EPIPHAN PEARL NANO SPECIFICATIONS

- Stand-alone encoder
- HDMI & SDI Input
- Line level XLR and RCA audio
- Stream SRT, HLS, MPEG-DASH, RTMP, and RTMPS protocols
- Record to SD card or SSD drive

Video Inputs

- Local video inputs: (1) 12G SDI
- (1) HDMI™ 2.01, **(1) USB 3.02**
- Video over Ethernet3: (1) RTSP
- (1) SRT (push)
- Connectors: (1) HDMI type A (female)
- (1) BNC (female)
- (1) USB-A (female)
- (1) RJ-45
- Aspect ratios: 3:2, 4:3, 16:9, 16:10, and custom aspect ratios
- Standard resolutions: PAL, PAL wide, NTSC, NTSC wide
- Input resolution range: 640×480 to 1920×1080
- Frame rate: Up to 60 fps
- Video input color spaces: HDMI: RGB 4:4:4, YCRCB 4:2:2, YCRCB 4:4:4
- SDI: RGB 4:4:4, YCRCB 4:2:2
- Deinterlacing: Yes
- Maximum cable length for SDI: 300 ft
- Maximum cable length for USB 3.0: 6 ft

Audio Inputs

- Analog audio inputs: (2) XLR pro line level (+4.0 dBu) up to 12.3 VRMS, +24 dBu (balanced/unbalanced, mono or two L/R stereo pairs)
- (1) RCA consumer line level -10 dBV (L/R stereo pair)
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- Connectors: (2) XLR (female)
- (2) RCA (female)
- Digital audio inputs4: (1) SDI5
- (1) HDMI

- (1) USB
- (1) RTSP (from RTSP input over Ethernet)
- (1) SRT (from SRT input over Ethernet)
- Connectors: (1) SDI (female)
- (1) HDMI (female)
- (1) USB (female)
- (1) RJ-45 (female)
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- Audio gain control: 0 dB to +30 dB
- Audio mute: Yes
- Configurable audio delay: -300 ms to +300 ms

Video Processing

- Video output color space: 4:2:0, 8 bits per color
- Video codec: H.264/AVC (ITU H.264, ISO/IEC 14496-10) 4:2:0, 8 bit color
- - Encoding profile: High, Main, Baseline
- - Profile levels: 3.0, 3.1,3.2,4.0,4.1, 5.1
- Bitrate: 1 to 50 Mbps (selectable)
- Bitrate control: Constant
- Hardware accelerated video encoding: Optional
- Video scaling: Software and hardware
- Key frames: 1/2 s, and 1 s up to 5 s in 1 second intervals

Audio Processing

- Compression: MP3, AAC, and PCM
- Sampling rate: MP3: 22 kHz, 44 kHz, 48 kHz
- AAC: 16 kHz, 22 kHz, 44 kHz, 48 kHz
- PCM: 22 kHz, 44 kHz, 48 kHz
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- Bitrate: 64 to 320 kbps (MP3 and AAC)

Video Output

- Signal types:
- (1) HDMI 2.0 (port 1)
- (1) HDMI 2.0a pass-through (port 2)
- (1) H.264/AVC digital video over Ethernet
- (1) RTSP
- (1) SRT (push)

- (1) HLS (push)
- (1) MPEG-DASH (push)
- Connectors:
- (2) HDMI
- (1) RJ-45 (female)
- Streaming protocols: MPEG-TS and FLV
- RTSP over TCP/UDP
- RTMP/RTMPS
- SRT (push) over UDP
- HLS (push) over HTTP/HTTPS
- MPEG-DASH (push) over HTTP/HTTPS
- HLS (pull) - Native Apple HTTP/HTTPS stream for iPad, iPhone and iPod Touch
- Resolution ranges: Recorded: 480p to 1080p
- Streamed: H.264: 480p to 1080p
- HDMI output ports: 480p to 1080p
- Frame rate: Up to 60 fps
- Formats: H.264/AVC (ITU H.264, ISO/IEC 14496-10) 4:2:0, 8 bit color
- - Encoding profile: High, Main, Baseline
- - Profile levels: 3.0, 3.1,3.2,4.0,4.1

