

mc²36



SMALL FOOTPRINT
BIG PERFORMANCE



SLEEK
STUNNING
STELLAR

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SMALL FOOTPRINT – BIG PERFORMANCE



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SMALL FOOTPRINT – BIG PERFORMANCE

SLEEK. STUNNING. STELLAR.

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 48 kHz and 96 kHz. 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 latest generation of 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.

Meet an IP native that combines the power of Lawo's A__UHD Core with its unrivaled sound processing quality, local I/O featuring Lawo-grade microphone pre-amps, and the most compact mc² console surface ever built. Meet the new mc²36.

* future release

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OVERVIEW

AT A GLANCE

- All-in-one console powered by A_UHD Core technology
- Built-in I/O incl. Lawo-grade mic pre-amps
- Frames with 16, 32 and 48 faders
- 256 DSP channels
- 864 channels I/O capacity
- 48 & 96^{*} kHz operation
- HOME – IP setup as simple as analog
- Designed for IP-based infrastructures with native support for all relevant IP standards: ST2110, AES67, RAVENNA, Ember+, NMOS^{*}

THE POWER OF DENSITY

It's the most compact mc² console ever built, but the new mc²36 doesn't compromise on any of its family's renowned qualities. It pairs outstanding audio quality with Lawo's highly acclaimed reliability and ease of use – at a footprint small enough for even the narrowest niche. Starting with a width of only 765 mm for the 16-fader OB Truck version, this console is the perfect fit for any installation that demands high performance in a limited space. Even the OB Truck 48-fader model is only 1275 mm wide.

HIGH PERFORMANCE FADERS

The new mc²36 features the same dust-proof long-life performance faders as the mc² 56, providing smooth and precise fades for a lifetime.

ENHANCED COLOR CODING

In addition to Button-Glow and colored touch-sensitive encoders, new color-TFTs allow for an even more obvious color-coding of the channel strips, resulting in enhanced visibility and faster access even in low light conditions.

A PERFECT SYMPHONY OF HARDWARE & SOFTWARE CONTROLS

The mc²36's unique design combines large screens with a low overbridge height to provide a more ergonomic profile without compromising an engineer's view. The console's super-precise 21.5" full HD touch-screens work hand-in-hand with the touch-sensitive color-illuminated rotary encoders. An equalizer window will automatically pop up when touching the equalizer encoders, and after adjusting the parameters, the auto-close function will close the window without additional user action to restore the full overview.

SUPER-PRECISE HD TOUCH-SCREENS

The new mc²36 features state-of-the-art capacity sensing 21.5" full HD touch-screens, providing mechanical robustness and super-precise control.

TOUCH-SENSITIVE COLOR-CODED ENCODERS

INPUT METERING

COLOR CODING

CUSTOMIZABLE FADER USER BUTTONS

LIVEVIEW™ VIDEO LABELS

In addition to standard channel labeling using channel numbers, individual text labels and static pictures or icons, the mc²36 inherited the mc²96's LiveView™ video thumbnails for even more intuitive channel identification. Simply touch a fader and the LiveView™ thumbnail changes to full-screen mode, providing a more detailed view of that channel's video source such as a camera or a replay machine.



REMOTE DESKTOP

Lawo's integrated Remote Desktop function allows to seamlessly integrate multiple external PCs running third-party solutions into the console's user interface. With the switch of a button, the external PC and its software applications are displayed on the console's screen, with the console's keyboard, touchpad and touchscreen providing control. The seamless integration of external recording systems, effects engines, or other user interfaces, means less equipment – and the engineer has control over the complete set-up, conveniently from a single, central position.



INTEGRATED LOUDNESS METERING

Originally requested for broadcast applications, Lawo has developed built-in loudness metering into a tool that is useful also in live, theater and house of worship applications. The feature provides full loudness control in accordance with ITU 1770 (EBU/R128 or ATSC/A85) and features peak and loudness metering either separately or in combination. In addition to the sums, Lawo Loudness Metering can also measure individual channels, which allows for fast and convenient “visual” mixing of sources like background singers, or multiple-microphone setups for brass sections, strings and choirs.

