**AVPro Edge AC-EX70-UHD-KIT**

# AVPro Edge AC-EX70-UHD-KIT HDMI Extender User Manual

Model: AC-EX70-UHD-KIT

## 1. INTRODUCTION

The AVPro Edge AC-EX70-UHD-KIT is a high-performance HDMI extender system designed to transmit 4K UHD content over long distances using a single CAT-5e/6a/7 UTP/STP cable. This kit includes both a Transmitter (TX) and a Receiver (RX) unit, providing a reliable solution for distributing high-value video signals in various environments, from residential setups to commercial installations.

### Key Features:

- **Extended Transmission:** Supports transmission up to 70 meters (230 feet) for 1080P signals and up to 40 meters (131 feet) for 4K UHD signals (4Kx2K 30Hz or 4Kx2K 60Hz YUV 4:2:0).
- **High Bandwidth:** 10.2 Gbps video bandwidth ensures high-quality signal delivery.
- **HDBaseT Technology:** Utilizes HDBaseT for efficient and stable signal extension over a single CAT cable.
- **Bi-Directional Power (PoH):** Either the Transmitter or Receiver can be powered, simplifying installation.
- **HDMI 2.0(a/b) & HDCP 2.2/1.4 Compliant:** Ensures compatibility with modern video sources and displays.
- **HDR Support:** Compatible with High Dynamic Range content.
- **Bi-directional IR & RS-232:** Allows for control of source equipment from the display location or vice-versa.
- **Plug & Play:** Designed for straightforward installation.
- **Field Firmware Updateable:** Allows for future enhancements and bug fixes.
- **ESD Protection:** Built-in circuitry protects against electrostatic discharge up to 7KV.

## 2. PACKAGE CONTENTS

Please verify that all items listed below are included in your package. If any items are missing or damaged, contact your vendor immediately.

Image: All accessories included with the AVPro Edge AC-EX70-UHD-KIT, including power supply, IR units, RS-232 cables, and mounting ears.

- 1x AC-EX70-UHD-T (Transmitter Unit)
- 1x AC-EX70-UHD-R2 (Receiver Unit)
- 1x 48V Power Supply
- 1x IR Tx Unit (IR Emitter)
- 1x IR Rx Unit (IR Receiver)
- 1x 3.5mm Stereo Plug to Male DB9 Cable (for RS-232 to serial port)
- 1x 3.5mm Stereo Plug to Female DB9 Cable (for RS-232 to PC)
- 1x Pair of Mounting Ears
- Operating Instructions (this manual)

## 3. SETUP AND INSTALLATION

Follow these steps to properly install and connect your AVPro Edge AC-EX70-UHD-KIT.

### 3.1 Unit Identification



Image: The AVPro Edge AC-EX70-UHD Transmitter (left) and Receiver (right) units, showing their labels and port layouts.

The kit consists of two main units: the **Transmitter (TX)** and the **Receiver (RX)**. Ensure you correctly identify each unit before making connections.

## 3.2 Connection Diagram

The following diagram illustrates a typical connection setup for the AC-EX70-UHD-KIT.



Image: An angled view of both the Transmitter and Receiver units, highlighting the HDMI, IR, RS-232, and HDBaseT ports for connection reference.

## 3.3 Installation Steps:

1. **Prepare CAT Cable:** Use a high-quality CAT-5e, CAT-6a, or CAT-7 UTP/STP cable. Ensure the cable is properly terminated following the IEEE-568B standard. The quality of the CAT cable directly impacts transmission distance and stability.

2. **Connect HDMI Source to Transmitter (TX):** Connect an HDMI cable from your video source (e.g., Blu-ray player, media streamer, PC) to the **HDMI IN** port on the AC-EX70-UHD-T Transmitter unit.

3. **Connect HDBaseT Link:** Connect one end of the prepared CAT cable to the **HDBaseT OUT** port on the Transmitter and the other end to the **HDBaseT IN** port on the AC-EX70-UHD-R2 Receiver unit.

4. **Connect HDMI Display to Receiver (RX):** Connect an HDMI cable from the **HDMI OUT** port on the Receiver unit to your display device (e.g., TV, projector, monitor).

