ANNEX 2

PLEC DE PRESCRIPCIONS TÈCNIQUES PER A LA CONTRACTACIÓ RELATIVA ALS SERVEIS DE PRODUCCIÓ, REALITZACIÓ I RETRANSMISSIÓ EN ESTRÍMING DELS ACTES CORPORATIUS DE LA DIPUTACIÓ DE BARCELONA, DIVIDIT EN DOS LOTS.

Exp. núm.: 2025/0009998

FULL CARACTERÍSTIQUES TÈCNIQUES

SALA DE PLENS

EDIFICI CAN SERRA

EFFORTLESS MEETINGS

MICROFLEX® COMPLETE WIRELESS

shure.com

SHURE

THE FREEDOM TO COLLABORATE

Microflex Complete Wireless (MXCW) unleashes the potential of your teams to do their best. The all in one wireless conferencing system makes any room the meeting room. Classroom to boardroom, whatever the seating configuration, MXCW is wireless that just works, allowing you and your team to focus on what's important.

ADVANTAGES

WORRY-FREE WIRELESS

Innovative interference detection technology avoids wireless issues before they are even noticed.

QUICK SETUP

Go from "cart to conference" in minutes – allowing your team to focus on the meeting, not the equipment.

WORKS IN ANY ROOM

From flexible meeting spaces to high profile historic venues, Microflex Complete Wireless goes anywhere your meetings take you.

NOTHING ELSE TO BRING

With only three core system components, MXCW ensures you always have the right equipment for the next important discussion.

POWERFULLY SCALABLE

Tackle even the most complex meeting needs with onboard features including voting, agenda management, and interpretation.

GREAT SOUND FOR EVERY PARTICIPANT

A dedicated, high-quality loudspeaker at each unit provides clear, intelligible audio for everyone involved.

COMPONENTS

SIMPLE, YET SCALABLE

WITH ONLY THREE SYSTEM COMPONENTS,
YOUR MEETING CAN BE SET UP IN NO TIME.

MXCW640 WIRELESS TOUCHSCREEN CONFERENCE UNIT

Chairman, Delegate, Ambient Mic, Listener and Remote Caller roles

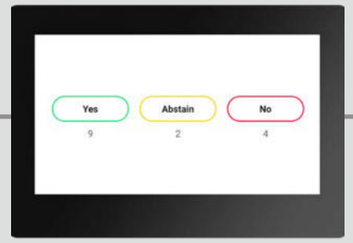
Dual Delegate role allows two participants to share one conference unit

4.3-inch / 110 mm capacitive touchscreen display to view meeting controls, speak/request list, voting, etc.

2 channel selectors, each with a 3.5 mm headphone jack

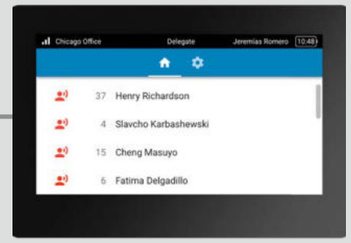
Battery life of up to 11 hours

Shown with MXC416 16" Gooseneck Microphone



INTEGRATED TOUCHSCREEN VOTING

VIEW VOTING RESULTS ON SCREENS



SPEAKER LIST FOR REAL TIME MEETING MANAGEMENT

MXCWAPT WIRELESS ACCESS POINT TRANSCEIVER

Controls up to 125 wireless conference units

Automated frequency coordination

Interference detection & avoidance

AES-128 wireless encryption

Dante™ digital networking enables routing of 10 audio channels in/out over Ethernet to any Dante-equipped device

COMPONENTS

MXCWNCS NETWORKED CHARGING STATION

Networked Charging Station for up to 10 SB930 batteries

Fully charges 10 batteries in 4 hours

Remotely monitor charge levels in hours and minutes

Integrated test button and 5-segment LED to display charge level

Storage mode protects batteries by storing them at a safe charge level that preserves battery health over time

SB930 INTELLIGENT RECHARGEABLE LI-ION BATTERY

MICROFLEX COMPLETE GOOSENECK MICROPHONES

Series of Microflex multipin gooseneck microphones for use with MXC/MXCW conference units only

Commshield® Technology for excellent RF noise immunity

Available Dualflex gooseneck accommodates shared use or standing speakers

Choice of 6 inch/15 cm, 16 inch/40 cm, 20 inch/50 cm, or 25 inch/63 cm lengths

Built-in bi-color (red/green) LED illuminates when mic is active

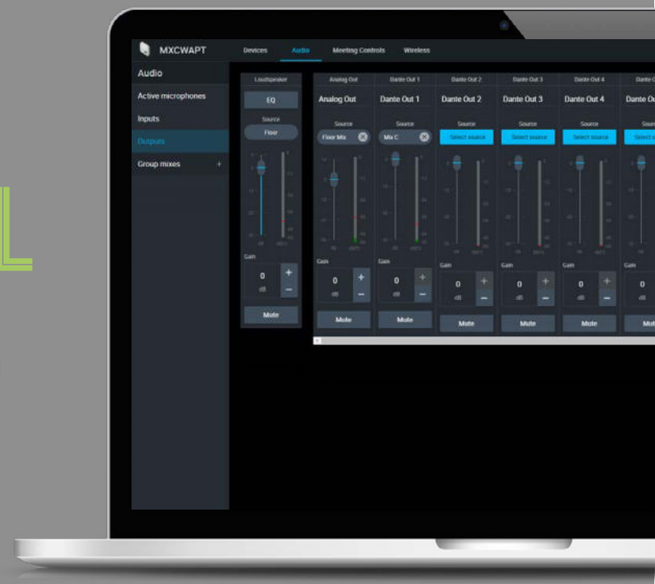
Choice of cardioid or mini shotgun polar pattern

Compatible with omni, supercardioid and mini-shotgun MX-series cartridges to match seating layout or acoustic conditions

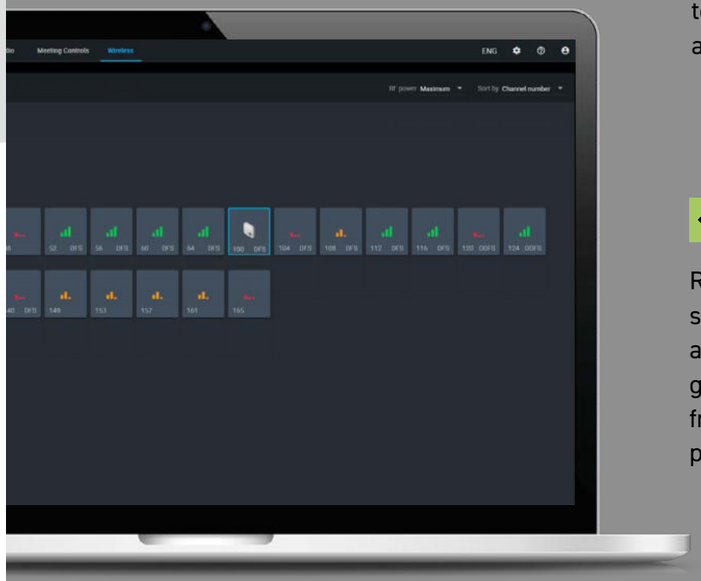
ADVANTAGES

MONITOR & CONTROL

Microflex Complete Wireless includes an intuitive and powerful browser-based control interface for management of all system features, including audio levels, RF settings and more.



Adjust audio output levels and route Dante audio wherever required. A total of two analog and 10 Dante audio channels are available.



Real time monitoring of wireless system health, channel availability, and frequency management settings give you the confidence for a meeting free of interruptions and lost productivity.

EASY TO DEPLOY

The all-in-one-design of Microflex Complete Wireless means meetings can happen anywhere. Automated frequency coordination with interference detection and avoidance, minimizes any complicated set up. This also enables meetings to run more smoothly without a technician present.

Setting up your next meeting is as simple as three steps:

1 MOUNT & POWER UP THE MXCWAPT ACCESS POINT

2 INSERT THE RECHARGEABLE BATTERY INTO EACH DELEGATE UNIT

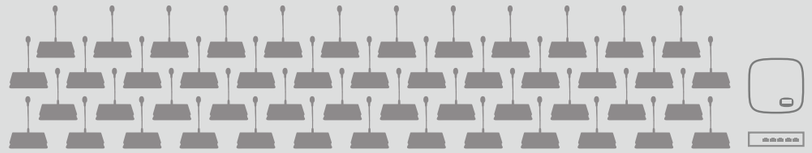
3 DEPLOY & POWER ON DELEGATE UNITS WHERE NEEDED

TACKLE ANY SPACE

Need to outfit a meeting space with audio the day before a big meeting with 50 people? With Microflex Complete Wireless, that's no problem. Each participant gets their own microphone, loudspeaker, and control right in front of them. And when compared to the complexity required to properly equip a room like with with conventional gear, MXCW wins everytime.

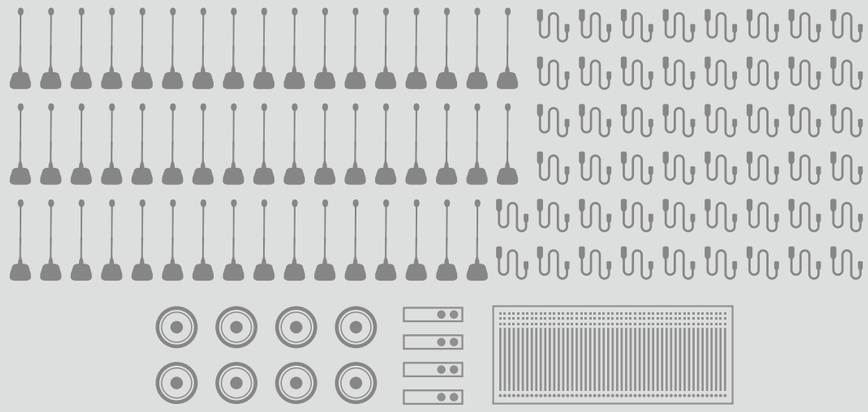
MICROFLEX COMPLETE WIRELESS

50 MXCW640 CONFERENCE UNITS + 1 MXCWAPT WIRELESS ACCESS POINT + 1 POE-EQUIPPED NETWORK SWITCH

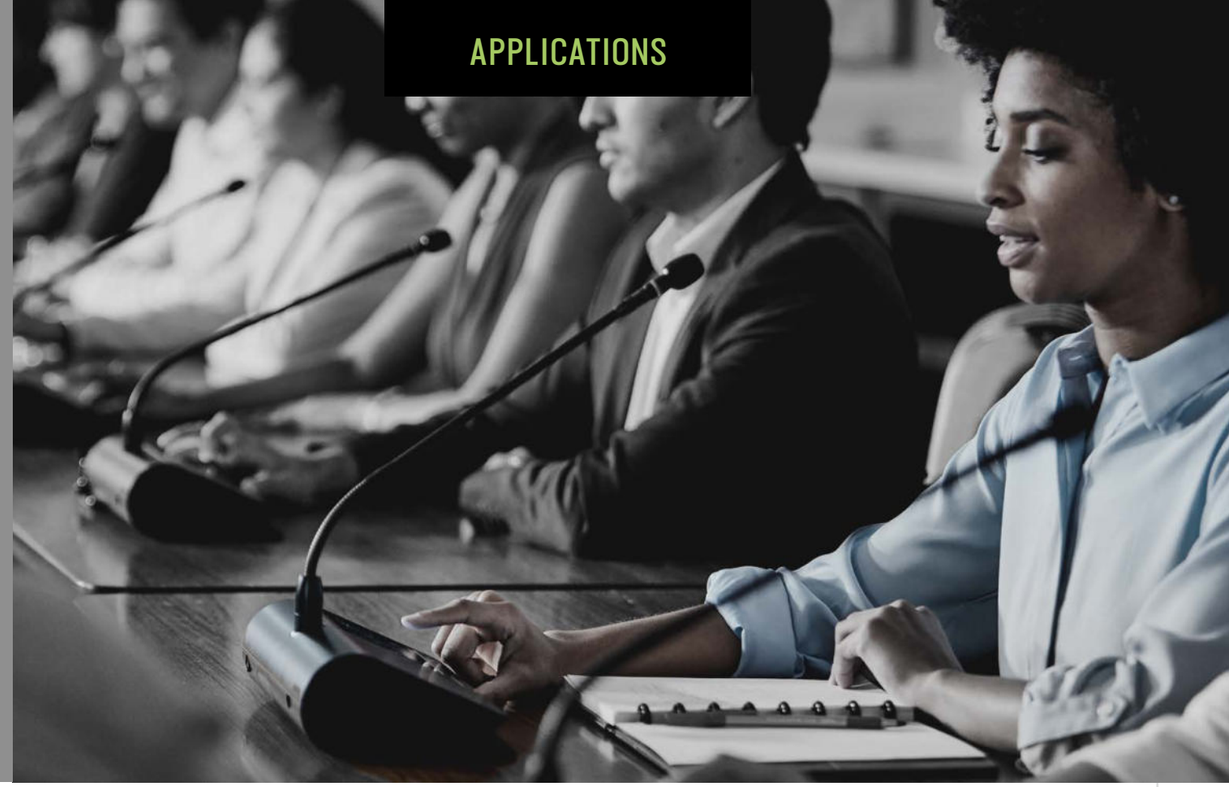


TRADITIONAL NON-CONFERENCE SOLUTION

50 GOOSENECK WIRED MICROPHONES + 50 CABLES + 8 CEILING LOUDSPEAKERS + 4 TWO-CHANNEL POWER AMPLIFIERS + 1 50-CHANNEL AUDIO MIXER



APPLICATIONS



SCALABLE FOR MANY APPLICATIONS

From an international conference to a city council or courtroom, Microflex Complete Wireless provides the premium audio intelligibility required for successful engagement between attendees – with convenient control to meet the specific needs of your application.

FLEXIBLE ROOM

Presentation
Panel Discussion
Q&A

Off-site meetings can be an expensive waste of time if attendees cannot fully participate in the discussion. Typical in-room sound systems are only designed to amplify the presenter's voice, and miss the contributions of other participants. Microflex Complete Wireless is a versatile audio solution that extends full coverage to every attendee without the labor of routing and securing audio cables. Network monitoring allows a technician to monitor battery levels from a PC.

Audio System Components

01 **MXCW640**
Wireless Touchscreen Conference Unit

02 **MXCW640**
Wireless Touchscreen Conference Unit configured as Chairman

03 **MXCWNCS**
Networked Charging Station

04 **MXCWAPT**
Wireless Access Point Transceiver

ETHERNET

WIRELESS ENCRYPTED TRANSMISSION

BOARDROOM

Discussion
Conferencing
Collaboration
Presentation

In boardrooms with long tables, it can be difficult to hear people seated at the far end. With Microflex Complete Wireless, each participant has their own conference unit with an integrated microphone and loudspeaker so that everyone can hear each other perfectly. Wireless convenience means there are no holes to drill and the system can be put away when not needed. Robust encryption keeps sensitive meeting content secure.

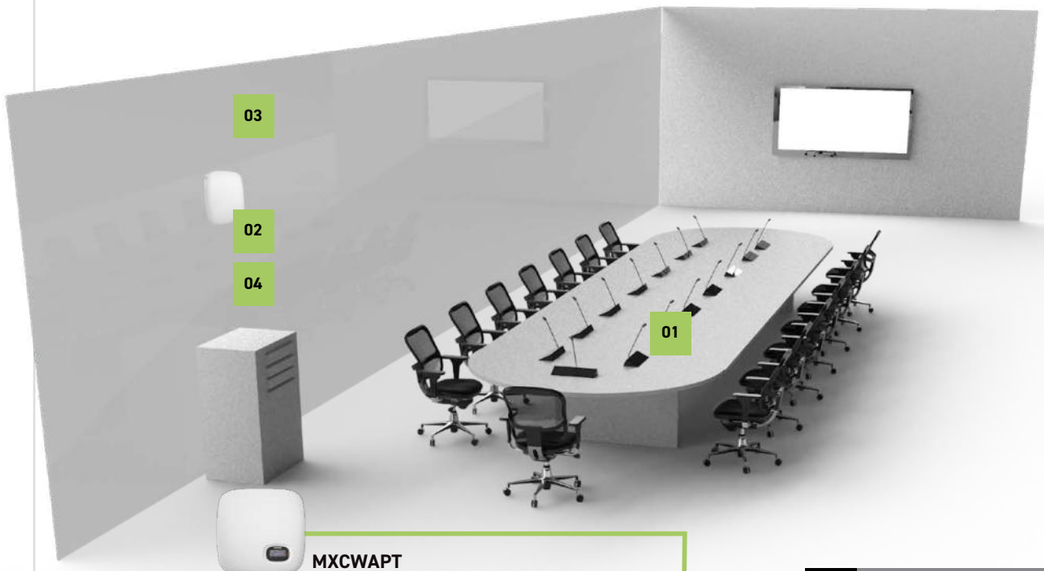
Audio System Components

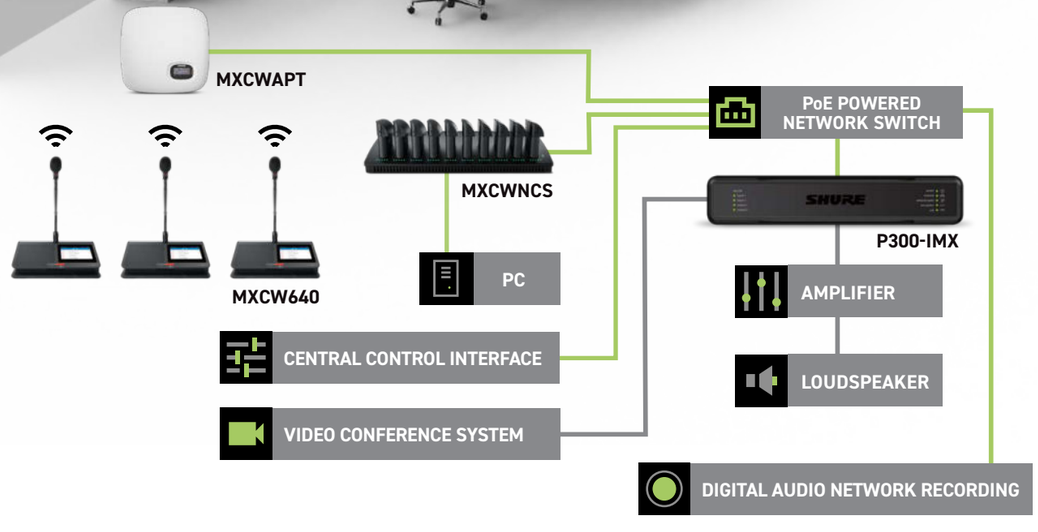
01 **MXCW640**
Full Featured Conference Unit

02 **MXCWNCS**
Networked Charging Station

03 **MXCWAPT**
Wireless Access Point Transceiver

04 **P300-IMX**
IntelliMix® Audio Conferencing Processor





ANALOG AUDIO ETHERNET WIRELESS ENCRYPTED TRANSMISSION

APPLICATIONS

SEMINAR ROOM

Presentation
Discussion
Remote Campus

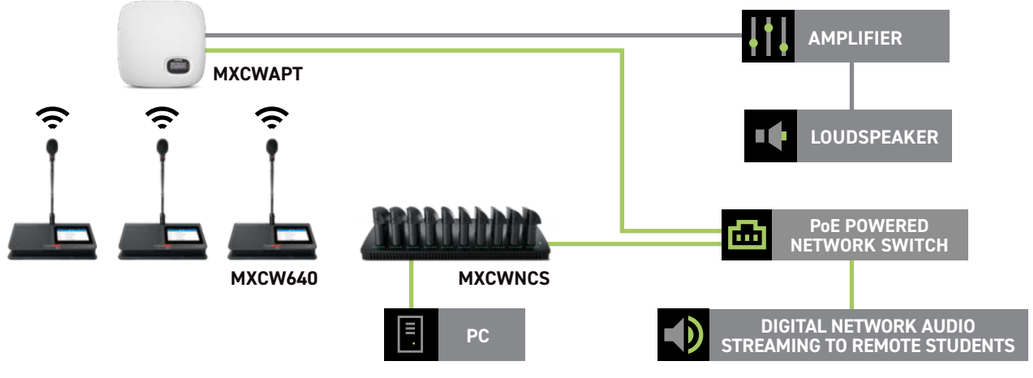
At seminars and training events, attendees need to be able to understand complex information and ask questions comfortably, while the instructor needs to know that learning is successful. Microflex Complete Wireless makes it easy for attendees to hear clearly, ask questions, and respond to instructor polls. The system can connect to third-party streaming equipment to include remote participants. Wireless convenience allows flexible seating to be reconfigured without moving cables.

Audio System Components

01 **MXCW640**
Wireless Touchscreen Conference Unit

02 **MXCWAPT**
Wireless Access Point Transceiver

03 **MXCWNCS**
Networked Charging Station



ANALOG AUDIO ETHERNET WIRELESS ENCRYPTED TRANSMISSION

ENTERPRISE SCALE WIRELESS SOLUTIONS

MICROFLEX® WIRELESS

shure.com

VIVID, LIFELIKE AUDIO FOR CONFERENCING.

MODERN AV CONFERENCING ENVIRONMENTS PROVIDE COMFORTABLE, PRODUCTIVE PLACES FOR PEOPLE TO MEET AND ENGAGE.

The Microflex Wireless platform was developed by Shure with innovative conferencing spaces in mind, providing flexible and elegant solutions for capturing and managing vivid, lifelike sound in managed meeting environments. Every system shares the same building blocks: intelligent rechargeable microphone transmitters and charging stations, discreet wireless access point transceivers, flexible audio network interfaces, and comprehensive software tools. Easy to configure and expand, Microflex Wireless easily scales from custom boardrooms to networked enterprises.

ADVANTAGES

PRISTINE AUDIO

Microflex microphone elements flawlessly capture the detailed characteristics of the human voice. Legendary Shure quality and reliability preserve the vocal nuances to ensure realistic and natural communication.

TAILORED & DISCREET SOLUTIONS

With 2-, 4- or 8-channel configurations and a versatile offering of modern, low-profile wireless transmitters, Microflex Wireless systems fit any conferencing application and are designed to install easily and disappear into diverse AV environments.

INTELLIGENT RF PERFORMANCE

Transmitters become instantly active when removed from the Networked Charging Station. While the system is in use, the Access Point Transceiver actively scans the available spectrum, automatically coordinates clean frequencies for every microphone channel and moves away from unexpected interference.

SCALABLE & NETWORK READY

Individual systems can be combined to support configurations of up to 80 compatible channels, or 160 channels in High Density mode (region dependent). Ethernet connectivity and Dante™ digital audio networking allow to connect to corporate networks for remote management and campus-wide implementation. Dante Domain Manager compatible.

ADVANCED POWER MANAGEMENT

Smart lithium-ion rechargeable batteries deliver up to 9 hours of continuous use, ensuring that transmitters can operate for a full working day. Standby mode allows energy saving, and remaining battery life or charge details can be monitored remotely over the network, accurate to hours and minutes.

SECURE TRANSMISSIONS

Wireless audio transmission is protected by AES-256 encryption to ensure unbreakable privacy and confidentiality. Corporate-uplink mode can be used to keep digital audio off the corporate network while still allowing remote monitoring and system control.

COMPREHENSIVE SOFTWARE CONTROL

Microflex Wireless Control Software application supports setup and allows real-time remote control of a system.
Shure SystemOn™ Audio Asset Management Software provides a comprehensive solution for managing large-scale Microflex Wireless deployments, enabling AV / IT administrators to support campus-wide installations from one central platform.

THIRD PARTY INTEGRATION

Microflex Wireless offers an expanded level of integration with numerous leading third party AV hardware and software solutions. The system is fully compatible with control and automation systems and other downstream equipment, reducing setup time and streamlining the workflow when using a complete AV system.

CONFIGURE TO YOUR NEEDS

EASY TO CONFIGURE AND EXPAND, MICROFLEX WIRELESS EASILY SCALES FROM CUSTOM BOARDROOMS TO NETWORKED ENTERPRISES.

NEW

MXW6 BOUNDARY TRANSMITTER

Low-profile wireless boundary microphone offers flexible placement on any surface in front of one or multiple speakers

Available with cardioid or omnidirectional pickup patterns

Low battery indicator LED

Earphone output for return channel audio

Concealed power switch prevents accidental powering off

Available in black or white

COMPONENTS

MXW2 HANDHELD TRANSMITTER

Durable, lightweight handheld transmitter with integrated antenna

Accepts signature Shure vocal microphone capsules

Interchangeable microphone heads

Dual transmit antennas maximize signal strength depending on hand placement

CommShield® Technology

Microflex Wireless Microphone Features:

AES-256 encryption

Advanced li-ion rechargeability; up to 9 hours continuous use

Programmable mute button

Full range audio (mic dependent)

Bi-directional wireless for real time remote control of settings

Up to 50 m (160 ft.) transmission range

Adjustable power limits to maximize the number of transmitters to operate in separate rooms

Range warning alert emits beeping sound when range exceeded

Connect to any standard USB power source for "always on" usage

Standby mode significantly extends battery life during periods of inactivity

CommShield® Technology prevents audible interference from consumer wireless devices

MXW1 HYBRID BODYPACK

Compact bodypack with integrated omni microphone perfect for use on a lanyard or in a shirt pocket, with external mic input and belt clip included for attachment to clothing

External mic input for easy connection to ear-worn and lavalier mics

Integrated omnidirectional microphone with external input auto switchover feature

Earphone output for return channel audio

COMPONENTS

MXW8 GOOSENECK BASE TRANSMITTER

NEW

Stylish, contoured design with minimal footprint

Accepts Microflex modular gooseneck microphones available in multiple lengths with polar pattern and LED options

Programmable LED light ring

Earphone output for return channel audio

Concealed power switch prevents accidental powering off

Compatible with 5, 10, and 15 inch Microflex Modular Goosenecks

Available in black or white

MXWAPT2 | MXWAPT4 | MXWAPT8 ACCESS POINT TRANSCEIVER

Low-profile Access Point Transceivers maintain two-way audio and data links with 2, 4 or 8 linked wireless microphones. The Access Point Transceiver features Power over Ethernet connectivity, is easily installed and connected to the network, and ships with wall/ceiling mounting plate and a paintable cover to match the room color.

Automated frequency coordination

2-, 4- or 8-channel models, up to 80 compatible channels per room in standard mode*

High Density mode doubles the max. number of MXW transmitters, up to 160 channels**

Bi-directional wireless for both audio signal and control data

AES-256 encryption

Dante™ digital networked audio enables audio routing over Ethernet to any Dante-enabled equipment

Powered over Ethernet by the Audio Network Interface

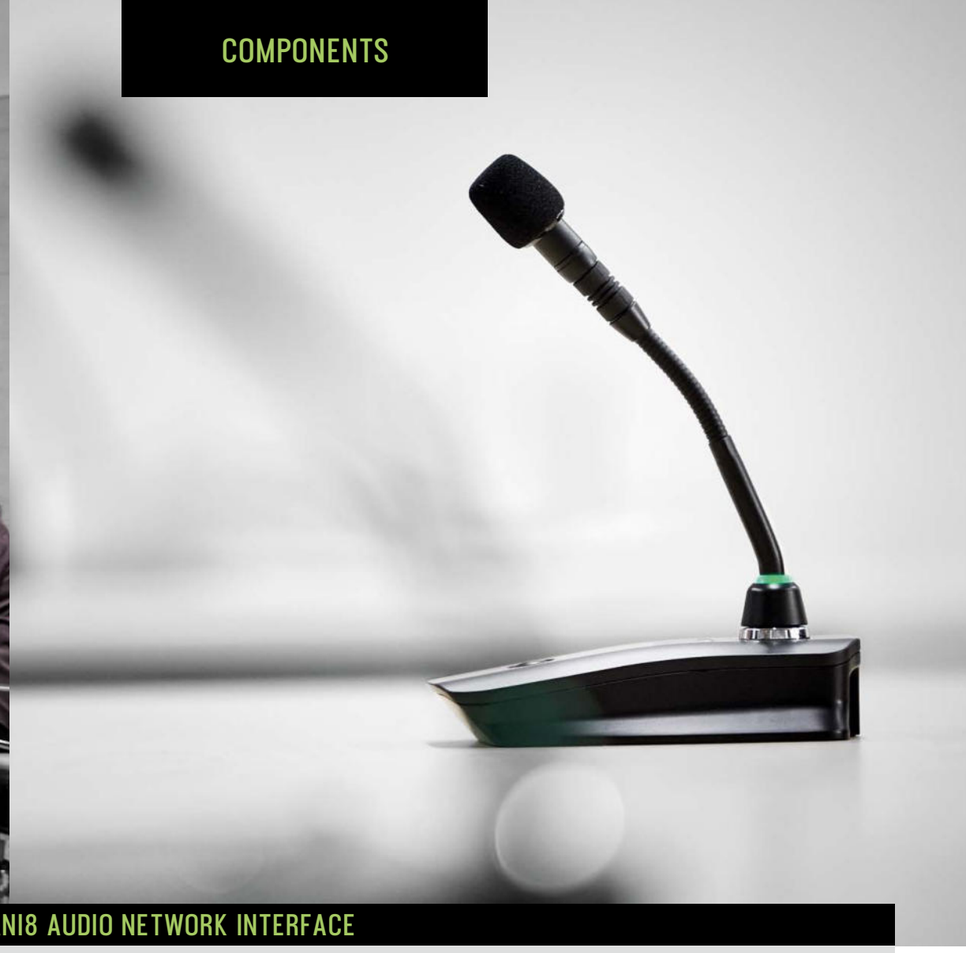
Compact design and slim profile (7"×7"×11/2") with paintable cover

Plenum rated for installation flexibility

* Total number of channels is region dependent.

** High Density mode available with MXW firmware version 5.x or later. Can be selected for each individual MXWAPT in the browser-based control interface.

COMPONENTS



MXWANI4 | MXWANI8 AUDIO NETWORK INTERFACE

With per-channel analog outputs and a versatile 4 port gigabit Ethernet switch, these rack-mountable 4-channel and 8-channel units are the central point for connecting Microflex Wireless systems to teleconferencing and presentation AV networks.

- 4 or 8 block connector channel outputs
- 1 or 2 mono block connector inputs for return channel audio
- 4 port gigabit switch with optimized port configurations
- Power over Ethernet (PoE) connection to the Access Point Transceiver
- Front panel controls allow adjustment of input and output levels and channel muting and soloing
- Supports Dante™ networking of digital audio for low latency transport and recording
- Headphone output to solo audio channels

COMPONENTS

SOFTWARE

MXWANI8
Audio Network Interface

MXWNCS2 | MXWNCS4 | MXWNCS8 NETWORKED CHARGING STATIONS

Versatile 2-, 4- and 8-bay chargers include docking USB charge ports that accept any Microflex Wireless transmitter*. Ethernet system connection supplies remote battery status monitoring via the control software and easy transmitter linking to the Access Point Transceiver.

- Connects to the system over Ethernet
- Monitor remaining battery life and charge levels in hours and minutes over the network
- Easy linking of docked microphones to Access Point Transceivers
- Charges to full in 2 hours; 50% charge in 1 hour
- Front panel LEDs report 10, 25, 50, 75 and 100% levels

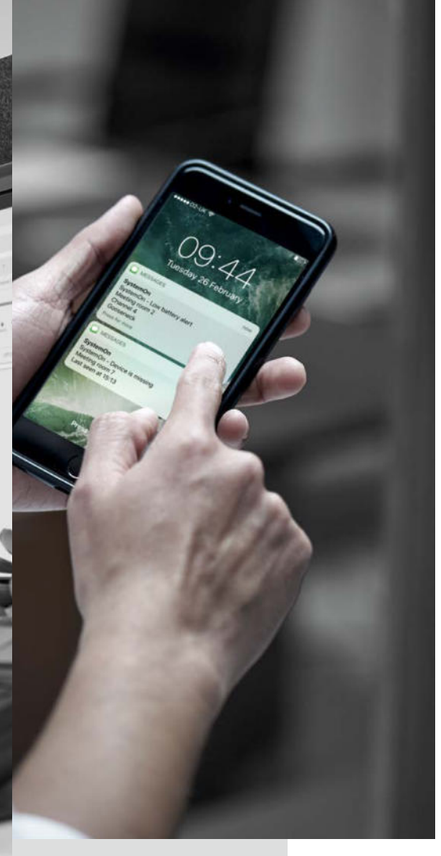
*MXWNCS2 not compatible with MXW8 Transmitter

MICROFLEX WIRELESS CONTROL SOFTWARE

MXW application that offers comprehensive remote monitoring and control of all settings and status parameters over a corporate network or an AV local area network.

- Spectrum scanner provides data on spectrum availability with channel count estimates
- Battery life and charge level monitoring in hours and minutes
- Mic gain, low and high pass audio adjustment
- Individual and global mic controls for powering on/off and triggering mute and standby modes
- Set preferences to program default system behavior

Note: Microflex Wireless Control Software allows monitoring and control of individual MXW systems at a time. For consolidated overview of all MXW systems across an entire network, SystemOn Software is recommended.



PEACE OF MIND

Stay one step ahead with text and email alerts to prevent potential issues before they happen.

MANAGING SCALE

Conference rooms need to be ready to go on short notice and managing the scale of building-wide or campus-wide deployments can be complicated.

TIME SAVING

Maximize control of your organization's audio on your mobile device, allowing you to go about your day and be notified when something needs your attention, rather than manually checking each room to make sure the system is ready to go.

SECURE SYSTEM

Customize access and permissions for a tailored user experience

SOFTWARE

SYSTEMON AUDIO ASSET MANAGEMENT SOFTWARE

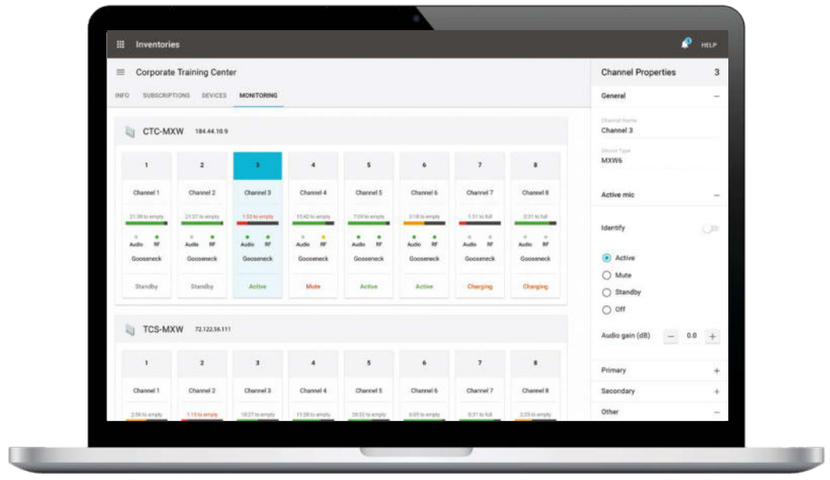
Conquer complexity and scale. Developed to make managing large-scale Shure audio hardware deployments easier for you.

SystemOn supports Shure ULX-D® Digital Wireless Systems, SCM820 Intellimix® Automatic Mixers, Microflex® Advance™ Ceiling Array Microphones, Intellimix® P300 Audio Processor, ANIUSB-MATRIX USB Audio Network Interface, Microflex® Wireless

The software is available through a subscription model. Each IP-addressable device requires one license. For more details, visit www.shure.com

HOW IT WORKS

You can't be everywhere at once but everywhere can be with you. Monitor inventory and battery health in real time and troubleshoot on the go. Avoid dead air, minimize cost and enhance resource use with simple, sophisticated software.



BEST IN CLASS

WIRELESS PERFORMANCE

WITH MICROFLEX WIRELESS AND INTELLIMIX® P300 AUDIO CONFERENCING PROCESSOR

Shure Microflex Wireless Microphones, together with the IntelliMix P300 Audio Conferencing Processor, help you elevate your audio for AV conferencing and presentations.

Best-in-class wireless performance, plus powerful IntelliMix digital signal processing, combine to provide customizable microphone placement. And a variety of connectivity options make joining room systems with laptops or mobile devices easier than ever.

BUNDLES

The Microflex Wireless MXWAPT8 Access Point Transceiver, together with the P300 Audio Conferencing Processor, deliver natural voice quality and excellent speech intelligibility for conferencing and presentations.

A selection of versatile wireless microphones offer a customizable, license-free AV conferencing system.

The P300 offers multi-channel acoustic echo cancellation and noise reduction plus IntelliMix automatic mixing optimized for AV conferencing applications.
Simple to set up, discreet and versatile, this bundle simplifies the ordering process, while offering a discounted price.

