



## **EZ-USB FX2 USB to ATA Reference Design Release Notes**

### **Rev 2.10 – Combined image (ATAPI / IDE)**

- This release (and all future releases) will only work with rev. E chips. See below for details on distinguishing rev E chips from earlier revisions.
- Fixed several issues with UDMA CDRW devices.
- Fixed startup issues with several ATAPI devices.
- Reduced code size.
- Added command to download EEPROM through Mass Storage Class Driver (not fully tested)
- Added support for 48 bit LBA drives. Note that the Mass Storage Class only supports 32 bits of LBA.
- Added support for VBUS detection. Note – This requires a connection from PA6 to VBUS and a weak pulldown on PA6. See the schematics for more details.
- Fixed many issues detected by Ch8check.

### **Rev 2.0B8 – Combined image (ATAPI/IDE)**

- This release (and all future releases) will only work with rev D chips. See below for details on distinguishing rev B from rev D chips.
- Made changes to GPIF code to correctly handle abort situations. In previous releases, the firmware did not reliably recover after premature termination of a read or write by the drive.
- Fixed a bug that prevented the Keil monitor from working. The previous release of the firmware was overwriting the ISR vector used by the monitor.

### **Rev 2.0B7 – Combined image (ATAPI/IDE)**

- This release (and all future releases) will only work with rev D chips. See below for details on distinguishing rev B from rev D chips.
- Many changes to shrink code and eliminate writes to CODE area.
- Fixed inconsistent endpoint descriptors (including errata #2 from rev 2.0B6)

### **Rev 2.0B6 – ATAPI only release**

- This release (and all future releases) will only work with rev D chips. See below for details on distinguishing rev B from rev D chips.
- Added support for UDMA33 and UDMA66 for ATAPI devices.
- Rev D chips no longer require the “soft retry” setting of the host controller. They will work with “soft retry” enabled or disabled.
- This design is fully operational with either full or high speed hosts.
- No longer requires special version of usbstor.sys (usbstorx.sys).
- Fixed USB reset issue

### **Rev 2.0B5 – IDE only release**

- Initial release for rev D. This release will NOT work with revision B chips.  
Revision B chips are marked CY7C68013-56PVC  
A 01xx (Datecode)  
  
Revision D chips are marked:  
CY7C68013-56PVC  
B 01xx (Datecode)
- Added support for UDMA 33 and 66 for IDE devices.



- This release ONLY supports IDE devices, such as hard drives.
- Improved error handling for IDE devices.
- Rev D chips no longer require the “soft retry” setting of the host controller. They will work with “soft retry” enabled or disabled.
- This design is fully operational with either full or high speed hosts.
- No longer requires special version of usbstor.sys (usbstorx.sys).

### Rev 2.0B4

- Several fixes for ATAPI devices that prevented several CD-RWs from recording correctly. The details are as follows:
  1. Fixed a problem with STALLING OUT data. The previous code could STALL when a packet is being received, which will cause the STALLED packet to be processed by the software.
  2. Fixed an issue with  $H_i < D_0$  case. 2.0B3 didn't handle one subset of this case.
  3. Fixed an issue with wrapping buffers shown by the Philips drive.
  4. Fixed GPIF waveform that was not properly processing IORDY on writes.
- This is a general release for all Mass Storage devices.
- This release is now working with the following drives:
  - Philips PCRW 804
  - HP-4352 (6x/2x) drives vintage 1997

### Rev 2.0B3

- Point release for MO drives. Not for general release.

### Rev 2.0B2

- Correctly detects supported PIO modes for ATAPI devices (CD,CD-RW,CD-R devices). Previous versions could fail to identify the supported PIO modes correctly and cause the drive to default to PIO-0 mode. Result should be a performance increase for devices that support PIO-4 transfers.
- Fixed a bug in the PIO-3/4 multi-read waveforms that could cause read errors with some devices.

### Rev 2.0B1

- Added Full Speed support (1.1MBps)
- Added support for Audio CD/RW.
- Added support for Data CD/RW.
- Removed support for the rev B development board. Requires rev C development board or 56 pin Mass Storage Reference Design board.

### Rev 2.0Alpha

- Initial firmware release
- Only supports high speed (480Mbps)
- Only supports IDE devices (Hard drives)
- Requires special cable to interface to the rev B development board.