

CODA

C O D A A U D I O



New Features
- LINUS Control v2.2.14 -





- 1. New Features 3
 - 1.1. Updates to Loudspeaker Files..... 3
 - 1.2. State Manager 3
 - 1.3. Custom IP Address Range 6
 - 1.4. Standby / Wake Up 7
 - 1.5. Q-SYS Plugin..... 7
 - 1.6. Loudspeaker Menu Declutter 8
 - 1.7. Extended Cardioid Presets 8



1. New Features

1.1. Updates to Loudspeaker Files

APS Arrayed	New	First implementation – addition of Full DS-FIR (High Precision)
APS Single	New	First implementation – addition of Full DS-FIR (High Precision)
APS Arrayed >>	New	First implementation – addition of Low DS-FIR (Low Latency)
APS Single >>	New	First implementation – addition of Low DS-FIR (Low Latency)
N-APS Arrayed	New	First implementation – addition of Full DS-FIR (High Precision)
N-APS Crossover Arrayed	New	First implementation – addition of Full DS-FIR (High Precision)
N-APS Single	New	First implementation – addition of Full DS-FIR (High Precision)
N-APS Crossover Single	New	First implementation – addition of Full DS-FIR (High Precision)
N-APS Arrayed >>	New	First implementation – addition of Low DS-FIR (Low Latency)
N-APS Crossover Arrayed >>	New	First implementation – addition of Low DS-FIR (Low Latency)
N-APS Single >>	New	First implementation – addition of Low DS-FIR (Low Latency)
N-APS Crossover Single >>	New	First implementation – addition of Low DS-FIR (Low Latency)
HOPS12 Fullrange 90° x 60° >	New	First implementation – new product.
HOPS12 Fullrange 60° x 40° >	New	First implementation – new product.
SCP Cardio70X Front	New	First implementation – new Extended Cardioid preset*
SCP Cardio70X Rear	New	First implementation – new Extended Cardioid preset*
SCP Cardio100X Front	New	First implementation – new Extended Cardioid preset*
SCP Cardio100X Rear	New	First implementation – new Extended Cardioid preset*
SCV Cardio70X Front	New	First implementation – new Extended Cardioid preset*
SCV Cardio70X Rear	New	First implementation – new Extended Cardioid preset*
SCV Cardio100X Front	New	First implementation – new Extended Cardioid preset*
SCV Cardio100X Rear	New	First implementation – new Extended Cardioid preset*
SCP Cardio70 (Front & Rear)	Update	Update to timing – please recheck & retune system if in use.
SCV Cardio100 (Front & Rear)	Update	Update to timing – please recheck & retune system if in use.

* See included document “Cardioid deployments” for further information.

1.2. State Manager

It is now possible to store the entire LINUS Control file within the amplifier(s) on the network themselves, then recall this file at a later date. This would enable the user to recall the state of the network to a completely new machine, without having access to a LINUS Control file. The entire state of the LINUS Control file is stored, not just the individual amplifier’s parameters within this file, thus it is possible to recover the entire show file comprising all 250x amplifier’s worth of data + tuning groups etc. from just one amplifier.

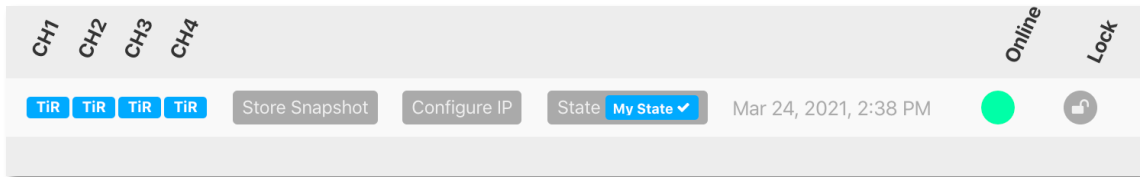
The state is stored to the online Amplifier(s) from the AMPS Page.

The state is recalled from an Amplifier, either from the discovery list, or from the AMPS Page.

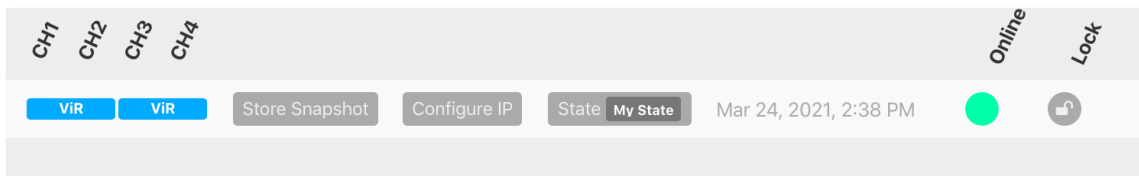


Note – The storing of the state is a manual operation that should be performed when the system engineer / commissioning individual is happy with the current state of the system. Storing the state interrupts audio briefly, so should not be performed during a show.

