

logiRECORDER 3.2

Automotive HIL Video Logger

RECORD + PLAYBACK + ANALYSIS

Single Box Solution



KEY FEATURES

- ✓ Single box solution for data logging in test cars and data playback in Hardware-in-the-Loop (HIL) simulators and tests
- ✓ Replay of road recorded or synthetically generated stimuli data into an ECU under test, and simultaneous recording of the ECU's responses
- ✓ Best-in-class raw data interfacing to the car's sensors with no additional MTU boxes (MTUs = Measurement Testing Units)
- ✓ Simultaneous connections of up to twelve (12) imaging sensors, up to twenty (20) automotive busses and multiple Gigabit Ethernet networks
- ✓ Multiple units stack into one logger with more interfaces, data bandwidth and storage space, e.g. >50 Gbps and 128 TB with four connected units
- ✓ Xylon's FPGA-based modular design enables central timestamping and precise data manipulation out of reach of PC-based data loggers
- ✓ Software stack includes an intuitive dashboard and a Software Development Kit (SDK) for custom applications developments
- ✓ Rugged and certified housing withstands use over a wide temperature and vibration range – already proven in some of the harshest places on the planet

"logiRECORDER's native automotive interfaces enable raw data logging and HIL playback with no unnecessary data format conversions, e.g. GMSL II to Ethernet conversion. It enables us to provide the most realistic test and simulation data, and saves our customers from expensive and lengthy development of conversion MTU boxes."

Davor Kovačec, Xylon CEO

DATA PROCESSING

FPGA-based processing enables high performance and flexible customizations

Xilinx® Zynq® SoC and FPGA chipset

Sustained 12.8 Gbps logging bandwidth

Storage capacity up to 32 TB (4x SSD exFAT, off-the-shelf)

Optional Intel® Atom® accelerator board

100 ns timestamping; GPS, PPS and PTP synchronization

Stacked units multiply logging bandwidth and storage capacity

VIDEO & RADAR & LIDAR

6 video slots enable direct interfacing with up to 12 different cameras

Raw interfaces: TI FPD-Link III, Maxim GMSL1 and GMSL2, HDMI, Aurora over LVDS

I2C tunneling for non-intrusive operation

Programmable Power-over-Coax

Data formats: MDF4 and ROS

Raw data visualization: Dashboard and HDMI display out

NETWORKS & INTERFACES

High-Speed HIL Ethernet links

x2 10 GbE Ethernet

x4 1 GbE Ethernet through Intel Atom (TAPI parsing, etc.)

x2 I/O slots for high-speed in-vehicle

x3 1 GbE Ethernet

x4 100BASE-T1 (OABR)