CUSTOMIZABLE OVERBRIDGE VIEWS

The console's overbridge can be adapted to your requirements by adjusting the channel display accordingly – just choose and display those parameters that are important and hide any unnecessary or distracting elements. The metering shows all fader levels permanently on the HD display. In addition, multi-row metering allows for permanent metering of signals from other layers or banks.

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CONNECTIVITY

REDUNDANT AUDIO-OVER-IP PORTS

The mc²36 features three redundant pairs of network I/O ports, supporting all relevant IP audio standards (ST2110-30/-31, AES67, RAVENNA) plus network redundancy with Seamless Protection Switching (SPS) via ST2022-7 Class C. Each network interface supports up to 256 audio channels, resulting in a total IP I/O capacity of 768 channels. In addition to standard IP networking, Lawo A__stage units can be connected point-to-point without any further network infrastructure.

The console's network interfaces are available in RJ45/SM/MM with Neutrik etherCON, Neutrik opticalCON DUO, HiCon HI-FIBER-4FD or Fiberfox EBC 1502 connectors providing ruggedized connectivity to external I/O devices.



LOW-NOISE DESIGN

The console is optimized for low power consumption, which allows the use of inaudible, low-spinning fans for cooling. This is especially important in environments such as quiet control rooms, where fan noise is obtrusive.

HOME

Being an IP-native device based on A__UHD Core, the mc²36 includes Lawo's HOME functionality which makes any IP setup as simple as analog. The console automatically detects devices and makes them available at the push of a button. Device management includes all required security features such as access control and quarantining of unknown devices. HOME is a management platform for IP-based media infrastructures designed to connect, manage and secure all aspects and instances of live production environments.

COMPREHENSIVE ONBOARD I/O

The mc²36's comprehensive local I/O features 16 Lawo-grade Mic/Line inputs, 16 Line outputs, 8 AES3 inputs and outputs, 8 GPIOs plus a local MADI port based on SFP.



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mc²36 – 16 Fader Version

mc²36 – 32 Fader Version



mc²36 – 48 Fader Version*
The compact 32-fader chassis with 16 additional faders in a dual-fader arrangement.

* Available as of Q3/2021

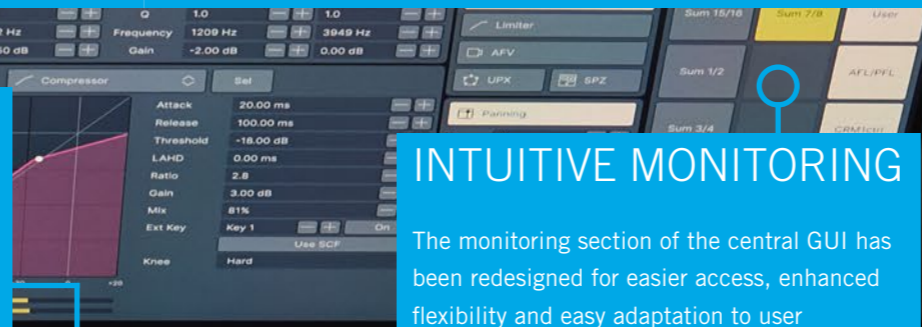
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CENTRAL CONTROL SECTION



PARALLEL COMPRESSION

Parallel compression, also known as New York compression, is a dynamic range compression technique achieved by blending a dry signal with a compressed version of the same signal. Rather than bringing down the highest peaks for the purpose of dynamic range reduction, it reduces the dynamic range by bringing up the softest sounds, which results in adding audible detail. Parallel compression can be applied in every channel, group, aux and sum of the mc²36.



INTUITIVE MONITORING

The monitoring section of the central GUI has been redesigned for easier access, enhanced flexibility and easy adaptation to user requirements.

