Hubbell Audio/Video Solutions

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Digital Displays are in Every Space

Education:

Classrooms, Hallways, Shared Spaces

Commercial:

Conference rooms, Huddle spaces, Break Rooms

Places of Worship

Food Service

Retail Display Signage

A/V is a Large Addressable Market & Part of the Technology Bundle

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Premise Wiring

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Hubbell HCHX Active Optical HDMI Cables

Why HDMI Active Optical Cables (AOC)?

- **New HDMI Specs Continue to Require Increased Bandwidth**
  - 4K@30Hz Requires 10.2Gbps & 4K@30Hz Requires 18Gbps

- **Traditional Shielded Copper Cable Limited by Attenuation**
  - Max Distances in Passive Cables can be limited to 30 ft
  - Cables, even active copper versions, are increasingly large

- **HDMI Active Optical Cables are Hybrid Cables w/ Copper & Fiber**

- **Electronics Can Transmit the Signal through the Fiber over Significantly Longer Distances w/ Better Performance**
  - Electronics require uni-directional

- **Fiber Resistant to EMI/RFI to ensure transmission even in challenging environments**

- **Smaller Size and Better Bend Radius**
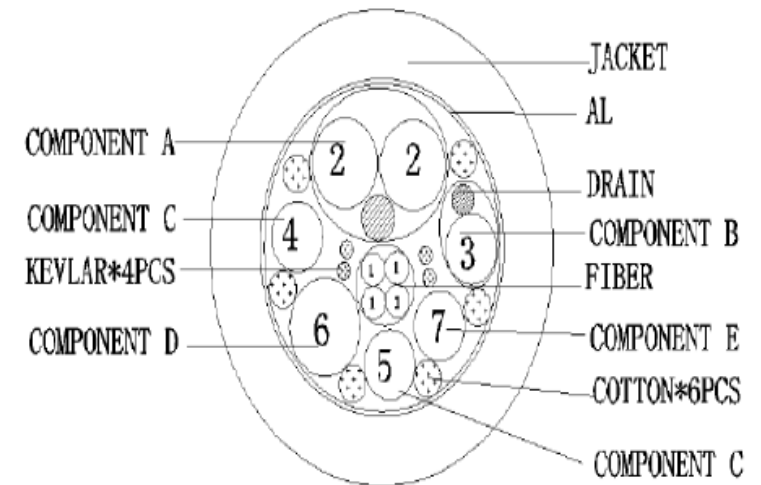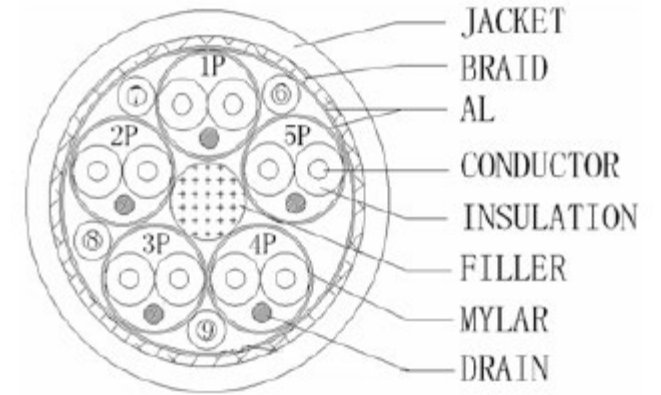
Hubbell HCHX HDMI Active Optical Cables

Part Number: HCHXyyBK
Standard Lengths: 20 ft, 30 ft, 60 ft, 100 ft

Features:

- 4K High Speed HDMI Transmission up to 18 Gbps

- Active Fiber Optics Ensure Performance over Extended Distance & Protect Against Interference

