

# WIRED JOURNALS



## **Wired Journals:** Everything You Need to Know About Cables

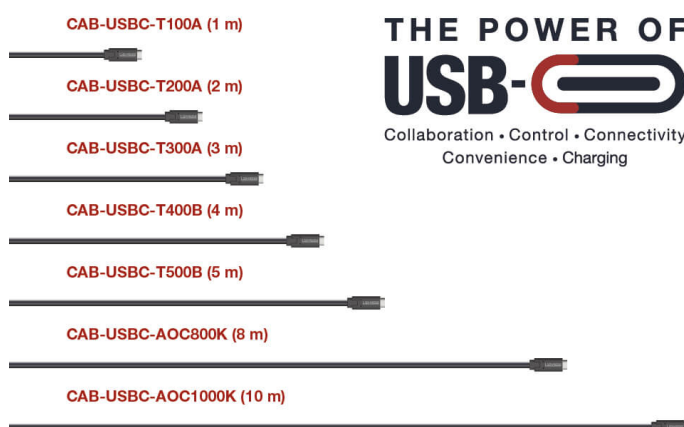
Lightware Visual Engineering

## From Crisis to Expertise - The Story Behind Lightware's USB-C Cables

Welcome to this series, **where we'll take you through everything you always wanted to know about cables** but were afraid to ask. From the basics to the expert level, we've got you covered.

But first, **here's where the Lightware cable story started**. Back in 2020, during the COVID crisis, we shared the consequences of the global pandemic, and it was also the time when the company formed its new cable team.

At the time, we recognized that there were many poor-quality cables on the market, especially those using USB-C. For example, **our Taurus UCX switch was already proving its worth, but what we also needed was a good, reliable cable**. With that objective driving us, **in just six months, Lightware became the expert in USB cables** in our market. Since then, **our cable portfolio has experienced significant growth** and today makes up a substantial portion of Lightware's revenue.



Check Our Cables [lightware.com/products/cables](https://lightware.com/products/cables)

## The Truth About USB-C Cables

**Not all USB-C cables are created equal**. The main issue is that many cheap cables only provide power, not full data transfer. To get the most out of USB-C, you need a **high-quality cable that connects all the data pins**. Don't forget – just because the cable connects from device to device, it doesn't mean the complete experience is possible. This explains why a lot of USB cables are inexpensive and easily available.



4K 60FPS Video  
and Audio



K+M, Thumb  
Drive, Speakerphone,  
and Webcam



4K Webcam,  
SSD storage



Fast Charging of  
Laptops, Tablets  
and Phones



Convenient  
to Use and  
to Install

In contrast, **Lightware's full-featured USB-C cables allow the transmission of video, audio, control and charging over a single cable**. It excels in every aspect of signal management, from quality and reliability to connectivity features. We offer a **wide range of tried-and-tested USB-C cables**, available in various lengths **from 1m up to 10m** (including our USB-C AOC cables), allowing greater flexibility for meeting room system designers and integrators.

Read More [lightware.com/product-families/usb-c-cables](https://lightware.com/product-families/usb-c-cables)



## Enlightenment for Innovation – The Birth of Taurus UCX

Back in 2018, **Lightware was invited to submit a tender** for a well-known multinational company famous for its software products. While **we worked hard to win the project**, unfortunately, we didn't succeed partly because our HDMI cable solution wasn't innovative enough for a futureproof AV setup.

Learning from the experience, **the Lightware team redesigned our HDMI AV solution**, but this time integrating USB-C technology. **That's when our extraordinary and revolutionary Taurus UCX Universal 4K HDMI Switch was born.**

Check Our Video

[www.youtube.com/watch?v=71lcUrc6g5s](https://www.youtube.com/watch?v=71lcUrc6g5s)



Thanks to **Gergely Vida**, the CEO of Lightware, who **realized the potential of USB-C technology** in the early stages, Lightware has since generated approximately 16 million euros in annual revenue, having brought the Taurus UCX to market supported by our USB-C cable technology.

## A Captivating Journey into Meeting Room Connectivity

**USB-C technology** is more **complicated** than it looks at first glance – there's a lot of clever tech beneath the surface. Let us explain how it works.

