Release Notes and supplementary Guide

Release 6.2.2

Version 3.0 – 2019-12-19

Dear customers,

Version 6.2.2 is the new software release of the series-6 mc² releases, that supports both the new A__UHD Core alongside our traditional Sharc-based DSP boards for Nova73.

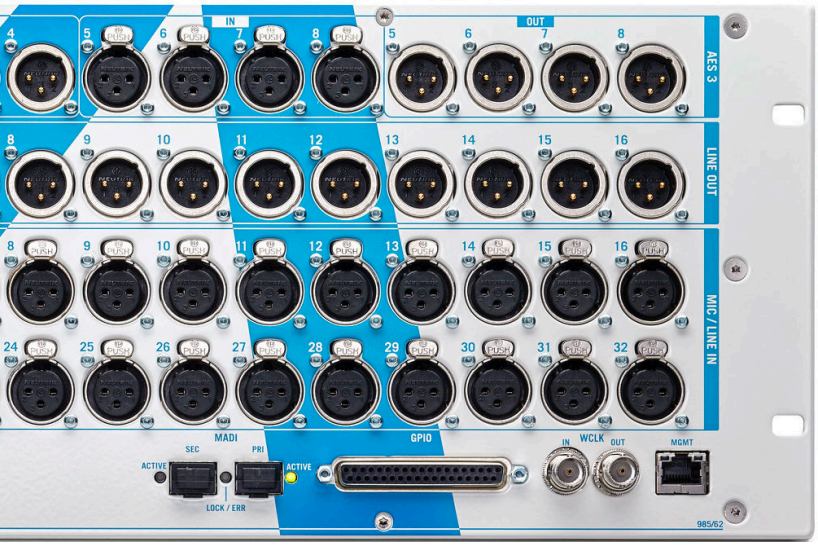
Release 6.2.2 enables RJ45 SFP support for A__UHD Core and officially announces Waves SuperRack v11 compatibility. Release 6.2.0 already introduced exciting new functionality, like the new Xtra Fader option for mc²96 consoles or the possibility of using Lawo's A__stage series as fully integrated network-based IO nodes.

We hope you enjoy the latest mc² software and we wish you a pleasant work with your Lawo product.

Kind regards,

Your Lawo Audio Production Product Management Team

Please be aware, that the internal virtual loopback numbering has been changed from 0-based to 1-based counting! Furthermore, the system's Ember+ provider identifiers got modified with release version 5.14.0. If you are using clients / consumers relying on the structure before version 5.14.0, they will need adaption!
This Release does currently not support Lawo's IP-Share™ Gain Compensation for DALLIS Stageboxes!



This document applies to the following products and its associated I/O-systems and outlines the functions and improvements of the Lawo Audio Production Release version 6.2.2:

- A__UHD Core
- mc²36
- mc²56 MKII
- mc²56 MKIII
- mc²96
- mc² Micro Core
- Nova37
- Nova73 HD, Nova73 compact

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General Update Information

Please use this document together with the dedicated manuals for the product, that you are currently using. The supplementary guide explains only the functions that have been added or changed in release 6.2.2 and 6.2.0.

To update your system to version 6.2.2 please install mxGUI on your service computer and use the **mxUpdater**, that comes with the mxGUI's Utility Programs.

Please note, if your system is running a version prior to release **5.12.0**, creating **new CF cards** for the routers is mandatory!

As soon as the mxUpdater tells the update to be installed successfully, the **Active** LED of the central router module will start flickering. This is normal behavior after updating to this new release version, since the control system is preparing necessary image files. Please be aware, that during this process your consoles surface will not boot. The LED on the front of the router module is the most distinct indicator, that your system is in the update process. Do not **power off** during this process!

If your system was running at least release version **5.8.0**, all components of the HD Core will update **automatically**. Additionally, all I/Os connected via RAVENNA Link or RAVENNA Net (e.g. DALLIS, Local I/Os, A__line), will perform necessary updates automatically as well.
Depending on the size of your system, the automatic update processes may take until **30mins**. Please make sure, that no component of the system is switched off during the update process.

Attention: Incidental breakdown of the update may break your gear!

Please check your HD Core, if any of the boards is currently in the upgrade phase. This is indicated by the flickering **Active** LED. If the board is not updated yet, it will not power up.

If your system is using any DALLIS frames or mc²56 MKII Local I/Os that are connected via **MADI**, please make sure to trigger an update of these components using the mxUpdater's option ***5 – Update MADI Connected IO Boards***.

As soon as your update is finished, please perform a **reboot** (power off/on) of all your system components.
The HD Core System Information web-page – that can be accessed entering the consoles Ethernet B IP address into any web-browser, that is connected to your external network – will provide a comprehensive overview over the installed and expected software and firmware versions. Please check, if all your components did update properly.