- 5V Micro USB Power Connection for Signal Boost at Either End

- Uni-directional: Source and Display End Labeled for Proper Installation

- Competitive Pricing

Applications

- Conference Rooms, Retail & Restaurant Displays, Classrooms
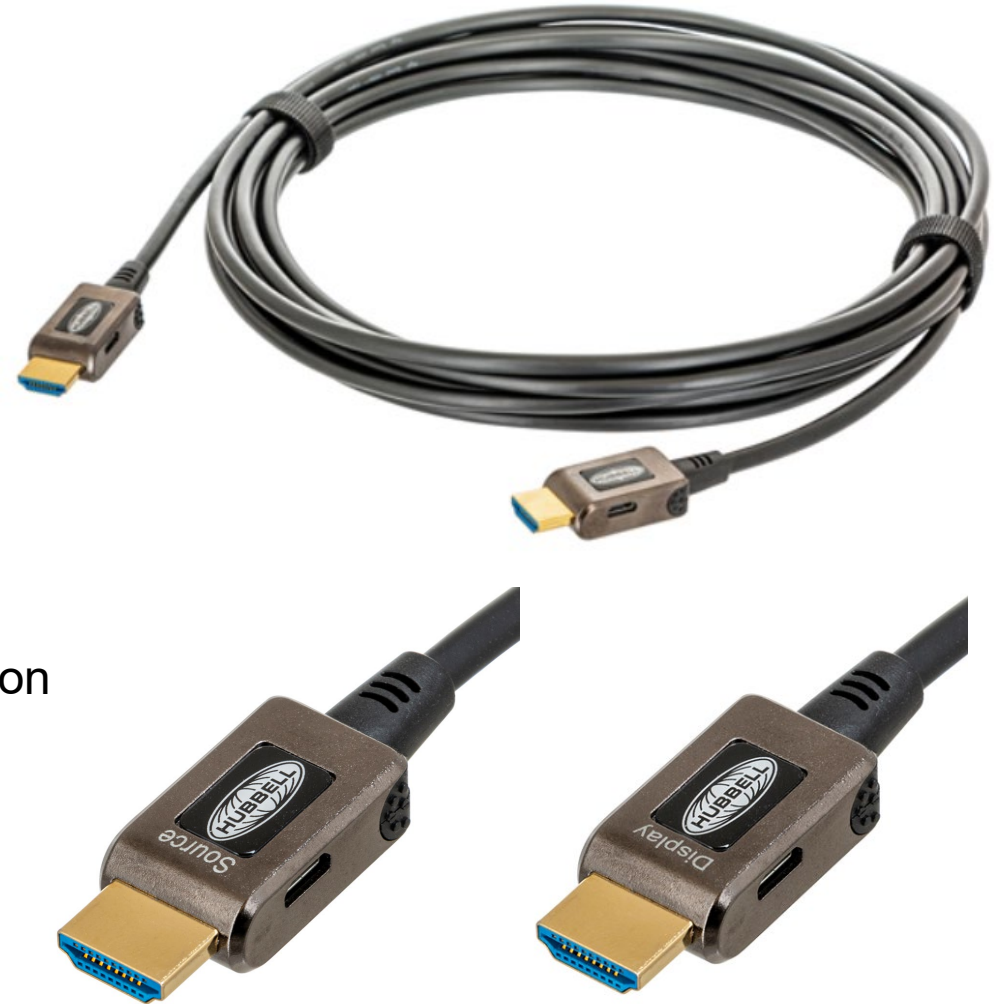
Hubbell HCHX HDMI Active Optical Cables

Specifications: 4K @ 60 Hz Active Optical HDMI Cables

- 18 Gbps High Speed

- Maximum resolution: 4K (4096 × 2160 or 3840 × 2160) at 30 or 60Hz Refresh Rate, 4:4:4 chroma

- HDCP 2.2; EDID; CEC; FCC

- Diameter: 5.2 ± 0.2 mm (0.205"), Bending radius: 20 mm (0.8")

- Made with Plenum rated Cable

- Operating temperature: 32~131° F (0~55° C)

- Low Profile Connector to Help Installation

- Gold Plated HDMI Type A Male Connectors

- Small Side Thumb Grips To Help Connection & Removal

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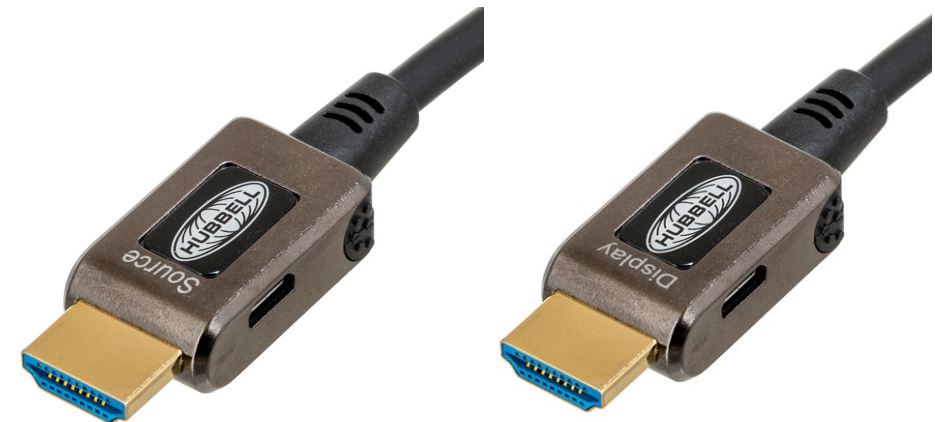
- Each Cable Individually Bagged and Packaged In its Own Carton for Protection

- Bundled and Velcroed

- Protecive Plastic Covers on the HDMI Connectors

Application Information

HDMI Cable P/N Test configuration	Data Rate	
Individual Cords	**4K y444-8 30Hz (10Gbps)**	**4K y444-8 60Hz (18Gbps)**
HCH03BK (3' high speed)	Pass	Pass
HCH06BK (6' high speed)	Pass	Pass
HCH10BK (10' high speed)	Pass	Pass
HCHX20BK (20' AOC)	Pass	Pass (with external power)
HCHX30BK (30' AOC)	Pass	Pass (with external power)
HCHX60BK (60' AOC)	Pass	Pass (with external power)
HCHX100BK (100' AOC)	Pass	Pass (with external power)
Channel Configurations		
HCH03BK to coupler to HCHX20BK to coupler to HCH03BK	Pass	Pass (with external power)
HCH03BK to coupler to HCHX30BK to coupler to HCH03BK	Pass	Pass (with external power)
HCH03BK to coupler to HCHX60BK to coupler to HCH03BK	Pass	Pass (with external power)
HCH03BK to coupler to HCHX100BK to coupler to HCH03BK	Pass	Pass (with external power)
HCH06BK to coupler to HCHX20BK to coupler to HCH06BK	Pass	Pass (with external power)
HCH06BK to coupler to HCHX30BK to coupler to HCH06BK	Pass	Pass (with external power)
HCH06BK to coupler to HCHX60BK to coupler to HCH06BK	Pass	Pass (with external power)
HCH06BK to coupler to HCHX100BK to coupler to HCH06BK	Pass	Pass (with external power)
HCH10BK to coupler to HCHX20BK to coupler to HCH10BK	Pass	No Signal
HCH10BK to coupler to HCHX30BK to coupler to HCH10BK	Pass	No Signal
HCH10BK to coupler to HCHX60BK to coupler to HCH10BK	Pass	No Signal
HCH10BK to coupler to HCHX100BK to coupler to HCH10BK	Pass	No Signal
HDBaseT		
HCH03BK to HDBT V3 to HCH03BK	Pass	Pass
HCH06BK to HDBT V3 to HCH06BK	Pass	Pass
HCH10BK to HDBT V3 to HCH10BK	Pass	Pass

