



LIGHTWARE

INNOVATIVE. RELIABLE. MADE IN EUROPE.

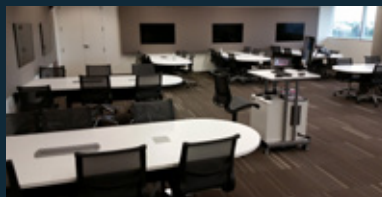


EDUCATION

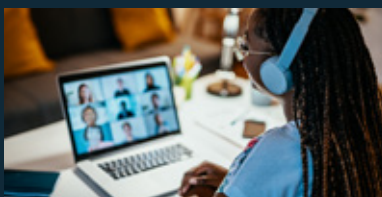
Building Advanced Learning Environments



AUDITORIUMS



ACTIVE LEARNING SPACES



HYBRID CLASSROOMS



DIVISIBLE ROOMS



LIGHTWARE VISUAL ENGINEERING: BUILDING ADVANCED LEARNING ENVIRONMENTS



Lightware Visual Engineering has been developing and supplying professional AV products for more than 25 years in the heart of Europe. Since 1998 Lightware has designed, developed and delivered technologies to tackle the challenges AV professionals face in the fast-paced world of digital integration.

Lightware focuses on customer needs and delivers solutions that exceed expectations with an uncompromising level of customer service and support.



30+ COUNTRIES



25 YEARS OF EXPERIENCE



400+ EMPLOYEES

Training millennials, providing hybrid and distance learning, while being sustainable and efficient, are the challenges of today's education. All these tasks embrace AV technologies massively. The IT teams are set to secure smart future-proof professional AV solutions for their schools.

With Lightware, education customers will enjoy full support on their path to creating learning environments that will attend to each of their needs.

WE SUPPLY

Best in the industry **AV signal management solutions that ensure the ultimate USB-C connectivity** for in-person, distance, and hybrid education; all of them massively involving unified communication and collaboration.

With our **matrix switchers**, we accept, process and distribute every source applicable in education.

Our **AV-over-IP extenders are available for either 1Gbps or 10Gbps networks** delivering resolutions up to **uncompressed 4K60Hz** over fiber at distances the learning environment requires.

WE PROVIDE

Solutions to secure **seamless room automation and management. With LARA and Event Manager** firmware available in our connectivity products, instructors will start their lessons instantaneously.

With Monitoring Webtool campuses featuring multiple classrooms with hundreds of Lightware devices will ensure a 100% uptime of their technology by utilizing this open-source monitoring solution. The AV school staff will be able to monitor the technology's operation in real-time in the most efficient manner.

WE OFFER

LEAD: The Lightware Education Audiovisual Developer Program that offers exclusive features and benefits for schools, offering consultancy and project design assistance, proof-of-concept tests and demonstrations, training for technical staff, comprehensive technical support, and extended warranty services.

We will ensure that your school will have the best and most reliable bespoke solution and will **LEAD you into the future of learning spaces** with all the expertise and confidence that we have gained over 25 years of manufacturing AV products and solutions!

LIGHTWARE DEVELOPS

LIGHTWARE EDUCATION AUDIOVISUAL DEVELOPER
(LEAD) PROGRAM



**EDUCATION
AUDIOVISUAL
DEVELOPER**

1.

LEAD Extended Warranty

LEAD members with a technology refresh program agreement enjoy the full Lightware warranty throughout the entire agreement. Lightware makes it easy for peace of mind with every technology covered under warranty while upgrades continue during the refresh cycle.

2.

Demonstration Products

Lightware makes it easy to test the latest technology with demonstration equipment available for LEAD partners. Demonstrations are available with your local Lightware salesperson or integration partner.

3.

System Design Documentation - POC Assistance

We will invest into on-site consultation and bespoke design of your project with further proof-of-concept testing and review by our AV integration team. Lightware will provide you with documentation customized to your solution.

4.

Training

For you to get the most out of our technology and ensure a seamless education process, we offer comprehensive in-person and on-line training for your organization's AV-IT personnel.

GRANT program

Special for schools, colleges, and universities, we are offering a unique opportunity to apply for a technology grant to assist with the acquisition of Lightware technology for your classroom and its further evaluation for your campus technology refresh program.

With the grant program, we strive to promote advanced AV technology and make it accessible for more classrooms worldwide. The Lightware Grant Program offers proof of concept testing in your school's setting. **Contact us: grant.program@lightware.com**

5.

Advanced Technical Support

Receive market-leading support service with our dedicated local Lightware support team, we will assist you via email, phone, or on-site visit.

6.

Developer Engagement

Meet with our product developers, share your future needs and learn about our future product developments. We at Lightware develop products driven by our customers' requirements.

7.

Case Study Project Recognition

Make your technological advance a case worth studying and obtain multiple reviews in leading education and AV media.

Learn more: www.lightware.com/lead



University of Sharjah Deployed 170 Units of TAURUS UCX

The University of Sharjah (UoS) is the largest university in the United Arab Emirates. It is a rapidly evolving educational venue. With its outstanding achievements in research, publishing, and technology, UoS is ranked 1st in the United Arab Emirates and entered the top 300 World Universities in 2023.

For several years, the University has been implementing a digitalization programme for its campus. So far, CCTV, access control, and classroom technologies have been deployed across its premises.

The Covid challenges brought around the necessity to provide distance learning. Later on, the need for hybrid technologies came into the focus of the UoS.

The teaching personnel pinned their requirements squarely: they needed touchless control, preferably the one available from personal devices to avoid infection, they expected seamless connectivity, and they wanted a simple solution. On top of that, the IT team looked for the technology that would keep the instructors' devices powered and running for hours throughout their challenging schedules of lecturing, presenting, and running video conferencing.

When Covid waned, the UoS used docking stations for switching. In larger classrooms, beyond projectors and interactive whiteboards, there were voice-lifting devices. Docking stations deployed in about a hundred classrooms caused plenty of headaches to the IT personnel, with frequent freezing, needs for debugging and firmware upgrades, de-powering, and the like. Attending to the challenges of distant and hybrid training would involve multiple additional devices, complicated integration, and unwelcome costs. The IT team of the University set off to search for a solution with a clear vision of the goal and awareness of the task's complexity.



