SOUND EXCELLENCE
MIXING CONSOLES

Lawo
50 YEARS OF FUTURE ENGINEERING

In 2020, Lawo celebrated 50 years of engineering the future. Founded Initially as an engineering office with a focus on audio and broadcast, the privately-owned corporation grew into an industry-wide accepted innovator who continues to actively shape the future of broadcast and media production. Applying all of Lawo's pioneering IP network, control, audio and video technologies, the company's current product portfolio includes IP control and monitoring systems, video processing and multi-viewer systems, digital audio mixing consoles, virtual mixing environments, routers, and solutions for IP-based A/V infrastructures and routing systems.

Lawo has earned its impeccable reputation in radio and TV broadcasting. Broadcasting to an audience of millions is only possible when ensuring a flawless source signal, which is why many Lawo technical solutions are focused exclusively on providing reference-quality sound. Lawo's sound is highly valued even among academic musicians, who can be called the most demanding users of audio equipment.

Lawo consoles meet the strictest requirements for fail-safety and reliability. Lawo systems are always built with full network redundancy and seamless protective switching (SPS) according to ST2022-7 Class C. If there is a connection issue, the console automatically switches over to the backup so quickly that the switchover is imperceptible. Lawo consoles are used at the highest levels of prestige, spectacle, and critical importance - situations where even the thought of a failure is inadmissible.

Lawo's audio mixing and routing systems are built on the principle of a decentralized computer network. If at some point a Lawo user needs to increase the number of channels or processing power, they can do so easily and quickly by adding new peripheral nodes to the network: input/output modules or DSP components. In this way, the needs of your audio production will never outgrow Lawo's capabilities, because Lawo will grow along with you.

mc² 96

MC²96 GRAND PRODUCTION CONSOLE.
CLEAN. ACCURATE. UNIQUE.

With the mc²96, the mc² platform is pushed beyond limitations, culminating in a pure, unparalleled audio production tool dedicated to those who can tell the difference. Whether it's intended to be used in broadcast, theater or recording – in each of these applications it stands out with a unique set of features. The mc²96 provides optimized performance within IP video production environments with native ST2110 support. In addition, the revolutionary LiveView™ feature enables thumbnail previews of video streams directly in the fader labeling displays.

- Universal console based on A_UHD Core technology
- Frame sizes with faders (from 28 to 208)
- Up to 1024 DSP channels
- Up to 256 summing buses
- Up to 128 AUX buses
- IP Easy - IP setup as simple as an analog console
- 48 and 96 kHz sampling rates
- Supported IP standards: ST2110, AES67, RAVENNA, DANTE®, Ember+, NMOS

mc² 96
MAIN FEATURES

BUILT-IN INPUTS/OUTPUTS

The built-in inputs/outputs of the mc²96 include 16 microphone/line inputs with Lawo class preamps, 16 line outputs, 8 AES3 inputs and outputs, 8 GPIO ports and a local MADI port based on SFP. The built-in switch has 4 Ethernet ports, and network connectivity is provided via two redundant ST2110/AES67/RAVENNA ports in accordance with the ST2022-7 Class C SPS protocols.
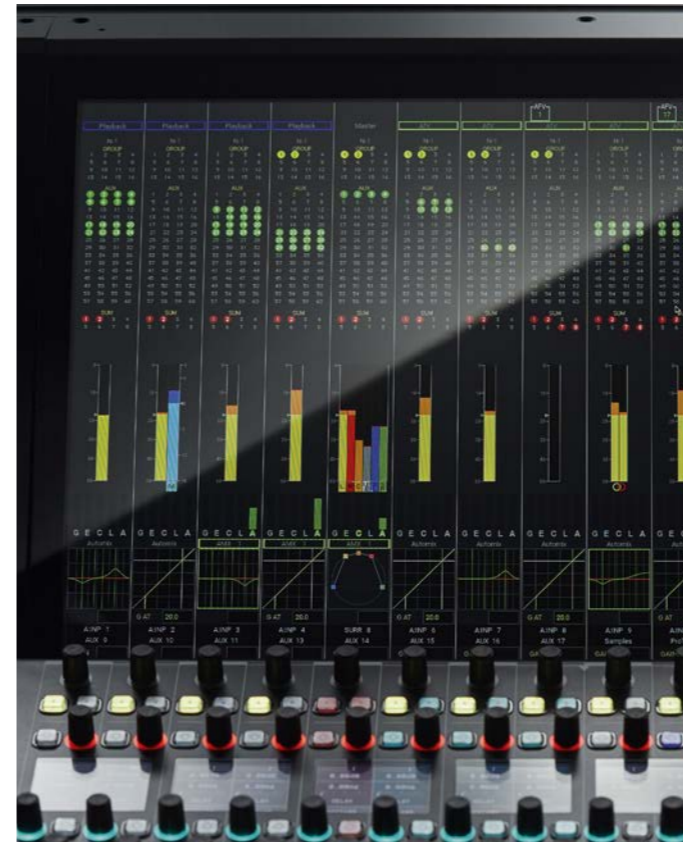
VIDEO LABELING WITH LIVEVIEW™