Please note that these items may ship separately

+ MXWAPT8 ACCESS POINT TRANSCEIVER AND P300

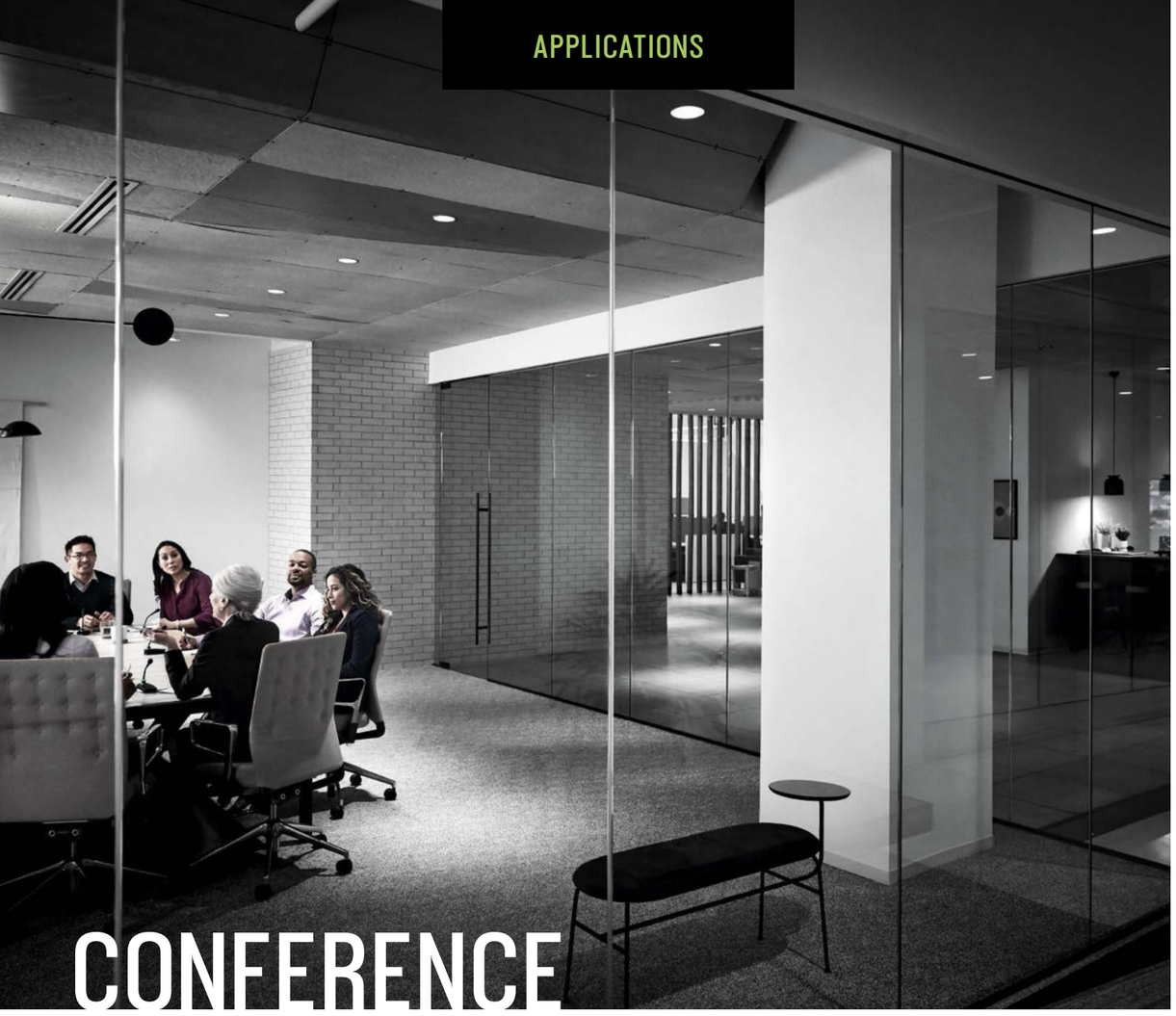
8-channel wireless access point compatible with Microflex Wireless microphone systems

Operates in license-free 1.9 GHz (or DECT) band

8 channels of acoustic echo cancellation and noise reduction

Dante (10 in / 2 out), analog (2 in / 2 out)

USB (1 in/out) and 3.5 mm connectivity options for connecting to room systems, laptops and mobile devices



CONFERENCE ROOM

Microflex® Wireless systems bring wireless elegance and flexibility to meeting spaces where a wired solution is not preferred, or to historic buildings where running cables and drilling holes is not possible.

With a single Microflex Access Point Transceiver mounted discreetly in the room, you can easily manage up to 8 wireless microphones in any configuration your application requires—boundary, gooseneck, bodypack or handheld. Add more Access Point Transceivers for up to 160 compatible channels (in High Density Mode, region dependent). When you need to reconfigure a room—from a formal boardroom setup to an AV workroom—modular, wireless components easily flex to meet the channel capacity and transmitter requirements of new conferencing applications.

Additionally, Microflex Wireless systems are fully compatible with leading third-party control systems such as AMX® and Crestron, as well as AV conferencing solutions like Cisco® and Polycom®.

APPLICATIONS

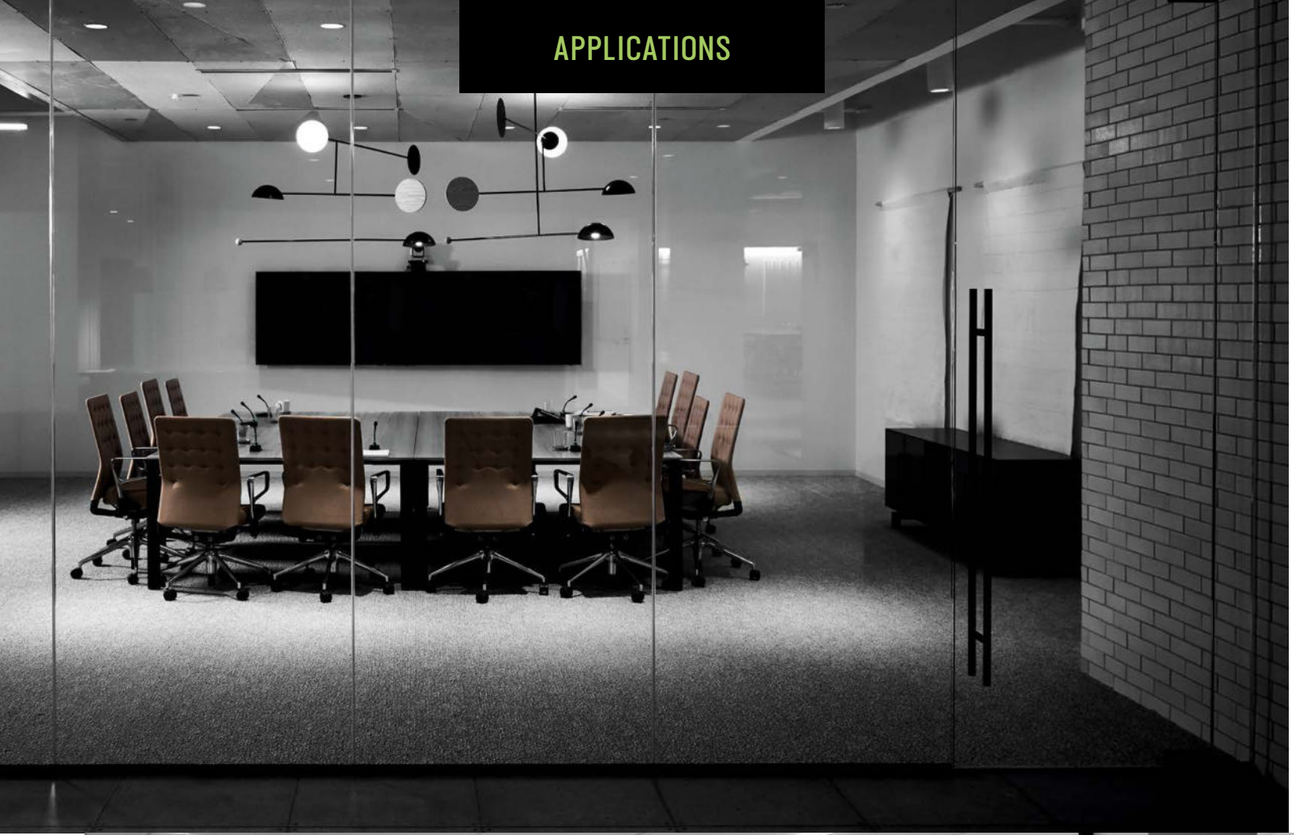
01 **Wireless Microphones**
Elegant boundary, gooseneck, bodypack and handheld transmitters send and receive audio signal and data wirelessly to the Access Point Transceiver.

02 **Access Point Transceiver**
Manages the wireless link with transmitters and connects to the Audio Network Interface via Ethernet over a single Cat5e cable for power (PoE), digital audio and control signal routing.

03 **Networked Charging Stations**
2-, 4- and 8-bay stations fully charge batteries within 2 hours and connect to the Audio Network Interface via Ethernet over Cat5e cable. They provide real-time monitoring of charge status and one-touch linking of docked wireless microphones.

04 **Audio Network Interface**
Converts Dante™ digital networked audio from the Access Point Transceiver to per-channel analog audio output for connectivity to teleconference systems, local sound reinforcement or other audio components. Also provides a 4-port switch, making it easy to set up a Microflex Wireless system without needing additional networking hardware.

05 **Microflex Wireless Control Software**
MXW application provides remote control of key set-up and monitoring functions. Remotely view spectrum usage and remaining battery life in hours and minutes, adjust audio levels, set mute button and light ring behavior, and configure system connections. Also allows custom integration into third party control systems such as AMX® and Crestron®.

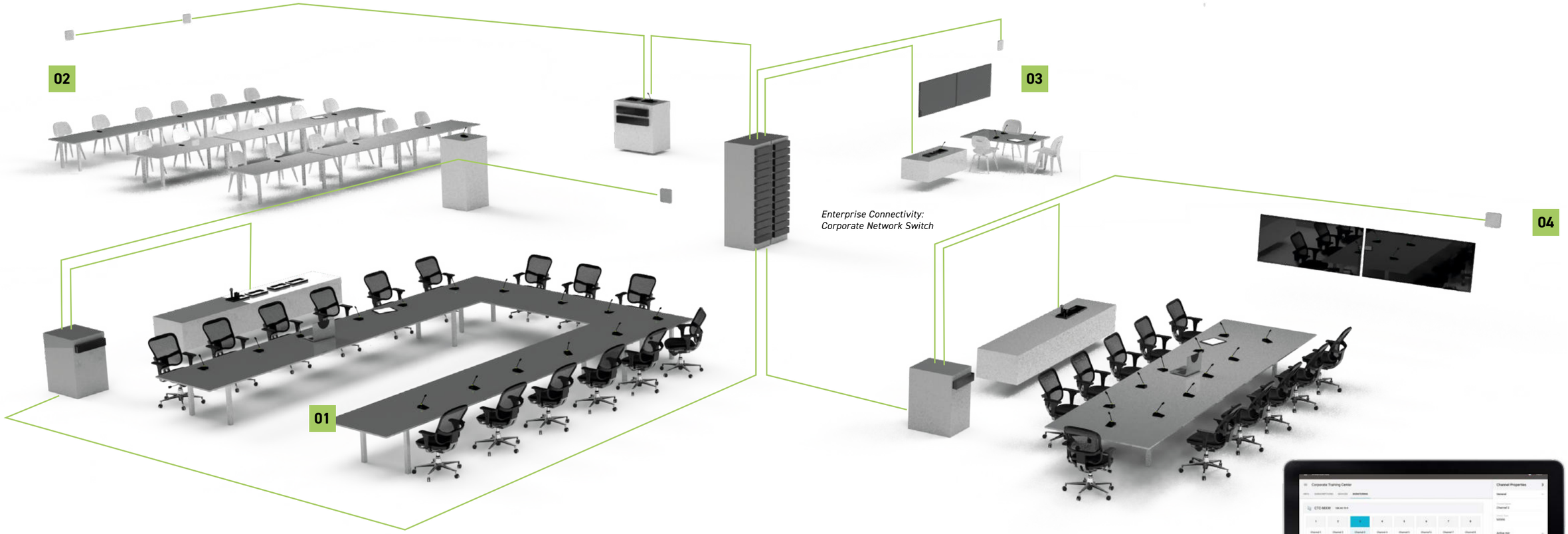


ENTERPRISE APPLICATIONS

For sites where AV / IT teams manage diverse AV applications that span rooms, floors, buildings and campuses, networkable Microflex® Wireless components extend the reach and efficiency of team resources.

APPLICATIONS

APPLICATIONS



Microflex Wireless extends the Shure legacy of best-in-class audio to boardrooms, huddle rooms and meeting spaces, as well as education and training facilities of all sizes, delivering an enterprise-scale solution with confidence. All components in the Microflex Wireless system are connected and accessible over Ethernet networks. Any number of networked systems can be setup, managed, monitored and controlled on-site or remotely via web browser.

Shure SystemOn™ Audio Asset Management Software provides comprehensive centralized IT support and real-time troubleshooting across entire networks, particularly for large-scale deployments. The software provides a hardware status view from one central portal and proactively identifies issues such as low batteries and missing or offline equipment. AV / IT admins are able to detect problems before they become critical and respond quickly and efficiently, eliminating the need for on-site troubleshooting.

Additionally, Microflex Wireless systems are fully compatible with leading third-party control systems such as AMX® and Crestron, as well as AV conferencing solutions like Cisco® and Polycom®.

01 **Multi-Purpose Room**
Flexible, scalable rooms that are easily reconfigured for training sessions and events.

02 **Auditorium / Theater / Lecture Hall**
Media rich presentation halls for direct, keynote-type presentations or lectures with audience participation.

03 **AV Conferencing Room / Huddle Room**
Intimate conference spaces for engaging with remote participants.

04 **Boardroom**
Highly aesthetic spaces for executive-level meetings and presentations.

Overview

VXC series “S model” ceiling subwoofers are ideal matches for VXS and VXC series speakers, smoothly extending the low frequency range with superb sonic quality for bigger, more true-to-life musical reproduction without spoiling interior design of architectures.

Features

- Sound and size ideally matched to the VXS and VXC series
- Band-pass design ensures smooth, distortion-free low-frequency extension
- Direct support for low-impedance or high-impedance connections
- Built-in carrying band increases safety during installation
- Anti-drop tab mechanism provide secure temporary positioning during installation
- Double-threaded speaker clamp screws for speedy tightening
- Paintable grilles with magnetic catches
- Black and white versions available

Specifications

General Specifications

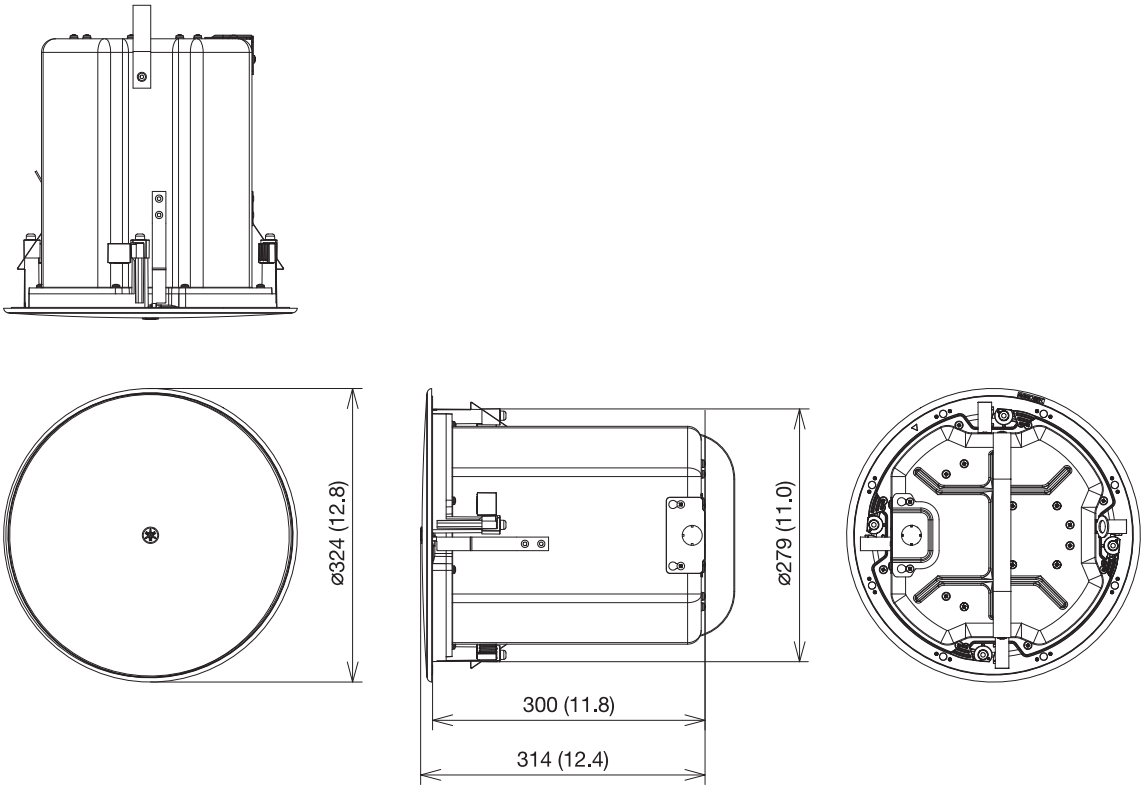
Speaker Type		Band-pass type Subwoofer
Frequency Range (-10 dB)		44 Hz - 200 Hz (Half-space 2π)
Nominal Coverage		-
Components	LF	8" Cone
Power Rating	NOISE	100 W
	PGM	200 W
	MAX	400 W
Nominal Impedance		8 Ω
Transformar Taps	100 V	60 W, 30 W, 15 W, 7.5 W
	70 V	60 W, 30 W, 15 W, 7.5 W, 3.8 W
SPL	Sensitivity (1 W; 1 m on axis)	88 dB SPL (Half-space 2π)
	Peak (Calculated)	114 dB SPL (Calculated, 1 m)
I/O Connectors		Euroblock (4 pin) x 1 (input: +/-, loop-thru: +/-)
Protection Circuit	Load Protection	Full-range power limiting to protect network and transducers
Finish		VXC8SB: Black (approx. Munsell N3) VXC8SW: White (approx. Munsell N9.3)
Dimentions	Diameter	324 mm (12-13/16")
	D	314 mm (12-23/64")
Net Weight		8.7 kg (19.2 lbs)
Cutout Size		Ø285 mm (Ø11-7/32")
Required Ceiling Board Thickness		5 mm - 37 mm
Packaging		Single package
Certificate		UL1480, UL2043, NFPA70, CE, EAC, RoHS
EN54-24 Compliance		-
Others		Conduit tube: Ø15.4 mm - Ø21.3 mm
Options		AB-C8S: O-ring + Tile Rail kit

Accessories

Included Accessories	Safety Wire x 1, Cutout Template x 1, Owner's Manual

Dimensions

Unit: mm (inch)

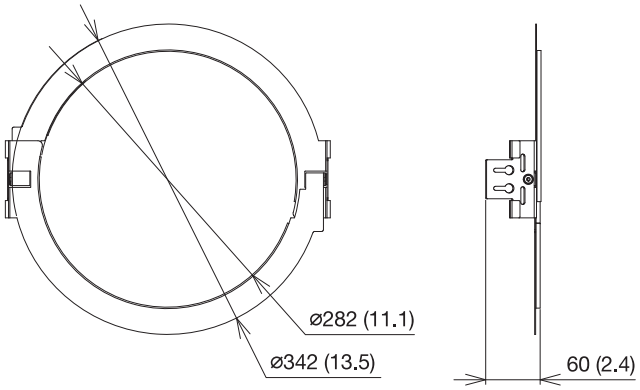


Dimensions

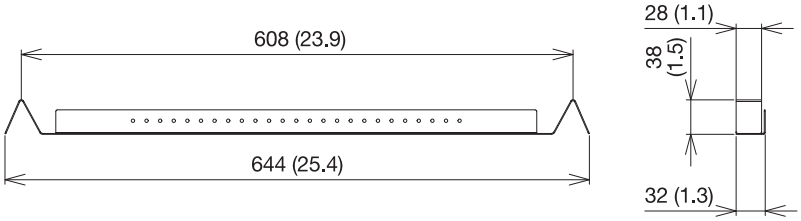
Unit: mm (inch)

Option: AB-C8S

O-ring



Tile Rail



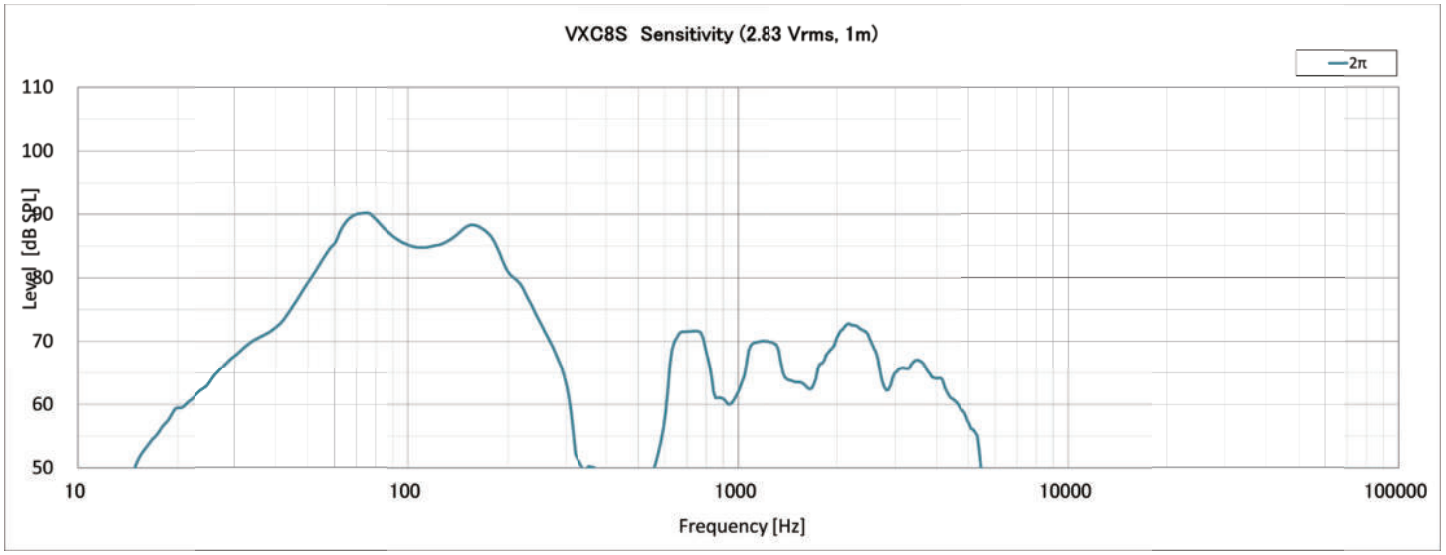
Options

- Installation Support Bracket Kit AB-C8S

Architectural and Engineering Specifications

The Yamaha VXC8SB (black) and VXC8SW (white) shall be ceiling subwoofers for commercial installations. The VXC8SB and VXC8SW shall be designed to complement full-range Yamaha commercial installation speakers with extended low frequency response for more realistic music reproduction. They shall be band-pass type subwoofers with an 8" cone low frequency driver.
The VXC8SB and VXC8SW shall meet the following performance criteria: Sensitivity shall be 88 dB SPL (half-space 2π), maximum SPL shall be 114 dB at 1 meter, and frequency response shall be 44 Hz to 200 Hz (half-space 2π). Maximum power ratings shall be 100 watts noise, 200 watts program, and 400 watts peak. A tap selector shall be provided to allow operation at 8 ohms in low-impedance systems, or 70V/100V line voltage in distributed systems. 7.5, 15, 30, and 60 watt power taps shall be provided for 100 volt distributed lines. 3.8, 7.5, 15, 30, and 60 watt power taps shall be provided for 70 volt distributed lines. Overload protection shall be provided by full-range power limiting. A 4-pin Euroblock connector shall be provided for input connection.
The VXC8SB and VXC8SW shall have a powder-coated perforated steel grille and painted steel cabinet with ABS baffle. The VXC8SB grille and cabinet shall be black, and the VXC8SW grille and cabinet shall be white. The grille shall be paintable to allow color matching with the installation environment. The VXC8SB and VXC8SW shall be supplied with a safety wire, cutout template, and owner's manual. An optional O-ring and tile rail kit shall be available for maximum installation safety. Speaker dimensions including grille shall be 324 (ø) x 314 (D) mm. Weight shall be 8.7 kg.

Frequency Response



Created in December, 2022

YAMAHA CORPORATION
P.O.BOX 1, Hamamatsu Japan

iD84 Column Speaker Data Sheet

Column Speaker, 2 way passive, with 8x 4” LF and 8x 1” HF.

The ID84 speaker is a powerful high-technology column speaker.

ID84 main features

- Powerful Column speaker that can be stacked or flown, with or without its companion sub the IDS312.
- Can be coupled upside down for increase throw and/or coverage.
- Low frequency directivity extension module (ID84L) for unmatched directivity up to cardioid pattern.
- Electronically steerable with a switch at the back of the unit + dedicated processing setup.
- Comprehensive range of versatile, multifunction accessories for deploying the ID84 in a wide variety of applications.
- Available in Touring, Installation and Tis versions, with custom RAL colour options.

nexo-sa.com

The ID84 shares the same aesthetic design and sonic signature as the other modules in the ID Serie, while offering an elegant format and the well known NEXO size-to-power ratio.

High-density package

The ID84 is 990mm x 150mm x 215mm (39.0” x 5.9” x 8.5”) and weighs 15 kg (33 lbs). Using the latest-generation Neodymium drivers, including the powerful 4” LF driver used in the ID24.

Advanced NEXO technology included

From speakers to waveguide, ID84 is packed with important NEXO technical innovations.

The HF uses a patent-pending arrangement to maximize the coverage of the HF.

The enclosure itself is made of aluminium, while the side covers and the protective front grille are in Magnelis®.

Precise matching directivity

The ID84 vertical directivity can be selected between two dispersions through a switch at the back, offering either +0/-10° “Narrow” or +0/-25° “Wide” dispersion, for 100° horizontal.

Together with dedicated presets for each vertical directivity choice, the ID84 can accommodate various audience situations while keeping a consistent sound throughout the audience area.

Long-throw applications

The design of the ID84 allows two modules to be coupled upside down for increased throw, each module with its own directivity option.

A low frequency extension, called ID84L, can increase the line length for increased directivity up to full cardioid pattern. See ID84L datasheet.

Touring, Installation and Tis versions

The Touring version uses a front Magnelis® grille. Its connection plate uses two NL4 connectors at the back and one connector hidden into the bottom cover for cableless connection to the dedicated IDS312 sub.

The Installation version keeps the same acoustic design but comes with a grille covered by an acoustic cloth. The connectivity is made through cable gland and captive two core cables, this version being IP54 rated.

The TIS version is actually a Touring version plus the acoustic cloth in front. All versions are available in black, white or custom RAL colour on request.

Perfect phase aligment

The ID84 shares the same phase response as other NEXO speakers, making it extremely easy to mix with all NEXO systems, e.g for side fill or front fill, or when used with any NEXO subs, without risk of comb filtering or requiring complex electronic adjustment.

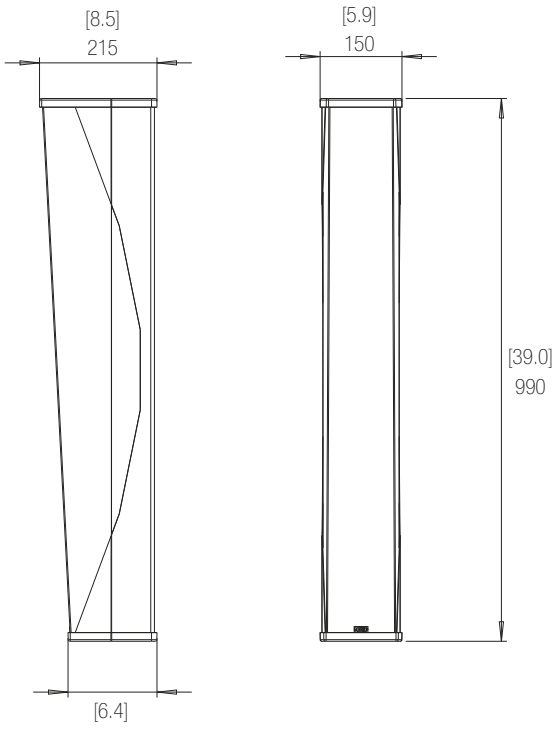
The patent pending HF arrangement coupled with the electronic steering offers +0/-10° or +0/-25° vertical directivity.

iD84 Column Speaker Data Sheet

NEXO

NEXO is one of the world's leading sound reinforcement loudspeaker manufacturers. Founded in 1979, the company is dedicated to crafting practical solutions with solid engineering. Each new design begins with a proprietary sophisticated computer simulation process that allows every parameter to be extensively modeled and simulated, leading to breakthrough cost and performance gains. NEXO's comprehensive product line includes loudspeakers, analogue and digital control electronics and amplification; all designed to deliver consistent sound quality and long term reliability for a broad range of applications.

	ID84-T (Touring)	ID84-I (Install)	ID84-TIS (Tis)
ID84 WITH NEXO PROCESSING			
Frequency Response @-6 dB	90 Hz to 20 kHz		
Sensitivity 1W@1m	105 dB SPL Nominal		
Peak SPL@1m	135 dB		
Vertical Dispersion	+0°/-10° (Narrow Mode) or +0°/-25° (Wide mode)		
Horizontal Dispersion	100°		
Crossover Frequency	90 Hz, 120 Hz		
Nominal Impedance	4 Ω		
Recommended Power	650 to 1080 Watts / 4 Ohms		
PRODUCT FEATURES			
Number of ways	2 way passive		
LF Component	8 x 4" 8 Ohms long excursion Neodymium driver		
HF Component	8 x 1" 8 Ohms HF driver on a patent-pending arrangement		
Narrow/Wide mode selection	Ruggedized, recessed, waterproof 2 position switch		
Connectors	2x NL4 connectors (2+/2-) + 1x integrated connector in the base	Cable gland with 2x core cable	2x NL4 connectors (2+/2-) + 1x integrated connector in the base
Rigging points	2 x pairs of M6 - 70 mm pitch rigging points + 2x extra M6		
Material	Aluminum body and Magnelis® covers & grill		
Finish	Black powder coating (RAL9005), White powder coating (RAL9016) or Custom RAL		
Front Finish	Magnelis® Front grill	UV & Fire resistant acoustic fabric	UV & Fire resistant acoustic fabric
Height x Width x Depth	990mm x 150mm x 215 mm (39.0" x 5.9" x 8.5")		
Weight: Net	15 kg (33 lbs)		
Operating temperature range	0°C - 40 °C (32° F - 104° F)		
Storage temperature range	-20 °C - 60 °C (-4 ° F - 140° F)		
IP Rating	IP2x	IP54	IP2x
SYSTEM OPERATION			
Recommended powering solution	NXAMP4x1mk2 Powered TDcontroller: Up to 2 x ID84 per channel		
Optional powering solution	DTDcontroller + DTDAMP4x0.7 : 1 x ID84 per channel		
	DTDcontroller + DTDAMP4x1.3 : 1 x ID84 per channel		
	NXAMP4x2mk2 Powered TDcontroller: Up to 2 x ID84 per channel		
	NXAMP4x4mk2 Powered TDcontroller: Up to 2 x ID84 per channel		



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NEXO

nexo-sa.com

iDS312 Column Sub Data Sheet

Column Sub, with high-excursion 3x 12” woofers.

The IDS312 column sub is the ideal companion of the ID84 column speaker.

IDS312 main features

- Powerful column sub that can be stacked with or without its companion main speaker the ID84.
- Can be stacked horizontally or vertically.
- Ideal size to bring the ID84 to the audience height.
- Lightweight (31 kg / 68 lbs) using neodymium drivers and birch plywood enclosure.
- Comprehensive range of versatile, multifunction accessories for deploying the IDS312 in a wide variety of applications.
- Available in Touring, Installation and Tis versions, with custom RAL colour options.

NEXO

nexo-sa.com

The IDS312 shares the same aesthetic design and sonic signature as the other modules in the ID Serie, while offering an elegant format and the well known NEXO best size to power ratio.

High-density package

The IDS312 is 1160mm x 380mm x 350mm (45.7” x 15.0” x 13.8”) and weighs 31 kg (68 lbs), using three high-excursion Neodymium drivers in a bass-reflex enclosure design.

ID84 perfect companion

When the ID84 is fitted onto the IDS312, the total height of the assembly gives a perfect height for the best coverage of the audience.

The crossover between the IDS312 and the ID84 has been designed to perfectly extend both the frequency response of the main speaker and the directivity by acting like a homogenous two meters high sound source.

Quick connect system

A quickly removable magnetic cover on the top of the sub will unveal a Quick Connect system that ensures the mechanical and the electrical connection between the IDS312 and the ID84.

Thus only one four core cable connected to the bottom of the sub can feed both the IDS312 and the ID84 speaker without unelegant cable at the back of the column.

Touring, Installation and Tis versions

The IDS312 Touring version uses a front Magnelis® grill. Its connection plate uses two NL4 connectors at the back and one connector hidden into the top cover integrated into the Quick Connect system for cableless connection to the ID84 main speaker.

The Installation version keeps the same acoustic design but comes with its front Magnelis® grill covered by an acoustic cloth. The connectivity is made through cable gland and captive two core cables, this version being then IP54 rated. There is no Quick Connect system on this version.

The TIS version is actually a Touring version plus the acoustic cloth in front. All versions are available in black, white or custom RAL colour on request.

All versions are delivered with two rubber mats to install the IDS312 horizontally.

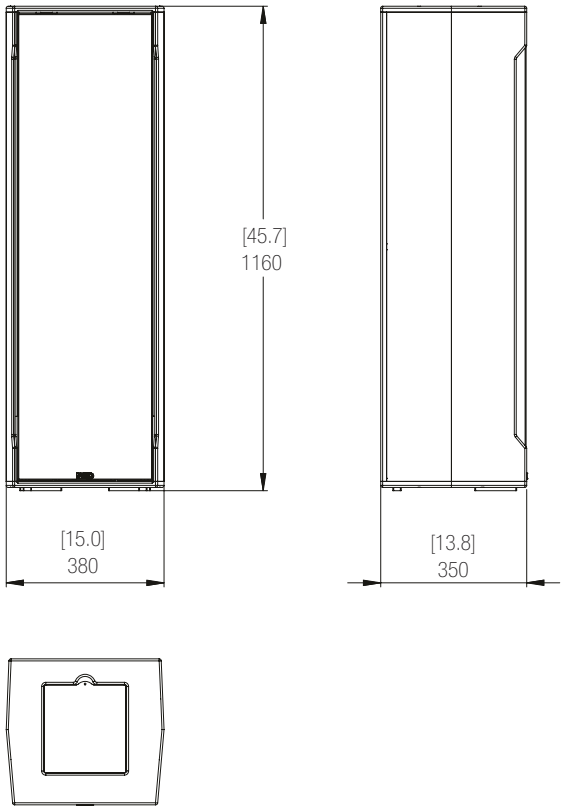
Perfect phase alignment

The IDS312 shares the same phase response than other NEXO speakers, making it extremely easy to mix with other NEXO systems, or when used with any NEXO subs, without risk of comb filtering or requiring complex electronic adjustment.

iDS312 Column Sub Data Sheet

NEXO is one of the world's leading sound reinforcement loudspeaker manufacturers. Founded in 1979, the company is dedicated to crafting practical solutions with solid engineering. Each new design begins with a proprietary sophisticated computer simulation process that allows every parameter to be extensively modeled and simulated, leading to breakthrough cost and performance gains. NEXO's comprehensive product line includes loudspeakers, analogue and digital control electronics and amplification; all designed to deliver consistent sound quality and long term reliability for a broad range of applications.

