USB Fusion Technical Specifications

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Scene Input

- HDMI
  - Port: 2x HDMI 1.4a Type-A port (HDMI 1 / HDMI 2)
  - Resolution/frame rate: up to 2048x1080p, 60fps
  - Color depth: 8-bit, 10-bit, 12-bit
  - Video sampling: RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2
- USB
  - Port: 1x USB 3.0 Type-A port (WEB CAMERA 3)
  - Resolution/frame rate: up to 2040x1080p, 60fps
  - Codec: YUYV, H.264, MJPG, UYUV, NV12, etc.
- Screencast
  - Protocols: AirPlay, Miracast, Google Cast
  - Supports up to 4 devices casting simultaneously
- Imported files
  - Video file: MOV, MP4, MKV
  - Image file: JPEG, PNG, BMP
  - PDF file
  - Resolution: up to 4K, 8-bit
  - Codec: H.264, HEVC (H.265)
- Web page
  - Transfer protocol: HTTP, HTTPS

Audio Input

- Line in port: 1x 3.5mm jack, 2-channel, 48 KHz, 16-bit
- Headset port: 1x 3.5mm jack (CTIA standard), 2-channel, 48 KHz, 16-bit
- Up to 8-channel 24-bit HDMI-embedded audio at 192KHz
- Audio from WEB CAMERA 3 port: Up to 4-channel 24-bit audio (The audio is disabled by default, and can be enabled on Web UI.)
- Audio embedded in video files
- Audio file: MP3, M4A, WAV
- Audio of web pages
- Audio of screencast sources

Video Output

- USB OUT
  - Port: 1x USB 3.0 Type-C port
  - Resolution: 1920x1080, 1280x720, 640x480
  - Frame rate: 60fps, 30fps, 15fps
  - Video sampling: YUYV, NV12, ARGB
- HDMI OUT
  - Port: 1x HDMI 1.4a Type-A port
  - Output image: HDMI 1, HDMI 2, or PROGRAM image
  - Output resolution: configurable, up to 2048x2048 (Actual resolution options can be limited by the negotiation result between the device and monitor.)
- Streaming via RTMP:
  - Resolution: 1920x1080, 1280x720
  - Frame rate: 60fps, 30fps
  - Bitrate: up to 20 Mbps

Audio Output

- 1x 3.5mm jack: headset port
  - Format: 2-channel, 48 KHz, 16-bit
  - Standard: CTIA
- Audio output via WEB CAMERA 3 port: 2-channel (The audio is disabled by default, and can be enabled on Web UI.)
- Audio output via USB OUT port: 2-channel, 48 KHz, 16-bit
- Audio output via HDMI OUT port: 2-channel, 48 KHz, 16-bit
- Audio output via RTMP streaming: 2-channel, 48 KHz, 16-bit

Video Processing & Production

- HDMI source
  - Video/audio signal data: auto extracted
  - Color space/quantization range: calibration supported
  - De-interlacing: Bob, motion adaptive, motion compensated
  - EDID: self-definition supported
- USB source
  - Format: selects according to the source
  - Resolution/frame rate: selects according to the source
- Screencast source
  - Supports turning on/off screencast protocols on Web UI
  - Supports secure screencast by using on-screen code or custom password
  - Supports up to 4 simultaneous wireless sources combined into a screencast scene layout
  - Supports single-view or multi-view display, with a dynamic layout for multi-view display
  - Supports customizing background color
  - Supports dynamically crop black bars of the screen for Android devices casting through Miracast
  - Supports displaying the screencast device name, image size and frame rate
- PDF source
  - Supports turning pages, visiting hyperlinks, zooming in and out, etc.
- Web page source
  - Supports browsing web pages, visiting hyperlinks, zooming in and out, etc.
  - Supports inputting information through the remote keyboard
- Auto conversion of frame rate/color space
- Source switching: auto, manual
- Scene compositing: picture in picture, side by side
- Scene editing: crop, mirror, scale, rotate, and more
- Annotation: pens, shapes, text, and more, generated as notes for exporting
- Presentation: supports creating, importing, exporting, managing presentations, etc.
- GFX: supports adding and applying text or picture (JPG, JPEG and PNG) as GFX into the presentation
- FTB: supports fading to black or image