Before awarding the technology for their classrooms, the IT specialist had examined and run about 30 proof-of-concept tests. They sieved through brand after brand, to choose the one that would respond to the specific needs of the UoS's educational staff. To the University's dedicated IT committee that embraced instructors, faculty management, and IT engineers, there were presented two or three shortlisted technologies for evaluation.

Lightware's TAURUS UCX-4x2-HC30 went far beyond the expectations of the instructors and IT team, richly featuring the power of USB-C technology embedded in one single device.

It was like 10 years ahead of the competitors, very intelligent, very powerful, and not very expensive," says Mr. Khaleel Ahab Dajani, Sr. AV Officer of the University. 170 units of TAURUS UCX were installed jointly by IT specialists of the University and their contractor in a remarkably short time of just 4 weeks, proving its outstanding ease of deployment.

TAURUS UCX offered the benefits of seamless USB-C and HDMI 2.0 connectivity to switch uncompressed 4K60Hz 4:4:4 signal. It enhanced hybrid classrooms with touchless intuitive control available for instructors with the QR code via authenticated WIFI access on their personal devices. TAURUS UCX enabled the use of classroom peripherals like cameras, microphones, keyboards, and mice. With their laptops connected to this

switcher supporting 60W charging, the UoS's instructors are confident that their devices stay powered whilst presenting or at UC sessions.

With TAURUS UCX supporting remote access, the IT team has dramatically increased its efficiency by monitoring and managing up to 170 units of TAURUS UCX deployed in classrooms across the campus remotely. Identifying technical issues and troubleshooting takes minutes. The engineers can do bulk firmware upgrades and have access to various operation analytics.

From their 1st acquaintance with Lightware's technology and ever since the IT team of the University has enjoyed the manufacturer's outstanding support. As Mr. Khaleel Ahab Dajani remarks:

The support is great, in case of any issues the representative of Lightware arrives on site in 5-10 minutes. They are very nice!

The University of Sharjah uses TAURUS UCX in its classrooms and in its outstanding e-courts at the Department of Law. In the e-court rooms, students have hands-on practices in an immersive environment simulating court hearings. TAURUS UCX delivering uncompressed 4K60Hz 4:4:4 with zero latency and featuring USB-C enabled use of peripherals is the central device in the e-court rooms. Here future lawyers nurture their skills through practicing to become successful in their careers and to contribute to the fame of their alma mater.

LIGHTWARE CONNECTS



USB-C CONNECTIVITY FOR GROUP STUDY SPACES, CLASSROOMS OF GENERAL PURPOSE, DISTANCE, AND HYBRID LEARNING



Seamless USB-C connectivity is a milestone in today's learning environment that involves plenty of multimedia sources and terminal equipment, such as laptops and media players, USB cameras, document cameras, speakerphones, etc. They are indispensable elements of teaching today.

With BYOD (bring your own device) and BYOM (bring your own meeting), having firmly established as a standard for training digitally native millennials, USB-C's role has only dramatically increased.

With TAURUS UCX, Lightware's flagship USB-C connection platform, instructors are spared of any technical issues that such heavily wired spaces are likely to hold for them. TAURUS UCX provides literally seamless connectivity which removes every frustration and barrier that teachers habitually have while using multimedia and peripheral equipment. **The new Taurus UCX-4x3-HCM40 variant is even enhanced with Dual Screen capability.**

With this unrivaled unique AV-industry device in the heart of the group study rooms, general purpose classrooms, distance and hybrid learning sites, teachers are enabled to effectively engage and collaborate with their students, while students are given instruments they are best used to, which contributes to the quality of their learning and retaining information.

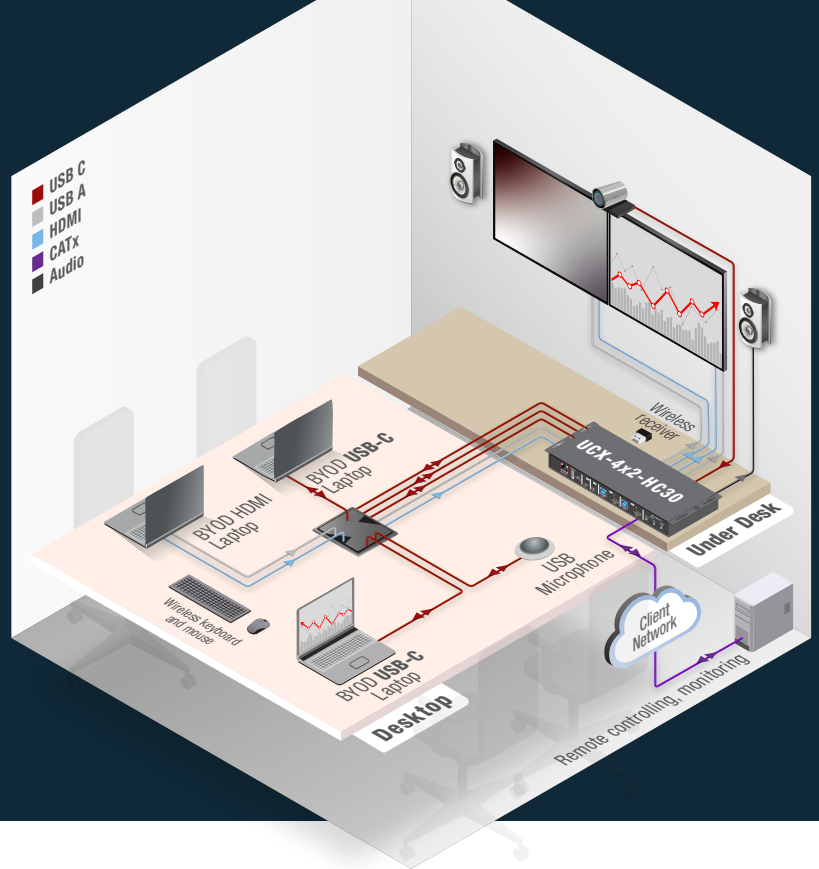
In schools, AV engineers are always on alert and ready to support in case of any technical problems, still, with this universal matrix switcher, their job has become tremendously easier.



Group Study Room Built on TAURUS UCX

The Group Study Room is expected to host up to 4 people offering USB-C connectivity features. This room has 1-2 4K displays. Students can use their mobile devices in BYOM/BYOD modes and share USB-featured room peripherals (cameras, microphones, interactive displays, keyboards, and mouse).