	IDS312-T (Touring)	IDS312-I (Install)	IDS312-TIS (Tis)
IDS312 WITH NEXO PROCESSING			
Frequency Response @-6 dB	40 Hz to 120 Hz		
Sensitivity 1W@1m	105 dB SPL Nominal		
Peak SPL@1m	138 dB		
Crossover Frequency	40-85 Hz, 40-120 Hz, 40-150 Hz, 63-120 Hz, 63-150 Hz		
Nominal Impedance	2 Ω		
Recommended Power	1300 to 2100 Watts / 2 Ohms		
PRODUCT FEATURES			
Components	3 x Neodymium 12" 6 Ohms long excursion		
Connectors	2x NL4 connectors (1+/1- & 2+/2-) + Quick connect system for ID84	Cable gland with 2x core cable	2x NL4 connectors (1+/1- & 2+/2-) + Quick connect system for ID84
Rigging points	1 x pair of M6 rigging points to link the IDS312 to a base plate		
Material	15mm baltic birch plywood		
Finish	Black structural paint (RAL9005), White structural paint (RAL9016) or Custom RAL		
Front Finish	Magnelis® Front grill	UV & Fire resistant acoustic fabric	UV & Fire resistant acoustic fabric
Height x Width x Depth	1160mm x 380mm x 350mm (45.7" x 15.0" x 13.8")		
Weight: Net	31 kg (68 lbs)		
Operating temperature range	0°C - 40 °C (32° F - 104° F)		
Storage temperature range	-20 °C - 60 °C (-4 ° F - 140° F)		
IP Rating	IP2x	IP54	IP2x
SYSTEM OPERATION			
Recommended powering solution	NXAMP4x1mk2 Powered TDcontroller: 1 x IDS312 per channel		
Optional powering solution	NXAMP4x2mk2 Powered TDcontroller: 1 x IDS312 per channel		
	NXAMP4x4mk2 Powered TDcontroller: 1 x IDS312 per channel		



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CONFERENCIAS EN DIRECTO TRANSMISIÓN AÉREA

SERIE QL

MESAS DE MEZCLAS DIGITALES

QL5

Dante StageMix MY16

QL1

Dante StageMix MY16

12U

MESAS DE MEZCLAS DIGITALES "TODO EN UNO" QUE HEREDAN SUS FUNCIONES Y PRESTACIONES PRINCIPALES DIRECTAMENTE DE LA SERIE CL

- Sonido natural de alta calidad junto con potentes capacidades de procesamiento integradas para que el control creativo sea total.
- El automezclador Dugan integrado proporciona un equilibrio óptimo entre canales a la vez que permite al técnico concentrarse en optimizar el sonido global.
- Una pantalla táctil de gran tamaño, controles de canal seleccionado y controles de "tocar y girar" configuran una interfaz intuitiva y eficiente a la hora de trabajar.
- Gran capacidad de entradas y salidas integradas para manejar muchas clases de aplicaciones sin necesidad de utilizar racks de escenario y otros equipos externos.
- Conectividad de red Dante incorporada que permite gran flexibilidad de ampliación del sistema.
- Se pueden conectar hasta 24 unidades de rack de E/S de la serie R a cada mesa.
- Una innovadora función "puerto a puerto" permite que la mesa funcione como dispositivo de E/S en remoto para cualquier otra mesa QL o CL.
- La función de compensación de ganancia permite que varias mesas compartan y controlen la misma unidad de E/S.
- "Premium Rack" virtual con modelos VCM de los famosos Neve Portico 5033 (ecualizador) y Portico 5043 (compresor/limitador), además de otros ecualizadores, compresores y efectos VCM con calidad de estudio.
- "Effect Rack" virtual que permite el uso simultáneo de hasta 8 efectos de entre una selección de 46 efectos de ambiente y 8 efectos de inserción.
- "GEQ Rack" virtual que permite insertar un ecualizador gráfico en los buses de salida según se necesite para la ecualización de la sala y otras funciones.
- Control remoto perfectamente integrado y edición desde un dispositivo externo como un iPad® de Apple u otro ordenador.
- Compatibilidad con la serie CL: datos intercambiables entre las mesas QL y CL.
- Grabación directa en dos pistas en unidades flash USB o grabación multipista en estaciones de trabajo DAW a través de Dante.
- Las grabaciones multipista se pueden utilizar para hacer "pruebas de sonido virtuales" cuando los músicos no están presentes.
- Entradas y salidas fácilmente ampliables, además de otras capacidades de procesamiento, gracias a sus 2 ranuras para tarjetas Mini-YGDA .
- Otras prestaciones: sección completa de bancos de faders, nombres y colores de los canales editables, teclas y controles de pantalla definidos por el usuario, 300 memorias de escena, retardos de entrada y salida, amplias posibilidades de ecualización y procesamiento dinámico, 16 grupos DCA, 8 grupos de silenciamiento (mute), interfaz GPI con 5 entradas y 5 salidas, grupos de teclas para varios usuarios y ayuda en pantalla, entre otras muchas.
- Monitorización y mezcla surround (versión 3, disponible a partir de otoño 2014)

QL5

- Configuración de 32 + 2 faders que se adapta a una gran variedad de configuraciones de canales. La QL5 es una mesa compacta con prestaciones para grandes aplicaciones.
- Canales de mezcla: 64 mono, 8 estéreo
- Buses: 16 de mezcla, 8 de matriz (soporta "entrada a matriz")
- E/O locales: 32 entradas, 16 salidas
- Configuración de faders: 32 + 2 (máster)
- Soporte de acero inoxidable para iPad

QL1

- Configuración de 16 + 2 faders en una unidad compacta y montable en rack
- Canales de mezcla: 32 mono, 8 estéreo
- Buses: 16 de mezcla, 8 de matriz (soporta "entrada a matriz")
- E/O locales: 16 entradas, 8 salidas
- Configuración de faders: 16 + 2 (máster)
- Montable en rack con el kit de montaje en rack RK1 opcional

ESPECIFICACIONES

ESPECIFICACIONES GENERALES		
Frecuencia de muestreo	Internas:	44.1kHz, 48kHz
	Externas:	44.1 kHz (+4,1667%, +0,1%, -0,1%, -4,0%) ±200 ppm
		48 kHz (+4,1667%, +0,1%, -0,1%, -4,0%) ±200 ppm
Retardo de señal	Inferior a 2,5 ms de entrada Omni a salida Omni (@ fs = 48 kHz)	
Fader	100 mm motorizado, resolución = 1.024 pasos De +10 dB a -138dB, -∞dB todos los faders	
Distorsión armónica total*1 De entrada a salida Omni Ganancia de entrada = mín.	Inferior a 0,05% de 20Hz a 20kHz @ +4 dBu a 600 Ω	
Respuesta de frecuencia De entrada de canal a salida Omni	+0,5, -1,5 dB 20 Hz a 20 kHz, referido a +4 dBu de salida @ 1 kHz, De entrada a salida Omni	
Rango dinámico (de nivel máximo a nivel de ruido)	112 dB típ., convertidor DA, 108 dB típ., de entrada a salida Omni, ganancia de entrada = mín. ww	
Nivel de zumbido y ruido*2 (de 20 Hz a 20 kHz), Rs = 150 Ω	Ruido de entrada equivalente -128 dBu, ganancia de entrada = máx., Ruido de salida residual -88 dBu, máster ST (estéreo) desactivado	
Diafonía (@ 1 kHz) Ganancia de entrada = mín.	-100 dB*3, canales adyacentes de entrada/salida Omni	
Alimentación Phantom	+48V	
Requerimientos de alimentación	CA 100V-240V, 50/60 Hz	
Consumo de corriente	QL5: 200 W QL1: 135 W	
Dimensiones (an. x al. x pro.)	QL5: 828 x 272 x 563 mm (32,6 x 10,7 x 22,2 pulgadas) QL3: 468 x 272 x 562mm (18,4 x 10,7 x 22,1 pulgadas)	
Peso	QL5: 21,8 kg (48,1 libras) QL1: 14.7 kg (32,4 libras)	

*1 La distorsión armónica total se mide con un filtro de 18 dB/oct. a 80 kHz.
*2 El nivel de zumbido y ruido se mide con un filtro de 6 dB/oct. a 12.7 kHz, equivalente a un filtro de 20 kHz con atenuación de infinitos dB/oct.
*3 La diafonía se mide con un filtro de 30 dB/oct. a 22 kHz.

ESPECIFICACIONES DE ENTRADAS ANALÓGICAS

Terminal de entrada	GANANCIA	Impedancia de fuente real	Para uso con nominal	Nivel de entrada			Conector
				Sensibilidad	Nominal	Máx. antes de saturación	
Entrada 1-32 (QL5) Entrada 1-16 (QL1)	+66 dB	7.5 kΩ	Micros de 50-600 Ω y líneas 600 Ω	-82 dBu	-62 dBu	-42 dBu	Tipo XLR3-31*
	-6 dB			-10 dBu	+10 dBu	+30 dBu	

ESPECIFICACIONES DE SALIDAS ANALÓGICAS

Terminal de salida	Impedancia de fuente real	Para uso con nominal	CONMUTADOR DE GANANCIA	Terminales de salida		Conector
				Nominal	Máx. antes de saturación	
Salida Omni 1-16 (QL5) Salida Omni 1-8 (QL1)	75 Ω	Líneas a 600 Ω	+24 dB	+4 dBu	vt +24 dBu	Tipo XLR3-32*
			+18 dB	-2 dBu	+18 dBu.	
AURICULARES	15 Ω	Auriculares a 8 Ω	–	75mW	150mW	Jack de 1/4" estéreo
		Auricu-				

ESPECIFICACIONES DE E/S DIGITALES

Terminal	Formato	Longitud de datos	Nivel	Audio.	Conector
Primario/secundario	Dante	24 o 32 bits	1000 Base-T	64 can. entrada/64 can. salida @ 48 kHz	etherCON Cat5e

*1 QL1: 32 can. de entrada/32 can. de salida @ 48kHz

ESPECIFICACIONES DE SALIDAS DIGITALES

Terminal		Formato	Longitud de datos	Nivel	Conector
SALIDA DIGITAL	AES/EBU	AES/EBU para uso profesional	24 bits	RS422	Tipo XLR3-32*

ESPECIFICACIONES DE RANURAS DE E/S (1-2)

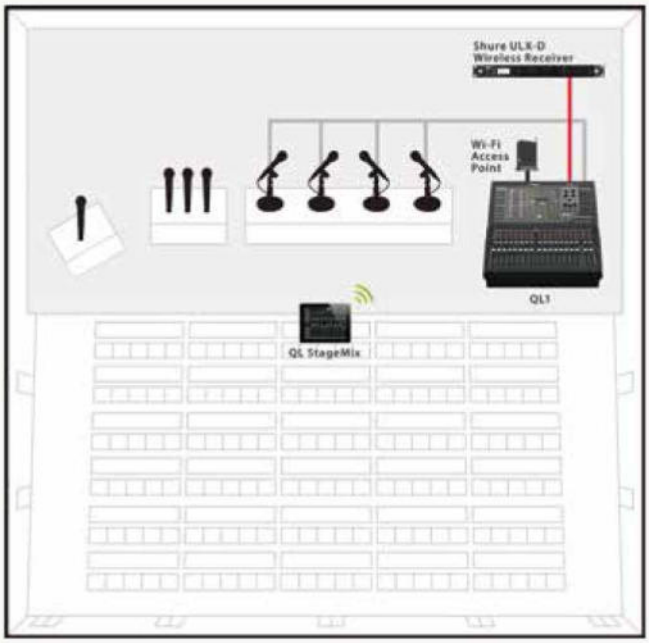
Se puede insertar una tarjeta Mini-YGDAI en las ranuras 1-2. Solo la ranura 1 es compatible con interfaces en serie.

ESPECIFICACIONES DE E/S DE CONTROL

Terminal		Formato	Nivel	Conector
MIDI	ENTRADA	MIDI	–	Conector DIN de 5 pins
	SALIDA	MIDI	–	Conector DIN de 5 pins
RELOJ DE PALABRAS	ENTRADA	–	TTL/75 Ω terminado	Conector BNC
	SALIDA	–	TTL/75 Ω	Conector BNC
GPI (5 entradas y 5 salidas)		–	–	Conector D-sub de 15 pins (hembra) *1
RED		IEEE802.3	10 BASE-T/100 Base-TX	RJ-45
LÁMPARA (QL5 = 2 , QL1 = 1)		–	0V - 12V	XLR-4-31 tipo*2
HOST USB		USB 2.0	–	Conector USB A (hembra)

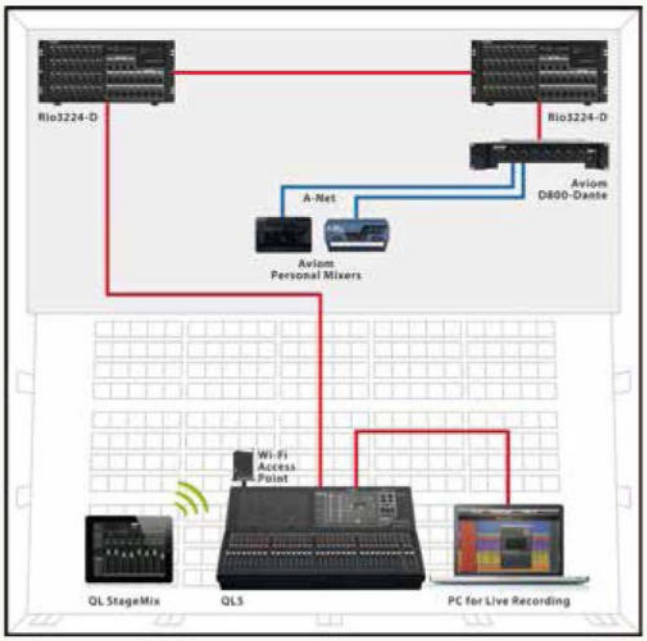
*1 Pin de entrada: nivel TTL, con pull-up interna (47 kΩ) Pin de salida: salida de drenaje abierto (open-drain) (V máx. = 12 V, máx. corriente drenada/pin = -75 mA) Pin de fuente de alimentación: voltaje de salida Vp = 5 V, corriente de salida máx. = 300 mA
*2 Pin 4 = +12 V, Pin 3 = GND (tierra), potencia nominal de la lámpara: 5 W, intensidad (voltaje) ajustable desde el software.

EJEMPLOS DE SISTEMAS



UN SISTEMA COMPACTO QUE MEZCLA AUTOMÁTICAMENTE HASTA 16 MICRÓFONOS DE ORADORES

En conferencias u otros eventos en los que hay discursos y el espacio para el equipo es limitado, una mesa compacta "todo en uno", como una QL, puede ser una gran ventaja. El automezclador Dan Dougan puede mezclar automáticamente de manera óptima hasta 16 micrófonos destinados a oradores. Los eventos pueden grabarse directamente en una unidad flash USB y, también desde dicha unidad, se puede reproducir música de fondo pregrabada. La aplicación StageMix permite controlar la mesa a distancia para mayor comodidad y eficacia.



UN SENCILLO SISTEMA DE DIRECTO CON RACKS DE E/S EN CADENA TIPO MARGARITA

Este es un ejemplo de un sistema de directo sencillo que hace uso de la conexión en red Dante. Las unidades de rack de E/S de la serie R situadas en el escenario están conectadas a la mesa QL principal mediante cables de red. También se puede conectar un sistema de monitorización personal Aviom a la red Dante mediante un distribuidor Aviom D800-Dante. Esta configuración incluso permite la grabación multipista en un ordenador mediante la red Dante.

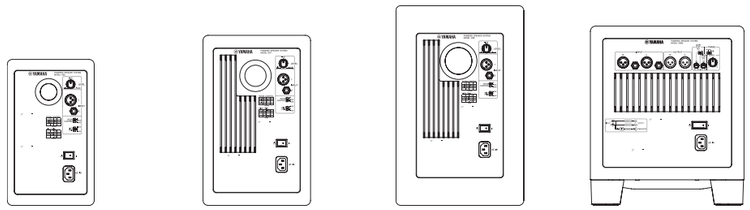
■ General Specifications

Model		HS5	HS7	HS8	HS8S
System Type		2-way bi-amp powered studio monitor			Powered subwoofer
Frequency Response (-10dB)		54Hz - 30kHz	43Hz - 30kHz	38Hz - 30kHz	22Hz - 160Hz
Crossover Frequency		2kHz	2kHz	2kHz	-
Transducers	LF	5" cone	6.5" cone	8" cone	8" cone
	HF	1" dome	1" dome	1" dome	-
Output Power*	Total	70W	95W	120W	150W
	LF	45W	60W	75W	-
	HF	25W	35W	45W	-
Input Sensitivity/ Impedance		-10 dBu/ 10k ohms			
Output Level/ Impedance		-			-10 dBu/ 600 ohms
Input Connectors (Parallel)		XLR3-31 type (balanced) PHONE (balanced)			XLR3-31 type (balanced) x2 PHONE (balanced) x2
Output Connectors		-			XLR3-32 type (balanced) x2 (L&R)
Controls		LEVEL control (+4dB/center click) EQ: HIGH TRIM switch (+/- 2dB at HF) : ROOM CONTROL switch (0/-2/-4 dB under 500Hz)			LEVEL control PHASE switch : NORM./REV. HIGH CUT control (80-120Hz, center click) LOW CUT control (80-120Hz, center click) LOW CUT switch (ON/OFF)
Indicator		Power ON : White LED			
Power Consumption		45W	55W	60W	70W
Enclosure		Type: Bass-reflex type Material: MDF			
Dimensions W x H x D mm (inch)		170 × 285 × 222 mm (6.7" x 11.2" x 8.7")	210 × 332 × 284 mm (8.3" x 13.1" x 11.2")	250 × 390 × 334mm (9.8" x 15.4 "x 13.1")	300 × 350 × 389mm (11.8" x 13.8" x 15.3")
Weight		5.3kg (11.7 lbs.)	8.2kg (18.1 lbs.)	10.2kg (22.5 lbs.)	12.5kg (27.6 lbs.)

*Dynamic power

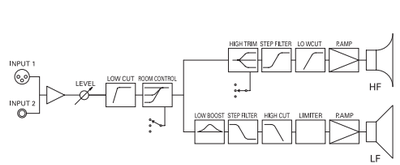
■Rear Panel

HS5 HS7 HS8 HS8S

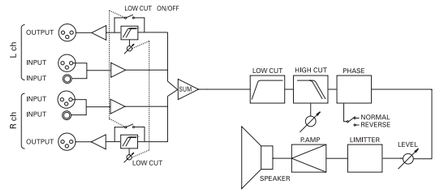


■Block Diagram

HS5/HS7/HS8



HS8S



YAMAHA

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YAMAHA

HS Series

POWERED STUDIO MONITOR

HS5 HS7 HS8

POWERED SUBWOOFER

HS8S

TIME FOR A REALITY CHECK

Ever since the 1970's the iconic white woofer and signature sound of Yamaha's nearfield reference monitors have become a genuine industry standard for a reason—their accuracy. Unlike studio monitors with added bass or treble frequencies which may sound more flattering at first, HS Series speakers were designed to give you the most honest, precise reference possible, providing an ideal sonic platform to build on throughout the mixing process. By combining acquired knowledge and expertise with state-of-the-art sound technologies, Yamaha's speaker engineering team have examined, then optimized, every aspect that has contributed to making these monitors the most trusted in the business. The second generation HS Series also adds a new 6.5" model to the lineup, bringing its exceptional accuracy to an even greater variety of recording environments.

Lineup

Due to user demand for a 6.5” monitor, a new full-range model has been added to the series alongside the 5”, 8” models and 8” subwoofer, to accommodate a wider range of music production applications. With such a flexible lineup it's never been easier to choose the ideal monitoring system for a variety of professional or home studio environments.

POWERED STUDIO MONITOR

HS 5


Black


White

- 2-way bass-reflex bi-amplified nearfield studio monitor with 5” cone woofer and 1” dome tweeter
- 54Hz - 30kHz frequency response
- 45W LF plus 25W HF bi-amp system for high-performance 70W power amplification
- ROOM CONTROL and HIGH TRIM response controls
- XLR and TRS phone jack inputs accept balanced or unbalanced signals

POWERED STUDIO MONITOR

HS 7


Black


White

- 2-way bass-reflex bi-amplified nearfield studio monitor with 6.5” cone woofer and 1” dome tweeter
- 43Hz - 30kHz frequency response
- 60W LF plus 35W HF bi-amp system for high-performance 95W power amplification
- ROOM CONTROL and HIGH TRIM response controls
- XLR and TRS phone jack inputs accept balanced or unbalanced signals

POWERED STUDIO MONITOR

HS 8


Black


White

- 2-way bass-reflex bi-amplified nearfield studio monitor with 8” cone woofer and 1” dome tweeter
- 38Hz - 30kHz frequency response
- 75W LF plus 45W HF bi-amp system for high-performance 120W power amplification
- ROOM CONTROL and HIGH TRIM response controls
- XLR and TRS phone jack inputs accept balanced or unbalanced signals

POWERED SUBWOOFER

HS 8S

- 8” bass-reflex powered subwoofer delivers low frequencies down to 22Hz
- 22Hz - 150Hz frequency response
- High-power 150W amplifier exclusively designed for low frequencies
- LOW CUT switch, LOW CUT control (80-120Hz) HIGH CUT control (80-120 Hz) and PHASE switch allow users to set up a subwoofer system with simple connections and no additional equipment.
- XLR and TRS phone jack inputs and XLR outputs for L and R.

Sound Philosophy of HS Series Studio Monitors

When selecting studio reference monitors for mixing and music production, one consideration takes precedence above all others— accuracy.
Beginning with the legendary NS-10M, and continuing with the MSP and previous HS Series, this new lineup shares a design philosophy that emphasizes sonic purity without any coloring or alternation of the original sound. While many manufacturers seek to enhance the sound of their monitors to make them sound impressive, Yamaha studio monitors are designed to achieve the best possible mix by ensuring that the sound from your speakers is true to the original. HS Series nearfield reference monitors are the embodiment of this philosophy, delivering a concise sound image, high resolution, and flat response.

Newly Developed Transducers

The HS Series features newly developed transducers that achieve astonishingly smooth response over a wide range of bandwidth. These transducers utilize an advanced magnetic field design that regulates the flow of magnetic response to provide seamless, natural sonic transitions. Each component's materials and design were carefully re-examined, then optimized, to drastically improve the accuracy of signal reproduction throughout the audio spectrum.

■ Tweeter

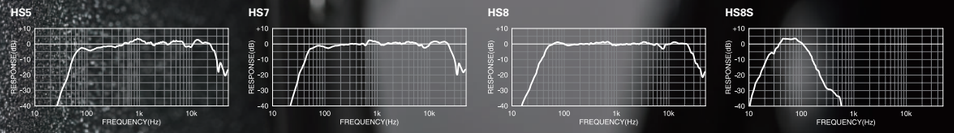
The HS Series features a newly designed, highly efficient 1" dome tweeter that extends the usable frequency range considerably and delivers superb high-resolution sound. Utilizing a thick wave guide designed to minimize vibration the new tweeter is able to deliver smooth, distortion-free high end up to 30 kHz.

■ Woofer

With newly designed, ultra-responsive woofers that utilize large, carefully selected magnets, HS Series monitors produce low distortion sound with a well-defined bottom end at any output level. All of the components in these high-power woofers, including the woofer ring and the basket further contribute to the HS Series' stunning bass while providing clear, accurate mids.

High Performance Amp Unit

HS Series speakers employ an amplifier unit perfectly matched to the transducers utilized in each model of the series. Featuring a bi-amp design with a separate dedicated amp for both the woofer and the tweeter, this amplifier unit ensures that each HS Series speaker consistently delivers high-resolution sound with exceptionally flat response across the sound spectrum.

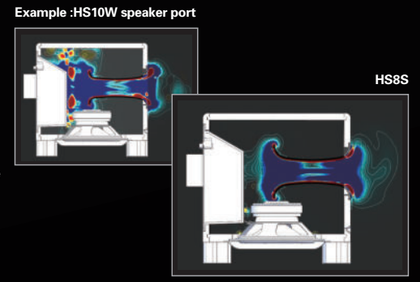


Low Resonance Enclosure Design

HS Series cabinets are designed to eliminate unwanted resonance and increase the accuracy of sound reproduction to their extreme limit. The enclosures are constructed from a very dense and resilient MDF with a damped acoustic response that is perfectly suited for reference monitors. Drawing from Yamaha's over 100 years of piano design experience, HS Series engineers also employed a traditional three-way mitered-joint technique. Common to architectural design this construction firmly anchors the corners of the enclosure to dramatically improve durability and eliminate unwanted resonance that can influence overall sound.

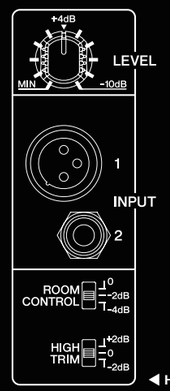
Cutting Edge Noise Reduction Technology

Speaker port design can greatly influence the clarity of overall sound. Often a vortex at the either end of the port can generate air vibrations inside of the port, causing unwanted noise. By adopting an advanced noise reduction technology that incorporates a thorough analysis of a visual representation of the sound, Yamaha's engineers are able to control and reduce the vortex. Through this in-depth analysis we have arrived at the ideal port design, resulting in a reduction of audible noise up to 6dB. The utilization of this state-of-the-art technology allows HS Series studio monitors to meet the demands of more strict professional production environments.

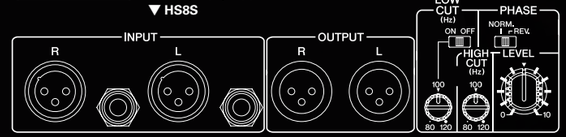


Controls and Connectivity

HS Series full-range models feature two response controls with detailed settings that allow them to adapt to the surface acoustics of rooms of varying shape and size. ROOM CONTROL allows you to attenuate the unnatural, exaggerated low-end that can often occur when speakers are placed next to walls, while HIGH TRIM allows for more flexible control of high frequency response.
For inputs, HS full-range speakers can accommodate a wide range of balanced and unbalanced sources such as mixers, keyboards and audio interfaces with XLR and TRS phone jacks. With the HS8S subwoofer, HIGH CUT control sets the cutoff frequency of subwoofer output high-frequency attenuation from 80Hz to 120Hz, while PHASE switch adjusts the phase of the subwoofer output.
The LOW CUT switch and LOW CUT controls enables attenuation of low frequencies for output between 80Hz and 120Hz. The HS8S subwoofer is equipped with XLR and TRS phone jack inputs and XLR outputs for L and R.



◀ HS5, HS7, HS8
▼ HS8S



Panasonic CONNECT

Cámara PTZ 4K para una era de creatividad mejorada y la búsqueda de la expresión visual.

AW-UE160

La cámara PTZ 4K AW-UE160 cuenta con un sensor MOS 4K de 1" recientemente desarrollado que ofrece la mayor sensibilidad de toda la línea PTZ de Panasonic. Los equipos de producción que filman en una sala de conciertos o una iglesia pueden capturar fácilmente imágenes claras incluso en las condiciones de iluminación más desafiantes. Mientras tanto, el nuevo filtro óptico de paso bajo de la UE160 reduce el efecto del moiré para una calidad de imagen más clara al disparar contra una pared LED, lo cual es especialmente importante para entornos de alquiler y puesta en escena o culto. Su velocidad de fotogramas de alta velocidad ayudará a las emisoras deportivas a capturar tomas en cámara lenta en HD para repeticiones, mientras que la integración perfecta con el sistema de cámara

Key Features

- NUEVO: Equipado con encuadre automático basado en IA
- Rendimiento de disparo y operatividad sin concesiones
- El filtro óptico de paso bajo reduce significativamente el moiré
- Enfoque automático significativamente mejorado con tecnología avanzada
- Enfoque automático significativamente mejorado con tecnología avanzada
- Compatibilidad con SMPTE 2110 mediante la compra de una clave de software adicionalRealize next-generation video production with various shooting methods and functions.
- Realiza una producción de vídeo de última generación con diversos modos y opciones de rodaje.

SRT SECURE RELIABLE TRANSPORT

4K PROFESSIONAL HDR

HDMI HIGH-DEFINITION MULTIMEDIA INTERFACE

Panasonic CONNECT




AW-UE160

https://eu.connect.panasonic.com/es/es/broadcast-proav/ptz-kamery/aw-ue160

General -> Power Requirements	12 V DC ± 10% (10.8 V to 13.2 V)
General -> PoE	PoE++ IEEE802.3bt standard: DC 42 V to 57 V (Camera Input) (Software authentication (LLDP) is supported).
General -> Current Consumption	5.0A (XLR IN connector), 1.5A (PoE++ power supply)
General -> Ambient Operating Temperature	0 °C to 40 °C (32 °F to 104 °F)
General -> Ambient Operating Humidity	20 % to 90 % (no condensation)
General -> Storage Temperature	–20 °C to 50 °C (–4 °F to 122 °F)
General -> Weight	Approx. 4.6 kg (10.14 lbs) (excluding mount bracket)
General -> Dimensions	W 213 mm x H 277 mm x D 240 mm (8.39 inches x 10.91 inches x 9.45 inches) (excluding protrusions, ceiling mount bracket)
General -> Finish	AW-UE160W: Pearl white AW-UE160K: Black
General -> Controller Supported *1	See the "Compatibility Chart for Operation Devices and Application Software" page
Camera Unit -> Imaging Sensor	1-type 4K MOSx1
Camera Unit -> Effective Pixels	Approx. 9,620,000 pixels
Camera Unit -> Zoom	・Optical zoom: 20x ・i.Zoom: UHD 24x, FHD 32x ・D.Extender zoom: 1.4x, 2x
Camera Unit -> Lens	Motorized Optical 20x zoom, F2.8 to F4.5 [f=8.8 mm (11/32 inches) to 176.0 mm (6-15/16 inches), 35 mm (1-3/8 inches) equivalent: 24.5 mm (31/32 inches) to 490.0 mm (19-9/32 inches)]
Camera Unit -> Conversion Lens	Not supported
Camera Unit -> Angle of View Range	Horizontal angle of view: 75.1° (wide) to 4.0° (tele) Vertical angle of view: 46.7° (wide) to 2.3° (tele) Diagonal angle of view: 82.8° (wide) to 4.6° (tele)
Camera Unit -> Optical Filter -> ND Filter	Through, 1/4, 1/16, 1/64 *4, (Through is used as “Night mode”)
Camera Unit -> Focus	Switching between auto and manual
Camera Unit -> Focus Distance	Entire zooming range: 1000 mm (3.3 ft) Wide end: 100 mm (0.33 ft)
Camera Unit -> Color Separation Optical System	1MOS
Camera Unit -> Standard Sensitivity	F14 / 2,000lx (Low Light), F11 / 2,000lx (Normal) (59.94Hz) F15 / 2,000lx (Low Light), F12 / 2,000lx (Normal) (50Hz)
Camera Unit -> Horizontal Resolution -> 4K	1,600 TV lines Typ (Center area)
Camera Unit -> Gain Selection	Auto, -6 dB to 12 dB *5
Camera Unit -> Frame Mix *3	Auto, 0 dB, 6 dB, 12 dB, 18 dB, 24 dB *6
Camera Unit -> Electronic Shutter Speed -> 60p	1/60, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/1500, 1/2000

Camera Unit -> Electronic Shutter Speed -> 59.94p/59.94i	1/60, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/1500, 1/2000
Camera Unit -> Electronic Shutter Speed -> 50p/50i	1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/1500, 1/2000
Camera Unit -> Electronic Shutter Speed -> 29.97p	1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/1500, 1/2000
Camera Unit -> Electronic Shutter Speed -> 25p	1/48, 1/50, 1/60, 1/96, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/1500, 1/2000
Camera Unit -> Electronic Shutter Speed -> 23.98p/24p	1/48, 1/50, 1/60, 1/96, 1/100, 1/200, 1/125, 1/250, 1/500, 1/1000, 1/1500, 1/2000
Camera Unit -> Electronic Shutter Speed -> 59.94p/120fps	1/125, 1/250, 1/500, 1/1000, 1/1500, 1/2000
Camera Unit -> Electronic Shutter Speed -> 50p/100fps	1/125, 1/250, 1/500, 1/1000, 1/1500, 1/2000
Camera Unit -> Synchro Scan -> 60p	60.00 Hz to 7200 Hz
Camera Unit -> Synchro Scan -> 59.94p/59.94i	60.00 Hz to 7200 Hz
Camera Unit -> Synchro Scan -> 50p/50i	50.00 Hz to 7200 Hz
Camera Unit -> Synchro Scan -> 29.97p	30.00 Hz to 7200 Hz
Camera Unit -> Synchro Scan -> 25p	25.00 Hz to 7200 Hz
Camera Unit -> Synchro Scan -> 23.98p/24p	24.00 Hz to 7200 Hz
Camera Unit -> Synchro Scan -> 59.94p/120fps	120.00 Hz to 7200 Hz
Camera Unit -> Synchro Scan -> 50p/100fps	100.00 Hz to 7200 Hz
Camera Unit -> Gamma	HD / NORMAL / CINEMA1 / CINEMA2 *7 MASTER GAMMA (0.15 ~ 0.75) R GAMMA (-75 ~ +75) B GAMMA (-75 ~ +75) R BLACK GAMMA (-20 ~ +20) B BLACK GAMMA (-20 ~ +20)
Camera Unit -> White Balance	ATW *8: 3200K, 5600K AWB : AWB-A / AWB-B VAR (selectable between 2000K and 15000K by designating a value)
Camera Unit -> Chroma Amount Variability	OFF, –100 % to 40 %
Camera Unit -> Scene File	Scene1 to 8
Camera Unit -> Color Bar *9	SMPTE, FULL ARIB (FHD): Output of base band type only ARIB (UHD): Output of base band type UHD only ARIB (2020/HLG): Output of base band type UHD only •IP display color bars do not conform with SMPTE
Camera Unit -> Output Format (SDI) -> 4K	2160/60p, 2160/59.94p, 2160/50p, 2160/29.97p (Native), 2160/25p (Native), 2160/24p (Native), 2160/23.98p (Native)
Camera Unit -> Output Format (SDI) -> HD	1080/119.88p *10 *11, 1080/100p *10 *11, 1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p (Native), 1080/25p (Native), 1080/24p (Native), 1080/23.98p (Native), 1080/59.94i, 1080/50i, 720/59.94p, 720/50p
Camera Unit -> Output Format (HDMI) -> 4K	2160/60p, 2160/59.94p, 2160/50p, 2160/29.97p (Native), 2160/25p (Native), 2160/24p (Native), 2160/23.98p (Native)
Camera Unit -> Output Format (HDMI) -> HD	1080/119.88p, 1080/100p, 1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p (Native), 1080/25p (Native), 1080/24p (Native), 1080/23.98p (Native), 1080/59.94i, 1080/50i, 720/59.94p, 720/50p
Camera Unit -> Output Format(Fiber (video only)) -> 4K	2160/59.94p, 2160/50p, 2160/29.97p (Native), 2160/25p (Native), 2160/24p (Native), 2160/23.98p (Native)
Camera Unit -> Output Format(Fiber (video only)) -> HD	1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p (Native), 1080/25p (Native), 1080/24p (Native), 1080/23.98p (Native), 1080/59.94i, 1080/50i, 720/59.94p, 720/50p
Camera Unit -> Output Format(ST 2110) *12	1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p (Native), 1080/25p (Native), 1080/24p (Native), 1080/23.98p (Native), 720/59.94p, 720/50p
Synchronization System	Internal/External synchronization (BBS/Tri-level sync)
Input Connector -> DC IN	DC 12 V IN
Input Connector -> G/L IN	BBS (Black Burst Sync), tri-level sync supported

Input Connector -> AUDIO INPUT -> XLR	XLR (2ch) or MIC/LINE Input compatibles (SDI/HDMI/IP) AAC compatibility (compatible with IP only) XLR 3-pin female balanced input: 2ch • During MIC input Input level: –50 dBu or -60 dBu/-40 dBu (0 dB=1 V/Pa, 1 kHz) Phantom power compatible, Supply voltage: 47 V±2 V Input impedance: Approx. 10kΩ • During LINE input Input level: 0 dBu (or +4 dBu/-20 dBu) Input impedance: Approx. 10kΩ • Input volume variable range: -40 dB to 0 dB to +20 dB (1 dB step) • Embedded audio output level: -12 dBFS/-18 dBFS/-20 dBFS • Sampling frequency: 48 kHz • Quantization bit rate: 24 bit (SDI/HDMI), 16bit (IP)
Output Connector -> HDMI	HDMI 2.0 standard 4:2:2/10bit *13 *14
Output Connector -> 12G-SDI OUT	SMPTE2082_1, SMPTE424M/SMPTE292M/ 75 Ω (BNC x 1) *15
Output Connector -> 3G-SDI OUT1	SMPTE424M/SMPTE292M/ 75 Ω (BNC x 1) *15
Output Connector -> 3G-SDI OUT2/PM	SMPTE424M/SMPTE292M/ 75 Ω (BNC x 1) *15
Output Connector -> SFP+	SFP+ compliant (Single Fiber) *16, MSA standard compliant product
Output Connector -> USB	USB3.0 HOST 5G mobile router (with USB tethering support *17
Input/Output Connector -> LAN	LAN connector for IP control (RJ-45) 100BASE-TX/1000BASE-T
Input/Output Connector -> RS-422	CONTROL IN RS-422A (RJ-45)
Input/Output Connector -> SFP+（ST 2110）*12	Compatible protocol: • ST 2120-10/-20/-21/-22/-30 • PTP ST 2059-1/2 • NMOS IS-04/IS-05 Number of outputs: [Uncompressed] Video x3 (Main line, Crop, Monitor), Audio x2 [JPEG XS] Video x1 (Main line, Crop), Audio x2 Number of inputs: Video x1 (RETURN) Video format: FHD, UHD *18 Please refer to the operating instruction manual.