In addition to standard channel labeling with numbers, individual text labels, and static images or icons, the mc²96 stands out with LiveViewTM video thumbnails for even more intuitive channel identification. Simply touch a fader, and the LiveViewTM thumbnail will go full-screen, providing a more detailed view of the signal sources for that channel.

IP EASY – ANALOG SIMPLICITY

As an IP device based on the A__line UHD Core, the mc²96 incorporates Lawo's proprietary IP Easy feature, which makes any IP setup as simple as analog patching. The console automatically discovers devices and makes them available at the push of a button. In addition, basic device control includes all necessary security functions, such as access control and quarantining of devices unknown to the system.

CUSTOMIZABLE LEVEL METERING

The metering can be adapted specifically to your requirements by adjusting the channel display accordingly - simply choose the parameters that are important to you and hide any unnecessary or distracting elements. Channel levels will be shown on the HD display. Additionally, supplementary meters always allow you to see signal levels of other layers or streams.

mc² 56

AUDIO PRODUCTION CONSOLE.
FUTURISTIC. FLEXIBLE. POWERFUL.

This 3rd generation of the mc² 56 represents the next step in the evolution of a console that has dominated the audio production industry with hundreds of units in operation around the world. Designed to deliver unrivaled innovation, it provides not just pure and simple access to ultimate performance – it's a global standard redefined.

The mc² 56 incorporates several groundbreaking features from Lawo's mc² 96 flagship console, without sacrificing the identity of its predecessors – retaining virtues like compact size, flexibility and versatile design for applications ranging from broadcast trucks and studios to live performance and recording. The unique design of the mc2 56 combines large screens and low-profile meter scales, allowing for an ergonomic interface that does not obstruct the view from the sound engineer's position. The mc2 56 is equipped with ultra-modern 21.5-inch Full HD touchscreens, providing mechanical durability and ultra-precise control.

- Universal console based on A__UHD Core technology
- Frames with faders (from 16 to 144)
- Up to 1024 DSP channels
- Up to 256 summing buses
- Up to 128 AUX buses
- IP Easy - IP setup is as simple as in the analog version
- Sample rates 48 and 96 kHz
- Supported IP standards:
- ST2110, AES67, RAVENNA, DANTE®, Ember+, NMOS*