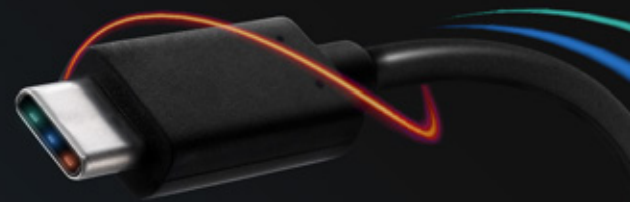
The solution offers USB host switching, matrix/mirror features, and dual monitor extended desktop capability. The universal stand-alone switcher has 2-4 video inputs (HDMI & USB-C); audio is available via the display and/or soundbar; dedicated models support Bidirectional DANTE functionality.



Group study rooms, distance, and hybrid learning spaces will go further leveraging the benefits that wireless presentation and collaboration tools hold when integrated with the TAURUS UCX universal switcher:

- With TAURUS UCX, any **laptop can benefit from sharing USB peripherals** (USB cameras, speakers, or speakerphones, keyboard and mouse).
- It is TAURUS UCX, that will give the presenter (teacher or student) piece of mind when sharing their content since their **BYOM laptop will stay charged over USB 3.1 with up to 100W of power.**
- TAURUS UCX via the USB-C connection will **provide access to the local network**, if required. The instructors will be able to share the content they need ad hoc.
- Hosting up to 4 BYOM devices simultaneously, TAURUS UCX will **output up to two sources on two separate displays.**
- **The newly added Multiple Screen capability enables extending one connected laptop via a single USB-C cable across two monitors.**
- In dedicated models, Bidirectional DANTE features will **support DANTE audio decoding and encoding.**
- TAURUS UCX enables **switching from wired to wireless conferencing solutions to take advantage of the USB peripherals in the room** via USB host switching and provide BYOM in a cable free option.

THE POWER OF
USB-C
Collaboration • Control • Connectivity
Convenience • Charging





Future-proof your learning spaces with Taurus TPX

Extend USB-C Signals up to 100m

UCX-4x3-TPX-TX20



HDMI-UCX-TPX-RX107



Extend Video Connectivity

seamless integration of USB 2.0 (High-speed 480Mbps) and HDMI 2.0 4K@60Hz 4:4:4 signals over distances of up to 100 meters



Connectivity for multiple USB hosts

connect up to 8 peripherals and switch between different host devices (camera, speakerphone, touch monitor, etc.)



BYOM Compatibility in Larger Spaces

USB-C connectivity for audio, video, control, data and charging laptop or mobile device up to 100W



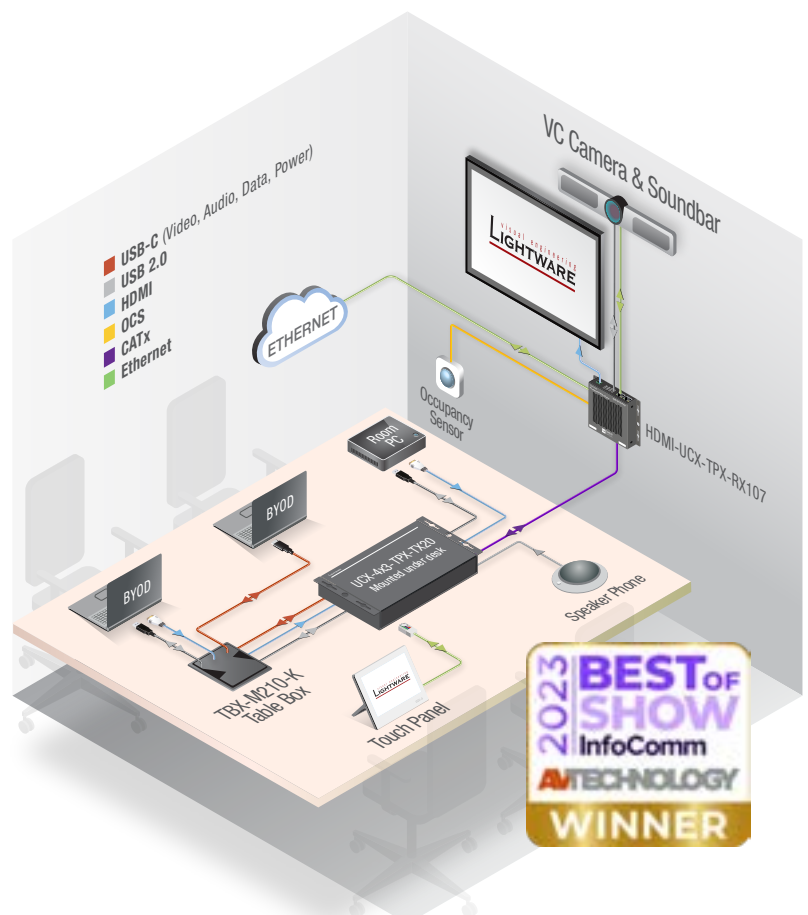
Easy Cabling and Cost-Saving

remote powering the RX unit over a single CAT cable, no additional power outlet and adapter needed

Features

Single CAT connectivity **up to 100m**, with **Power delivery** from TX to RX, Video, USB2.0, Ethernet, OCS and Serial

- **USB-C** input connectivity for 4K Video, Audio, Data, and Power
- Multiple **USB 2.0** connectivity for **any type of USB devices**
- Independent **USB Host switching** layer for multiple USB hosts, **up to 8 devices**
- **Charging via USB-C** up to 100W (120W total)
- **Multiple Ethernet network configurations**
- SSH, SSL, HTTPS for **IT security**
- **Occupancy sensor (OCS)** connection at the RX device (with 24V power supply), GPIO control ports at TX device
- **Welcome Screen** for custom corporate logo and on-screen display warning messages
- **CEC** at the HDMI outputs
- **Audio** de-embedding
- Room device control via **Ethernet** (TCP/IP) or **Serial** (2x at TX device, 1x at RX device)
- Supports uncompressed **HDMI 4K** signal formats (4K UHD @60Hz RGB 4:4:4, up to 18 Gbps, 600 MHz pixel clock)
- Supporting **Lightware Advanced Room Automation** (LARA)



Conference room example

Conference rooms require simple connections in multiple locations, simple controls, and simple functionality. The Taurus UCX-4x3-TPX-TX20 connects to the HDMI-UCX-TPX-RX107 using a single category cable for connectivity. The optional touch panel and occupancy sensor are offered to provide room automation and simple controls. The Taurus TPX point to point extension provides the latest HDMI 2.0 with 4K60 4:4:4 transport as well as full USB 2.0, 480Mbps, peripheral connectivity at both ends.

