



X-line X10 / X10i / X15 - Driver Release History

Document No. 80-18427 Issue 17

Current Issue :- Issue 17 - 3rd July 2009

Previous Issues :-
Issue 16 - 1st April 2008
Issue 15 - 6th March 2008
Issue 14 - 6th March 2008
Issue 13 - 9th January 2008
Issue 12 - 6th November 2007
Issue 11 - 3rd October 2007

Document No. 80-18427 Issue 17

If your query is not covered in this Manual, or you require further information, please email
Heber Customer Support: support@heber.co.uk

The latest version of this document and other technical information can be found on the Heber
website: www.heber.co.uk

Copyright © Heber Ltd. 2009. All rights reserved. This document and the information contained
therein is the intellectual property of Heber Ltd. and must not be disclosed to a third party without
consent. Copies may be made only if they are in full and unmodified.

The information contained in this document is believed to be accurate and reliable. However, Heber
Ltd. assumes no responsibility for its use, and reserves the right to revise the documentation
without notice.

Precise specifications may change without prior notice.

All trademarks are acknowledged.

HEBER LIMITED
Belvedere Mill
Chalford Stroud
GL6 8NT
UK

Tel +44 (0) 1453 886000
Fax +44 (0) 1453 885013
Email support@heber.co.uk
Website www.heber.co.uk

CONTENTS

1	INTRODUCTION	3
2	RELEASE HISTORY	4
2.1	LINUX DRIVERS (81-19932 ISSUE 5) RELEASED 3 RD JULY 2009.....	4
2.2	WINDOWS DRIVERS (81-19923 ISSUE 4) AND LINUX DRIVERS (81-19932 ISSUE 4) RELEASED 1 ST APRIL 2008.....	4
2.3	WINDOWS DRIVERS (81-19923 ISSUE 3) AND LINUX DRIVERS (81-19932 ISSUE 3) RELEASED 6 TH MARCH 2008.....	4
2.4	WINDOWS DRIVERS (81-19923 ISSUE 2) AND LINUX DRIVERS (81-19932 ISSUE 2) RELEASED 9 TH JANUARY 2008.....	4
2.5	WINDOWS DRIVERS (81-19923 ISSUE 1) AND LINUX DRIVERS (81-19932 ISSUE 1) RELEASED 6 TH NOVEMBER 2007.....	4
2.6	WINDOWS DRIVERS (81-18358 ISSUE 11) AND LINUX DRIVERS (81-18367 ISSUE 7) RELEASED 25 TH JUNE 2007.....	4
2.7	WINDOWS DRIVERS (81-18358 ISSUE 10) AND LINUX DRIVERS (81-18367 ISSUE 6) RELEASED 30 TH JANUARY 2007.....	4
2.8	LINUX DRIVERS (81-18367 ISSUE 5) RELEASED 12 TH OCTOBER 2006.....	5
2.9	WINDOWS DRIVERS (81-18358 ISSUE 9) RELEASED 10 TH OCTOBER 2006.....	5
2.10	WINDOWS DRIVERS (81-18358 ISSUE 8) RELEASED 3 RD OCTOBER 2006.....	5
2.11	WINDOWS DRIVERS (81-18358 ISSUE 7) RELEASED 6 TH SEPTEMBER 2006.....	5
2.12	WINDOWS DRIVERS (81-18358 ISSUE 6) RELEASED 16 TH JUNE 2006.....	5
2.13	WINDOWS DRIVERS (81-18358 ISSUE 5) RELEASED 1 ST JUNE 2006.....	5
2.14	WINDOWS DRIVERS (81-18358 ISSUE 4) AND LINUX DRIVERS (81-18367 ISSUE 4) RELEASED 5 TH APRIL 2006.....	6
2.15	WINDOWS DRIVERS (81-18358 ISSUE 3) AND LINUX DRIVERS (81-18367 ISSUE 3) RELEASED 24 TH FEBRUARY 2006.....	6
2.16	WINDOWS DRIVERS (81-18358 ISSUE 2) AND LINUX DRIVERS (81-18367 ISSUE 2) RELEASED 2 ND FEBRUARY 2006.....	6
2.17	WINDOWS DRIVERS (81-18358 ISSUE 1) AND LINUX DRIVERS (81-18367 ISSUE 1) RELEASED 21 ST DECEMBER 2005.....	6

This page intentionally left blank.

1 INTRODUCTION

This document summarises the changes to each release of the X-line drivers.

2 RELEASE HISTORY

2.1 Linux drivers (81-19932 Issue 5) released 3rd July 2009

- Switched the included Linux kernel driver to the generic X-Line version. This driver has been updated for use with newer kernels tested up to 2.6.30.

2.2 Windows drivers (81-19923 Issue 4) and Linux drivers (81-19932 Issue 4) released 1st April 2008

- Fixed SRAM memory corruption bug on the X10i at address 0x6ff95.

