

Release Notes ADL-1000 Rev. 1.0.1

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Contents

Front	1
Title	1
Summary	2
Revision	3
Table of content	5
List of Figures	5
List of Tables	6
01 Introduction	7
01.1 References	7
01.2 Product Documentation	7
02 Product Overview	8
02.1 Key Features	8
02.2 General Description	8
02.2.1 Release Test Configuration	8
02.2.2 Restrictions	8
02.2.3 Miscellaneous	8
02.3 Installation	8
02.4 Version Information	8
02.5 Feature Updates	9
02.5.1 Board Management Controller (BMC)	9
02.5.2 Golden Image	9
02.5.3 Main Linux Image	9
02.5.4 Update Client	9
02.5.5 Data Converter	9
02.6 Compatibility to Earlier Releases	9
02.7 Fixed Problems	9
02.7.1 BMC	9
02.7.2 Golden Image	9
02.7.3 Main Linux Image	9
02.7.4 Update Client	9
02.7.5 Data Converter	9
02.8 Known Issues	9
03 Hints	12
04 Hotfix Information	13
05 Contact, support, and problem reporting	14
Glossary	15

List of Figures

List of Tables

02.1 Release versions 8

01 Introduction

This document gives an overview of ADL-1000, highlights its key features and technical details. Additionally, this document also introduces the updated features, problems fixed, contact support details and other necessary aspects of a release and its components.

01.1 References

The ADL-1000 Software User Guide as well as the ADL-1000 User Guide can be found on www.plc2.com.

01.2 Product Documentation

The ADL-1000 product documentation can be found on www.plc2.com.

02 Product Overview

The plc2 ADL-1000 is a high-speed, Ethernet-centric data logger and edge accelerator for in-vehicle use. Its primary purpose is to support the development of Automated Driving (AD) and Advanced Driver Assistance System (ADAS) systems by recording camera image streams and ancillary data and storing them on NVMe SSD drives. ADL-1000 is designed for use in pre-Start of Production (SoP) test vehicles.

ADL-1000 is designed to integrate seamlessly with a number of *probes* that act as bridges between ADL-1000's Ethernet interfaces and protocols such as LVDS, FlexRay or LIN. Using an optional add-on processing card, ADL-1000 can automate the task of recording interesting situations by integrating Artificial Intelligence (AI)-based *smart triggering* algorithms.

02.1 Key Features

This section describes the key features of ADL-1000, which is based on a single ADL-1000 logger. ADL-1000 system supports the following key features.

- Record MHD camera streams to Solid-State Drives (SSDs).
- Record CAN bus traffic via a connected CAN-to-Ethernet bridge device.
- Support IEEE 1588 PTP time synchronization to a network time master.
- Optional support for smart recording triggers and pre-labeling.
- Optional L5 data compression and decompression.
- Optional recording from Gigabit Emulator Test Probe (GETK) data over Peripheral Component Interconnect Express (PCIe).

02.2 General Description

02.2.1 Release Test Configuration

The release passed all the required test with standard configuration.

02.2.2 Restrictions

There are no restricted items that must be described.

02.2.3 Miscellaneous

There are no miscellaneous items that must be described.

02.3 Installation

The installation procedures are described in the following documents:

- ADL-1000 User Guide,
- ADL-1000 Software User Guide.

02.4 Version Information

All release versions are described at table 02.1.

Table 02.1: Release versions

Component	Version
BMC	0.23.0
Golden Image	1.2.2
Main Linux Image	1.2.2
Update Client	1.0.0
Data Converter	1.1.0

02.5 Feature Updates

02.5.1 BMC

As part of the first version of release notes, there are no updates to mention.

02.5.2 Golden Image

As part of the first version of release notes, there are no updates to mention.

02.5.3 Main Linux Image

As part of the first version of release notes, there are no updates to mention.

02.5.4 Update Client

As part of the first version of release notes, there are no updates to mention.

02.5.5 Data Converter

As part of the first version of release notes, there are no updates to mention.

02.6 Compatibility to Earlier Releases

As part of the first version of release notes, there is no information to mention.

02.7 Fixed Problems

02.7.1 BMC

As part of the first version of release notes, there are no updates to mention.

02.7.2 Golden Image

As part of the first version of release notes, there are no updates to mention.

02.7.3 Main Linux Image

As part of the first version of release notes, there are no updates to mention.

02.7.4 Update Client

As part of the first version of release notes, there are no updates to mention.

02.7.5 Data Converter

As part of the first version of release notes, there are no updates to mention.

02.8 Known Issues

The data converter is only supporting MDF4 file-format - #24

The data converter is only supporting MDF4 file-format.

BMC update can brick the ADL - #23

Updating the BMC through the USB-C service interface in the BMC version below v0.21.1 can cause an infinite boot-loop if not properly done. This ADL can only be recovered by manually flashing the BMC with an internal debugger.

Missing ADL metrics via GNMI/YANG on API - #22

Some parameters or metrics of the ADL is not provided via GNMI/YANG API to the customer.

Recording can not be triggered by external source - #21

The ADL recording can not be used trigger-based. It is only possible to start the recording and stop the recording through REST-API.

Recorded data is not sanity checked - #20

The recorded video data is not checked on completeness at recording time.

Fixed password for SSD OPAL encryption - #19

The password for the SSD OPAL encryption can not be set for each individual SSD. The same password is used for all SSDs in one ADL.

Suboptimal usage of SSD space - #18

Distribution of recorded image data is not optimized among SSDs. This can cause the stop of the recording even when space is left on the SSD-pool.

GVSP recording is limited to four streams per SFP interface - #17

GVSP recording is limited to four streams per SFP interface (multi-streaming).

Link instability for SFP cables longer than 2m - #16

Using cables with 2.5m, 3m, or longer can cause link instability and link loss on the SFP+ ports.

SSD LEDs not fully functional - #15

The SSD LEDs are not showing the full status of the current SSD. Furthermore, some LEDs are dim and can not be seen correctly.

Limited functionality of external GPIOs - #14

The external GPIOs are not implemented and can not be used as an event source or status indication. Only exception, GPIO is used to power up the box into operational-mode.

No PTP master feature, because of missing absolute time input - #13

No PTP master feature, because of missing absolute time input. No PTP master implemented.

Bad environment detection and ADL protection is not yet implemented - #12

Bad environment detection and ADL protection, as high humidity or high temperature, is not yet implemented.

CAN wakeup sequences are not yet implemented - #11

CAN wakeup sequences are not yet implemented

2x CAN recording directly via ADL is not yet implemented - #10

2x CAN recording directly via ADL is not yet implemented

ETH 2 is not usable for 1G Ethernet recording - #9

The second RJ45 (ETH 2) is not usable for 1G Ethernet recording.

USB-C service port cannot be used by the customer for remote controlling the box - #8

USB-C service port cannot be used by the customer for remote controlling the box.

No Data Upload available through QSFP 40G/100G - #7

No Data Upload available through QSFP 40G/100G.

2 SFP ports can be used for MHD recording - #6

Only 2 out of 6 SFP ports and none of the QSFP ports can be used for recording (of MHD).

03 Hints

There are currently no hints available that must be described.

04 Hotfix Information

There are currently no hotfixes available that must be described.

05 Contact, support, and problem reporting

For contact information, support, and problem reporting, visit www.plc2.com.

Glossary

AD Automated Driving

ADAS Advanced Driver Assistance System

AI Artificial Intelligence

BMC Board Management Controller

GETK Gigabit Emulator Test Probe

PCIe Peripheral Component Interconnect Express

SoP Start of Production

SSD Solid-State Drive