IMMERSIVE BY NATURE

The mc²36 provides not only superb tools for surround sound mixing, but also a dedicated elevation controller as standard. This makes the mc²36 a future-proof choice for next generation audio formats such as MPEG-H and Dolby Atmos[®] as well as for immersive mixing in live sound applications.



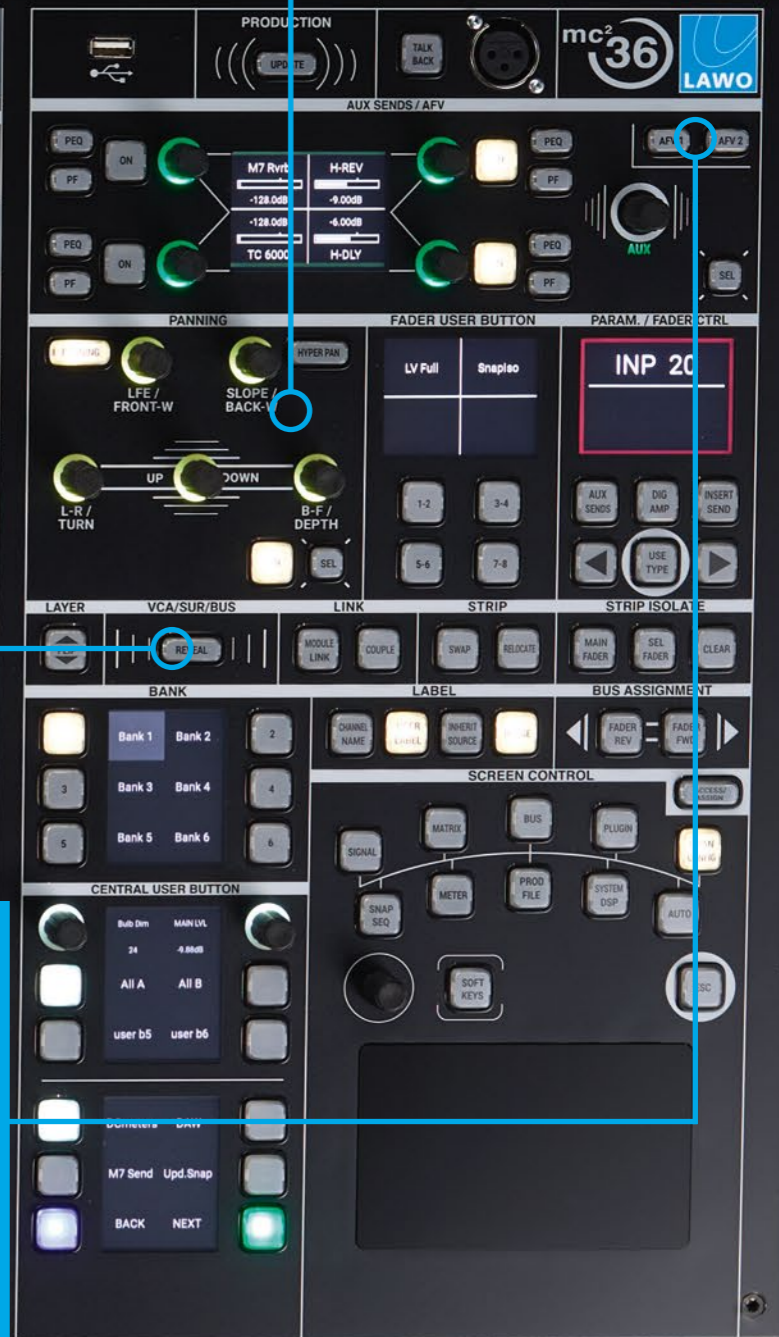
REVEAL & REVEAL IN PLACE

The Reveal function enables automatic input sorting of VCAs, subgroups and Auxes. When activating Reveal for a dedicated VCA/Sub/Aux fader, the console sorts all channels of that specific group at a pre-defined position, giving instant access no matter in which bank or layer the channels are originally based. For even quicker access, pressing and holding the Select button activates Reveal-in-Place. After deactivating Reveal, the console returns to its prior fader layout. This makes it possible to conveniently handle large productions without the need for dozens of faders.



