

The Ultimate Guide to USB-C



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Chapter 1

Introduction

Welcome to *The Ultimate Guide to USB-C and PureLink's USB-C Product Range*, where we unravel the fascinating world of USB-C technology and explore the cutting-edge products that redefine connectivity. In today's digital landscape, USB-C is not just a connector; it's a transformative force driving the evolution of how we connect and interact with our devices.

Overview of USB-C

USB-C, short for Universal Serial Bus Type-C, has become the standard for modern connectivity. Its significance lies in its reversible design, allowing users to plug in their devices without worrying about orientation. But USB-C is more than just convenience; it represents a leap forward in data transfer speeds, power delivery, and versatility.

About PureLink

At the heart of this guide is PureLink, a leading manufacturer of AV solutions since 2002. Their extensive R&D efforts deliver the latest cutting-edge features and functionality for applications spanning military/government, healthcare, and Fortune 500 corporations. Industry firsts include the world's first cross-platform matrix switcher and DVI-Fiber cable as well as innovative developments in AVoIP technology, control/automation, collaboration solutions, and more.



Chapter 2

Understanding USB-C

USB-C stands at the forefront of modern connectivity, bringing with it a host of advantages that redefine the user experience.



Reversible Design

USB-C introduces a game-changing reversible design, eliminating the frustration of connecting devices in the "right" way.



Speed & Efficiency

With USB 3.1 and USB 3.2, USB-C ensures ultra-fast data transfer, making file sharing and syncing more efficient.



Power Delivery (PD)

USB-C isn't just for data—it's a powerhouse for charging. Power Delivery allows fast charging for various devices, from laptops to smartphones.



Multi-Functionality

USB-C wears multiple hats, seamlessly handling audio, video, power, peripherals, and data signals simultaneously.

One cable for diverse connectivity needs.



Universal Compatibility

Break free from manufacturer-specific standards.
USB-C brings universal compatibility, ensuring a seamless experience across devices.



Durability

Designed for the long haul, USB-C connectors are robust, capable of enduring frequent plugging and unplugging.



Ubiquitous Presence

USB-C is becoming the standard in modern devices, from laptops to smartphones, creating a uniform and streamlined digital ecosystem. Its versatility and compatibility make it an ideal choice for connectivity in various settings, including huddle rooms and conference rooms, positioning itself as the new standard in collaboration.

Chapter 3

PureLink's USB-C Product Lineup

Innovation in Your Hands

At PureLink, quality and innovation converge to shape a transformative USB-C product lineup. Our commitment to delivering excellence takes center stage as we unveil a suite of solutions tailored to meet diverse user needs, providing seamless connectivity across various environments.

Pinnacle of Connectivity

PureLink's USB-C product lineup isn't just about cables and connectors; it's a symphony of innovation, addressing the dynamic requirements of modern connectivity. Whether you're in a conference room, home theater, broadcast studio, hotel AV setup, auditorium, or staging/rental environment, PureLink's USB-C products redefine how you connect and collaborate.

Tailored for Your Needs

Understanding the unique demands of different settings, each product in our lineup is meticulously designed. From the robust PS-820S HDMI/USB-C seamless presentation switcher to the versatile PS-610 HDMI/USB-C seamless presentation switcher with Dante™, and the high-performance USB32-E100, our solutions cater to a spectrum of connectivity scenarios.





Seamless Integration

PureLink's USB-C products seamlessly integrate into your existing setup, providing a hassle-free experience. Whether it's the cutting-edge HWCE IV HDMI/USB-C wallplate extender switching system or the Collabora 8 4K multi-viewer collaboration hub, our products ensure that connectivity is the least of your concerns.

Unparalleled Performance

Our USB-C products aren't just about connections; they're about performance. The Huddle-CAM-400 4K auto-tracking PTZ camera with USB-C, for instance, delivers crystal-clear imagery and intelligent auto-tracking for an immersive communication experience. Each product in our lineup is a testament to our unwavering commitment to performance excellence.

Future-Ready Solutions

As technology evolves, so do our products. PureLink's USB-C solutions are not just current; they are future-ready. Stay ahead of the curve with products that embrace the latest standards, ensuring longevity and adaptability in an ever-changing technological landscape.

In the following sections, we'll delve into each product, unraveling their unique features and showcasing how PureLink's USB-C lineup is poised to redefine connectivity standards in every sphere of use.

8×2 4K60 Seamless Presentation Switcher

PS-820S







Welcome to the future of seamless presentations with PureLink's PS-820S. This USB-C solution is a powerhouse, redefining the way we connect and present. With an 8×2 seamless configuration, instant switching, and individual video scaling for each output, it offers an unparalleled presentation experience, made even more robust with the included HDBaseT™ transmitter and HDBaseT™ receiver.