Pan-tilt Head Unit -> IP connecting cable	• With PoE++ ethernet hub LAN cable *19(category 5e or above, straight cable) up to 100 m • Without PoE++ ethernet hub LAN cable *19(category 5e or above, straight cable) up to 100 m *20
Pan-tilt Head Unit -> AW protocol connecting cable	LAN cable *19(category 5e or above, straight cable) up to 1000 m
Pan-tilt Head Unit -> Installation Method	Stand-alone (Desktop) or suspended (Hanging) *21
Pan-tilt Head Unit -> Pan/tilt Operation Speed	0.08 °/s to 180°/s (Normal mode) *22 Maximum speed: Normal mode: 60°/s, Fast1 mode: 90°/s, Fast2 mode: 180°/s
Pan-tilt Head Unit -> Panning Range	±175°
Pan-tilt Head Unit -> Tilting range	–30° to 210° *22
Pan-tilt Head Unit -> Quietness	NC35 or less *23
Supported Operating Systems and Web Browsers -> Windows *11	Windows®10 Microsoft Edge Google Chrome
Supported Operating Systems and Web Browsers -> Mac *11	macOS 10.13 / Safari 13 macOS 10.14 / Safari 13 macOS 10.15 / Safari 13 macOS 10.15 / Google Chrome
Supported Operating Systems and Web Browsers -> iPhone/iPad *11	iOS Safari iPadOS
Supported Operating Systems and Web Browsers -> Android	Android OS Google Chrome
IP Streaming -> Image Streaming Mode	JPEG (MJPEG), H.264, H.265, NDI® High Bandwidth, NDI® HX *24 *25
IP Streaming -> Image Resolution	3840x2160, 1920x1080, 1280x720, 640x360
IP Streaming -> Image Transmission Setting (JPEG)	Frame Rate: Maximum 30 fps *26 *27 Image quality (Fine / Normal)
IP Streaming -> Image Transmission Setting (H.264) -> Transmission Type	Unicast port (AUTO) Unicast port (MANUAL) Multicast port
IP Streaming -> Image Transmission Setting (H.264) -> Transmission mode	CBR, VBR
IP Streaming -> Image Transmission Setting (H.264) -> Frame Rate	[60Hz] 5fps / 15fps / 30fps / 60fps (UHD: 30fps, 60fps) [50Hz] 5fps / 12.5fps / 25fps / 50fps (UHD: 25fps, 50fps)
IP Streaming -> Image Transmission Setting (H.264) -> Max Bit Rate	2048kbps / 4096kbps / 8192kbps / 10240kbps / 12288kbps / 14336kbps / 20480kbps / 24576kbps / 51200kbps / 76800kbps
IP Streaming -> Image Transmission Setting (H.265) -> Transmission Type	Unicast port (AUTO) Unicast port (MANUAL) Multicast port
IP Streaming -> Image Transmission Setting (H.265) -> Transmission mode	CBR, VBR
IP Streaming -> Image Transmission Setting (H.265) -> Frame Rate	[60Hz] 30fps / 60fps [50Hz] 25fps / 50fps

IP Streaming -> Image Transmission Setting (H.265) -> Max Bit Rate	2048kbps / 4096kbps / 8192kbps / 10240kbps / 12288kbps / 14336kbps / 20480kbps / 24576kbps / 51200kbps / 76800kbps
IP Streaming -> Audio Compression Format	AAC-LC, 48 kHz / 16 bit / 2ch
IP Streaming -> Supported Protocol -> Network Protocol	ICMP, ARP, GARP, MLD
IP Streaming -> Supported Protocol -> Transmission Protocol	TCP/IP, UDP/IP
IP Streaming -> Supported Protocol -> IPv6	IPv4: HTTP, HTTPS, DNS, NTP, DHCPv6, MDNS, SNMP, 802.1X
IP Streaming -> Supported Protocol -> IPv4	IPv6: HTTP, HTTPS, DNS, NTP, DHCPv4, MDNS, SNMP, 802.1X
IP Streaming -> Supported Protocol -> Video Streaming Protocol	RTP / RTCP over RTSP, RTMP, RTMPS, SRT, MPEG2-TS over UDP, NDI® high bandwidth , NDI® HX
IP Streaming -> Supported Protocol -> External Device Cooperation Protocol	FreeD, TSL5.0, SNMP
NDI® Support -> NDI® Support	NDI®(High Bandwidth NDI®, NDI®|HX Ver.2) *24 *25
NDI® Support -> Output Format (NDI® High bandwidth) -> 4K	2160/59.94p, 2160/50p, 2160/29.97p, 2160/25p, 2160/24p, 2160/23.98p
NDI® Support -> Output Format (NDI® High bandwidth) -> HD	1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/59.94p, 720/50p
NDI® Support -> Image Resolution (NDI® HX)	1920x1080, 1280x720 *29
NDI® Support -> Image Streaming Setting (NDI® High bandwidth) -> Transmission Type	Transmission Type: TCP/UDP Unicast/Multicast
NDI® Support -> Image Streaming Setting (NDI® High bandwidth) -> Max Bit Rate	Max 250 Mbps
NDI® Support -> Image Streaming Setting (NDI® HX) -> Transmission Type	TCP/UDP Unicast/Multicast
NDI® Support -> Image Streaming Setting (NDI® HX) -> Flame rate	[60Hz] 5fps / 15fps / 30fps / 60fps [50Hz] 5fps / 12.5fps / 25fps / 50fps
NDI® Support -> Image Streaming Setting (NDI® HX) -> Max Bit Rate	512kbps / 768kbps / 1024kbps / 1536kbps / 2048kbps / 3072kbps /4096kbps / 6144kbps / 8192kbps / 10240kbps / 12288kbps / 14336kbps / 16384kbps / 20480kbps / 24576kbps
NDI® Support -> Audio Compression Type (NDI® High bandwidth)	AAC, 48 kHz, 2 ch
NDI® Support -> Audio Compression Type (NDI® HX)	AAC-LC, 48 kHz,16 bit, 2 ch
Other Function -> VR Support (IP/RS422)	Supported
ST 2110 -> Supported Format	ST 2110: 10/20/21/30 PTP: ST2059-2 NMOS: IS-04/IS-05
ST 2110 -> Number of Outputs (TX) -> Video	3 channels (Full x 1, MONI x 1, Crop x 1)
ST 2110 -> Number of Outputs (TX) -> Audio	2 channels
ST 2110 -> Number of Outputs (TX) -> Auxiliary data	No output
ST 2110 -> Number of Inputs (RX) -> Video	1 channel (RETURN) *30
ST 2110 -> Number of Inputs (RX) -> Audio	No input
ST 2110 -> Number of Inputs (RX) -> Auxiliary data	No input
ST 2110 -> Output Format -> Video format	Full x1, MONI x1, Crop x1, all the same format 1080/60p, 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i, 1080/29.97p (Native), 1080/25p (Native), 1080/24p, 1080/23.98p (Native), 720/59.94p, 720/50p
ST 2110 -> Output Format -> Audio specifications (MIC1/2)	PCM / 48kHz / 24bit / 1ch x2
ST 2110 -> Input Format	1080/60p, 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i, 1080/29.97p (Native), 1080/25p (Native),1080/24p, 1080/23.98p (Native), 720/59.94p, 720/50p
Optional Accessories -> Wireless Remote Controller	AW-RM50AG (Size "AA" dry battery x2, obtained separately)

Footnote Description	* NDI® is a registered trademark of Vizrt NDI AB in the United States and other countries.

1. Limited in function when PoE used.
2. IP only.
3. Connection with digest authentication is not guaranteed to work in a case where you are using a Panasonic Controller (AW-RP150, AW-RP60). Smooth operation may be diminished when connection with digest authentication. Use host authentication or the HTTPS function.
4. Equipped with Low pass filter.
5. Can be set in 1dB step increments.
6. If format is set in 2160/29.97p, 2160/23.98p, 2160/24p, 2160/25p, 1080/29.97p,1080/25p, it cannot be set.
7. HLG is set in other menu.
8. ATW Speed 3-stage variables
9. The color bar on the IP display is not compliant with SMPTE.
10. 1080/119.88p and 1080/100p use two 3G SDI OUT1/2 channels.
11. No output from 12G/SDI.
12. Requires activation with the separately sold Operational Software Key AW-SFU60.
13. HDCP is not supported.
14. Viera Link is not supported.
15. Compatible with Level-A/Level-B.
16. Optical signal input not supported.
17. Limited power supply to USB_Wifi dongle.
18. Follows the system format.
19. STP (Shielded Twisted Pair) is recommended.
20. Use Category 6 or higher for 4K video transmission.
21. For safety reasons, it must be secured with the included mounting hardware.
22. Depending on the PAN/TILT position, the main unit may be reflected in the video image.
23. NC25 or less when P/T is stationary.
24. NDI® is a new live video production workflow support protocol for IP use developed by NewTek, Inc.
25. NDI® is a registered trademark of NewTek, Inc. in the United States and other countries.
26. No bit rate specified.
27. JPEG and H.264, JPEG and H.265 simultaneous operation depends on bit rate.
28. NDI® has no image resolution specifications.
29. NDI®|HX has no output format specifications.
30. Output from 3G SDI OUT2 (Video is changed in the OSD menu)

Lumens®

NDI HX2

VC-A71PN

4K NDI HX PTZ Camera

4K 60fps | 30x | NDI | PoE+

The Lumens® VC-A71PN 4K 60fps UHD PTZ camera is equipped with a professional 1/1.8" CMOS sensor that delivers a superb clear image and natural color reproduction. Its superior 30x optical zoom lens captures every detail even in low light conditions.

The VC-A71PN supports NDI HX that delivers high-quality video with ultra-low latency for your video production. The camera has Ethernet, HDMI outputs. It is applicable for use in a broadcasting studio, conference room, house of worship, etc.

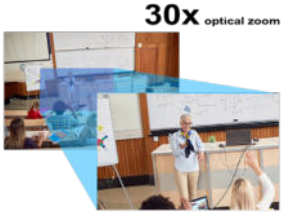
Key Features

- 4K Ultra HD video image quality
- 30x optical zoom enhances details in the image
- NDI HX delivers high-quality video with ultra-low latency

Key Feature Details

4K Ultra HD

Supports a high-end 4K sensor that provides uncompromising image quality with 4K 60fps output resolution.



30x Optical Zoom

Superior 30x optical zoom lens smoothly and quickly captures the details even in low light conditions.

NDI HX2

NDI HX Technology

The VC-A71PN delivers high-quality video with ultra-low latency and connects directly to an NDI® network.

Simple Live Streaming

Reach a larger audience via live streaming with simpler and quicker installation without bulky cables.

Product Specifications

Camera	
Sensor	1/1.8" 9.17 MP CMOS
Video Format	2160p: 59.94 / 50 / 29.97 / 25 1080p: 59.94 / 50 / 29.97 / 25 1080i: 59.94 / 50 720p: 59.94 / 50
Video Output Interface	HDMI 2.0 / Ethernet
Optical Zoom	30x
Digital Zoom	12x
Viewing Angle	63° (H) 35.4° (V) 72.3° (D)
Aperture	F1.6 ~ F4.8
Focal Length	6.5mm ~ 202mm
Shutter Speed	1/1 ~ 1/10,000 sec
Minimum Object Distance	1.5m (Wide/Tele)
Video S/N Ratio	> 50dB
Minimum Illumination	0.05 lux (F1.6, 50IRE, 30fps)
Focus System	Auto / Manual / Smart AF
Gain Control	Auto / Manual
White Balance	Auto / Manual
Exposure Control	Auto / Manual / Smart AE
IQ Sync	Yes
WDR	Yes
3D NR	Yes
Image Flip	Yes
AR / VR Systems	FreeD
NDI Genlock	Yes
Tally Light	Yes
Pan & Tilt	
Panning Angle	+170° ~ -170°
Panning Speed	300°/sec
Tilting Angle	+90° ~ -30°
Tilting Speed	300°/sec
Preset Positions	256

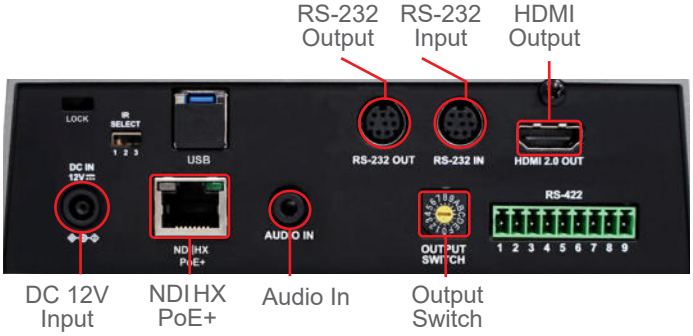
Output	
HDMI	2160p59.94
IP Stream	NDI : HEVC 4K59.94fps H.264 640x360 29.97fps or RTSP : HEVC 4K 59.94fps H.264 1080p 59.94fps H.264 640x360 29.97fps
IP Compression	HEVC / H.264
Network	
IP Protocol	NDI HX2 / RTSP / RTMP / RTMPS / MPEG-TS / SRT
PoE	PoE+ (IEEE802.3at)
Audio	
Input	Line In / MIC In
Output	Ethernet / HDMI 2.0
Compression Format	AAC / G.711 / PCM
Camera Control	
Interface	RS-232 / RS-422 / Ethernet / Remote
Protocol	VISCA / VISCAIP / PELCO D / NDI / ONVIF
General	
DC In	12V +/- 20%
Power Consumption	PoE: 17.5 W DC In: 16 W
Weight	6.6 lbs (3 kg)
Dimension	9.1" x 7.4" x 7.4" (232 x 188 x 189 mm)

Compatible Software

livestream TriCaster® vMix streamlabs

Open Broadcasting Software

I/O Connections



Lumens®

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Eikos 4K

Ref. EKS-4K

ANALOG WAY®
Pioneer in Analog, Leader in Digital

4K60 multi-layer video mixer and seamless presentation switcher, with ten inputs, two PGM outputs with hard/soft edge support and one dedicated Multiviewer

Versatile 4K Connectivity

The **Eikos 4K** is a powerful 4K60 multi-layer mixer and seamless presentation switcher equipped with ten inputs, including eight 4K60 inputs and two 1080p inputs with user-selectable connectors. The **Eikos 4K** has two 4K60 mirrored HDMI and SDI outputs that can be configured as hard/soft edge Program, or as two independent Program outputs or as Program and AUX. In addition, the **Eikos 4K** has a dedicated multiviewer to monitor your Program & Preview screens and your inputs.

Quality without Compromise

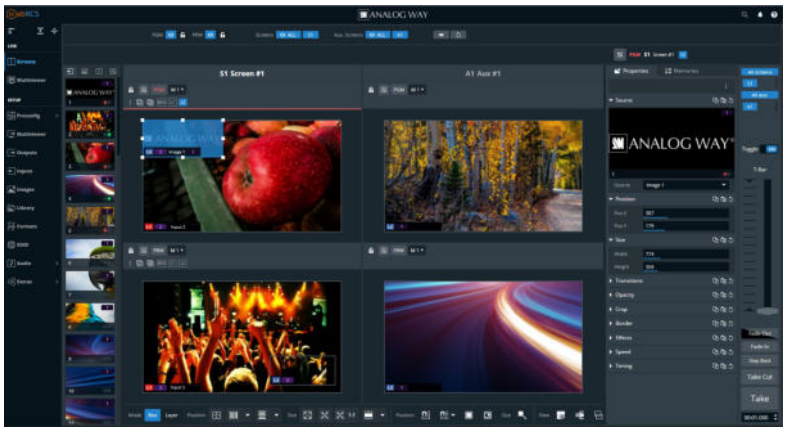
Based on the extremely robust and reliable **Midra™ 4K** platform as well as on the 5th generation scaling engine inherited from the LivePremier™ series, the **Eikos 4K** features ultra-low latency 4K60 10-bit 4:4:4 image processing, uncompromising video quality, seamless switching, HDR support and HDCP 2.2 compatibility, which makes it an ideal solution for your small to medium-sized live events and fixed installations.

Smart Functionalities

The **Eikos 4K** offers dozens of powerful functionalities that will help you to produce elegant AV presentations: edge-blending, custom output formats, livestreaming of any Input or Output, Luma/Chroma keying, Cut and Fill at input level, AOI, HFR up to 144Hz… It also allows to de-embed or embed digital audio on all the inputs and outputs. An audio option is available to add Dante™ audio networking support to the **Eikos 4K**.

Powerful and Flexible Control Options

The **Eikos 4K** has been designed to be entirely operated from the easy-to-use front panel. You can also use the on-board intuitive HTML5-based user interface, the Web RCS, designed to allow for the ease of setup and to ensure flawless control of your presentations. The **Eikos 4K** also features Ethernet control via a standard TCP/IP socket connection supported by all major third-party control systems as well as SNMP management. The **Eikos 4K** can also be controlled by the free Crestron driver as well as by AW VideoCompositor, a unique drag and drop customizable Crestron user interface. Additionally, the **Eikos 4K** can be operated by a comprehensive range of remote control panel options such as the powerful event controller RC400T or the compact Control Box[3] and Shot Box[2]. The **Eikos 4K** is also compatible with various control software or controller such as Universe, Companion or SKAARHOJ Air Fly Pro.



10 Inputs | **2 PGM outputs** | **4K60 4:4:4 10-bit** | **1 Multi-viewer** | **HDR 3D LUT** | **IP Stream** | **Live back-ground** | **up to 4 layers 4K** | **HDMI 2.0** | **DP 1.2** | **12G-SDI**

Eikos 4K at a glance

- Compact 2RU rugged chassis
- Ten inputs (8x 4K60 + 2x 1080p inputs) + two 4K60 multiplug outputs
- 3 modes: Hard/Soft Edge, Matrix (2 PGM) or Switcher (1 PGM + 1 AUX)
- Dedicated multiviewer with resizable widgets
- Real-time 10-bit 4:4:4 video processing compliant with HDR10 & HLG
- Live background + up to four 4K split layers (or two 4K mixing layers)
- RTMP-based livestreaming of any Input or Output up to 1080p30
- Intuitive HTML5-based user interface with live source thumbnails
- Advanced audio processing and dynamic routing
- Optional analog and Dante™ audio networking card (32x32 channels)

Midra™ 4K models	QuickVu 4K	QuickMatrix 4K	Pulse 4K	Eikos 4K
Inputs	10	10	10	10
Mirrored outputs (HDMI + SDI)	2	2	2	2
Dedicated multiviewer	✓	✓	✓	✓
Mixer mode (1x PGM + 1x AUX)	✓		✓	✓
Matrix mode (2x PGM)		✓	✓	✓
Hard/Soft Edge mode (1x PGM)				✓
Background layer	image	image	live source	live source
4K split layers per system	2	4	4	4
4K foreground layer (still image)	✓	✓	✓	✓
IP RTMP Streaming	✓	✓	✓	✓

Eikos 4K

Key features

- 10 inputs including 8x 4K60 inputs and 2x 2K60 inputs
- Two 4K60 PGM outputs with mirrored 12G-SDI and HDMI 2.0 plugs
- **Mixer mode**:
  - 1 PGM output up to 4K60, with 1 live background + 2 mixing 4K layers (or 4 split layers) + 1 foreground 4K image layer
  - 1 AUX output up to 1080p60
- **Matrix mode**:
  - 2 PGM outputs up to 4K60, with 1 live background + 1 mixing 4K layer (or 2 split layers) + 1 foreground 4K image layer per output
- **Hard/Soft Edge mode**:
  - 1 hard/soft edge PGM (Horizontal or Vertical) with 2 outputs up to 4K60, with live background + 2 mixing 4K layers (or 4 split layers) + 1 foreground 4K image layer
- 1 dedicated multiviewer with resizable widgets, including clocks, countdown and timers (max. resolution 2560x1600@60)
- 4K60 10-bit 4:4:4 processing - ultra low latency (16 msec @60Hz)
- Compliant with HDR10 and HLG - Built-in SDR/HDR converters
- Colorspace conversion & color corrections based on 3D LUTs
- Seamless crossfade on all live sources
- Versatile 4K connectivity: HDMI 2.0, DP1.2, 12G-SDI
- RTMP-based IP LiveStreaming of any input or output up to 1080p30
- 8x 4K concurrent still images with alpha channel support
- Advanced EDID management
- Compatible with HDCP 1.4 and HDCP 2.2
- Built-in SNMPv2-MIB
- Web RCS: highly intuitive HTLM5-based user interface
- Live video thumbnails shown on GUI
- Fully configurable and operable from the front panel
- Advanced audio processing and dynamic routing
- Innovative 'Quick Preset' feature
- Custom output formats for non-standard display applications
- Area of Interest feature to customize active areas of outputs
- Freeze of inputs, layers and screens
- Cut and Fill at input level
- Easily create and recall memories on your screen and AUX outputs
- Fully functional simulator for offline configuration and practice
- Quiet: 45dB average noise at 1m
- Dedicated BNC with loop for Genlock, Blackburst and tri-level sync
- Remote services and maintenance
- Backup and restore functions

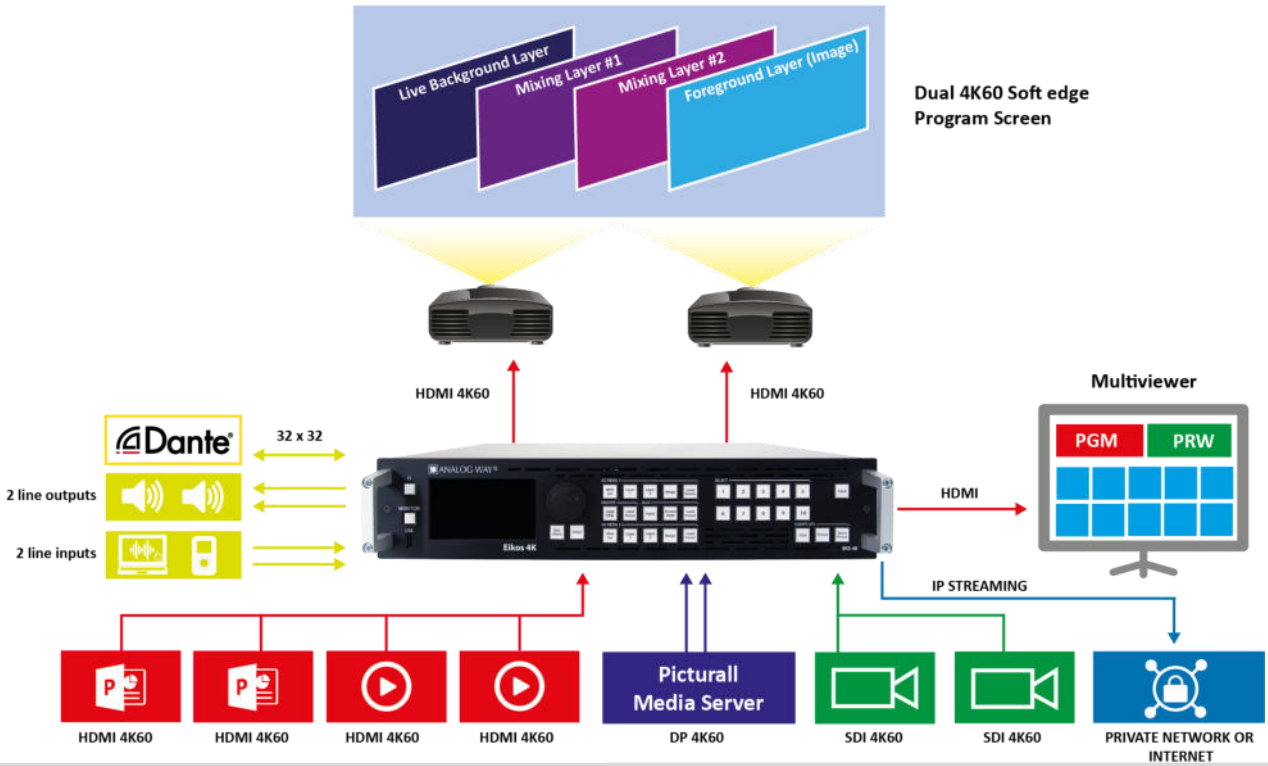
Optional Analog and Dante™ audio networking card

- De-embed audio from sources and route directly to Dante™ network
- Re-embed audio from external audio processor for sending to display
- 32x32 Dante™ channels @48 kHz
- Dual redundancy Ethernet ports
- 2 analog stereo mini jack line inputs 1/8'' (3.5 mm)
- 2 analog stereo mini jack line outputs 1/8'' (3.5 mm)

The Eikos 4K has an extensive ecosystem for control and management

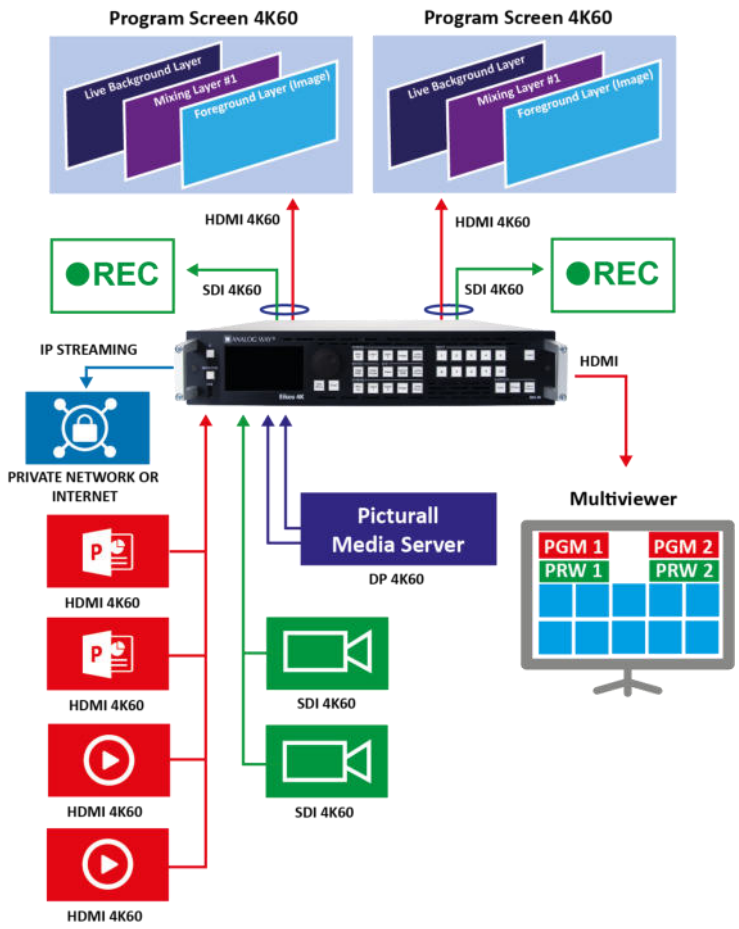
Eikos 4K - Hard/Soft Edge mode

with Dante audio option



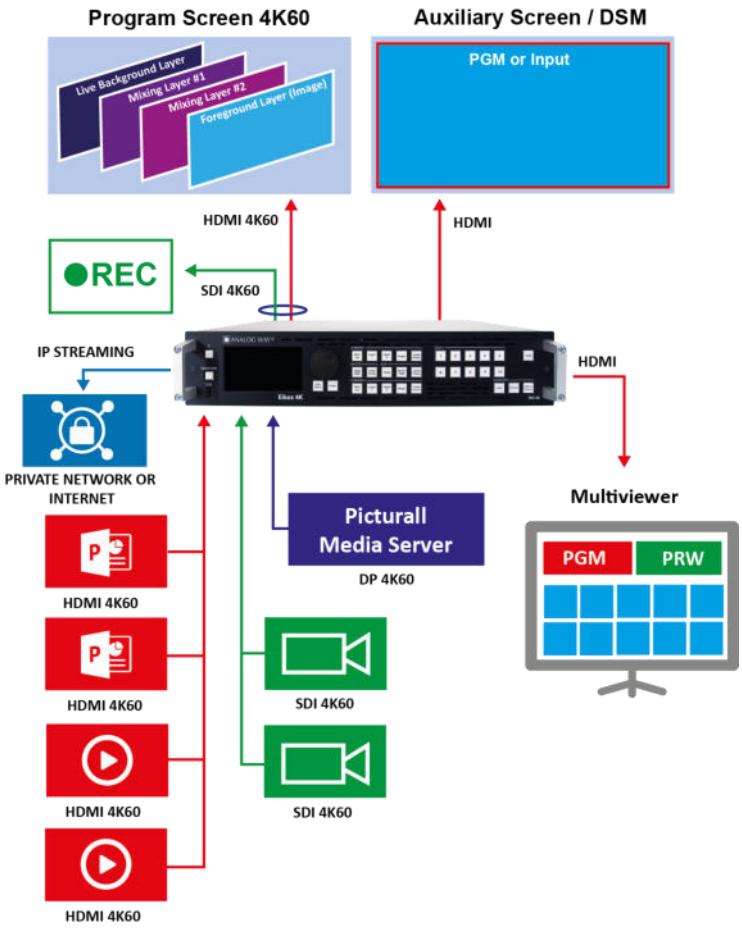
Eikos 4K - Matrix mode

with Dante audio option



Eikos 4K - Mixer mode

with Dante audio option



Eikos 4K

Technical specifications

10 INPUTS

4x HDMI 2.0
- ▸ up to 4K60 8-bit 4:4:4 or 4K60 12-bit 4:2:2

2x DisplayPort 1.2
- ▸ up to 4K60 10-bit 4:4:4 or 4K60 12-bit 4:2:2

2x 12G/6G/3G-SDI (level A & B)
- ▸ up to 4K60 10-bit 4:2:2

2x HDMI 1.4 or 3G-SDI (user selectable input plug)
- ▸ up to 2K60 10-bit 4:4:4 (HDMI) or 2K60 10-bit 4:2:2 (SDI)

Support custom input formats up to 4096 width / height (1)

2 HDMI OUTPUTS + 2 MIRRORED SDI OUTPUTS

2x HDMI 2.0 + 2x mirrored 12G/6G/3G-SDI (level A & B) connectors
- ▸ up to 4K60 8-bit 4:4:4 or 4K60 12-bit 4:2:2 (HDMI)
- ▸ up to 4K60 10-bit 4:2:2 (SDI)

Support custom output formats up to 4096 width / height (1)

1 MULTIVIEWER OUTPUT

1x HDMI 1.4 + 1x mirrored 3G-SDI up to 2560x1600@60 8-bit 4:2:2

17 resizable widgets - customizable layouts with 20 memories

Monitor the Program, Preview, auxiliary screens and all the inputs

Built-in clocks, countdown and timers

LIVESTREAMING

RTMP/RTMPS livestreaming of inputs, outputs or Multiviewer

Compatible with various Web video platform (Youtube, Facebook, Twitch.tv…), with personal credentials management

Compatible with local clients, such as OBS sofware

Video encoded in H.264 at up to 1080p30, up to 6 Mbps

Embed any Audio stereo channels (AAC encoding)

PROCESSING

Based on Analog Way exclusive 5th generation scaling engine

Ultra low latency (16msec @60Hz)

BT.601; BT.709; BT.2020 color spaces support

Split layers mode: double the live layer count (no crossfade effect)

Advanced EDID management

Keying, Area of Interest and advanced output/screen test patterns

Built-in SDR/HDR converters via 3D LUTs

Colorspace conversion & color corrections based on 3D LUTs

Compatible with HDCP 1.4 and HDCP 2.2

TRANSITIONS & EFFECTS

Seamless transitions for mixing layers and foregrounds

Layer border effects and colors with separate shadow

Multiple transition effects

Layer effects: H/V Flip, Transparency, Crop and Mask

Cut and Fill at input level

Color effects: B&W, Negative, Sepia and Solarize

STILL IMAGES

4x 4K concurrent still images for the foreground layer

4x 4K concurrent still images for the background

Alpha-channel support

Still image library with 50 memories

Multi-file download/upload via Web RCS

Capture live content from any input or output

ADVANCED AUDIO PROCESSING

De-embed/embed audio channels on all inputs/outputs (PCM)
- ▸ 8 channels per HDMI 2.0, 12G-SDI or DisplayPort 1.2 input
- ▸ 4 channels per 3G-SDI input and 2 channels per HDMI 1.4 input
- ▸ 8 channels per active output

Level control, Mute, Balance, Delay, 1kHz Sinus Pattern features

1 VU meter display of a selected input on the multiviewer

Fixed or dynamic routing (breakaway or top layer)

Optional Analog and Dante™ audio networking card
- ▸ 2 analog stereo mini jack line in and line out 1/8'' (3.5 mm)
- ▸ 32x32 Dante™ audio channels @48kHz
- ▸ Dual redundancy Ethernet ports - AES67 support

QUICK PRESET FUNCTION

3 Quick Preset modes : Fade to Black, Image or Master Preset

Audio routing configurable to follow the Quick Preset mode

CONTROL

Full-featured Front Panel with 480x272 color LCD screen

Web RCS: on-board intuitive web-based user interface

HTTPS for secure connection with downloadable certificate and key

Built-in SNMPv2-MIB

Shot Box[2] / Control Box[3]: Cost effective control solutions

RC400T: Ergonomic event controller

Compatible with SKARHOOJ Air fly Pro controller

Compatible with Companion and Universe control solutions

Simple REST API (HTTP/S) and advanced JSON TCP protocol

Creston drivers & AW VideoCompositor (Premium Creston GUI)

OTHER FEATURES

Live monitoring of inputs & PGM on the large color TFT LCD display

200 user definable screen memories and 50 master memories

Dedicated BNC with loop for Genlock, Blackburst and tri-level sync

I/O connector status LEDs for easy troubleshooting

USB host type A: firmware update, configuration import/export...

Fully functional simulator for offline configuration & practice

Gigabit Ethernet via Neutrik RJ45

TSL protocols (v3.1 and 4.0)

Dimension (in Rack Units – RU)
- ▸ 2RU

Dimension (without rack ears & mounting)
- ▸ W 17.32'' x H 3.46'' x D 17.08''
- ▸ L 440 mm x H 88 mm x P 434 mm

Dimension (with handles)
- ▸ W 19'' x H 3.46'' x D 18.66''
- ▸ L 482.5 mm x H 88 mm x P 474 mm

Weight without accessories
- ▸ 7.60 kg / 15.43 lbs

Shipping weight (accessories included)
- ▸ 10.60 kg / 22.04 lbs

Operating conditions
- ▸ Temperature: 0 to 40°C (32 to 104°F)
- ▸ Humidity: 10% to 80%, non condensing

Noise (@1,6m height @25°C)
- ▸ Front: 45 dB@1m
- ▸ Rear: 45 dB@1m

Thermal dissipation
- ▸ 273 BTU/hr

Warranty
- ▸ 3-year warranty on parts and labor back to factory

Power Supply
- ▸ 100-240 VAC, 3A 50/60Hz
- ▸ Fuse cartridge F4A 250VAC 5x20mm
- ▸ Max consumption: 95 W

Safety compliance
- ▸ IEC/UL/EN 62368-1, CSA22.2#62368-1, UL Listed E359143)

EMC & Environnemental Compliance
- ▸ EN55032, EB55024, EN61000, FCC part15, ICES

Supplied with
- ▸ 1x Power supply cord
- ▸ 1x Remote Control Software (Web RCS)
- ▸ 1x Rackmount kit
- ▸ 1x Ethernet cross-cable
- ▸ 1x User Manual (pdf)
- ▸ 1x Quick Start Guide including safety instructions

Specifications subject to change without prior notice

EKS4K_EN-05/07/2024

ATEM 2 M/E Constellation 4K

Este modelo es un mezclador excepcional de 2 M/E para señales en definición UHD. Incluye 20 entradas SDI 12G con conversión de formatos, 12 salidas SDI 12G auxiliares, 2 canales para efectos visuales digitales, 8 compositores avanzados, reproductores multimedia, 2 ventanas independientes para la visualización simultánea de imágenes, un puerto USB que permite detectarlo como una cámara web y un procesador SuperSource para un total de 6 canales para efectos visuales digitales. Asimismo, ofrece un sistema de comunicación y 48 canales de audio Fairlight con ecualizador y procesadores de dinámica para realizar mezclas de sonido profesionales.

€3 835

Conexiones

Total de entradas de video
20

Total de salidas de video
12

Velocidades de transmisión
1.5 Gb/s, 3 Gb/s, 6 Gb/s, 12 Gb/s

Total de entradas de audio
2 x 0.25” para señales balanceadas, 1 x XLR de 5 pines para el sistema de comunicación.

Total de salidas de audio
1 x XLR de 5 pines para el sistema de comunicación.

Entradas de audio SDI
8 canales de audio integrados en todas las entradas SDI.

Salidas de audio SDI
16 canales de audio integrados en todas las salidas SDI.

Conexiones para código de tiempo
No disponible

Entrada para señales de referencia
Tri-Sync o Black Burst.

Resincronización de fuentes
En las 20 entradas.

Conversión de formatos y frecuencia de imagen
En las 20 entradas.

Salidas SDI auxiliares
Cualquiera de las 12 salidas SDI.

Salidas SDI para anticipos
Cualquiera de las 12 salidas SDI.

Salidas SDI para anticipos
Cualquiera de las 12 salidas SDI.

Salida SDI para señales de menor resolución
1

Salida cámara web
1 x USB-C compatible con resoluciones de 720p o 1080p a la frecuencia de imagen del programa.

Visualización simultánea
2 x SDI 12G

Conexión para paneles de control
Ethernet. Conexión directa entre el panel y el mezclador o mediante una red.

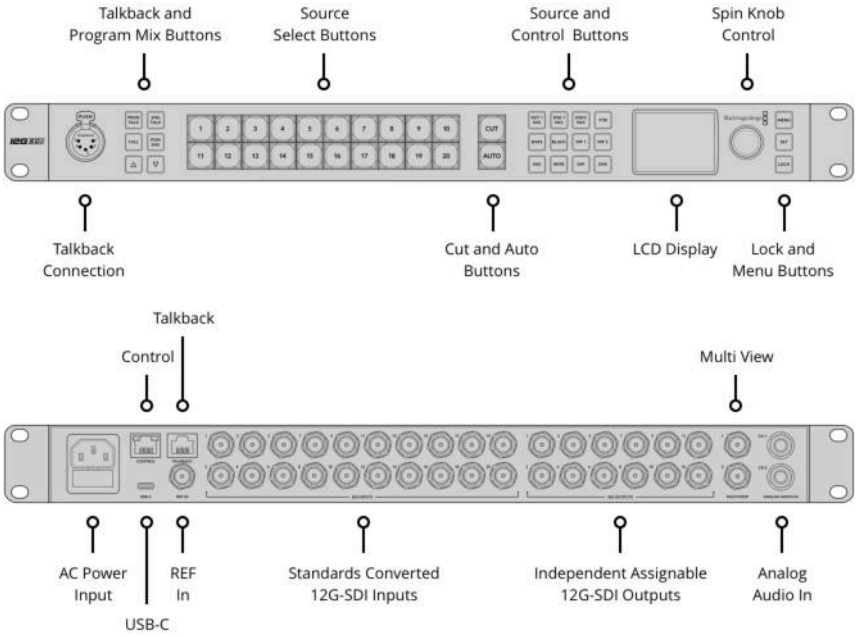
Generador de código de tiempo interno
Sí

Comunicación
RJ45 para sistemas de comunicación de terceros.

