



## Release Notes

### Release 4.24

Version: 1.0

Date: 07.08.2013

This document applies to the products

- mc<sup>2</sup>56 & mc<sup>2</sup>56MKII
- mc<sup>2</sup>66 & mc<sup>2</sup>66MKII
- mc<sup>2</sup>90
- Nova73 HD & Nova73 compact

It outlines the functions and improvements of Release Version 4.24.

Dear customers,

For nearly 6 months, we have maintained two software branches, one for mc<sup>2</sup>56MKII (4.20) and a second for all other consoles (4.18). The new software version 4.24 is the common denominator to bring the consoles back together, making them networkable and sharing the latest development efforts and enhancements.

Version 4.24 brings about a range of improvements, including a new Multi Row Metering<sup>1</sup> providing more metering and overview. It also releases the brand new and efficient Nova73 compact, Lawo's latest Core technology development providing outstanding routing and I/O performance on an even smaller footprint.

At the same time, software version 4.24 means a final stroke for all mc<sup>2</sup>66 Classic and Top1 consoles. The next version will not be available for non-Router MKII based systems anymore. Therefore, we have put an extra effort in making this release more powerful and high-performance, including a speed optimization and a bunch of fixes and enhancements.

I hope you enjoy the latest mc<sup>2</sup> software and we wish you a pleasant work with your console and a successful 2013.

Kind regards,

Your Lawo product management

Please make sure to read the System Update Documentation carefully!

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<sup>1</sup> Multi Row Metering is only available on Router MKII based systems.

## Friends arena Stockholm

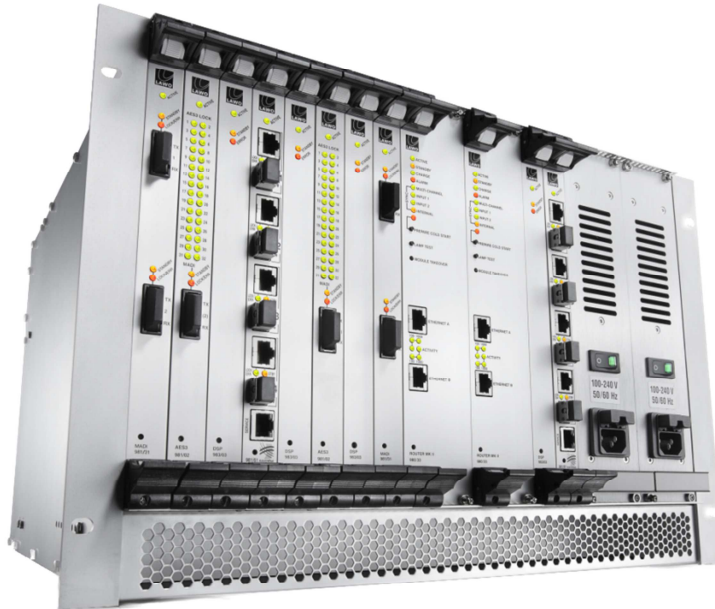


mc²56MKII in Friends arena Stockholm

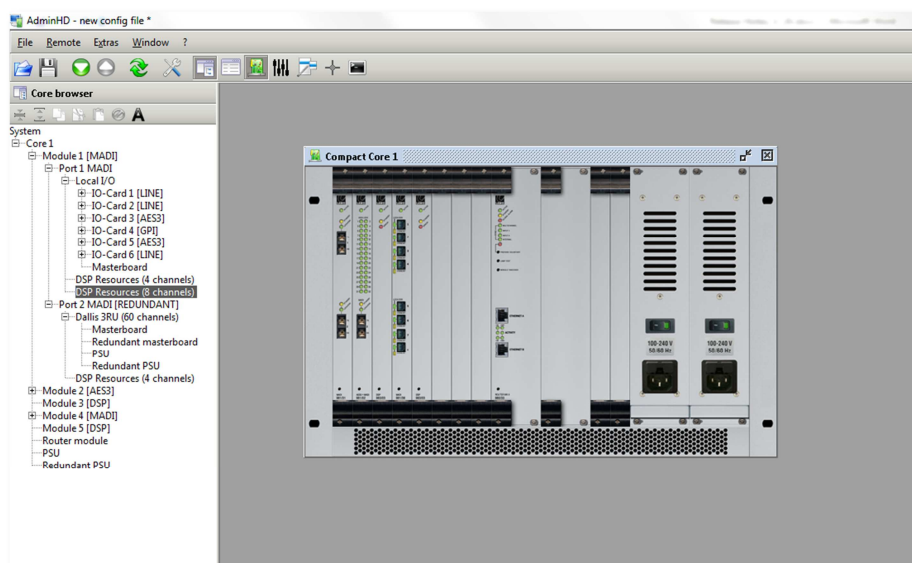
## New Functions

Additional features included in version 4.24:

### 1) Nova73 compact



Lawo's latest core development product, the Nova73 compact will be released with software version 4.24. It can be combined with any console of the mc<sup>2</sup> series and even be used as a stand-alone router in small to medium routing applications. It features 10 modular I/O slots with a maximum of 5 DSP cards and 2 AES cards. It is permanently equipped with redundant PSUs and features the same redundancy concepts as the Nova73 HD. Its size of only 7RU and the significantly reduced list price make it a perfect copartner for the mc<sup>2</sup>56MKII in small to medium broadcast mixing applications.