- Signal will transmit w/o External Power

- Use HDMIDC5V2 Power to Boost Signal to 18 Gbps for 60Hz Refresh
  - # of Times the Image Updates Per Second
  - Smooth, Clearer Video (Video, Gaming, Sports)

- Keep Patch Cables to Under 12 ft for Maximum Performance

HDMI Patch Cables

- HCHxxBK – 3, 6, 10 FT Standard Lengths

- HDMI 4K@ 60 Hz

- 18 Gbps High Speed w/ Ethernet

- Thin 6mm±0.2, High Flex

HDMIDCV2

- 5V DC Power Supply

- Max 2A Output Current

- Include Cables: USB-A – Micro USB & USB-A to Barrel Type

HDMI 4K Decorator Frames

Part No.	Description
NS801BK	1-Port, Black
NS802BK	2-Port, Black

HDMI 4K Connectors for IMB and ISFB Series Blanks

Part No.	Description
SFHC14BK	HDMI Keystone Feed-Thru, Black
HDMIC14	HDMI Feed-Thru Coupler, Black
HDMIT14	HDMI Feed-Thru 3-Inch Tail, Black

IFP Wallplates with Label Fields

Part No.	Description
IFP11W	Single Gang, 1-Port, White
IFP12W	Single Gang, 2-Port, White
IFP13W	Single Gang, 3-Port, White
IFP14W	Single Gang, 4-Port, White
IFP16W	Single Gang, 6-Port, White
IFP26W	Double Gang, 6-Port, White
IFP29W	Double Gang, 9-Port, White
IFP212W	Double Gang, 12-Port, White

(1) HCH100XBK 100ft AOC Cable
(2) SFHC14BK HDMI Couplers
(2) HCH06BK 6ft Patch Cords

Traditional Cords & Connectors
Lower Cost
Have to pull HDMI connectors thru conduit

Hubbell HDBaseT version 3

HDBaseT Spec 3.0 enables the convergence and long-distance distribution of ultra-high speed uncompressed HDMI 2.0 audio & video, 1Gb Ethernet, USB 2.0, controls, and power, with zero latency - all over a single Category cable.

Key Features

- HDMI 2.0 4K@60 4:4:4 for up to 100m/328ft over a category cable, supporting all resolutions up to 594MHz
- Support for HDCP2.x and 1.x authentication and encryption
- Native support for 4K@60 Dolby Vision
- 1Gb Ethernet
- Audio – I²S-4
- High-speed USB 2.0
- Power up to 100W

Source: https://hdbaset.org/hdbaset-spec-3-0/

- ISFHD4BK – Phasing out – Old Chips Discontinued

- Same Great Features, Latest AV specs

- Upgraded to Valens VS3000 chipset
  - 18Gbps bandwidth
  - Uncompressed 4K /60/4:4:4 Video
  - USB 2.0
  - Analog audio
  - IR extension
  - Full 100M link

- Design Improvements – Front Programming

- Removing RS232

- Adding micro fan (19 dBA) to manage the heat

- UL Listed AZOT/7

ISFHD4BK

Punch down termination
1-gang in-wall form factor
4K@60Hz 4:2:0 transmission up to 100 meters (328ft.)
Supports
- -HDMI with HDCP 2.2
- -USB 2.0 (480 Mbps)
- -Selectable host or device for USB
- -Analog audio pass thru
- -RS232