Having performed the update successfully, please install the latest 6.2.2 AdminHD version to your service computer. Make sure to download your current configuration, generate a **new config.tcl** file and upload it back to your system.
This will prevent any incomplete system configuration, that might be caused due to the update.

Please be aware, that the internal virtual loopback numbering has been changed from 0-based to 1-based counting! Configurations might need adaption, if referring to these numbers!

This change has been applied for better human readability of loopback numbers and to avoid misunderstandings, when using a broadcast control system.

If this change breaks your system compatibility, a small tcl-script can be provided, translating this change within your system configuration. Please contact the Lawo support department, if required.

The system's Ember+ provider identifiers got modified with release version 5.14.0!
If you are using clients / consumers relying on the structure < 5.14.0, they will need adaption!

This breaking change was required in order to maintain a better version independent structure for the future.

This Release does currently not support Lawo's IP-Share™ Gain Compensation for DALLIS Stageboxes!

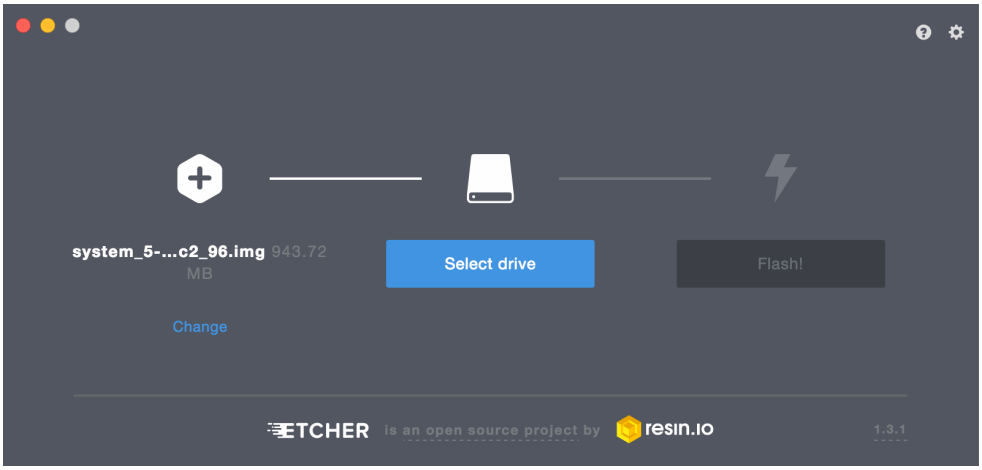
We are working on a solution for this temporary incompatibility.

Starting with Release Version 5.10.0 the module preset folder location and sorting changed. Please be aware to export your presets using a fileshare or external drive and re-import them after the upgrade to the latest release versions.

Please make sure, that the GUI2 address and function rotary switches of the monitoring section of mc²96 consoles are set properly: the function switch must be set to 8, the address switch to 2. If not adjusted correctly, the GUI2 monitoring panel will not boot. Please reboot the panel, after adjustments.

From release 5.18.0, DSP signals are no longer displayed in the Signal List Editor of AdminHD but generated automatically by the mcx control system.

Due to some serious issues when creating CF cards with several different compact-flash adapters and Virtual Box, we changed the general way of creating new system and data cards for your Lawo system. From now on, using the CFCard Creator integrated in the mxGUI Virtual Machine will export the requested files into the shared folder “mxgui_config_share”.
You will find a new directory mx_updater there, that contains the images that have been built. Furthermore, we recommend the open source tool ETCHER, to flash these images to your CF cards. ETCHER is available for Windows, macOS and Linux and can be downloaded on https://etcher.io.



This release has been tested to be compatible with **Waves MultiRack SoundGrid** versions 9.80.11.99, 9.80.13.161 and 9.80.13.568 as well as **Waves SuperRack** version 11.0.0

Please be aware of changed Waves SoundGrid integration setups. It is only possible to use either a setup utilizing one NIC at the MultiRack Host PC in the internal console network or separating the SoundGrid network by utilizing a second NIC at the MultiRack Host PC and attaching the MultiRack Host PC separately to the consoles external management network. For further information, please refer to the “Waves Plug-In Server for mc^2“-User Guide.

Attention: If your system relies on an integration setup, that is not mentioned above anymore, loading back your configuration into AdminHD will automatically move it to the “Waves MultiRack connection via 2nd NIC within the external network”-option!

Release Notes and supplementary Guide

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Version 3.0 – 2019-12-19

Contents

1. RJ45 SFP support for A__UHD Core

Release version 6.2.2 adds basic support for 1000BASE-T Copper/RJ45 SFPs with A__UHD Core.