AdminHD configuration software for Nova73 compact

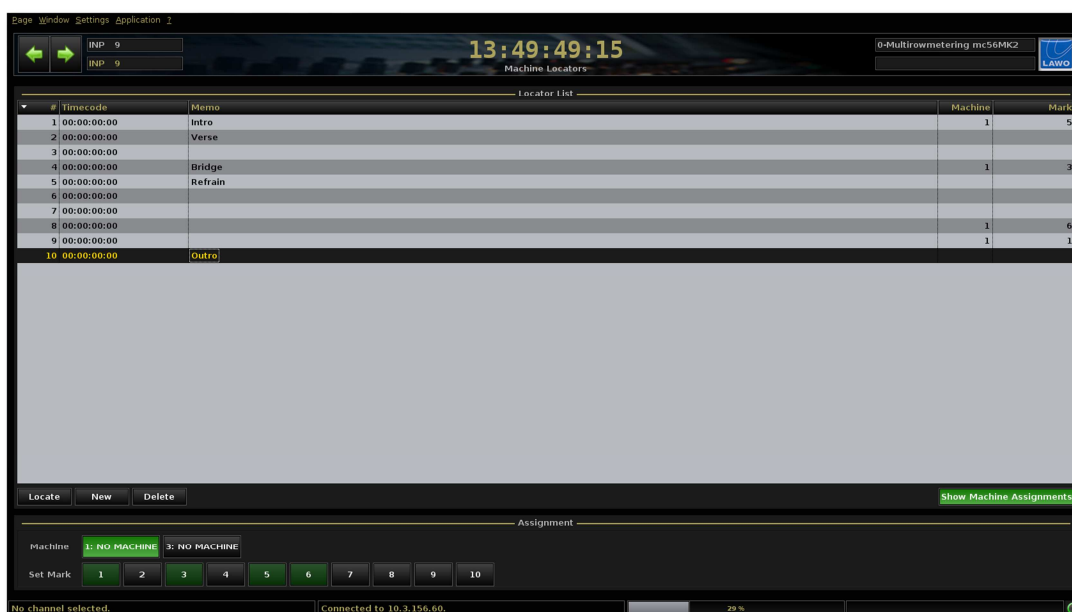
## 2) New DALLIS LINE IN/OUT cards



Three new LINE IN & OUT cards will be available for all DALLIS related products of the mc<sup>2</sup> series with release 4.24. They are the successors for the existing DALLIS cards 941/83, 84 & 942/84. Key strengths of the new cards can be found on the audio side: All cards feature a very high dynamic of 119dBA, very low harmonic distortion (THD+N≤0.0005%) as well as extremely low latency while keeping an excellent linear phase response (Inputs: 0.16/0.32ms @ 96/48kHz, Outputs: 0.07/0.15ms @ 96/48kHz).

Release 4.24 makes them available in all mc<sup>2</sup> series products.

## 3) Cue List

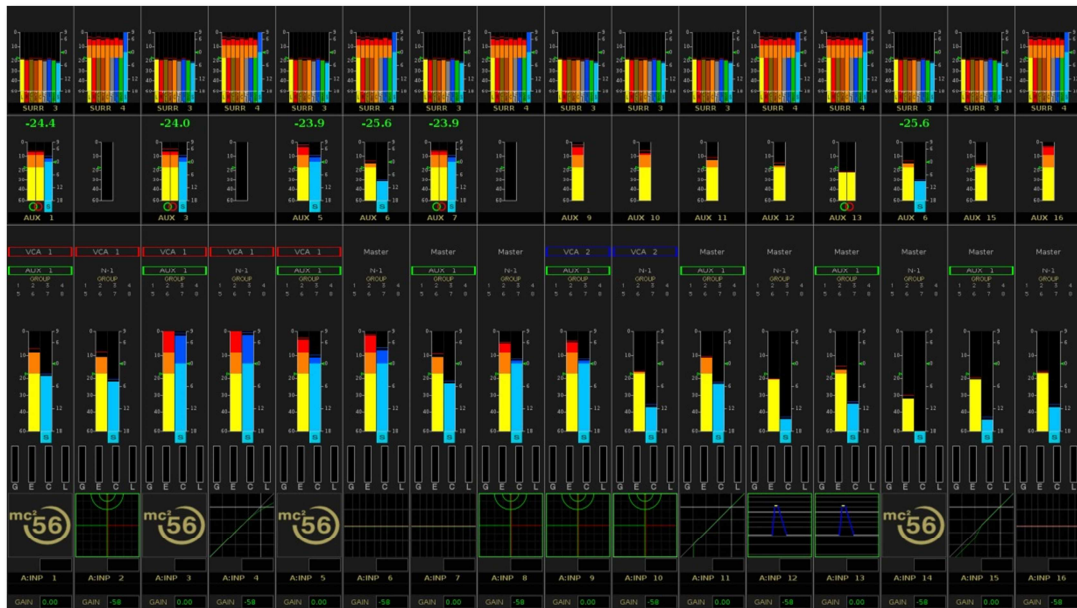


Release 4.24 increases the mixing comfort when working with TC. It features a Cue list with unlimited number of locators, a time stamp and a memo field of up to 256 characters for distinctive descriptions. For customers, using a dedicated machine control panel (mc<sup>2</sup>66 or mc<sup>2</sup>90), an assignment of the GUI locators to hardware buttons is available on the bottom of the page.

New markers can be created on the GUI or by using a central user button programmed with the corresponding custom function. Navigating to a locator is a double click on the corresponding locator line.

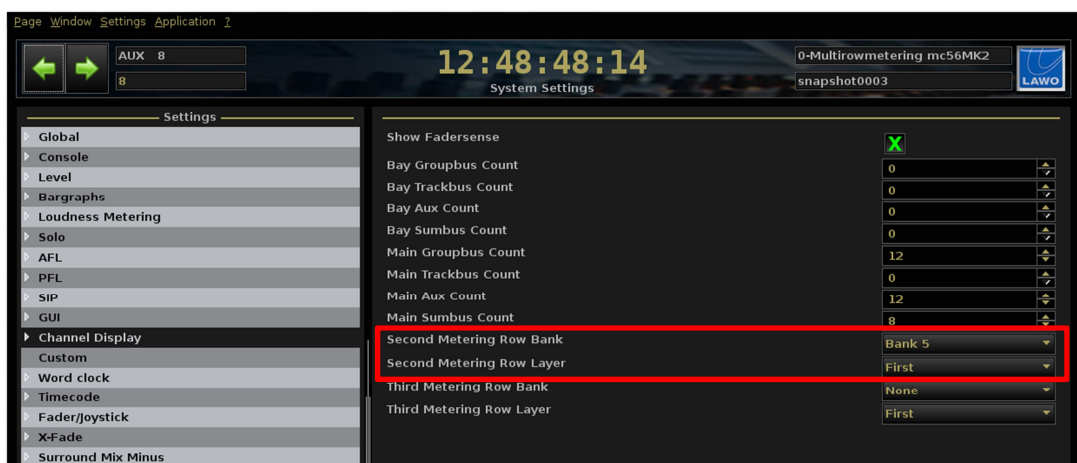
For automation power users (music mixing, radio drama), recurring locators can be even assigned to user buttons for a quick and direct access.