Salida para luz piloto
Mediante conexión Ethernet con el dispositivo GPI and Tally Interface de Blackmagic Design. (No incluido).

Ethernet
Compatible con estándares 10/100/1000 Base-T.

Interfaz informática
1 x USB-C compatible con USB 2.0.



Formatos compatibles

Formatos SD
No disponible

Formatos HD
720p50, 720p59.94, 720p60.
1080i50, 1080i59.94, 1080i60.
1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60.

Formatos UHD
2160p23.98, 2160p24, 2160p25, 2160p29.97.
2160p30, 2160p50, 2160p59.94, 2160p60.

Conformidad SDI
SMPTE 292M, SMPTE 296M, SMPTE 424M, SMPTE 425M nivel A y B.
SMPTE 2081-1, SMPTE 2081-10, SMPTE 2082-1 y SMPTE 2082-10.

Muestreo de video
4:2:2

Precisión cromática
10 bits.

Espacios cromáticos
REC 709, REC 2020

Alternancia automática
Selección automática de señales SDI 1.5G, SDI 3G (nivel A/B), SDI 6G y SDI 12G.

Especificaciones del producto

Compositores para superposiciones previas
8

Compositores para superposiciones posteriores
2

Compositores para superposiciones por crominancia
8

SuperSource
1

DVEs
2

Compositores para superposiciones lineales o por luminancia
11

Compositor de transiciones (animadas/con efectos)
2 para transiciones animadas, 2 para transiciones con efectos visuales.

Total de capas
15

Generadores de carta de ajuste
11

Generadores de color
2

Panel de control
Tablero frontal para alternar en casos de emergencia, programa informático o panel físico opcional.

Ventanas asignables
32

Rótulos para fuentes
Sí

Luz indicadora
Rojo para señales al aire, verde para anticipos.

Sistema de comunicación
Sí

Modalidad N-1
Sí

Supervisión simultánea de imágenes

Supervisión simultánea de imágenes
1 ventana de visualización simultánea en 16, 13, 10, 7 o 4 recuadros. Permite ver el programa, los anticipos, las fuentes, los reproductores multimedia, las composiciones y las señales limpias con rótulos e indicadores de volumen opcionales.

Definición para visualización simultánea
HD o UHD

Reproductor multimedia

Reproductores multimedia
2

Canales
Imagen en primer plano y canal alfa para cada reproductor multimedia.

Capacidad del panel multimedia (imágenes)
40

Capacidad del panel multimedia
2 clips x 2160p60 (máx.)

Duración de clips (HD 720)
3200 fotogramas.

Duración de clips (HD 1080)
1600 fotogramas.

Duración de clips (UHD 2160)
400 fotogramas.

Formatos de imagen compatibles
PNG, TGA, BMP, GIF, JPEG y TIFF.

Formatos de imagen compatibles
Secuencia TGA.

Formatos de audio compatibles
WAV, MP3 y AIFF.

Pantalla

Panel frontal
Pantalla LCD de 2.2 pulgadas para supervisar imágenes, 22 botones LED para realizar ajustes y alternar señales en caso de emergencia, 8 botones para fuentes, 4 para el sistema de intercomunicación y otros para mezclas, mando giratorio para seleccionar menús y confirmar ajustes, botón de bloqueo.

Procesamiento

Retraso del procesamiento
< 10 líneas.

Mezcla de audio
Mezclador de 48 canales
Opciones: activado, desactivado, seguimiento de imágenes (AFV).
Indicador de nivel y saturación.
Control de ganancia principal.
Ecualización paramétrica de 6 bandas y procesadores de dinámica (expansor, puerta de ruido, compresor y limitador).

Disminución de la definición
1 salida para señales HD

Soporte informático

Panel de control incluido
ATEM Software Control gratis para macOS 13.0 (Ventura), macOS 14.0 (Sonoma) y versiones posteriores o Windows 10/11.

Actualización del dispositivo
Mediante conexión Ethernet o USB directa con equipos Mac OS y Windows. Incluye programa utilitario ATEM Setup.

Configuración
Modificación de ajustes mediante el programa ATEM Software Control, excepto la dirección IP del mezclador, que se configura con el programa utilitario a través de una conexión USB.

Sistemas operativos

Mac 14.0 (Sonoma),
Mac 15.0 (Sequoia) o posterior

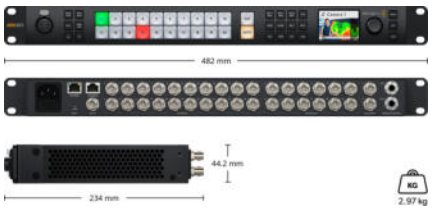
Windows 10 y 11.

Requisitos energéticos

Fuente de alimentación
1 fuente interna x 100-240 CA.

Consumo
140 W

Especificaciones físicas



Instalación física

Instalación física
1 U

Especificaciones ambientales

Temperatura de funcionamiento
0 °C a 40 °C (32 °F a 104 °F)

Temperatura de almacenamiento
-20 °C a 60 °C (-4 °F a 140 °F)

Humedad relativa
0 % a 90 % sin condensación

Artículos incluidos

ATEM 2 M/E Constellation 4K
Sobre de bienvenida con código QR para descargar el software.

Garantía

1 año de garantía limitada otorgada por el fabricante.

Distribuidor autorizado

ATEM 1 M/E Advanced Panel 10

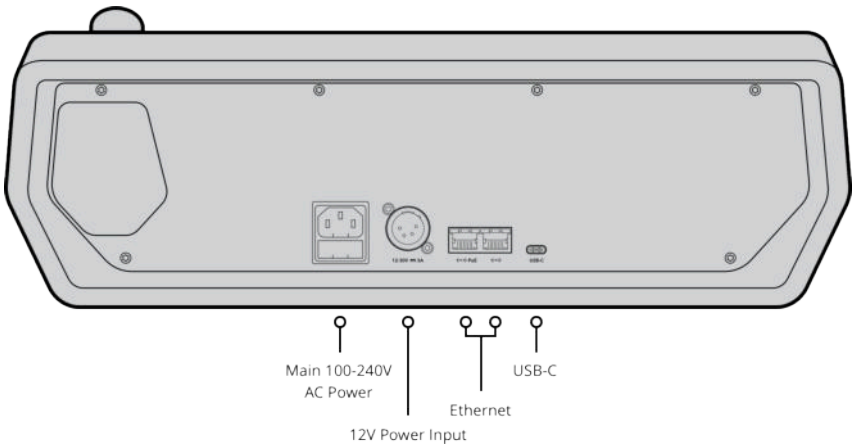
El nuevo ATEM 1 M/E Advanced Panel es un dispositivo profesional de líneas elegantes que permite controlar cualquier mezclador ATEM con absoluta precisión. Gracias a su diseño moderno y tecnología de vanguardia, este modelo brinda la oportunidad de agilizar las dinámicas de trabajo. Dispone de una pantalla LCD y botones curvos retroiluminados que ayudan a seleccionar las opciones deseadas y facilitan el reconocimiento de las funciones más importantes. Por otra parte, incluye un mando para ajustar las cámaras y la posición de los efectos visuales, así como una palanca de transiciones extremadamente precisa. A su vez, cada botón cuenta con una pantalla dinámica que ofrece la posibilidad de personalizar rótulos y colores, mientras que la tecla SHIFT permite seleccionar entradas adicionales para controlar hasta 20 fuentes. Con un diseño compacto y resistente, el panel puede instalarse en cualquier bastidor tradicional y resulta ideal para equipos portátiles o unidades móviles.

€2 989

Conexiones

Ethernet
2 x 10/100/1000 (Base-T) con salida derivada
para paneles de control y equipos informáticos adicionales

Actualización del dispositivo
1 x USB-C para actualizaciones del firmware.



Especificaciones del producto

Puntos de cruce directos
10

Puntos de cruce adicionales
20

Botones para puntos de cruce
LED tricolor

Rótulos para puntos de cruce
3 filas. 24 caracteres LCD.

Indicadores de señal al aire
4

Indicadores de estado
No disponible

Selectores de transición (DSK)
Auto, Cut, Tie/Preview.

Vista previa de transiciones
1

Indicador de duración de la transición
Mediante el menú principal

Pantalla LCD
3

Control de menú
20 botones

Botones para macros
10

Botones multicontrol
No disponible

Bus de destinos
1

Bus de fuentes
1

Palanca de transición
1

Palanca de mando de tres ejes
1

Teclado numérico
1

Soporte informático

Aplicaciones informáticas
ATEM Software Control Panel.

Sistemas operativos

Mac 14.0 (Sonoma),
Mac 15.0 (Sequoia) o posterior

Windows 10 y 11.

Requisitos energéticos

Voltaje de entrada
1 fuentes internas x 100-240 V CA.

Sistema de alimentación redundante
Sí

Consumo
45 W

Especificaciones físicas

Especificaciones ambientales

Temperatura de funcionamiento
0 °C a 40 °C (32 °F a 104 °F)

Temperatura de almacenamiento
–20 °C a 60 °C (–4 °F a 140 °F)

Humedad relativa
Hasta 95 %

Artículos incluidos

ATEM 1 M/E Advanced Panel 10

Garantía

1 año de garantía limitada otorgada por el fabricante.

Distribuidor autorizado

HyperDeck Studio 4K Pro

Este modelo ofrece todas las prestaciones de las versiones HD combinadas con una increíble capacidad de procesamiento para trabajar en definición UHD. Sus conexiones SDI 12G incluyen una entrada, una salida derivada y otras dos que permiten reproducir el canal alfa y la señal principal en archivos ProRes 4444. Gracias a su conectividad HDMI y compatibilidad con formatos ProRes y DNx, admite todo tipo de estándares televisivos en distintas resoluciones. Como los otros modelos, brinda la posibilidad de grabar en H.264, pero emplea además una compresión H.265 al procesar imágenes UHD. Su tecnología Ethernet 10G proporciona una velocidad extraordinaria, y cuenta con dos fuentes de alimentación redundantes para corriente alterna.

€1 609

Conexiones

Entradas de video SDI
1

Salidas SDI
2

Salidas de monitorización SDI
1

Velocidades de transmisión
270 Mb/s, 1.5 Gb/s, 3 Gb/s, 6 Gb/s, 12 Gb/s.

Entradas HDMI 2.0
1

Salidas HDMI 2.0
1

Altavoz integrado
Monoaural

Salida de audio
1 x 6.35 mm para auriculares.

Pantalla
Pantalla LCD de 2.2”

Conexiones para código de tiempo
1 entrada XLR, 1 salida XLR

Conexiones para señales de referencia
1 entrada BNC, 1 salida BNC Tri-Sync o Black Burst.

Entradas de audio SDI
16 canales integrados.

Salidas de audio SDI
16 canales integrados.

Entradas de audio HDMI
8 canales integrados.

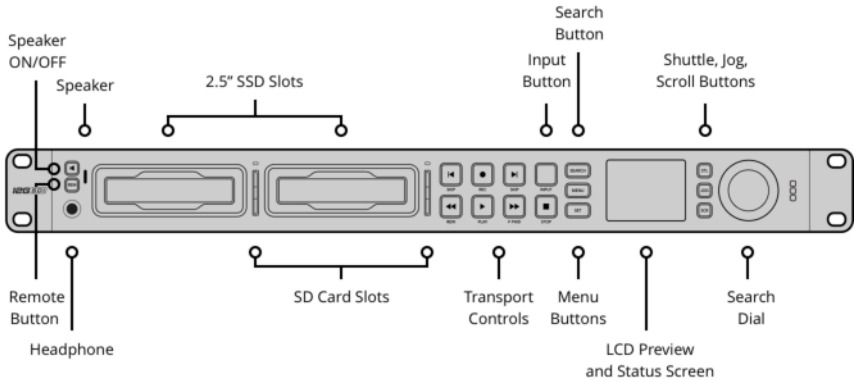
Salidas de audio HDMI
8 canales integrados.

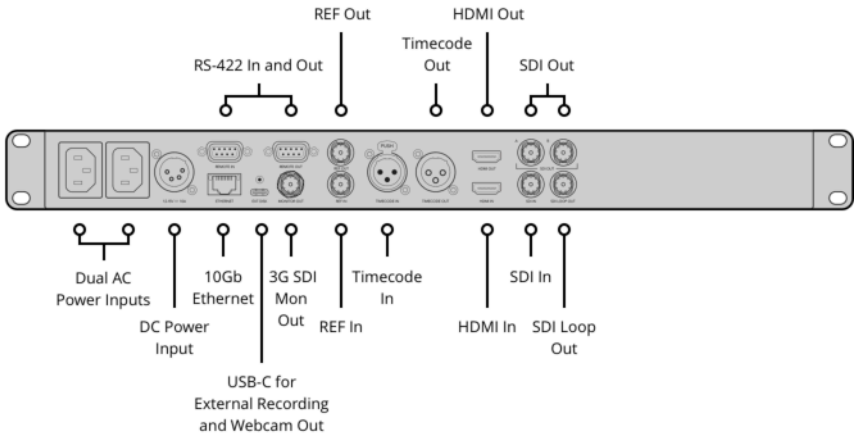
Control remoto
1 entrada RS-422, 1 salida RS-422

Configuración de grabación
Mediante interfaz de usuario o protocolo de Ethernet para el modelo Blackmagic HyperDeck.

Ethernet
10 Gb/s.

Interfaz informática
1 USB tipo C 3.1 Gen 2 (hasta 10 Gb/s) para grabar en unidades externas, detectar la unidad como una cámara web, configurarla y actualizar el software.





Formatos compatibles

Formatos SD
NTSC 525i59.94, PAL 625i50

Formatos HD
720p50, 720p59.94, 720p60.
1080i50, 1080i59.94, 1080i60.
1080p23.98, 1080p24, 1080p25,
1080p29.97, 1080p30, 1080p50,
1080p59.94, 1080p60.
1080PsF23.98, 1080PsF24,
1080PsF25, 1080PsF29.97,
1080PsF30.

Formatos DCI 2K
2Kp23.98 DCI, 2Kp24 DCI, 2Kp25 DCI,
2Kp29.97 DCI, 2Kp30 DCI.

Formatos UHD
2160p23.98, 2160p24, 2160p25,
2160p29.97, 2160p30, 2160p50,
2160p59.94, 2160p60

Formatos DCI 4K
4Kp23.98 DCI, 4Kp24 DCI, 4Kp25 DCI,
4Kp29.97 DCI, 4Kp30 DCI.

Conformidad SDI
SMPTE 259M, SMPTE 292M,
SMPTE 296M, SMPTE 424M,
SMPTE 425M (nivel A/B),
SMPTE 2081-1, SMPTE 2081-10,
SMPTE 2082-1, SMPTE 2082-10,
SMPTE 2084 y SMPTE 2108-1.

Compatibilidad con metadatos SDI
HD RP188 y subtítulos opcionales
(CEA-708). Metadatos HDR.

Formatos HDMI
525i59.94 NTSC, 625i50 PAL,.
720p50, 720p59.94, 720p60,.
1080i50, 1080i59.94, 1080i60,.
1080p23.98, 1080p24, 1080p25,
1080p29.97, 1080p30, 1080p50,
1080p59.94, 1080p60,.
2Kp23.98 DCI, 2Kp24 DCI, 2Kp25 DCI,
2Kp29.97 DCI, 2Kp30 DCI,.
2160p23.98, 2160p24, 2160p25,
2160p29.97, 2160p30, 2160p50,
2160p59.94, 2160p60,.
4Kp23.98 DCI, 4Kp24 DCI, 4Kp25 DCI,
4Kp29.97 DCI, 4Kp30 DCI.

Muestreo de audio
Frecuencia de muestreo televisiva
estándar de 48 kHz y 24 bits.

Muestreo de video
YUV 4:2:2

Precisión cromática
10 bits

Espacios cromáticos
REC 601, REC 709, REC 2020. Es posible aplicar una LUT 3D de 33 puntos a las imágenes transmitidas mediante la salida SDI de monitorización.

Compatibilidad HDR
HLG, ST2084 300, ST2084 500, ST2084 800, ST2084 1000, ST2084 2000, ST2084 4000, ST2084

Velocidades de transferencia
Detección automática de señales SD, HD, SDI 6G y SDI 12G.

Protección contra copias
La entrada HDMI no permite procesar señales provenientes de fuentes protegidas. Es preciso confirmar la titularidad de los derechos de autor antes de grabar o distribuir contenidos.

Almacenamiento

Almacenamiento
2 ranuras para unidades de 2.5”
2 ranuras para tarjetas SD
1 puerto de expansión USB-C 3.1 Gen 2 para uso de unidades externas.
Grabación en SD, HD, DCI 2K, UHD y DCI 4K.
Consulta el manual o la nota informativa en www.blackmagicdesign.com/es/support para obtener más información sobre unidades compatibles.

Soportes de grabación
Unidades SSD SATA-II o SATA-III de 2.5”. Tarjetas SD UHS-I y UHS-II.

Sistema de archivos
ExFAT (Windows/Mac) o HFS+ (Mac).

Códecs compatibles

ProRes HQ QuickTime, ProRes 422 QuickTime, ProRes LT QuickTime, ProRes Proxy QuickTime en todos los formatos hasta un máximo de 2160p60. Solo reproducción de archivos ProRes 4444 hasta 2160p60 con distribución automática del canal alfa y la imagen principal en salidas SDI A y B. DNxHD 220x, DNxHD 220x MXF, DNxHD 145, DNxHD 145 MXF, DNxHD 45, DNxHD 45 MXF a HD 720p y 1080p hasta un máximo de 60f/s. DNxHR HQX, DNxHR HQX MXF, DNxHR SQ, DNxHR SQ MXF, DNxHR LB, DNxHR LB MXF para formatos DCI 2K y 2160p hasta un máximo de 60 f/s. H.265 SDI 4:2:2 de 10 bits, H.265 (alta) 4:2:0 de 10 bits, H.265 (media) 4:2:0 de 10 bits y H.265 (baja) 4:2:0 de 10 bits para todos los formatos 2160p hasta un máximo de 60 f/s. H.264 SDI 4:2:2 de 10 bits, H.264 (Alta) 4:2:0 de 8 bits, H.264 (Media) 4:2:0 de 8 bits y H.264 (Baja) 4:2:0 de 8 bits para todos los formatos hasta un máximo de 1080p60.

Control

Panel de control integrado
16 botones de control, mando giratorio de búsqueda con embrague electrónico y pantalla color de 2.2 pulgadas.

Control externo
Protocolo de control RS-422, inicio/detención de la grabación mediante la señal SDI o al detectar un código de tiempo activo. Incluye protocolo de Ethernet para el modelo Blackmagic HyperDeck. Admite la carga de archivos en forma remota mediante el protocolo FTP.

Soporte informático

Programas incluidos
Blackmagic OS
Blackmagic HyperDeck Setup
Se carga al iniciarse el sistema, o mediante el programa utilitario a través del puerto USB.

Sistemas operativos

Mac 13.0 (Ventura),
Mac 14.0 (Sonoma) o posterior

Windows 10 de 64 bits.

Pantallas

Pantalla LCD de 2.2" integrada para seleccionar diferentes ajustes y supervisar las señales o el código de tiempo.
Indicadores led alrededor de las ranuras para unidades SSD y encima de las ranuras para tarjetas SD.

Requisitos energéticos

Fuente de alimentación
2 fuente interna x 100–240V CA 50/60 Hz.
1 entrada XLR de 4 pines (12 V CC) para baterías o corriente externa.

Consumo
100 W máx.

Accesorios

Accesorios opcionales
HyperDeck Extreme Control

Instalación física

1 U de alto

Especificaciones físicas

Especificaciones ambientales

Temperatura de funcionamiento
0 °C a 40 °C (32 °F a 104 °F)

Temperatura de almacenamiento
-20 °C a 60 °C (-4 °F a 140 °F)

Humedad relativa
0 % a 90 % sin condensación

Artículos incluidos

HyperDeck Studio 4K Pro

Garantía

1 año de garantía limitada otorgada por el fabricante.

Distribuidor autorizado

HyperDeck Studio HD Mini

El modelo más compacto de la línea HyperDeck Studio está basado en el diseño de los conversores Teranex Mini. De este modo, es posible colocar tres unidades juntas en un bastidor mediante el estante Teranex Mini Rack Shelf o combinarlas con otros productos, tales como mezcladores o dispositivos de transmisión. A pesar de sus dimensiones reducidas, esta versión incluye conexiones SDI 3G, una salida HDMI, dos ranuras para tarjetas de memoria, generadores de sincronismos y códigos de tiempo, controles en el panel frontal y entradas de alimentación para corriente alterna y continua. Además, al conectar el grabador a un equipo informático, este lo detecta como una cámara web, permitiendo así el uso de diversos programas informáticos.

€505

Conexiones

Entradas de video SDI
1

Salidas SDI
1

Velocidades de transmisión
270 Mb/s, 1.5 Gb/s, 3 Gb/s.

Salidas de video HDMI
1

Pantalla
Pantalla LCD de 2.2”

Conexiones para código de tiempo
1 entrada BNC, 1 salida BNC

Conexiones para señales de referencia
1 entrada BNC, 1 salida BNC Tri-Sync o Black Burst.

Entradas de audio SDI
16 canales integrados.

Salidas de audio SDI
16 canales integrados.

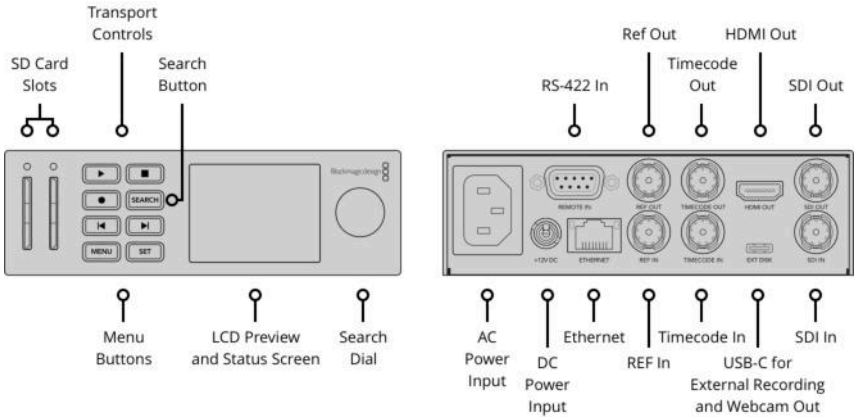
Salidas de audio HDMI
8 canales integrados.

Control remoto
1 entrada RS-422

Configuración de grabación
Mediante interfaz de usuario o protocolo de Ethernet para el modelo Blackmagic HyperDeck.

Ethernet
1 Gb/s.

Interfaz informática
1 USB tipo C 3.0 (hasta 5 Gb/s) para grabar en unidades externas, detectar la unidad como una cámara web, configurarla y actualizar el software.



Formatos compatibles

Formatos SD
NTSC 525i59.94, PAL 625i50

Formatos HD
720p50, 720p59.94, 720p60.
1080i50, 1080i59.94, 1080i60.
1080p23.98, 1080p24, 1080p25,
1080p29.97, 1080p30, 1080p50,
1080p59.94, 1080p60.
1080PsF23.98, 1080PsF24,
1080PsF25, 1080PsF29.97,
1080PsF30.

Formatos DCI 2K
2Kp23.98 DCI, 2Kp24 DCI, 2Kp25 DCI,
2Kp29.97 DCI, 2Kp30 DCI.

Conformidad SDI
SMPTE 259M, SMPTE 292M,
SMPTE 296M, SMPTE 424M,
SMPTE 425M (nivel A y B),
SMPTE 2084 y SMPTE 2108-1.

Compatibilidad con metadatos SDI
HD RP188 y subtítulos opcionales
(CEA-708). Metadatos HDR.

Formatos HDMI
525i59.94 NTSC, 625i50 PAL,.
720p50, 720p59.94, 720p60,.
1080i50, 1080i59.94, 1080i60,.
1080p23.98, 1080p24, 1080p25,
1080p29.97, 1080p30, 1080p50,
1080p59.94, 1080p60,.
2Kp23.98 DCI, 2Kp24 DCI, 2Kp25 DCI,
2Kp29.97 DCI, 2Kp30 DCI.

Muestreo de audio
Frecuencia de muestreo televisiva
estándar
de 48 kHz y 24 bits.

Muestreo de video
YUV 4:2:2

Precisión cromática
10 bits

Espacios cromáticos
REC 601, REC 709, REC 2020.

Compatibilidad HDR
HLG, ST2084 300, ST2084 500, ST2084
800, ST2084 1000, ST2084 2000,
ST2084 4000, ST2084

Velocidades de transferencia
Detección automática de señales SD/
HD.

Almacenamiento

Almacenamiento
2 ranuras para tarjetas SD
1 puerto de expansión USB-C 3.0 para el uso de unidades externas.
Grabación en SD, HD y DCI 2K.
Consulta el manual o la nota informativa en www.blackmagicdesign.com/es/support para obtener más información sobre unidades compatibles.

Soportes de grabación
Tarjetas SD UHS-I y UHS-II.

Sistema de archivos
ExFAT (Windows/Mac) o HFS+ (Mac).

Códecs compatibles

ProRes HQ QuickTime, ProRes 422 QuickTime, ProRes LT QuickTime, ProRes Proxy QuickTime en todos los formatos hasta un máximo de 1080p60. DNxHD 220x, DNxHD 220x MXF, DNxHD 145, DNxHD 145 MXF, DNxHD 45, DNxHD 45 MXF a HD 720p y 1080p hasta un máximo de 60 f/s. H.264 (Alta) 4:2:0 de 8 bits, H.264 (Media) 4:2:0 de 8 bits y H.264 (Baja) 4:2:0 de 8 bits para todos los formatos hasta un máximo de 1080p60.

Control

Panel de control integrado
8 botones de control, mando giratorio de búsqueda y pantalla color de 2.2 pulgadas.

Control externo
Protocolo de control RS-422, inicio/detención de la grabación mediante la señal SDI o al detectar un código de tiempo activo. Incluye protocolo de Ethernet para los modelos Blackmagic HyperDeck. Admite la carga de archivos en forma remota mediante el protocolo FTP.

Soporte informático

Programas incluidos
Blackmagic OS
Blackmagic HyperDeck Setup
Se carga al iniciarse el sistema, o mediante el programa utilitario a través del puerto USB.

Sistemas operativos

Mac 13.0 (Ventura),
Mac 14.0 (Sonoma) o posterior

Windows 10 de 64 bits.

Pantallas

Pantalla LCD de 2.2” integrada para seleccionar diferentes ajustes y supervisar las señales o el código de tiempo.
Indicadores LED sobre las ranuras para tarjetas SD

Requisitos energéticos

Fuente de alimentación
1 fuente interna x 100–240 V CA 50/60 Hz.
1 entrada de 5.5 mm (12V CC) para conectar baterías o una fuente de alimentación externa.

Consumo
50 W máx.

Accesorios

Accesorios opcionales
HyperDeck Extreme Control
Estante Teranex Mini Rack Shelf

Instalación física

1/3 U de ancho, 1 U de alto

Especificaciones físicas

Especificaciones ambientales

Temperatura de funcionamiento
0 °C a 40 °C (32 °F a 104 °F)

Temperatura de almacenamiento
-20 °C a 60 °C (-4 °F a 140 °F)

Humedad relativa
0 % a 90 % sin condensación

Artículos incluidos

HyperDeck Studio HD Mini

Garantía

1 año de garantía limitada otorgada por el fabricante.

Distribuidor autorizado

DM-NVX-DIR-80

DigitalMedia™

DM NVX Director™ Virtual Switching Appliance, 80 Endpoints

- *Network AV system configuration, management, and signal routing*
- *Compatible with Crestron® DM NVX® encoders and decoders*
- *Support of 80 endpoints in a single domain*
- *Fully scalable for a network of any size*
- *Intuitive web-based graphical user interface*
- *Full programmable control of virtual matrices and physical endpoints*
- *Automatic endpoint device discovery*
- *Multicast address control*
- *Credential management of DM NVX endpoints*
- *Custom naming and search tools*
- *Easy diagnostics and signal status display*
- *XML device map file import and export*
- *Built-in logging*
- *XiO Cloud® service support*
- *Four 1000BASE-T RJ-45 ports*
- *1 RU 19-inch rack mountable*
- *Universal 100-240V internal power supply*

The Crestron DM-NVX-DIR-80 is an enterprise-grade network appliance that facilitates configuration, control, and management of a large-scale AV network using DM NVX® encoder and decoder endpoints. The DM-NVX-DIR-80 virtually emulates the functionality of a traditional hardware-based DM® matrix switcher, routing high-quality 4K streaming AV signals throughout a room, building, or campus.

The DM-NVX-DIR-80 supports a maximum of 80 DM NVX endpoints. Multiple DM NVX Director™ network appliances can be deployed to handle corporate enterprise, university, government, military, medical, transportation, sports, entertainment, hospitality, gaming, and retail applications.

Simple and Flexible Configuration

The DM-NVX-DIR-80 automatically discovers up to 80 DM NVX endpoints on the network, and enables each endpoint to be assigned as a logical input or output within a single domain. The DM-NVX-DIR-80 routes inputs of DM NVX endpoints to outputs of DM NVX endpoints within the domain. Each DM-NVX-DIR-80 network appliance in a system functions as a separate domain.

NOTE: For information about DM NVX Director network appliances that support multiple domains, refer to the DM-NVX-DIR-160 and DM-NVX-DIR-ENT product pages.

Easy Web-Based Setup and Control

The DM-NVX-DIR-80 provides an intuitive web-based user interface to facilitate system configuration, signal routing, and diagnostics of the complete AV network. Each domain and endpoint, as well as the inputs and outputs of each endpoint, can be designated with a user-friendly name. Navigating the entire system is easy using the search box to quickly find domains, endpoints, inputs, and outputs by name or address. A system overview screen is also provided, showing the video and audio signal status for every input and output in a graphical layout that is easy to view and navigate.

Multicast Address Control

A custom multicast range can optionally be assigned for DM NVX encoder and decoder endpoints within a domain. The custom multicast range is determined by the assignment of a starting multicast address, the number of multicast addresses assigned to each DM NVX endpoint, and the number of DM NVX endpoints assigned to a domain. Multicast address control is accomplished by using the web interface.

Credential Management of DM NVX Endpoints

Username and password credentials can be changed simultaneously for all DM NVX encoder and decoder endpoints within a domain. Alternatively, the username and password can be changed for only particular DM NVX endpoints within a domain. Username and password credential management is accomplished by using the web interface.

XiO Cloud® Service Support

The DM-NVX-DIR-80 is compatible with the Crestron XiO Cloud service, which is an IoT (Internet of Things) platform for remotely provisioning, monitoring, and managing Crestron devices across an enterprise or an entire client base. Built on the Microsoft® Azure® software platform and using industry-leading Azure IoT Hub technology, the XiO Cloud service enables installers and IT managers to deploy and manage thousands of devices in the amount of time it previously took to manage a single device. Unlike other virtual machine-based cloud solutions, Azure services provide unlimited scalability to suit the ever-growing needs of an enterprise. For more information, visit www.crestron.com/xiocloud.

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DM-NVX-DIR-80

DigitalMedia™

DM NVX Director™ Virtual Switching Appliance, 80 Endpoints

Specifications

Device Support

Endpoints: Supports 80 DM NVX devices, each configured as an encoder or decoder

Domains: Supports a single domain (all endpoints are grouped together as a single system)

Communications

Ethernet: 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, TLS, SSH, IPv4, HTTPS web browser setup and control, Crestron 3-Series® or later control system integration

DM NVX (via Ethernet): HDCP 2.2, AES audio/video content encryption, RTP, RTSP, SDP, ONVIF, IGMPv2, IGMPv3, SMPTE 2022, FEC (Forward Error Correction)

Connectors

MGMT (front): (1) 8-pin RJ-45 connector, shielded, female; 100BASE-TX/1000BASE-T Ethernet port for hardware management

USB 2.0 (front): (2) USB Type A connectors, female, black; USB 2.0 host ports for factory use only

USB 3.0 (front): (2) USB Type A connectors, female, blue; USB 3.0 host ports for factory use only

Ethernet 1 – 4 (front): (2) 8-pin RJ-45 connectors, shielded, female;
100BASE-TX/1000BASE-T Ethernet ports for web browser, endpoint, and control traffic

100-240V~ 2-4A 50/60Hz (rear): (1) IEC 60320 C14 mains power inlet;
Mates with removable power cord, included

Controls and Indicators

MSG: (1) Blue LED, identifies the device when the unit identification process is initiated

Ethernet 1 – 2: (2) Green LEDs, indicate Ethernet activity on the corresponding Ethernet port

DISK: (1) Yellow LED, indicates SSD (solid-state drive) activity

PWR: (1) Green LED, indicates the unit is powered on

RESET: (1) Recessed push button, initiates a hardware reset

Power Button: (1) Push button, initiates boot up or shutdown

MGMT: (1) Amber LED and (1) bicolor green/orange LED; indicates Ethernet activity, speed, and link status for the management Ethernet port

Ethernet 1 – 4: (1) Amber LED and (1) bicolor green/orange LED per each of (4) ports; each pair indicates Ethernet activity, speed, and link status for the corresponding Ethernet port

Power

Mains Power: 4 Amps @ 100-120 VAC, 50/60 Hz;
2 Amps @ 220-240 VAC, 50/60 Hz

Power Consumption: 35 Watts at 100% CPU usage and fan speed

Environmental

Operating Temperature: 50° to 95° F (10° to 35° C)

Operating Humidity: 8% to 90% RH (non-condensing)

Non-Operating Temperature: -40° to 158° F (-40° to 70° C)

Non-Operating Humidity: 5% to 95% RH (non-condensing)

Heat Dissipation: 119.4 BTU/hr

Construction

Chassis: Metal, black finish; vented front, rear, and sides; variable speed fan cooled

Mounting: Freestanding or 1 RU 19-inch rack-mountable (rack ears included)

Dimensions

Height: 1.72 in. (44 mm)

Width: 17.21 in. (437 mm) without rack ears; 19.00 in. (483 mm) with rack ears

Depth: 10.49 in. (267 mm) without rack ears

Weight

10 lb (4.54 kg)

Compliance

Regulatory Model: DM-XIO-DIR-80

UL® Listed for US and Canada, CE, IC, FCC Part 15 Class B digital device

Model

DM-NVX-DIR-80: DM NVX Director™ Virtual Switching Appliance, 80 Endpoints

Accessories

For a list of accessories, visit the DM-NVX-DIR-80 product page.

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DM-NVX-DIR-80

DigitalMedia™

DM NVX Director™ Virtual Switching Appliance, 80 Endpoints

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

Specifications are subject to change without notice.

