Xylon Data Logging & HIL Solutions

logiRECORDER 3.x Automotive HIL Video Logger

Main Operation Modes

XYLON

Reality Loaded in a Single Box Solution

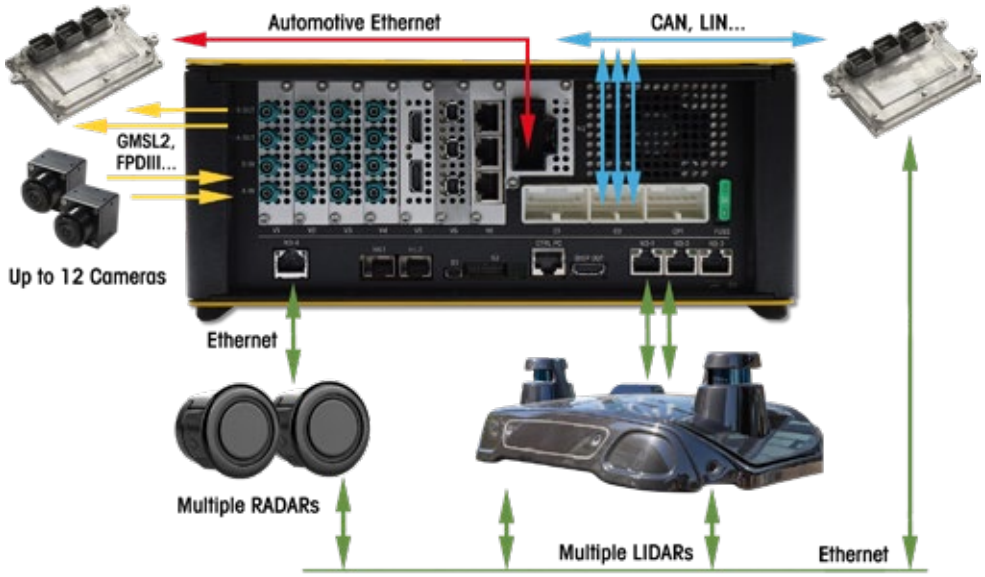
Xylon's logiRECORDER Automotive HIL Video Logger is an all-in-one data logger. It enables non-intrusive and low latency recording of raw multi-channel video and network data, data analysis, and synchronous playback of logged data and synthetically generated simulation data in realistic Hardware-in-the-Loop (HIL) simulations that replicate test-vehicle's multi-camera video system, RADARs, LIDARs and in-vehicle data busses on developer's desk.

Main operation modes of the logiRECORDER:

- ✔ Data Logging of all Vehicle Sensor Signals
- ✔ Direct HIL Injection of Raw and/or Synthetic Data
- ✔ Virtual Test Drive HIL
- ✔ HIL Data Streaming from the Cloud

Data logging of all Vehicle Sensors Signals

No bits left behind!



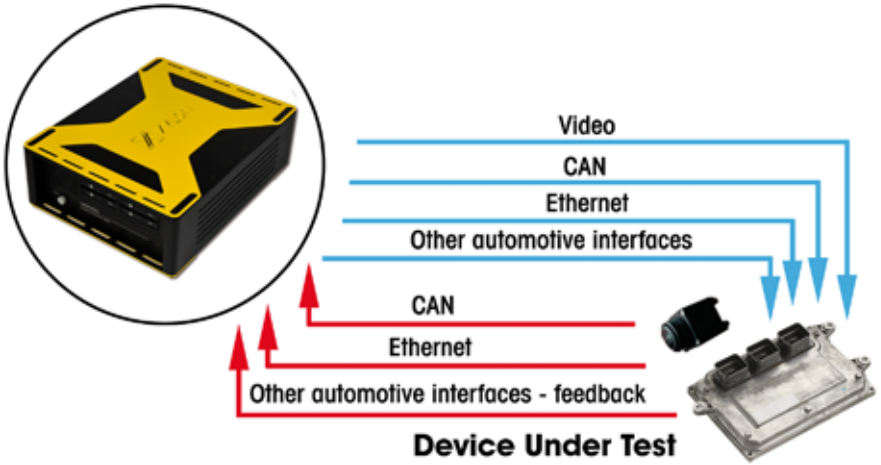
*An example of possible system connections

- ✔ Modular and flexible data logger
- ✔ Recording of all automotive sensory data in its original form
- ✔ External MTU (Measurement Test Unit) conversion boxes not required
- ✔ Raw data interfacing through various I/O modules
- ✔ Precise timestamping (< 100ns) – alignment of all data channels
- ✔ Compact, rugged housing
- ✔ Consumption less than 100 W

At the moment users can choose from 20 different interface I/O module types, including video modules (FPD-Link III, GMSL2 etc.), automotive network modules (CAN, LIN, FlexRay etc.), smart accelerators for tasks (local TAPI parsing), and utility and Ethernet module boards. The flexible hardware platform developed by Xylon can be easily expanded with additional modules for new interfaces.

