HDBaseT Extender Installation

Troubleshooting Guide

About SC&T

SC&T has a professional FAE team dedicated to resolving various installation challenges.
This guide compiles common HDBaseT extender issues to help you quickly diagnose problems and find the most suitable solutions.

HDBaseT
Core Advantages

Uncompressed

AV transmission

100m+

Long-distance support

IR, RS232

Integrated control signals

PoH

Power over HDBaseT

Functionality

HDBaseT Version Comparison

Version	Resolution	Bandwidth	Cable Spec
HDBaseT 1.0 (2010)	4K@30 (4:4:4)	100 Mbps	Cat5e+
HDBaseT 2.0 (2013)	4K@60 (4:2:0)	100 Mbps	Cat5e+
HDBaseT 3.0 (2019)	**4K@60 (4:4:4)**	**1 Gbps (Uncompressed)**	**Cat6a (10G)**

NOTE : HDBaseT 3.0 requires significantly higher bandwidth. **Certified Cat6a** cabling is mandatory for stable performance.

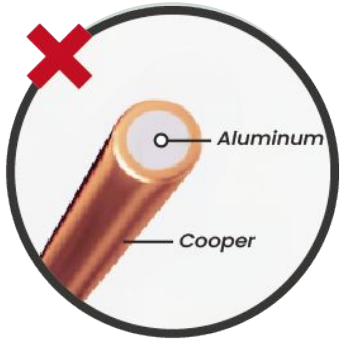
Cable Selection

HDBaseT 3.0 Requires CAT6a

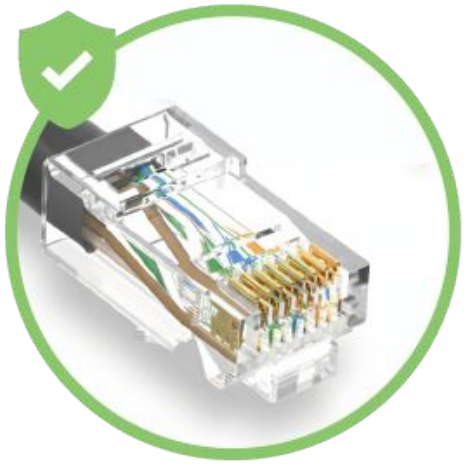
HDBaseT 3.0’s uncompressed, zero-latency transmission demands high bandwidth.

Avoid CCA Cables

Always use Pure Copper cables.
Copper Clad Aluminum (CCA) has high resistance, causing signal attenuation and power delivery failures.

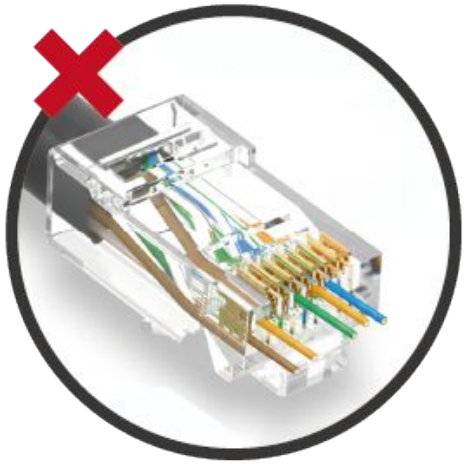


Termination



Use Standard Crimp Connectors

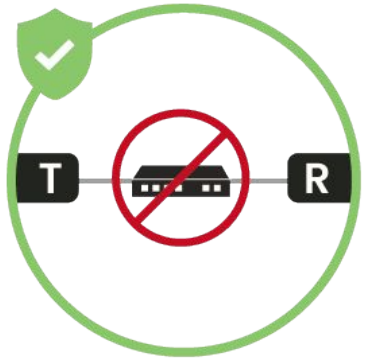
Ensures solid contact for high-bandwidth transmission.



Avoid EZ Pass-Through Connectors

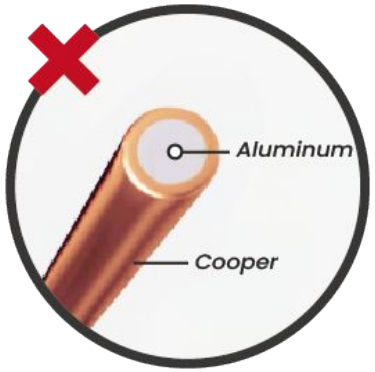
Can cause untwisting and poor contact.

Infrastructure



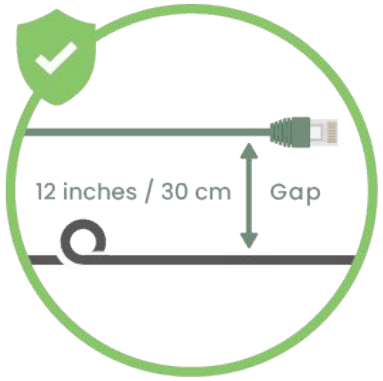
No Ethernet Switches

HDBaseT is **NOT TCP/IP**. Switching/distribution requires an HDMI/HDBaseT matrix or splitter.



Avoid CCA Cables

Use Cat6a Pure Copper (No CCA).



EMI Isolation

Maintain at least **30 cm** separation from power lines to avoid **EMI**.

NOTE : In noisy environments, consider non-HDBaseT extenders such as SC&T HE03 series (1G compression extension).

Troubleshooting Guide

Signal Loss / Power Issues / Control Failure

Black Screen / No Signal

CAUSE & QUICK FIXES

EDID Handshake Failure :
The display and source failed the initial EDID/Hot Plug Detection handshake.

Reset EDID :
Toggle the EDID Reset button on the TX unit.

