Migration Guide from firmware V2 to V3

This document gives you a short overview of the differences between V2 and V3 firmware.

Incompatibilities

There are some Incompatibilities between V2 and V3 Firmware, so have a look at those sections to verify that V3 satisfies your requirements.

API

Output Routing

Volume / Gain

Presets

DSP functionality

How do I determine the Firmware Version?

The Firmware V2 Version is located on the Web Page in the right upper corner and is indicated by the string “V2.xx.xx”

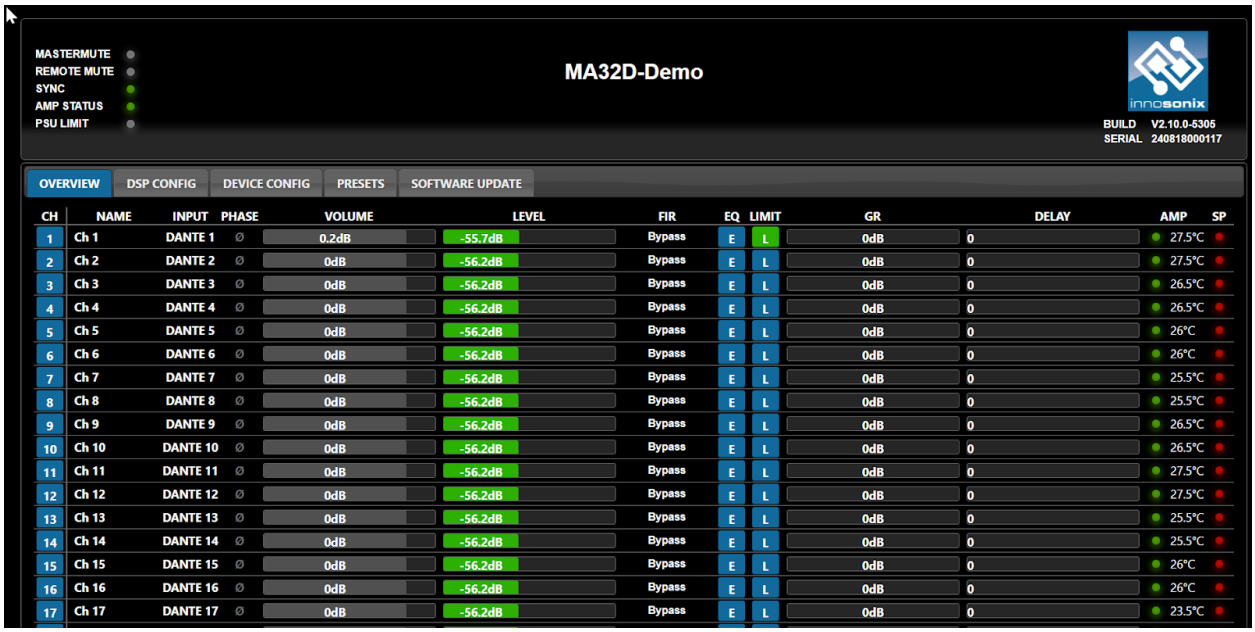
On the V3 Firmware, it’s located in the lower-left corner overview Page and is indicated by the “Version 3.x.x” string

GUI

Complete rework of the GUI which offers a much easier user interface with easy access to the most common parameters. The webpage is also optimized for different window sizes and tablet / mobile phone views.

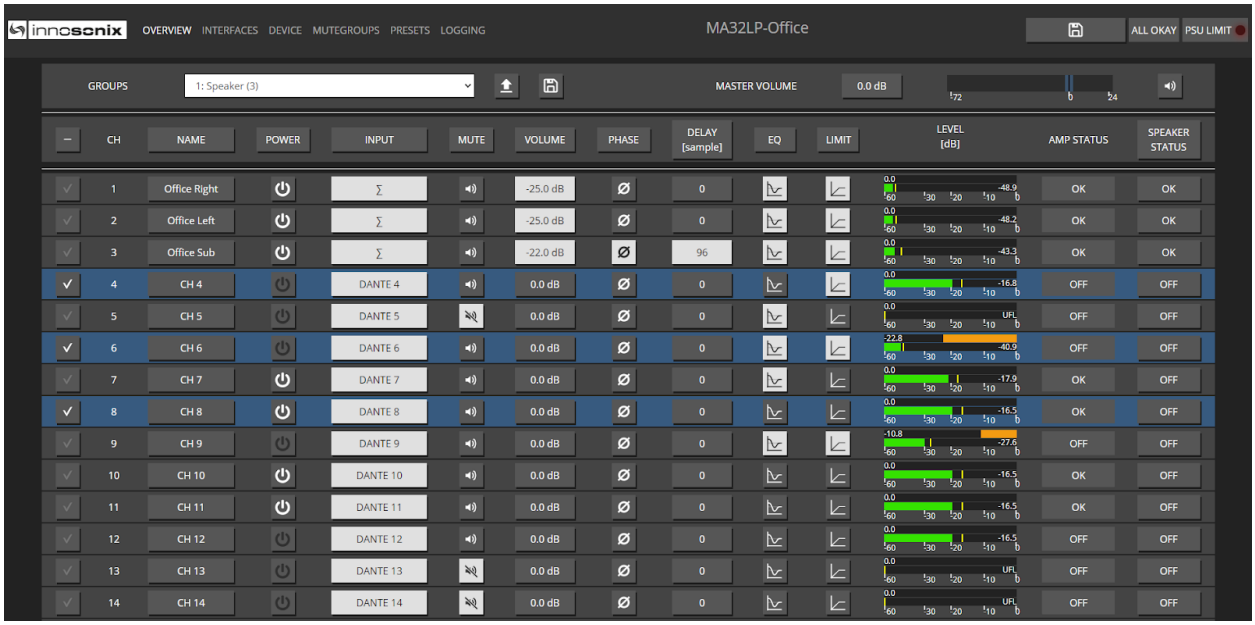
Overview Page

V2:



