PRODUCTS › AV OVER IP

TC-IPE-HC

JPEG2000 4K60 AV over IP Encoder (KVM/eARC)

HDMI and USB-C in; the display's audio back over eARC



JPEG2000
4K @ 60 Hz 4:4:4 over 1G Ethernet

eARC
point-to-point return; also ARC, S/PDIF or analogue

USB-C
video, audio, USB and PD charging for a laptop

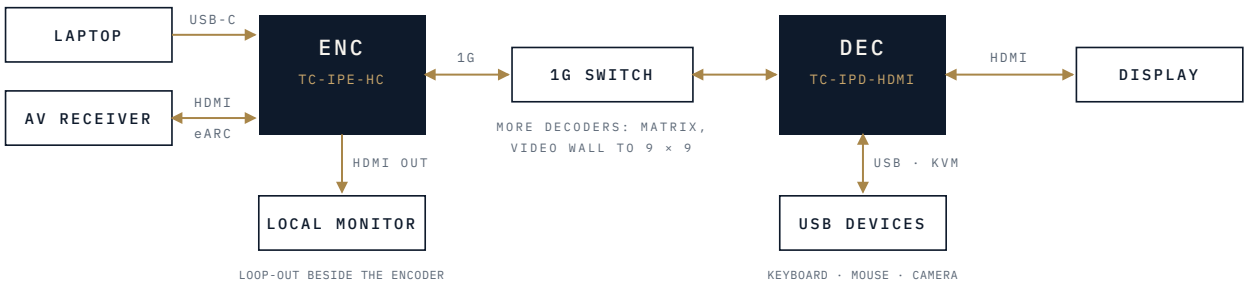
PoE
802.3at, or a 12 V supply ordered separately

TC-IPE-HC encodes an HDMI or USB-C source at up to 4K @ 60 Hz 4:4:4 onto 1G Ethernet with JPEG2000, switching automatically when a source is connected. A laptop on USB-C sends video, audio and USB over one cable and is charged over USB Power Delivery from an adapter on the second USB-C port. A local HDMI output serves a monitor beside the encoder, and the unit runs on PoE, or on a 12 V supply ordered separately.

Audio travels both ways. Line audio can be embedded, and HDMI audio de-embedded to the line output when it is LPCM. Point-to-point, the display's sound comes back from the decoder over eARC or ARC to an amplifier on the encoder's HDMI input, as ARC or S/PDIF from its S/PDIF output, or as analogue from its line output; Dante AV-A is an option on licence. USB follows the video for KVM, IR and RS-232 pass both ways, two relays and two digital I/O handle contact control, and the unit is controlled from the front panel or through IR, RS-232, TCP/IP and the web GUI.

01 KEY CAPABILITIES

- 4K @ 60 Hz 4:4:4 over 1G Ethernet, in JPEG2000
- Charges a USB-C laptop over USB Power Delivery, from an adapter on the second USB-C port
- USB 2.0 (KVM), IR, RS-232 and CEC with the video
- Channel set from the front-panel buttons and display
- HDMI and USB-C inputs, auto or manual switching
- eARC, ARC, S/PDIF and analogue audio return
- Two relays and two digital I/O for contact control
- MJPEG sub-stream for live preview on portable devices



SIGNAL PATH · POINT-TO-POINT, THE DISPLAY'S SOUND RETURNS TO THE RECEIVER OVER eARC

02 VIDEO

Signal standard	HDMI 2.0b
HDCP	HDCP 2.2
Maximum resolution	Input up to 4K 50/60 Hz 4:4:4
Resolution notes	Output timing is set at the decoder: Auto, or fixed from 4096 × 2160 @ 60 Hz down to 1024 × 768
Bandwidth	18 Gbps video · USB 2.0 480 Mbps
Colour space	RGB · YCbCr 4:4:4 / 4:2:2 / 4:2:0
Colour depth	Input 8/10/12-bit
HDR	HDR10, Dolby Vision and HLG passed through · 10-bit end to end at 4K60 4:2:0 / 4:2:2 (8-bit at 4:4:4)
Compression / codec	JPEG2000
CEC	CEC guest-mode control