mc² 56
MAIN FEATURES
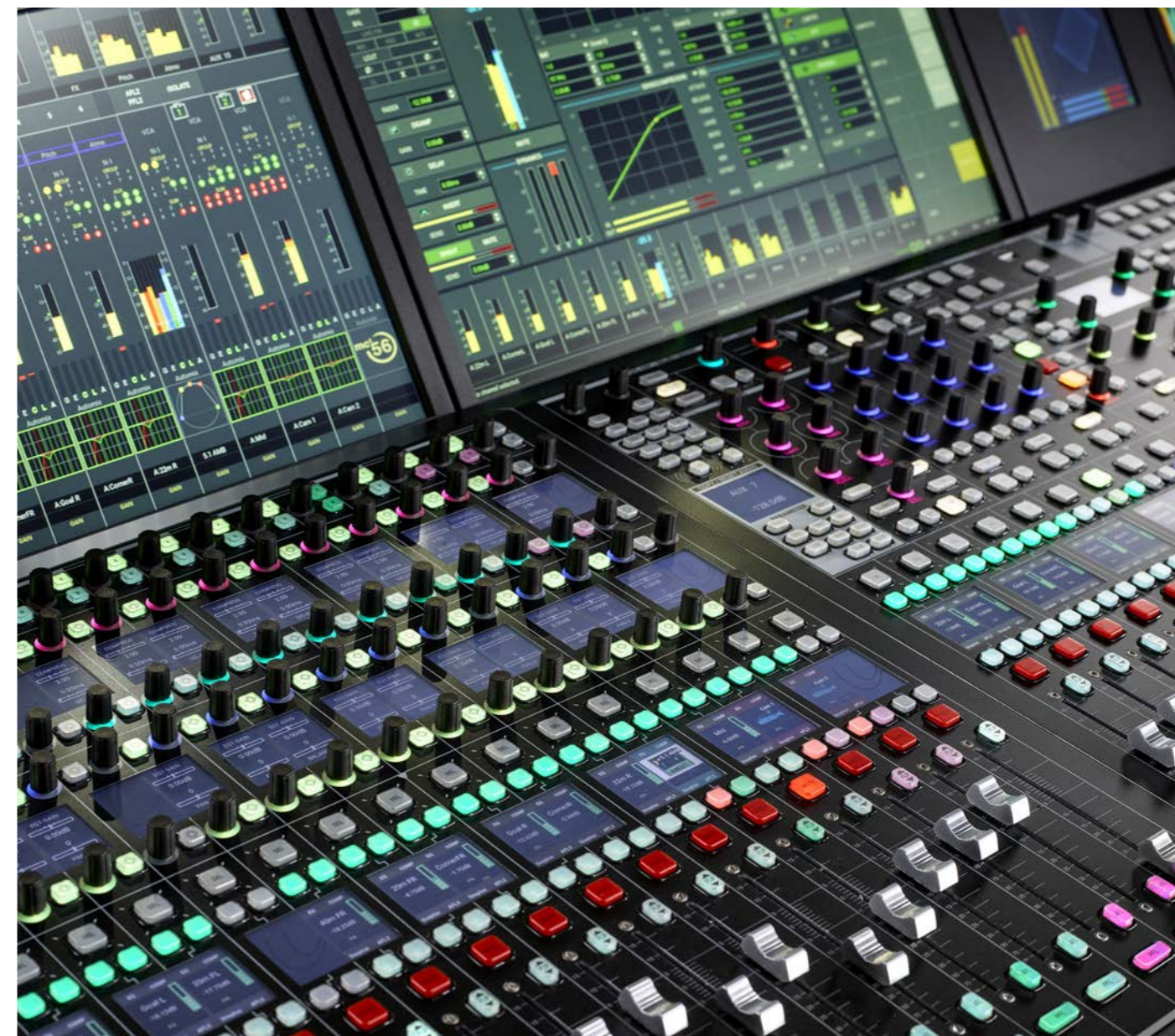

NOISELESS OPERATION

The console is optimized for low power consumption, allowing the cooling system to use quiet, slowly rotating fans. This is especially important in theaters and applications where intrusive fan noise could interfere with the performance.

LOCAL INPUT/OUTPUT REDUNDANCY

The console's local inputs and outputs are routed via two IP interfaces, which provide line redundancy when connecting to an A__UHD Core I/O node in accordance with the ST2022-7 standard for stream and port redundancy.

MULTI-USER INTERFACE

In multi-user mode, 64 rotary encoders and 16 faders provide direct access to all important functions and parameters. The console control interface can be configured so that not one, but two sound engineers have independent access to all functions and monitors.