5. **Connect Power Supply:** Connect the included 48V power supply to either the Transmitter or the Receiver unit. Due to Bi-Directional Power (PoH) capability, only one power supply connection is required for the entire system to function.

6. **(Optional) IR Control:**

   - To control the source from the display location: Connect the IR Rx unit to the **IR IN** port on the Receiver. Connect the IR Tx unit to the **IR OUT** port on the Transmitter and place its emitter eye over the IR sensor of your source device.

   - To control the display from the source location: Connect the IR Rx unit to the **IR IN** port on the Transmitter. Connect the IR Tx unit to the **IR OUT** port on the Receiver and place its emitter eye over the IR sensor of your display device.

7. **(Optional) RS-232 Control:** Connect the appropriate 3.5mm to DB9 RS-232 cable to the **RS-232** port on either the Transmitter or Receiver, and then to your control system or PC for serial communication.

8. **Secure Units:** Use the provided mounting ears to secure the Transmitter and Receiver units in their desired locations, if necessary.

## 4. OPERATING INSTRUCTIONS

Once all connections are made and power is supplied, the AC-EX70-UHD-KIT will begin operation automatically.

## 4.1 LED Indicators

Both the Transmitter and Receiver units feature LED indicators to provide status information:

- **48V LED:** Illuminates when the unit is receiving 48V power.
- **Status LED:** Indicates the operational status of the unit. A solid light typically means normal operation.
- **Link LED:** Illuminates when a stable HDBaseT link is established between the Transmitter and Receiver.

## 4.2 Operation Mode Switch



Image: Top view of the Transmitter and Receiver units, highlighting the 'Operation Mode' switch with 'Program' and 'Normal' settings.

Each unit has an 'Operation Mode' switch with two settings:

- **Normal:** This is the standard operating mode for everyday use. Ensure the switch is set to 'Normal' for regular video transmission.
- **Program:** This mode is used for firmware updates or specific diagnostic purposes. Do not operate the unit in 'Program' mode during normal video transmission.

## 4.3 IR and RS-232 Control

The bi-directional IR and RS-232 ports allow for seamless control of connected devices. Refer to the setup section for connection details. Once connected, IR signals from a remote control or RS-232 commands from a control system will be transmitted across the HDBaseT link to control the corresponding device.

## 5. SPECIFICATIONS

| Feature | Specification |
| --- | --- |
| Model Number | AC-EX70-UHD-KIT |
| Video Bandwidth | 10.2 Gbps |
| HDMI Compliance | HDMI V2.0(a/b) |

| Feature | Specification |
|---|---|
| HDCP Compliance | HDCP 2.2 / 1.4 |
| HDR Support | Yes |
| UHD Support | 4Kx2K 30Hz or 4Kx2K 60Hz YUV 4:2:0 |
| Transmission Distance (1080P) | Up to 70 meters (230 feet) |
| Transmission Distance (4K) | Up to 40 meters (131 feet) |
| Cable Requirement | Single CAT-5e/6a/7 UTP/STP (IEEE-568B) |
| Power Over HDBaseT (PoH) | Bi-Directional |
| Control Signals | Bi-directional IR & RS-232 |
| ESD Protection | Up to 7KV |
| Item Weight | 1.73 pounds (total for kit) |
| Color | Black |
| Manufacturer | AVPro Edge |

## 6. TROUBLESHOOTING

If you encounter issues with your AC-EX70-UHD-KIT, please refer to the following common problems and solutions:

- **No Video Output:**
  - Ensure all HDMI cables are securely connected to both the source and display, and to the extender units.
  - Verify that the CAT cable is properly terminated (IEEE-568B) and securely connected to both the Transmitter and Receiver.
  - Check that the power supply is connected and the **48V LED** on at least one unit is illuminated.
  - Confirm that the **Link LED** is illuminated, indicating a stable HDBaseT connection. If not, try a different CAT cable or shorten the cable length for testing.
  - Test the HDMI source and display directly with a short HDMI cable to rule out issues with those devices.
  - Ensure the 'Operation Mode' switch on both units is set to 'Normal'.