Front panel LED status display
Auto switching and external control
IR & RS-232 pass-through
Rear Re-Programing
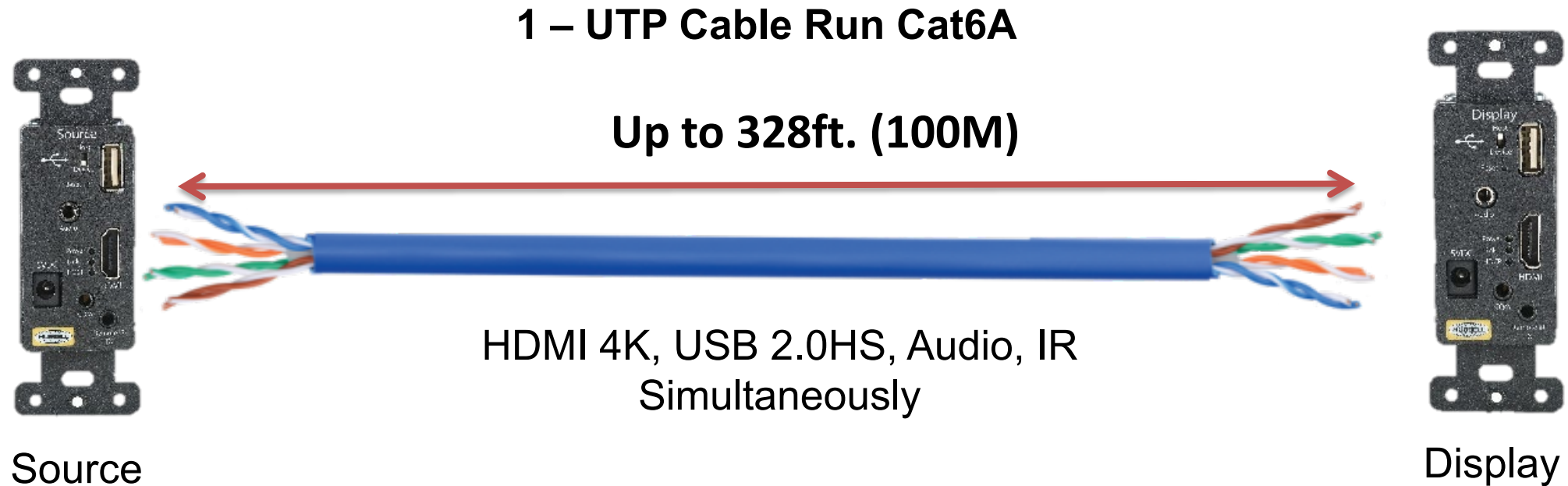Front (Barrel TYPE) or rear power input
Compatible with AVPS152W

ISFHD5BK

Punch down termination
1-gang in-wall form factor
4K@60Hz 4:4:4 transmission up to 100 meters (328ft.)
Supports
- -Uncompressed HDMI with HDCP 2.2
- -USB 2.0 (480 Mbps)
- -Selectable host or device for USB
- -Analog audio pass thru
- -No RS232

Front LED panel status display
Auto switching and external control
IR pass-through
Front Re-Programing (Micro-USB)
Front (Micro USB) or rear power input
Compatible with AVPS152W
Fan for Thermal Management

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Cabling

Need to Specify CAT6A to Support Higher Bandwidth Requirements

1 – UTP Cable Run Cat6A

Up to 328ft. (100M)

HDMI 4K, USB 2.0HS, Audio, IR
Simultaneously

Source

Display

- Unique contractor focused designs: Punch down vs. plugs

- HDBaseT Provides HDMI/USB combo plus 3.5 mm Audio over a single data cable – Used in Every Classroom; AV bundle in One Device

- 100 meter Distance

- Both Modules Install in wall, Competition has large RX boxes

- Provide more Value & Easier Installation/Usage Than Complex Systems

- Installation Ease: Flexible mounting Ears, Pull a single UTP Cable for new or retrofit

- Unique, in wall tamper proof powering option or standard powering

     (use the extra USB to power peripherals)

- One Hubbell Solution: Bundle A/V together w/ Data, Power, & Deliver an Integrated Solutions
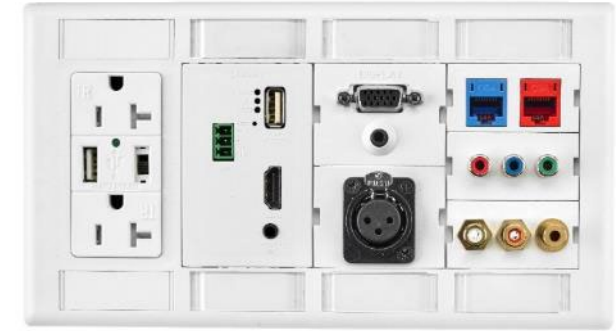
Fast
    Quick punch down termination vs. plug

Performance
    No need for shielded cable

Cost efficient
    Field terminating shielded plugs are an added expense

Space efficient
    Field terminating plugs are large and are difficult to fit in boxes, floor boxes, and raceway

Unique and exclusive
    Differentiate from existing solutions that require field term plugs