Rev 05/12/21

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DM-NVX-DIR-80

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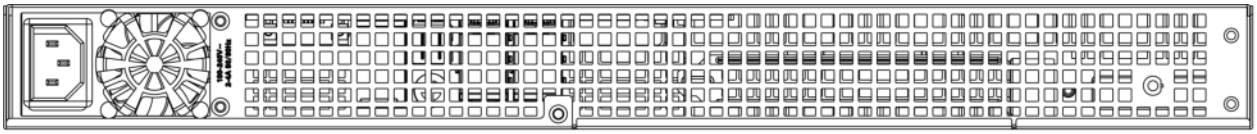
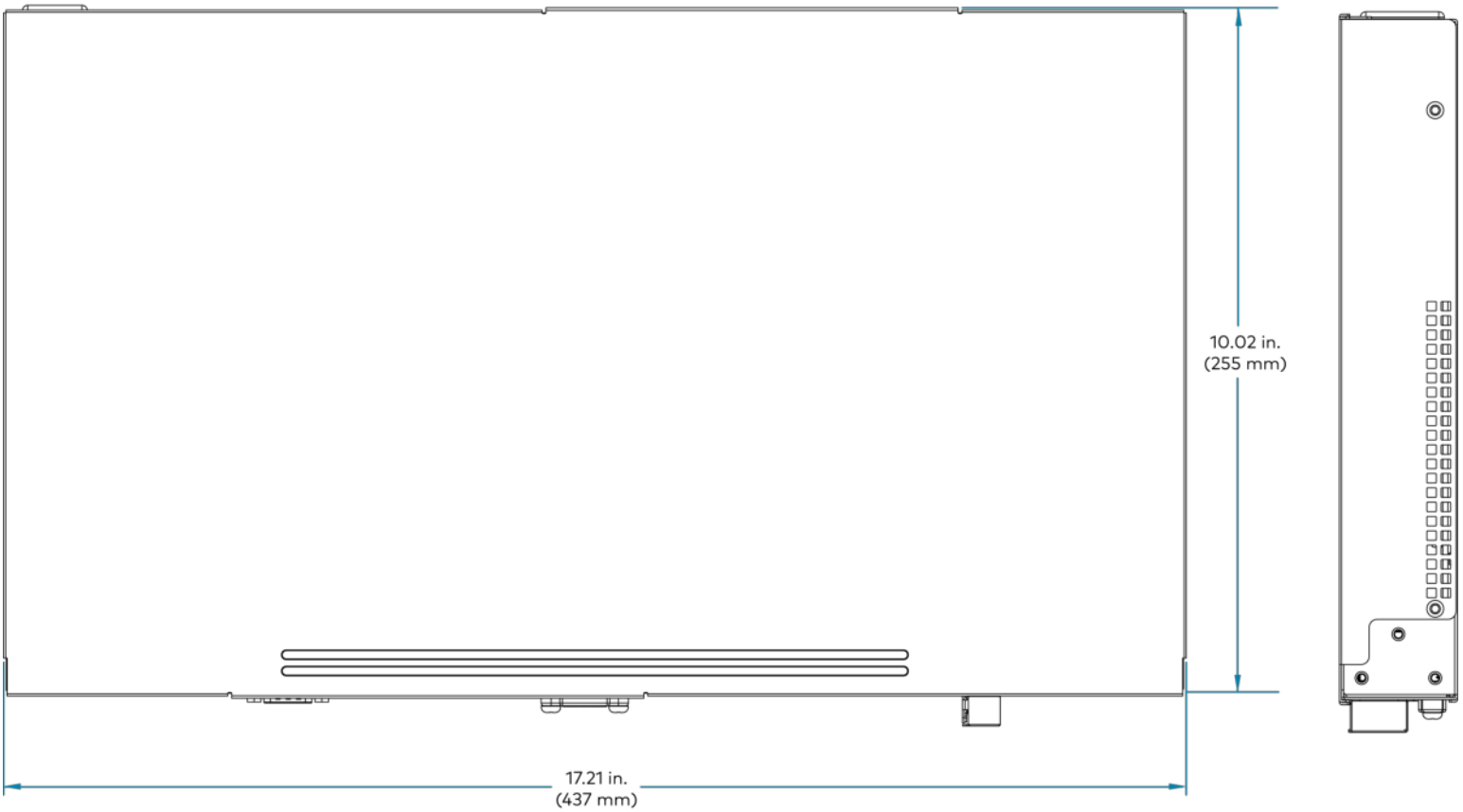
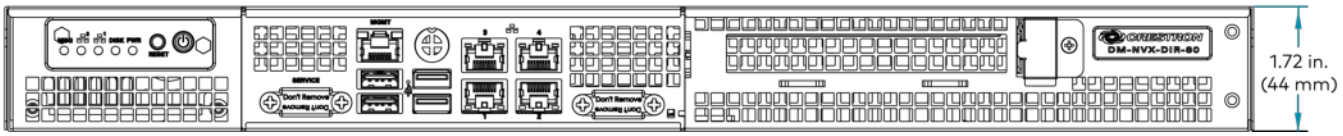
DM NVX Director™ Virtual Switching Appliance, 80 Endpoints







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CRESTRON

DM-NVX-E20

DigitalMedia™

DM NVX® 4K60 4:2:0 Network AV Encoder

- *Support of video resolutions up to 4K60 4:2:0 over standard Gigabit Ethernet, 4K30 4:4:4 included*
- *Real-time video performance over the network*
- *Enterprise-grade security including 802.1X, Active Directory® credential management, TLS, and AES-128*
- *HDCP 2.3 compliance*
- *Encoder functionality for use with the DM-NVX-D20, DM-NVX-D200, or other DM NVX® products that can function as decoders*
- *One HDMI® input*
- *Fixed or adaptive bit rate*
- *Analog audio de-embedding*
- *7.1 surround sound audio*
- *AES67 audio embedding and de-embedding*
- *Copper Ethernet connectivity with PoE support*
- *Automatic point-to-point connectivity with the DM-NVX-D20 or DM-NVX-D200*
- *Device control via RS-232, IR, and CEC*
- *Easy setup using built-in web pages*
- *Compatibility with Crestron® 3-Series® or later control systems*
- *Streamlined management using DM NVX Director® virtual switching appliances*
- *.AV Framework™ technology support*
- *XiO Cloud® service support*
- *Crestron Home® OS support*
- *API for full control of the DM-NVX-E20*
- *Compact, surface-mountable design*
- *Powered via PoE or optional power pack (sold separately)*

The DM-NVX-E20 is a compact AV-over-IP encoder designed to transmit video with resolutions up to 4K60 4:2:0 over standard Gigabit Ethernet. Featuring secure web-based control and management, an HDMI® input, an analog audio output, AES67 transmit and receive capability, and copper Ethernet connectivity with PoE support, the DM-NVX-E20 provides an encoder solution that offers price and performance optimization in a DM NVX® network AV installation of any size.[1, 2]

Real-Time 4K60 Video Performance

Engineered for demanding conference room and classroom applications, the DM-NVX-E20 ensures real-time, full-motion 4K60 video performance for the presentation of multimedia, videoconferencing, and live camera images. Interactive functions such as gameplay and the use of a mouse are fluid and natural.

A DM NVX system is engineered for stability and ultimate reliability. Line-synchronized outputs ensure perfect synchronization of content across multiple displays for applications such as digital signage. Variable Multicast TTL (Time To Live) enables traversing multiple network routers for optimal flexibility.

Enterprise-Grade Security

Using advanced security features and protocols such as 802.1X authentication, Active Directory® credential management, AES-128 content encryption, PKI authentication, TLS, SSH, and HTTPS, a DM NVX system delivers a true enterprise-grade network AV solution engineered to fulfill demanding IT policies.

Encoder Functionality

The DM-NVX-E20 encoder provides one HDMI input that enables a laptop computer, camera, or other media source to be connected via an HDMI cable and then transmitted over the network to one or many decoders.[1] Compatible with the DM-NVX-D20, DM-NVX-D200, and other DM NVX products that can function as decoders, the DM-NVX-E20 can be used in any DM NVX network AV design.

NOTE: *If the DM-NVX-E20 is used with the DM-NVX-D10, the resolution of the DM-NVX-E20 must be configured so that it does not exceed the maximum resolution supported by the DM-NVX-D10.*

It is recommended that the DM-NVX-E20 not be used with the DM-NVX-D10 in order to maintain the higher resolutions supported by the DM-NVX-E20.

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DM NVX® 4K60 4:2:0 Network AV Encoder

Fixed or Adaptive Bit Rate

The bit rate of a stream can be set to a fixed or adaptive bit rate. A fixed bit rate, also referred to as Constant Bit Rate (CBR), is user specified and can be set to a value ranging from 200 Mbps to 950 Mbps.[3]

Adaptive bit rate (ABR) enables the encoder to automatically set a fixed bit rate based on the input resolution of the stream. For example, the adaptive bit rate for a common resolution such as 1920x1080p@60Hz (1080p60) would automatically be set to 400 Mbps. Adaptive bit rate makes better use of the available bandwidth than a user-specified fixed bit rate.

The web interface or a control system can be used to set a fixed bit rate or to enable adaptive bit rate functionality.

Analog Audio De-embedding

The analog audio output provides a stereo line-level signal to feed a local sound system or sound bar. The output volume can be adjusted by using the web interface or a control system.[4]

7.1 Surround Sound Audio

DM NVX technology supports the lossless transport of 7.1 surround sound audio signals, including Dolby® TrueHD, Dolby Atmos®, DTS HD®, DTS:X®, and uncompressed linear PCM.

AES67 Audio Embedding and De-embedding

AES67 support enables the selected audio source to be transmitted as a 2-channel AES67 audio stream while another 2-channel AES67 audio stream is received from a Crestron DSP or other third-party device. The AES67 audio stream that is received can be output via the analog audio output.

NOTE: *An AES67 audio stream that is received by a DM NVX endpoint cannot be transmitted from that endpoint.*

Copper Ethernet Connectivity

The DM-NVX-E20 includes one RJ-45 1000BASE-T Ethernet port.[2] The port is PoE compliant, enabling the device to be powered via a PoE Ethernet switch.[5] For information about network requirements and guidelines, refer to the DM NVX AV-over-IP System Design Guide.

Automatic Point-to-Point Connectivity

Point-to-point connectivity enables the DM-NVX-E20 to be connected directly to a DM-NVX-D20 or DM-NVX-D200 in order to stream video and audio. Rather than being connected to an Ethernet switch, the 1000BASE-T Ethernet port of the DM-NVX-E20 is connected directly to the 1000BASE-T port of the decoder.

By default, point-to-point mode automatically detects whether the DM-NVX-E20 is connected directly to a decoder or to a 1000BASE-T switch. When a direct connection between the DM-NVX-E20 and a decoder is detected, the devices operate in point-to-point mode without the need for additional configuration. The web interface or a control system can be used to disable point-to-point mode or to enable automatic detection of point-to-point connectivity.

Device Control via RS-232, IR, and CEC

The DM-NVX-E20 includes built-in COM (RS-232) and IR ports for control of source devices under the management of a control system. Additional control capability is provided by CEC (Consumer Electronics Control) over the HDMI connection. Under the management of a control system, the DM-NVX-E20 can control a source device via CEC, potentially eliminating the need for dedicated serial cables or IR emitters.

Web-Based Setup

Setup of the DM-NVX-E20 is accomplished by using a web browser. Full control and monitoring of the device is enabled through integration with a control system or with a DM NVX Director® virtual switching appliance.

Streamlined Management Using DM NVX Director Virtual Switching Appliances

Use of a DM NVX Director virtual switching appliance (DM-NVX-DIR-80, DM-NVX-DIR-160, or DM-NVX-DIR-ENT) streamlines the entire configuration and control process. A DM NVX Director appliance provides a central point of management and enables the creation of multiple virtual matrix switchers through one easy-to-use web-based portal.

Compact Surface-Mountable Design

The DM-NVX-E20 mounts conveniently to a flat surface or rack rail and fits easily beneath a tabletop or inside a lectern, AV cart, or equipment cabinet. All connectors and LED indicators are positioned on the front and rear of the device, offering optimal access and visibility for a clean, serviceable installation. Power is provided via PoE or an optional power pack (sold separately).[5]

For additional information about DM NVX technology and the DM NVX product family, refer to the DM NVX web page at www.crestron.com/nvx.

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DM-NVX-E20

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DM NVX® 4K60 4:2:0 Network AV Encoder

Specifications

Encoding

Video Resolutions	HDMI with Deep Color and 4K60 4:2:0 support
Audio Formats	Multichannel (up to 8-channel LPCM or encoded HBR 7.1 surround sound)
Bit Rates	Fixed: 200 to 950 Mbps[3] Adaptive: Based on input resolution of the stream
Streaming Protocols	RTP, SDP
Container	MPEG-2 transport stream (.ts)
Session Initiation	Multicast via secure RTSP
Copy Protection	HDCP 2.3, AES-128, PKI

Video

Input Signal Types	HDMI with Deep Color and 4K60 4:2:0 support[6] (Dual-Mode DisplayPort™ interface and DVI compatible[7])
Copy Protection	HDCP 2.3
Resolutions	Common resolutions are listed in the following table.

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K and 3840x2160 4K UHD	30 Hz	4:4:4	8 bit
		30 Hz	4:2:2	12 bit
		60 Hz	4:2:0	8 bit
	2560x1600 WQXGA	60 Hz	4:4:4	8 bit
	1920x1080 FHD 1080p	60 Hz	4:4:4	12 bit

NOTE: *The maximum supported resolution is 4096x2160 at 60 Hz with 4:2:0 color sampling. Custom resolutions are supported at pixel clock rates up to 300 MHz.*

Audio

Input Signal Types	HDMI (Dual-Mode DisplayPort interface compatible)[7]
Digital Formats	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS®, DTS ES, DTS 96/24, DTS HD High Res, DTS HD Master Audio, DTS:X, LPCM up to 8 channels
Analog Formats	Stereo 2-channel
Digital-To-Analog Conversion	24-bit 48 kHz
AES67	24-bit 48 kHz
Analog Performance	Frequency Response: 20 Hz to 20 kHz ±0.5 dB S/N Ratio: >95 dB 20 Hz to 20 kHz A-weighted THD+N: <0.0005% @ 1 kHz Stereo Separation: >90 dB
Analog Output Volume Adjustment	-80 to +20 dB

Communications

Ethernet	100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, secure CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), IEEE 802.1X, IPv4 only or both IPv4 and IPv6, Active Directory authentication, variable Multicast TTL, HTTPS web browser setup and control, Crestron 3-Series or later control system integration
RS-232	2-way device control and monitoring up to 115.2k baud
IR/Serial	1-way device control via infrared up to 1.1 MHz or serial TTL/RS-232 (0-5 V) up to 19.2k baud (via control system)
HDMI	HDCP 2.3 , EDID, CEC
DM NVX (via Ethernet)	HDCP 2.3, AES-128 AV content encryption with PKI authentication, RTP, secure RTSP, SDP, ONVIF, IGMPv2, IGMPv3, SMPTE 2022

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DM-NVX-E20

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DM NVX® 4K60 4:2:0 Network AV Encoder

Connectors

Ethernet	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port;[2] PoE PD (powered device) port; IEEE 802.3af Type 1 PoE Class 3 (12.95 W) compliant; Compatible with PoE compliant Ethernet switch or third-party PoE PSE[5]
HDMI INPUT	(1) HDMI Type A connector, female; HDMI digital video/audio input (DVI and Dual-Mode DisplayPort interface compatible)[7]
AUDIO OUT	(1) 3-pin 3.5 mm detachable terminal block; Unbalanced stereo line level audio output;[4] Output Impedance: 100 Ohms unbalanced; Maximum Output Level: 2 Vrms unbalanced
IR	(1) 2-pin 3.5 mm detachable terminal block; IR/Serial port; IR output up to 60kHz; 1-way serial TTL/RS-232 (0-5 V) up to 19200 baud; IRP2 emitter sold separately
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Up to 115.2k baud
24V 0.75A	(1) 2.1 x 5.5 mm DC power connector; 24 VDC power input; PW-2407WU power pack (sold separately)
G	(1) 6-32 screw; Chassis ground lug

Controls and Indicators

Ethernet	(2) LEDs, green indicates Ethernet link status, amber indicates Ethernet activity
HDMI INPUT	(1) Green LED, indicates sync detection at the HDMI input
PWR	(1) Bi-color green/amber LED, indicates operating power supplied via PoE or optional power pack (sold separately), lights amber while the device is booting and green when the device is operational
SETUP	(1) Red LED and (1) push button
RESET	(1) Recessed push button, reboots the device

Power

PoE	IEEE 802.3af Type 1 Class 3 (12.95 W) compliant; Compatible with IEEE 802.3af compliant Ethernet switch or third-party PoE compliant PSE
Power Pack (Optional)	Input: 100-240 VAC, 50/60 Hz Output: 0.75 A @ 24 VDC Model: PW-2407WU (sold separately)
Power Consumption	8.6 W typical

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 95% RH (non-condensing)
Heat Dissipation	29 BTU/hr
Acoustic Noise	None (fanless)

Enclosure

Chassis	Metal, black finish, vented top, front, rear, and sides
Mounting	Freestanding, surface mountable, or attachment to a single rack rail (mounting flanges included)

Dimensions

Height	5.04 in. (128 mm)
Width	9.05 in. (230 mm)
Depth	1.00 in. (26 mm)

Weight

1.32 lb (0.60 kg)

Compliance

Regulatory Model: M202028003

Bureau Veritas Listed for US and Canada, IC, CE, FCC Part 15 Class B digital device

Model

DM-NVX-E20
DM NVX® 4K60 4:2:0 Network AV Encoder

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DM-NVX-E20

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DM NVX® 4K60 4:2:0 Network AV Encoder

Management Tools

DM-NVX-DIR-80
DM NVX Director Virtual Switching Appliance, 80 Endpoints

DM-NVX-DIR-160
DM NVX Director Virtual Switching Appliance, 160 Endpoints

DM-NVX-DIR-ENT
DM NVX Director Virtual Switching Appliance, 1000 Endpoints

Accessories

For a list of accessories, visit the DM-NVX-E20 product page.

Notes:

1. For 4K60 4:2:0 or 4K30 4:4:4 performance, HDMI cables and couplers with a minimum bandwidth of 10.2 Gbps can be used. Bandwidth loss is cumulative; therefore, performance may be reduced when inserting multiple cables and couplers inline.
2. The minimum cable required for DM NVX AV over 1000BASE-T Ethernet (copper) is unshielded CAT5e. The Ethernet port on the DM-NVX-E20 is provided for connection to an Ethernet network or device—the port cannot be connected to the DM® port of other Crestron devices.

   A nonblocking network is required for DM NVX devices.
3. The minimum bit rate for 4K60 video is 350 Mbps. A bit rate below 350 Mbps may display a black screen.
4. The analog audio output is functional only when the DM-NVX-E20 is receiving a 2-channel stereo input signal.
5. In order for the Ethernet port to receive PoE, the port must be connected to a PoE compliant Ethernet switch or other equipment that has a PoE power sourcing equipment (PSE) port. Cabling that is connected to a PoE PSE port is designed for intrabuilding use only.
6. 3D formats are not supported.
7. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. CBL-HD-DVI interface cables are available separately.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or contact us for additional information by visiting www.crestron.com/contact/our-locations for your local contact.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

HDMI

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DM-NVX-E20

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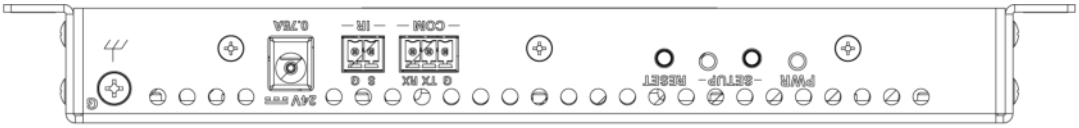

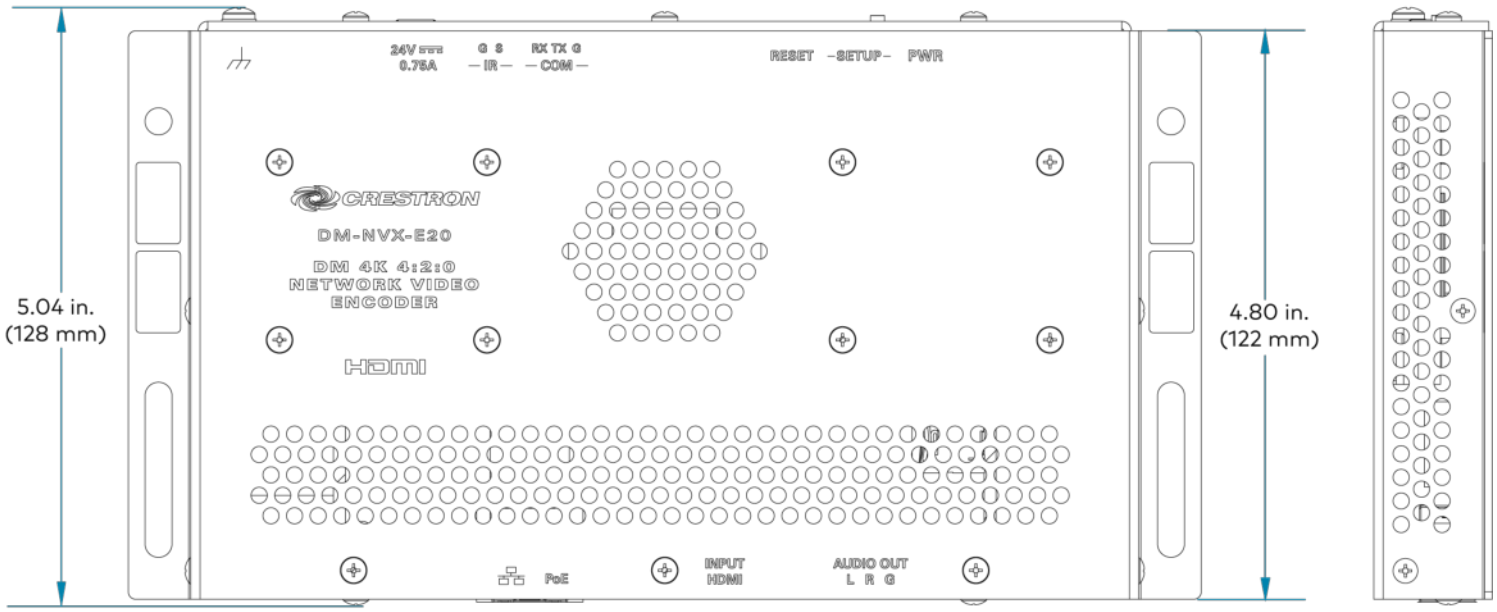

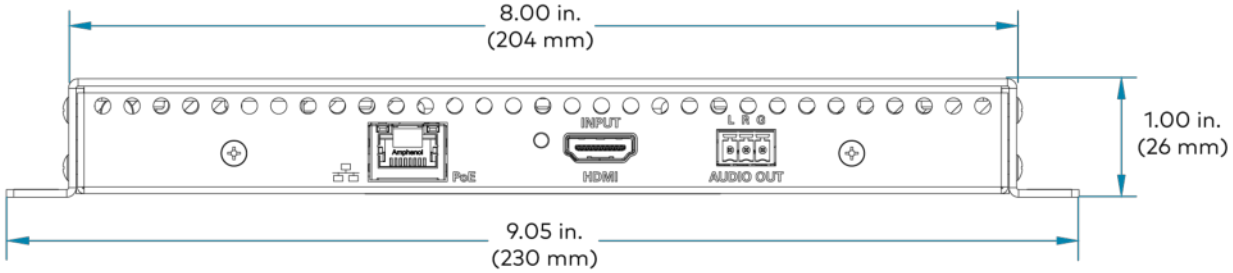

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DM-NVX-D200

DigitalMedia™

DM NVX® 4K60 4:2:0 Network AV Decoder with Scaler

- *Support of video resolutions up to 4K60 4:2:0 over standard Gigabit Ethernet, 4K30 4:4:4 included*
- *Real-time video performance over the network*
- *Enterprise-grade security including 802.1X, Active Directory® credential management, TLS, and AES-128*
- *HDCP 2.3 compliance*
- *Decoder functionality designed for use with the DM-NVX-E20 or DM-NVX-E10 and support for other DM NVX® products that can function as encoders*
- *One HDMI® output with 4K60 4:2:0 video scaler*
- *Video wall processing*
- *Analog audio de-embedding*
- *7.1 surround sound audio*
- *AES67 audio embedding and de-embedding*
- *Copper Ethernet connectivity with PoE+ support*
- *Automatic point-to-point connectivity with the DM-NVX-E20 or DM-NVX-E10*
- *Device control via RS-232, IR, and CEC*
- *Easy setup using built-in web pages*
- *Compatibility with Crestron® 3-Series® or later control systems*
- *Streamlined management using DM NVX Director® virtual switching appliances*
- *.AV Framework™ technology support*
- *XiO Cloud® service support*
- *Crestron Home® OS support*
- *API for full control of the DM-NVX-D200*
- *Compact, surface-mountable design*
- *Powered via PoE+ or optional power pack (sold separately)*

The DM-NVX-D200 is a compact AV-over-IP decoder designed to receive video with resolutions up to 4K60 4:2:0 over standard Gigabit Ethernet. Featuring secure web-based control and management, an HDMI® output with 4K60 video scaler, an analog audio output, AES67 transmit and receive capability, and copper Ethernet connectivity with PoE+ support, the DM-NVX-D200 provides a decoder solution that offers price and performance optimization in a DM NVX® network AV installation of any size.[1, 2]

Real-Time 4K60 Video Performance

Engineered for demanding conference room and classroom applications, the DM-NVX-D200 ensures real-time, full-motion 4K60 video performance for the presentation of multimedia, videoconferencing, and live camera images. Interactive functions such as gameplay and the use of a mouse are fluid and natural.

A DM NVX system is engineered for stability and ultimate reliability. Line-synchronized outputs ensure perfect synchronization of content across multiple displays for applications such as digital signage. Variable Multicast TTL (Time To Live) enables traversing multiple network routers for optimal flexibility.

Enterprise-Grade Security

Using advanced security features and protocols such as 802.1X authentication, Active Directory® credential management, AES-128 content encryption, PKI authentication, TLS, SSH, and HTTPS, a DM NVX system delivers a true enterprise-grade network AV solution engineered to fulfill demanding IT policies.

Decoder Functionality with 4K60 4:2:0 Scaler

The DM-NVX-D200 provides decoder functionality designed for use with the DM-NVX-E20 or DM-NVX-E10 encoder. The DM-NVX-D200 supports resolutions up to 4K60 4:2:0 including 4K30 4:4:4. The DM-NVX-D200 receives a signal from the DM-NVX-E20 or DM-NVX-E10 and feeds it to a local display device via the HDMI output. The built-in scaler ensures an optimal image, scaling the encoded source resolution up or down to match the native resolution of the display device.

In addition to the DM-NVX-E20 or DM-NVX-E10, the DM-NVX-D200 is also interoperable with other DM NVX products that can function as encoders. If the DM-NVX-D200 is used with a DM NVX encoder other than the DM-NVX-E20 or DM-NVX-E10, the stream type of the encoder must be configured to interoperate with the DM-NVX-D200. The resolution of the encoder must also be configured so that it does not exceed the maximum resolution of the DM-NVX-D200. Configuration of the encoder is accomplished by using the web interface or a control system.

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DM-NVX-D200

DigitalMedia™

DM NVX® 4K60 4:2:0 Network AV Decoder with Scaler

NOTE: *It is recommended that the DM-NVX-D200 not be used with 4K60 4:4:4 encoders (for example, the DM-NVX-36x [C] Series) in order to maintain the higher resolutions supported by the 4K60 4:4:4 encoders.*

Video Wall Processing

A video wall composed of up to 64 individual displays can be configured using multiple DM NVX endpoints. Each endpoint provides fully adjustable zoom capability and bezel compensation to accommodate a range of video wall configurations and display types. One DM NVX endpoint is required per display, supporting configurations of up to 8 wide by 8 high.

Analog Audio De-embedding

The analog audio output provides a stereo line-level signal to feed a local sound system or sound bar. The output volume can be adjusted by using the web interface or a control system.[3]

7.1 Surround Sound Audio

DM NVX technology supports the lossless transport of 7.1 surround sound audio signals, including Dolby® TrueHD, Dolby Atmos®, DTS HD®, DTS:X®, and uncompressed linear PCM.

AES67 Audio Embedding and De-embedding

AES67 support enables the selected audio source to be transmitted as a 2-channel AES67 audio stream while another 2-channel AES67 audio stream is received from a Crestron DSP or other third-party device. The AES67 audio stream that is received can be combined with the video signal and then output via the HDMI output and analog audio output.

NOTE: *An AES67 audio stream that is received by a DM NVX endpoint cannot be transmitted from that endpoint.*

Copper Ethernet Connectivity

The DM-NVX-D200 includes one RJ-45 1000BASE-T Ethernet port.[2] The port is PoE+ compliant, enabling the device to be powered via a PoE+ Ethernet switch.[4] For information about network requirements and guidelines, refer to the DM NVX AV-over-IP System Design Guide.

Automatic Point-to-Point Connectivity with the DM-NVX-E20 or DM-NVX-E10

Point-to-point connectivity enables the DM-NVX-D200 to be connected directly to a DM-NVX-E20 or DM-NVX-E10 to stream video and audio. Rather than being connected to an Ethernet switch, the 1000BASE-T Ethernet port of the DM-NVX-D200 is connected directly to the 1000BASE-T port of the encoder. By default, point-to-point mode automatically detects whether a DM-NVX-D200 is connected directly to the encoder or to a 1000BASE-T switch. When a direct connection between the DM-NVX-D200 and the encoder is detected, the devices operate in point-to-point mode without the need for additional configuration. The web interface or a control system can be used to disable point-to-point mode or to enable automatic detection of point-to-point connectivity.

Device Control via RS-232, IR, and CEC

The DM-NVX-D200 includes built-in COM (RS-232) and IR ports for control of devices under the management of a control system. Additional control capability is provided by CEC (Consumer Electronics Control) over the HDMI connection. Under the management of a control system, the DM-NVX-D200 can control the display device via CEC, potentially eliminating the need for dedicated serial cables or IR emitters.

The COM port, IR port, and CEC over the HDMI output can also enable the display device to be turned on or off automatically without the use of a control system.

Web-Based Setup

Setup of the DM-NVX-D200 is accomplished by using a web browser. Full control and monitoring of the device is enabled through integration with a control system or with a DM NVX Director® virtual switching appliance.

Streamlined Management Using DM NVX Director Virtual Switching Appliances

Use of a DM NVX Director virtual switching appliance (DM-NVX-DIR-80, DM-NVX-DIR-160, or DM-NVX-DIR-ENT) streamlines the entire configuration and control process. A DM NVX Director appliance provides a central point of management and enables the creation of multiple virtual matrix switchers through one easy-to-use web-based portal.

Compact Surface-Mountable Design

The DM-NVX-D200 mounts conveniently to a flat surface or rack rail and fits easily behind a flat panel display, above a ceiling-mounted projector, or inside an AV cart or equipment cabinet. All connectors and LED indicators are positioned on the front and rear of the device, offering optimal access and visibility for a clean, serviceable installation. Power is provided via PoE+ or an optional power pack (sold separately).[4]

For additional information about DM NVX technology and the DM NVX product family, refer to the DM NVX web page at www.crestron.com/nvx.

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DM NVX® 4K60 4:2:0 Network AV Decoder with Scaler

Specifications

Decoding

Stream Type	Default support for DM-NVX-E20/E10 Series; Support available for 4K60 4:4:4 encoders when using DM-NVX-D200 supported resolutions
Video Resolutions	HDMI with Deep Color and 4K60 4:2:0 support
Audio Formats	Multichannel (up to 8-channel LPCM or encoded HBR 7.1 surround sound)
Bit Rates	Based on the stream received from the encoder
Streaming Protocols	RTP, SDP
Container	MPEG-2 transport stream (.ts)
Session Initiation	Multicast via secure RTSP
Copy Protection	HDCP 2.3, AES-128, PKI

Video

Output Signal Types	HDMI with Deep Color and 4K60 4:2:0 support (DVI compatible)[5]
Copy Protection	HDCP 2.3
Input and Scaler Output Resolutions	Common resolutions are listed in the following table.

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K and 3840x2160 4K UHD	30 Hz	4:4:4	8 bit
		30 Hz	4:2:2	12 bit
		60 Hz	4:2:0	8 bit
	2560x1600 WQXGA	60 Hz	4:4:4	8 bit
	1920x1080 FHD 1080p	60 Hz	4:4:4	12 bit

NOTE: *The maximum supported resolution is 4096x2160 at 60 Hz with 4:2:0 color sampling. Custom resolutions are supported at pixel clock rates up to 300 MHz.*

Audio

Output Signal Types	HDMI, analog stereo
Digital Formats	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS®, DTS ES, DTS 96/24, DTS HD High Res, DTS HD Master Audio, DTS:X, LPCM up to 8 channels
Analog Formats	Stereo 2-channel
Digital-To-Analog Conversion	24-bit 48 kHz
AES67	24-bit 48 kHz
Analog Performance	Frequency Response: 20 Hz to 20 kHz ±0.5 dB S/N Ratio: >95 dB 20 Hz to 20 kHz A-weighted THD+N: <0.0005% @ 1 kHz Stereo Separation: >90 dB
Analog Output Volume Adjustment	-80 to +20 dB

Communications

Ethernet	100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, secure CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), IEEE 802.1X, IPv4 only or both IPv4 and IPv6, Active Directory authentication, variable Multicast TTL, HTTPS web browser setup and control, Crestron 3-Series or later control system integration
RS-232	2-way device control and monitoring up to 115.2k baud
IR/Serial	1-way device control via infrared up to 1.1 MHz or serial TTL/RS-232 (0-5 V) up to 19.2k baud (via control system)
HDMI	HDCP 2.3 , EDID, CEC
DM NVX (via Ethernet)	HDCP 2.3, AES-128 AV content encryption with PKI authentication, RTP, secure RTSP, SDP, ONVIF, IGMPv2, IGMPv3, SMPTE 2022

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DM NVX® 4K60 4:2:0 Network AV Decoder with Scaler

Connectors

Ethernet	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port;[2] PoE+ PD (powered device) port; IEEE 802.3at Type 2 PoE+ Class 4 (25.5 W) compliant; Compatible with PoE+ compliant Ethernet switch or third-party PoE+ PSE[4]
HDMI OUTPUT	(1) HDMI Type A connector, female; HDMI digital video/audio output (DVI compatible)[5]
AUDIO OUT	(1) 3-pin 3.5 mm detachable terminal block; Unbalanced stereo line level audio output;[3] Output Impedance: 100 Ohms unbalanced; Maximum Output Level: 2 Vrms unbalanced
IR	(1) 2-pin 3.5 mm detachable terminal block; IR/Serial port; IR output up to 60kHz; 1-way serial TTL/RS-232 (0-5 V) up to 19200 baud; IRP2 emitter sold separately
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Up to 115.2k baud
24V 1.25A	(1) 2.1 x 5.5 mm DC power connector; 24 VDC power input; PW-2412WU power pack (sold separately)
G	(1) 6-32 screw; Chassis ground lug

Controls and Indicators

Ethernet	(2) LEDs, green indicates Ethernet link status, amber indicates Ethernet activity
HDMI OUTPUT	(1) Green LED, indicates video signal transmission at the HDMI output
PWR	(1) Bi-color green/amber LED, indicates operating power supplied via PoE+ or optional power pack (sold separately), lights amber while the device is booting and green when the device is operational
SETUP	(1) Red LED and (1) push button
RESET	(1) Recessed push button, reboots the device

Power

PoE+	IEEE 802.3at Type 2 Class 4 (25.5 W) compliant; Compatible with Crestron DM-PSU-ULTRA-MIDSPAN, PoE+ compliant Ethernet switch, or third-party IEEE 802.3at compliant PSE
Power Pack (Optional)	Input: 1.5 A maximum @ 100-240 VAC, 50/60 Hz Output: 1.25 A @ 24 VDC Model: PW-2412WU (sold separately)
Power Consumption	11.9 W typical

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 95% RH (non-condensing)
Heat Dissipation	40.6 BTU/hr typical
Acoustic Noise	33 dBA typical

Enclosure

Chassis	Metal, black finish, vented top, front, rear, and sides
Mounting	Freestanding, surface mountable, or attachment to a single rack rail (mounting flanges included)

Dimensions

Height	5.41 in. (138 mm)
Width	8.38 in. (213 mm) without mounting flanges attached
Depth	1.20 in. (31 mm)

Weight

1.6 lb (0.73 kg)

Compliance

Regulatory Model: M202013001

Bureau Veritas Listed for US and Canada, IC, CE, FCC Part 15 Class B digital device

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DM-NVX-D200

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DM NVX® 4K60 4:2:0 Network AV Decoder with Scaler

Model

DM-NVX-D200
DM NVX® 4K60 4:2:0 Network AV Decoder with Scaler

Management Tools

DM-NVX-DIR-80
DM NVX Director Virtual Switching Appliance, 80 Endpoints

DM-NVX-DIR-160
DM NVX Director Virtual Switching Appliance, 160 Endpoints

DM-NVX-DIR-ENT
DM NVX Director Virtual Switching Appliance, 1000 Endpoints

Accessories

For a list of accessories, visit the DM-NVX-D200 product page.

Notes:

1. For 4K60 4:2:0 or 4K30 4:4:4 performance, HDMI cables and couplers with a minimum bandwidth of 10.2 Gbps can be used. Bandwidth loss is cumulative; therefore, performance may be reduced when inserting multiple cables and couplers inline.
2. The minimum cable required for DM NVX AV over 1000BASE-T Ethernet (copper) is unshielded CAT5e. The Ethernet port on the DM-NVX-D200 is provided for connection to an Ethernet network or device—the port cannot be connected to the DM® port of other Crestron devices.

