Four Walled Cubicle

Website for **Dean Camera** - Projects Past and Present

LUFA (2013)

LUFA (Lightweight USB Framework for AVRs, formerly known as MyUSB) is my first foray into the world of USB. It is an open-source complete USB stack for the USB-enabled Atmel AVR8 and (some of the) AVR32 microcontroller series, released under the permissive MIT License (see documentation or project source for full license details). The complete line of Atmel USB AVRs and USB AVR boards are supported by the library, as are any custom user boards, via custom board hardware drivers supplied by the user.

The Official LUFA Project Logo, by Studio Monsoon Photography

The library is currently in a stable release, suitable for download and incorporation into user projects for both host and device modes. For information about the project progression, check out my blog.

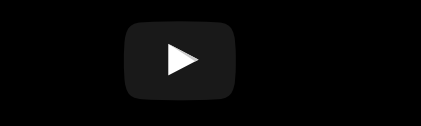
LUFA is written specifically for the free AVR-GCC compiler, and uses several GCC-only extensions to make the library API more streamlined and robust. You can download AVR-GCC for free in a convenient windows package, from the the Atmel website.

Included with the library source are many demonstration applications showing off the use of the library. Currently the library includes the following demonstration applications (most in both Low Level API and Library USB Class Driver variants):

- Android Accessory Host
- Audio In Device
- Audio In Host
- Audio Out Device
- Audio Out Host
- Bulk Vendor Device
- Dual MIDI Device
- Dual Virtual Serial Device
- Generic HID Device
- Generic HID Host
- Joystick Device
- Joystick Host
- Keyboard Device
- Keyboard/Mouse Device
- Keyboard Host
- Keyboard Host/Device Dual Mode
- Mass Storage Device
- Mass Storage/Keyboard Device
- Mass Storage Host
- MIDI Device
- MIDI Host
- Mouse Device
- Mouse Host
- Printer Host

Donate (Please?)

If you enjoy my work, please consider a small donation to help my future open source efforts by clicking the image below:



Thank you to **Anonymous**

for your donation on **Jun 10, 2016**!

Who Uses LUFA?

LUFA is being used all over the world, in many applications - both free and commercial. For an extensive list of known-LUFA powered projects and products, see the *LUFA Powered Projects* page of the library documentation.

Example of LUFA In Action

See more LUFA videos on YouTube

Want to Use LUFA Commercially?

LUFA is free to use - even for commerical purposes, subject to the MIT license restrictions (see project documentation).

Commercial entities can pay a one-time US$1500 fee to obtain a commercial license to use LUFA in their products. With a commercial license, you receive:

- **The right to use LUFA without attribution**
- **Three free hours of consultation**
- **Priority for support requests**

Please see the license purchase page for more details.

LUFA In The Press

- RNDIS (CDC) Ethernet Device
- RNDIS (CDC) Ethernet Host
- Still Image Host
- Virtual Serial Device
- Virtual Serial Host
- Virtual Serial/Mass Storage Device
- Virtual Serial/Mouse Device

LUFA also contains USB bootloaders for the following USB classes:

- CDC Class, AVR109 protocol compatible (AVRDude)
- DFU Class, Atmel DFU protocol compatible (Atmel FLIP, dfu-programmer)
- HID Class, with an included custom cross-platform loader application
- Printer Class, using the OS's native printer drivers
- Mass Storage Class, using the OS's native USB storage drivers

The following LUFA powered open source projects are also included in the LUFA package:

- Arduino Programmer Adapter for the Benito board (now called Duce)
- AVRStudio compatible AVRISP-MKII Programmer Clone (ISP, PDI and TPI protocols)
- Dave Fletcher's USB Missile Launcher Host
- Denver Gingerich's Stripe Snoop compatible Magnetic Stripe reader
- HID Device Report viewer
- LED Notifier project, with several .NET host examples
- Media Player Controller
- MIDI Tone Generator project
- OBinou's Relay Board controller project
- Temperature Datalogger project, which logs data to the on-board Dataflash's FAT partition
- USB to Serial adapter
- Webserver using uIP to serve pages via an attached RNDIS device
- XPLAIN UART-to-USB bridge/PDI Programmer

Downloads

- LUFA 151115 (Mirror, Prebuilt Docs, Online Docs, Atmel Studio Extension)

Show/Hide Old Releases **Show/Hide Old Releases**

Hello all readers of the international *Elektor* magazine! LUFA is featured in the January 2010 issue, in the article *My First AVR-USB* - thanks to Elektor, it's now available online for free!

Latest Repository Changes

- Update to latest DMBS, fix XPLAINBridge project compilation ...
- Fix outdated URL in the HID bootloader Python host app docum...
- Merge pull request #84 from eltang/eeprom_wear_fix Update f...
- Update functions used to write to EEPROM

Third-Party Architecture Ports

The following links point to third-party ports of the LUFA codebase to other architectures than those targeted by the official release. I make no claims as to the quality and/or completeness of these non-official forks.

- NXP's official "nxpusblib" fork
- Kevin Mehall's NXP LPC13xx Port
- Howard's disassembled CDC demo for the AT90USB162

Project Links

- LUFA Public Support Mailing List
- LUFA Project Issue Tracker
- LUFA Git Repository Mirror
- Latest Revision Source Archive

Vital Stats

27 Years Old

Australian

Lover of embedded systems

Firmware engineer

Self-Proclaimed Geek

Latest Blog Posts

WE INTERRUPT THIS IRREGULARLY

LUFA 151115 Released!

Lessons Learned

New Beginning

WE INTERRUPT THIS IRREGULARLY