AUDIO-FOLLOWS-VIDEO

Automated transitions and the perfect coupling of image and sound – all of this is provided by the mc²36's Audio-follows-Video function. Each camera tally is assigned to an event, which can be selected in one or more channels with a total of 128 available events. The Rise-Time, On-Time, Hold-Time, Max-Time and Fall-Time parameters can be used to set the processing envelope, creating amazingly smooth and natural sounding transitions from camera to camera.



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FEATURES

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. Last but not least, the mc²36 is set for KICK 2.0, Lawo's automated close-ball mixing solution for sports such as soccer or hockey.

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.

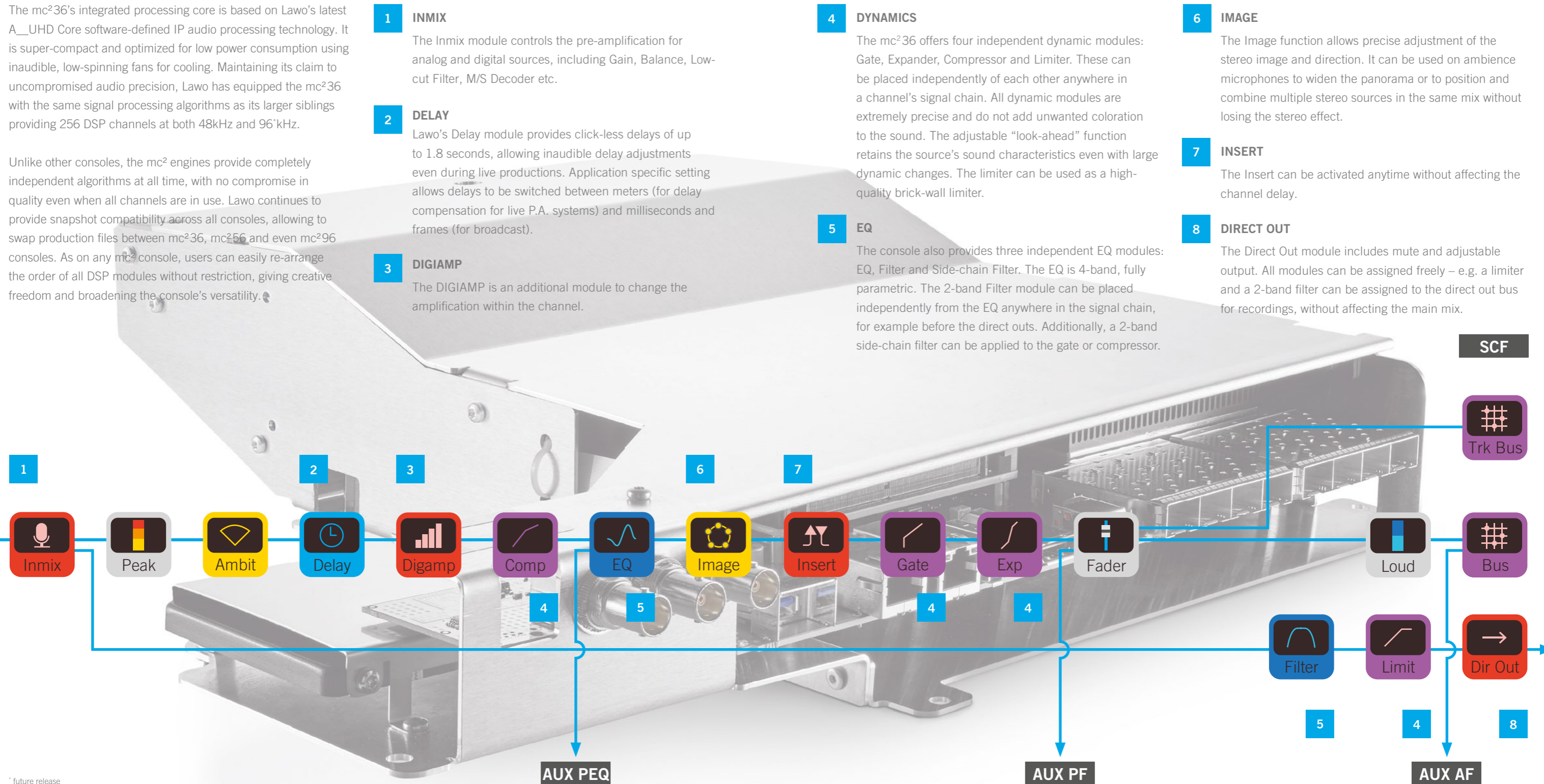
WAVES® PLUGIN INTEGRATION

The Lawo mc²36 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.

POWERED BY A__UHD CORE TECHNOLOGY

The mc²36's integrated processing core is based on Lawo's latest A__UHD Core software-defined IP audio processing technology. It is super-compact and optimized for low power consumption using inaudible, low-spinning fans for cooling. Maintaining its claim to uncompromised audio precision, Lawo has equipped the mc²36 with the same signal processing algorithms as its larger siblings providing 256 DSP channels at both 48kHz and 96kHz.

Unlike other consoles, the mc² engines provide completely independent algorithms at all time, with no compromise in quality even when all channels are in use. Lawo continues to provide snapshot compatibility across all consoles, allowing to swap production files between mc²36, mc²56 and even mc²96 consoles. As on any mc² console, users can easily re-arrange the order of all DSP modules without restriction, giving creative freedom and broadening the console's versatility.



HIGHLIGHTS FOR BROADCAST

- IP-based infrastructure with native support for all relevant IP standards: ST2110, AES67 and RAVENNA