x1 I/O slot for mid-speed in-vehicle

x4 FlexRay

x8 I/O slots for low-speed networks enable up to 16 Ch. to match any application

CAN HS, CAN LS, CAN FD, LIN, UART, GPS, Digital I/O, Analog I, Microphone

Vehicle databases: CAN XML DBC and ARXML, LIN LDF, FlexRay FIBEX XML

Data formats: PCAP, MDF4, ASC

OTHER

Designed and validated for use in test cars in harsh environments

Certifications: CE, FCC, RoHS, automotive vibration and shock-proof

9-24 VDC, 100 W

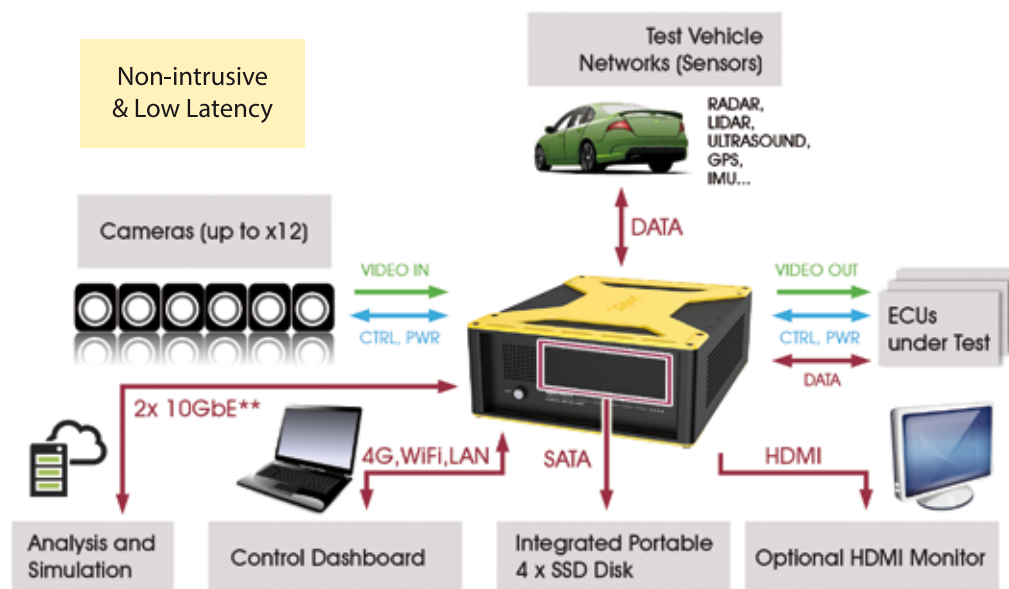
µCTRL-controlled graceful shutdown, etc.

Size: 281 x 350 x 110 mm

Ambient temperature: -20 – 60 °C

TECH SPECS

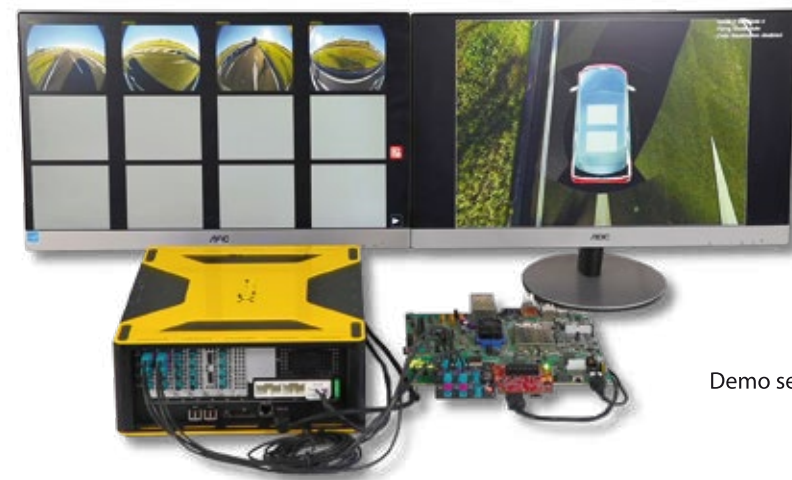
System Connections - Data Logging



* Stack multiple logiRECORDER units to expand data logging capabilities
** Under development

