

DTP2 R 212

HDMI 4K/60 DTP2 RECEIVER AND SWITCHER
WITH AUDIO DE-EMBEDDING



DTP
SYSTEMS

18 Gbps
4K/60 4:4:4

The Extron DTP2 R 212 is a digital twisted pair receiver that works with Extron DTP®-enabled products to send HDMI, audio, and bidirectional control signals up to 330 feet (100 meters) over a shielded CATx cable. It features one DTP2 input, one HDMI input for a local video source, and one HDMI output. This receiver is ideal for applications that require long distance distribution of 4K/60 video with audio.

- ▶ Receives HDMI plus control and analog audio up to 330 feet (100 meters) over a shielded CATx cable
- ▶ DTP2 and HDMI inputs
- ▶ HDMI input is ideal for connecting to a local source, such as a laptop or ShareLink wireless collaboration system
- ▶ Supports computer and video resolutions up to 4K/60 @ 4:4:4
- ▶ Auto-switching between inputs
- ▶ Stereo audio embedding and de-embedding
- ▶ Support for HDR – High Dynamic Range video
- ▶ HDCP 2.3 compliant

Extron

DESCRIPTION

The Extron **DTP2 R 212** is a digital twisted pair receiver that works with Extron DTP®-enabled products to send HDMI, audio, and bidirectional control signals up to 330 feet (100 meters) over a shielded CATx cable. It includes one DTP2 input, one HDMI input for a local video source, and one HDMI output. This receiver supports video resolutions up to 4K/60 at 4:4:4 chroma sampling, and complies with HDCP 2.3. Audio de-embedding and Ethernet remote control facilitate integration in professional environments.

The DTP2 R 212 enables reliable, long distance transmission of HDMI signals at up to 18 Gbps, supporting HDR, Deep Color up to 12-bit, 3D, embedded HD lossless audio formats, and CEC. A local HDMI input allows connection of an additional video source at the display, which is beneficial in BYOD applications where the display may need to support both a local collaboration appliance and remote sources.

To enhance and simplify integration of devices and to help ensure optimal system performance, the DTP2 receiver features Extron EDID Minder, which automatically manages EDID by maintaining continuous EDID communication with each source, ensuring that the sources power up properly and reliably output content for display.

Unique Audio Features

DTP2 R 212 features bass and treble controls and the stereo output is selectable for de-embedded or pass-through analog audio as a balanced or unbalanced signal on a captive screw connector. Analog audio signals are sent over the same shielded twisted pair cable as the video and control signals, eliminating the need for a separate cable run.

Control Versatility

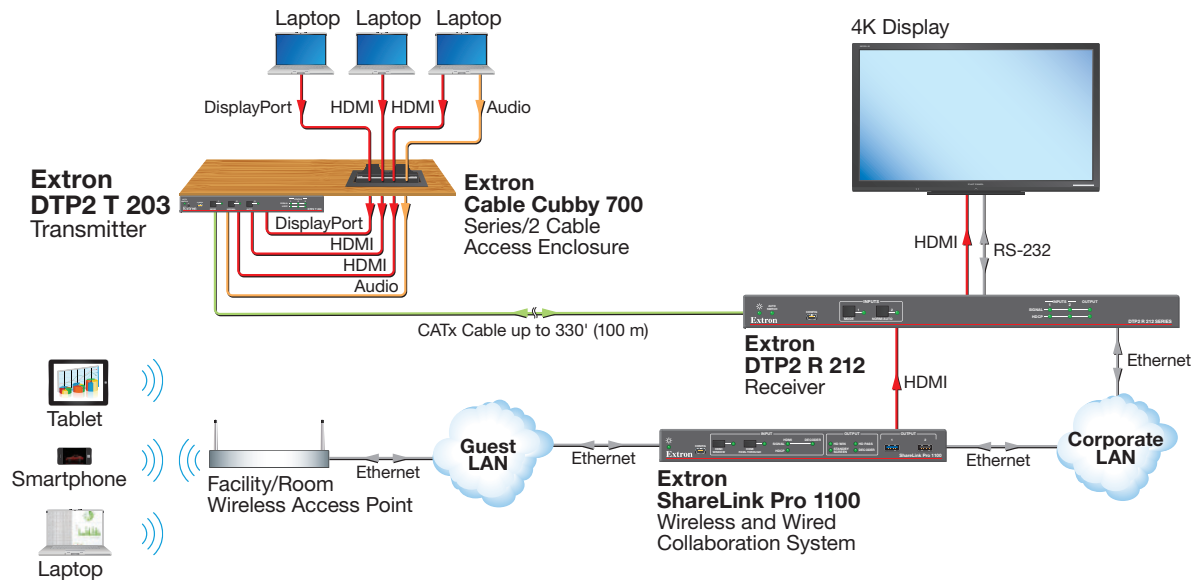
The DTP2 R 212 provides other convenient, integrator-friendly features designed to help simplify installation. It provides Ethernet to RS-232 insertion to the DTP2 port as well as the RS-232 port dedicated for display control. This enables system level control of devices attached to the remotely connected DTP2 transmitter as well as a locally connected display.