03 AUDIO

HDMI audio formats	LPCM 2.0/5.1/7.1, Dolby Digital/Plus/EX, Dolby TrueHD, Dolby Atmos, DTS, DTS-96/24, DTS-EX, DSD, DTS High Res, DTS-HD Master Audio, DTS:X · 32–192 kHz
Analogue audio input	Line in (3-pin 3.81 mm Phoenix) · 10 kΩ · max 1 Vrms (0 dB) unbalanced
Analogue audio output	Line out (3-pin 3.81 mm Phoenix) · 33 Ω · max 0.9 Vrms unbalanced
Audio return	eARC / ARC / S/PDIF / analogue audio return from the decoder, point-to-point (unicast) · encoder and decoder set to the same return mode
Networked audio	Optional Dante AV-A, on licence activation: up to 2 × 2 channels, 44.1 / 48 / 88.2 / 96 kHz, LPCM
Analogue performance	20 Hz–20 kHz ±0.146 dB · S/N 96 dB (0 dB, 1 kHz, A-weighted) · THD+N 0.014 % (0 dBV, 1 kHz) · sync delay 0–50 ms
Other audio formats	S/PDIF optical output — carries returned ARC or S/PDIF audio

04 TRANSPORT & DISTANCE

Transport	AV over IP — unicast and multicast · point-to-point, matrix, video wall to 9 × 9
Network	1G · managed network switch
Transmission distance	100 m over CAT6/6A/7
Passive cable reach	Passive HDMI: 5 m at 4K60 · 10 m at 4K30 · 15 m at 1080p60
Power over the link	PoE (802.3at PD), or a 12 V supply ordered separately

05 CONNECTIVITY

Inputs	1 × HDMI · 1 × USB-C video · 1 × USB-C PD power input (adapter up to 100 W; charges the source) · 1 × analogue line in
Outputs	1 × HDMI (local) · 1 × analogue line out · 1 × S/PDIF optical
USB	1 × USB 2.0 host (Type-B) · 2 × USB 2.0 device (Type-A) · KVM, camera
Network ports	1 × RJ45 (PoE)
Control ports	RS-232 (3-pin Phoenix) · 2 × relay · 2 × digital I/O · IR in / out (3.5 mm, 5 V / 12 V)

06 CONTROL

Control methods	Front-panel buttons, IR, RS-232, TCP/IP, web GUI
IR	Two-way IR · 12 V default, 5 V selectable · wideband 20–60 kHz
Relays / GPIO	2 × relay, 2 × digital I/O
Switching	HDMI / USB-C: automatic on source detection, or manual (API or web GUI)

07 ELECTRICAL & PHYSICAL

Power supply	PoE (802.3at), or a 12 V DC / 2.5 A locking supply ordered separately
Power consumption	12 W max
Dimensions (W × D × H)	204 × 136 × 25.5 mm
Weight	632 g
Housing	Metal, black
Operating temperature	0 to 40 °C
Storage temperature	−20 to 60 °C
Humidity	Operating 20–80 % · storage 10–90 % RH, non-condensing
ESD protection	±15 kV air · ±8 kV contact (IEC 61000-4-2)

08 COMPLIANCE & ASSURANCE

Certification statement	Designed for global compliance — CE, FCC, RoHS, and regional certifications, as applicable.
Warranty	3 years

09 IN THE BOX

In the box	Encoder · IR receiver cable (1.5 m) · IR blaster cable (1.5 m) · 3 × 3-pin and 2 × 4-pin 3.81 mm Phoenix · 2 mounting ears · 4 screws · no power supply (PoE; a 12 V supply is ordered separately)

10 ORDERING

Order code	**TC-IPE-HC**

PRODUCT PAGE

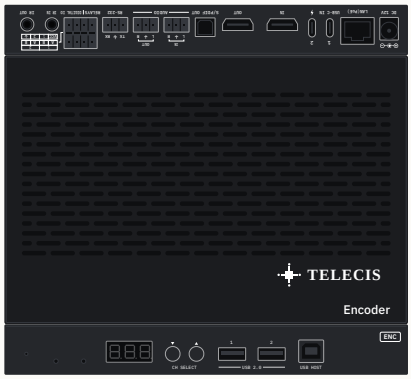
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VIEWS



REAR

DRAWING



ENCODER

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