Using LARA, when someone walks into the room the occupancy sensor will turn on the display and greet the meeting participant with a custom welcome screen. When any of the 4 inputs detect a signal, the signal is automatically routed to the UCX-RX, the input source becomes the USB host and the USB camera and speakerphone are connected.

When no signal is detected, the system has been set up to automatically turn off the display after 15 minutes using LARA. After the room has been vacant for 15 minutes based on the occupancy sensor reporting to LARA the room can be shut down.



LIGHTWARE MAXIMIZES SPACE USE



Schools use divisible classrooms to optimize the use of space and assets as well as for improving students' learning experiences.

Divisible rooms leverage the benefits of Lightware's matrix switching with SDVoE extension and robust USB-C connectivity to maximize the use and flexibility of educational spaces.

With Lightware's AV technology deployed in divisible classrooms, instructors enjoy seamless connectivity with enhanced presentation experiences in fully automated learning spaces without user interaction, while students stay engaged and motivated for learning.

4-Room-Divisible Space Example

4 standard classrooms can be merged into either 2 larger classrooms, 1 giant classroom, or operate as autonomous learning spaces. Each room features a display, Lightware's universal switcher **UCX-2x1-HC30** with HDMI and USB-C connectivity, **HDMI-TPX-TX106** and **HDMI-TPX-RX106 point-to-point extenders**, and **USB room peripherals**.

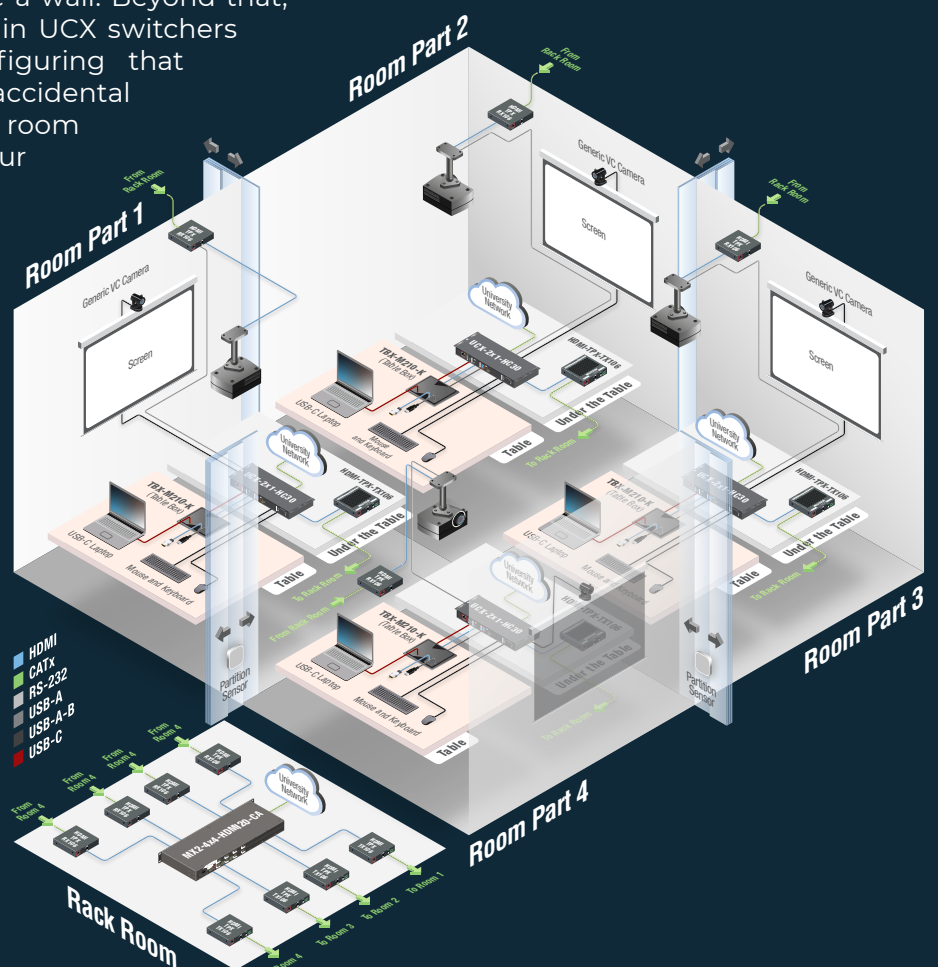
The UCX switcher functions in auto-switching mode in each room. Wall contact sensors connected to the primary UCX automatically detect when rooms are combined or divided.

The matrix switcher **MX2-4x4-HDMI20-CA** handles the signal routing(s) according to the rooms' configurations. Signals are switched to one or multiple screens based on the wall configuration automatically and the "Power-ON" commands are sent to the displays.

Users only need to plug in their devices to either the USB-C or HDMI connection and open or close a wall. Beyond that, the functionality of LARA firmware in UCX switchers allows programming and preconfiguring that eliminate any mistakes through accidental BYOD or room PC connection to the room UCX switchers. For example, if all four rooms are combined, the walls are all open, the input of the UCX switcher in room A will be routed to all four rooms, and any additional signals on any input of the other three UCX switchers will not trigger any output or command.

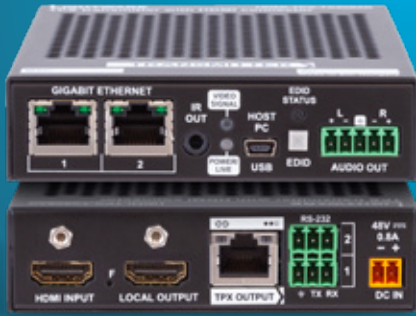
When the presentations are over, the room displays will be turned off automatically based on the time in the LARA firmware.

With CEC and RS-232 capabilities available in Lightware devices, this solution is applicable to any projector or display. Matrix switching with signal distribution allows projects to include any number of classrooms that make up divisible learning spaces.





EXTEND SIGNALS LIKE NEVER BEFORE



Lightware's SDVoE-compatible TPX devices are the next generation point-to-point extenders that allow HDMI 2.0 signal management over a single CATx cable with HDCP 2.3 and Dolby Vision support.



