Ultra Encode SDI Plus Technical Specifications

Revised on 10/22/2026

Input & Loop-through

- Video
  - Supports SD (ST 259)/HD (ST 292)/3Ga (ST 425)/3Gb (ST 425)/3Gb-DL(ST 425)/3Gb-DS (ST 425) standards
  - Typical resolution/frame rate:
    - 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
  - Audio from 3.5 mm LINE IN: 2-Channel, 24-bit, 192kHz sample rate

Encoding Features

- 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 30/29.97/25/24/23.976/15/10/5
      - 2560x1440p/2048x1080p/1920x1200p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1920x1080p/1920x720p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1664x936p/1600x1200p/1600x900p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1440x1080p/1440x900p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1280x1024p/1280x960p/1280x800p/1280x720p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1080x1920p/1024x768p/1024x600p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1024x576p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 960x540p/800x600p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 768x576p/720x1280p/720x576p/720x540p/720x480p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 640x480p/640x360p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 480x360p/480x270p/320x240 60/59.94/50/30/29.97/25/24/23.976/15/10/5
    - Native CEA–608/608 over 708 captions
  - Sub stream
    - Supports enabling/disabling sub stream
    - Resolution/frame rate:
      - 1920x1080p/1920x720p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1664x936p/1600x1200p/1600x900p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1440x1080p/1440x900p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
      - 1280x1024p/1280x960p/1280x800p/1280x720p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
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      - 480x360p/480x270p/320x240p 60/59.94/50/30/29.97/25/24/23.976/15/10/5
  - H.264/H.265 (HEVC) Codec:
    - System timecode or RP–188 standard timecode 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
    - Output 3D video
- Audio
- Encode up to 8 AAC streams
  - 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
- 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 device supports up to 1 session each for RIST Listener, RTSP, SRT Listener, HLS Pull, and ISSP, and up to 2 NDI HX2 sessions
- Supports one NDI HX3 session exclusively
- Supports specifying a video stream and an audio stream for each streaming session
- Supports live-stream scheduling
- Supports NDI 6.x

Record

- Supports configuring and managing recording functions and tasks
- Supports recording to local storage (128 GB)
    - Supports formatting and performance testing
    - Supports automatic file uploads to remote file storage platforms, 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

Web UI

- Access Web UI via PC and smartphone
- View real-time device status
- Preview encoded video
- Set input sources
- 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
- 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
- IEEE 802.3af PoE
- 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 BNC ports
  - 1 x Input
  - 1 x Loop-through
- 1 x 3.5mm LINE IN
- 1 x 3.5mm LINE OUT
- 1 x USB Type-A

Storage

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

Indicators

- LEDs indicating the status of power, input signal, streaming, Ethernet, Wi-Fi connection
- NDI tally lights (preview-green, program-red)

Power Supply and Consumption

- DC 5V/3A
- Max power consumption: 8.72W

Form Factor

- 106.6mm x 106.2mm x 25mm

Accessories

- 1 x 5V Power Adapter
- 1 x USB Type A to Type B cable
- 1 x Wi-Fi Antenna
- 1 x T-bracket

Screw Mounting Hole

- 2 x M3 threaded hole
- The T-bracket provides a standard 1/4"-20 socket

Working Environment

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

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