In many meeting rooms, the **USB camera, microphone, speakers and displays are uniquely configured**. At the same time, **people bring their own devices to host meetings and share content**, but they **also want to use the dedicated equipment** in the room. To meet this need, Lightware offers a wide range of tried-and-tested USB-C cables, available in various lengths from 1m up to 5m supporting USB 3.x, 'SuperSpeed', 10 Gbps.

What's more, **our unified communications connectivity solution bridges the gap between BYOM applications and USB-C devices**. Lightware **Taurus UCX** is a universal matrix switcher that **enables users to easily share their content, switch hosts and control meeting rooms easily and intuitively**.



Users simply connect their USB-C cable to the Taurus UCX to share content, control and use dedicated devices in the meeting room. **Our cables** – from 1m to 10m in length – have been **tested with Taurus UCX** and can even deliver **5Gbps 'SuperSpeed' USB 3.0 Gen1 performance**. This allows users to connect to the room's dedicated **4K webcam** with their own device and run meetings exactly the way they want.

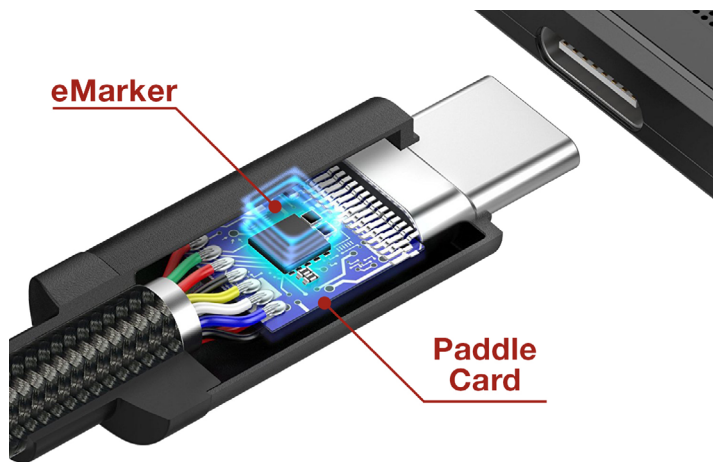
Learn More

[lightware.com/product-families/taurus-ucx](https://lightware.com/product-families/taurus-ucx)

## What exactly is an eMarker, and why should you care?

Lightware is well known for **manufacturing AV devices**, but our capabilities also extend to a **rich array of cables** that augment our comprehensive product portfolio.

This includes the **innovative eMarker chip**, which is utilized in USB-C technology to facilitate communication between power source and power sink devices. **This remarkable chip diligently records the data transfer speed and the highest current between the interconnected devices.** Notably, Lightware’s cables incorporate this advanced chip to ensure superior performance and reliability. This helps us deliver on a core priority: to establish **seamless cable communication with optimal transmission quality and reliability.**



Think of it this way: An ECG signal creates distinctive ups and downs. Now, imagine transmitting data over extremely long cables – without the aid of this special chip, the signal would become smoothed out, losing its integrity. However, **with the assistance of eMarker, the signal remains constant and unwavering throughout its journey.**

Willing to learn more about cables and the eMarker?

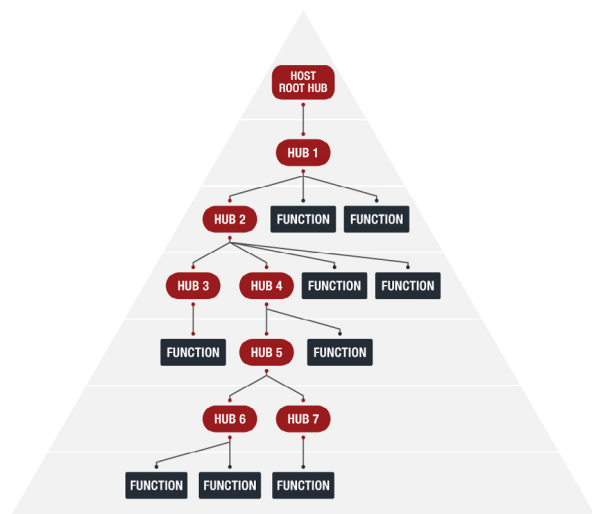
Check Our Webinar

[academy.lightware.com/courses/usb-c-webinars](https://academy.lightware.com/courses/usb-c-webinars)

## Under the Bonnet – USB Generations and Topology

**Universal serial bus (USB) needs little introduction** – it has become the industry standard connector for storage, power, peripherals and data transfer. It was **first introduced in 1996** and has been **growing rapidly** from the first USB 1.0, 1.1, 2.0, etc, right up to the **present day** and **USB4**. As a result, it is the **universal standard for data interface and power delivery used** by millions of people in their daily lives.