CH	NAME	INPUT	PHASE	VOLUME	LEVEL	FIR	EQ	LIMIT	GR	DELAY	AMP	SP
1	Ch 1	DANTE 1	Ø	0.2dB	-55.7dB	Bypass	E	L	0dB	0	27.5°C	
2	Ch 2	DANTE 2	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	27.5°C	
3	Ch 3	DANTE 3	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	26.5°C	
4	Ch 4	DANTE 4	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	26.5°C	
5	Ch 5	DANTE 5	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	26°C	
6	Ch 6	DANTE 6	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	26°C	
7	Ch 7	DANTE 7	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	25.5°C	
8	Ch 8	DANTE 8	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	25.5°C	
9	Ch 9	DANTE 9	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	26.5°C	
10	Ch 10	DANTE 10	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	26.5°C	
11	Ch 11	DANTE 11	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	27.5°C	
12	Ch 12	DANTE 12	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	27.5°C	
13	Ch 13	DANTE 13	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	25.5°C	
14	Ch 14	DANTE 14	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	25.5°C	
15	Ch 15	DANTE 15	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	26°C	
16	Ch 16	DANTE 16	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	26°C	
17	Ch 17	DANTE 17	Ø	0dB	-56.2dB	Bypass	E	L	0dB	0	23.5°C	

V3:



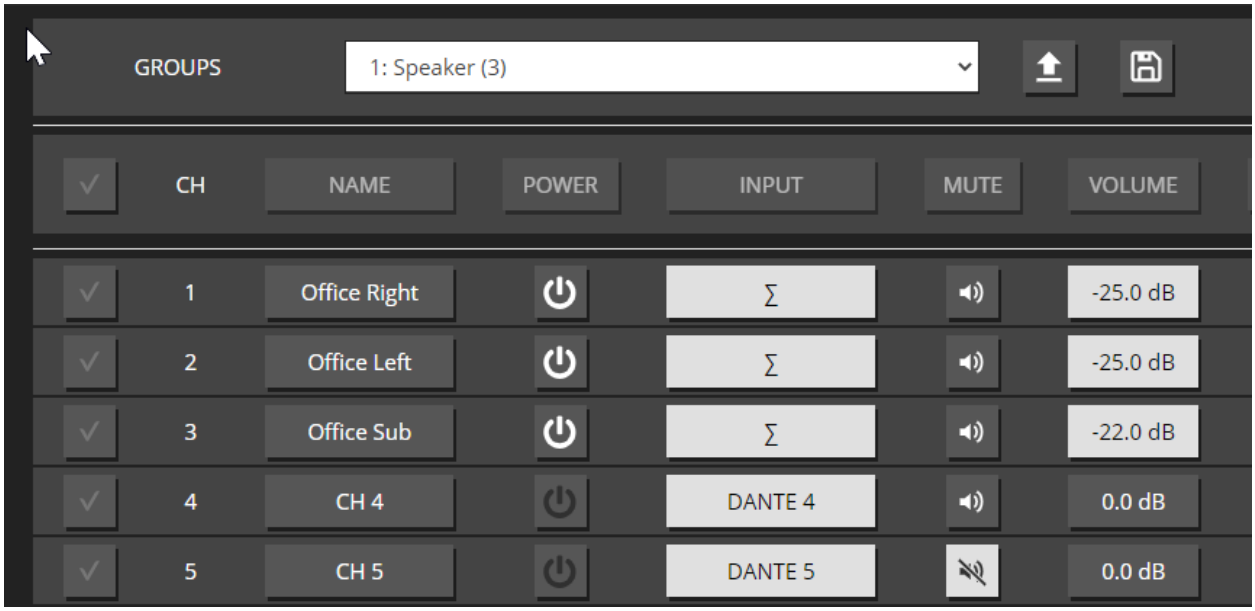
CH	NAME	POWER	INPUT	MUTE	VOLUME	PHASE	DELAY [sample]	EQ	LIMIT	LEVEL [dB]	AMP STATUS	SPEAKER STATUS
1	Office Right		∑		-25.0 dB	Ø	0			-48.9	OK	OK
2	Office Left		∑		-25.0 dB	Ø	0			-48.2	OK	OK
3	Office Sub		∑		-22.0 dB	Ø	96			-43.3	OK	OK
4	CH 4		DANTE 4		0.0 dB	Ø	0			-16.8	OFF	OFF
5	CH 5		DANTE 5		0.0 dB	Ø	0			UFL	OFF	OFF
6	CH 6		DANTE 6		0.0 dB	Ø	0			-40.9	OFF	OFF
7	CH 7		DANTE 7		0.0 dB	Ø	0			-17.9	OK	OFF
8	CH 8		DANTE 8		0.0 dB	Ø	0			-16.5	OK	OFF
9	CH 9		DANTE 9		0.0 dB	Ø	0			-27.6	OFF	OFF
10	CH 10		DANTE 10		0.0 dB	Ø	0			-16.5	OK	OFF
11	CH 11		DANTE 11		0.0 dB	Ø	0			-16.5	OK	OFF
12	CH 12		DANTE 12		0.0 dB	Ø	0			-16.5	OFF	OFF
13	CH 13		DANTE 13		0.0 dB	Ø	0			UFL	OFF	OFF
14	CH 14		DANTE 14		0.0 dB	Ø	0			UFL	OFF	OFF

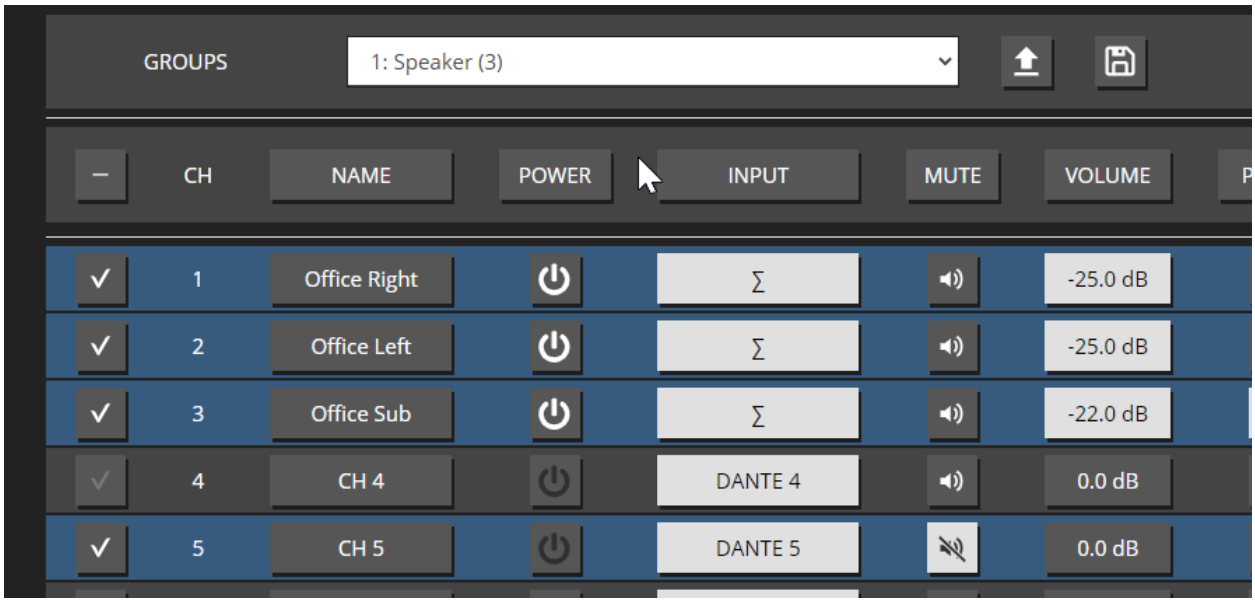
- Sample synchronous Level and Gain Reduction meter with ~100ms update rate
- Upload / Download of channel names via .csv file for easy naming