ADVANCED CONTROL SECTION

The advanced control section of the new mc2 56 provides direct access to four parameters in addition to gain adjustment. As a result, we achieve the perfect balance between decentralized and centralized control processes. The console allows assigning both global and individual parameters to the free control elements of each channel strip.

mc² 36
THE ALL-IN-ONE.
ELEGANT. STUNNING. COSMIC.

The new mc²36 illustrates Lawo's desire to shrink the console footprint in every way possible, while relentlessly upping its feature set. This proud member of Lawo's tremendously successful mc²-series of control surfaces not only adopts a large chunk of an acclaimed feature set, it completely redefines what a compact mixing console for theater, houses of worship, corporate, live and broadcast audio applications must deliver.

An all-in-one console at heart, the new mc²36 is sleeker than its predecessor but boasts double the number of DSP channels, both at 48kHz and 96kHz. It delivers the same superb convenience as its larger siblings: all industry-standard audio inputs and outputs are built-in, with native IP connectivity at its center.

Powered by Lawo's A__UHD Core software-defined processing technology, this console delivers all the incredible flexibility offered by IP technology — but with intuitive tools that make setup and management as simple as in baseband days. The console is fully geared to handle any kind of remote application and provides easy deployment for on-site scenarios, including effortless point-to-point connectivity for A__stage IP stageboxes.

- Universal console based on A_UHD Core technology
- 864 inputs/outputs
- Built-in inputs/outputs, including Lawo-class microphone preamps
- 48 or 96 kHz sample rate
- Frames with 16 and 32 faders
- IP Easy - IP setup is as simple as analog connection
- 256 DSP channels
- Designed for IP-based systems with built-in support for all relevant IP standards

mc² 36
MAIN FEATURES

CONCENTRATION OF POWER

This is the most compact mc2 console ever created. At the same time, the new mc2 36 does not compromise any of the well-known qualities of the entire family of these consoles. It combines excellent sound quality with Lawo's renowned reliability and ease of use, while the console takes up little space, which is especially important if width is limited. With a minimum width of just 76.5 cm (16-fader mobile version), this console is perfectly suited for any installation requiring high performance in a confined space.

AUTOMATED MIXING ASSISTANTS

The mc²36's automated mixing capabilities include an Automix function that can automatically adjust the levels of active and inactive microphones, while maintaining a constant, natural sounding ambient level. This feature provides unique functionality especially in live productions with multiple presenters or performers. Automix can be used for any signals, from mono and stereo to multiple surround channels to minimize background noise and crosstalk with reduced sound coloration. Truncated sentences and late fade-ins are things of the past, enabling the sound engineer to focus on overall balance and sound quality. The console also features a Downmix function and Lawo's highly acclaimed AMBIT Upmix function, which guarantees perfect conversion of stereo signals into amazingly authentic surround sound using very few parameters.

LISTEN SENSE

Lawo's unique Listen Sense function allows an offline modification of channel parameters like EQ or dynamics. Unnoticed by the audience, a sound engineer can adjust the settings and listen to his result PFL. Once all is set, the engineer can switch the settings online. This allows unnoticeable sound adjustments, e.g. when a live set-up changes with no time for prior EQing of a channel.

WAVES® PLUGIN INTEGRATION

The Lawo mc² 36 offers best-in-class integration of Waves SuperRack SoundGrid® servers, providing a solution for extensive real-time signal processing in addition to the console's internal processing engine. The system gives operators access to Waves' extensive plug-in selection, allowing them to conveniently control plug-ins like reverbs, multi-tap delays, graphic equalizers or multiband compressors via the console's keyboard, touch-screen and rotary encoder. No additional screens or control devices are needed, which results in a clean working space and a minimum of external hardware. All plug-in settings can be easily stored and recalled with the console's snapshot and production files.

Modules

A_LINE

Up to 8192 inputs/outputs via RAVENNA, AES3, MADI and SDH/STM-1 interfaces in a 10U chassis. Online configuration allows system expansion even during live broadcasts. STAR topology provides maximum system redundancy and fault tolerance. HD technology offers resolutions up to 96kHz. Nova systems allow creation of very large routing systems by directly using off-the-shelf networks. Nova73 HD allows direct use of off-the-shelf networks. By interconnecting Lawo matrices over the network, practically unlimited scalability can be achieved.

