



Linux XFP User Guide

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APPLICABILITY TABLE

PRODUCTS

- ■ CE910 SERIES
- ■ DE910 SERIES
- ■ GE910 SERIES
- ■ GSM/GPRS SERIES
- ■ HE910 SERIES
- ■ LE866 SERIES
- ■ LE910 SERIES
- ■ LE910 V2 SERIES
- ■ LE910C1 SERIES
- ■ LE920 SERIES
- ■ LE920A4 SERIES
- ■ LE922A6 SERIES
- ■ LE940B6 SERIES
- ■ UE910 SERIES
- ■ UL865 SERIES

LXFP Version: UC.00.06

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1. INTRODUCTION

1.1. Scope

This document explains how to use lxfp, Telit firmware updating tool for Linux.

1.2. Audience

This document targets users who need to update a Telit modem firmware in Linux.

1.3. Contact Information, Support

For general contact, technical support services, technical questions and report documentation errors contact Telit Technical Support at:

- TS-EMEA@telit.com
- TS-AMERICAS@telit.com
- TS-APAC@telit.com
- TS-SRD@telit.com (for Short Range Devices)

Alternatively, use:

<http://www.telit.com/support>

For detailed information about where you can buy the Telit modules or for recommendations on accessories and components visit:

<http://www.telit.com>

Our aim is to make this guide as helpful as possible. Keep us informed of your comments and suggestions for improvements.

Telit appreciates feedback from the users of our information.

1.4. Text Conventions



Danger – This information **MUST** be followed or catastrophic equipment failure or bodily injury may occur.



Caution or Warning – Alerts the user to important points about integrating the module, if these points are not followed, the module and end user equipment may fail or malfunction.



Tip or Information – Provides advice and suggestions that may be useful when integrating the module.

All dates are in ISO 8601 format, i.e. YYYY-MM-DD.

1.5. Related Documents

- [1VV0301371 - Telit Modules Linux USB Drivers User Guide](#)

2. LXFP

2.1. Overview

lxfp is a Linux command line tool for updating firmware in Telit modems, according to the xfp protocol. It is deployed in source code format under NDA.



lxfp requires complete control on the serial device used for updating the firmware: make sure that there are no other processes that can interfere on the firmware updating procedure (e.g. ModemManager).

2.2. Building lxfp

2.2.1. Linux

Unpack the lxfp package in the desired directory and in a shell type:

```
user@pc:~$ make
```

The output of the build process is a binary file called lxfp under the subdirectory bin.

2.2.2. Android

lxfp should be built as an external package and integrated in the Android platform build system: an Android makefile is provided.

The result of the build process is a binary file called lxfp stored in the subdirectory xbin of the Android build output directory.

Please refer to your Android device vendor or AOSP documentation for further details on the build system.



lxfp build using the Android NDK is not supported.

2.3. Flashing drivers

Firmware updating through USB is usually achieved through a special flashing device to be used with lxfp.

Please refer to document “1VV0301371 - Telit Modules Linux USB Drivers User Guide” to identify the flashing device name and driver according to the modem in use.

2.4. Using lxfp

2.4.1. Basic command line

lxfp basic command line is:

```
user@pc:~$ lxfp stream port [options]
```

e.g.

```
user@pc:~$ lxfp stream_HE910_EUR-12.00.204.bin /dev/ttyUSB0
```



According to the Linux system in use root privileges could be needed to access the tty device.

Please find possible [options] in the next paragraphs.

2.4.2. Options

2.4.2.1. --device <number>, -d<number>

Allow to specify the modem in use; possible values are:

Modem	Number
HE910, UE910, UL865	1 (default)
GSM/GPRS modules	2
CE910	3
GE910	4
DE910	5
LE910, LE910C1, LE920, LE920A4	7
LE866	8 (see paragraph 2.4.26)
LE910 V2	9
LE922A6	a
LE940B	b

e.g. for LE910 V2:

```
user@pc:~$ lxfp stream_LE910_NA_V2_1G-20.00.502.bin /dev/ttyUSB0 -d9
```

2.4.2.2. --verbose

Enable verbose output, e.g.

```
user@pc:~$ lxfp stream_HE910_EUR-12.00.204.bin /dev/ttyUSB0 --verbose
```



Android output is available in the main log.

2.4.2.3. --version, -v

Print lxfp version, e.g.

```
user@pc:~$ lxfp stream_HE910_EUR-12.00.204.bin /dev/ttyUSB0 -v
```

2.4.2.4. --usb, -u

Enable updating the firmware through USB, e.g.

```
user@pc:~$ lxfp stream_HE910_EUR-12.00.204.bin /dev/ttyUSB0 -u
```



This flag must not be set when updating the firmware through the FTDI ports of the EVK.

2.4.2.5. --speed <number>, -s<number>

Set physical serial port speed; possible values are:

Speed	Number
115200	1 (default)
230400	2
460800	3
3000000	4



This option is needed only when updating the firmware through UART or FTDI of the EVK: it should not be set when using the USB ports.

Note that not all speeds are supported by every modem: please refer to the software user guide of the modem in use for further details.

2.4.2.6. --bootloadercheck, -b

Wait for the bootloader device to connect, e.g.

```
user@pc:~$ lxfp 23.00.402_generic_stream.bin /dev/ttyUSB0 -d8 -u
```



This option is mandatory for LE866 when updating the firmware through USB. Currently it is not needed for any other modem family.

2.4.3. Advanced options

2.4.3.1. --timeinterval <value>, -t<value>

Force boot delay value in milliseconds.

2.4.3.2. --restart=<AT port>, -r<AT port>

Restart the modem using AT#SHDN command.

AT port is one of the tty ports available for sending AT commands: this argument is optional if already set for --firmwarecheck option, otherwise it is mandatory.



This option is supported only for HE910, LE910 V2, UE910 and UL865 that support auto-on.

2.4.3.3. --syslog, -n

Redirect all the logs to syslog.

2.4.3.4. --firmwarecheck=<AT port>, -c<AT port>

Enable firmware version checking before updating: if the version is the same of the one in the modem the procedure is aborted.

AT port is one of the tty ports available for sending AT commands: this argument is optional if already set for --restart option, otherwise it is mandatory.



This option is supported only for HE910, LE910 V2, UE910 and UL865.

2.4.3.5. --lossrecover, -l

Service option for recovering modem: use this only if requested by technical support.

3. GLOSSARY AND ACRONYMS

ACM	Abstract Control Model
USB	Universal Serial Bus

4. DOCUMENT HISTORY

Revision	Date	Changes
0	2013-09-09	First revision
1	2014-10-15	Added UE910 V2, HE910 V2, LE910 and LE920 support
2	2016-01-08	Document restyling. Added LE866 and LE910 V2 support.
3	2016-06-06	Added LE922A6 support.
4	2017-11-10	Added LE940B6, LE920A4 and LE910C1 support.



SUPPORT INQUIRIES

Link to www.telit.com and contact our technical support team for any questions related to technical issues.

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