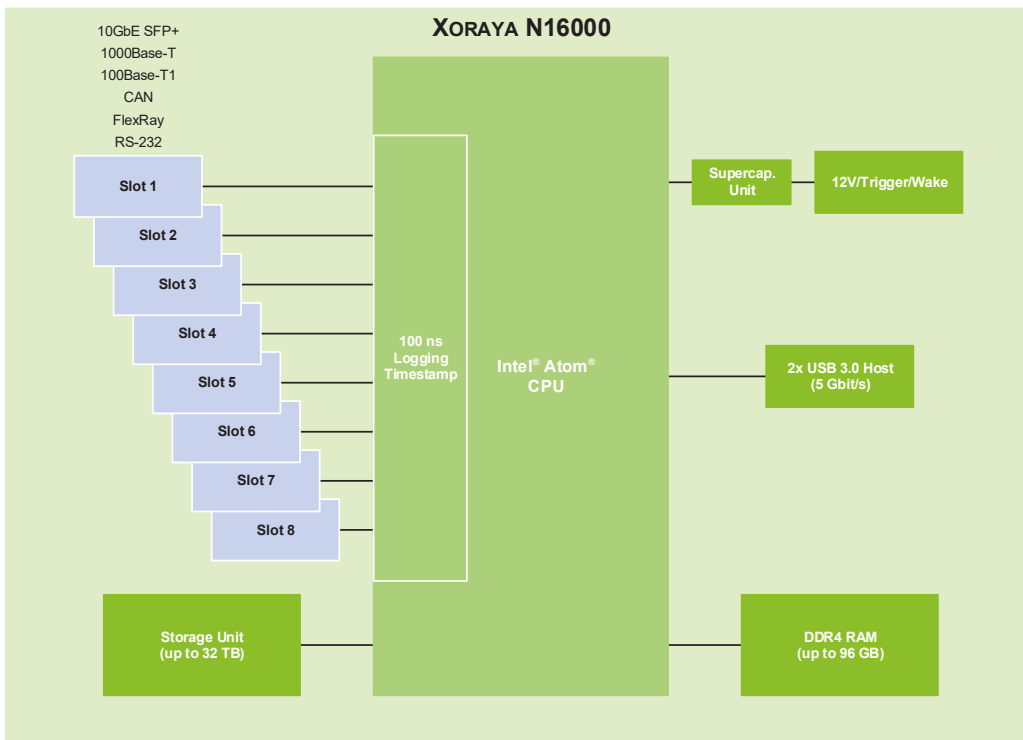- On removable storage unit
- Via Ethernet to PC

Software

- XorayaSuite and XorayaSDK for Microsoft Windows
- Browser-based configuration

Front view

Xoraya N16000

X2E
embedded system design

Xoraya N16000

10GbE SFP+
1000Base-T
100Base-T1
CAN
FlexRay
RS-232

Slot 1
Slot 2
Slot 3
Slot 4
Slot 5
Slot 6
Slot 7
Slot 8

100 ns Logging Timestamp

Intel® Atom® CPU

Supercap. Unit

12V/Trigger/Wake

2x USB 3.0 Host (5 Gbit/s)

Storage Unit (up to 32 TB)

DDR4 RAM (up to 96 GB)

Xoraya Probe
100 ns Timestamp

Log Interfaces

CAN
FlexRay
RS-232
LIN
MOST
PSI5
Analog
Base-T1

Xoraya Probe
100 ns Timestamp

Log Interfaces
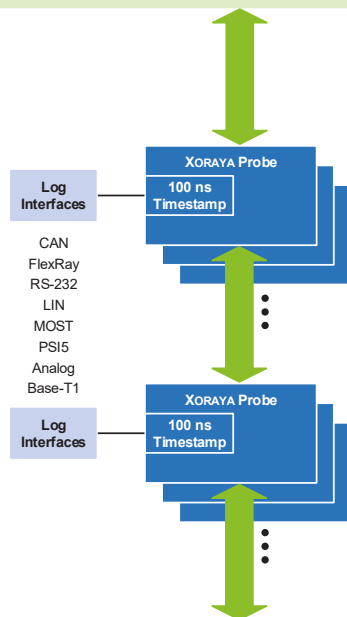
Delivery Contents

– Xoraya N16000
– Power supply cable
– Software
– Manual

Accessories

– Storage unit (Xoraya RSU)

Standard Configuration

– 6x 10GbE
– 12x 1000Base-T
– 12x 100Base-T1
– 1x 4-port switch
– 2x USB 3.0

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