A__UHD CORE

The next-generation sound processor for Lawo's mc2 series consoles. Its ultra-high processing density translates into 1024 mc2-class DSP channels that can be used either by a single mc2 console or shared across multiple consoles for efficient and ergonomic resource allocation. In addition to flawless DSP processing, A__UHD provides IP Easy functionality, which makes IP setup for Lawo mc2 consoles as simple as in the analog case. The functionality of A__UHD Core is defined by its software.

NOVA17

A digital router for small configurations. Small size, high performance, high quality - traits inherent to all Lawo routers. Whether broadcasting, concert or theater - thanks to the flexible Nova17 technology, it can be used for signal distribution, as a format converter or MADI patch bay. Nova17 supports up to 128 inputs/outputs and additionally up to six MADI ports for connecting another 384 channels. All channels are interlinked, plus monophonic routing is available for AES interfaces.

POWER CORE

A modular network I/O node for Lawo mc2 consoles, providing 64 inputs/outputs (or 128 channels when using MADI). The Power Core GATEWAY can be upgraded to a Power Core RP with DSP capabilities via a simple software update. The Power Core RP is a full-featured solution for mc2 audio consoles with built-in modular I/Os and enhanced DSP, including 64 full-featured signal processing channels and a complete set of remote channel parameter control functions: gain, fader, mute, EQ, dynamics, Aux Send levels, etc.

NOVA73HD

Up to 8192 inputs/outputs via RAVENNA, AES3, MADI and SDH/STM-1 interfaces in a 10U chassis. Online configuration allows system expansion even during live broadcasts. STAR topology provides maximum system redundancy and fault tolerance. HD technology offers resolutions up to 96kHz. Nova systems allow creation of very large routing systems by directly using off-the-shelf networks. Nova73 HD allows direct use of off-the-shelf networks. By interconnecting Lawo matrices over the network, practically unlimited scalability can be achieved.

NOVA73 COMPACT

A smaller version of the Nova73 HD with a compelling set of universal features. Up to ten I/O slots can be equipped with MADI, ATM or RAVENNA interface cards. Alternatively, the same slots can be assigned to two AES3 cards, allowing up to 64 AES channels to be directly accessible to the Nova73 compact. Fully equipped with five DSP cards, the Nova73 compact provides over 600 DSP channels at your disposal. The Nova73 compact uses the same interface cards and offers the same redundancy as the Nova73 HD.

POWER CORE GATEWAY/RP

A modular network I/O node for Lawo mc2 consoles, providing 64 inputs/outputs (or 128 channels when using MADI). The Power Core GATEWAY can be upgraded to a Power Core RP with DSP capabilities via a simple software update. The Power Core RP is a full-featured solution for mc2 audio consoles with built-in modular I/Os and enhanced DSP, including 64 full-featured signal processing channels and a complete set of remote channel parameter control functions: gain, fader, mute, EQ, dynamics, Aux Send levels, etc.

COMPACT ENGINE

This compact 1RU device offers an impressive set of analog and digital inputs/outputs for connecting to any external devices if you are interested in transitioning to IP but not ready to get rid of your legacy equipment. In addition to a powerful AoIP interface, the Compact Audio Engine has robust built-in DSP (EQ, dynamics processing, mixing, routing, delays, etc.). Using VisTool and a networked computer, you can create your own control panels or touchscreen mixing consoles to control your Compact Audio Engine.