2.3 Windows drivers (81-19923 Issue 3) and Linux drivers (81-19932 Issue 3) released 6th March 2008

- Added C wrapper API.
- C version of unlockio included.
- Created versions of fflyusb.so and unlockio.o compiled against gcc 2.95.
- Bug fix for X15 ccTalk driver serial port selection.
- Enhanced SRAM access on X10i and X15

2.4 Windows drivers (81-19923 Issue 2) and Linux drivers (81-19932 Issue 2) released 9th January 2008

- Random number functions on X10i now supported on X15.
- Bug fixed to allow full 1MByte address space on X15 to be accessed.
- Improved error checking applied to X15 Authentication process.
- SendSEC() function modified to allow messages with zero length packets to be sent.

2.5 Windows drivers (81-19923 Issue 1) and Linux drivers (81-19932 Issue 1) released 6th November 2007

- New “X-line” drivers. Driver now supports X15 in addition to X10 and X10i boards.
- Improved range and null pointer checking on API function calls.

2.6 Windows drivers (81-18358 Issue 11) and Linux drivers (81-18367 Issue 7) released 25th June 2007

- During parallel hopper coin release, coin jam detection has been added.
- Added ability to stop payout midway during parallel hopper coin release.
- Added four new parallel I/O API functions:
 - ConfigurePulsedInputEx()
 - GetPulsedInputStatus()
 - ReleaseParallelHopperCoinsEx()
 - StopHopperCoinRelease()

2.7 Windows drivers (81-18358 Issue 10) and Linux drivers (81-18367 Issue 6) released 30th January 2007

- Fixed a bug where the outputs would briefly flash (for approximately 1ms) during initialisation.
- Fixed a bug where a call to ReadAndResetSecuritySwitchFlags() would lose switch information during power-down.

- Added new functionality to ReleaseParallelHopperCoins() for use with very sensitive hoppers.
- ReleaseParallelHopperCoins() now continues to count coins even after the required payout.

2.8 Linux drivers (81-18367 Issue 5) released 12th October 2006

- Add SAS protocol enhancements so that a "time window" can be defined for the PC to respond before the X10i intervenes by sending a busy message in response to a poll.
- Corrects an error introduced in the previous release that disabled the SAS protocol and power down battery monitoring functions.
- Corrects an error in the EEPROM memory driver that could cause the EEPROM memory pipe to time-out.
- Performance and reliability improvements.
- Fix a bug in the SPI / SEC driver (shared outputs OP0-OP2 could become corrupted only relevant if the SPI driver is enabled).
- 1200 Baud now supported on serial port A.
- Fixed bug in functions ReadSRAM and ReadEEPROM where a receive length of exactly 59 or a further multiple of 60 (e.g. 119, 179) caused a crash.

2.9 Windows drivers (81-18358 Issue 9) released 10th October 2006

- Add SAS protocol enhancements so that a "time window" can be defined for the PC to respond before the X10i intervenes by sending a busy message in response to a poll.
- Corrects an error introduced in the previous release that disabled the SAS protocol and power down battery monitoring functions.
- Corrects an error in the EEPROM memory driver that could cause the EEPROM memory pipe to time-out.

2.10 Windows drivers (81-18358 Issue 8) released 3rd October 2006

- Improved speed, particularly when communicating with more than 2 pipes simultaneously.
- Fix a bug in the SPI / SEC driver (shared outputs OP0-OP2 could become corrupted - only relevant if the SPI driver is enabled).

2.11 Windows drivers (81-18358 Issue 7) released 6th September 2006

- Removes an occasional communications time out problem (USB_MESSAGE_EXECUTION_TIMEOUT, error code 14).

2.12 Windows drivers (81-18358 Issue 6) released 16th June 2006

- Improved stability (particularly when communicating with several pipes or X10i's simultaneously).
- Fixed a bug whereby calls to init() would occasionally fail.

2.13 Windows drivers (81-18358 Issue 5) released 1st June 2006

- 1200 Baud now supported on serial port A.
- Significantly improved USB communication performance.
- Fixed bug in functions ReadSRAM and ReadEEPROM where a receive length of exactly 59 or a further multiple of 60 (e.g. 119, 179) caused a crash.

2.14 Windows drivers (81-18358 Issue 4) and Linux drivers (81-18367 Issue 4) released 5th April 2006

- Removed the 300 byte buffer maximum limit in the function Receive9BitData(). The buffer as passed by the user now determines the function byte limitation.
- Implemented SAS (Slot Accounting System). Two new functions have been added: SetSASMachineAddress() and SetSASBusy().

2.15 Windows drivers (81-18358 Issue 3) and Linux drivers (81-18367 Issue 3) released 24th February 2006

- Fixed a flaw in the API function Send9BitData(). This function was not correctly enhanced to utilise USB 2. This change will improve performance on an X10i when sending large chunks of serial data.

2.16 Windows drivers (81-18358 Issue 2) and Linux drivers (81-18367 Issue 2) released 2nd February 2006

- Added serial host activity timeout function SetPolledHostTimeout().

2.17 Windows drivers (81-18358 Issue 1) and Linux drivers (81-18367 Issue 1) released 21st December 2005

- Based on X10 Windows drivers (81-16671 Issue 29) and Linux drivers (81-17206 Issue 14).
- Supports both Firefly X10 and Firefly X10i boards.