Selection Groups / Multi Edit

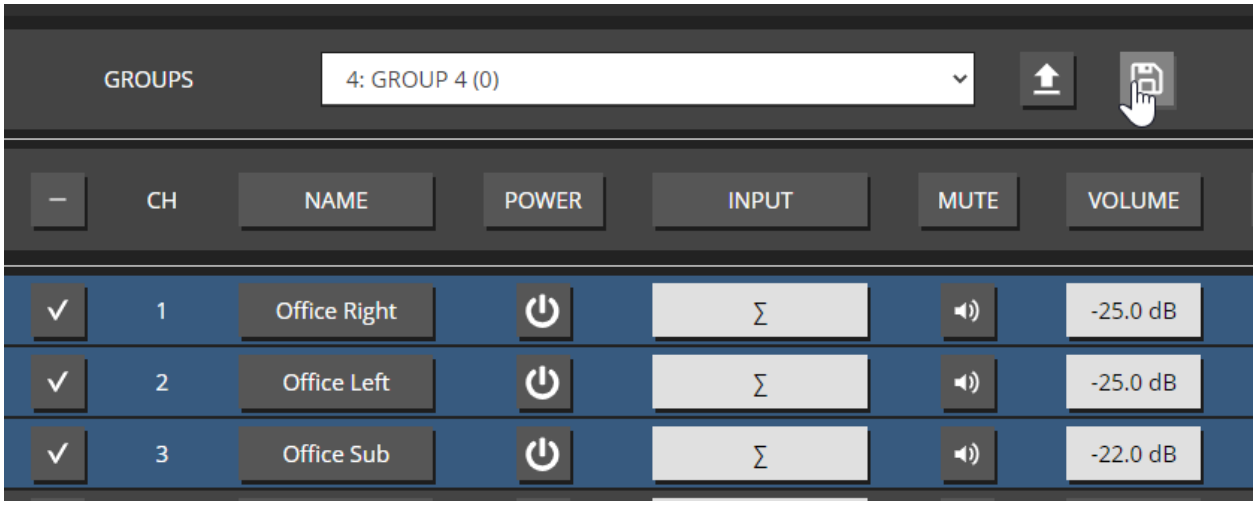
Multiple channels can be selected by clicking on the “ok hook” symbol. This feature enables the “Multi Edit” functionality indicated by the active headline buttons (NAME, POWER, …).

The selection/deselection of all channels can be achieved using the “ok hook” / “hyphen” symbol on the headliincne row.

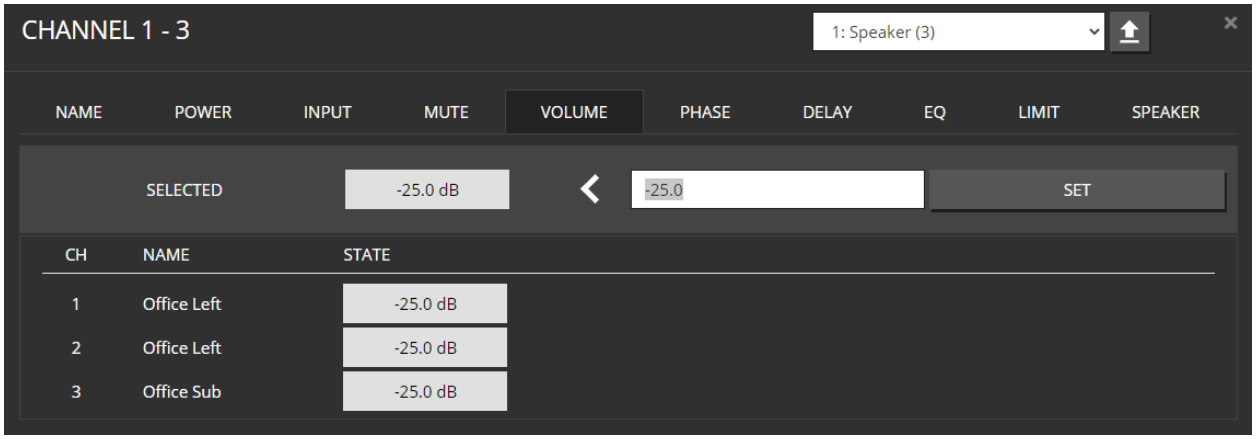


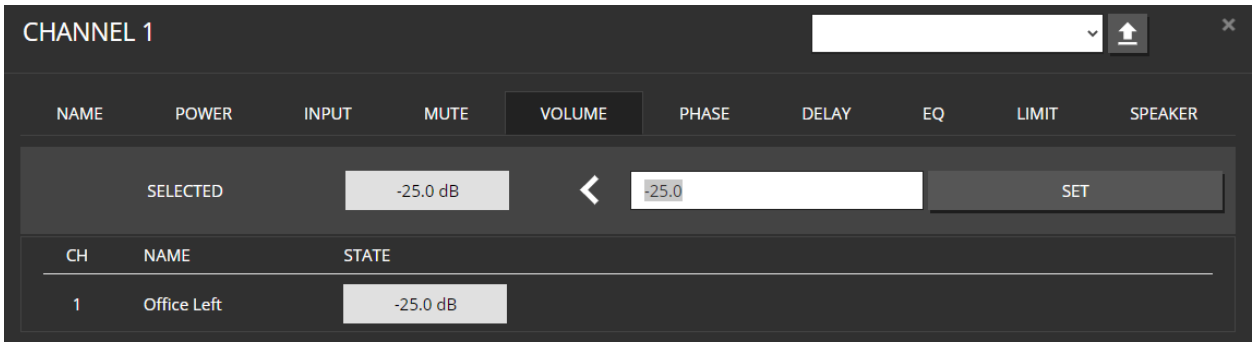


The desired selection can also be saved as a group, by choosing a group slot (1-16) and pressing the “DISK” on the right side of the dropdown menu. An already saved selection can be applied by pressing the “ARROW UP” button.