Comparative characteristics

Console	mc² 36 mkII	mc² 56 mkIII	mc² 96
Frames	16 and 32	16—144*	24—200*
Faders	High-performance Lawo faders		
Processor	Integrated (mc2 SCore)	A__UHD Core	
DSP Channels	256	up to 1024	
Engines	HD + technology for precise determination of PCI		
Built-in EQs/Compressors	1	4	6
Multi-operator ability	no	yes	
Channels per fader	32	80	112
Snapshot saving/instant reset	yes	no	yes
LiveView™	yes		
Inputs/Outputs	16 microphone/line inputs Lawo 16 line outputs 8 AES3 outputs 8/8 GPIOs 1 MADI (opt. redundant SFP)		
Additional connectors	XLR	Sub-D	XLR
Internal redundant PSU	yes	yes	yes
Numbering of user panels	-	2 (c RTW) 1 (c RTW TM7) 0 (c RTW TM9)	2 + RTW TM9
3D audio controllers	yes		
Trackout directly to parallelized/summerized	yes		
Autostemming	yes		
Dynamic automation TC	no	yes	

*Frames can be combined

**Thumbnail displays of all console channels

Lawo's technology

Lawo's technology has had a significant impact on the audio and video industry, revolutionizing production processes and setting new standards for quality and efficiency. Lawo designs and manufactures cutting-edge IP-based video and audio technology for broadcast production, live performance, and theater application.

Their products, developed in Germany according to the highest quality standards, have been instrumental in enabling world-class content production by leading innovation in media infrastructure, cloud, and workflow solutions.

Lawo's commitment to open standards like ST2110, AES67, RAVENNA, and Ember+ has not only facilitated interoperability but has also driven the industry towards embracing IP-based solutions for audio and video production.

Their innovative solutions, such as the V__matrix platform for IP-based video and audio processing, have been adopted by major broadcasters and production facilities worldwide, enhancing the efficiency and flexibility of production workflows.

Furthermore, Lawo's involvement in projects like the delivery of full-IP OB trucks to RTBF and collaborations with broadcasters like RTL Belgium and VRT demonstrate their continuous efforts to push the boundaries of technology in the industry.

By investing in IP broadcast control, video-over-IP products, and advocating for open IP standards, Lawo has positioned itself as a pioneer in IP development for broadcast applications, shaping the future of audio and video production.

In summary, Lawo's technology has not only transformed the way audio and video content is produced but has also played a crucial role in advancing the industry towards more efficient, flexible, and high-quality production workflows.

Theater/Live

Pioneering solutions for unbridled artistic license. Lawo is highly appreciated among the creative crowd, not least because of a truly pristine sound quality that turns every event into an unforgettable experience.

Today's mc² console generation is deeply rooted in this philosophy. With their state-of-the-art technology, these mixing consoles pave the way for an intuitive approach to increasingly daunting demands and expectations in the light of ever scarcer preparation time.

Anyone who has been following the opera, concert, theater and event scenes for a while will confirm that Lawo has become a household name in New York, Saint Petersburg, Beijing, Paris, Berlin, Ravenna, Hamburg, Zurich, and beyond.

Lawo furthermore offers a conductor camera solution for accomplished performances in distributed configurations. This solution is also used by music conservatories and other institutions.

Anyone who has been following the opera, concert, theater and event scenes for a while will confirm that Lawo has become a household name in:

- New York City
- Saint Petersburg
- Beijing
- Paris
- Berlin
- Ravenna
- Hamburg
- Zurich
- And Beyond

PHILHARMONIE DE PARIS

«Clear as Bell»

«The mc² 56 has a transparent, pristine sound that is as clear as a bell,» says Didier Panier, the Head of the in-house recording department at Philharmonie de Paris. He also offers an inside look into the majestic Philharmonie de Paris building complex.

Mixing requirements for modern Houses of Worship are every bit as demanding as those for live theater, recording studios, arenas and other large performance venues.

That's why audio professionals increasingly recommend and specify Lawo audio-over-IP mixing systems for HoW applications. Lawo systems are powerful, flexible, and scalable; based on strict adherence to the SMPTE ST2110/AES67/RAVENNA standards, ensuring current and future interoperability with the latest IP-audio and IP-video systems — a must for live worship services and simultaneous viewing at remote venues as well as for on-demand replays.