FEATURES

- ▶ **DTP2 and HDMI inputs**
- ▶ **Supports computer and video resolutions up to 4K/60 @ 4:4:4**
- ▶ **Auto-switching between inputs**
- ▶ **Stereo audio embedding and de-embedding**
- ▶ **Supported HDMI 2.0b specification features include data rates up to 18 Gbps, HDR, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC**
- ▶ **Support for HDR - High Dynamic Range video**
- ▶ **HDCP 2.3 compliant**
- ▶ **Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance**
- ▶ **Remote power capability** – For simplified installation, the DTP2 R 212 can be remotely powered by a DTP2 transmitter over the twisted pair connection. It can also be configured to provide power to the connected DTP2 transmitter.
- ▶ **RS-232 insertion from the Ethernet control port** – Saves system resources and simplifies installation by enabling a control processor to access remote RS-232 devices over Ethernet.
- ▶ **Display control RS-232 port** – Serial commands inserted from Ethernet can be routed to this port to control a connected display or other device.
- ▶ **EDID Minder® automatically manages EDID communication between connected devices**
- ▶ **User-selectable HDCP authorization** – Allows the unit to appear HDCP compliant or non-HDCP compliant to the connected source, which is beneficial if the source automatically encrypts all content when connected to an HDCP-compliant device. Protected material is not passed in non-HDCP mode.
- ▶ **HDCP authentication and signal presence confirmation** – A full-screen green signal is sent when HDCP-encrypted content is transmitted to a non HDCP compliant display, providing immediate visual confirmation that protected content cannot be viewed on the display.

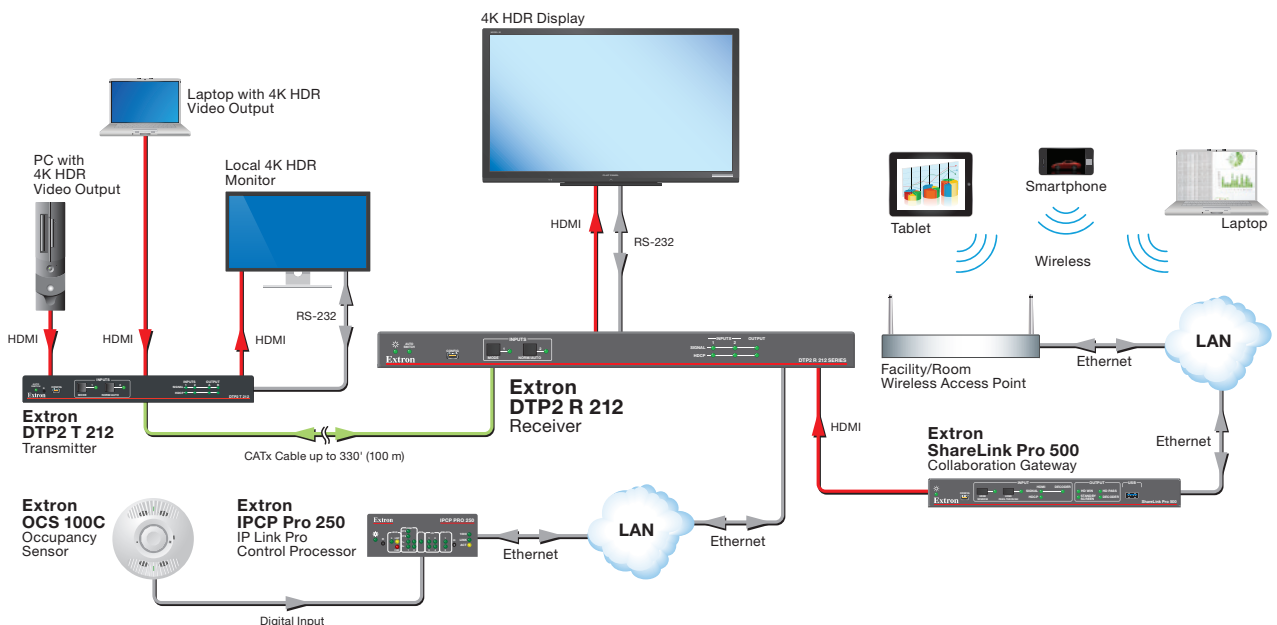
PREMIUM BYOD MEETING SPACE

This system lets users bring their own devices and share AV content wirelessly or via physical video connections. Support of 4K HDR video, high-quality audio, and automatic switching provide a superior experience. DisplayPort and HDMI connections are available at the meeting table and extended to the DTP2 R 212 with its local HDMI input connected to the ShareLink Pro 1100 Wireless Collaboration System.



TOUCH-FREE 4K HDR COLLABORATION

This room delivers the highest quality video performance to support 4K HDR video and provides a touch-free experience for meeting participants. The DTP2 T 212 transmitter automatically switches between the room's computer and the laptop for display at the local monitor. It extends the video up to 330 feet (100 meters) to the DTP2 R 212 receiver, which is connected to a ShareLink Pro 500 for wireless collaboration. The receiver feeds the 4K HDR display. The IPCP Pro 250 and OCS 100 occupancy sensor provide automatic system power control, while the Ethernet to RS-232 insertion capability on the DTP2 R 212 simplifies installation.