EDID MANAGEMENT

Stores one EDID or mirrors the EDID of the display on the transmitter's HDMI input



ULTRA-LOW LATENCY

Less than 0.1 ms signal latency for real-time visual experience



AUDIO TRANSMITTER

Output on the transmitter side to send audio signal directly to local audio systems



ETHERNET

Control AV equipment through Gigabit Ethernet, RS-232 or CEC



TPX is an SDVoE compatible extender product family that utilises this industry-accepted standard. As Lightware's first such device, it has laid the foundation for further variants and subsequent product lines to bring out the most of SDVoE technology.

MX2

For large conference rooms and divisible learning spaces that combine multiple varied sources and outputs, Lightware offers a rich assortment of **standalone matrix switchers of MX2 Series**. These matrices provide uncompromised full **4K60Hz 4:4:4 resolution capability**.

MX2 Series are available from 4x4 up to 48x48 crosspoint sizes. Their main features and characteristics are:

- **Zero latency**
- Support of **HDR, Dolby Vision, 3D**
- Compliance with **HDCP 2.2 and HDCP 1.4**
- **High bitrate audio support**, including Dolby Atmos, TrueHD, DTS-HD
- **Full end-to-end DisplayPort** options
- Control available via **Ethernet, RS-232, and USB-ports**
- **Versatility of models** featuring rich options of compatibility, connectivity, and functionality



MX2

The strategic benefits of MX2 matrix switchers make them the best choice for AV professionals and allow them to build bespoke future-proofed AV projects.

ACTIVE LEARNING ROOM

The pedagogy of teaching continues to evolve. Active Learning Classrooms have become common in universities of all sizes. These rooms include cutting-edge technology and are student-focused. Typically, the room design includes an instructor lectern in the center of the room with student collaboration tables around the instructor.

In this active learning room, each collaboration space has a USB-C and HDMI connection provided by the DCX-2x1-HC10 switcher. The USB-C input at each location will also provide up to 100W charging in addition. The audiovisual switching and routing is achieved using HDMI-TPN extender devices.

The instructor's lectern in the center of the room is also connected to a DCX-2x1-HC10 enabling the instructor's laptop to be shown on any of the screens in the room using the TPN switching. Any student laptop can be displayed on any screen in the room. The matrix video functionality is enabled by Lightware's TPN technology powered by SDVoE. DCX-2x1-HC10 device can be controlled by the instructor using the control interface.

The flexibility of AV-over-IP allows the technology to be connected to the collaboration spaces, and the tables can be moved around to create ad-hoc collaboration groups; this topology being available via network switch connection supported by AV-over-IP technology.





The SDVoE-compatible extenders of Lightware's new TPN family are the perfect answer for the high-quality 4K60 transmission needs, supporting a valuable set of the functionality, among which are

- Extend HDMI 2.0 signals from a single source to multiple destinations through 10G Ethernet networks.
- Capable of handling various connectivity standards, including a 1G user Ethernet channel over the 10G link, as well as command injection into IR and RS-232.
- The additional Gigabit Ethernet port allows users to connect an additional device to the network directly through the TPN extender. Useful for controlling external devices like projectors and displays.
- HDCP 2.3 and basic EDID management functionality are also among the features offered by these devices.
- When using direct connection in point-to-point mode, both the transmitter and receiver are compatible with Lightware's TPX family of products.



DCX-2x1-HC10 provides a streamlined cost-effective switching solution for learning environments. Encompassed in one box, it offers unique functionality and simple architecture that allows:

- 2x1 matrix switch supporting video resolution of 4K@60Hz 4:4:4
- USB-C charging up to 100W (120W total)
- Analog audio de-embedding
- Secure Ethernet connection
- Fanless cooling system

AV-OVER-IP SYSTEM FOR GIGABIT ETHERNET NETWORKS



The VINX series devices were designed for 1G Ethernet networks and can also operate in point-to-point configuration with diverse application possibilities. We recommend VINX for applications where scalability, flexibility and rapid deployment are in focus. They are simple to install and to operate, and have numerous built-in services that most other manufacturers only provide for an extra cost.



Unlimited Endpoints

VINX can be expanded from a single point-to-point extension to virtually unlimited endpoints.

Built-in USB 2.0 ports

The built-in USB 2.0 ports support K+M functionality and can also handle USB mass storage.

Advanced EDID Management

The extenders all major EDID resolutions and are capable to scale video up to 4K30.

HDCP Compliant

The units are HDCP compliant with streaming bitrate variable between 10Mbps and 800Mbps.



VINX has an option for password-protected login.

End-users and integrators are required to use a password to configure their devices, which provides protection against unauthorized access.

VINX offer extension from point-to-point architecture up to literally unlimited end-points

LIGHTWARE EXTENDS

AV-OVER-IP TECHNOLOGY CARRIES MULTIMEDIA ACROSS ACTIVE LEARNING SPACES, COMPUTER AND SCIENCE LABS, LARGE SCHOOL VENUES, CAMPUS DIGITAL SIGNAGE, AND OTHER LEARNING ENVIRONMENTS.

AV-over-IP, being widely acknowledged as the best industrial method of multimedia signal delivery, is the optimum option for education. Driven by our customers' needs, **we offer transceivers for both, 1Gbps and 10Gbps Ethernet networks.**

Our **VINX and UBEX product families** provide audio-video signal transportation in applications where scalability, flexibility, and rapid deployment are required. For environments operating in **1Gbps networks, VINX extenders** are the most efficient and potent choice, featuring **Smart Bandwidth Management** that optimizes streaming and compression to match the transferred media; they are capable of **scaling video up to 4K30.**

VINX's EDID functionality secures seamless handshaking for multiple displays on the network

VINX's built-in USB 2.0 ports support K+M functionality and deliver USB mass storage