Key Features



USB-C Input

Seamlessly integrate your USB-C devices, opening up new possibilities for streamlined connections and expanded compatibility.



4K60 4:4:4

Enjoy the highest quality video with Don't Blink™ Switching Technology.



Versatile Inputs

Adapt to any source with versatile inputs, including HDMI, $HDBaseT^{TM}$, DisplayPort, and USB-C.



Audio Enhancement

Ensure a rich auditory experience with audio enhancement through balanced audio embedding, de-embedding, mixing, and volume control.



Flexible Control

Exercise comprehensive control options with relay control, HDCP 2.2 compliance, and complete EDID management for flexible control.

Applications

Ideal for conference rooms, boardrooms, hotel AV, staging and rental, and auditoriums, the PS-820S ensures a superior, adaptive audio-visual experience in seamless 4K60 video and audio distribution scenarios.

6×1 4K60 Seamless Presentation Switcher with Dante™

PS-610







Step into a world of connectivity versatility with PureLink's PS-610. This USB-C collaboration device is a connectivity hub that understands the needs of the modern user. With USB-C, HDMI, HDBaseT™ transmitter, Analog, and Dante™, this hub caters to a wide array of sources and applications.

The Ultimate Guide to USB-C and PureLink's USB-C Product Range

Key Features



USB-C Inputs with Charging

Experience convenience with USB-C inputs and charging capabilities, providing an all-in-one solution for streamlined connectivity and device power.



4K60 4:4:4

Extend HDBaseT™ 3.0 output up to 132 feet (40 meters) for 4K60 4:4:4, and up to 230 feet (70 meters) for 1080p60 and 4K30 signals using the included receiver via Cat6a.



Seamless Switching

Enjoy 6×1 seamless switching with multi-view options.



Versatile Display Modes

Choose from full screen, PIP, PBP, and multi-view/quad-view display options.



Flexible Control

Effortlessly control settings via front panel buttons, remote, RS-232, CEC, TCP/IP, and Web GUI. Seamless integration with popular automation systems including PureLink's iCON™ control.



Local HDMI Priority Input on Rx

Experience seamless signal prioritization, ensuring your preferred HDMI source takes precedence for an enhanced user experience.

Applications

Whether in corporate offices, control rooms, or broadcasting studios, the PS-610 adapts to various setups, providing versatile connectivity for enhanced user experiences.

3x1 4K60 Wallplate Extender Switcher over HDBaseT™ 100 Meter

HWCE IV



Explore the limitless possibilities of connectivity extension with PureLink's HWCE IV. This HDMI / USB-C extender system extends beyond the ordinary, providing 328 feet (100 meters) of 4K60 4:4:4 HDR10+ extension. With wallplate transmission and local manual or auto-switching, it's a versatile solution for various environments.

Key Features



USB-C Inputs with Charging

Experience convenience with USB-C inputs and charging capabilities, providing an all-in-one solution for streamlined connectivity and device power.



4K60 4:4:4

Transmit signals up to 328 feet (100 meters) with HDR10+.



HDMI and USB-C Inputs

Effortlessly switch between HDMI and USB-C inputs automatically or manually for seamless connectivity.



Local HDMI Priority Input on Rx

Experience seamless signal prioritization, ensuring your preferred HDMI source takes precedence for an enhanced user experience.



HDBaseT™ Technology

Utilize $\mathsf{HDBaseT}^\mathsf{TM}$ Technology for reliable extension and switching over long distances.

Applications

From professional AV setups to educational institutions, the HWCE IV is the go-to choice for those seeking reliable, high-quality, and long-distance connectivity.

Chapter 3: PureLink's USB-C Product Lineup

2x1 4K60 Extender Switcher over HDBaseT™ 3.0 100 Meter

HUE-100



PureLink introduces the next level of connectivity with its HUE-100. This HDMI and USB-C HDBaseT™ 3.0 extension system revolutionizes any setup, with full HDMI 2.0b, HDR/HDR10/HDR10+ 4K60 4:4:4 up to 100 meters. Boasting advanced features like manual or automatic input selection, API control, and Dolby Vision, it ensures an unparalleled connectivity experience.

Key Features



USB-C Input with Charging

Experience convenience with a USB-C input and charging capabilities, providing an all-in-one solution for streamlined connectivity and device power.