Implementation details:

- Support for Lawo SFP 981/60-60 (manufacturer part# Avago ABCU-5731ARZ)
- Link speed is fixed to 1000 Mbit/s.
- Auto-negotiation is always switched on and must be supported on the network fabric side.

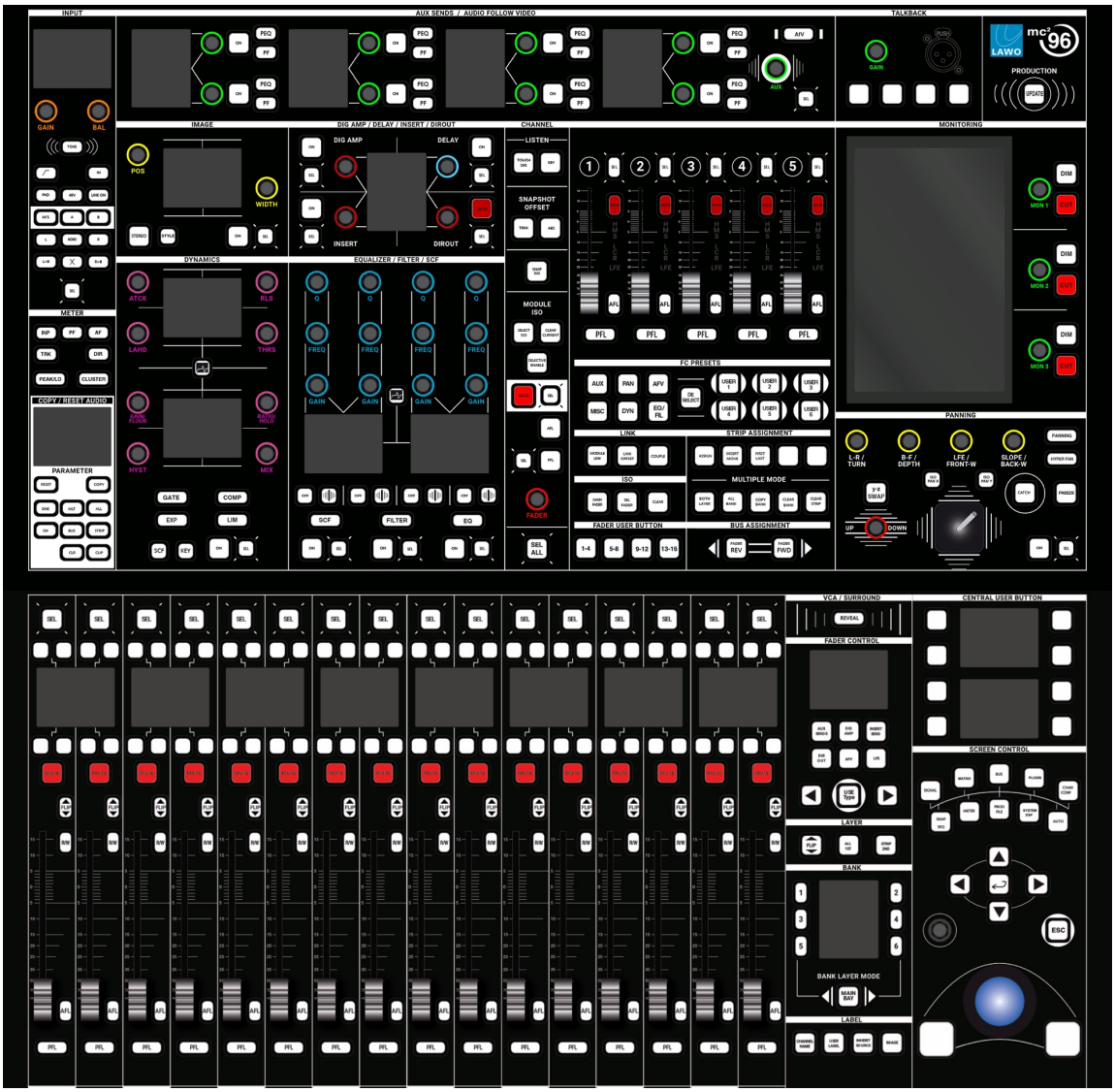
2. Waves SuperRack v11 compatibility

Waves released a new major software revision of its well established MultiRack SoundGrid software. SuperRack adds considerable new features and a touch optimized all-new user interface. SuperRack is fully compatible with Lawo's MultiRack SoundGrid Remote Integration.

3. Support of the new mc²96 Xtra Fader option

Introduced at the IBC Exhibition 2019 in Amsterdam, the mc²96 provides a new surface option, extending the central faders to 16. This Xtra Fader option can be retrofit to any existing console and provides even more channel access in the console's sweet spot. The lower User Panel slot of the mc²96 Central Upper panel is used to locate FC PRESET, LINK, ISO, STRIP ASSIGNMENT, BUS ASSIGNMENT and FADER USER BUTTON keys.