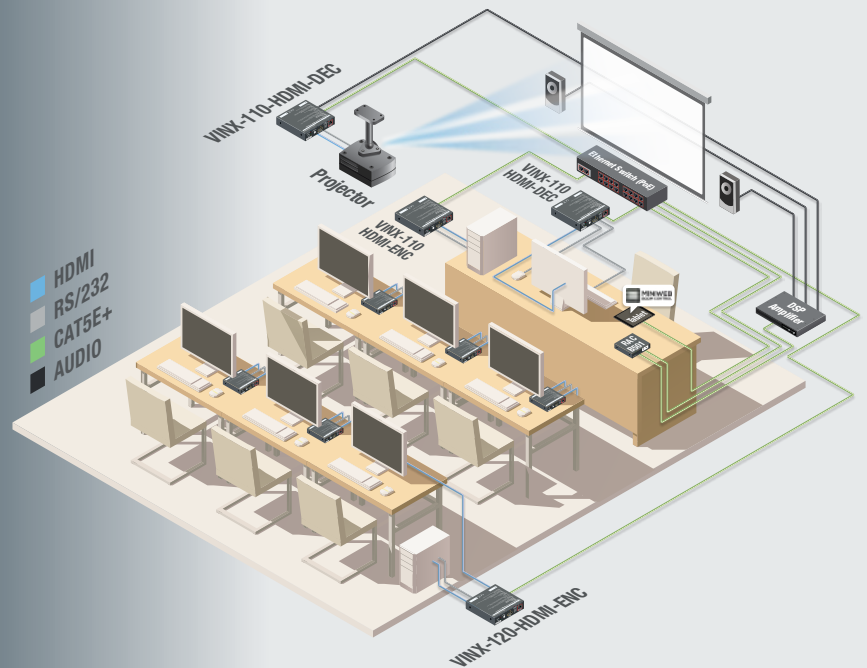
Computer Lab Example

The computer lab with full AV over IP KVM sharing capabilities. In this setting, any computer can be shown on any screen in the room, anyone can be given K+M control of any computer.

Instructors can share any computer with the main room display, or multiple computers with multiple displays if there is more than one display in the classroom.

Each student location has both an encoder and a decoder in this example. The encoder sends the output to the network. The decoder will receive the local computer or any other computer in the room.

The instructor would have the ability to turn off all student displays, or send all student displays the same image.



VINX is also ideal for building video walls in school assembly halls and **delivering information across campus digital signage solutions.**

For schools operating on powerful **10Gbps networks**, Lightware offers the **UBEX fiber-optical scaling system**, capable of delivering **uncompressed 4k60Hz 4:4:4 with close to zero latency** and providing maximum signal fidelity over distances beyond 100m.

Medical theaters, sports arenas, broadcast control rooms, conference and concert halls will unlock all the benefits of the UBEX multi-streaming on 10Gbps Ethernet network with **dual 10Gbps fiber links.**

1G AV OVER IP – TRANSPORTING 4K@60 HZ 4:4:4 VIDEO AND USB 2.0



GEMINI
GVN

Lightware's new 1Gb AV-over-IP extension family GEMINI GVN where scalability, flexibility and rapid deployment are in focus. It boasts enhanced features like:

- Transmission of **4K@60Hz 4:4:4**
- **Seamless switching** (maximum, 1 frame per switch)
- USB 2.0 transmission enabling **keyboard and mouse functionality**, as well as access to **USB-camera;**
- **Comprehensive IT security**

Gemini GVN is a virtual matrix system, designed for seamless switching of audio, video, and USB transmission, featuring a delay of less than 1 frame.



HDMI Extension with USB 2.0

In simple classrooms where there is no requirement for switching Lightware is proud to introduce a new HDMI extender pair that includes high speed USB2.0 data. The **HDMI-TPX-TX209AU2K** and **HDMI-TPX-RX109AU2K** transmitter and receiver pair, enable a source computer to send HDMI video to a receiver up to 100m away. At the same time, the receiver and transmitter combine to bring (6) USB2.0 ports plus mouse and keyboard. All 8 USB ports are available to the source computer when connected as the USB host.



This simple solution can connect the instructor's laptop to the screen, and the laptop will have access to the interactive touch screen at the front of the room. The microphone and camera in the room will be available to any recording or collaboration software on the computer. The document camera will be accessible through the USB hub. The USB devices can be located at either end of the extender pair and all of the peripherals will appear as if they are directly connected to the computer.

The TX/RX pair also provides analog audio out at both ends, making it easy to connect to an external amplifier, speaker, or DSP. The transmitter side includes a distribution amplifier for a local monitor loop out.

Highlighted features

- USB2.0 transmission with support for USB2.0 devices e.g. cameras, microphones, touch screens, pen drives, keyboard and mouse
- Sending or receiving remote power through CATx cable (PoE PSE, PoE PD)
- Transmission of HDMI 2.0, embedded audio, Ethernet, RS-232 and USB2.0 within the extension pair transmitter and receiver connected together
- Support of HDMI 4K signal formats (4K UHD @60Hz RGB 4:4:4, up to 18 Gbps)
- Support of HDR and Low Latency Dolby Vision

The HDMI-TPX-TX209AU2K and HDMI-TPX-RX109AU2K transmitter and receiver devices are based on SDVoE technology and allow users to extend HDMI 2.0 compliant video, audio and control signals from a single source to a single destination when they are directly connected. Moreover, these USB2.0 capable extenders also allow transparent and composite USB2.0 transmission in the opposite direction.



MONITORING WEBTOOL





For learning environments featuring extended campus areas with multiple classrooms and hundreds of room devices tasked to support 100% of up time, effective room assets management and control, Lightware offers an Open-Source Monitoring Solution for Lightware devices on LANs.

The Monitoring Webtool can significantly improve the school's AV team efficiency in supporting AV technology's health and operation.

It is a web-based solution for controlling the properties of Lightware devices on a local network. Its open-source implementation can seamlessly be copied and deployed locally demanding no complicated installation. In a configuration file, AV/IT specialists of the education venue can quickly and easily specify which Lightware devices and which LW3 properties are to be monitored.