- Device Charging and Powering AV Modules

- 3A of 5V DC Power in a Compact In-wall Duplex Outlet

- One USB charging port, Type A

- Tamper-Resistant (TR) decorator duplex

- Green LED indicator shows 5V power available

- Integrated 5 VDC Rear Flying Leads to Power AV Devices

- Available in 15A or 20A

- Power over HDBaseT
  - Power One End of System, Transmit Power to Other End

- Created noise that reduced our channel headroom

- Prioritized a single gang, in wall solution

- Outlets already present to power source and display

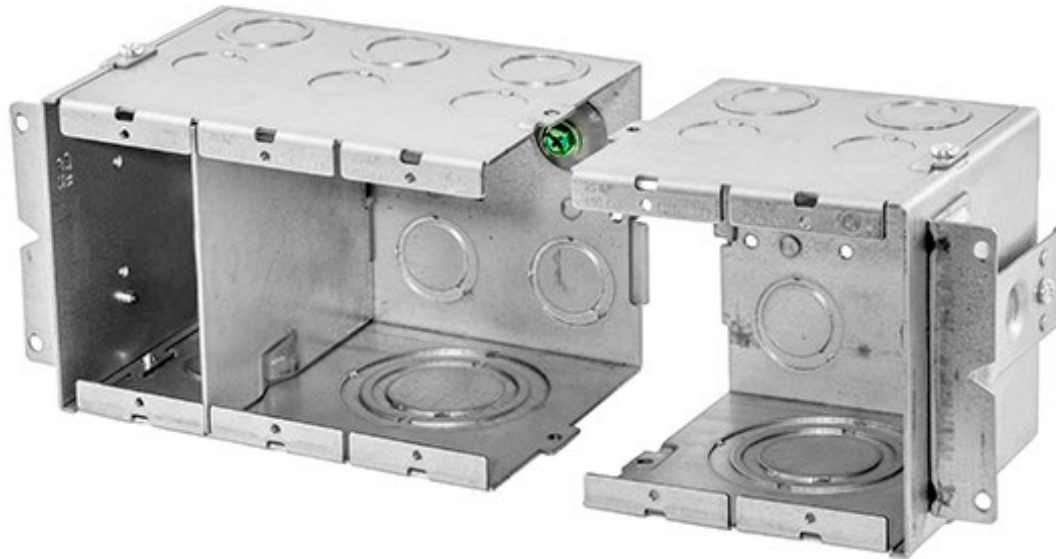Solutions to support Power, Data and AV Together In Wall, In Floor, or Surface Mount
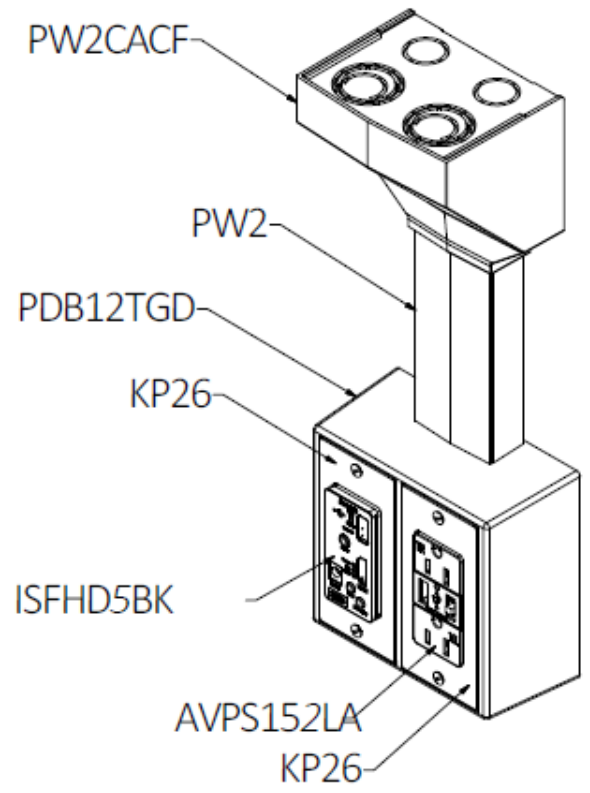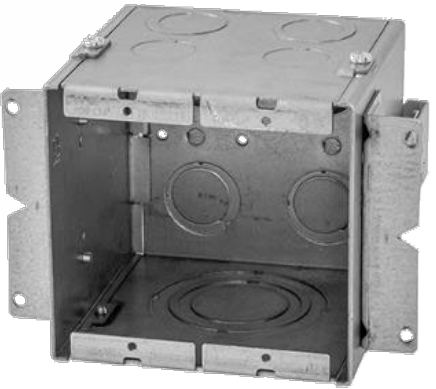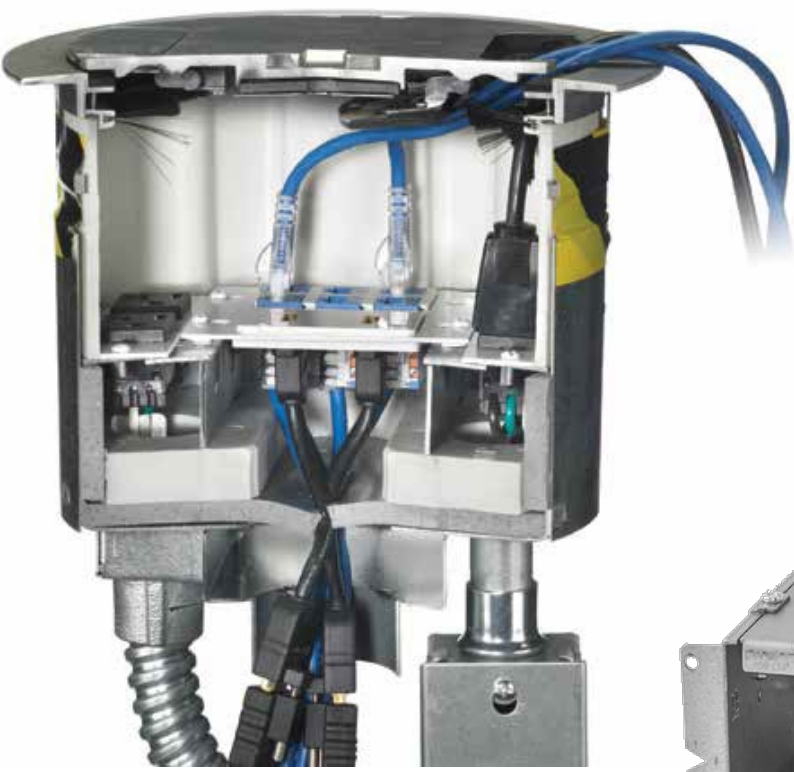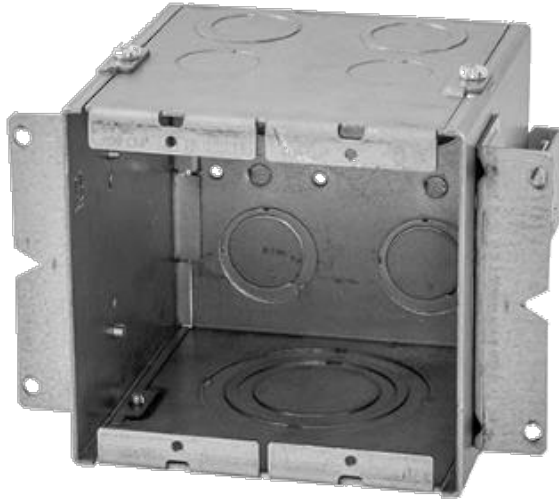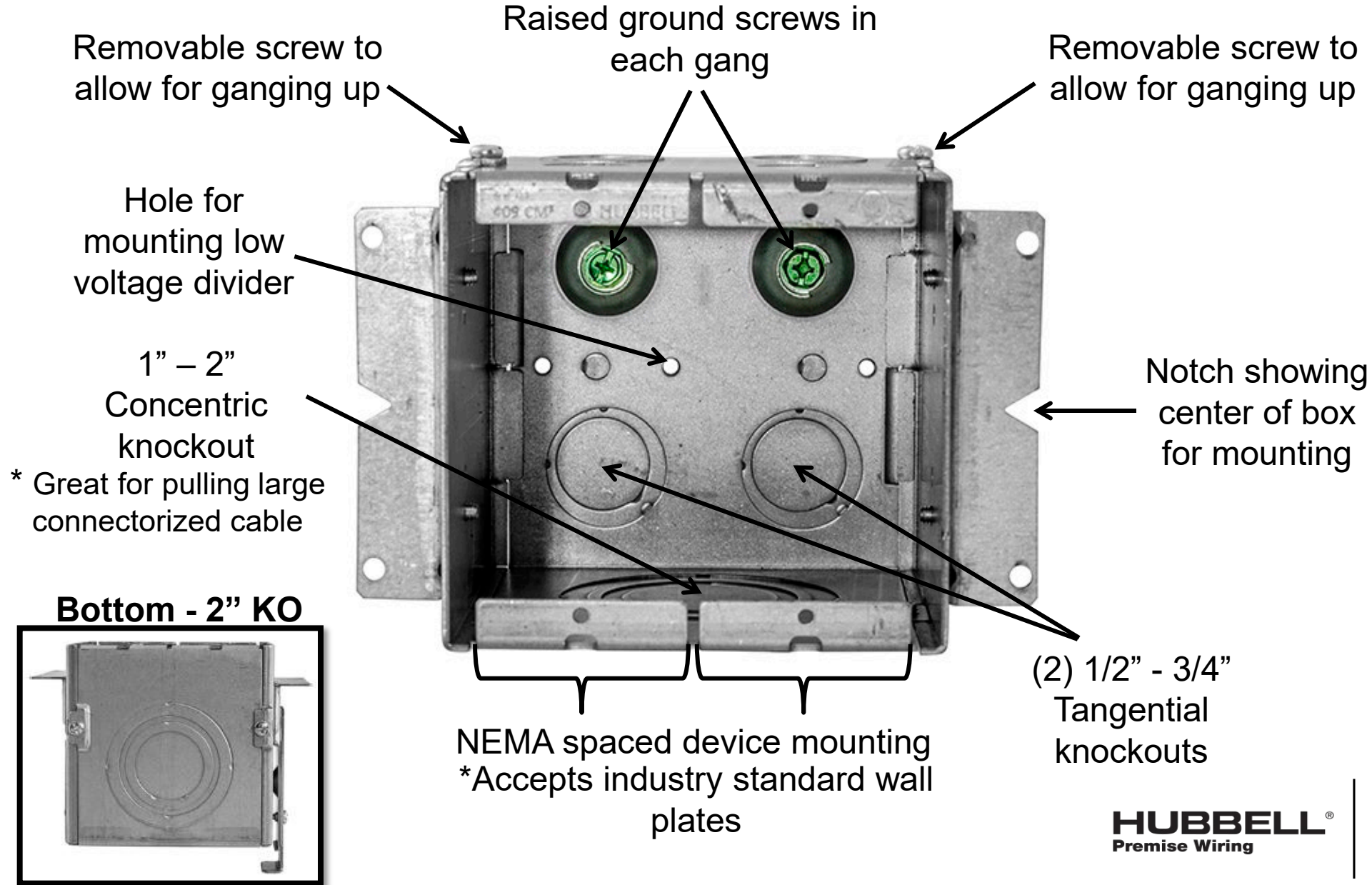
HBL985
2 Gang