#### 4) Multi Row Metering<sup>2</sup>



One of the biggest enhancements of software version 4.24 is the newly designed Multi Row Metering, significantly extending the metering capabilities of the mc<sup>2</sup> series consoles. Depending on the product, a second metering row or even two additional metering rows can be configured and permanently displayed above the first layer metering.

The signal selection for the second (and third) metering row is done following the established assign mechanisms of the console. Once you have assigned channels to e.g. bank 5, first layer, you can display them as a second row just by selecting bank 5, first layer in the Multi Row Metering configuration menu on the System Settings page. Alternatively, you can use the second metering row to always show the second layer of the active bank. If different signals (on different banks) need to be metered in turn, dynamic switching of the additional metering rows can be done from a User button (Custom function Multi Row Metering). The Multi Row Metering extends the consoles metering capabilities dramatically giving the operator a big plus of overview and control.



Multi Row Metering configuration on the System Settings page

<sup>2</sup> Please note: Due to performance reasons, Multi Row Metering is only available on Router MKII based systems.

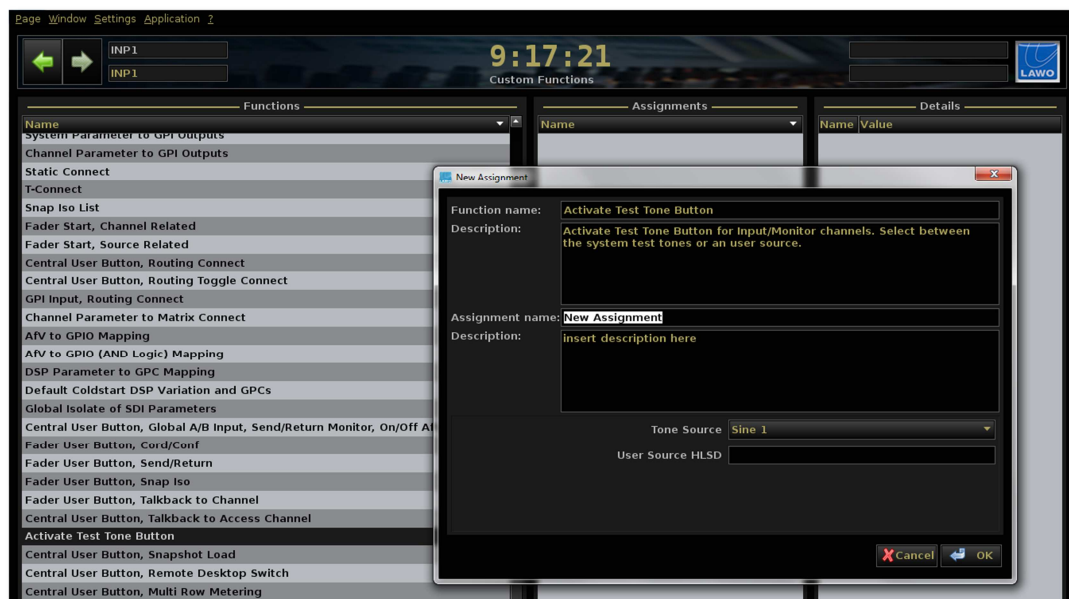


## 5) TONE button

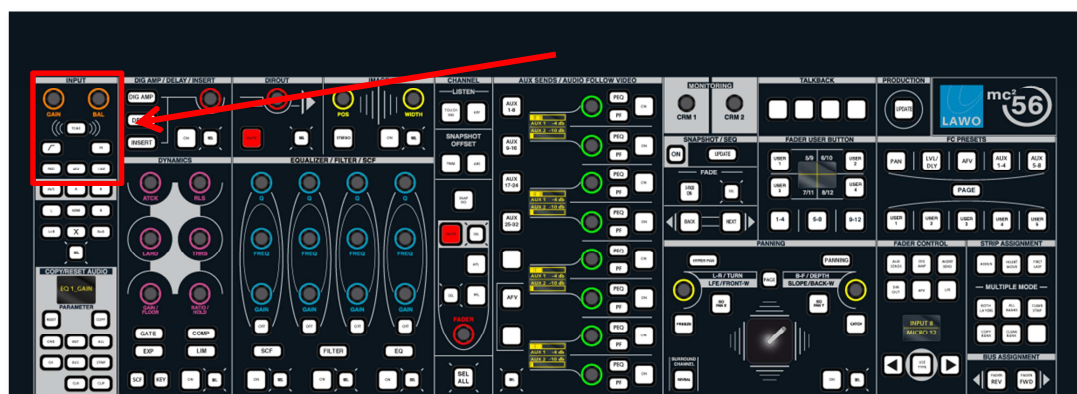
Release 4.24 enables the TONE button on all Router MKII based systems. By default it provides the tone of the first generator of Router MKII on the dedicated TONE button located in the Input mixer section. However, other tone sources from the Router MKII can be used as well as external sound sources. Reconfiguration of the TONE source is possible by modifying the dedicated TONE custom function.

Tip: If you prefer to have the TONE switch on a Fader User button, you can assign it to any available button of the fader strip with the custom function "Fader User Buttons, Channel functions".

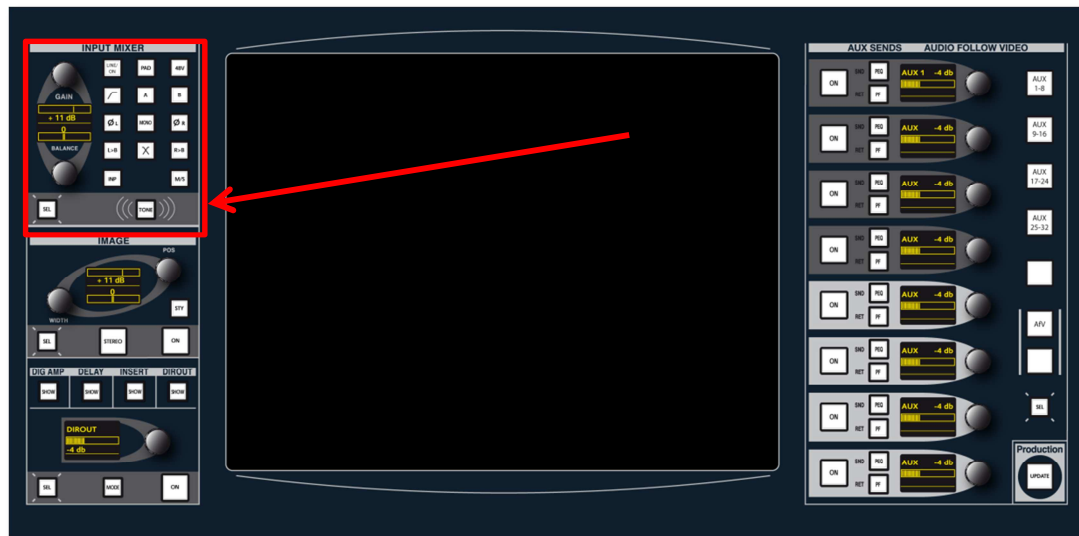
**Please Note:** When creating new CF cards, the console will automatically have this functionality. For all other systems that are normally updated to Release 4.24, the Custom Function "Activate Test Tone Button" needs to be initialized once.