ZURICH OPERA: SEASON SAVED WITH IP REMOTE
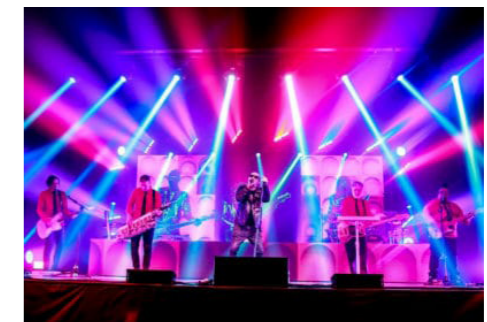

INSIDE LOOK INTO PHILHARMONIE DE PARIS

BEST LIVE SOUND – BASTILLE DAY 2016 IN PARIS

TWIN4U – MONTY PYTHON'S SPAMALOT MUSICAL IN ANTWERP

MC² CONSOLES AND D&B SOUNDSCAPE AT THE RAVENNA FESTIVAL

LUCA CARBONI'S SPUTNIK TOUR WITH THE MC² 36 CONSOLE

Studio On-AirStudies

Radio has always been a hands-on business. Yet, the days of using a console where fixing a problem felt a lot like unscrewing a spark plug, licking it, putting it back and turning on the engine—in the hope that nothing explodes—are definitely over.
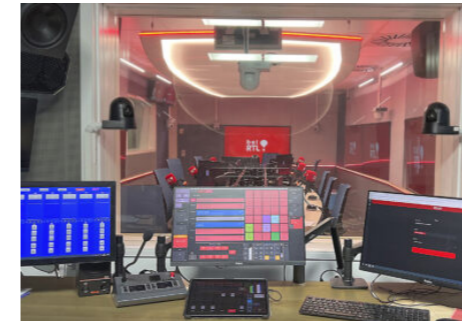
AES67-based Audio-over-IP is here to stay. And so is ST2022-7 seamless protection switching. A new generation of radio hosts simply expects the immediacy and intuitiveness of touchscreen-based systems for fast-paced radio. What's more: at regional stations, the great divide between radio and TV has all but vanished.

Lawo's radio consoles have been hybrids for years: remote controls that send instructions to a processing core, they also interact with on-screen software for just enough deep-dive control to keep the hosts' creative juices flowing.

And they can act as backup or full-time mixers in TV broadcast.

ST2110-based IP jumpstarts studio and broadcast facility operations. At election time, for instance, live reporting from a variety of locations implies a lot of switching operations that used to be labor-intensive and time-consuming. Today, pressing a single (physical or virtual) button links to a different location, sets up the vision and audio mixers, brings up the required audio and video feeds, re-routes camera control, reconfigures software-defined FPGA blades, and so on. International sporting, e-sports and entertainment events thrive on these attributes, too.

And we haven't even touched on global resource sharing that maximizes ROI. Or on moving edge devices from one studio to the next within seconds, which has become as simple as connecting a single cable to a different wallbox. Need to stand out in a fast-paced and fiercely disputed sector? Lawo has you covered.
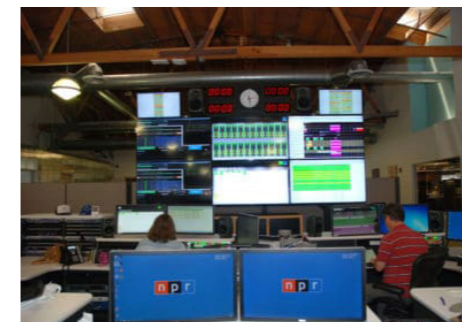