REVISION	ISSUE DATE	BITS/SEC	PORT & CABLE LOGO
<b>USB 1.0</b>	January 1996	<b>1.5 Mbps</b> <b>12 Mbps</b>	
<b>USB 1.1</b>	August 1998	<b>1.5 Mbps</b> <b>12 Mbps</b>	
<b>USB 2.0</b>	April 2000	<b>480 Mbps</b>	
<b>USB 3.0</b> USB 3.2 Gen 1x1	November 12, 2008	<b>5 Gbps</b>	
<b>USB 3.1</b> USB 3.2 Gen 2x1	July 26, 2013	<b>10 Gbps</b>	
<b>USB 3.2</b> USB 3.2 Gen 2x2	September 22, 2017	<b>20 Gbps</b>	
<b>USB 4</b> USB 4 Gen 2x2	September 3, 2019	<b>20 Gbps</b>	
<b>USB 4</b> USB 4 Gen 3x2	September 3, 2019	<b>40 Gbps</b>	



But let's dig a bit deeper to learn more about **USB topology**. USB uses a tiered-star topology. At the **centre of the star is the USB host, which defines the USB**, and only one of which is permitted per USB. The **USB host resides inside the PC** and is implemented as a combination of hardware, firmware, and software. The **USB host has one or more USB root hubs**, which provide attachment points called USB ports to which USB hubs and USB functions may be connected.

Meet The Line Of Lightware's Cables

[lightware.com/news/new-cables-and-accessories](https://lightware.com/news/new-cables-and-accessories)

## Cable-lieve It? Long Cables and Strong Connections from Lightware

Lightware provides an extensive selection of cables that go well beyond the **USB-C variety**, including passive **HDMI cables from 1m to 5m length**, active optical **HDMI cables** which are available **from 10m to 50m in length**.

Our HDMI cables enable transmission of High Dynamic Range (HDR10), Dolby Vision, Hybrid log-gamma (HLG) video, Consumer Electronics Control (CEC), Audio Return Channel (ARC) and HDMI Ethernet Channel (HEC) while the robust shield design offers enhanced durability and extra EMI protection.

Lightware's **10m and 16m active repeater cables** provide incredible **flexibility and reliability** for project designs by allowing users to **extend USB signals over longer distances**, making these versions particularly **suitable for larger collaboration spaces**.

With **innovative repeater technology**, these extension cables are capable of **extending USB 3.0/3.1 Gen 1 over 10 meters** at a **5 Gbps SuperSpeed data rate** that supports **4K video transmission for webcams** and can be used for **SSD storage** as well. The cables offer **low delay** and **high compatibility with a variety of USB peripherals**, including mice, keyboards, thumb drives, speakerphones and webcams. Each version of Plug & Play for PC (Windows), MAC and Linux.



New Cable Products

[lightware.com/news/usb-c-cables-are-on-the-horizon-in-8-and-10-meters-length](https://lightware.com/news/usb-c-cables-are-on-the-horizon-in-8-and-10-meters-length)



## Breaking Boundaries and Bridging the Impossible Gaps

If we've been talking about cables, we must mention that **distance is no longer an obstacle** with Lightware cables, because our new **USB-C AOC** cables are available in lengths **up to 10 meters** with a **secure screw lock** in our range.

Our recently introduced **new Taurus device** – now split into **separate TX and RX units**, created to bridge long distances, is also fully supported by this new **USB-C AOC cable**. This market-leading solution allows users to utilize structured STP cabling to **extend room Control, Ethernet, USB and 4K Video signals over longer distances (up to 100 m)** – empowering

system architects and integrators with more flexibility for the delivery of no compromise Lightware Engineered Meeting room systems. The highly anticipated **Taurus TPX is here for you**, ready to order.

Learn More About Taurus TPX

[lightware.com/product-families/taurus-tpx](https://lightware.com/product-families/taurus-tpx)