- Advanced mix assist systems (AutoMix, UpMix, DownMix, prepared for KICK)
- Processing capacity with 256 DSP channels, 96 summing buses and 96 aux buses
- 48 & 96* kHz operation
- Comprehensive Audio-Follow-Video functionality
- LiveView™ video thumbnails
- Integrated 3D/Immersive mixing tools
- Parallel compression
- Integrated loudness metering
- Enhanced signal management functions for large productions (including swap and relocate)

HIGHLIGHTS FOR RECORDING & STREAMING

- Lawo-grade microphone preamps and processing algorithms
- Machine/DAW remote control
- Fully customizable signal chain with four independent dynamic modules
- Clickless-delay adjustments
- Parallel compression
- Ultra low-noise console design

HIGHLIGHTS FOR PERFORMING ARTS

- Selective Recall
- Oversnaps (relative trim-sets)
- Comprehensive theater automation cue list including multiple triggers (MIDI, GPIO, LTC, ...)
- Waves® Plugin Integration
- Workflow-specific customization of functionality and features
- Clickless-delay adjustments
- A/B input switch
- Cascaded/nested VCAs
- Integrated loudness metering for “visual” mixing

HIGH-QUALITY IP AUDIO I/O NODES

A_stage64 – WAN-capable Audio-to-IP Stagebox



- 19”/4RU frame
- 32x Mic/Line In; 16x Line Out; 8x AES3 In/Out; 1x MADI; 8x GPIO; WordClock
- 2x 1 GbE IP streaming ports (ST2022-7 Class C port and network redundancy)
- PTP <-> Wordclock conversion
- ST2110, AES67, RAVENNA
- On-board WAN capability

Power Core^{Gateway} – Modular IP Audio I/O Node



- 19”/1RU frame
- 64 I/O channels via modular I/O cards: Mic/Line In, Line Out, AES3 In/Out, Dante, MADI, GPIO, Studio
- 64 MADI I/O channels
- 2x 1 GbE IP streaming ports (ST2022-7 Class C)
- ST2110, AES67, RAVENNA
- On-board WAN capability

A_mic8 – High-quality Analog-to-IP Node



- 19”/1RU frame
- 8x Mic/Line In; 4x Line Out; 8x GPIO; WordClock
- 2x 1 GbE IP streaming ports (ST2022-7 Class C port and network redundancy)
- PTP <-> Wordclock conversion
- ST2110, AES67, RAVENNA

