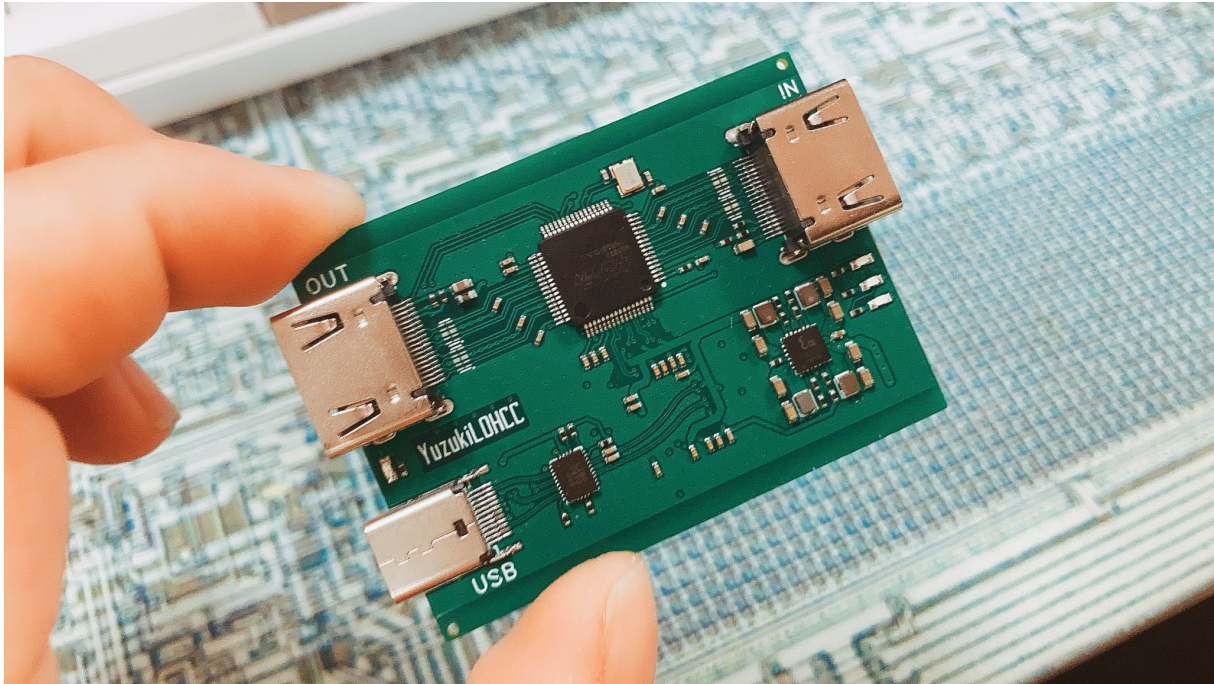

YuzukiLOHCC PRO

Yuzuki Loop Out HDMI Capture Card PRO

CERN Open Hardware Licence Version 2 - Permissive

Low cost USB3.2Gen1 HDMI-USB Video Acquisition With Loop Out (Loop Out HDMI Capture Card)



About

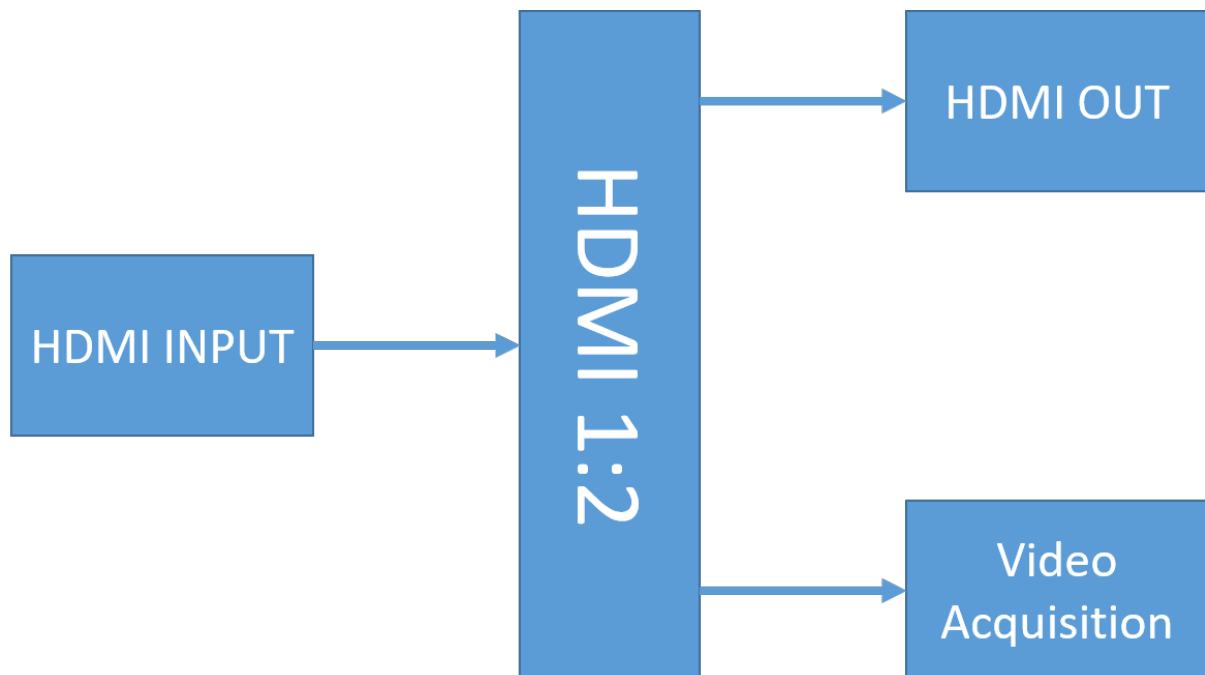
Ultra low cost Loop Out HDMI-USB Video Acquisition (HDMI Capture Card) based on MS2130 and MS9332 + MS8003

