Ultra Encode AIO Technical Specifications

Revised on 10/21/2026

Input & Loop-through

- HDMI
  - Supports HDMI 1.4a, DVI-D
  - Typical resolution/frame rate:
    - 4096x2160/3840x2160p 23.98/24/25/29.97/30/47.95/48/50/59.94/60
    - 2048x1080p/2048x1080i 23.98/24/25/29.97/30/47.95/48/50/59.94/60
    - 1920x1080p/1920x1080i 23.98/24/25/29.97/30/47.95/48/50/59.94/60
    - 1280x720p 25/29.97/30/50/59.94/60
    - 720x576 25p/50i (PAL SD)
    - 720x480 29.97p/59.94i (NTSC SD)
  - Color depth: 8/10/12-bit
  - Color sampling: RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2
  - Custom EDID
- SDI
  - Supports SD (ST 259)/HD (ST 292)/3Ga (ST 425)/3Gb (ST 425)/3Gb-DL(ST 425)/3Gb-DS(ST 425)/6G (ST 2081) standards
  - Typical resolution/frame rate:
    - 4096x2160/3840x2160p 23.98/24/25/29.97/30
    - 2048x1080p/2048x1080i 23.98/24/25/29.97/30/47.95/48/50/59.94/60
    - 1920x1080p/1920x1080i 23.98/24/25/29.97/30/47.95/48/50/59.94/60
    - 1280x720p 25/29.97/30/50/59.94/60
    - 720x576 25p/50i (PAL SD)
    - 720x480 29.97p/59.94i (NTSC SD)
  - Color sampling: YCbCr 10-bit 4:2:2, YCbCr 10-bit 4:4:4:4, YCbCr 12-bit 4:2:2, YCbCr 12-bit 4:4:4
- Audio
  - SDI embedded audio: 16-Channel, 24-bit, 192kHz sample rate
  - HDMI embedded audio: 8-Channel, 24-bit, 192kHz sample rate
  - Audio from 3.5 mm LINE IN: 2-Channel, 24-bit, 192kHz sample rate

Encode

- Video
  - Bitrate:
    - NDI HX3: up to 62.0Mbps, down to 1.5Mbps
    - Others: up to 32.0Mbps, down to 256 kbps
  - Dual-stream encoding: main stream and sub stream
  - Main stream
    - Resolution/frame rate:
      - 4096x2160p/3840x2160p 30/29.97/25/24/15/10/5
      - 2560x1440p/2048x1080p/1920x1200p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1920x1080p/1920x720p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1664x936p/1600x1200p/1600x900p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1440x1080p/1440x900p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1280x1024p/1280x960p/1280x800p/1280x720p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1080x1920p/1024x768p/1024x600p/1024x576p 60/59.94/50/30/29.97/25/24/15/10/5
      - 960x540p/800x600p 60/59.94/50/30/29.97/25/24/15/10/5
      - 768x576p/720x1280p/720x576p/720x540p/720x480p 60/59.94/50/30/29.97/25/24/15/10/5
      - 640x480p/640x360p 60/59.94/50/30/29.97/25/24/15/10/5
      - 480x360p/480x270p 60/59.94/50/30/29.97/25/24/15/10/5
      - 320x240p 60/59.94/50/30/29.97/25/24/15/10/5
    - Native CEA–608/608 over 708 captions for SDI
  - Sub stream
    - Supports enabling/disabling sub stream
    - Resolution/frame rate:
      - 1920x1080p/1920x720p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1664x936p/1600x1200p/1600x900p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1440x1080p/1440x900p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1280x1024p/1280x960p/1280x800p/1280x720p 60/59.94/50/30/29.97/25/24/15/10/5
      - 1024x768p/1024x600p/1024x576p 60/59.94/50/30/29.97/25/24/15/10/5

            - 960x540p/800x600p 60/59.94/50/30/29.97/25/24/15/10/5
            - 768x576p/720x576p/720x540p/720x480p 60/59.94/50/30/29.97/25/24/15/10/5
            - 640x480p/640x360p 60/59.94/50/30/29.97/25/24/15/10/5
            - 480x360p/480x270p 60/59.94/50/30/29.97/25/24/15/10/5
            - 320x240p 60/59.94/50/30/29.97/25/24/15/10/5
    - H.264/H.265 (HEVC) Codec:
        - System timecode or RP–188 standard timecode (SDI signal only) for SEI Message setting
        - H.265 (HEVC) SEI message supports carrying interlacing signal mark
        - Video aspect ratio conversion
        - Image rotation: 0°, 90°, 180°, 270°
        - Cropping
- Audio
- Encode up to 8 AAC streams
    - SDI
    - Up to 8 channels can be selected for mapping when SDI input carries more than 8 audio channels
    - Supports mapping between source channels and encoded audio channels
    - Contains 1 x 8-channel stream and 7 x 2-channel streams
    - HDMI
    - Supports up to 8 source channels
    - Supports mapping between source channels and encoded audio channels
    - Contains 1 x 8-channel stream and 7 x 2-channel streams
- Supports two-channel Opus encoding
- Bitrate: 16–1024 kbps
- Outputs source-embedded audio and line-in audio through LINE OUT