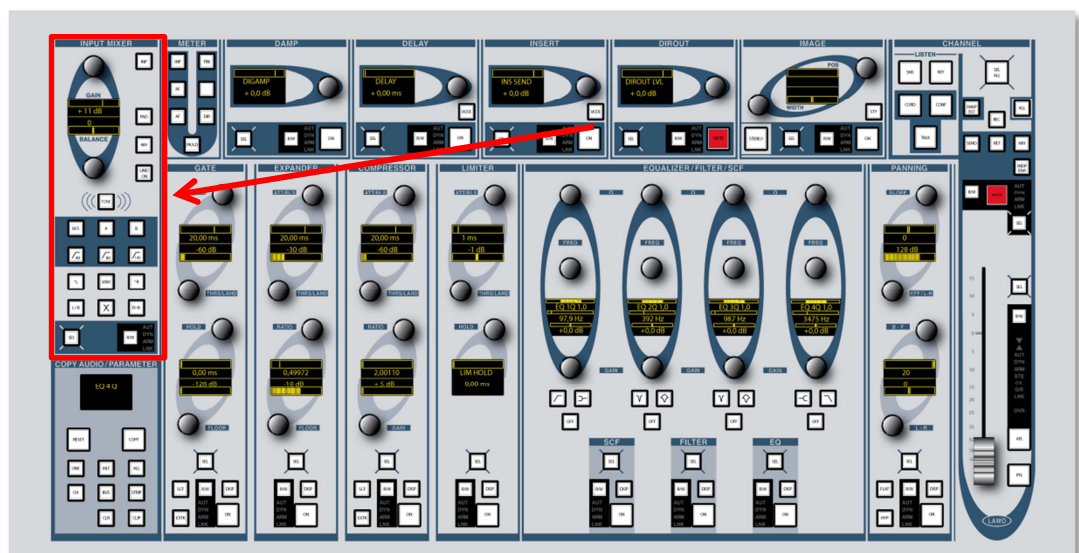
Custom Function "Activate Test Tone Button"



TONE button position on mc²56MKII



TONE button position on mc²66MKII

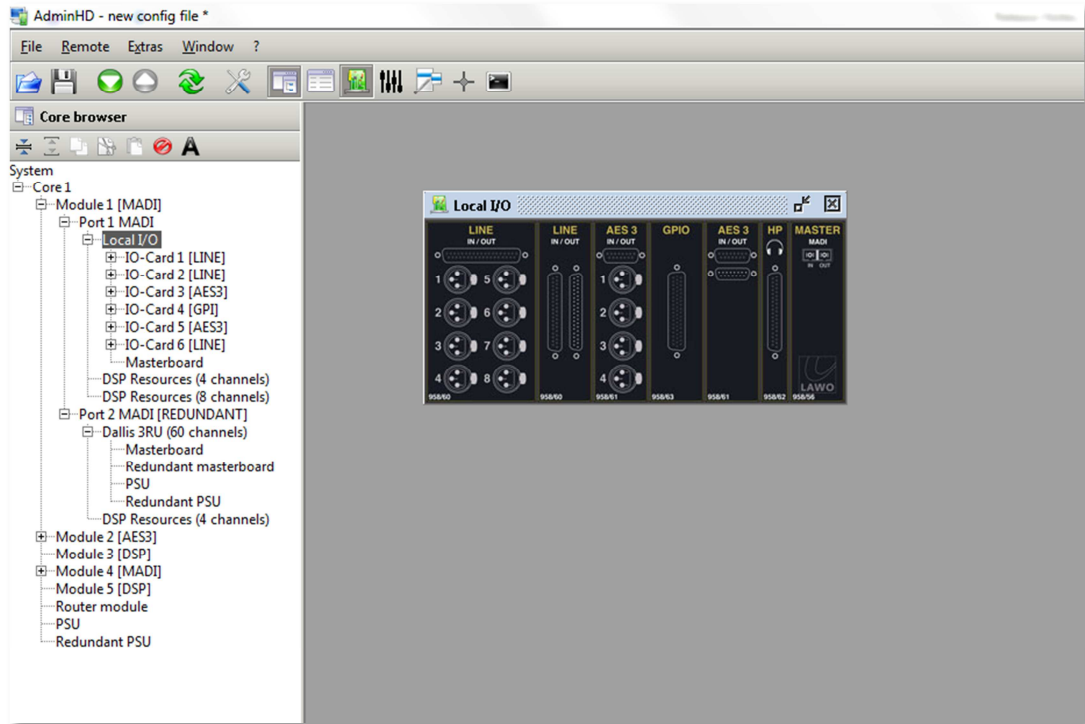


TONE button position on mc²90

## 6) Monitoring on MADI Local I/Os

Another feature, particularly useful for smaller systems, is the adding of DSP resources on mc<sup>2</sup>56MKII Local I/O ports. Release 4.24 enables this for Local I/Os being connected via MADI. When configuring a Local I/O port in Admin HD, two matrices (8\*8 and 4\*4) are automatically installed and can be used for Monitoring purposes.