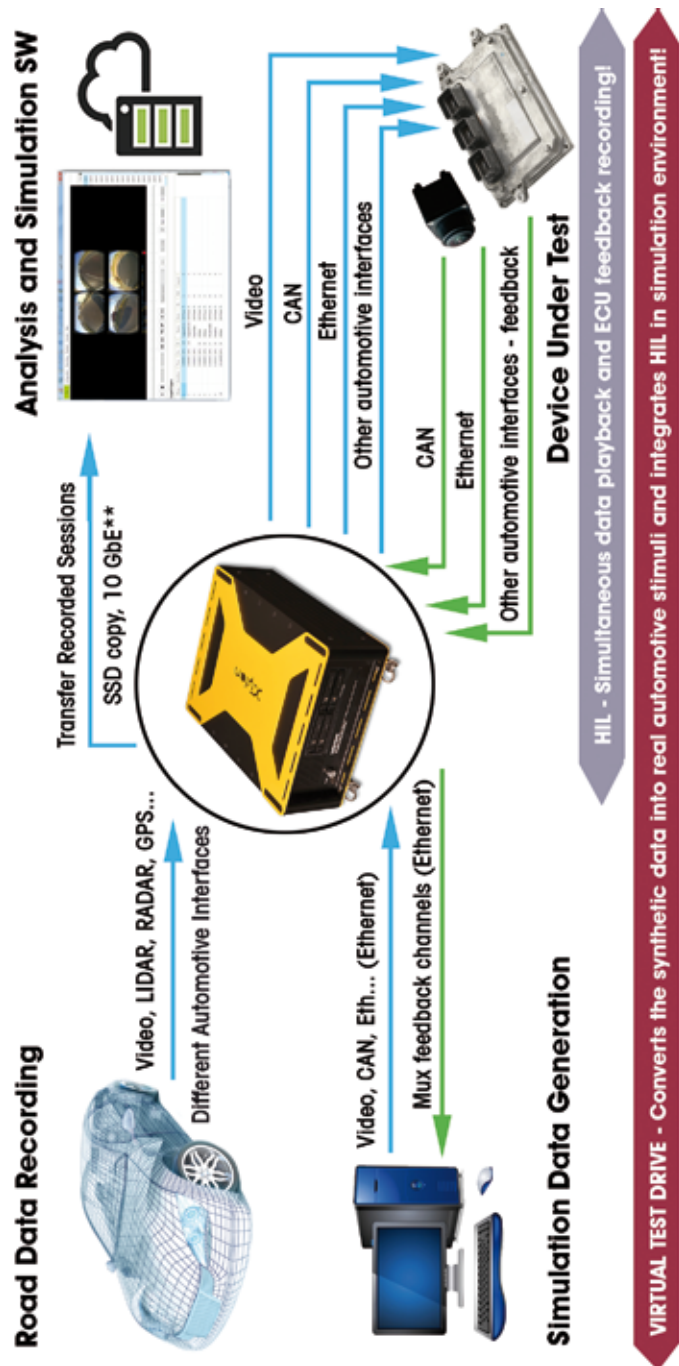
Flexible HIL Data Injection

Use road recorded data or connect real ECUs to simulation environments



Demo setup

The logiRECORDER device injects 4 channels of video recorded by the test car's 4 video cameras furnished with integrated wide-angle (fish-eye) lenses, via a GMSL2 serial interface. The Surround View Parking Assistance ECU corrects the input video and stitches it together to provide a full 360° view.



VIDEO I/O MODULES

TYPE	NAME
FPD Link-III	logiR-FPD3C-953-954-V2
FPD Link-III	logiR-FPD3C-933-934
GMSL	logiR-GMSLC-705-706
GMSL2	logiR-GMSL2C-295A-296A-V2
GMSL2	logiR-GMSL2C-717F-716A
HDMI	logiR-HDMI-511-613
Aurora	logiR-AURORA-DS25BR110

VEHICLE NETWORK AND UTILITY I/O MODULES

TYPE	NAME
CAN	logiR-CANSW
CAN	logiR-CANFD
CAN	logiR-CANLS
LIN	logiR-LIN
UART	logiR-UART
FlexRay	logiR-FLEX2
FlexRay	logiR-FLEX4
Interconnection	logiR-CONN1
Interconnection	logiR-CONN2
Analog/Digital I/O	logiR-ADIO
Time Synch	logiR-SYNC