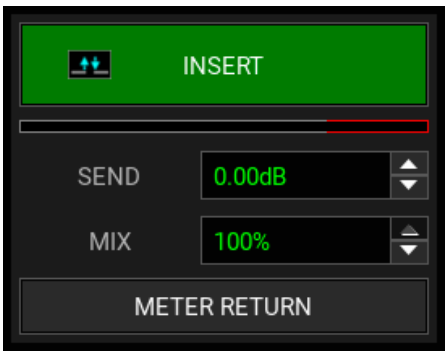
In order to commission an Xtra Fader panel, the console's **system type** and the **console_config.tcl** needs adaption.



4. Introduction of Mix parameter for Insert Return

Following the MIX parameter for the COMPRESSOR module, from Release 6.2.0 there is also a wet/dry adjustment added for the physical INSERT of each processing channel. It can be adjusted in 1% steps, while 100% is using the inserted “wet” path completely and 0% is using an internal parallel “dry” path. Please be aware, that the console does not take care about any latency compensation for latency added by inserted processing, but this needs to be handled manually.

In addition, a button was introduced, that allows for SEND or RETURN metering selection. If the button **METER RETURN** is lit green, the meter bar displays the return signal level.



5. 2nd Layer usage for Reveal

After the introduction of Dual Fader panels for both mc²56 MKIII and mc²96, the REVEAL functionality has been expanded in order to also handle these areas as potential Reveal zones.
In System Settings > Console > Reveal it is possible to determine the **Reveal Strip Type**, being either Main, Strip1st or Strip2nd. Set this to **Strip2nd** in order to operate the Reveal zone in a Dual Fader area.

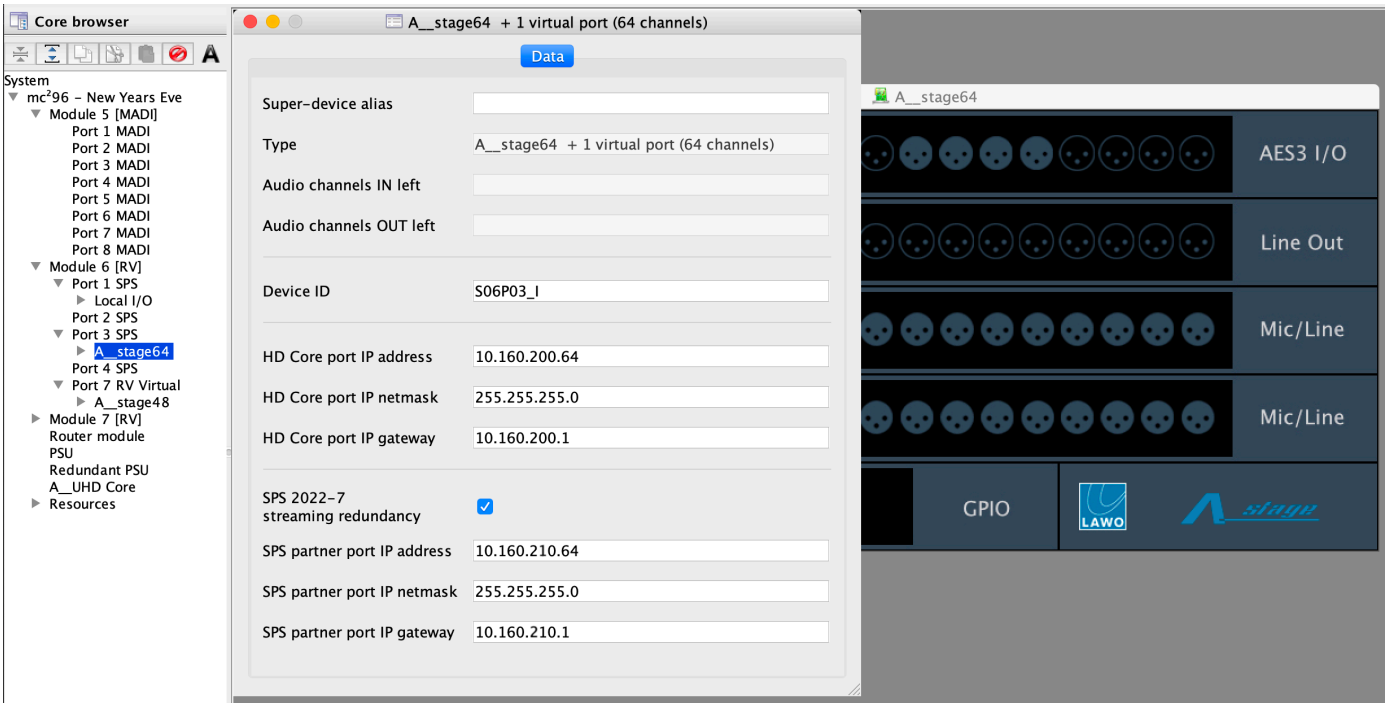
6. Integration of A__stage series

At BVE 2019 in London, Lawo introduced three new members of its A__line series of IP based audio IOs. The A__stage consists of three variants, that can now be used as fully integrated IO nodes with any mc^2 console or Nova73/37 router running at least release version 6.2.0. The integration provides automated stream management, alarm management and the possibility to remote control microphone head-amps and AES3 input SRCs.

