



## ADM-XRC LTS Driver 4.3.0b3 for Linux Release Note

## Introduction

This release note accompanies the ADM-XRC LTS Driver for Linux. The latest version of this driver can be found at:

<ftp://ftp.alpha-data.com/pub/admxrc/linux>

For support, send e-mail to [support@alpha-data.com](mailto:support@alpha-data.com)

## Operating systems supported

This release of the ADM-XRC LTS Driver supports the following operating systems:

- GNU/Linux distribution with 2.6.x kernel
- GNU/Linux distribution with a 3.x or 4.x kernel.

Due to the ever-changing nature of GNU/Linux, Alpha Data cannot guarantee that this driver can be successfully configured, built, installed and run on all Linux distributions past, present and future. Alpha Data makes best-efforts to ensure compatibility with all Linux distributions, but should a problem be encountered, please contact [support@alpha-data.com](mailto:support@alpha-data.com).

## Hardware supported

This release of the ADM-XRC LTS Driver supports the following Alpha Data hardware:

- ADM-XRC / ADM-XRC-P
- ADM-XRC-II-L
- ADM-XRC-II
- ADM-XPL
- ADM-XP
- ADP-WRC-II
- ADP-DRC-II
- ADM-XRC-4LX / ADM-XRC-4SX
- ADCP-XRC-4LX
- ADPE-XRC-4FX
- ADM-XRC-4FX / ADM-XMC-4FX
- ADM-XRC-5LX
- ADM-XRC-5T1
- ADM-XRC-5T2 / ADM-XRC-5T2-ADV / ADM-XRC-5T2-ADV6 / ADM-XRC-5T2-ADV-CC1
- ADM-XRC-5LXA
- ADM-AMC-5A2

- ADM-XRC-5TZ
- ADC-BBP
- ADM-PCIE-6S1

## License Agreement

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Alpha Data reserves the right to use a different license agreement for future releases of this software.

## Installation instructions

This release of the driver is distributed in source code form as a tarball (.tar.gz file extension). Please refer to the README file inside the tarball for instructions on how to configure, build and install the driver.

## Completely uninstalling the driver

To uninstall the driver, first stop the driver by issuing the command **rmmod admxrc2**. Then delete the following files and symbolic links, if they exist:

- 1 `/usr/lib/libadmxrc2.*` and/or `/usr/lib32/libadmxrc2.*` and/or `/usr/lib64/libadmxrc2.*`, as appropriate for your Linux distribution.
- 2 `/lib/modules/<kernel version>/kernel/drivers/addon/admxrc2/admxrc2.ko`
- 3 `/etc/udev/rules.d/51-admxrc2.rules`

## VPD write-protection mechanism

To enable writes to VPD memory (calls to **ADMXRC2\_WriteConfig**), the kernel module parameter **EnableVpdWrite** must be nonzero. For example:

```
modprobe admxrc2 EnableVpdWrite=1
```

This value takes effect when the driver starts, so it can be changed only by unloading the driver and restarting the driver with a different value for **EnableVpdWrite**. If this parameter is not specified, the driver considers it to be zero (write-to-VPD disabled).

## Security considerations

By default, the **udev** rules file **51-admxrc2.rules** creates device nodes in **/dev** as follows:

- Mode: 664 (octal) => owner read, owner write, group read, group write, other read
- UID: **root**
- GID: **root**

This means that the default permissions are that (i) only **root** and members of the group **root** can open devices, in read-only or read-write mode and (ii) users that are not members of the group **root** can open a device in read-only mode. However, after installing the driver, the file `/etc/udev/rules.d/51-admxrc2.rules` can be customized to relax permissions. See the comments in that file for details.

## Biarchitecture support and shared library installation

The "configure" script for ADM-XRC LTS Driver for Linux selects a non-biarchitecture build by default. In other words, by default, only native binaries are built when the "make clean all" command is issued. In non-biarchitecture systems, the system library directory is typically `/usr/lib`. This presents no problem for the "make install" command, and it places the shared library "libadmxcrc2.so" in `/usr/lib`.

If the target system is biarchitecture, such as x86\_64 Linux, passing "-biarch yes" to the "configure" script selects a biarchitecture build where 64-bit native binaries and 32-bit compatibility binaries are built when the "make clean all" command is issued.

In biarchitecture systems, there are multiple different conventions for where 64-bit and 32-bit shared libraries are located:

- The Redhat / Fedora / CentOS Linux convention where 64-bit native libraries are in `/usr/lib64` and 32-bit compatibility libraries are in `/usr/lib`.
- The Ubuntu Linux convention where 64-bit native libraries are in `/usr/lib` and 32-bit compatibility libraries are in `/usr/lib32`.

The "configure" script can detect which of the above conventions is in use in the target system. It generates the ".build\_defs" file accordingly so that "make install" will install shared libraries in the correct locations.

## Known issues

### Downgrading to an earlier version

When downgrading to an earlier version of the driver, remove all files named `/usr/lib/libadmxcrc2.*` (and `/usr/lib64/libadmxcrc2.*` if on a 64-bit bi-architecture machine), before executing the **make install** command as root. Otherwise, the shared libraries remaining from the later version of the driver will be preferred by the system as they have a higher version number.

## Release history

### Release 4.3.0b3

This is the first release of the ADM-XRC LTS Driver for Linux.

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