- Simultaneous monitoring of multiple devices and their properties
- Open-source and therefore customizable implementation
- Highly and easily configurable
- Free of charge
- MIT licensed
- LAN scoped

Building	Room	IP Address	Name	Serial Number	FW Package	HW Ver.	Temperature
A1	Meeting Room 1	 172.24.5.11	MMX4x2-HDMI	00004429	1.6.4b2 r89	V11_AAA0	54 C
A1	Meeting Room 2	 172.24.5.17	VINX-120-HDMI-ENC	E00010	v3.5.1b1 r1	N/A	N/A
A1	Meeting Room 3	 172.24.5.18	VINX-110-HDMI-DEC	E80002	v3.5.1b1 r1	N/A	N/A
A1	Meeting Room 4	 172.24.5.19	UMX-TPS-TX140-Plus	00006074	1.5.1b2 r69	V11_GAX0	35 C
A1	Control Room 1	 172.24.5.23	MMX8x4-HT400MC	00005555	1.4.3b1 r2	V10_BAA0	53 C
B1	Meeting Room 11	 172.24.5.25	UMX-HDMI-140-Plus	00005023	1.3.1b2 r55	V11_CAA0	29 C
B1	Meeting Room 12	 172.24.5.26	HDMI-TPS-RX110AY-Plus	CA309359	1.5.0b3 r65	V13_JAA0	36 C
B1	Meeting Room 13	 172.24.5.27	SW4-TPS-TX240-Plus	00006334	1.3.6b2 r54	V12_KAA0	42 C
B1	Control Room 2	 172.24.5.29	MMX8x8-HDMI-4K-A	00005487	1.4.3b1 r2	V10_BAA0	51 C

PARTNERSHIPS

LIGHTWARE IS CONSISTENT IN ENGAGING AND INVESTING IN STRATEGIC PARTNERSHIPS WITH AV-IT PROVIDERS TO SUPPORT UNIQUE FUNCTIONALITY FOR END-USERS.

The logo for Utelogy, featuring the word "utelogy" in a lowercase, sans-serif font. The "u" is orange, and the "telogy" is in a darker orange/brown color. A thin green horizontal line is positioned above the "u".

Under the Utelligence Program for AV/UC Device Standardization, Lightware leverages the powerful Utelogy software tools of Utelogy Corporation for remote monitoring and management of the AV devices, including TAURUS UCX Series, USB peripheral switching products, as well as Cisco switching solutions, and Lightware's 1Gb AV-over-IP VINX and GVN Series. Jointly, Utelogy and Lightware provide users with a comprehensive overview and control of an entire campus.

The logo for D-tools, featuring a red circle with a white lowercase "d" inside. To the right of the circle, the text "d-tools" is written in a bold, lowercase, sans-serif font. Below "d-tools" is the text "System Integration Software" in a smaller, lowercase, sans-serif font.

Having joined D-Tools' Product Library, Lightware has tremendously facilitated AV-IT project designing task for integrators. D-Tools' System Integrator software boasts a library of more than 600 SKUs, now including Lightware's technology! D-Tools' application ideally integrates with Microsoft Visio and Autodesk AutoCAD, allowing detailed engineering drawings linked to project proposals. With D-Tools, users also obtain bills of materials that streamline price verification process with the regional Lightware offices.

The logo for Barco, featuring the word "BARCO" in a bold, uppercase, sans-serif font. The letters are white and set against a red rectangular background.

In joint aspiration for creating enhanced meeting room experience, Barco and Lightware offer a seamless and feature-rich solution for hybrid collaboration in small to large meeting spaces and boardrooms. Barco ClickShare CX-Series technology and Lightware's TAURUS UCX switcher turn the meeting space into a unified communication powerhouse by harnessing all the benefits offered by the USB-C technology. Together, we enable maximum flexibility and functionality of wireless and wired hybrid meetings.

The logo for Sennheiser, featuring a black square with a white stylized "S" shape inside. To the right of the square, the word "SENNHEISER" is written in a bold, uppercase, sans-serif font.

Sennheiser and Lightware have joint efforts to offer a proven and tested solution that provides an improved experience for remote users. TAURUS UCX with LARA firmware process information from Sennheiser microphones and PTZ cameras to track and focus on speakers in the room and so enhance visual information for distant participants.

The logo for Yamaha, featuring a red circular emblem with a white stylized "Y" shape inside. To the right of the emblem, the word "YAMAHA" is written in a bold, uppercase, sans-serif font.

Yamaha and Lightware have entered a partnership to create an advanced audio-visual solution for hybrid meetings. The solution engages Yamaha's HVAD (Human Voice Activity Detection) algorithm available in RM-CG ceiling microphones and leverages from Lightware's multi-award winning switching, extension and room automation technology provided by TAURUS UCX/TPX and its room automation firmware LARA. Together, we have created a customizable solution based on the top-notch AV technology for the ultimate visual and audio experience of remote participants.

LIGHTWARE ALLIANCES

Cisco Solutions Plus Partner - dual screen classroom solution

As a Cisco Solutions Plus partner, Lightware can provide a flexible, consistent, and seamless user experience across classroom types, with hybrid and distance learning spaces inclusive.

Lightware has simplified the process of expanding, extending, and controlling Cisco Room devices by offering a pre-configured appliance for classrooms.



Solution Partner

With Lightware, learning space users can:

- **expand the number of inputs** (dedicated room PC, laptop connections, media players)
- **expand the system outputs** (including large LED/LCD/projection front wall screens and a display of the instructor's digital lectern),
- **extend the connectivity** over longer distances avoiding HDMI-technology limitations,
- and **empower the user to natively control** the entire solution **via the Cisco Touch10 and Webex Room Navigator.**

Lightware adds intuitive controls to the Cisco Touch10 and Cisco Room Navigator and enables a consistent user experience to deliver dynamic controls in the same way in every classroom sparing the instructor's technology frustrations and contributing to the effectiveness of learning.

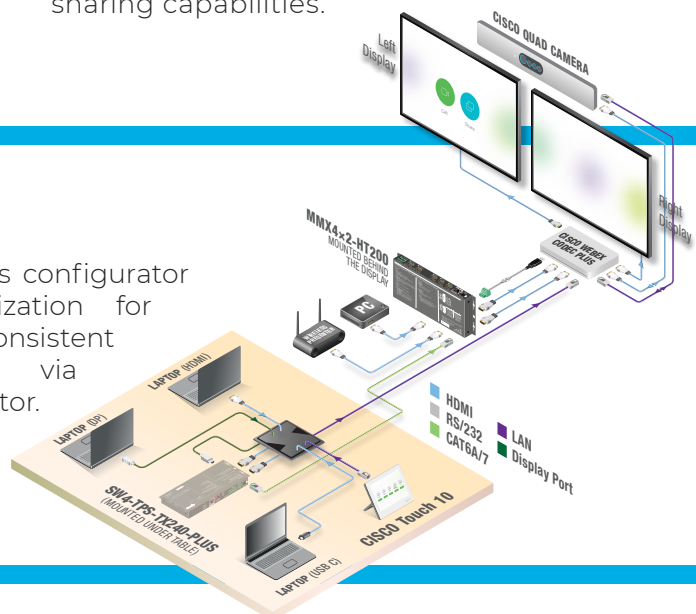
Lightware and Cisco have created configured packages designed for small to large meeting spaces and learning environments. lightware.com/cisco

Additionally, Lightware has created bring-your-own-device (BYOD) packages to add camera sharing capabilities.