Being a pure IO based node, the A__stage units can only be connected via RAVENNA, SMPTE ST2110 or AES67 networks. RAVENNA Link is not supported. Therefore, no point-to-point connection can be realized at this point in time.

Any of the three A__stage variants can be added as IO device in AdminHD in the usual manner. Each A__stage unit consumes 64 channels of a RAVENNA port. Therefore, AdminHD always automatically creates an additional virtual RAVENNA port, that can either be used for further A__stage units, Power Core RP or also raw SMPTE ST2110 64-channel tie-lines.

The MADI port of an A__stage unit is not being addressed right now. This can be done by using a raw 64-channel tie-line and manual stream setup. A more convenient way of doing this will be introduced in a future upcoming release.

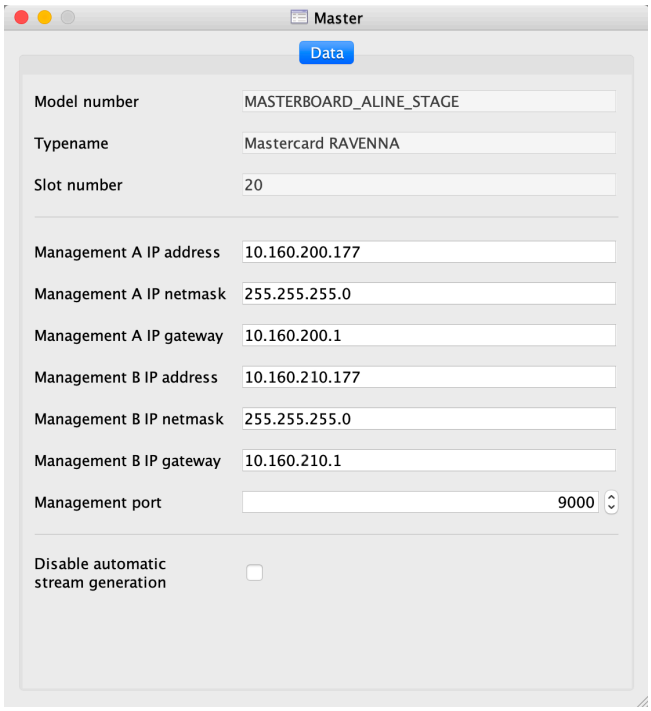


After configuration in AdminHD, upload of the created config.tcl-file and a coldstart of the system, it is only required to configure the desired IP addresses on the A__stage's Web-UI.

Out-of-band and in-band control

The A__stage integration supports both out-of-band and in-band control schemes. If out-of-band or in-band control shall be used is determined from the configuration only.

The Management A/B IP address fields of the A__stage Mastercard do not necessarily refer to the MGMT interface of the A__stage unit. These entries are more a functional than a physical reference.



For **out-of-band control**, just enter the IP address that is assigned to the A__stage's MGMT port as Management A IP address in AdminHD and leave Management B empty.
On the A__stage unit, no more adaptions are required. As soon as a proper network connection between the A__stage MGMT port and the Routers ETH B ports is available, the unit will become available, streams will be setup automatically and the units IO parameters can be controlled

For **in-band control**, just enter the primary RAVENNA interface of the A__stage unit as Management A IP address and subsequently the secondary RAVENNA interface as Management B IP address (if SMPTE ST2022-7 is used for redundant streaming connection) in AdminHD.

Since the A__stage unit still needs to connect to the Routers ETH B ports, some more sophisticated adjustments are required.
If the management network is a L2 network, that does not use any routing, it is possible to simply re-use the Gateway entries of the A__stage's RAVENNA ports. If the HD Core's primary RAVENNA port has the IP address `10.160.200.64` (like in the example above) the Gateway in the A__stage unit would need to be set to `10.160.200.64` in order to establish a successful control connection between A__stage and Core.

Remark: If any further IO routing is done within the A__stage's Web-UI, please be aware, that this will be overwritten from MCX control system after any cold- or warmstart. If it is wanted to manually route signals (e.g. parallel feed microphone inputs to the MADI port for a Front-of-House console), please make sure to check the "Disable automatic stream generation" checkbox in AdminHD. This can also be done after an initial stream setup. Existing streams will remain untouched from version 6.2.0 onwards.