   A nonblocking network is required for DM NVX devices.
3. The analog audio output is functional only when the DM-NVX-D200 is receiving a 2-channel stereo input signal.
4. In order for the Ethernet port to receive PoE+, the port must be connected to a PoE+ compliant Ethernet switch or other equipment that has a PoE+ power sourcing equipment (PSE) port. Cabling that is connected to a PoE+ PSE port is designed for intrabuilding use only.
5. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cables are available separately.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or contact us for additional information by visiting www.crestron.com/contact/our-locations for your local contact.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

HDMI

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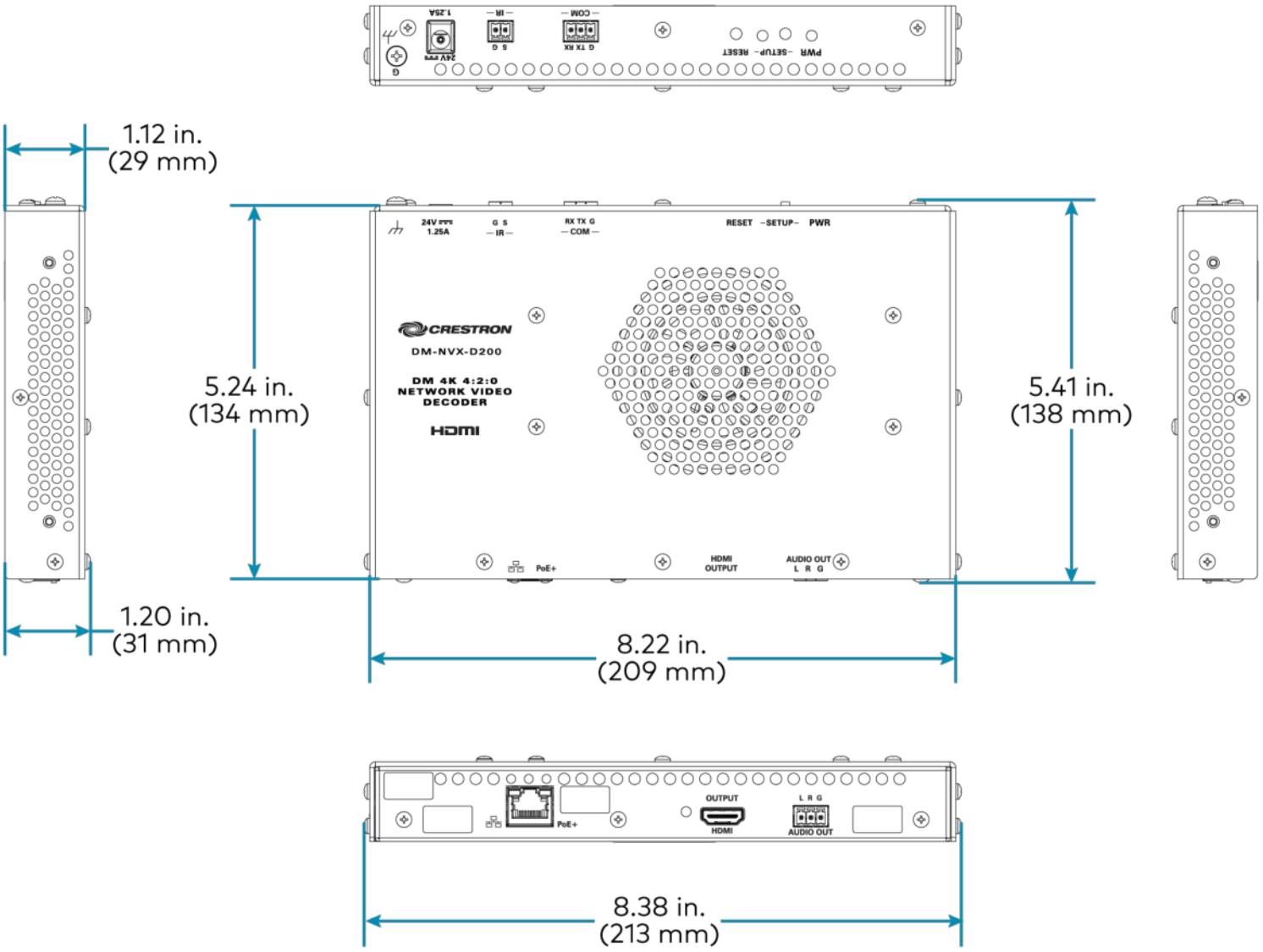

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CRESTRON

AM-TX3-100

AirMedia® Series 3 Connect Adaptor

- *Connects to a personal device using an integrated USB-C® connector*
- *Shares content up to 4K30 resolution within seconds of connecting to a personal device*
- *Provides access to Wireless Conferencing peripherals connected to a paired AM-3100-WF or AM-3200-WF AirMedia Series 3 Receiver*
- *Wirelessly pairs with a Wi-Fi® network capable AirMedia Series 3 Receiver*
- *Pair up to eight AirMedia Adaptors with a single Wi-Fi® network capable AirMedia Series 3 Receiver*
- *Includes backlit capacitive touch buttons for convenient content sharing control*
- *No software or driver installation required*

The AirMedia® Connect Adaptor (AM-TX3-100) enables wireless presentation and conferencing[1] when paired with a Wi-Fi® network capable AirMedia Series 3 Receiver. Deploy the AM-TX3-100 alongside an AirMedia Series 3 Receiver in conference rooms, huddle rooms, lounges, lobbies, or almost any space to establish a productive meeting environment.

A System Solution

The AM-TX3-100 works alongside a Wi-Fi network capable AirMedia Series 3 Receiver for a complete system solution. Built-in Wi-Fi network connectivity creates a point-to-point network between the adaptor and the receiver for seamless connectivity without interruption. Easily pair up to eight adaptors to a single receiver. Store up to four AM-TX3-100 Connect Adaptors in the AM-TX3-100-CRADLE (sold separately).

Simple Connectivity

Using the integrated USB-C® cable, connect the AM-TX3-100 to a personal device for seamless wireless presentation on an in-room display. Because USB-C offers native video communication, no software installation is required on the personal device.

Rapid, High-Resolution Presentation

After connecting the AM-TX3-100 to a personal device, share content with up to 4K30 resolution in seconds. Use the LED backlit, capacitive touch button to start, stop, or pause the presentation at any time.

Seamless Wireless Conferencing

When the AM-TX3-100 is connected to a personal device via USB-C, that device can access peripherals[2] connected to a paired Wireless Conferencing-capable AirMedia Receiver (AM-3100-WF or AM-3200-WF). These peripherals can then be used on the personal device with Microsoft Teams® or Zoom™ software.

Enterprise-Grade Security

The AirMedia platform is an enterprise-grade solution that can be deployed across hundreds of spaces, and set up easily using just a web browser, Crestron Fusion® software, or the XiO Cloud® service. It employs standard network security protocols, including 802.1x network access control, Active Directory® authentication, and AES content encryption to protect privacy and ensure compliance with your organization's IT policies.

Specifications

Communications

Wi-Fi	WiFi 6 (802.11ax)
USB	USB 2.0
OS Support	Windows 10, Windows 11, macOS® 11 or newer

Video

Input Signal Types	DisplayPort™ Alt Mode over USB-C
Output Signal Types	Network stream over Wi-Fi, received by a paired AirMedia Series 3 receiver (AM-3000-WF, AM-3100-WF, or AM-3200-WF)
Maximum Resolution	3840x2160@30Hz (2160p30); Output resolution is determined by the HDMI® output on a paired AirMedia Series 3 receiver (AM-3000-WF, AM-3100-WF, or AM-3200-WF)

> **NOTE:** All video inputs will be scaled to the selected HDMI output resolution.

Audio

Input Signal Types	DisplayPort Alt Mode over USB-C

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AM-TX3-100

AirMedia® Series 3 Connect Adaptor

Output Signal Type	Network stream over Wi-Fi, received by a paired AirMedia Series 3 receiver (AM-3000-WF, AM-3100-WF, or AM-3200-WF)
Input/Output Format	2 channel LPCM

Connectors

USB	(1) USB-C connector, male

Controls and Indicators

Status Ring	RGB LED Ring indicates device status
Screenshare	(1) RGB backlit capacitive touch button controls screensharing functions
Peripherals	(1) RGB backlit capacitive touch button controls various peripheral[1] functions

Power

USB	Powered via USB-C connection to personal device
Power Consumption	2.5 W (typical)

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	8.5 BTU/hr

Construction

Chassis	Plastic, black finish
Mounting	Freestanding, surface mount

Dimensions

Height	2.95 in. (75 mm)
Width	0.66 in. (17 mm)
Depth	7 in. (178 mm) including cable

Weight

3.17 oz (90 g)

Compliance

Regulatory Model: M202018002
Intertek® Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

Models

AM-TX3-100
AirMedia® Series 3 Connect Adaptor

AM-TX3-100-I
AirMedia® Series 3 Connect Adaptor, International

Available Accessories

For a list of available accessories, visit the AM-TX3-100 product page.

Notes:

1. Wireless Conferencing functionality through the AirMedia Connect Adaptor requires a WiFi® network and Wireless Conferencing compatible AirMedia Series 3 Receiver.
2. Crestron supports most mainstream devices and applications. For a list of supported conferencing peripherals, refer to OLH 1001764.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

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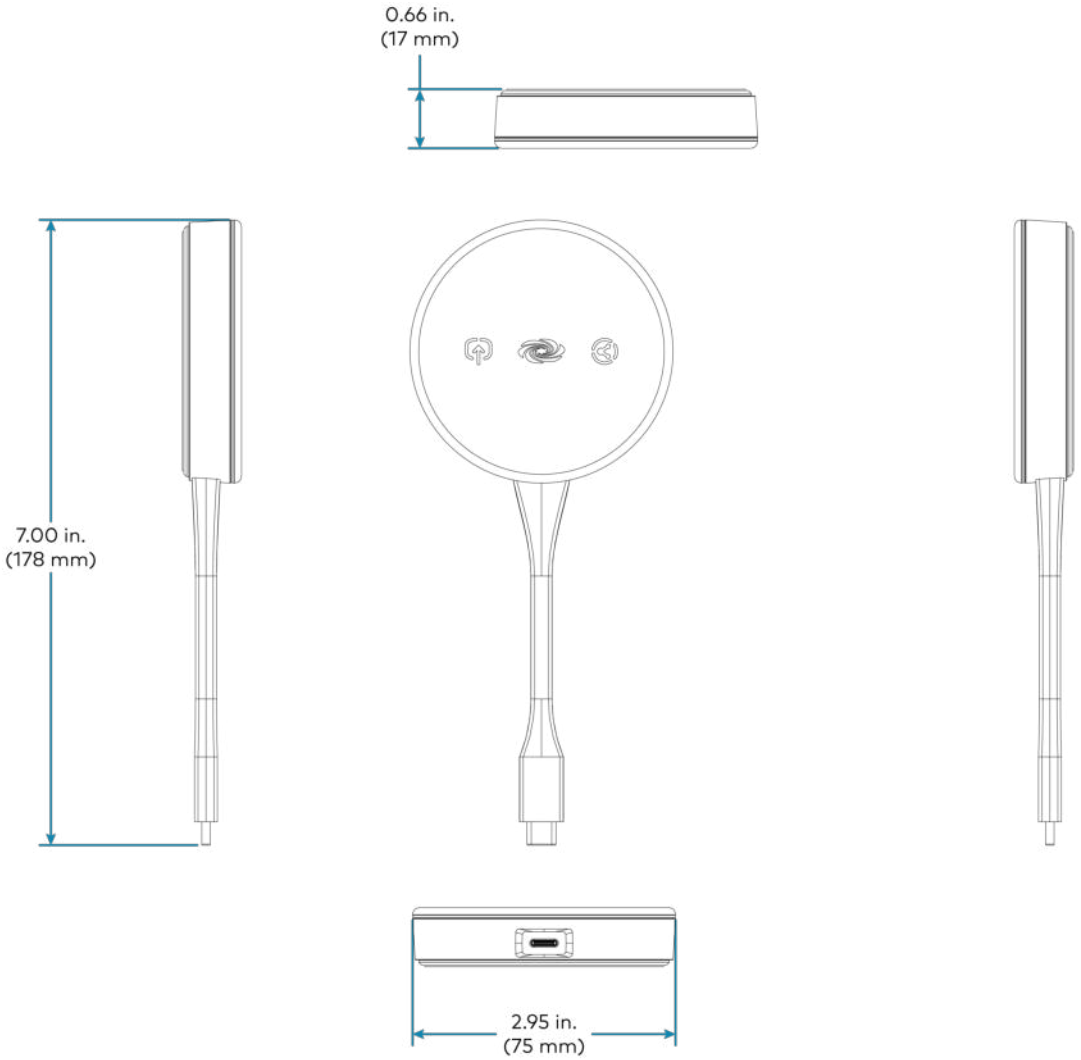
AM-TX3-100

AirMedia® Series 3 Connect Adaptor



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Blackmagic Web Presenter 4K

Blackmagic Web Presenter 4K es un dispositivo profesional HD y UHD que brinda la posibilidad de transmitir en directo por YouTube, Facebook, Twitter y otras plataformas similares a una resolución máxima de 2160p60, inclusive a través de un teléfono móvil 4G o 5G. Incluye puertos USB que permiten detectarlo como una cámara web, a fin de conectarlo a un equipo informático y transmitir mediante cualquier programa compatible. Asimismo, facilita la supervisión de señales mediante medidores de audio y representaciones gráficas.

€695

Conexiones

Entradas de video SDI
1

Salidas SDI derivadas
1

Salidas de monitorización SDI
1

Velocidades de transmisión
1.5 Gb/s, 3 Gb/s, 6 Gb/s, 12 Gb/s.

Salidas de video HDMI
1 salida de monitorización

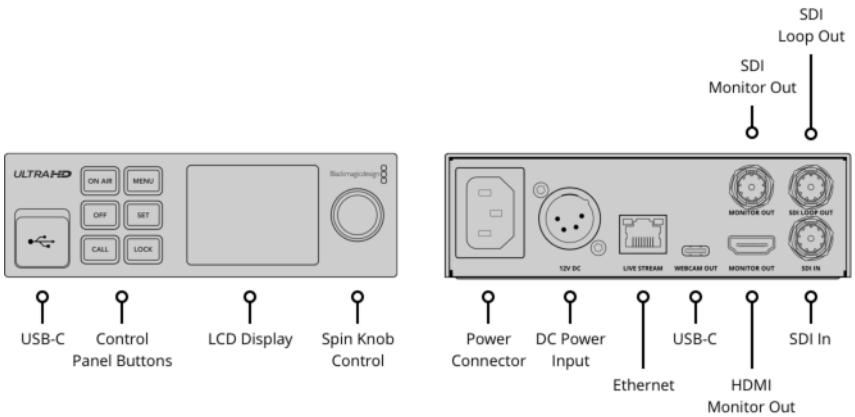
Entradas de audio SDI
16 channels embedded audio.

Salidas de audio SDI
16 channels embedded audio on Loop Out.

Salidas de audio HDMI
2 channels embedded audio on Monitor Out.

Salida cámara web
1 x USB-C a un máximo de 2160p60

Ethernet
Ethernet supports 10/100/1000 BASE-T for live streaming, configuration and software updates.



Formatos compatibles

Formatos HD (entrada)
720p50, 720p59.94, 720p60.
1080p23.98, 1080p24, 1080p25,
1080p29.97, 1080p30, 1080p50,
1080p59.94, 1080p60.
1080PsF23.98, 1080PsF24,
1080PsF25, 1080PsF29.97,
1080PsF30.
1080i50, 1080i59.94, 1080i60.

Formatos UHD
2160p23.98, 2160p24, 2160p25,
2160p29.97, 2160p30, 2160p50,
2160p59.94, 2160p60.

Espacio cromático inicial
REC 601, REC 709, REC 2020.

SDI 3G
La entrada SDI detecta automáticamente señales SMPTE (nivel A o B).

Formatos compatibles con las salidas SDI y HDMI
1080p50, 1080p59.94, 1080p60.

Formatos de transmisión por Internet
720p25, 720p30, 720p50, 720p60.
1080p23.98, 1080p24, 1080p25,
1080p29.97, 1080p30, 1080p50,
1080p59.94, 1080p60.
2160p23.98, 2160p24, 2160p25,
2160p29.97, 2160p30, 2160p50,
2160p59.94, 2160p60.

Transmisión

Transmisión directa
Transmisión directa por Internet mediante el puerto Ethernet usando el protocolo de mensajería en tiempo real (RTMP) en formato H.264 o el protocolo de transporte confiable y seguro (SRT) en formato H.264 y H.265.

Subtítulos opcionales
Subtítulos CEA-608 y CEA-708 en la transmisión mediante el protocolo RTMP.

Control

Panel de control
Built in control panel including 6 buttons, spin knob control and 2.2 inch color display.

Control de dispositivos
Panel frontal, puerto USB-C o Ethernet.

Pantalla

Pantalla
Built in 2.2 inch LCD for monitoring video, audio and status plus menu settings.

Soporte informático

Programas y servicios compatibles
Facebook, Twitch, YouTube, Twitter, Restream.IO, Vimeo, BoxCast, Castr, AfreecaTV, Bilibili, DouYu, Weibo, Zoom, Skype, Microsoft Teams, QuickTime Player, FaceTime, OBS Studio, Open Broadcaster, VLC, Wirecast Play, Wowza Streaming Engine.

Sistemas operativos

Mac 13.0 (Ventura), Mac 14.0 (Sonoma) o posterior

Windows 10 de 64 bits. Windows 11.

Linux

Chrome OS

Requisitos energéticos

Fuente de alimentación
1 fuente interna x 100 – 240 V CA.

Entrada de 12 V CC
1 x 4-pin XLR for +12V DC input for external power supply or battery use.

Consumo
25 W

Instalación física

Instalación física
One third rack unit width, 1 rack unit height.

Especificaciones físicas

Especificaciones ambientales

Temperatura de funcionamiento
0 °C a 40 °C (32 °F a 104 °F)

Temperatura de almacenamiento
–20 °C a 45 °C (–4 °F a 113 °F)

Humedad relativa
0 % a 90 % sin condensación

Artículos incluidos

Blackmagic Web Presenter 4K

Garantía

3 año de garantía limitada otorgada
por el fabricante.

Distribuidor autorizado

Lumens®

LC100

CaptureVision System

2CH HD Recorder and Streaming Media Processor

Lumens CaptureVision System LC100 is an all-in-one 2-channel media processor that enables you to record, mix and stream live. AV inputs include HDMI, SDI, USB, Ethernet and XLR audio for professional audio. Preset scenes and the intuitive GUI simplify live production, and the deployment tool software centralizes system management and administration. It is applicable for lecture capture in education, streaming worship services, sharing corporate training, and live event delivery.

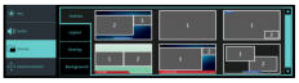
Key Features

- 2-Channel AV Source Processing
- Simultaneous Recording and Streaming
- HDMI, SDI, RTSP, USB source inputs
- XLR with Phantom power supported
- Built-in 2TB HDD storage*
- Remote Control Panel (Optional)
- 5-year warranty*

*The warranty policy may be different depending on the sales region, please contact your local salesperson.
* Model without an HDD available in specific regions.

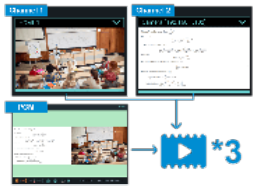
Onboard GUI Director

Live control is incorporated into the device. Connect an HDMI screen to the LC100 to access the intuitive GUI. Sessions can be produced live or scheduled in advance.



Live Pre-defined Scenes for Switching

Build layout scenes that incorporate a variety of visual elements include split screen video, picture-in-picture, title/logo overlays, and background images. Activate and change layouts with the click of a mouse.



Program & ISO Recording

The LC100 records the mixed program-out video and captures two video inputs with independent audio. This simplifies media archiving and post-production.

Deployment Tool for remote central management

The Lumens deployment software enables control, management, and administration of multiple LC100 units on the network. Administrators can remotely monitor device status, saving time and reducing costs.

Intermission Scene and Chapter Marker

Need a break time during the streaming session? Hit the coffee mark to display the break time page. At the same time, set a chapter mark to instantly jump to a particular scene during playback.

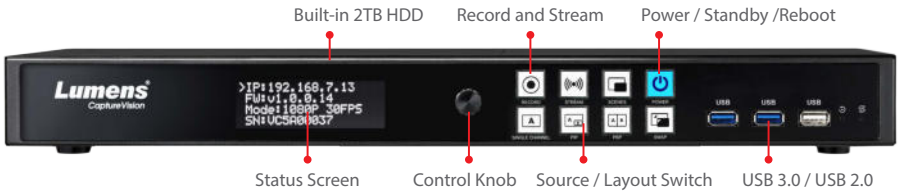
Product Specifications

Video Input	
Number / Signal	2* HDMI 2* 3G-SDI
Connection	Female HDMI Type-A / 3G-SDI
Resolution Range	HDMI Input 1: 720p~2160p 60fps Others: 720p~1080p 60fps
IP Source / USB Camera	Lumens IP PTZ / Box Camera RTSP Source (H.264 1080p 60/30fps) USB Camera (MJPEG 1080p 30fps)
Video Processing	
Video Compression	H.264 / AVC 4:2:0 8bit color Encoding Profile: High, Main, Baseline
Bitrate	200 kbps to 10 Mbps
Video Output	
Number / Signal	3* H.264 / AVC Digital Video over Ethernet 2* HDMI Digital Video 1* HDMI Pass-through (Up to 4K)
Scaled Resolution	1080p
Frame Rate	30 / 60 fps
Recording and Storage	
Internal Storage	2TB HDD
External Storage	4* USB 3.0 Port
File Type	H.264 and AAC in an MP4 container, JPEG
Resolution	360p / 720p / 1080p
Frame Rate	Max. 1080p 60/30 fps
Audio Input	
Number / Signal	1* Line In (Stereo Unbalanced Audio, 3.5mm Phone Jack) 2* Combo (XLR / TRS, Balanced Audio, Line in / Mic in, Support +48V Phantom Power) IP Audio Source (RTSP, 16K / 44.1K / 48K) Support USB Audio (UAC)
Audio Processing	
Compression	AAC-LC
Audio Output	
Number / Signal	1* Stereo, Unbalanced 3.5mm Phone Jack 2* Stereo, Digital De-embedded Audio from HDMI

Communication	
USB	1* USB 2.0 Type A 4* USB 3.0 Type A Support USB Storage, USB Camera, USB Mic USB Mouse, Keyboard, HID Touch Display
Serial Control	RS-232 / RS-485 Port
Ethernet	
Ethernet Host Port	1* Female RJ-45 10/1001000 Base-T High / Full Duplex
Streaming Protocol	Pull: RTSP Push: RTMP / RTMPS / MPEG-TS / SRT TCP / UDP / HTTP DHCP Client
Functions	
Support IP Sources	Lumens IP Camera / RTSP
Scenes Switch	Yes, preset for layout, background, and overlay
Layout Switch	Yes (Single, PIP, and PBP)
Background Switch	Yes
Overlay	Yes, PNG overlay or system time overlay
File Backup	FTP / SFTP / NAS(CIFS/SMB, NFS) / WebDAV / Copy to USB Flash Drive
Content Management Systems	Panopto / OpenCast / Kaltura
General	
Power Supply	DC In , 12V / 3A
Power Consumption	30W
Dimensions (W x H x D)	Standard 1u rack 17" x 1.9" x 8.5" (432 x 49.4 x 218mm)
Weight	5.3 lbs (2.4 Kg)

I/O Connections

(Front View)



(Back View)

Lumens®

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www.MyLumens.com

Sep. 2024

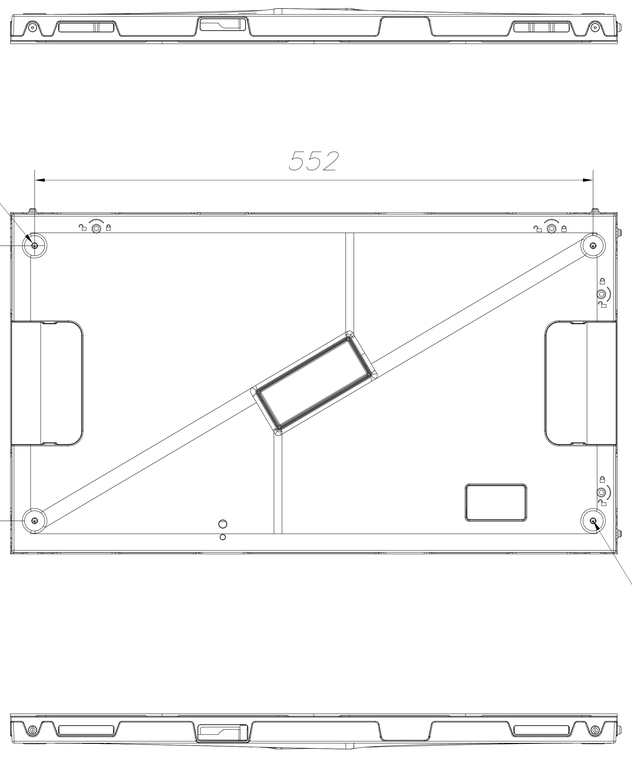
TUBE R2 TBR210A1H15DX3ADUC_2

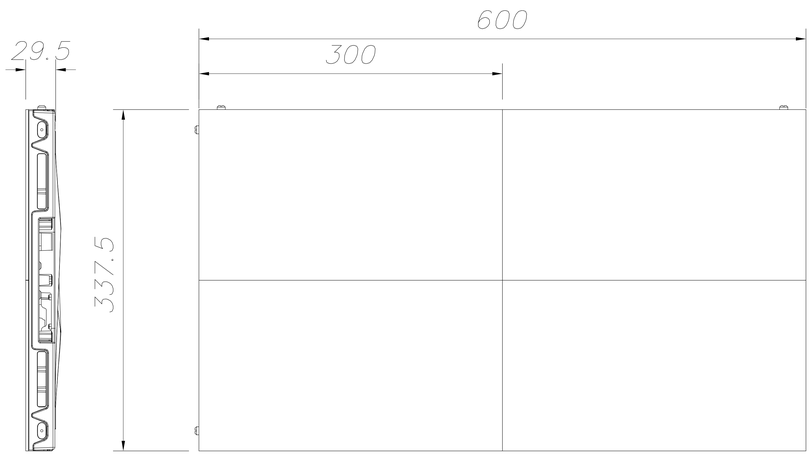
LUXINTEC

Luminaria TUBE R2, 100, en superficie fijación atornillada, rotación vertical, IP50, 15W, regulable DALI o pulsador o detector con relé, 4000K esencial, IRC 80+, óptica D difusora, con cierre difusor, blanco texturado, con 2 tapas.

MODELO	TUBE R2
LONGITUD	100 cm
MONTAJE	En superficie fijación atornillada
ROTACIÓN	Vertical
GRADO ESTANQUEIDAD IP	IP50
POTENCIA	15W
EQUIPAMIENTO ELÉCTRICO	Regulable DALI o pulsador o detector con relé
TEMPERATURA DE COLOR DE LUZ	4000K esencial
ÍNDICE DE REPRODUCCIÓN CROMÁTICA	80+
TOLERANCIA CROMÁTICA	< 3 Elipses de MacAdam
ÓPTICA	Óptica D difusora
DISTRIBUCIÓN DE LUZ	Circular
REFLECTOR O CIERRE	Con cierre difusor
FLUJO LUMINOSO	1.700 lm
EFICIENCIA LUMINOSA	113 lm/W
ALIMENTACIÓN ELÉCTRICA	220..240V AC. Fuente de alimentación remota
TIPO DE CONEXIÓN	Conectores para instalación rápida
INTERCONEXIÓN	Opcional en DC
MATERIALES	Aluminio en carcasa exterior Polímeros de ingeniería de alta calidad en cierres.
RECUBRIMIENTOS	Pintura electroestática de alta resistencia y durabilidad en carcasa
COLOR DE LUMINARIA	Blanco texturado RAL 9016
TIEMPO DE VIDA DEL MOTOR DE LUZ A Ta 25ºC	>50.000 horas L70B50
TIEMPO DE VIDA DE FUENTE DE ALIMENTACIÓN A Ta 25ºC	>50.000 horas
Tª AMBIENTE DE FUNCIONAMIENTO	Desde -20ºC hasta 40ºC
NÚMERO DE TAPAS	2 tapas
GARANTÍA	7 años
NORMATIVAS	Fabricado según ISO 9001, ISO 14001 y UNE 166002 para cumplir con UNE 12464, UNE 12193, EN 60598 y EN 11925-2.

105 PCS





Cabinet fixing hole position

INFiLED
Screen your dreams

PROJECT TITLE

WP1.56-9000mmX2362.5mm-Cabinets -Europe Project-V1.0

NOTE

1. This drawing is only for reference.
2. Specifications subject to change without notice.

REVISIONS	CONTENT	DATE

DRAWN BY Jun

DESIGNED BY Jun

CHECKED BY ★Pepsi★

APPROVED BY

DRAWING. TITLE

WP1.56-600x337.5mm-Cabinet

DRAWING NO. FA240341

VERSION. V1.0

SCALE. 1 / 1

DATE. 2024.03.26

PRODUCT TYPE. A

SHEET NO. 001

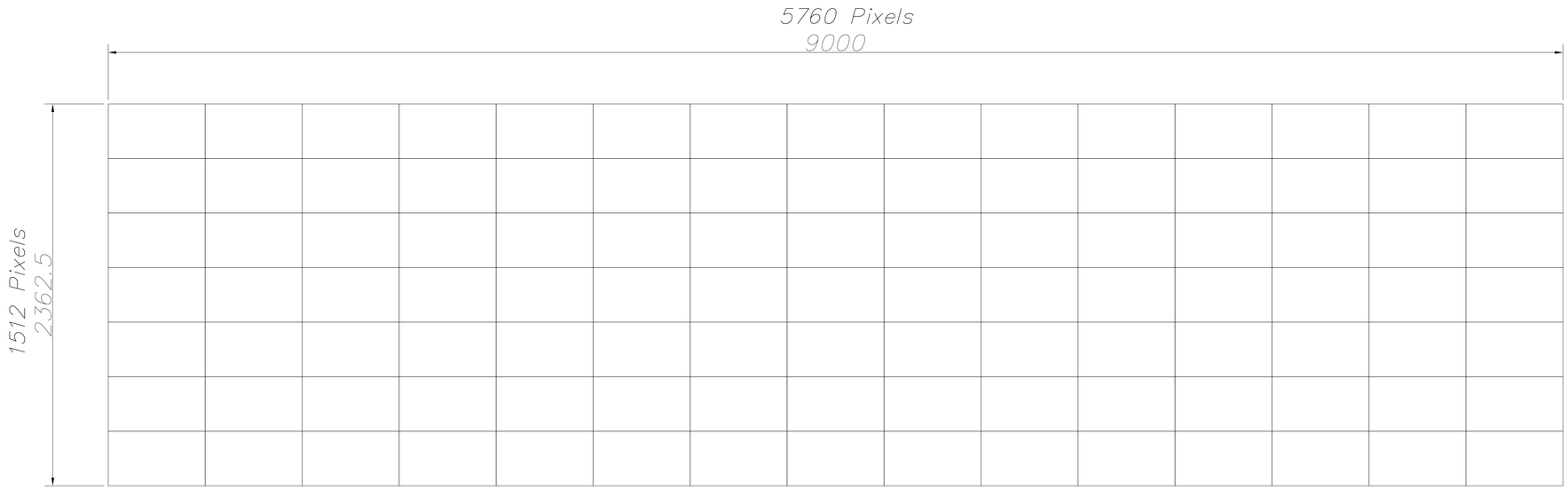
A3(420x297mm +2mm)

■ WP1.56-M4

- Pixel Pitch : 1.56mm
- Resolution : W5760 X H1512
- Active Screen Size : W 9000mm X H 2362.5mm
- Front maintenance

■ Power Consumption

220V / 60HZ, 14.175 kW & Ground



Front View

INFiLED
Screen your dreams

PROJECT TITLE

WP1.56-9000mmX2362.5mm-Cabinets -Europe Project-V1.0

NOTE

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2. Specifications subject to change without notice.

REVISIONS	CONTENT	DATE

DRAWN BY: Jun

DESIGNED BY: Jun

CHECKED BY: ★Pepsi★

APPROVED BY:

DRAWING. TITLE: WP1.56-9000x2362.5mm-Cabinets

DRAWING NO. FA240341

VERSION. V1.0

SCALE. 1 / 1

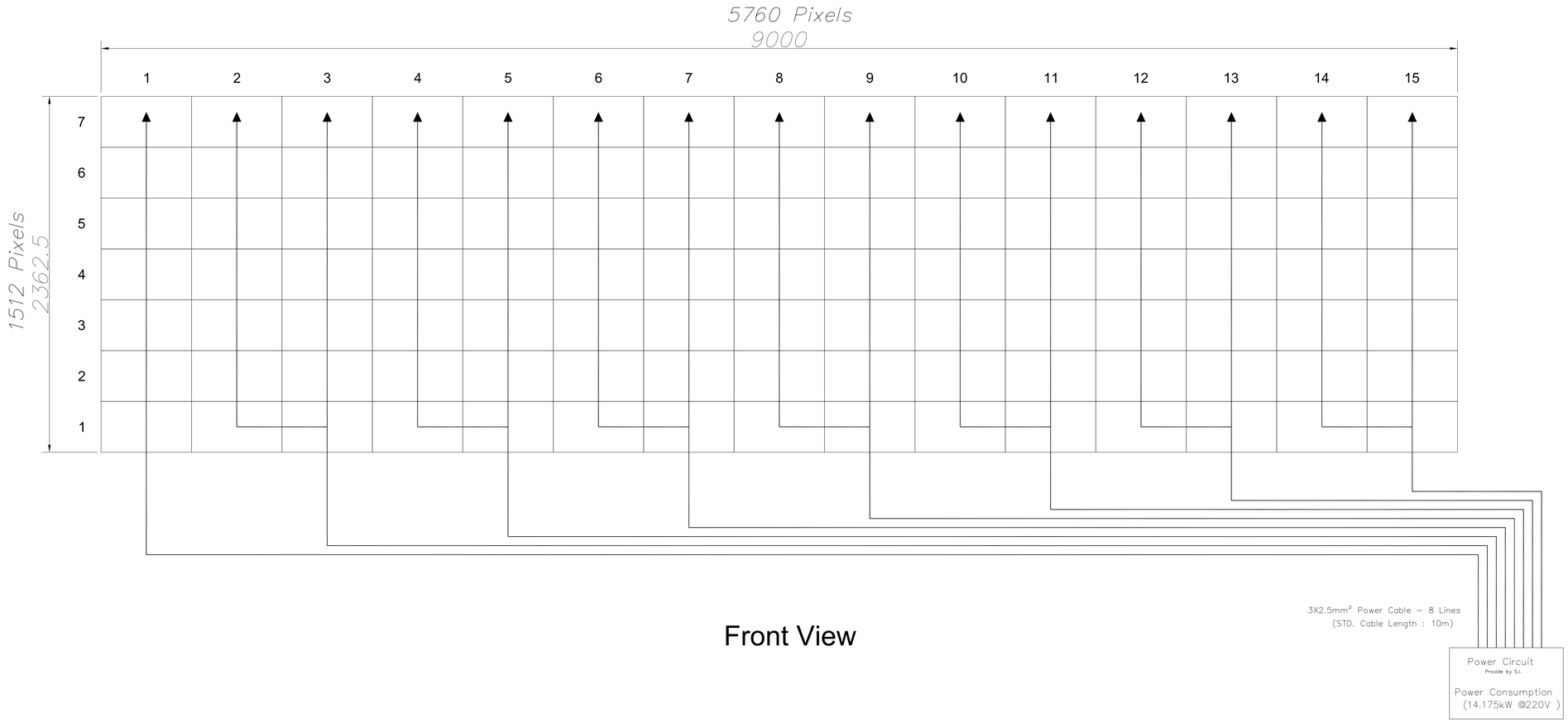
DATE. 2024.03.26

PRODUCT TYPE. A

SHEET NO. 002

A3(420x297mm +2mm)

Power Diagram



Front View

INFiLED
Screen your dreams

PROJECT TITLE

WP1.56-9000mmX2362.5mm-Cabinets -Europe Project-V1.0

NOTE

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REVISIONS	CONTENT	DATE

DRAWN BY: Jun

DESIGNED BY: Jun

CHECKED BY: ★Pepsi★

APPROVED BY:

DRAWING. TITLE: WP1.56-9000x2362.5mm-Cabinets

DRAWING NO. FA240341

VERSION. V1.0

SCALE. 1 / 1

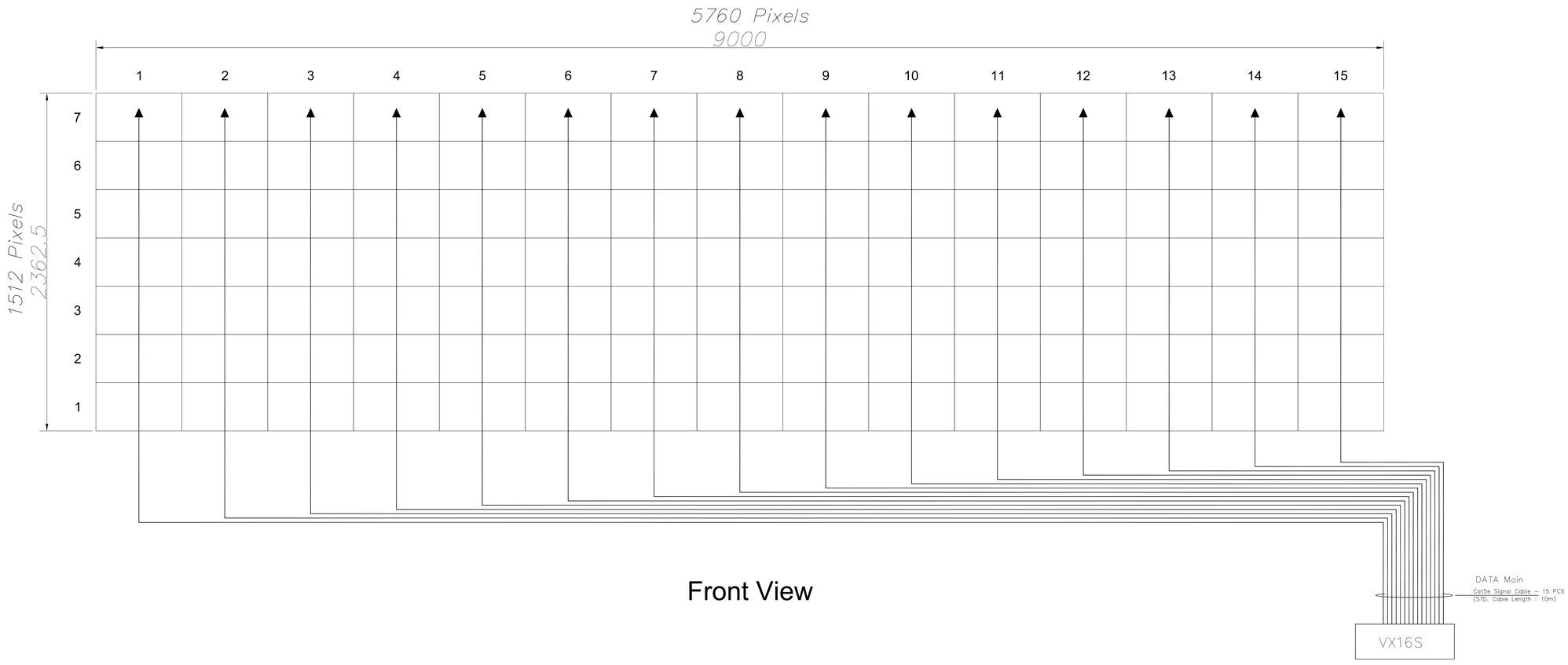
DATE. 2024.03.26

PRODUCT TYPE. A

SHEET NO. 003

A3(420x297mm +2mm)