SPECIFICATIONS

TRUE 4K SPECIFICATION

Max 4K Capabilities

Resolution and Refresh Rate	Chroma Sampling	Max Bit Depth per Color
3840 x 2160 at 60 Hz	4:4:4	8 bit
4096 x 2160 at 30 Hz		12 bit
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0	
3840 x 2160 at 60 Hz		

Frame rate¹

HDMI Input	24, 25, 30, 50, 60, 120, 144, or 240 fps
DTP2 input	24, 25, 30, 50, 60, or 120 fps

Chroma sampling¹ 4:4:4, 4:2:2, or 4:2:0

Color bit depth¹ 8, 10, 12 bits per color

Signal Type HDMI 2.0b, HDCP 2.3

Max. video data rate 18 Gbps (6 Gbps per color)

NOTE: ¹Subject to the maximum data rate limit. Use our calculator at www.extron.com/8Kdata to determine video parameters supported by this data rate.

VIDEO INPUT

Number/signal type	1 DTP2 1 HDMI (or single link DVI-D, with appropriate DVI-HDMI adapters)
Horizontal frequency	15 kHz to 100 kHz
Vertical frequency	HDMI input: 24 Hz to 240 Hz (for resolutions up to 18 Gbps) DTP2 input: 24 Hz to 120 Hz (for resolutions up to 18 Gbps)

INTERCONNECTION BETWEEN TRANSMITTER AND RECEIVER

Connectors	1 female RJ-45 per unit
Termination standard	TIA/EIA T568B
Signal transmission distance	Up to 330' (100m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable
Cable requirements	Solid conductor, 24 AWG or better
Cable recommendations	400 MHz bandwidth, STP (shielded twisted pair)

NOTE: Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.

VIDEO OUTPUT

Number/signal type	1 HDMI output
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AUDIO

Gain	Unbalanced output: 0 dB; balanced output: +6 dB
Frequency response	20 Hz to 20 kHz, ±0.5 dB
THD + Noise	0.03% @ 20 Hz to 20 kHz at maximum output
S/N	>90 dB, at maximum output (15 dBu), balanced (unweighted)
Bass	+12 dB to -24 dB @ 100 Hz
Treble	+12 dB to -24 dB @ 8 kHz

AUDIO INPUT

Connectors	1 female HDMI type A 1 female RJ-45 connector for audio over DTP
Impedance	>10k ohms unbalanced, >20k ohms balanced
Nominal level	Over DTP input: +4 dBu, -10 dBu, adjustable
Maximum level	+15 dBu at rated THD+N when input gain is set to 0dB
CMRR	>80 dB @ 1 KHz

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV=2 dBu

AUDIO OUTPUT — ANALOG (DTP2 R 212)

Number/signal type	1 stereo, balanced/unbalanced (fixed and variable outputs) 1 analog audio and 1 embedded digital audio on HDMI
Connectors	(1) 3.5 mm captive screw connector, 5-pole 1 female HDMI type A
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±0.5 dB channel to channel
Maximum level (Hi-Z)	>+21 dBu, balanced; >+15 dBu, unbalanced
Output volume range	0 to -100 dB in 1 dB steps
Nominal level when the main volume is set to default	-2 dBu (632 mVrms) balanced output

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV = 2 dBu

COMMUNICATIONS/REMOTE — SWITCHER

Serial control port	1 RS-232, 3.5 mm captive screw connector, 3-pole, rear panel
USB control port	1 female mini-USB, type B, front panel
Ethernet data rate	10/100Base-T, half/full duplex, with autotdetect

COMMUNICATIONS/REMOTE — EXTERNAL DEVICE (RS-232/IR OVER DTP2)

Serial control pass-through port	1 RS-232 via 3.5 mm, 5-pole captive screw connector (shared with IR port)
IR control pass-through ports	1 bi-directional TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz

GENERAL

Power supply	External
DTP2 R 212	Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 2 A, 24 watts
Remote power capability	DTP2 R 212 Can transmit or receive power via DTP2
Temperature/humidity	Storage: -40 to +158°F (-40 to +70°C) / 10% to 90%, noncondensing Operating: +32 to +122°F (0 to +50°C) / 10% to 90%, noncondensing
Cooling	Fan (air flows side to side), vents on sides
Mounting	
Rack mount	Yes, with optional rack shelf kit Back-of-the-rack mountable with optional back-of-the-rack mounting kit
Furniture mount	Yes, with optional under-desk mounting kit
Enclosure dimensions	1.00" H x 13.1" W x 6.0" D (1" high, 3/4 rack wide) (2.54 cm H x 33.3 cm W x 15.2 cm D) (Depth excludes connectors)
Regulatory compliance	CE, c-UL, UL, C-Tick, FCC Class A, ICES, RoHS, WEEE, VCCI UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release, excluding the power supply. Meets UL 60065 for safety.
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

NOTE: All nominal levels are at ±10%.

Model	Version Description	Part number
DTP2 R 212	HDMI 4K/60 Rx Switcher - 330 feet (100 m)	60-1588-52

For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

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