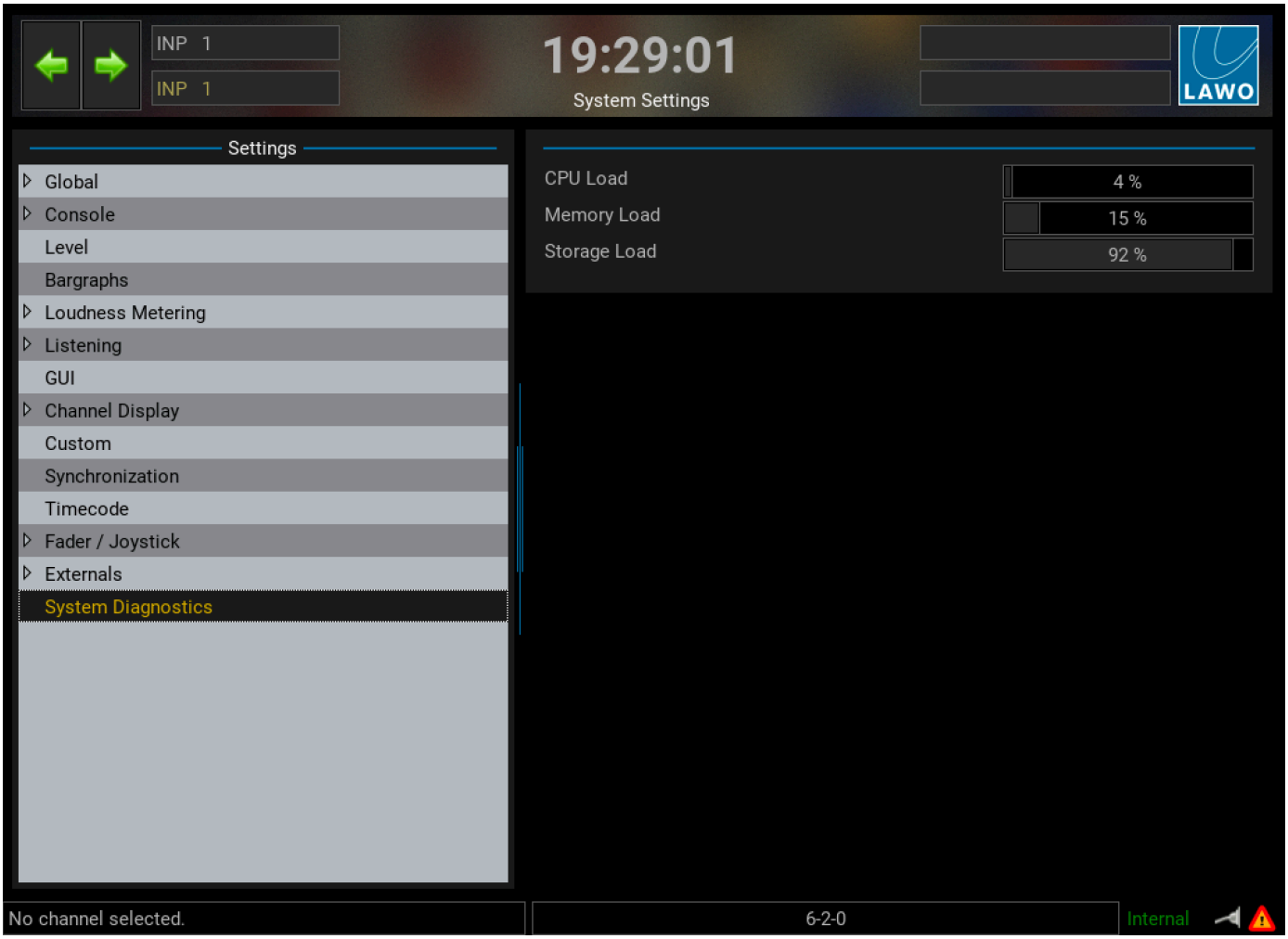
Attention: Device IDs may not start with numbers!

7. DSP type cross-compatible Production and Snapshot load

Release 6.2.0 allows Production and Snapshots being loaded independent of the used DSP type of the current system. Both traditional Sharc-board based systems and A__UHD Core based systems can share the same Snapshot files.
It is now even possible to load RECORDING style snapshots with BROADCAST DSP configurations and vice versa. Required transformations are done best effort according to the possibilities of the different DSP types.

8. Data, CPU and Memory Load displayed in System Settings

For more convenient diagnostics of the mc^2 consoles and Nova routers, display of several control system parameters has been added to System Settings > System Diagnostics.
CPU, Memory (RAM) and Storage (Data CF card) load can be taken from there in %. If one of these parameters reaches critical level, an exclamation mark shows up in the lower right corner of the Central GUI. Furthermore, a global alarm will be triggered.