- **Poor Picture Quality (Flickering, Snow, Distortion):**
  - This often indicates a problem with the CAT cable. Replace the CAT cable with a higher quality, shorter, or newly terminated one.
  - Ensure the cable length does not exceed the maximum specified for your resolution (70m for 1080P, 40m for 4K).
  - Check for strong electromagnetic interference (EMI) near the CAT cable run.

- **IR or RS-232 Control Not Working:**
  - Verify that the IR Tx/Rx units or RS-232 cables are correctly connected to the appropriate ports on

the extender units and the controlled devices.

- For IR, ensure the IR emitter eye is directly over the IR sensor of the device to be controlled.
- For RS-232, confirm the correct baud rate and other serial communication settings are configured on your control system.

- **Units Not Powering On:**

  - Check the power adapter connection to both the unit and the wall outlet.
  - Ensure the power outlet is functional.
  - If using PoH, ensure the CAT cable is properly connected and functional, as power is transmitted over it.

## 7. MAINTENANCE

The AVPro Edge AC-EX70-UHD-KIT is designed for reliable, long-term operation with minimal maintenance.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the units. Do not use liquid or aerosol cleaners.
- **Firmware Updates:** The units are field firmware updateable. Periodically check the AVPro Edge website for available firmware updates to ensure optimal performance and compatibility. Follow the instructions provided with the firmware update package carefully.
- **Ventilation:** Ensure the units have adequate ventilation to prevent overheating. Do not block the ventilation holes.

## 8. WARRANTY AND SUPPORT

For detailed warranty information, technical support, and additional resources, please visit the official AVPro Edge website or contact your authorized AVPro Edge dealer. Keep your purchase receipt as proof of purchase for warranty claims.

**AVPro Edge Website:** www.avproedge.com

## Related Documents - AC-EX70-UHD-KIT

| | |
|---|---|
|  | [AVPro Edge AC-EX70-UHD-KIT Ultra Slim 70 Meter HDMI HDBaseT Extender User Manual](#) User manual for the AVPro Edge AC-EX70-UHD-KIT, an ultra-slim 70-meter HDMI via HDBaseT extender set with bi-directional power and EDID management. Features include 4K60 support, HDCP 2.3, CEC pass-through, and RS-232 transport. |
|  | [AVPro Edge AC-EX70-444: 4K HDR HDBaseT Extender User Manual](#) Comprehensive user manual for the AVPro Edge AC-EX70-444 HDBaseT extender, detailing its features for 4K HDR signal transmission, audio extraction, EDID management, and Ethernet connectivity. |

[AVPro Edge AC-EX70-SC2-R User Manual: HDBaseT Receiver with SC2 Scaler](#)
Comprehensive user manual for the AVPro Edge AC-EX70-SC2-R, a 70-meter HDBaseT receiver featuring an SC2 scaler. Learn about its capabilities including up/down scaling, EDID management, HDR support, audio de-embedding, test patterns, troubleshooting, and specifications.



[AVPro Edge AC-EX100-444-KIT User Manual: 18Gbps 4K60 HDMI HDBaseT Extender](#)
User manual for the AVPro Edge AC-EX100-444-KIT, an 18Gbps 4K60 4:4:4 HDBaseT extender kit. This document details the features, technical specifications, installation, connection diagrams, settings, troubleshooting, and warranty information for the AC-EX100-444-T3 transmitter and AC-EX100-444-R3 receiver modules.



[AVPro Edge AC-CXWP-LP Series ConferX Low-Profile Wall Plates User Manual](#)
This user manual provides comprehensive information on the AVPro Edge AC-CXWP-LP Series ConferX Low-Profile Wall Plates, covering features, technical specifications, installation, and maintenance for professional AV integration.



[AVPro Edge AC-EXO-X-KIT User Manual: 8K Fiber Optic Extender Kit](#)
User manual for the AVPro Edge AC-EXO-X-KIT, an 8K Fiber Optic Extender Kit supporting HDMI 2.1, 8K 60Hz, and 4K 120Hz resolutions over multimode fiber. Details installation, features, and troubleshooting.