HBL986
3 Gang

Low Voltage
Partition

Ideal for delivering power, data and AV side-by-side

Removable screw to allow for ganging up

Raised ground screws in each gang

Removable screw to allow for ganging up

Hole for mounting low voltage divider

1" – 2" Concentric knockout
* Great for pulling large connectorized cable

Notch showing center of box for mounting

Bottom - 2" KO

(2) 1/2" - 3/4" Tangential knockouts

NEMA spaced device mounting
*Accepts industry standard wall plates

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✓ Creates partition to allow for multiple services to be in a single box

✓ Can be used in either **HBL985** or **HBL986**

✓ Ability to be inserted anywhere in box

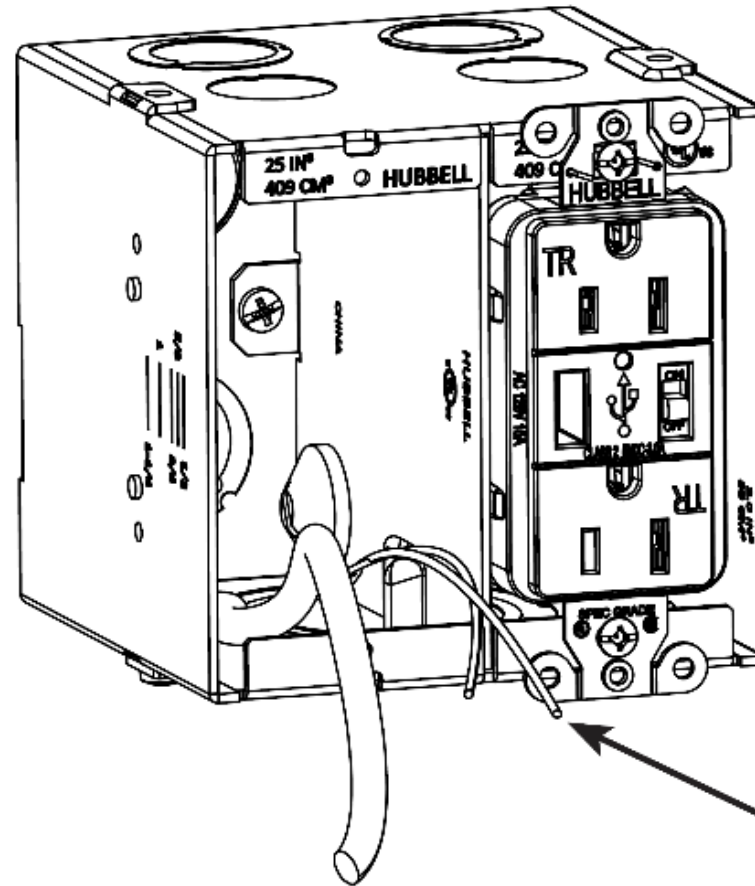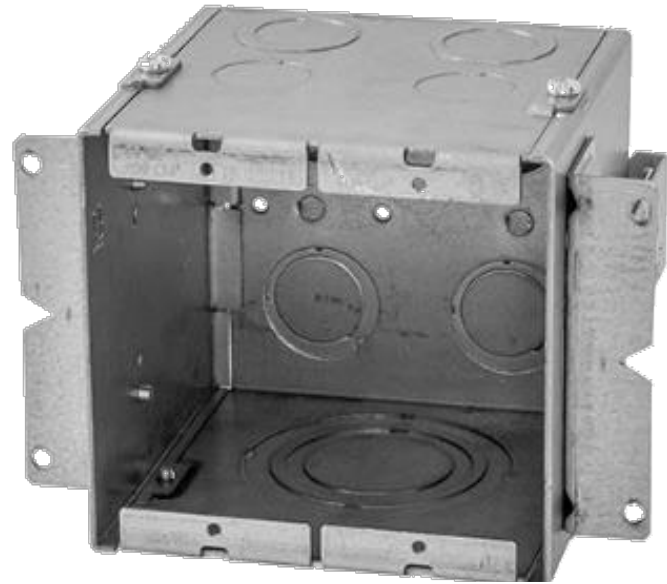✓ Version available with low voltage pass through
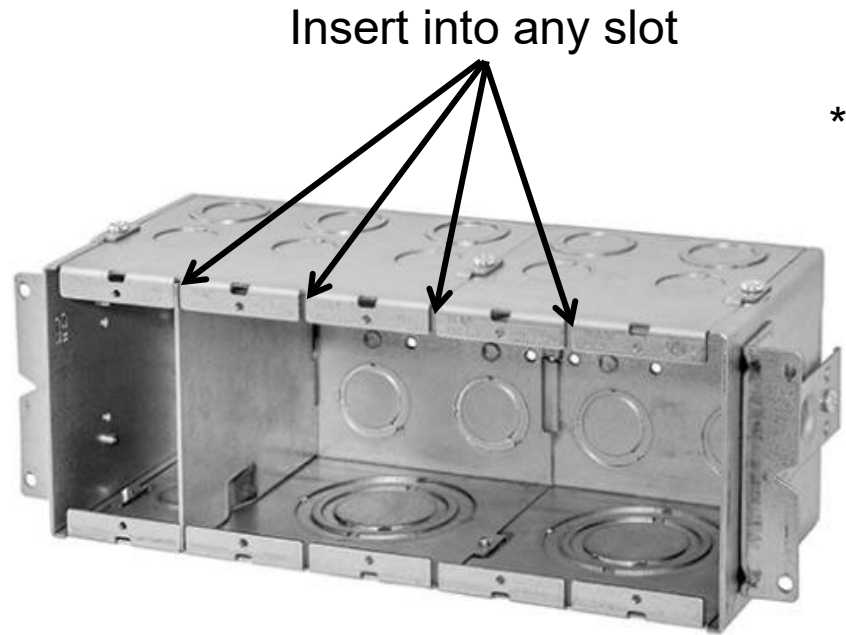
Insert into any slot
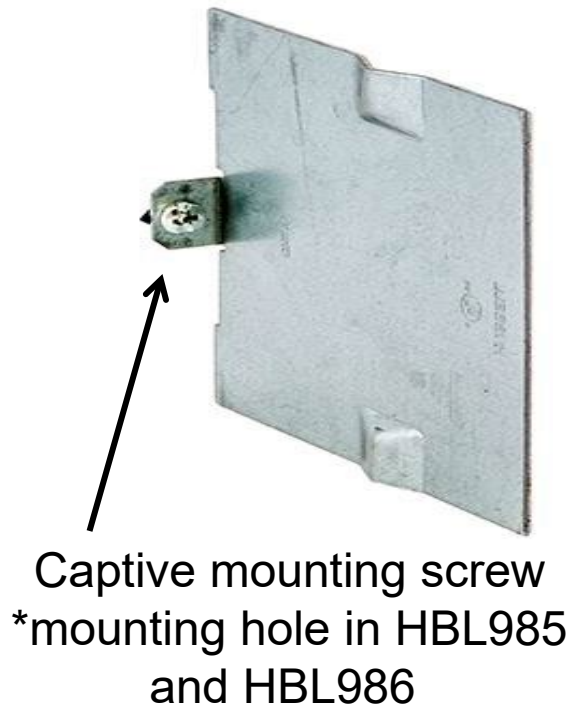
Captive mounting screw
*mounting hole in HBL985 and HBL986