MS2130 is a USB 3.2 Gen 1 high-definition video and audio acquisition chip, which is internally integrated with USB 3.2 Gen 1 Device controller, data transceiver module, and audio and video processing module. The MS2130 can transmit the audio and video signals input by HDMI to a PC, smartphone, or tablet for preview or collection through the USB 3.2 Gen 1 interface. The MS2130 output supports YUV422 and MJPEG modes, and is compatible with Windows, Linux, Android and Mac OS systems. Support OBS Studio, Camera, and FFmpeg.

- Support HDMI 4Kx2K@30Hz and HDMI 2.0, YCbCr420 4Kx2K@60Hz Loop Out
- Support 10/12/16 bit Deep Color for Loop Out
- Adaptive input equalization for Loop Out
- Integrated pre-programmed HDCP keys for Loop Out

-
- Embedded EDID RAM for Loop Out
 - USB Type-C USB3.2 Gen 1 interface
 - Full height HDMI x 2
 - Compatible with DVI 1.0
 - Support YUV&JPEG output
 - Compatible with UVC 1.0, UAC 1.0
 - Support audio capture
 - Support video capture
 - Maximum video input 3840x2160@30
 - The highest output resolution is 4096x2160@15
 - Support 1920x1080@60
 - Support Windows 7 Above, macOS 10 and later, Linux, Android and so on
 - Standed UVC 1.0, Support OBS Studio, Camera, FFmpeg and so on.

Basic



Order a PCB

Here I suggest using JLCPCB to make PCB (my template is also made by JLCPCB). Please note that the **impedance needs to be 3313**, and the **PCB thickness needs to be 0.8mm to install the clamp-style TypeC connector**

PCB Thickness ? 0.4 0.6 0.8 1.0 1.2 1.6 2.0

Impedance ? No Yes JLC3313 [Impedance calculator >](#)

PCB Color ? Green Purple Red Yellow Blue White

Black

Silkscreen ? White

Supported USB output resolution table

USB 3.0 模式:	
YUV422: 1920×1080@60Hz/50Hz/30Hz/20Hz/10Hz 1600×1200@60Hz/50Hz/30Hz/20Hz/10Hz 1360×768@60Hz/50Hz/30Hz/20Hz/10Hz 1280×1024@60Hz/50Hz/30Hz/20Hz/10Hz 1280×960@60Hz/50Hz/30Hz/20Hz/10Hz 1280×720@60Hz/50Hz/30Hz/20Hz/10Hz 1024×768@60Hz/50Hz/30Hz/20Hz/10Hz 800×600@60Hz/50Hz/30Hz/20Hz/10Hz 720×576@60Hz/50Hz/30Hz/20Hz/10Hz 720×480@60Hz/50Hz/30Hz/20Hz/10Hz 640×480@60Hz/50Hz/30Hz/20Hz/10Hz	MJPEG: 1920×1080@60Hz/50Hz/30Hz/20Hz/10Hz 1600×1200@60Hz/50Hz/30Hz/20Hz/10Hz 1360×768@60Hz/50Hz/30Hz/20Hz/10Hz 1280×1024@60Hz/50Hz/30Hz/20Hz/10Hz 1280×960@60Hz/50Hz/30Hz/20Hz/10Hz 1280×720@60Hz/50Hz/30Hz/20Hz/10Hz 1024×768@60Hz/50Hz/30Hz/20Hz/10Hz 800×600@60Hz/50Hz/30Hz/20Hz/10Hz 720×576@60Hz/50Hz/30Hz/20Hz/10Hz 720×480@60Hz/50Hz/30Hz/20Hz/10Hz 640×480@60Hz/50Hz/30Hz/20Hz/10Hz
USB 2.0 模式:	
YUV422: 1920×1080@10Hz/5Hz 1600×1200@10Hz/5Hz 1360×768@15Hz/8Hz 1280×1024@15Hz/8Hz 1280×960@15Hz/8Hz 1280×720@20Hz/10Hz 1024×768@20Hz/10Hz 800×600@30Hz/20Hz/10Hz 720×576@50Hz/25Hz/20Hz/10Hz 720×480@60Hz/30Hz/20Hz/10Hz 640×480@60Hz/30Hz/20Hz/10Hz	MJPEG: 1920×1080@50Hz/30Hz/25Hz/20Hz/10Hz 1600×1200@60Hz/50Hz/30Hz/20Hz/10Hz 1360×768@60Hz/50Hz/30Hz/20Hz/10Hz 1280×1024@60Hz/50Hz/30Hz/20Hz/10Hz 1280×960@60Hz/50Hz/30Hz/20Hz/10Hz 1280×720@60Hz/50Hz/30Hz/20Hz/10Hz 1024×768@60Hz/50Hz/30Hz/20Hz/10Hz 800×600@60Hz/50Hz/30Hz/20Hz/10Hz 720×576@60Hz/50Hz/30Hz/20Hz/10Hz 720×480@60Hz/50Hz/30Hz/20Hz/10Hz 640×480@60Hz/50Hz/30Hz/20Hz/10Hz