Power Sequence :
Perform the correct power sequence:
1. Display 2. Receiver (RX) 3. Transmitter (TX) 4. Source

Snow & Flickering

CAUSE & QUICK FIXES

Insufficient Cable Bandwidth,
Non-Compliant Cable, or Power Interference

- Lower source resolution to 1080p. If flickering stops, the cable cannot handle 4K bandwidth.
- Replace the cable with a **certified Cat6a STP (Shielded) cable**.
- Check for power lines running parallel to the data cable (keep at least 30 cm separation).

Hot Plug Detect (HPD) Interruption

CAUSE & QUICK FIXES

⚠ **Unsynchronized Power-On (HPD Handshake Break)**

- Ensure all devices are connected to the same power source (sync on/off).
- Ensure **simultaneous power on/off** for devices.

Audio Return (ARC) Failure

QUICK FIXES

Port Check:
HDMI cable must be in the TV port labeled ARC/eARC.

CEC Active:
Enable CEC (Consumer Electronics Control) in TV settings.

Spec Check:
HDBaseT 1.0/2.0 supports standard ARC only. Atmos requires HDBaseT 3.0.

Alternative:
Use a separate optical fiber cable for audio.

Control Failure (IR)

CAUSE & QUICK FIXES

IR Frequency Mismatch or Improper Emitter Placement

- Use **wideband (20–60 kHz)** IR emitters/receivers to avoid 38 kHz / 56 kHz mismatch.
- Ensure the emitter has a **direct line of sight** to the IR sensor window.
- Align the IR emitter directly over the IR window (**< 3 cm**).

Power & Thermals

CAUSE & QUICK FIXES

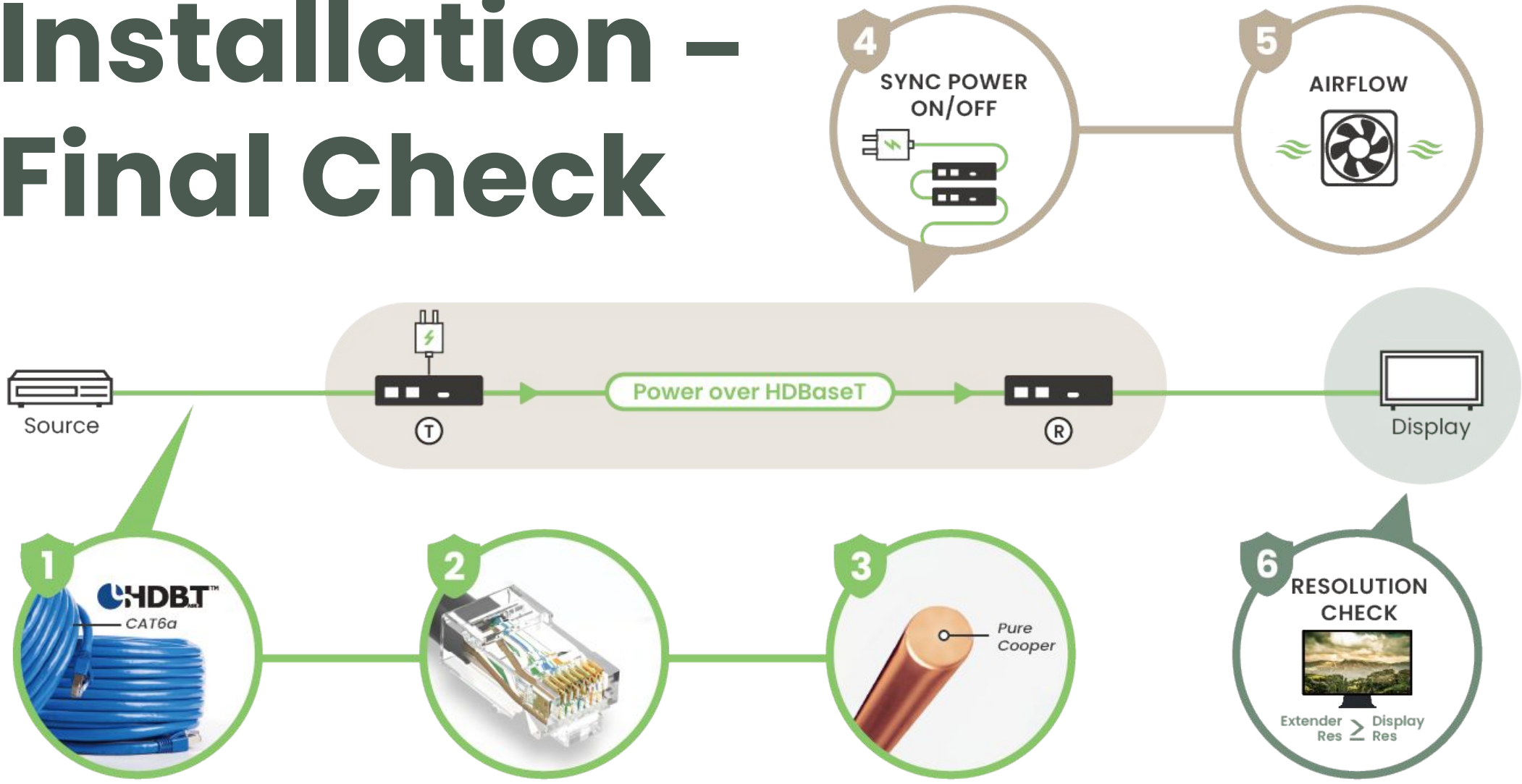
PoH Voltage Drop:
Thin Cables, Long Runs, or High Resistance

Use local power adapter at RX side.

Thermal Protection:
Stacking, Enclosures, or Poor Airflow

Separate units and install active rack fans.

Installation – Final Check



Need Assistance?

Our professional FAE team is ready to support your installation.

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