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AVT Fire4Linux - Release Notes



Version: 3.0
Date: June 10, 2010
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Components and Version Reference

Library

- libdc1394_avt Common Linux IIDC library with AVT extensions 2.1.2

Viewer Applications

- cc1394 Qt-based Camera Demo Viewer 3.0

Current Limitations

libdc1394_avt

- Bus Reset:
AVT cameras require the host-pc to re-enable ISO streaming after bus resets. Currently, the libdc1394 does not cover this requirement. As a workaround, the user may call libraw1394 to register for bus reset notifications and re-enable ISO streaming within the bus reset handler.

cc1394

- Bus Reset:
The cc1394 viewer currently does not handle bus resets (see libdc bus reset issue above). Therefore, image acquisition is aborted when a bus reset occurs. To ensure persistent image acquisition, avoid hot-plugging during acquisition.

- GUI:
The viewer is intended to be used by a single user only. Displaying the camera idle state relies on this fact, so for a different user, cameras will not be marked as "used".
After a "User Profile Load" operation, not all GUI elements are synchronized with the new camera settings.
If using the area control of the AutoFunctionAOI feature, the display may not be correct if using Marlin or Oscar cameras and AOIs not divisible by 128.
In contrast to the appearance, cc1394 does not use single shot and multi-shot registers for limited frame acquisition; instead, the ISO_ENABLE register is used.

- Display:
When using very large images, the viewer cannot display images correctly any more. (Only Pike 1600 at very large AOI with RGB transfer format)

libraw

- Oscar 810C, Pike 1100B/C, Pike1600B/C
Cameras producing large amounts of image data have problems using the legacy 1394 stack.

In this case, consider using the new juju stack, which might improve the situation.

Package Description

libdc1394_avt

This library is based on the commonly used libdc1394 version 2.1.2 available at:

<http://damien.douxchamps.net/ieee1394/libdc1394/>

The following AVT-specific extensions have been added to libdc1394:

- Support for MONO12 and RAW12 color codings
- Additional debayering modes:
 - AVT_YUV422
 - AVT_LCAA
 - AVT_LCAAV
- Advanced feature support for:
 - shading correction
 - DSNU correction
 - blemish correction
 - look-up table (LUT) control
 - auto-function AOI control
 - test image control
 - frame counter control
- Added feature support for:
 - pulse-width modulation output control
 - input debounce control
 - trigger counter control
 - Pike dual-tap offset adjustment
 - secure image signature
 - 'max ISO size' control
 - parameter update timing control
 - anti-smear control
 - low-noise binning mode control
 - global reset release shutter control
 - user profile control
 - LED switch-off control
 - defect pixel correction control

As well as some minor functional enhancements.

cc1394

Camera viewer application demonstrating all AVT camera features supported by libdc1394_avt.

Supported Operating Systems

The libdc1394_avt library aims to be compatible with a wide range of Linux distributions as well as Mac OSX.

The cc1394 viewer aims to be compatible with a wide range of Linux distributions. It uses the following libraries:

- libdc1394_avt
- Qt Version 4, preferably 4.1 or later
- SDL

Binary packages are provided for:

- OpenSUSE 11.0 - 11.2 (i586/x86_64)
- Ubuntu 10.4 (i386/amd64)
- Fedora 11/12 (i386/x86_64)

The source package has also been tested on:

- Ubuntu Linux 32 Bit, Version 9.04
- Ubuntu Linux 64 Bit, Version 9.10

Supported Hardware

This release has only been tested with AVT 1394 cameras. Third-party IIDC1394-based digital cameras may also work, but only with standard feature support.

Guppy cameras with complementary-color interlaced sensors (GF038B/C and GF044B/C) are not supported yet.

Installation

For package-specific installation guidelines see the corresponding package readme file.

The libdc1394_avt library relies on the device node raw1394 (typically located in /dev) to be accessible by the user. In most cases, cc1394 will warn the user about insufficient permissions at startup. To adjust permissions on udev-based systems, a file /etc/udev/rules.d/50-raw1394.rules should exist with the following content:

```
# Firewire
KERNEL=="raw1394", GROUP="video", MODE="0664"
```

Also make sure that the user is member of the 'video' group. The system will adopt permission changes after a reboot. For first tests, it is possible to use the root account.

Some samples shipped with libdc1394_avt use the XVideo extensions for video overlay. These samples will not work without XVideo hardware support. Most vendor-specific graphic drivers do support XVideo extensions, in contrast to the generic VGA driver.

License Information

libdc1394_avt is licensed under the GNU Lesser General Public License (LGPL) version 2.1 or later.

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Each source package contains a file 'COPYING' with detailed license information.

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Europe, Middle East and Africa

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