4K60 4:4:4

Extend signals up to 328 feet (100 meters) for 4K60 4:4:4, and up to 492 feet (150 meters) for 1080p with HDBaseT TM 3.0.



HDMI and USB-C Inputs

Effortlessly access versatile HDMI and USB-C inputs for seamless connectivity.



Manual/Auto Input Selection

Control inputs seamlessly through both front panel and API, ensuring smooth operation.



API Control

Manage input switching, EDID, audio, and downscaling with ease using intuitive API control.

Applications

Tailored for professional AV setups and educational institutions, the HUE-100 provides superior, long-distance connectivity with seamless control and versatile input options, elevating connectivity experiences across corporate and educational environments.

Chapter 3: PureLink's USB-C Product Lineup

8x1 4K30 Multi-View with Wireless BYOD Collaboration Hub

Collabora 8 4K





Collaboration reaches new heights with PureLink's Collabora 8 4K.

This USB-C video conferencing system is designed to be a hub for seamless collaboration, allowing up to eight devices simultaneously.

With compatibility across various sources, including BYOD wireless, it simplifies the way people connect and communicate in professional settings.

Key Features



USB-C Input

Seamlessly integrate your USB-C devices, opening up new possibilities for streamlined connections and expanded compatibility.



Multi-Source Display

Display up to eight devices simultaneously.



Wireless Connectivity

Connect wirelessly over WiFi, wireless dongle, or direct connection for seamless connectivity.



Versatile Source

Various sources, including iPhones, iPads, Android phones, laptops, and more.



Integration with Communication Platforms

Integrate seamlessly with Apple Airplay, Google Miracast, or USB-C dongle for diverse collaboration options.

Applications

Perfect for huddle rooms, conference rooms, presentations, houses of worship, and higher education, the Collabora 8 4K ensures seamless communication and collaboration in diverse settings.

4K30 Auto Tracking PTZ Camera / Soundbar / Microphone All In One

Huddle-CAM-400



Experience the pinnacle of visual excellence with PureLink's Huddle-CAM-400. This all-in-one device boasts a 4K Auto Tracking PTZ Camera, a Soundbar, a Microphone, and an optional add-on table microphone with mute/unmute button/indicator. With intelligent auto framing, PTZ movement, and high-quality optics, it sets a new standard for USB-C cameras.

Key Features



USB-C Output

Effortlessly connect and project content with the USB-C output, offering seamless compatibility for a range of devices and streamlined presentations.



Auto Tracking

Intelligently track and frame single or multiple speakers.



High-Resolution Imaging

Capture sharp and brilliant rich imagery with 4K optics.



Versatile Outputs

Ensure seamless connectivity with HDMI and USB-C video/ audio outputs.



Compatibility

Achieve compatibility with Zoom, Teams, GoToMeeting, and more.

Applications

Ideal for commercial video conferencing, streaming, and content creation, the Huddle-CAM-400 is a multifaceted, all-in-one solution for crystal clear communication in professional environments.

USB 3.2 Extender 100 Meter

USB32-E100







Experience top-tier USB connectivity with PureLink's USB32-E100. This compact powerhouse seamlessly transmits USB 3.2 Gen1 signals over Cat6a/7 Ethernet cables. With complete backward compatibility, it's the ideal choice for various applications like laptops, USB cameras, touch panels, and a range of other peripheral USB 3.2, USB 2.0, or USB 1.1 devices.

Key Features



High-Speed Data Transfers

Transfer data at rapid speeds up to 5Gbps with USB 3.2 Gen1.



Extended Reach

Extend USB signals up to 100 meters using a Cat6a cable.



Backward Compatibility

Seamlessly connect with USB 2.0 and USB 1.1 devices.



Universal Connectivity

Guarantee a hassle-free plug-and-play experience with USB Type-C ports on both ends for universal connectivity.



Enhanced Control

Extend RS-232 control for comprehensive device management.



TAA Compliant

Complies with TAA regulations for government procurement.

Applications

Tailor-made for elevating video conferencing in boardrooms, classrooms, and remote collaboration settings, the USB32-E100 ensures seamless and reliable connectivity across a spectrum of professional environments, spanning business, education, and creative industries.

Chapter 4

Choosing the Right PureLink Product for You

Tailoring Connectivity to Your Needs

In this section, we'll guide you through the process of choosing the right PureLink product for your specific needs. With a comparison chart, considerations for selection, and optimization tips, make an informed decision tailored to your connectivity requirements.