Clicking on the Headline opens the “Multi Edit” Popup, clicking on the actual channel setting opens the “Single Channel” Popup, which shows more detailed information in some tabs.

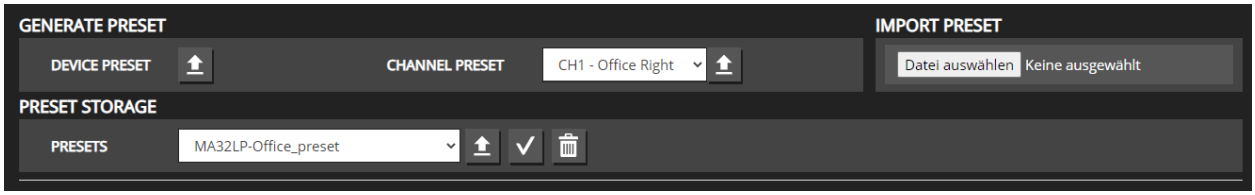




Preset Editor

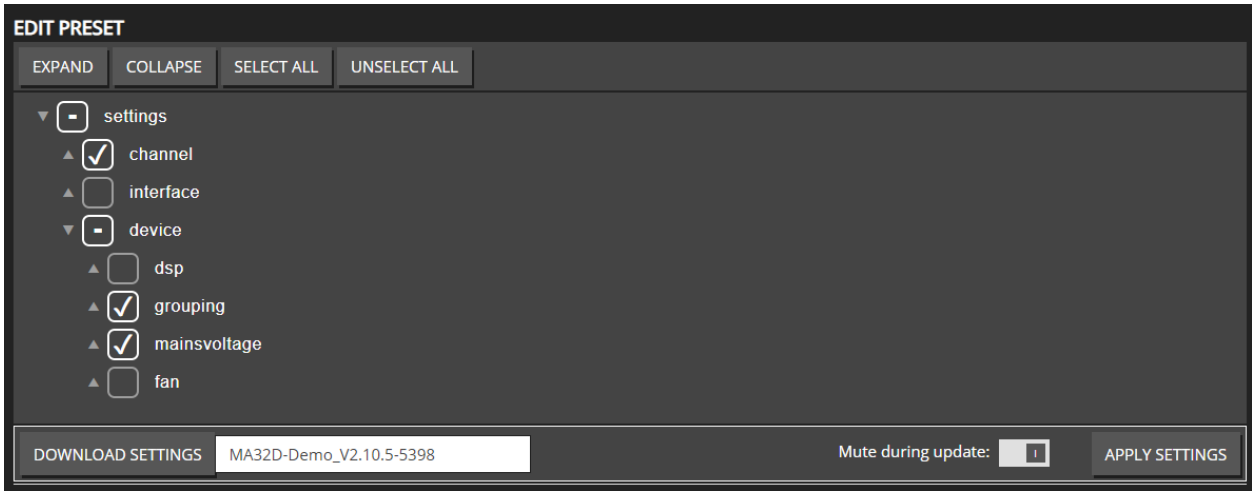
NOTE: There is currently no Preset Storage on the devices with production date before Q1 2021, thus calling a predefined set of settings with a single API call is not possible. This is currently a difference compared to the V2 firmware (Presets / Channel Presets)

The new Preset Editor allows you to load either device presets, channel presets or files.

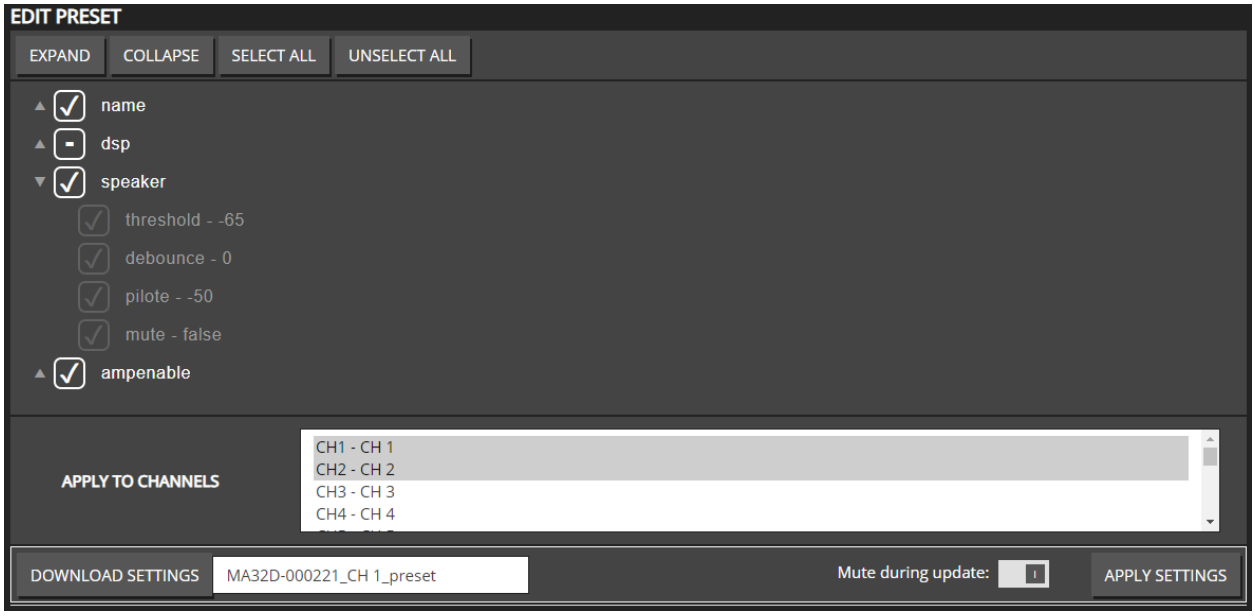


Once a Preset is loaded, the editor shows all settings included. It's now possible to deselect/select different settings to modify the editor's actual content before it's applied to the device/channel or downloaded as a file.

Device Preset can only be applied to the whole Device since it includes everything.