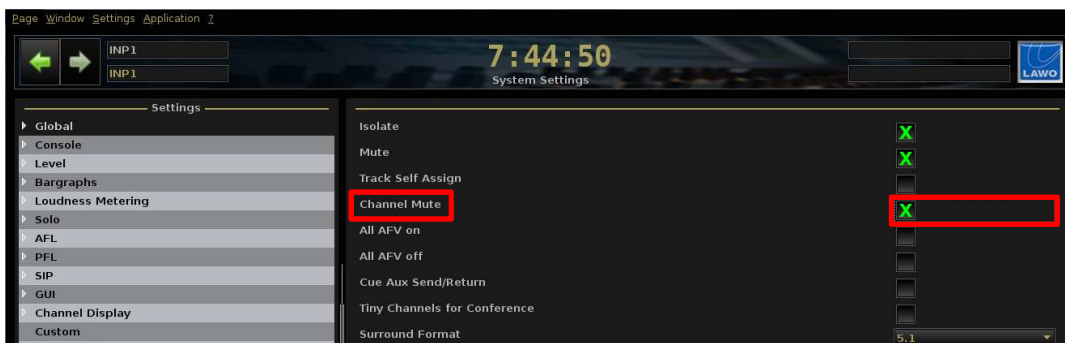
This decreases the need for additional port DSP resources and brings down the costs for small size consoles.





## 7) Extended Channel Cut

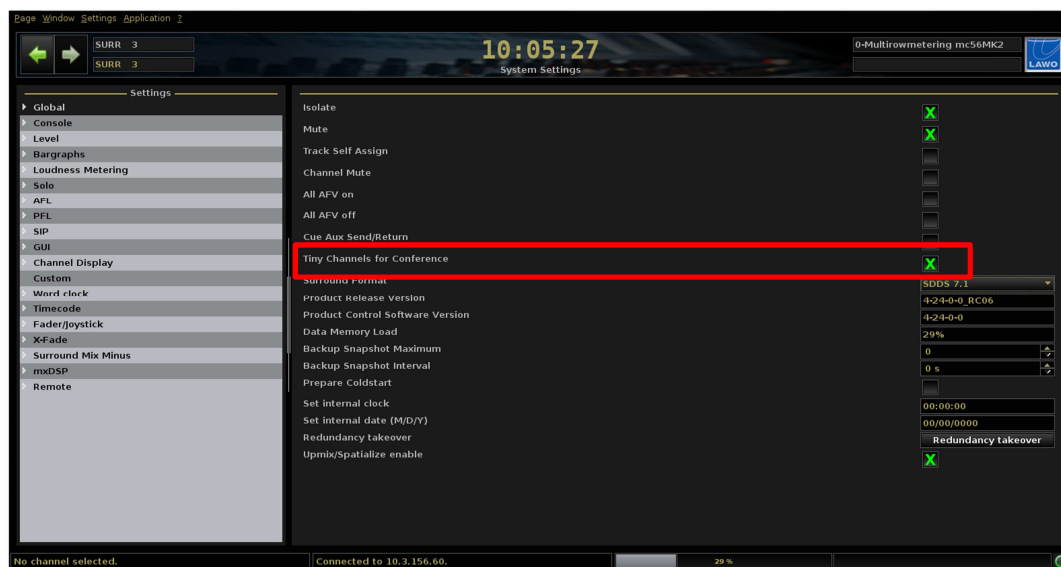
With Release 4.24, the Channel Mute and pre fader listening capabilities have been improved: When having CHANNEL MUTE active, listening Pre Fader is now possible, even if the fader is muted.



## 8) Tiny Inputs for Mix Minus

Release 4.24 reenables the use of Tiny Inputs for Mix Minus applications.

Please note that track busses cannot be used as mix minus bus on Tiny Inputs.

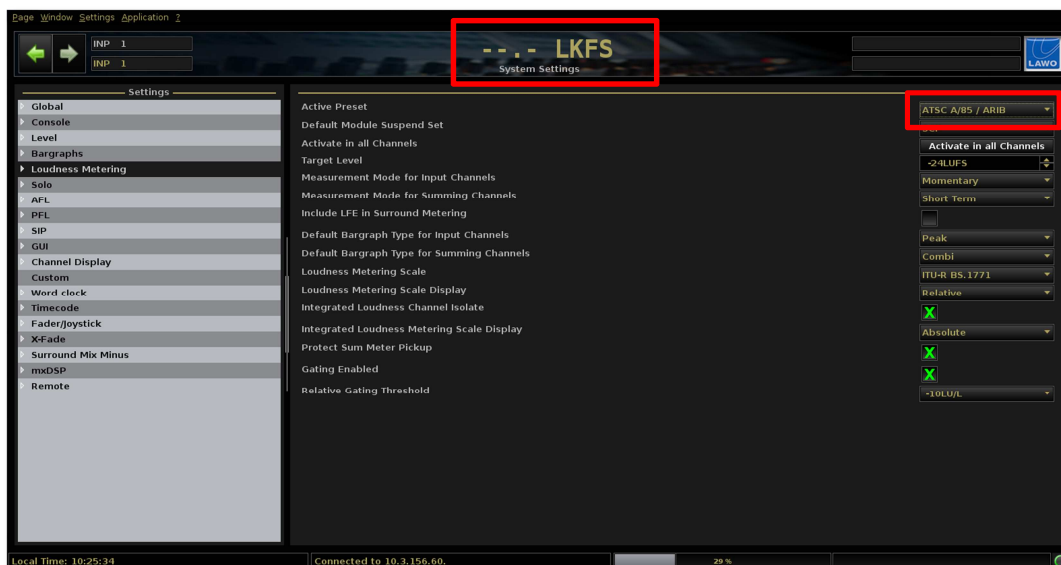


## 9) Pan Slope

The initial value for SLOPE changes for Mono and Stereo channels from 0 to -20.

This takes effect after a coldstart, existing productions from former Release versions keep their settings.