Data Diagram



Front View

INFiLED
Screen your dreams

PROJECT TITLE

WP1.56-9000mmX2362.5mm-Cabinets -Europe Project-V1.0

NOTE

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REVISIONS	CONTENT	DATE

DRAWN BY Jun

DESIGNED BY Jun

CHECKED BY ★Pepsi★

APPROVED BY

DRAWING. TITLE

WP1.56-9000x2362.5mm-Cabinets

DRAWING NO. FA240341

VERSION. V1.0

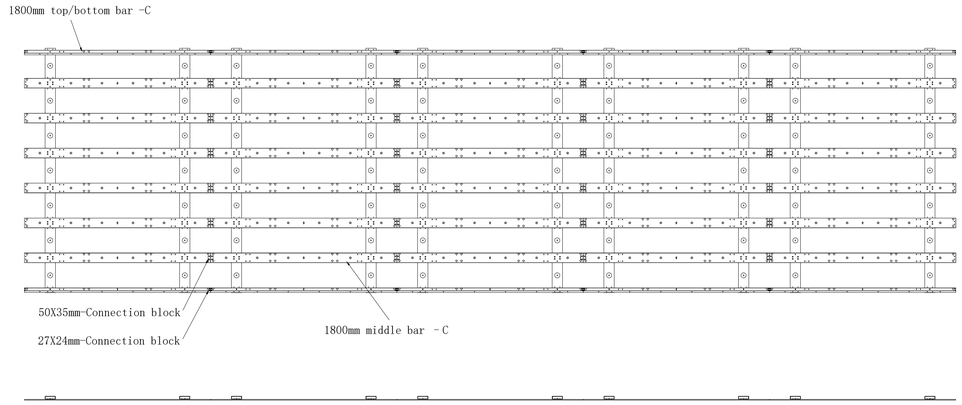
SCALE. 1 / 1

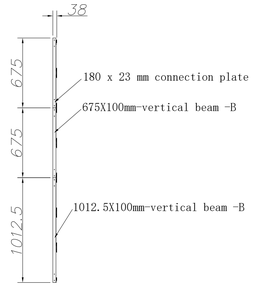
DATE. 2024.03.26

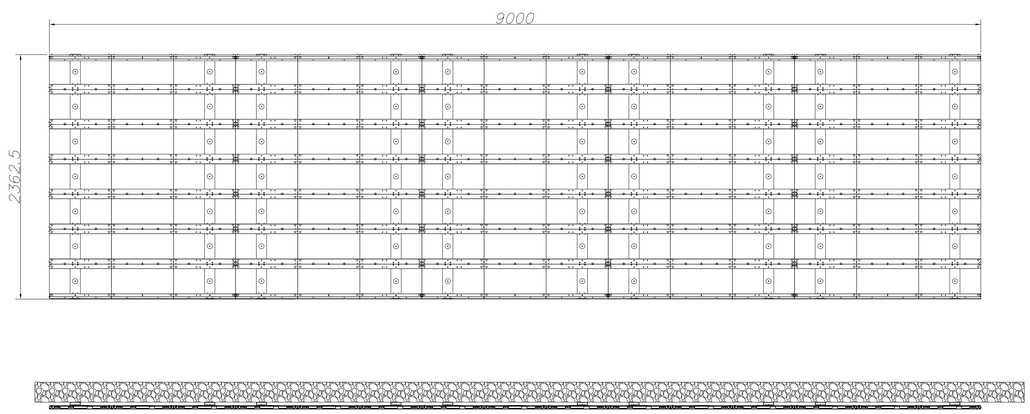
PRODUCT TYPE. A

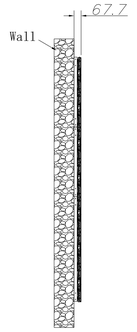
SHEET NO. 004

A3(420x297mm +2mm)









Remarks:

No.	Name	Diagram	Qty
1	1800mm top/bottom bar -C		10 EA
2	1800mm middle bar - C		30 EA
3	675X100mm-vertical beam -B		20 EA
4	1012.5X100mm-vertical beam -B		10 EA
5	50 x 35 mm connection block		24EA
6	27 x 24 mm connection block		8 EA
7	180 x 23 mm connection plate		40 EA

INFiLED

Screen your dreams

PROJECT TITLE

WP1.56-9000mmX2362.5mm-Cabinets -Europe Project-V1.0

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REVISIONS	CONTENT	DATE

DRAWN BY: Jun

DESIGNED BY: Jun

CHECKED BY: ★Pepsi★

APPROVED BY:

DRAWING. TITLE: WP1.56-9000x2362.5mm-Cabinets

DRAWING NO. FA240341

VERSION. V1.0

SCALE. 1 / 1

DATE. 2024.03.26

PRODUCT TYPE. A

SHEET NO. 005

A3(420x297mm +2mm)

Saturno 150

Luminaria de 156cm de diámetro en perfil de aluminio lacado en blanco texturado o lacado negro texturado con iluminación mediante tira led en 3000ºK - 4000ºK - 6000ºK.

En comparación con los modelos de 60-90-120cm, este modelo se suministra en 4 partes diferentes debido a su tamaño.

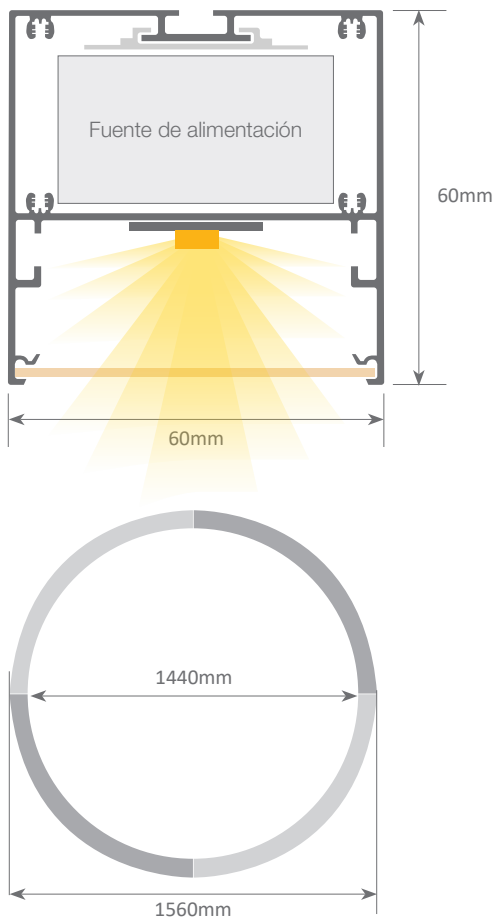
Se puede usar en superficies o para aplicaciones colgantes (usando kits colgantes)

El florón con referencia 46.015 se suministra bajo demanda y se utiliza cuando utilizamos más de un aro en una misma composición.

● Lacado blanco texturado y lacado negro texturado.

REFERENCIAS	COLOR DEL PERFIL	MEDIDAS	POTENCIA	LUMENS	COLOR TEMPERATURA (ºKELVIN)	CRI	FUENTE DE ALIMENTACIÓN
80.019	Blanco	Ø1560mm	80W	9300 Lm	3000ºK	>80	Interna
80.020	Blanco	Ø1560mm	80W	9800 Lm	4000ºK	>80	Interna
80.021	Blanco	Ø1560mm	80W	10200 Lm	6000ºK	>80	Interna
80.022	Negro	Ø1560mm	80W	9300 Lm	3000ºK	>80	Interna
80.023	Negro	Ø1560mm	80W	9800 Lm	4000ºK	>80	Interna
80.024	Negro	Ø1560mm	80W	10200 Lm	6000ºK	>80	Interna

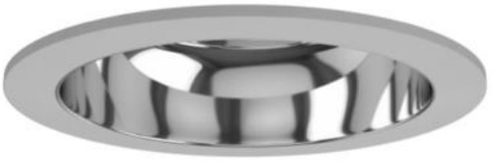
** (Lm) Los datos reflejados en la tabla pueden sufrir variaciones según fabricación.*



Plugins disponibles

Innovation made in Spain

DOWNLIT



LUXINTEC

Mejora tu confort visual

MODELOS

Reflector o Cierre

	XO UGR19	XO UGR16	HE UGR22	HE UGR19
R				
Q				

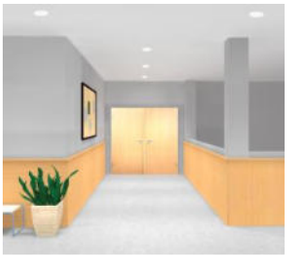
Color

	Blanco	Gris	Negro
R			
Q			

TIPOS DE ILUMINACIÓN

LUGARES DE APLICACIÓN

Circulaciones

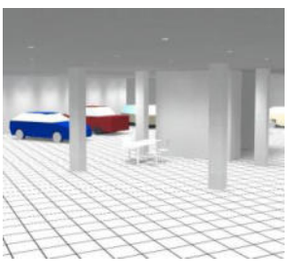


Oficinas

Aeropuertos

Tiendas

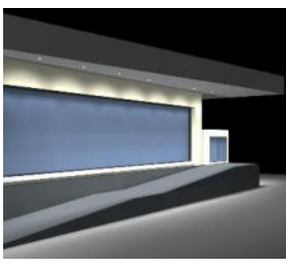
Concesionarios



Salas de conferencias

Restaurantes

Voladizos



CARACTERÍSTICAS

- Reflector de aluminio de alta conductividad térmica
- Opción IP44 con cierre de metacrilato
- Alto confort visual

XO

Disipación óptima del calor con hasta L80B50 120.000 horas a 25ºC

LED de alto rendimiento hasta 113 lm/W

Opción de muy bajo deslumbramiento UGR16

Sistema óptico **XQUARE OPTICS** con alto aprovechamiento de la luz

HE

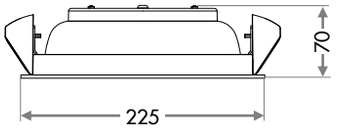
Disipación óptima del calor con hasta L80B50 84.000 horas a 25ºC

LED de máximo rendimiento hasta 150 lm/W

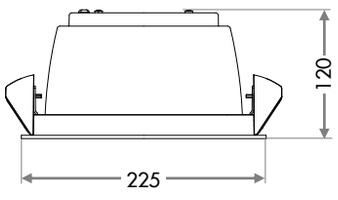
Sistema óptico difusor para luz extensiva

DIMENSIONES mm

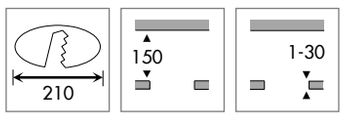
R



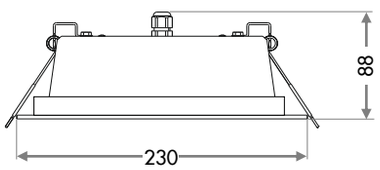
XO UGR19 (mod. DRXS)
HE UGR22 (mod. DRHS)



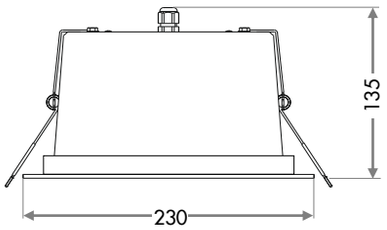
XO UGR16 (mod. DRXL)
HE UGR19 (mod. DRHL)



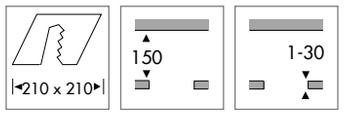
Q



XO UGR19 (mod. DQXS)
HE UGR22 (mod. DQHS)



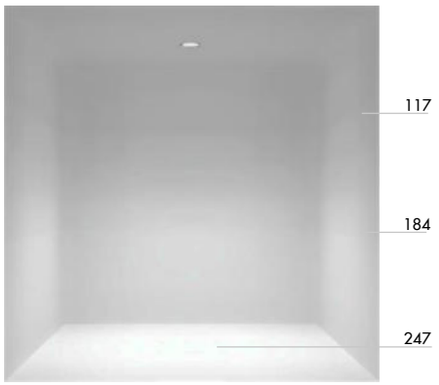
XO UGR16 (mod. DQXL)
HE UGR19 (mod. DQHL)



COMPARATIVA DE ILUMINACIÓN

Óptica D

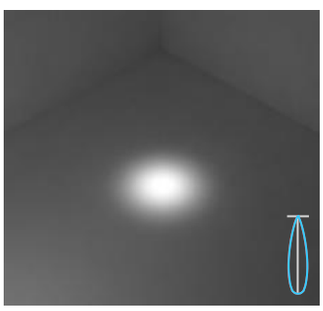
XQUARE OPTICS Q9



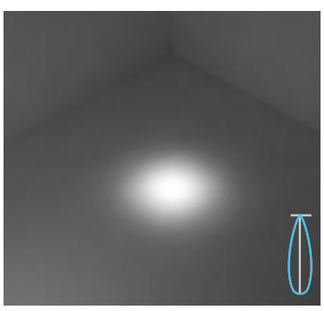
Valores en lux a 3 m de altura para DOWNLIT R HE UGR22 IP44 50W y DOWNLIT R XO UGR19 IP20 40W, 4000K IRC 80+.

FOTOMETRÍAS

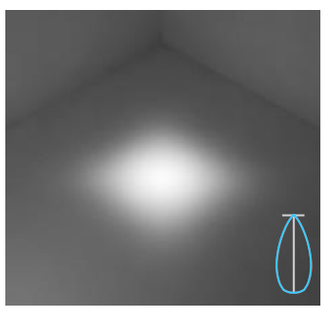
XQUARE OPTICS S1 15°



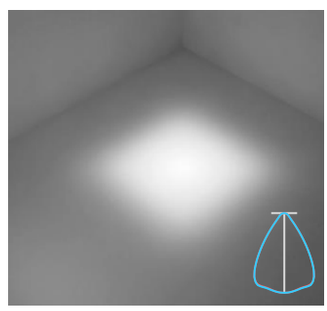
XQUARE OPTICS Q3 30° x 30°



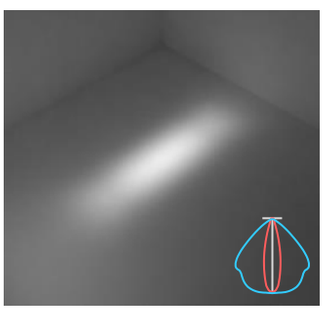
XQUARE OPTICS Q6 60° x 60°



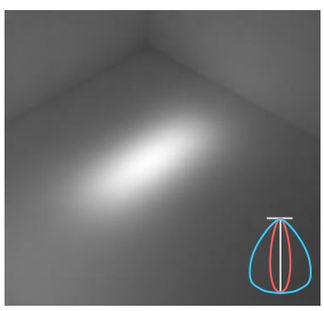
XQUARE OPTICS Q9 90° x 90°



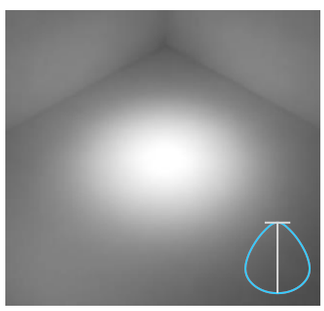
XQUARE OPTICS R1 15° x 90°



XQUARE OPTICS R3 30° x 90°



D 90°



Curvas polares: — 0° - 180° — 90° - 270°

FLUJOS LUMINOSOS

VERSIÓN [1]	POTENCIA (W)	3000K IRC 80+ FLUJO LUMINOSO (lm)	3000K IRC 80+ EFICIENCIA LUMINOSA (lm/W)	4000K IRC 80+ FLUJO LUMINOSO (lm)	4000K IRC 80+ EFICIENCIA LUMINOSA (lm/W)
DOWNLIT XO UGR19 IP20 reflector blanco Óptica S1	27	2851	106	3001	111
	40	4276	107	4502	113
DOWNLIT XO UGR19 IP20 reflector blanco Óptica Q9	27	2554	95	2689	100
	40	3831	96	4033	101
DOWNLIT HE UGR22 IP44 reflector blanco Óptica D	25	3656	146	3744	150
	50	6926	139	7124	142

[1] Los modelos R y Q tienen el mismo flujo luminoso.

Valores típicos a 25ºC de temperatura ambiente. Flujo total de luminaria. Acceda a www.luxintec.com para conseguir archivos fotométricos de todas las versiones.

OTRAS CARACTERÍSTICAS

MATERIALES	Aluminio de alta conductividad térmica en reflector-disipador Aluminio en marco modelos R, y acero en marco modelos Q Polímero de alta transmitancia en difusores **XQUARE OPTICS** Acero en sistemas de fijación Metacrilato en cierre IP44
ACABADOS	Pintura electroestática de alta resistencia y durabilidad en marco Blanco mate en embellecedor **XQUARE OPTICS** Metalizado o pintado en reflector
TIEMPO DE VIDA DE MOTOR DE LUZ	XO: 80.000 horas L80B10 y 120.000 horas L80B50 HE: 66.000 horas L80B10 y 84.000 horas L80B50
TIEMPO DE VIDA DE FUENTE DE ALIMENTACIÓN	> 50.000 horas
Tª AMBIENTE DE FUNCIONAMIENTO	-30ºC hasta 40ºC
CONSISTENCIA DE COLOR	SDCM < 3
TIPO DE ALIMENTACIÓN	230V AC 50..60Hz con fuente de alimentación remota. Motor de luz a corriente constante hasta 1400mA
CONEXIONADO	Conector rápido a fuente de alimentación remota
PESO	800 gr

CONFIGURADOR DE PRODUCTO **WEB**

CODIFICACIÓN DE REFERENCIAS

		REF.	DESCRIPCIÓN		DISPONIBLE PARA
01	MODELO	DRXS DRXL DRHS DRHL	**DOWNLIT R**	**XO UGR19** **XO UGR16** **HE UGR22** **HE UGR19**	
		DQXS DQXL DQHS DQHL	**DOWNLIT Q**	**XO UGR19** **XO UGR16** **HE UGR22** **HE UGR19**	
02	IP	O	IP20		DRXS – DRXL – DRHL – DQXS – DQXL – DQHL
		Q	IP44		DRXS – DRHS – DQXS – DQHS
03	POTENCIA	25	25W		DRHS – DRHL – DQHS – DQHL
		27	27W		DRXS – DRXL – DQXS – DQXL
		40	40W		
		50	50W		DRHS – DRHL – DQHS – DQHL
04	EQUIPAMIENTO ELÉCTRICO	F	No regulable		Todos
		D	Regulable DALI		
05	COLOR DE LUZ	3	3000K		Todos
		4	4000K		
06	IRC	A	80+		Todos
07	ÓPTICA	S1	**XQUARE OPTICS** ~ 15°		DRXS – DRXL – DQXS – DQXL
		Q3	**XQUARE OPTICS** ~ 30° x 30°		
		Q6	**XQUARE OPTICS** ~ 60° x 60°		
		Q9	**XQUARE OPTICS** ~ 90° x 90°		
		R1	**XQUARE OPTICS** ~ 15° x 90°		
		R3	**XQUARE OPTICS** ~ 30° x 90°		
		D	Difusora		DRHS – DRHL – DQHS – DQHL
08	COLOR DEL REFLECTOR	M	Metalizado		DRHL
		B	Blanco		Todos
09	COLOR DE MARCO	C	Blanco texturado		Todos
		H	Gris texturado		
		O	Negro texturado		

ⓘ Otras características a medida bajo pedido

DOWNLIT es un producto fabricado para cumplir con las normativas y recomendaciones UNE 12464, UNE 12193 y EN 60598 bajo las normas ISO 9001, ISO 14001 y UNE 166002. Todos los valores especificados son valores promedio a 25ºC de temperatura ambiente.

Lumens®

NDI HX2

VC-A51PN

FHD NDI HX PTZ Camera

FHD 1080p | 20x | 3G SDi | PoE+

1080p 60fps PTZ camera with 20x optical zoom, NDI, HDMI and 3G-SDI.

Lumens VC-A51PN is a superb NDI-enabled camera which is ideal for live events, remote production and video studios. It provides NDI HX output and offers multiple streaming protocols such as RTSP, RTMP, RTMPS and SRT. The camera works seamlessly with popular services such as YouTube and Facebook and production systems including OBS, Wirecast, TriCaster and vMix.

Key Features

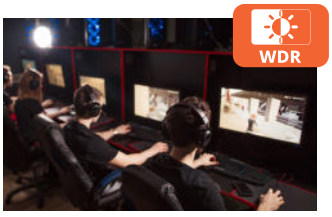
- Professional Sony image sensor
- Simultaneous NDI HX, HDMI, and 3G-SDI video output
- Supports 1080p at 60fps
- Versatile 20x optical zoom
- 5-year warranty*

Live and Remote Production

Featuring HDMI and 3G-SDI outputs, the VC-A51PN can seamlessly fit into almost any AV, broadcast, or IP workflow. Utilizing NDI HX, the VC-A51PN enables video production and distribution over standard Ethernet networks. With NDI HX, the VC-A51PN can instantly join the live production environment and bridge the remote film crews.

Versatile Network Distribution

The VC-A51PN produces a high-quality, low latency NDI HX video stream. It also supports multiple streaming protocols including RTSP, RTMP, RTMPS and SRT for distribution across networks and transmission to remote audiences. No additional hardware and software are required to stream directly to live streaming platforms such as YouTube and Facebook Live.



Excellent Low-Light Performance

The VC-A51PN features a high sensitivity 1/2.8" 2.16MP Sony CMOS sensor. Thanks to its superb WDR (wide dynamic range), 3D noise reduction, advanced auto-focus, and auto-white balance algorithms, the camera produces crisp and clean video even in dimly lit environments.

Fast, Smooth & Quiet PTZ Movement

The VC-A51PN's robotic mechanism allows the camera to pan -170° to +170° and tilt from -30° to +90° in a rapid, smooth and quiet movement at up to 300° a second. The operator can use a hardware controller or NDI Tools to remotely control the speed and direction of motion for professional results.

Applications

Broadcast

Streamline remote workflows and broadcast events in real-time to on-site and remote audiences.

Esports

Connect globally with fans on popular live streaming platforms, such as Twitch.

House of Worship

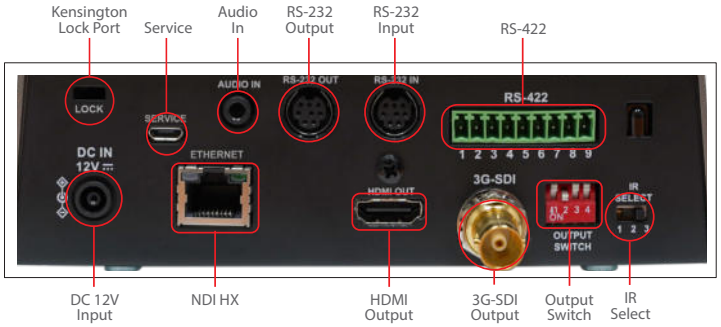
Livestream worship services online. An easy way to keep your congregation engaged.

Product Specifications

Camera	
Sensor	1/2.8" 2.16MP CMOS
Video Format	1080p: 60 / 59.94 / 50 / 30 / 29.97 / 25 1080i: 60 / 59.94 / 50 720p: 60 / 59.94 / 50
Video Output (HD) Interface	3G-SDI / HDMI / Ethernet
Optical Zoom	20x
Viewing Angle	57° (H) 32.1° (V) 65.4° (D)
Aperture	F1.6~F3.8
Focal Length	5.33mm~110mm
Shutter Speed	1/1 ~ 1/10,000 sec
Minimum Object Distance	1.5m (Wide/Tele)
Video S/N Ratio	> 50dB
Minimum Illumination	1.0 lux (F1.6, 50IRE, 30fps)
Focus System	Auto / Manual / Smart AF
Gain Control	Auto / Manual
White Balance	Auto / Manual
Exposure Control	Auto / Manual
WDR	Yes
3D NR	Yes
Image Flip	Yes
NDI Genlock	Yes
Tally Light	Yes
Pan & Tilt	
Panning Angle	+170° ~ -170°
Panning Speed	300° / sec
Tilting Angle	+90° ~ -30°
Tilting Speed	300° / sec
Preset Positions	128

Output	
HDMI / 3G-SDI	1080p60
IP Stream	(NDI HX Stream) 1080p 60fps, 640x360 30fps (IP Stream) H.264 1080p 60fps H.264 / MJPEG D1 30fps
IP Compression	H.264 / MJPEG
Network	
IP Protocol	NDI HX2 / RTSP / RTMP / RTMPS / MPEG-TS / SRT
PoE	PoE+ (IEEE802.3at)
Audio	
Input	Line In / MIC In
Output	Ethernet / SDI / HDMI
Compression Format	AAC / G.711
Camera Control	
Interface	RS-232 / RS-422 / Ethernet
Protocol	NDI / VISCA / VISCAIP / PELCO D / ONVIF
IR Pass-through	Yes
IR Receiver	Yes
IR Remote Control	Yes
General	
DC In	12V +/- 20%
Power Consumption	PoE: 18.5W DC In: 17W
Weight	4.4 lbs (2 kg)
Dimensions (W x H x D)	6.9" x 7.3" x 7.3" (174 x 186 x 187 mm)

I/O Connections



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VC-BC601P 1080p Box Camera

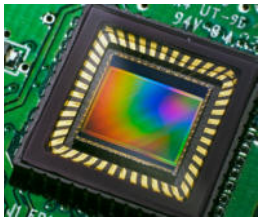
Lumens® VC-BC601P is 1080p 60fps and 30x optical zoom High Definition block camera. The VC-BC601P contains HDMI 2.0, Ethernet, 3G-SDI output in a compact design and support triple stream and PoE, which is ideal for house of worship, education, sports production, broadcast television, news/weather-casts, corporate video, courtroom capture, live streaming, and a variety of ProAV applications.

Key Features

- 1080p 60fps
- 30x optical zoom, 68 degrees horizontal viewing angle
- HDMI, 3G-SDI and Ethernet video outputs
- Triple stream video, support HEVC(H.265) / H.264 format
- Supports RTSP / RTMP / RTMPS / MPEG-TS / SRT streaming protocol
- Supports PoE (Power over Ethernet)
- Supports Line/MIC audio input

1080p 60fps | 30X Optical zoom | PoE | HDMI

More Details



FHD 1080p High Image Quality

The VC-BC601P is equipped with a professional 1/2.5 inch image sensor with FHD 1080p 60fps output resolution. The sensor provides high color reproduction, high-definition signals, and crystal-clear image quality.

Multiple Signal Interface

The VC-BC601P has multiple interfaces like HDMI, 3G-SDI and Ethernet for image outputs.

Supports PoE for Easy Installation

Power supplied through the PoE (Power over Ethernet) without additional power supply and cables that bring cost-effective and simple installation.

IP Streaming Format

Stream		1	2	3
Settings		HEVC(H.265)	H.264	H.264
Resolution		1080p / 720p	1080p / 720p	640x360
Frame Rate	60 Hz	60 / 30	60 / 30	30
	59.94 Hz	59.94 / 29.97	59.94 / 29.97	29.97
	50 Hz	50 / 25	50 / 25	25
Bit Rate		20000 kbps~2000 kbps	20000 kbps~2000 kbps	5000 kbps~512 kbps
Audio Transmission		G.711		
PoE		Yes		

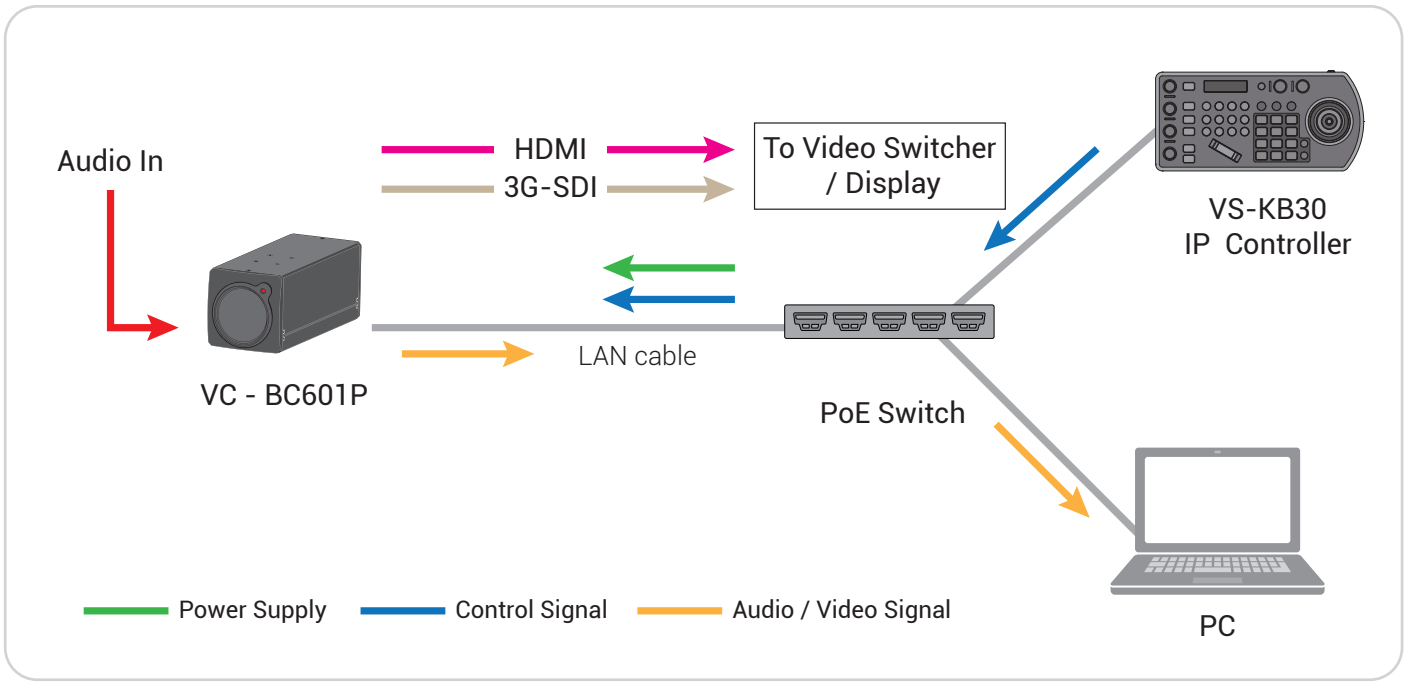
Product Specifications

Camera	
Sensor	1/2.5" 8.57 MP CMOS
Video Format	1080p : 60 / 59.94 / 50 / 30 / 29.97 / 25 720p : 59.94 / 50 / 29.97 / 25 1080i : 60 / 59.94 / 50
Video Output Interface	HDMI / 3G-SDI / Ethernet
Optical Zoom	30x
Digital Zoom	12x
Horizontal Viewing Angle	68°
Verticla Viewing Angle	38.3°
Diagonal Viewing Angle	78°
Aperture	F1.6 ~ F3.4
Focal Lengthst	4.6mm ~ 135mm
Shutter Speed	1/1 ~ 1/10,000 sec
Minimum Object Distance	1.5m (Wide / Tele)
Video S/N Ratio	> 50dB
Minimum Illumination	0.1 lux (F1.6, 50IRE, 30fps)
Focus System	Auto / Manual / Smart AF
Gain Control	Auto / Manual
White Balance	Auto / Manual
Exposure Control	Auto / Manual
WDR	Yes
3D NR	Yes
Image Flip	Yes
Tally Light	Yes
Preset Positions	256

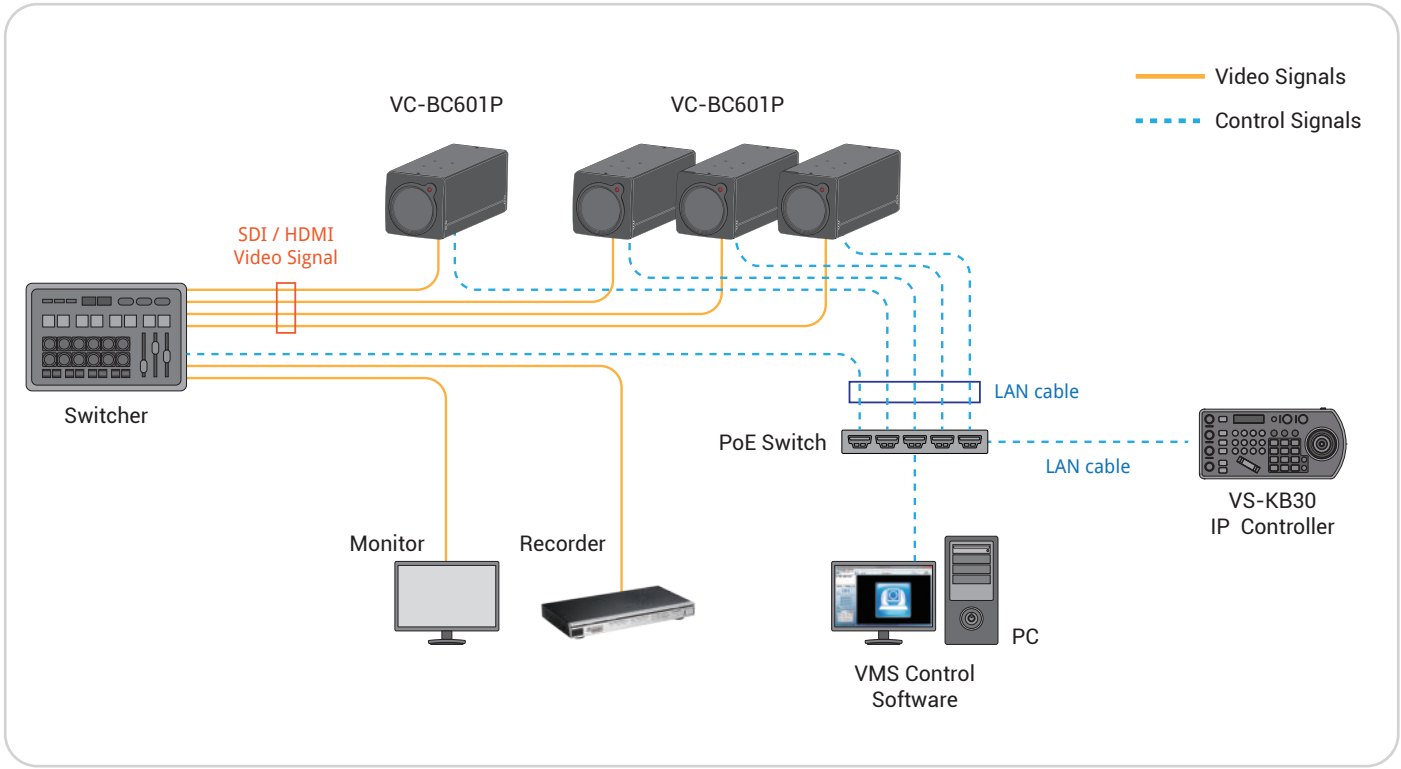
Output	
HDMI / 3G-SDI	1080p 60fps
IP Stream	HEVC(H.265) 1080p 60fps H.264 1080p 60fps H.264 640x360 30fps
IP Compression	H.264 / HEVC(H.265)
Network	
IP Protocol	RTSP / RTMP / RTMPS / MPEG-TS / SRT
PoE	PoE (IEEE802.3af)
Audio	
Input	Line In / MIC In
Output	Ethernet / HDMI
Compression Format	AAC / G.711
Camera Control	
Interface	RS-232 / Ethernet
Protocol	VISCA / VISCAIP / PELCO D / ONVIF
General	
DC In	12V +/- 20%
Power Consumption	PoE: 10.5 W DC In: 9.5 W
Weight	2.2 lbs (1 kg)
Dimension	7.4" x 2.6" x 2.6" (187 x 67 x 67 mm)

I/O CONNECTIONS

Single Camera Connection



Multi-Camera Connection



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