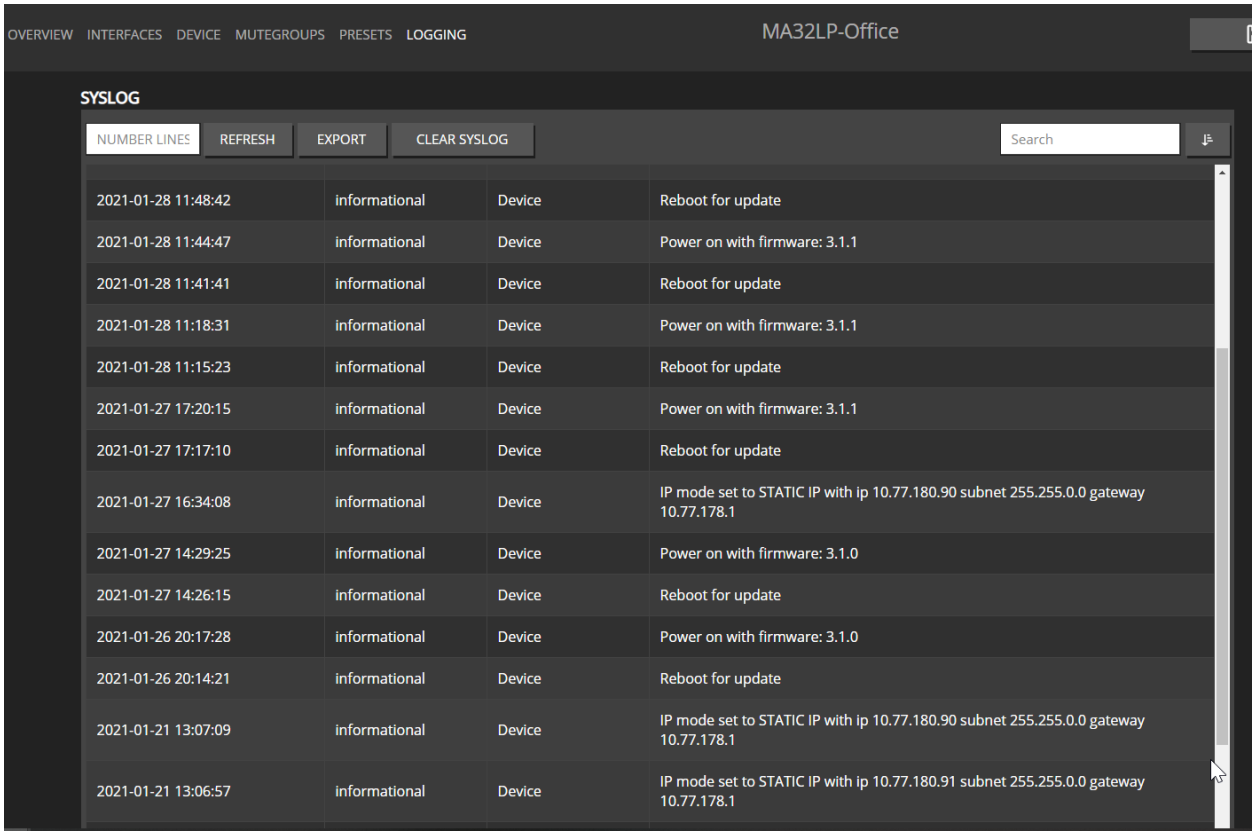


Channel preset instead, can be applied to multiple channels.



Logging

A new Syslog client is implemented, which shows imported events. The logging events will be extended in further releases, so it's not complete yet. MA32 devices shipped before 2021, may not have an RTC (real-time clock) and SD-Card for log storage included.
Thus using the log on those devices may not be persistent after a power cycle, but it still shows all messages available. Time is acquired via the NTP-protocol, if an internet connection is available, but can also be set manually.



DSP functionality

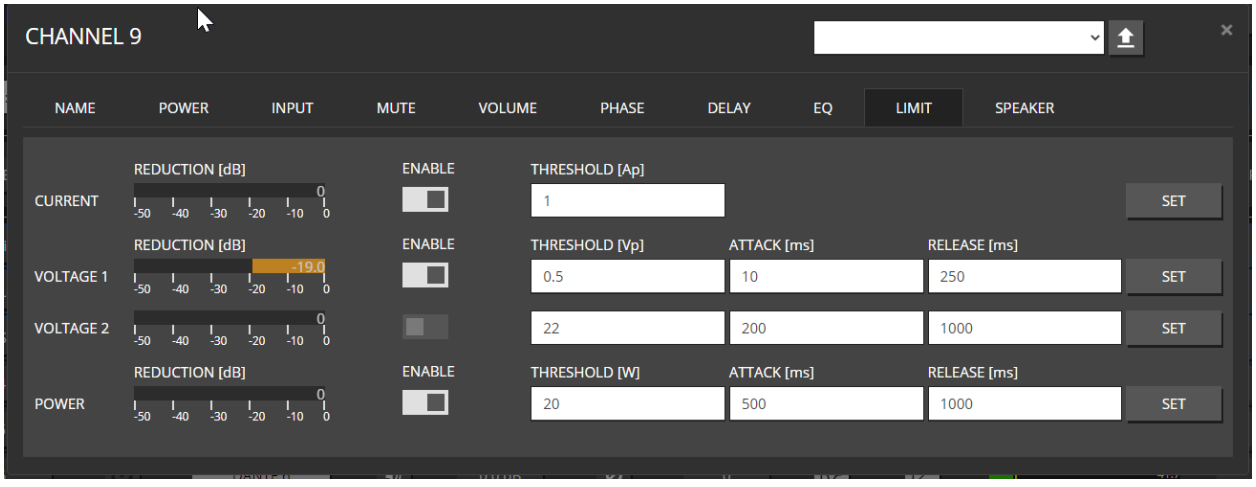
With firmware V3, we improved the DSP capacity of the following parameter:

Feature	V2	V3
EQ	5x IIR	32x IIR
Limiter	1x Voltage, 1x Clip	1x Current, which limits the actual current flows into the speaker. [Ampere Peak] 2x Voltage, with variable time constants [Output Volt Peak] 1x Active Power, multiplication of Output Voltage * Output Current [Watt]
Input Mixer	1x 16x16 Mixer which can sum up 16 Inputs Sources and supply them to 16 DSP channels	32x 16x1 Mixer Each DSP channel got its own Input Mixer. Thus, up to 16 Input Sources can be summed up with different gains for each individual amplifier channel.
Mute Groups	8 Mute Groups	16 Mute Groups