A_digital64 – AES3 Digital-to-IP Node



- 19”/3RU frame
- 32x AES3 In with SCR; 32x AES3 Out 1x MADI; 8x GPIO; WordClock
- 2x 1 GbE IP streaming ports (ST2022-7 Class C port and network redundancy)
- PTP <-> Wordclock conversion
- ST2110, AES67, RAVENNA

A_madi6 – MADI-to-IP Node



- 19”/1RU frame
- 3x independent MADI/IP bridges: 6x MADI; 6x 1 GbE IP streaming ports (ST2022-7 Class C port and network redundancy); WordClock
- PTP <-> Wordclock conversion
- ST2110, AES67, RAVENNA

AUDIO/VIDEO PROCESSING (SDI)

V_pro8 – 8-Channel Video Processing Toolkit

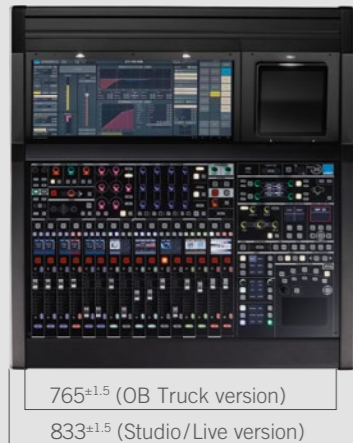


- 19”/1RU frame
- Redundant power-supplies
- 8 SDI in, 8 SDI out, 2 MADI, 1GbE
- Embedder/De-Embedder, Frame sync, Audio & video delays, Dolby® E auto aligner, Dolby® E encoding and decoding, LiveView Thumbnails, Sync generator, Timecode generator, AV sync measurement, Surround downmixer, ...

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SPECIFICATIONS

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765^{+1.5} (OB Truck version)
833^{+1.5} (Studio/Live version)

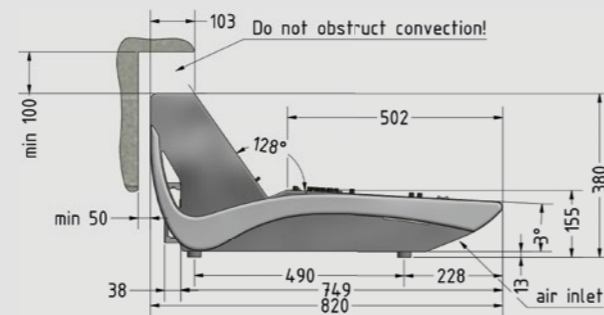
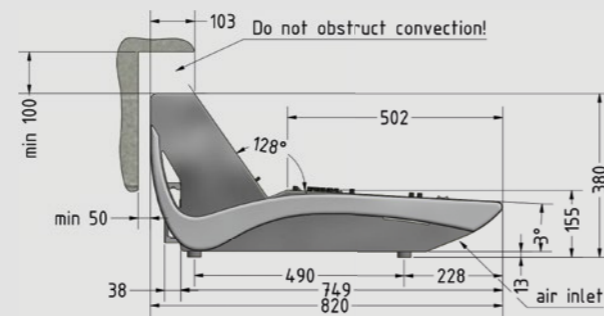


1275^{+1.5} (OB Truck version)
1343^{+1.5} (Studio/Live version)



1275^{+1.5} (OB Truck version)
1343^{+1.5} (Studio/Live version)