Cisco Room Configuration Wizard

The school's AV-IT engineers can use Lightware's configurator software that simplifies classroom customization for many rooms at scale, while providing a consistent workflow for instructors and students via Cisco Touch10 and Webex Room Navigator.

lightware.com/cisco/room-configurator



LIGHTWARE CONTROLS

LARA PROVIDES A SEAMLESS LEARNING AND TEACHING EXPERIENCE



LARA
LIGHTWARE ADVANCED
ROOM AUTOMATION

With LARA (Lightware Advanced Room Automation) available in TAURUS UCX /MMX2 teachers can expand their control and management of room assets and benefit from room automation.

LARA WILL CONTRIBUTE TO



Classroom work efficiency by enabling control over the assets from a single touchscreen; LARA eliminates multiple device controls. Enables professors to focus on imparting knowledge to students while LARA sets up the technical space for them.



Effective group work and exam support by making in-person, distance, and hybrid work sessions and exams a seamless experience for students. LARA ensures that devices in the learning space are ready to use by the start of the session and manages the after-session behavior.



Environment protection by setting LARA to manage automated room shut-down. Schools will optimize costs and reduce their environmental footprint by reducing control units in each classroom.



ROOM AUTOMATION PANELS WITH EVENT MANAGER CONTROL AND ADMINISTRATE LEARNING SPACES OF GENERAL PURPOSE CLASSROOMS, COMPUTER AND SCIENCE LABS



With room automation panels (RAP), Lightware maximizes the use of group study rooms and general purpose classrooms, facilitates their operation on-site and allows centralized monitoring and administration. The solution can operate independently with or without the central BMS (Building Management System) system.

Lightware RAP is a combination of a processor and a keypad, in one form factor.



Room Automation Panel: **RAP-B511**

The RAP embraces the following features:

- Built-in room control **Event Manager application**
- **11 backlit programmable buttons and a light management rotary dial**
- Real-time clock with **network time protocol** for scheduling events (like room-launching prior to the class and the like)
- **GPIO** for the occupancy sensor, motorized screens, or shades control
- **2 Ethernet connections** for receiving/sending **PoE remote power**
- **1xRS-232** for peripheral device control

The RAP-B511 panel allows for control and communication with third-party classroom devices featuring an open API. It is also a user interface. Apart from the keys, the processor can accept commands delivered by smartphones or tablets using TCP/IP.

The RAP family features a web server that **allows operations from mobile devices through a browser.** Passwords and user validation are local administration functions that enable launching scenarios and provide access to the local Wi-Fi network.

The RAP-B511 controller **allows for remote access.** In the case of any technical issues in the classroom, **remote assistance can be provided without sending a person across campus to the room.** All features of the RAP-B511 are accessible over the network. A remote technician can confirm the signal presence/absence, and even “push” buttons to select devices.

Armed with functionality, the instructor is free from distractions when lecturing, while the school administration maintains efficiency by having an optimum AV-IT crew, and AV-IT engineers are satisfied being able to deliver technical support within minutes, rather than hours or days.

WE ARE GREEN FOR THE SAKE OF THE GLOBE'S SUSTAINABLE FUTURE

Lightware is committed to managing all operations and services in an environmentally responsible manner and employing methods and policies to contribute **to environmental sustainability**.

We aim at **preventing and minimizing pollution from manufacturing, packaging, and daily operation** and constantly review our activities and **set goals to reduce** our impact on the environment. We pay attention to monitoring, evaluating, and refining our energy consumption and waste management.

Employees are encouraged to minimize paper waste: where possible, all administrative **documents are emailed rather than printed & posted**, incoming faxes are diverted to email while unavoidable paper waste is recycled. When it is absolutely necessary to print, **we use recycled paper in the printers** and copiers and print in eco mode to save ink and energy. Empty print cartridges and toners are collected, treated and when possible, recycled by a contracted service.

In developing our products, we take sustainability very seriously. **We design, develop, and assemble Lightware prototypes in Budapest and so reduce our carbon footprint on transportations.**

We consciously do not overdesign our products and so **reduce colorful but chemical painting**. Neither do we practice garish and heavy design of our packaging.

We strive to make our packaging smart using every inch of the inner space of each cardboard, packing up crates, and containers effectively. We always use **recycled paper for the packaging** and have minimum plastic inside.

We have **consciously reduced accessories to accompany master products** to reduce the amount of wiring that is likely to be excessive and so wasted away.

Our offices incorporate energy-efficient lighting systems and our air-conditioning infrastructure is regularly maintained by professional technicians. When a lighting tube or bulb goes out, we always change it to an LED-based solution.





We participate regularly in Corporate Social Responsibility (CSR) events and actions. Besides ad hoc events, the Lightware team cleans a designated area of trash in the city on the annual 'Clean-Up Day', under the Let's Clean Up Europe initiative. [ewwr.eu/take-part/#LCUE](https://www.lightware.com/take-part/#LCUE)

We also pay attention to **keeping our own minds conditioned to 'green mentality'** and have placed posters and stickers everywhere in the Lightware office to remind everyone to think and act green whenever possible.

We would also like to highlight that **data and charging cable for Taurus UCX is made of 35% biodegradable materials**, and USB 2.0 type-C connectors are 90% biodegradable. **This eco-friendly cable for charging and data transfer is a product created to respect the environment.**

Operationally, the **latest Taurus UCX firmware enables users to optimize the use of resources such as heat and power by configuring settings** that, in particular, automatically turn the light and the devices off when people leave the meeting room.

Your Suppliers

Where possible, **outgoing deliveries are consolidated to save fuel.** Packaging methods and materials are reviewed periodically, and where possible, replaced with environmentally friendly alternatives. We **exclusively use environment-friendly, biodegradable cleaning materials and detergents.** We support the use of electric cars (we have an EV charger) and travel by bike.

We introduced selective waste management to collect metal, paper, and plastics for recycling. European Union (EU) regulations are designed to minimize the volume of electrical and electronic equipment waste disposal and current regulations require producers of electronic equipment to collect, reuse, recycle and appropriately treat such waste material for which Lightware employs a specialized subcontractor.



Contact us!



education@lightware.com
www.lightware.com/education