EQ

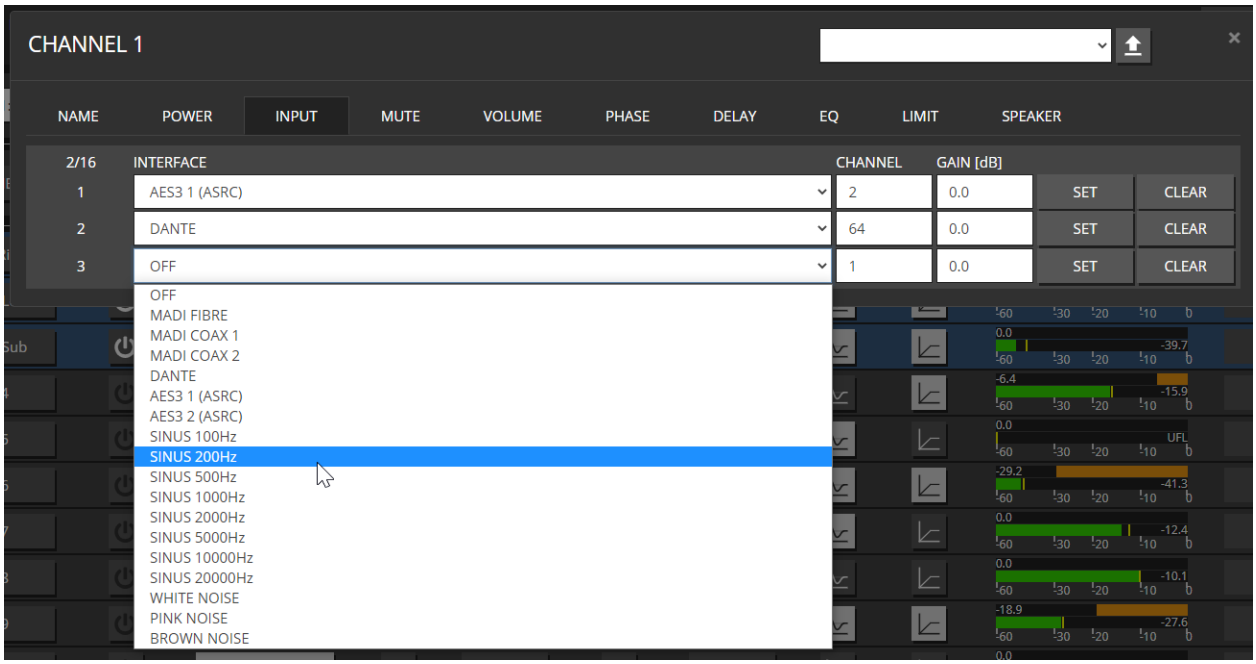
Complete EQ rework which improves the usability.

Limiter



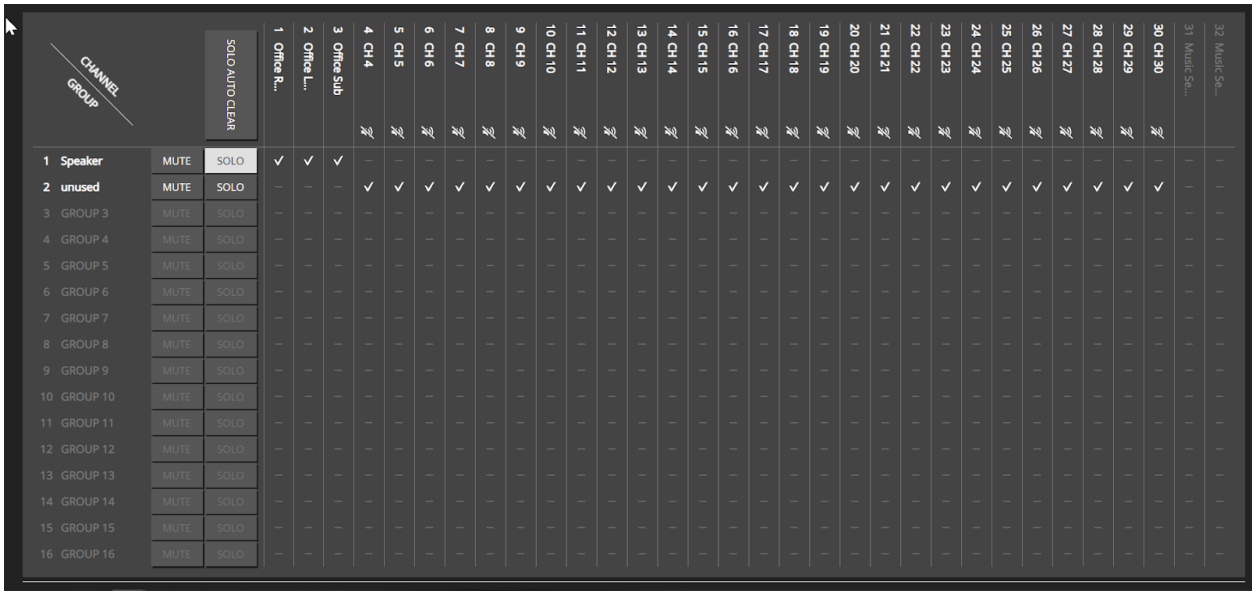
Input Mixer

Up to 16 Input Sources can be summed up with individual gain values per channel.



Mute Groups

Mute Groups are derived from the saved selection groups.



Volume / Gain

NOTE: Volume Gain range is reduced in V3, which shouldn't be a big deal for most applications and are mostly API related.

	V2	V3
Master / Channel Gain	-100.00dB - +24.00dB	-72.0dB - +24.0dB

API

URL Query based API (in V2 firmware)

The API Calls relies on HTTP GET to specific URLs e.g. **http://10.77.180.90/cgi-bin/maxx_data_service.cgi?action=9** to trigger the desired function.

Note:: The main API in V2 is not fully supported in V3 anymore! Only certain commands are kept to ensure compatibility with the existing installations.

Note:: The Volume calls can still use the “legacy” range of -100.00dB - +24.00dB but when read back, it’s truncated to the new range restriction (Volume / Gain)

In V3 supported “legacy” API calls:

- GET / SET master volume
- GET / SET master mute
- GET / SET channel volume
- GET / SET channel mute
- GET / SET channel power
- GET channel speaker status

A full list of all supported commands is available on each device's web interface.

REST based API

The new API in V3, which is also used by the Control-Webpage, is based on REST calls with JSON payload. Every parameter of the amplifier is controllable over this interface.

E.g. Channel 1 Volume:

HTTP GET **http://10.77.180.90/settings/channel/1/dsp/volume** would return a JSON payload with the current active value: `{"value": -12.5 }`

HTTP PUT **http://10.77.180.90/settings/channel/1/dsp/volume** with JSON as payload will set the volume.