Live stream

- Supports native streaming to the following platforms and services:
    - Twitch
    - YouTube (HLS/RTMP): Users can publish to a channel’s timeline or create a new live event, and set whether the stream is made for kids.
    - Facebook: Users can enable a backup stream and publish to a timeline, a business Page, or a new live event.
    - WOWZA over RTMP: Users can add an access token.
    - WOWZA over SRT: Users can configure AES–128, AES–192, or AES–256 encryption.
    - Zixi Broadcaster
- Supports streaming protocols:
    - RTSP
    - RTMP/RTMPS
    - SRT Caller/SRT Listener
    - NDI HX2/NDI HX3
    - HLS Pull/Push
    - MPEG-TS over UDP/RTP
    - TVU ISSP
    - Zixi
    - RIST Caller/RIST Listener
    - WHIP
- Supports streaming to up to 6 destinations simultaneously. The following per-protocol limits apply: up to 1 session each for RIST Listener, RTSP, SRT Listener, HLS Pull, and ISSP (if supported), and up to 2 NDI HX2 sessions (if supported)
- Supports one NDI HX3 session exclusively
- Supports selecting main or sub-stream data for each live stream
- Supports specifying the audio streams for each live stream (except WHIP)
- Supports live-stream scheduling
- Supports NDI 6.x

Record

- Supports configuring and managing recording functions and tasks
- Supports recording to external SD card
    - Supports formatting and performance testing
    - Supported file systems: FAT32, exFAT and NTFS
    - Supports automatic file uploads to a remote file storage platform, including an FTP server, Google Drive, OneDrive, Panopto and Dropbox
- Supports recording to external USB storage
    - Supported file systems: FAT32, exFAT and NTFS
- Supports recording to network-attached storage (NFS/CIFS)
    - Supported file systems: NFS, CIFS

- Supports loop recording and normal recording
- Supports saving recording files in MP4, MOV or TS format
- Supports specifying a video stream and an audio stream for each recording task
- Supports customizing recording filename and prefix
- Supports splitting recording files by time
  - MP4, MOV: up to 4 hours
  - TS: no limit
- Supports exporting or downloading files through Web UI
- Supports recording scheduling

LCD

- 1.9 inch LCD display with 320x172 resolution
- View real-time system information including preview image, audio meter, record and live status, IP address and QR code (Web UI).
- Start/stop specific recording/live streaming sessions

Web UI

- Access Web UI via PC and smartphone
- View real-time device status
- Preview encoded video
- Set input source
- Customize encoding parameters
- Manage streaming destinations, start/stop streaming, view streaming status
- Manage recording tasks and recorded files
- Set up to 8 overlays for each stream, including text, picture, and clock
- Set LCD touch screen
- Update firmware
- Supports registering Magewell Control Hub and Zixi ZEN Master for centralized management
- Supports Microsoft Edge/Firefox/Chrome/Safari/Opera web browsers
- Supports Stream Deck control

API

- Provides APIs for third-party control systems

Network Connections

- Ethernet: 1x RJ45 port, 10/100/1000 Mbps Base-T
- PoE+ (IEEE 802.3at)
- Wi-Fi: 802.11 a/b/g/n/ac, Station and AP modes supported
- 4G/5G USB modem (not supplied)
- USB Net

Input/Output Ports

- 2 x SD/HD/3G/6G BNC ports
  - 1 x Input
  - 1 x Loop-through
- 2 x HDMI ports
  - 1 x Input
  - 1 x Loop-through
- 1 x 3.5mm LINE IN
- 1 x 3.5mm LINE OUT
- 1 x USB Type-C (config)
- 1 x SD card slot
- 2 x USB Type-A

Storage

- SD card (not supplied): FAT32, NTFS, exFAT
- USB flash drive (not supplied): FAT32, NTFS, exFAT
- NAS (not supplied): NFS/CIFS

LED Indicators

- LED indicators show the status of network connections, power, input signal, recording and streaming

Power Supply and Consumption

- DC 9 ~ 18 V, max current: ~ 1.15 A
- Max power consumption: ~ 11.5 W

Dimensions

- 214.9mm x 128.2mm x 44.55mm
- Support to mount onto a standard 1U rack with provided rack-mount kit

Accessories

- 1 x Screw locking DC power adapter
- 2 x Wi-Fi antenna
- 1 x HDMI cable
- 7 x M2.5 screws
- 1 x Retainer plate
- 1 x 1U short rack ear
- 2 x 1U long rack ears

Working Environment

- Operating temperature: 0 to 40 deg C
- Storage temperature: –20 to 70 deg C
- Relative humidity: 5% to 90% non-condensing

Notice

Copyright (c) 2011–2026 Magewell Electronics Co., Ltd. All rights reserved.

Specifications are based on current hardware, firmware and software revisions, and are subject to change without notice.

“MAGEWELL” is a registered trademark of Magewell Electronics Co., Ltd. All other trademarks are the property of their respective holders.