Audio Output

- Analog audio output: (1) 3.5 mm stereo headphone jack
- Digital audio outputs:
- RTSP and SRT audio over Ethernet
- HLS and MPEG-DASH audio over HTTP/HTTPS
- HDMI audio (embedded)

Monitor and Control

- Front screen: 2.2 inch screen monitor (built in) resolution: 320x240
- Control key interface: Front panel control keys and multi-function keys
- USB keyboard: Connect a standard USB keyboard (optional)
- USB status light: Connect a single USB status light (optional), supported models:
- -Kuando BusyLight models: UC Alpha and UC Omega
- -Delcom Products USB HID single color and multi-color signal indicators

Recording and Storage

- Record formats: AVI, MOV, MP4, and MPEG-TS
- Upload image formats: JPEG, PNG
- SD card: Up to 512 GB6

- Internal storage: SATA M.2 2280 SSD storage6 (M Key connector)
- File transfer protocols: FTP, SFTP, SCP, AWS S3 client, and WebDAV client RSync
- Network file share protocols: CIFS/SMB
- File system for USB storage: FAT16, FAT32, XFS, EXT2, EXT3, EXT4, NTFS
- External USB ports: (1) USB 3.0 (UVC/UAC)
- Bitrate: Up to 50 Mbps

Communication

- USB standards: USB 1.1, USB 2.0, and USB 3.0
- HDCP compliant
- Ethernet host port: (1) RJ-45 (female)
- Ethernet data rate: 10/100/1000 Base-T, half/full duplex with autodetect
- Maximum Transmission Unit: 68 to 1500 MTU (configurable)
- Protocols: DHCP Option 81, TLS 1.2, LDAP, mDNS, DDNS, UPnP, SAP, RTP, MPEG-TS & RTP and MPEG-TS/UDP, 802.1x, EAPOL, EAP-TTLS, EAP-TLS, PEAP, HTTP, HTTPS, NTP, PTP, FTP, SFTP, SCP AWS S3
- Network discovery/Announce: UPnP, SAP

Network Security

- 802.1x EAP methods: PEAP, EAP-TLS, EAP-TTLS

Administration and Control

- Admin panel: Local web UI for full administration. On-screen display and mobile UI for confidence monitoring, administration, and control.
- Local Admin panel access using an external monitor and a USB mouse or keyboard connected directly to Pearl Nano plus front screen support.
- Epiphan Live: Local web-based UI to easily control streaming, recording, and switching.
- Epiphan Cloud: Cloud-based platform to remotely manage and control Pearl Nano devices. Start and stop recording/streaming, monitor channels and alert dashboard, remotely login to Admin panel for rescue troubleshooting, update firmware and more from the Internet.
- Secure access: Multiple user accounts and passwords.
- HTTPS for secure Admin panel and Epiphan Live access, as well as local network access to the live channel broadcast.
- Remote access: Remote login7 to cloud versions of the Admin panel and Epiphan Live.
- API:Yes (HTTP/HTTPS)

Integrations

- Content Management Systems: Kaltura Panopto
- Cloud access and management: Epiphan Cloud

General

- Power supply: Internal: 100-240 VAC, 50-60 Hz

- PoE+
- Power use: 0.8 A, 100-240 VAC
- Operating temperature: 32° to 104° F (0° to 40° Celsius)
- Cooling Fan air flow: Left to right
- Enclosure: Metal
- Form factor: Portable desktop model
- Dimensions (W × D × H): 8.13" x 5.91" x 1.69" (206 mm x 150 mm x 43 mm)
- Weight: 2.0 lbs (907 kg)
- Regulatory compliance: FCC compliance: Part 15
- CE compliance:
- Directive 2014/30/EU - Electromagnetic Compatibility
- Directive 2014/35/EU - Low Voltage Directive
- Directive 2011/65/EU - RoHS