A full list of all supported commands is available on the web interface of each device.

mDNS Hostname resolver

V3 Firmware now fully supports Hostname IP resolving via mDNS queries (like http://MA32D-Demo.local) implemented by the avahi-daemon.

Note: This could lead to conflicts during hostname resolving when the Dante Brooklyn Module in the amplifier is set to the same hostname as the amplifier itself.

So ensure that hostnames in your systems are unique.

SNMP

Note: An SNMP status interface like in V2 is not yet available in V3.

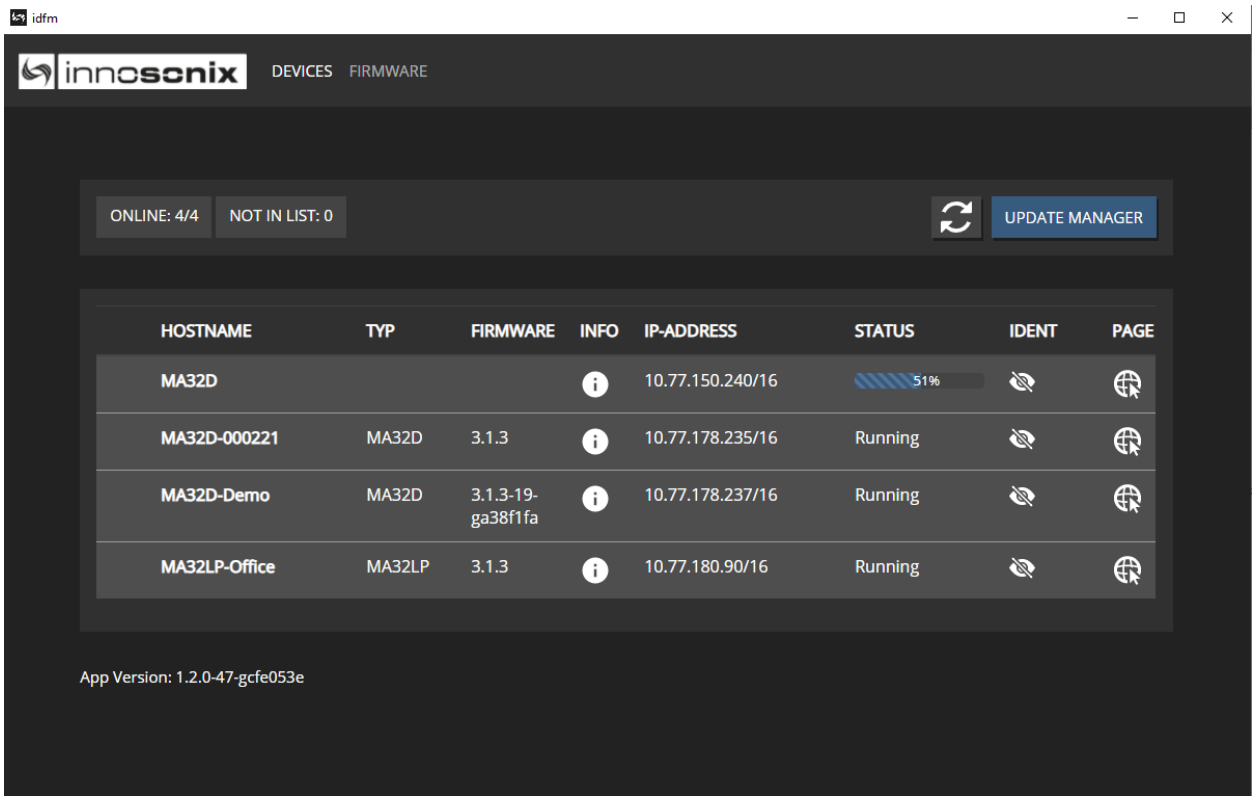
AES70 / OCA

Note: AES70 / OCA is not yet available in V3, existing installations which use that API has to stay with V2 Firmware or contact us for further information.

IDFM (Innosonix Discovery & Firmware Manager)

With V3 Firmware we introduce a new tool which can do:

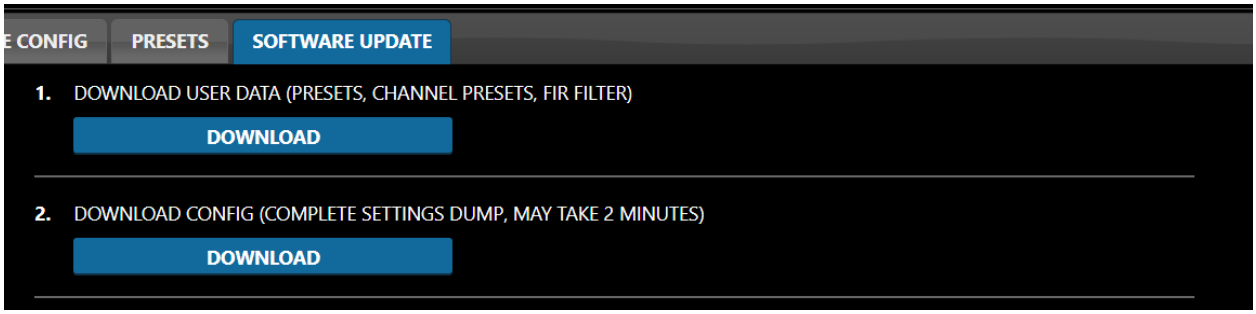
- discovering our device in the network
- changing IP-settings
- changing Hostname
- identify single units by a flashing display
- all discovery commands are sent via UDP-Broadcast, so no IP-subnet boarders can hinder a discovery or IP change
- local firmware storage which can be updated from our web service, to stay always up to date
- offline updating devices from your local firmware storage, even when no internet connection is available



Upgrading V2 to V3

This process is not reversible, so only perform if you agree with major changes listed above!