Flash Firmware

USB Flash

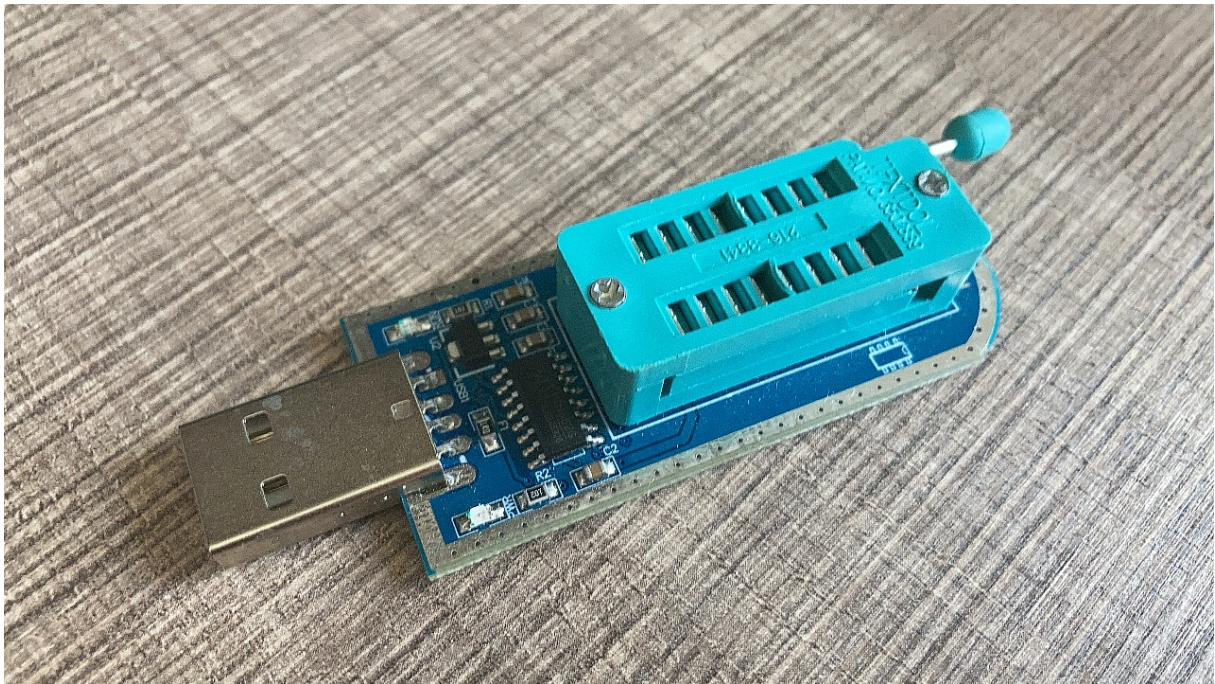
Using ms-tools from @BertoldVdb

```
1 ./cli --log-level=7 write-file --verify FLASH 0 YuzukiLOHCCPro.bin
```

SPI Programmer

Use an SPI NOR flasher to flash the firmware to the NOR Flash before soldering.

(Only one of U4 and U8 needs to be mounted, adding two SPI NOR pads are drawn to be compatible with different types of materials)



Unfortunately, I couldn't find a public version of the MS8003 code, but it's not expensive to buy a pre-programmed set

Links

OSHWHub OpenSource (Chinese): <https://oshwhub.com/gloomyghost/yuzuki-lohcc-pro-usb-3-2-gen1-hdmi-huan-chu-cai-ji-ka>