HIGH-SPEED NETWORK I/O MODULES

TYPE	NAME
Ethernet	logiR-1GETH3
BroadR-Reach	logiR-OABR4

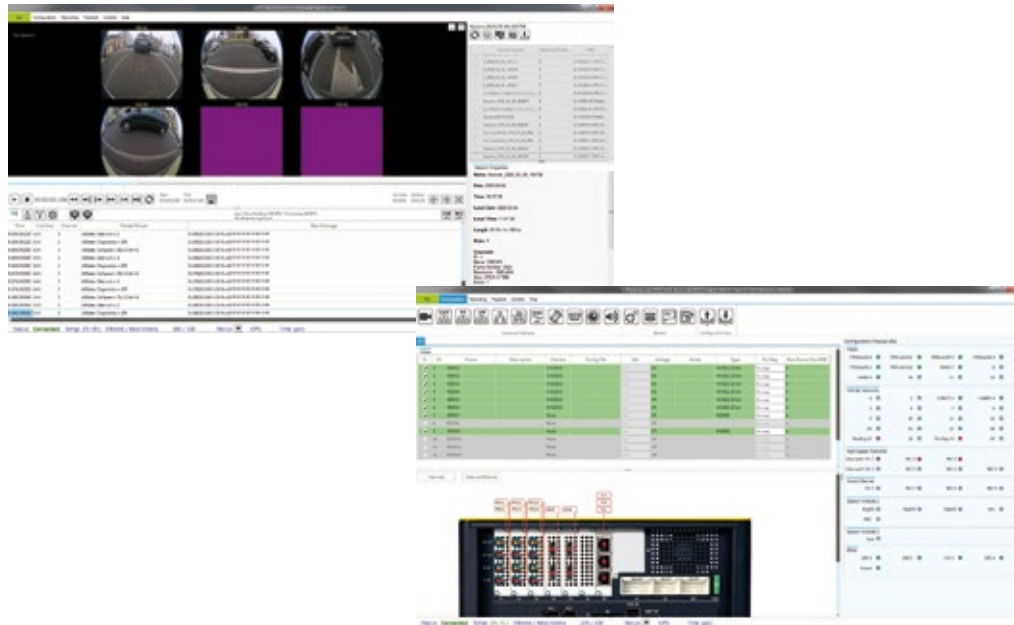
SMART ACCELERATOR I/O MODULE

TYPE	NAME
Ethernet	logiR-SMARTE-1GETH4

Select the right I/O modules and modify the logiRECORDER to perfectly suit your project needs – no external adapter boxes required!

Xylon offers customizations, and can quickly design new I/O modules to tune the logiRECORDER for your current and future projects.

logiRECORDER SOFTWARE STACK



logiRECORDER Dashboard

Intuitive PC application enables configuration, setup of advanced triggers and filters for continuous and event-triggered recordings, parallel playback of video and network data, recorded data manipulation and offline analysis. The dashboard enables remote controls through Wi-Fi and 4G mobile networks.

logiRECORDER Software Development Kit (SDK)

Microsoft® .NET Core based SDK enables cross-platform custom applications developments: log file analysis and file format conversions, CLI control scripts, live video and network data streaming, and more.

TAPI Parser and Validator

Enabled through collaboration with an industry leading provider of vision technology, this software allows for thorough testing and validation of smart cameras for ADAS and automated driving.

Visit us online at
www.xylon-lab.com

XYLON HEADQUARTERS

Xylon d.o.o.
Fallerovo šetalište 22
10 000 Zagreb, Croatia-Europe

tel: +385-1-368-0026
e-mail: info@logicBRICKS.com

XYLON GERMANY

Moselstr. 27
60329 Frankfurt, Germany

tel: +49-69-80085452
e-mail: lr-sales@logicBRICKS.com

XYLON JAPAN

Meiji-Yasuda,
Seimei Meidaimae Bldg. 4F
2-41-11 Matsubara, Setagaya-Ku
156-0043 Tokyo, Japan

e-mail: info@logicBRICKS.jp

Copyright © 2021 Xylon d.o.o.
All rights reserved.
Subject to change without notice.
Version 1.1, 4/2021.

Xylon and logicBRICKS are trademarks or
registered trademarks of Xylon.

All other trademarks and registered trademarks
are the property of their respective owners.