Direct HIL Injection of Raw and/or Synthetic Data

It's bringing playback



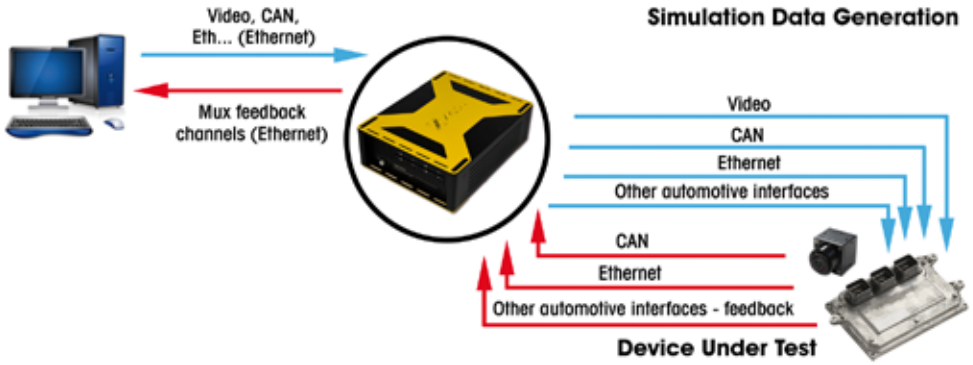
The logiRECORDER Automotive HIL Video Logger is capable of playing back realistically restored recorded sessions, while simultaneously and optionally recording the Device under Test's (DUT) responses.

The logiRECORDER playbacks automotive sensory data in its original form and connects directly to DUTs through native automotive interfaces. Play-back data is electrically and logically formatted to fully correspond with the requirements of internal busses of an operational vehicle driving along the road. In this way, the logiRECORDER efficiently replicates the complete test-vehicle's multi-camera video system and in-vehicle data busses on a developer's desk.

EXAMPLE: Connect video cameras to logiRECORDER's inputs and the ECU to its video outputs. Through the I2C bus tunneling, the ECU can initialize and communicate with video cameras, and receive the pre-recorded video in HIL data injection tests at the same time.

Virtual Test Drive HIL - Breaking Boundaries Between Worlds

When a physical ECU meets a software simulator



Today's most advanced simulation solutions model comprehensive virtual environments with an included driver model, a detailed vehicle model, models of the vehicle's sensors, and highly flexible models for roads and traffic. Such modelling environments provide for complete and realistic test scenarios.

Virtual test drive environments can additionally improve precision and simulation quality by embedding real hardware components.

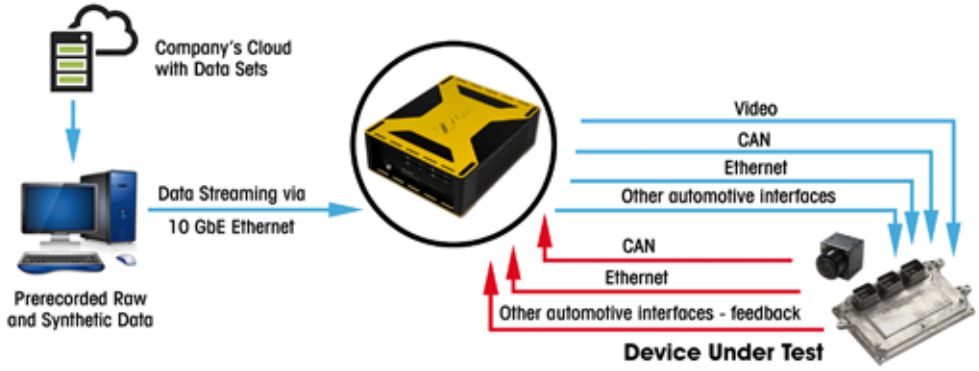
Software-based vs. HIL-supported simulations: real Electronic Control Units (ECUs) DUT anticipate physical stimuli data, while simultaneously generating responses that fully correspond with the requirements of internal busses of an operational vehicle driving along the road.

The logiRECORDER can be plugged in virtual test drive environments to repeatedly translate all DUT input and output signals between physical and virtual domains, and convert them as expected by interfaces of the simulation environment.

EXAMPLE: Xylon collaborates with the most prominent experts in driving simulation software. To learn more about currently supported simulation software, please visit www.xylon-lab.com or contact Xylon.

Data Streaming from the Cloud

No copy time wasted



Test fleets around the world diligently collect precious data that is further refined into data sets tailored for different purposes. The collected recordings can be stored on local PC machines or the company's cloud infrastructure that enables easy data distribution between global organizations. Once collected, such recordings can be injected as heterogeneous multi-channel data into real hardware Electronic Control Units (ECUs) via the logiRECORDER operating in Smart I/O mode.

Product Customizations

The perfect fit

Xylon has the means to adjust the logiRECORDER to suit customers' requirements. In situations when logging and HIL simulation features require customizations, you can reach out to us and ask for quick HW and SW developments.

EXAMPLE: Xylon is able to quickly design and manufacture add-on HW components for specific test and validation setups, e.g. video I/O module with a new serdes pair, adapter for a new sensor type etc.

EXAMPLE: logiRECORDER Software Development Kit (SDK) users independently develop their own control apps and manipulate open data format recordings.

Technical Support

Support at a Platinum Level

Our dedicated and responsive Technical Support team provides a direct link to skilled engineers who can assist you in a timely and satisfying way. Whatever your needs, you can count on us to deliver a higher level of service, while continually going the extra mile and exceeding your expectations.

Visit us online at
www.xylon-lab.com

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