Audio Processing & Production

- Auto resampling
- Auto audio de-embedding and embedding
- Controls volume of audio output and each audio input
- Supports microphone gain

Recording and Screenshot

- Supports manual and schedule recording to local storage, with default format of 1080p60, H.264, MP4 (Recording parameters and schedule can be configured on Web UI)
- Screenshot format: JPEG, 1920x1080
- Storage space: 128 GB
- Cloud backup: supports automatically or manually uploading recorded video and screenshots to Google Drive

Provided Software

- **USB Fusion App**
  - Creates, edits and controls presentations
  - Supports HD, SD, Auto and customized preview quality
  - Provides USB Clicker to control the PowerPoint on the computer connected to the USB OUT port.
  - Supports PTZ control, applying to the VISCA compatible PTZ camera connected to the HDMI port
  - Takes and manages recordings and screenshots
  - Supports the Watcher mode, which allows up to two watchers viewing the scene and telestrating while one

operator controlling the device.
    - OS version: iOS 12 and later, Android 7.0 and later
- **Web UI**
    - Configures and manages the device
    - Creates, controls and manages presentations and media files
    - Configures recording parameters and sets schedule recording
        - Source: supports ISO recording by selecting the source to record, and selecting whether to only record the image
        - Encoder: sets resolution (up to 1080p60), bitrate mode (CBR or VBR), audio (up to 48Khz, aac, 256kbps), etc.
        - Storage: supports local storing as MP4 or MOV files, and splitting files by time or size
        - Schedule: sets recording schedule to implement recording automatically during the specified time period
    - Manages recordings and screenshots, and supports auto or manual backup to Google Drive
    - Configures RTMP server, and starts/stops streaming
    - Sets the login mode of the App to the device, including free login, password to login and pairing to login, and enables the Watcher mode to set the number and permissions of watcher
    - Customizes preview quality for the App
    - Sets sleep
    - Supports registering Magewell Control Hub for centralized management

Network

- Ethernet: 1x RJ45 port, 10/100/1000 Mbps Base-T
- Wi-Fi network: IEEE 802.11 a/ac/ax (only 5G supported), Station mode or AP mode supported
- USB network: 1x USB OUT port

Compatible Software

- Skype, Zoom, Microsoft Teams, Google Meet
- Other UVC/UAC compliant, DirectShow/V4L2/AVFoundation compatible software

Compatible OS

- Windows: Windows 7 and later, Server 2008 and later (x86 & x64)
- Linux: Linux system with kernel 2.6.35 or later (x86, x64 & ARM)
- Mac: OS X 10.9 and later, macOS 10.12 and later

System Requirement for Screencast*

- AirPlay
    - iPhone/iPad: iOS 12.3 or later
    - Mac: macOS 10.14 or later
- Miracast
    - Windows 10 or 11
    - Android 4.2 or later
- Google Cast
    - Windows: Core i3 or equivalent, Windows 7 or later
    - Apple OS X: Macbook Pro 2010 or newer, Macbook Air 2011 or newer, OS X 10.9 or later
    - Chrome OS: All 2014 models and later, 2013 Haswell-based models, and Samsung Chromebook 2

* The version change of screencast protocols may affect the use of the screencast function of this device.

Buttons

- Switches and composites sources
- Switches screencast images and displays screencast guide
- Starts or stops pairing for “Pairing to login” mode
- Wakes up the device when it is sleeping
- Supports customizing functions

LED Indicators

- Power
    - On: power on
    - Off: power off

- Wi-Fi / HDMI 1 / HDMI 2 / WEB CAMERA 3
  - On: connected
  - Off: not connected
- Line-in / Headset
  - On: connected
  - Pulsing: not connected

Power

- Power port: 2.1mm x 5.5mm jack
- Power input: 12V/3A

Power Consumption

- Static working status: 10W
- Full-load working status: 17.5W
- Static sleeping status: 9.8–10w
- Full-load sleeping status: 14.5–14.8W

Dimensions

- 186mm x 101.2mm x 30mm

Accessories

- 1x Power adapter
  - Output: 12.0V/3.33A
- 1x USB 3.0 cable

Working Environment

- Operating temperature: 0 to 50 deg C
- Storage temperature: –20 to 70 deg C
- Relative humidity: 5% to 90% non-condensing