9. Introduction of mcxRavennaAgent

For more convenient diagnostics of the mc^2 consoles and Nova routers, display of several control system parameters has been added

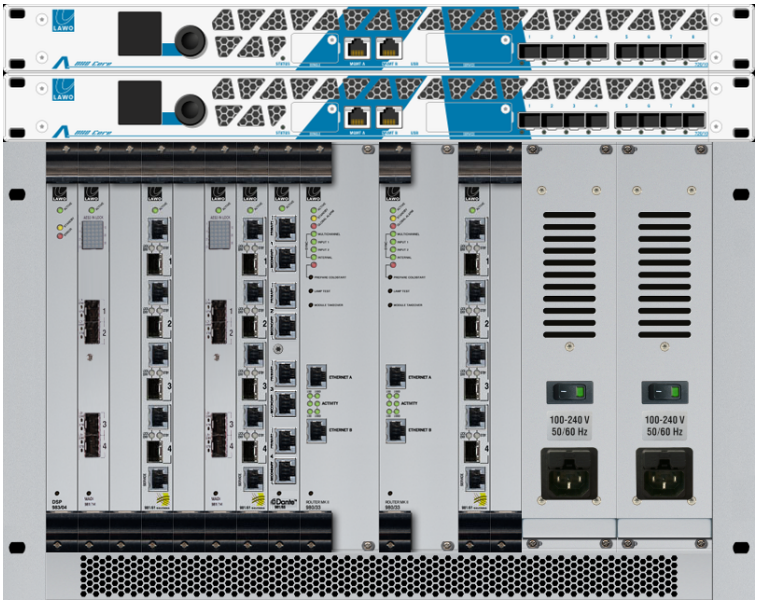
The concept of automatic stream setup saw multiple changes over time, starting from ravenna_config files exported by AdminHD to a small client running on each and every network node. From MCX version 6.2.0 onwards, there is one central instance running on the Router MKII, that is orchestrating the streams within the mc2/Nova environment, called mcxRavennaAgent. mcxRavennaAgent is able to connect to every network node, that is supposed to receive or transmit streams from and to the HD Core/Nova.
There are a few differences and improvements compared to former implementations. These are:

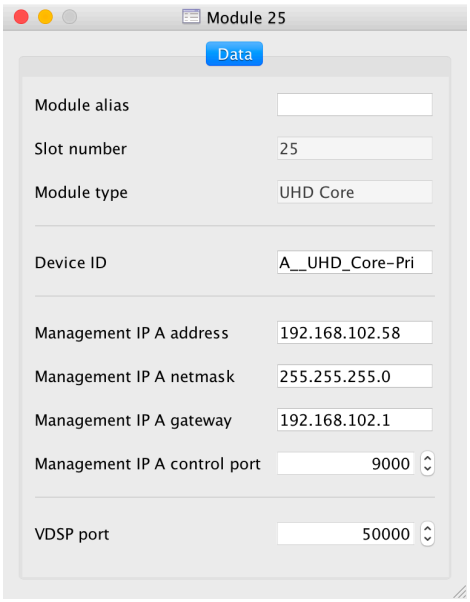
- If the “Disable automatic stream generation”-flag is raised in AdminHD, already setup streams won’t be removed anymore. They can be used as a starting point, being adapted according to the requirements.
- TX parameters of streams may be customized, using the ravenna_agent.config file. Please refer to the Technical Documentation TD_Manual_Multicast_Adresses_mcxRavennaAgent_v1.1 for further info.
- mcxRavennaAgent handles stream setup with Power Core RP and A__stage units, without the need of running any script on these devices.
- Automatically created and connected streams will no longer be announced via mDNS, in order to reduce load and overhead in the network.
- RX frameSize is no more calculated as 256 / channelCount, but is
    - 1 for A__UHD Core / DSP Link card streams
    - 2 for 64 channel streams from / to DALLIS frames, Local I/Os, Compact I/Os and Power Cores.
- RX: delay is no more 128 samples, but 48 everywhere, except for A__UHD Core / DSP Link cards for which it is 8.

10. Remarks on A__UHD Core

Using AdminHD 6.0.0, the A__UHD Core and a potential redundant unit can be configured. Please remove any existing traditional DSP boards 983/03 or 983/04 from your system configuration and add the corresponding number of DSP Link boards 981/61L. One DSP Link board will be required for 256 processing channels each. E.g. a 1024 processing channel system will require four DSP Link boards.

Selecting the UHD Core in AdminHD's core browser, please fill in the management IP address of the A__UHD Core in order to enable control connection of the mcx control system.