## 10) Loudness Metering



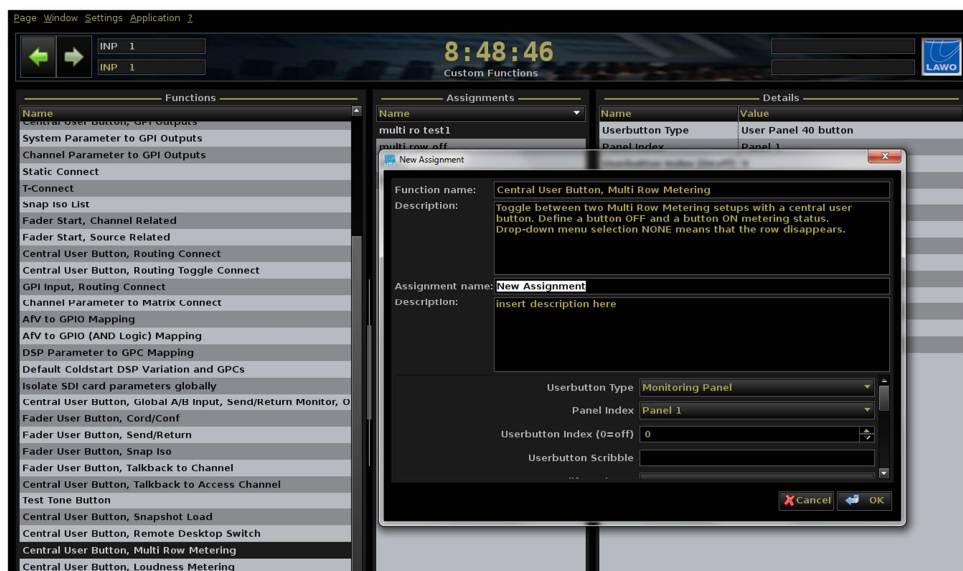
Release 4.24 supports the Loudness Metering according to the Japanese ARIB standard. If ATSC or ARIB Loudness preset is active, integrated Loudness values are displayed in LKFS.

## 11) Custom Functions

Release 4.24 enables a bunch of new Custom Functions to further customize your mc² console.

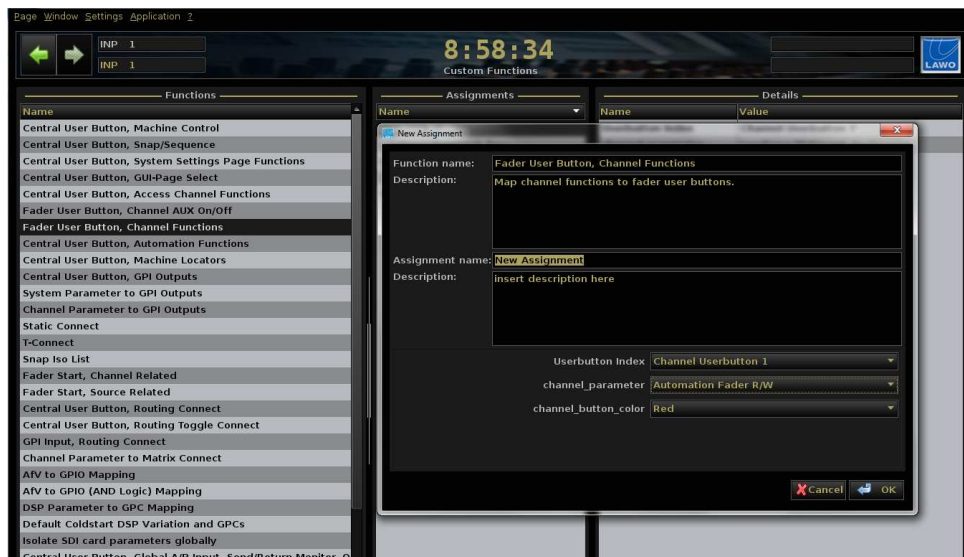
- Multi Row Metering

Use this Custom Function to tap the full potential of the new Multi Row Metering feature. Create a user button to toggle between two metering setups.



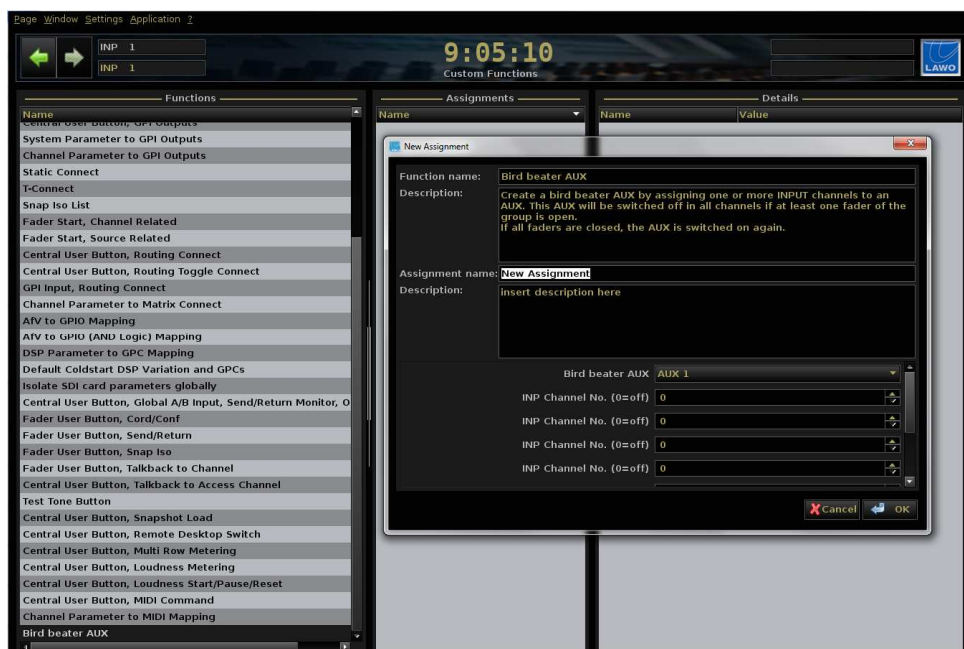
- R/W Automation Button

To complete the TC automation capabilities of the mc<sup>2</sup>56, Release 4.24 offers the possibility to configure a Fader User Button to be the R/W button of the fader. Thus, a similar automation workflow as on the mc<sup>2</sup>66 and mc<sup>2</sup>90 can be achieved.