Comparison Chart

To facilitate your decision-making process, we've compiled a comprehensive comparison chart summarizing the key features of our USB-C products. This visual aid serves as a quick reference, allowing you to compare specifications and functionalities at a glance:

USB-C Products	PS-820S	PS-610	HWCE IV	HUE-100	Collabora 8 4K	Huddle-CAM-400	USB32-E100
Product Overview	8×2 Seamless with (1) HDBaseT™ Transmitter, (1) HDBaseT™ Receiver	6×1 Seamless Switching with (1) HDBaseT™ Receiver, Multi-View Options	4K60 100 Meter Wallplate Extender Switcher with RX Local Input	4K HDMI and USB-C Over HDBaseT™ 3.0 100 Meter Extension System with Bi-Directional PoC	Eight Source 4K Multi-Viewer Collaboration Hub with Wireless BYOD	4K Auto Tracking PTZ Camera / Soundbar / Mic	100 Meter USB 3.2 Extender Over Cat6a
Video Quality	4K60 Seamless Switching	HDMI 2.0b 4K60 Seamless Switching	4K60 HDR10+	Full 4K60 4:4:4 Extension with HDMI 2.0b, HDR/HDR10/HDR10+	4K30 Multi-Viewer Display	4K Auto Tracking PTZ Camera	High-Speed Data Transfers (Up to 5Gbps)
Audio	Balanced Stereo Analog Embedding, Balanced Stereo Analog De-embedding Volume Control	Balanced Stereo Analog Embedding, Balanced Stereo Analog De-embedding Dante™ 2ch Volume Control	Unbalanced Stereo Analog De-embedding	Unbalanced Stereo Analog De-embedding, API Mute / Unmute	Unbalanced Stereo Analog De-embedding Separate Audio Layer Selection	Soundbar, Microphone Optional Extension Microphone with Mute / Unmute	USB Video / Audio
Connectivity Options	HDMI, USB-C, DisplayPort Analog Audio HDBaseT™ (TX and RX included)	HDMI, USB-C, Analog Audio, Dante™ 2ch Audio Inputs HDBaseT™ (RX included)	HDMI, USB-C, Analog Audio Out	HDMI, USB-C USB-A, USB-B, RS-232 Bi-directional IR, Stereo Audio Out	Apple AirPlay, Miracast, Wireless USB-A/C Dongle, HDMI, USB-C, VGA	HDMI, USB-C	USB-C RS-232 (Mini-phoenix)
Control Options	Front Panel Buttons, Handheld Remote, LAN, RS-232, Compatible with iCON™ and All 3rd Party Control Systems	Front Panel Buttons, Handheld Remote, LAN, RS-232, Compatible with iCON [™] and All 3rd Party Control Systems	Front Panel Button Manual or Auto-Switching of TX and RX Inputs	Front Panel Button Manual or Auto Input Selection, API Switching (RS-232)	Front Panel Buttons, LAN	Handheld Remote	N/A
Applications	Conference Rooms, Boardrooms, Auditoriums, Hotel AV, Staging and Rental	Corporate Offices, Control Rooms, Studios	Professional AV Setups, Educational Institutions	Professional AV Setups, Educational Institutions	Huddle Rooms, Conference Rooms, Presentations	Commercial Video Conferencing, Streaming, Content Creation	Video Conferencing, Boardrooms, Classrooms, TAA Compliant

Considerations for Selection

Choosing the right PureLink product involves considering several crucial factors tailored to your specific needs:

1

Use Case

Understand the primary purpose of the product – whether it's for professional presentations, commercial connectivity, signal extension, collaboration, or visual communication.

2

Connectivity Requirements

Evaluate the connectivity options based on your existing devices and infrastructure. Consider the types and number of ports required for seamless integration.

3

Audio Enhancement

If audio is a critical component of your application, consider the audio features offered by each product, such as balanced audio embedding, Dante $^{\text{TM}}$ audio, or beamforming microphone arrays.

4

Control Preferences

Different products offer various control options. Determine which suits your preferences, whether it's relay control, front panel buttons, handheld remotes, or integration with control systems.

Tips for Optimization

Once you've selected your PureLink product, here are some tips to optimize your user experience:

Firmware Updates

Regularly check for firmware updates to ensure your product benefits from the latest features and improvements.

User Manuals

Familiarize yourself with the user manuals for in-depth insights into advanced features and functionalities.

Technical Support

Reach out to our industry-renowned technical support team for any queries, troubleshooting, or assistance.

Integration with Ecosystem

Explore how your chosen PureLink product integrates with other devices in your ecosystem, maximizing its potential.

By considering these factors and following optimization tips, you can confidently choose the right PureLink product to meet your specific needs and enhance your connectivity experience.



Discover our USB Solutions



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