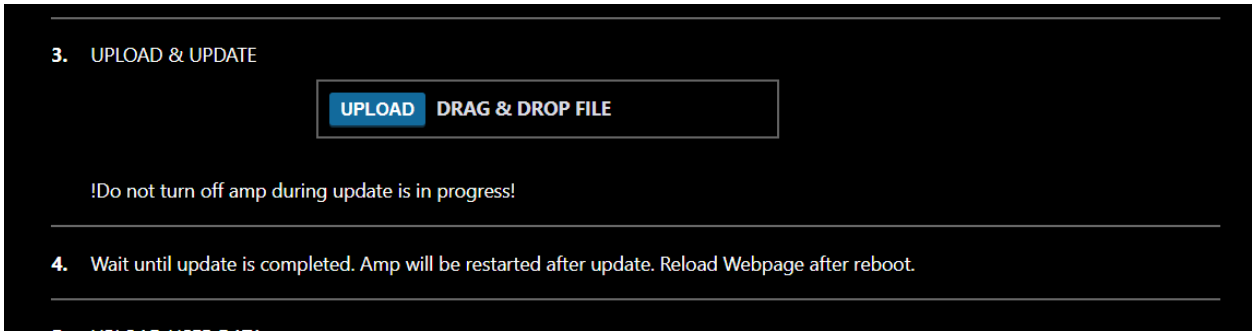
1. update to latest V2.10.6
2. upload and update the device via webpage to V2.10.6
3. download the latest IDFM tool: https://innosonix.de/downloads.html?product=idfm
4. download User Data and Config on device Page



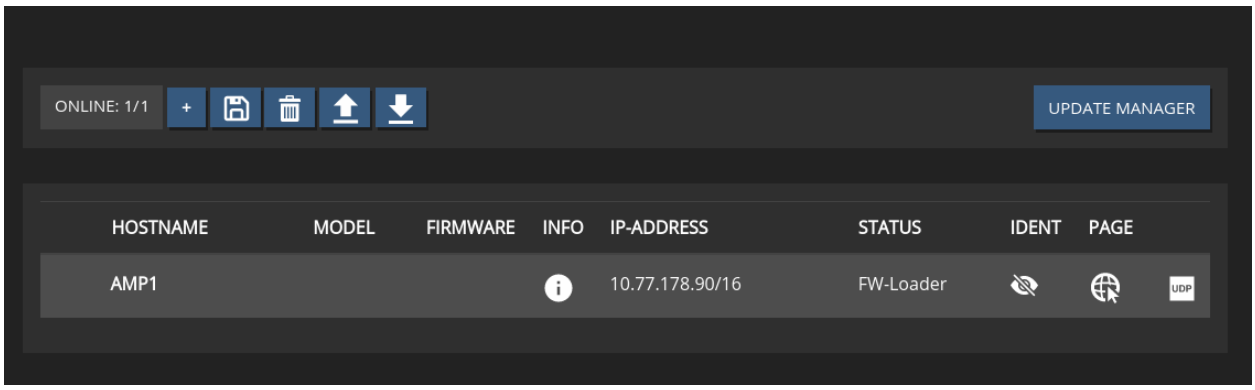
5. Download Mirgration File:

   https://download.innosonix.de/dl/legacy/update-to-maxx-loader-2.1.5.1.inx

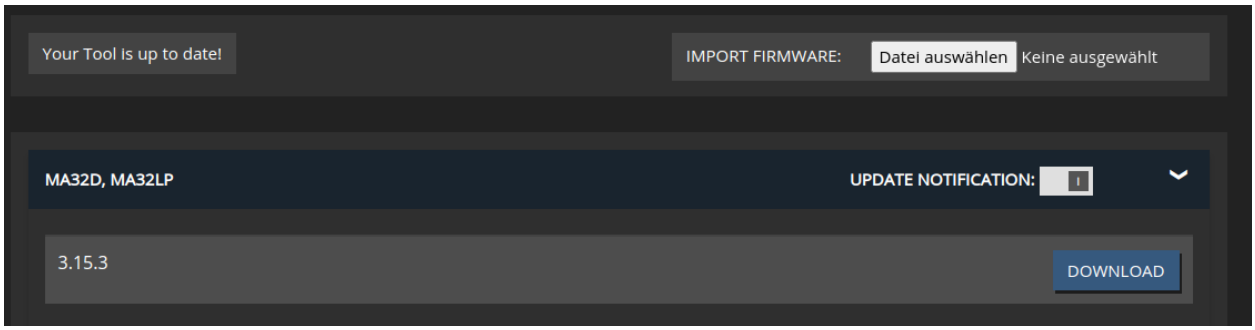
6. **Upload** the downloaded file on device Page. The Update will start automatically



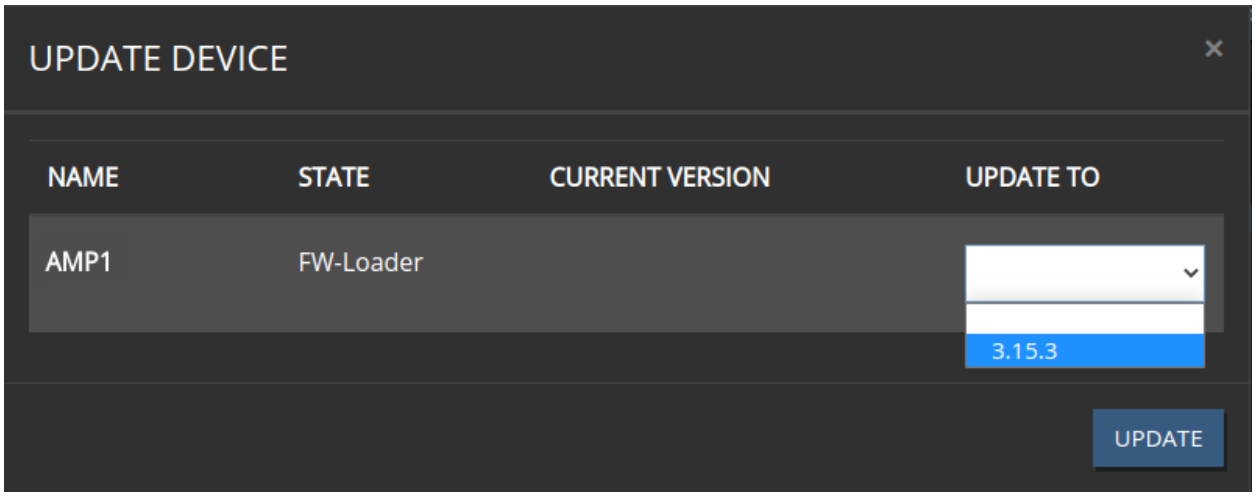
7. Wait till Update is complete
8. Start the tool and search for existing devices in the network.
9. Your Amp will appear in the device list in **FW-Loader** status



10. navigate to the firmware page
11. If not already done, **DOWNLOAD** the newest Firmware to your firmware storage (3.15.3 in our example here)



12. navigate to Devices Page again and open the **UPDATE MANAGER**
13. Select the newest Firmware and Press Update



14. Wait till Update completed, the status will be shown in the device list.

15. If you need to recover your configuration, the Downloaded "**.json**" Config File represents a device Preset. So you can upload the File on the Webpage and restore the settings