STUDIO/LIVE VERSION



16 FADER STUDIO/LIVE VERSION

- Dimensions: 833x820x380 mm / 32.8" x 32.3" x 15.0"
- Weight: 38 kg / 83.8 lbs

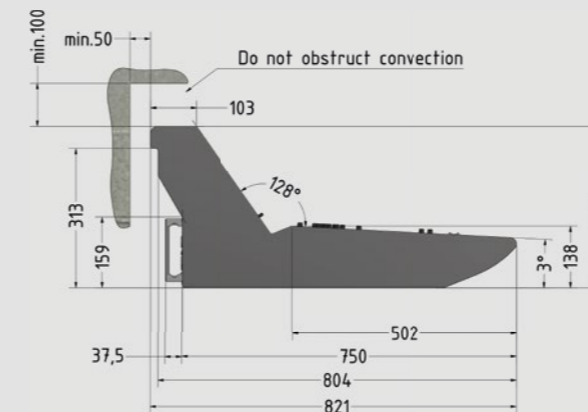
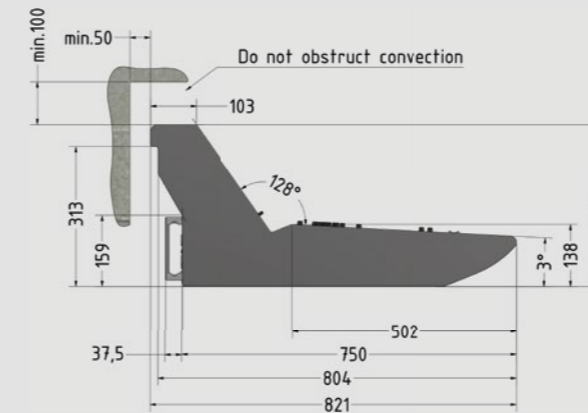
32 FADER STUDIO/LIVE VERSION

- Dimensions: 1343x820x380 mm / 52.9" x 32.3" x 15.0"
- Weight: 55 kg / 121.3 lbs

48 FADER STUDIO/LIVE VERSION*

- Dimensions: 1343x820x380 mm / 52.9" x 32.3" x 15.0"
- Weight: 56 kg / 123.3 lbs

OB TRUCK VERSION



16 FADER OB TRUCK VERSION

- Dimensions: 765x821x362 mm / 30.1" x 32.3" x 14.3"
- Weight: 39 kg / 86.0 lbs

32 FADER OB TRUCK VERSION

- Dimensions: 1275x821x362 mm / 50.2" x 32.3" x 14.3"
- Weight: 56 kg / 123.5 lbs

48 FADER OB TRUCK VERSION*

- Dimensions: 1275x821x362 mm / 50.2" x 32.3" x 14.3"
- Weight: 57 kg / 125.5 lbs

CONTROL PANEL

- Frames with 16, 32 and 48 faders
- 6 banks each with 2 layers
- 100 mm fader + 1 freely adjustable rotary knob + channel display for each fader with sense-triggered change of module display
- TFT metering: mono, stereo or up to 7.1 including bus assignment, gain reduction for dynamics, AfV status, VCA assignment, Mix-Minus, Signal Patching, Meter selection, Automix state
- GUI page output, e.g. metering, on an external monitor
- 10 Central user buttons, 2 Central user encoders, 1 talkback button and 2 fader user buttons with 8 functions each
- Optional: script tray

SIGNAL PROCESSING

- 40-bit floating point
- 256 DSP channels (160 inputs and 96 summing buses)
- Up to 160 inputs with A/B input, up to 96 aux buses, up to 96 groups, up to 96 main sums, 32 Automix groups
- Rapid switching of channel and bus to mono/stereo/surround
- Up to 32 surround channels, 128 VCA groups with metering, 256 GP channels
- Surround formats: DTS&Dolby® Digital 5.1, Dolby® Pro-logic 4.0, DTS ES&Dolby® EX 6.1, SDDS 7.1, DTS-HD 7.1, diverse panning characteristics, surround aux bus
- 2 AFL: 1 surround 8-channel, 1 stereo
- 2 PFL stereo
- Audio-follow-Video with 128 events, control via Ember+, GPI or matrix connection, envelope up to 10s fade time
- Solo In Place
- Permanent input meter at the fader, adjustable INPUT, PF, AF, DIROUT, TRACK meter point in channel display
- Loudness Metering according to EBU R128 and ATSC A/85, momentary or short term in every channel, integrated measurement on sum channels with display of integrated LUFS value in headline
- Modules: INMIX with MS decoder, digital amp, 2-band fully parametric filter, 4-band fully parametric EQ, 2-band fully parametric side chain filter, insert, delay up to 1800ms – switchable units: meters, milliseconds, frames,
- 4 independent dynamic modules: expander, gate, compressor (incl. parallel compression), limiter, image, meter, direct out

