



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: HDMI20-OPTC-RX220-PCN

FUNCTIONAL OVERVIEW

The HDMI20-OPTC-RX220-PCN is a multimode fiber receiver unit for long-distance extension of uncompressed HDMI 2.0 video with embedded audio, plus bidirectional RS-232 and Gigabit Ethernet over fiber. It supports up to 18 Gbps transport and 4K UHD/DCI 4K at 60 Hz (4:4:4), and provides three HDMI outputs at the receiving end. The receiver offers selectable output conversion modes for Output 1A/1B (transparent, split left/right, or YCbCr 4:2:0 downsample) to maximize compatibility with sinks.

VIDEO INPUT AND OUTPUT

- Optical video input via multimode 50/125 µm fiber (OM3 or OM4 recommended)
- Maximum video formats: DVI 1.0, HDMI 1.4, HDMI 2.0
- Optical connector type: Neutrik opticalCON DUO LC
- Maximum resolution: 4096x2160@60Hz; 1920x1080@120Hz
- HDMI outputs: three HDMI video output ports (HDMI Type A receptacle with screw lock)
- Receiver output data rates:
 - O1A and O2: 18 Gbps
 - O1B: 9 Gbps
- Color depth support: up to 36 bits (Deep Color)
- Color spaces: RGB, YCbCr 4:4:4 / 4:2:0
- Output conversion modes (affect Output 1A and Output 1B): Transparent (no conversion), Split mode (left/right halves), Downsample convert (4:4:4 to 4:2:0)
- Split and downsample convert modes are available up to 8-bit color depth
- Reclocking: Pixel Accurate Reclocking
- 3D support: Yes
- Maximum extension distance (multimode fiber; depends on OM type and format), up to 700 m for 4K60 4:4:4 on OM3/OM4

AUDIO CAPABILITIES

- Embedded audio is transported with the HDMI signal over fiber and output on HDMI ports
- Audio formats: all formats in line with HDMI 2.0 standard

POWERING

- Powered by 100–240 V AC, 50/60 Hz mains supply
- AC power connector type: Neutrik PowerCON TRUE 1 (NAC3MPX type)
- Maximum power consumption (receiver): 9.9 W
- Class I apparatus: requires protective earth connection; do not bypass earth pin

CONTROL

- Ethernet control via Neutrik etherCON connectors (Gigabit Ethernet; pass-through/networking supported; not PoE compatible)
- USB control via front-panel USB mini-B (local control only; USB is not transmitted over the optical link)
- RS-232 control via 9-pole D-SUB male connector (bidirectional), with selectable modes: Pass-through, Control, Command Injection
- Supported control protocol: Lightware LW3 (including use with Lightware Device Controller software); LW3 over Ethernet uses TCP port 6107
- Front panel control via function button, LCD menu, and rotary jog dial knob

MOUNTING OPTIONS

- Rack mountable (standard rack installation using rack mounting kit with rack ears; devices can be fastened together as a 1U pair)
- Standalone use supported
- Receiver truss mounting supported via mounting threads (top and one side); safety wire rope recommended
- Rack ears also serve as handles and bump protection
- Ventilation clearance required; do not block ventilation holes

GENERAL

- Dimensions (with device ears): 221 W x 222.25 D x 42.9 H (mm)
- Weight: 1475 g (3.26 lb)
- Enclosure: 1 mm steel; rack mountable: Yes
- Cooling: Cooling fan
- Operating environment: 0°C to +50°C; 10–80% RH non-condensing (storage: -30°C to +80°C)
- Compliance: CE, UKCA; RoHS (EN 63000:2018); EMC emission EN 55032:2015+A1:2020; EMC immunity EN 55035:2017+A1:2020



- LVD / electrical safety: EN 62368-1:2014+A11:2017
- Laser safety: EN 60825-1:2014+A11:2021
- Warranty period: 3 years
- Supplied accessories (box contents): receiver unit; Safety & Warranty Info; Quick Start Guide; Power cable with Neutrik powerCON connector
- The product has full paper / green packaging

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-07-20	Initial version	Tamas Forgacs