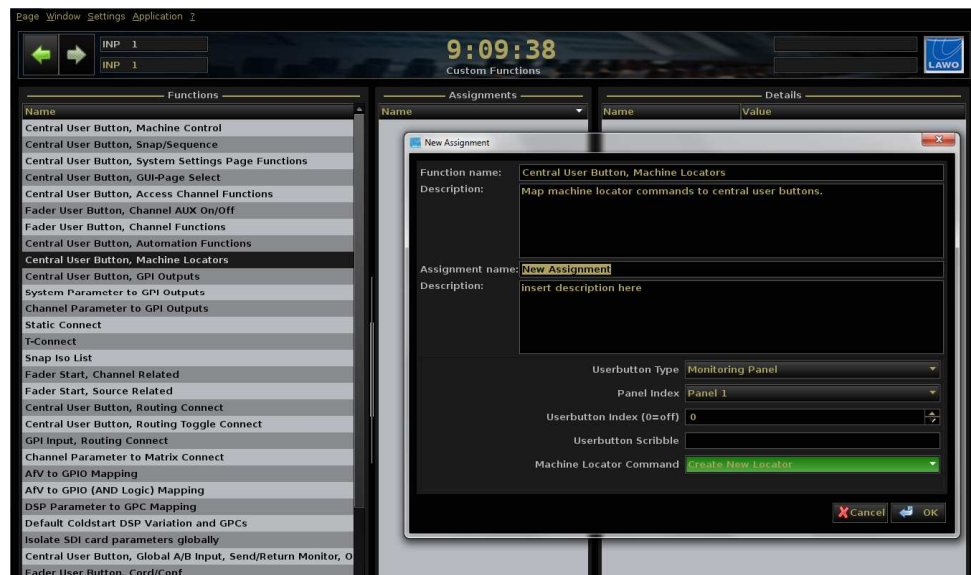
- Birdbeater

Use an AUX instead of the Direct-Out to e.g. feed the presenters headset. Similar to the mc<sup>2</sup> series feature "Direct-Out Mute by Fader", the AUX send will be switched off as soon as the fader is on air. Choose a selection of up to eight faders to use the same feedback AUX from across multiple channels. This feature is coming from the Anglo-Saxon markets.



- MRC Locators

This Custom Function completes the feature set of the newly designed Cue List GUI page. Create a new locator using a central User Button or directly navigate to up to 10 existing locators.



## 12) Touch operation GUI header

For more ergonomic touch operation, a better separation of the different touch zones of the GUI header has been implemented. Thus, accidental operation of e.g. the clock section instead of the arrow buttons is prevented.



## 13) Touch operation Channeldisplay

For a better workflow, the timeout of Bus Assign pop-up windows on the channeldisplays has been modified. All pop-up windows are now closing 3 seconds after the last operation.

## 14) Context menus

To provide a better readability and enable touch capabilities at the same time, the font size of every context menu (right mouse button) has been increased.

Tip: Touch on the screen for a longer time to open the right mouse button context menu.

Tip 2: Signal list, use the new "SET ACCESS" feature to directly access a DSP channel.

## 15) Page menu button

For a better usage of GUI space, the page menu selection from the top of the screen has been replaced by a page menu button on the left of the header. This only applies to console GUIs, not to mxGUI.



## 16) mxGUI OS

Release 4.24 enables the use of the mxGUI with OSX 10.8.2 and Windows 8. Due to a new version of the Virtual box, a complete deinstallation of the mxGUI and the virtual box is necessary before installing the new version.

## 17) Improvements HTTP Interface

The new software releases a few improvements for the http interface.

- Nova73 software version has been added and is displayed in the device availability view as additional parameter
- All GPIO states have now a consistent labeling (High/Low)
- The DSP usage can be seen with the active distribution of DSP channel numbers to DSP cards



The screenshot shows the 'HD Core System Information' page. On the left is a sidebar with links: System overview, System alarm, Device availability, Silence detects, DSP usage, and System log files. The main content area is titled 'Mixing console DSP usage' and contains a table with the following data:

Control system	Redundancy role	Redundancy state	Redundancy partner
external	primary	Active	N/A

DSP card slot	Input channels	Monitor channels	Group channels	Sum channels	Aux channels	Listen sum channels
11	48 - 68, 121 - 128	-	-	1 - 8, 43 - 48	-	-
13	25 - 48, 113 - 120	-	1 - 16	19 - 42	25 - 32	-
15	1 - 24, 89 - 112	-	-	9 - 18	1 - 24	1 - 14

Generated on Wed, 10 Apr 2013 12:59:22 GMT  
by LawoHtpd/0.1 running on 10.2.85.85

- GPIO states and additional parameters of ADAT and optical switch DALLIS cards are displayed as well as VCA values of GPIO card 945/05
- For a better compatibility with older PCs, the refresh time-out for the Alarm Backlog function has been increased and is now 30 seconds.

## 18) Logfile

Release 4.24 introduces two additional logfile enhancements to ease troubleshooting:

- Logfile Timestamp

Every time you press on the LAWO logo on your GUI (console GUI or connected mxGUI), a logfile entry is created with the timestamp of the local time. This can be useful to retrace malbehaviours or similar when talking to Lawo's service department. Make use of this feature to mark a certain moment in the logfile.

- Logfile DSP change

Whenever the DSP configuration changes (either by Production Load, change of DSP configuration or DSP redundancy takeover), an information of every DSP card and its new role is printed in the logfile.

The information has the following format:

*New DSP card role for { HDCore 0, Slot 14 }: active (role index 1)*

*New DSP card role for { HDCore 0, Slot 12 }: active (role index 2)*

*New DSP card role for { HDCore 0, Slot 10 }: active (role index 3)*



## Extensions and fixes

5226 - TimeOut for Client-Login was not scalable  
6038 - Signal settings page, window for User labels was not limited to 8 characters  
6186 - User templates can block custom.tcl functions  
6458 - Occasionally incorrect initialization of matrices on I/O cards  
7042 - protocol\_errors on the passive MK2 router  
7104 - No audio in I/O DSPs with even values  
7326 - Disconnecting and reconnecting of nearby I/O cards  
7676 - Wrong FC presets after loading a production, created on a different type of mc<sup>2</sup> series console  
8233 - No audio after manual coldstart of the right router card without a left router card present  
8249 - Fader User Button: Talkback to Channel, DIM value mix-minus faulty  
8267 - Minidisplays Hyperpan graphics not updating when operation is executed on surround slave channels  
8314 - custom function "Faderstart Channel Related", Impuls-Relais are triggered undesirably  
8318 - custom function "Central User Button Routing Toggle" - no Initial-connects  
8319 - custom function "Channel Parameter to Matrix Connect" - no Initial-connects  
8613 - Custom Function "Default coldstart DSP variation and GPCs" - static maximum of 22 DSP variations selectable  
8648 - N-1 assignment with Tiny Inputs does not work  
8883 - No Router takeover with defect router card but active ATM connection  
9185 - Occasionally, no audio when using I/O DSP  
9231 - Incomplete conference parameter recall with partial snaps  
9763 - Partial Snap load changes Channel Config regarding Loudness  
9764 - Snap ISO does not isolate Channel Config Loudness module ON/OFF  
9830 - Faulty visualisation of Loudness Integrated Relative on Metering page  
9915 - Wrong visualisation of X-Button on extended Monitoring Touchpanel  
10067 - Device alias with special characters lead to corrupt tcl files  
10280 - Permanent toggling of the fader sense status due to aging of faders  
10407 - AFL/PFL remains active on Surround masters after Snapload  
10452 - No pro-active information for RemoteMNOPL clients when sinks are protected  
10494 - Netlinks, no new connects when max number reached due to order 1. connect and 2. disconnect  
10619 - Group could be routed to itself, when having AMBIT active  
10629 - Number of displayed busses on the Channeldisplay corresponds to the number of available busses  
10658 - Malfunction of german keyboard layout with GUI-PC 962/01 Rev 2.0  
10683 - No lamp feedback of Send/Return User Buttons on stereo Monitorchannels  
10700 - Machine Control commands are only send to Machine 0  
10719 - Touchscreen-calibration from the GUI only possible on mc<sup>2</sup>56 mkII  
10796 - Faulty Bay Iso FC assignment after loading a production  
10825 - InMix visualization mode different in mxGUI and console GUI  
10871 - MADi Local IO and 96kHz  
10885 - Admin HD 4.20.2, no Cut / Paste of Local I/O possible  
10920 - Rotary illumination of fader in central audio section  
10975 - No PSU alarm when DALLIS stagebox is equipped with RAVENNA  
11004 - Malfunction of bulb test on some OLED displays  
11023 - No booting of mc<sup>2</sup>66MKII control system after upload of console\_config.tcl from  
11024 - Missing connect of Talkback bus  
11033 - Condition Monitor Silence Duration Alarm Time > 10s not working  
11034 - Strings on mxDSP Settings Gui Page are not UTF8 conform  
11051 - Central User Buttons - wrong trigger button  
11068 - Faulty visualization when activating Link-Metering on a Surround Master  
11085 - Difficult readability of error messages of Dallis Mastercards  
11091 - Abbreviation of Expander in Channeldisplay minigraphic popup window  
11099 - Central Metering enabling should only be possible on consoles

- 11135 - Wrong size of RemoteMNOPL telegram length and wrong interpretation of mxDSP Signal Condition Monitor Level Alarm values
- 11140 - Faulty visualization of Image graphic on Maindisplay
- 11180 - Update problem of Bank assignment after Snap Load
- 11204 - Reveal Input Meter are not displayed on the GUI
- 11209 - Reveal overwrites unparticipating channels
- 11217 - FC Preset PAN, exchange of X and Y
- 11218 - Downmix Matrix, Change of initial downmix values for L/R
- 11222 - Faulty Machine Control locatos of second machine after storing a production
- 11275 - Dallis Output level, although the slave card is not configured (of the wrong type)
- 11298 - ITU Loudness-Metering scales update necessary according to ITU recommendation
- 11322 - Pressing multiple PFL buttons simultaneously, can lead to unexpected behaviours on channel strips
- 11377 - No updating of MIDI machine (C) after reboot / redundancy takeover
- 11368 - Missing silence detects on RAVENNA cards
- 11394 - Incorrect signals on main faders 9-16 with bank flip caused by a snap load
- 11405 - Loudness-Metering: Error in measurement
- 11406 - Missing update of Meter Pickup Point using the touchscreen
- 11430 - "Screen Calibration" renamed to "Calibrate Touchscreen"
- 11450 - Local signal becomes an imported signal after share when having a DSN ID >14
- 11473 - SNMP-Agent not handling Meta-telegrams correctly
- 11482 - Lawo Webinterface visualization faulty with IE9
- 11484 - Font colour for integrated loudness measurement changed
- 11485 - Missing reconnect after disconnecting network between control system and Nova73
- 11486 - No connection to Nova73 after Ripper takeover caused by Ethernet disconnection
- 11518 - Inverted MUTE visualization of Gain indicators of matrices
- 11519 - RAVENNA Dallis, slot 17/18 can be equipped with invalid cards using Copy/Paste
- 11521 - GUI is showing integrated measurements although no channels has been assigned
- 11522 - "System Settings"- "Loudness Metering" Page, wrong units depending on the selected preset
- 11529 - FC User Button 2 not properly working on mc²66MKII
- 11530 - FC assignment faulty in combination with MLT - ALL and an access swap with two different DSP channel types
- 11533 - Conference Mix Minus combo box is too wide
- 11537 - FC Preset PAN, exchange Y with LFE
- 11539 - Remote app has no connection with the console when operating the "Safe Mode" window from the mxGUI
- 11549 - Bus Assign Page, "MASTER" visualization invisible if no VCA is assigned
- 11562 - FC Preset User Button 2 is dropped after loading a production
- 11572 - Default Headphones level changed after Coldstart
- 11597 - FC Preset Button Page overwrites FCs with the default
- 11600 - No explanation/label for CF card free space indicator on GUI
- 11633 - No ATM connection to right, redundant router after Coldstart
- 11661 - Mini Display, new default picture for all channel types
- 11616 - Incorrect link for SOP files of new LINE cards 941/86 and 942/86
- 11648 - TCL error, when assigning channels to the GUI Metering page
- 11656 - 100% control system CPU load, after warmstart and active automation
- 11666 - No temperature information of baysevers (mc²56MKII) in the logfile
- 11672 - Silendetects only available on port 1 of RAVENNA link ports
- 11693 - Missing parameter tabs on Local I/O ports in AdminHD

## Contacting the Service Department

If you need assistance with updating your system, please contact our service department. The staff will coordinate all necessary steps with you.

Important information which the service department will require is as follows:

- Name and phone number of the contact person
- Time when this person is available
- Number and type of the system(s)
- Current software version
- System configuration data

Telephone support can be given during office hours (Mon – Fri 9:00 – 17:00 hrs CET)

Phone: +49-7222-1002-4000

email: [service@lawo.de](mailto:service@lawo.de)

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