* Available Q3/2021

- AMBIT Upmix, available on every 5.1 channel, fully Downmix compatible
- 32 Automix groups available for mono/stereo/surround channels with unlimited contributing channels each
- Fully-equipped surround channel with coupling of all channel parameters and hyper-panning

AUDIO HANDLING

- HOME – Routing with dynamic support of network resources
- Internal matrix for RX and TX audio
- Up to 384 RX & TX streams
- Stream sizes from 1 up to 128 audio channels
- Up to 96 kHz*, 24-bit
- Level adjustment for all inputs and outputs
- Downmixing from surround (up to 7.1) to stereo
- Integrated monitoring devices for remote locations, e.g. director's room
- 1,016 internal loop-backs
- Full snapshot and production portability independent of matrix and DSP size

WAVES® PLUGIN INTEGRATION

- Waves SuperRack SoundGrid® integration with storage of plug-in parameters in snapshot and production data

INTERFACES

- Mic/Line In, Line Out, AES3, MADI, ST2110-30/-31/AES67/RAVENNA, DANTE®, GPIO, MIDI
- 3x 1 GbE IP audio streaming ports (redundant); 1 GbE management port (redundant)
- Headphones

SYNCHRONIZATION

- Blackburst*, Wordclock, PTP Slave and Grandmaster modes

REDUNDANCY

- PSUs, Network Interfaces (SMPTE ST2022-7 Class C)

CONTROL UNIT

- Global A/B input switching
- Enhanced mix-minus control with independent off-air conference
- Fader control of all level parameters
- Diverse tally and fader start modes
- Program switch
- DAW Machine control
- Audio-follow-Video, up to 128 camera tallies, Ethernet or GPI controlled
- Camera mic remote via GPI or voltage control

REMOTE MAINTENANCE

- Connection via mxGUI remote software
- Software updates, error diagnostics, remote assistance

EXTERNAL CONTROL SYSTEMS

- Remote control of all routing, matrix monitoring units and channel parameters via Ember+ control protocol
- mxGUI: remote control via laptop/tablet PC
- External matrix controllers: Lawo VSM, Evertz Magnum, EVS Cerebrum, GV Ignite, Ross Overdrive, Vizrt Viz Mosart, Imagine Magellan, BFE KSC, Pharos, and others

Features	mc ² 36	mc ² 56	mc ² 96
Frame sizes	16, 32, 48*	16 - 144*	24 - 200*
Faders	Lawo high-performance faders	Lawo high-performance faders	Lawo high-quality faders
Console Core	Integrated (A__UHD Core based)	A__UHD Core	A__UHD Core
DSP channels	256	up to 1,024	up to 1,024
Touchscreens	HD with PCT precision capacity sensing technology	HD with PCT precision capacity sensing technology	HD with PCT precision capacity sensing technology
Free controls per strip	1**	4	6
Multi-user operation	No	Yes	Yes
– No. of rotaries per fader bay	32	80	112
– Local safe & recall	Yes	No	Yes
LiveView™	Yes	Yes	Yes
Local I/O	Yes	Yes	Yes
– Local I/O connectors	XLR	Sub-D	XLR
– SMPTE2022-7 local I/O redundancy	Internal	Yes	Yes
No. of user panels	n/a	2 (without RTW) 1 (with RTW TM7) 0 (with RTW TM9)	2 + RTW TM9
Native 3D audio controls	Yes	Yes	Yes
Direct access to Parallel Compression	Yes	Yes	Yes
Sequence Automation	Yes	Yes	Yes
Dynamic TC Automation	No	Yes	Yes

* DANTE slot-in card for Lawo PowerCore modular I/O system

* with dual-fader option **only mc²36-32

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