RTL BELGIUM

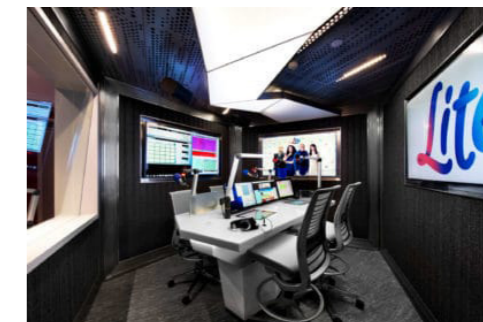MEDIAPARC: ENGAGING RADIO AND TV AUDIENCES ON ALL CHANNELS

RADIO ITATIAIA – AES67

SVERIGE RADIO NXG

NPR WEST FUTURE-PROOFS WITH LAWO

ASTRO RADIO: VIRTUAL CONSOLE TECHNOLOGY
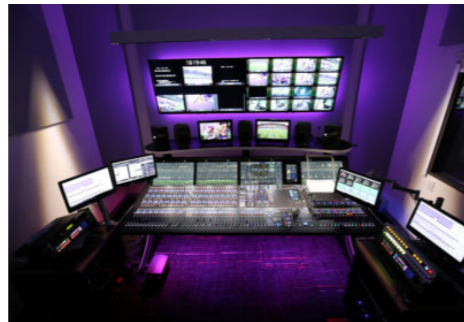
Facility Infrastructure

As far as audio and video sources are concerned, the sky seems to be the limit. Playout scenarios are equally diversified. Having the underlying network act as a giant, flexible audio and video router therefore makes a lot of sense.

As the wall that used to separate TV from radio is slowly coming down, one network can serve all. And even inspire news ways of collaboration and cross-fertilization.

Enjoy the freedom of novel, efficient workflows, flexible up- and downscaling, sheer infinite expansion and a campus-, nation- or worldwide distributed workflow. Lawo shows the way.

SIA/PMH JUPILER AND PROXIMUS LEAGUE

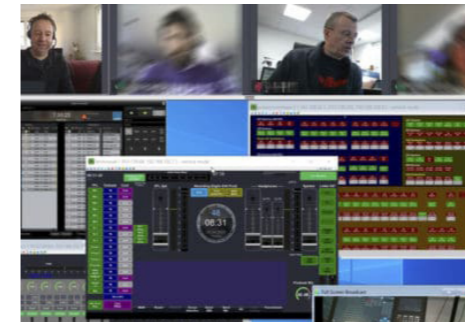

NEP ANDREWS HUBS, SYDNEY & MELBOURNE

Projects and Case Studies

MEDIAPARC: ENGAGING RADIO AND TV AUDIENCES ON ALL CHANNELS

ST2110 BOOSTS RCN WIN SPORTS+ – VIVA AMERICA LATINA

LAWO'S REMOTE ACTIVITIES IN TESTING TIMES

IP VIDEO INFRASTRUCTURE AT MOTOGP™

PLAZAMEDIA – IP FOR DYNAMIC RESOURCE POOLING

SIC IN PORTUGAL SHOWS THE WAY

Corporate/Institutional Installations
Project Overview

The supplier

Handling a massive number of audio and video signals without the need to know where they originate becomes possible when the underlying network acts as a giant, flexible audio and video router.

Absolute agility is in high demand at institutions and in the corporate sector where internal and external communication as well as in-house, on-the-fly content production are essential for a holistic journey. Multiple concurrent events are a given in these environments. So is intuitive, comprehensive and secure control.

Enjoy the freedom of novel, efficient workflows, flexible up- and downscaling, sheer infinite expansion and a campus-, nation- or worldwide distributed workflow. Lawo shows the way.

IP AUDIO FOR ESPORTS – INSIDE LAS VEGAS' HYPERX ARENA

EUROPEAN PARLIAMENT – IP TO KEEP EUROPEAN CITIZENS IN THE LOOP

LSG is a regional distribution company that provides a wide range of products and services for the entertainment industry. We work with leading manufacturers of equipment and software to offer our customers the latest solutions to their needs.

LSG was founded by the team of experienced professionals in the entertainment industry. Our goal is to provide our customers with the highest level of service and support so they can succeed in their business.

Our mission is to help our clients create unforgettable experience. We strive to make our customers happy with our goods and supplies, furthermore we are always ready to help them to achieve their goals.

Our values are

Expertise: We pride on our team of experts who have deep knowledge of the entertainment technology.

Partnership: We strive for long-term partnerships with our customers and stakeholders.

Innovation: We are constantly looking for new ways to improve our products and services.

LSG STAGE SYSTEMS

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