After uploading the created config.tcl to your system, it is only required to assign the IP addresses of the A__UHD Core's management and streaming interfaces, using its web-interface. The current set IP address of the MGMT A port can be read from the A__UHD Core's front display.

Control connection and stream setup between HD Core and A__UHD Core will be setup automatically, without any user interaction required. If a connection to the configure A__UHD Cores could be setup properly, can be retrieved from the MCX status bar in the lower right corner of the Central GUI.

11. Known limitations of A__UHD Core

- The AMBIT Upmix module is not yet enabled and cannot be switched on in the System Settings. If a production file containing an active AMBIT Upmix module is being loaded, it will be switched of automatically.
- PTP slave mode is not yet enabled – please make sure to connect the WCLK IN of the A__UHD Core(s) with the WCLK OUT of its corresponding HD Core.
- Alarm notification is not yet supported, please refer to A__UHD Core logfile, if there are any issues.
- Time-limited licenses are not yet supported.
- 256 processing channel systems only support either SurrAFL1 + stereo PFL1 or stereo AFL/PFL1 + AFL/PFL2.
- 256 processing channel systems only support surround formats up to 5.1.
- 96 kHz is not supported with A__UHD Core systems.
- MGMT B port of A__UHD Core is not supported.

12. Major extensions and fixes

This list is an extract of the most important enhancements and fixed bugs. For detailed information on a specific bug or enhancement, please contact our service department.

Changelog Release 6.2.0.2

17081 – Using Plugin Edit page via VNC only allows for “hong” being the password

18664 – When loading a DSP profile that adds additional channels to a partial surround bundle, the Surround Master is not correctly set for the newly configured members

19493 – SWAP & RELOCATE for single faders does not work across multiple banks

19543 – Reveal Panel not cleared when loading a new production

19973 – A__UHD Core: Remove Track column on Bus Assign page

20010 – SUM and AUX channels show x-Axis panning in their Main Display.

20136 – Power Core RP: Return signal labels are inverted

20137 – Power Core RP: Display "Remote Production" signals right after the console DSP signals

20170 – "Ignore External Parameter Changes When Sensed" not stored in productions

20175 – A__UHD Core: AFL1.7 is always getting signal in 5.1 configurations

20185 – AFL2/PFL2 follow access functionalities doesn't work in ISO BAY extended FC control mode

20198 – Virtual input source mapping for Power Core RP is only working for channel RP INP 1-32, but not for Studio IO boards

20232 – An active integrated loudness measurement on surround bundles is not loaded from productions

20238 – Channel Preset load / save partially broken

20243 – DALLIS port redundancy control connection does not send control commands

20252 – mcxRavennaAgent does not setup SPS streams for Power Core RP

20310 – A__UHD Core: The K-Weigthing-Filter for Loudness Metering is wrong and it displays -0.81 dB less

20313 – A__UHD Core: SCF building block on the channel config page is misplaced

20318 – Multicast IPs are not correctly resolved when using the ravenna_agent.config

20331 – Access follows AFL/PFL: Prohibit access channel assignment when deactivating AFL/PFL

Changelog Release 6.2.0.3

20345 – Metering may flicker after powercycle of redundant A_UHD Core pair

20352 – All filterband-types are initialized to Constant-Q

20353 – Extensive parameter modification leads to full-scale pop and dead DSP channel afterwards

20354 – Switching filterband-type from Constant Q to Bell does not yield any response

20359 – No active A__UHD Core unit if redundant system configured but only 1 A__UHD Core is present

Changelog Release 6.2.2.1

20260 – Empty (black) Plug-in Edit Page (RDesktop) after User Button access to MultiRack (via VNC)
20273 – Unable to connect to Waves SuperRack via RDesktop after Reboot of HD Core
20364 – Reveal area on main strips is not correctly updated after bank switching
20392 – Device IDs starting with numbers crash A__stage control
20393 – System attempts to load corrupted snapshots as is, causing fileworker segfault

Changelog Release 6.2.2.2

20437 – MultiRack SG remote control connection cannot be established

Changelog Release 6.2.2.3

18541 – RV Butler does not start-up after reboot
19345 – Clicking and popping with SPS connections, sounding similar to packet loss
20264 – RV boards may not boot properly
20372 – Corrupted RAVENNA.cfg after regular system shutdown
20408 – Touch Sense Listen is not cleared when letting go the FC after switching from/to mono/stereo/surround
20423 – RV Butler crashes with multiple active connections from mcx / VSM
20436 – ISO set file compression fails on extensive ISO set content
20440 – RX streams from configured virtual devices show no subscription to a HW interface
20452 – Reset by double tap does not work properly in every scenario
20455 – Copy EQ function does not work correctly due to Notch filter macro remaining active

13. Contacting the Support department

If you need assistance with updating your system, please contact our support 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: support@lawo.com

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