HBL989AVD
AV Divider Available with Low Voltage Pass-Thru

5VDC Through Fitting

Category Cable

Display:
- Interactive Projector/SmartBoard
- Display End of the HDMI/HDBT, AVoIP box
- 2-4 Data Jacks – Network, AV over IP, WAP
- Multiple Power Outlets

Teacher Workstation:
- Laptop, Doc Camera, etc
- Source End of the HDMI/HDBT
- 2 Data Jacks – Network
- Multiple Power Outlets

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Hubbell Bundle for the Modern Classroom
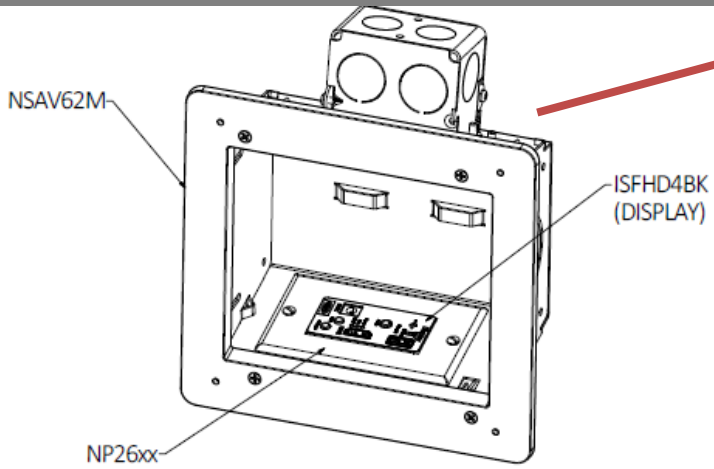
Display

NSAV62M FPTV Enclosure
Raco 565 Work Box
AVPS152xx Power Supply Rec (WDK)
HDBT Module w/ 100 ft CAT6A Cable
Data Connections & Cords

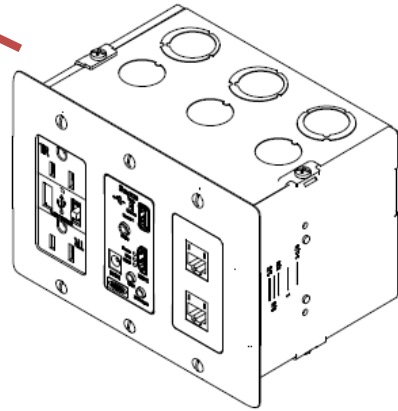**Teacher Workstation**

HBL985/6 AV Back Box w/ Divider (RACO)
HDBT Module
AVPS152xx Power Supply Receptacle (WDK)
Data Connections & Cords

ISFHD5BK – HDBT Source/Display Kit
Power, Data, A/V, Delivery Typical Installation

HUBBELL

Display
Source

Host
Device
Reset
Audio
Power
Link
HDCP
HDMI
IR Out 5VDC

Hubbell offers unique connection, power, and delivery solutions needed for today's AV applications