The current state stored within an online Amplifier is shown on the AMPS page. If the state that is stored within the Amplifier matches **exactly** that of the current state of LINUS Control, the state name is shown with a blue background, and with a 'tick' mark next to it:

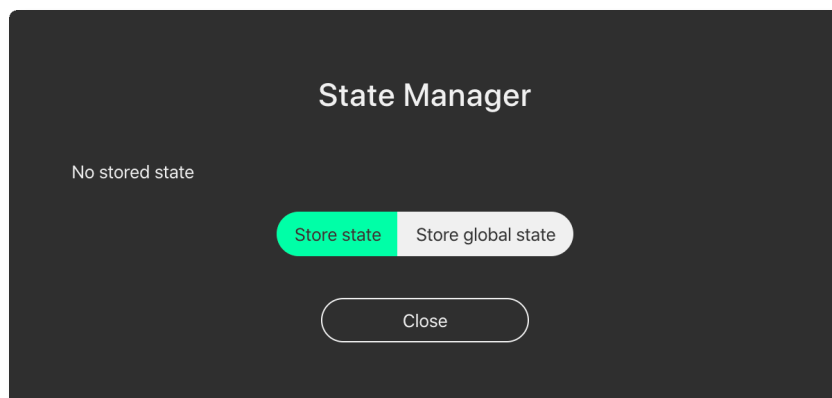


Otherwise, the state will be shown in grey, without the 'tick' mark:



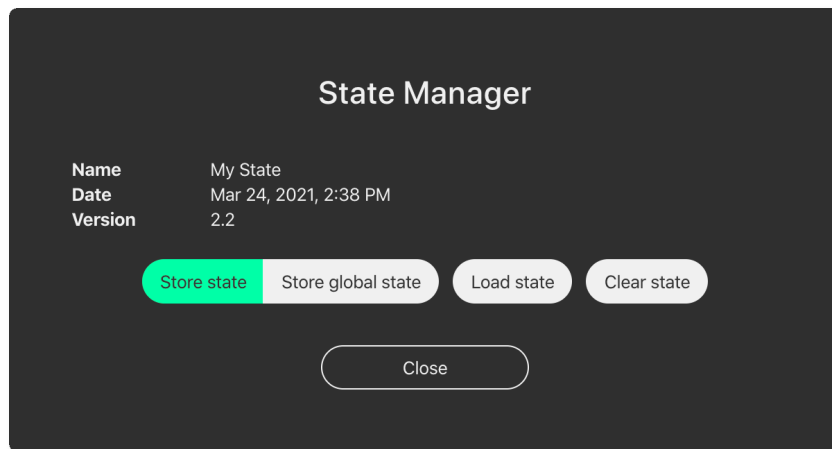
In all cases, whenever there is a state stored within the amplifier, the name of the state is stored within the 'State' button, and the date and time of the store is shown to the right of this.

To store the state of the LINUS Control file to an amplifier, click the State button on the AMPS page; this will present the "State Manager" dialog. You will either be able to store the state to just the one device, or to all devices globally. The picture below shows an amplifier that does not already contain a state:



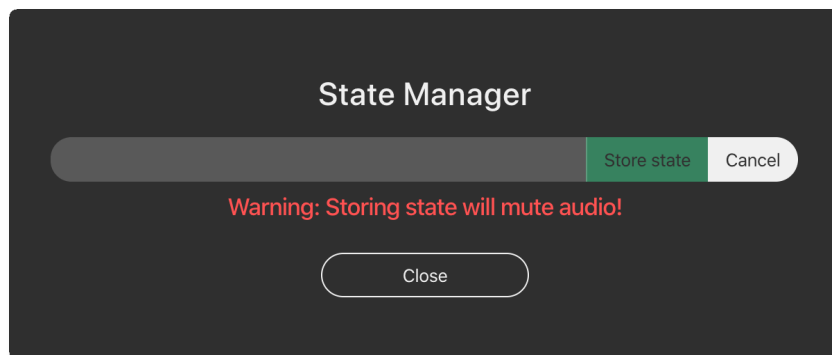


The picture below shows an amplifier that contains a state, entitled “My State”, stored on March the 24th 2021 at 14:38; furthermore, this state was stored with LINUS Control v2.2:

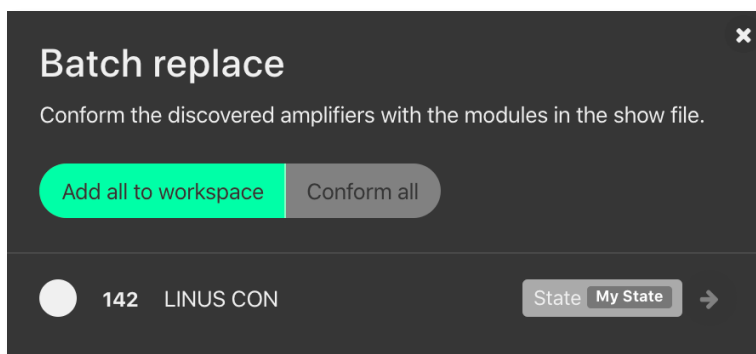


Clicking & confirming the ‘Clear state’ button, will clear the state from that individual amplifier.

Clicking the ‘Store state’ or ‘Store global state’ button will present the following dialog, where you can enter a name for the state store. There is a reminder here, that continuing by clicking ‘Store state’ will mute audio for a moment, whilst the operation is invoked.



As mentioned previously, the state can either be recalled from one of the amplifiers in the AMPS page, or from the discovery list - from an amplifier that is not yet in the workspace:



Clicking the state button next to the amplifier, will present the State Manager dialog, where you can inspect the parameters of the state, and choose whether to load it or not.



1.3. Custom IP Address Range

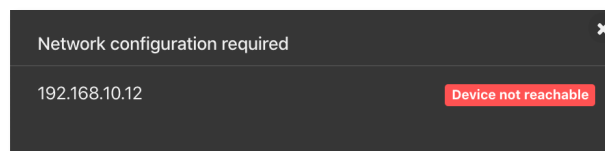
It is now possible for the LINUS Amplifiers & LINUS Control to exist in any IP Range & Subnet, they are not required to be in the 192.168.1.X range.

There is still a limitation of 250x amplifiers on a network, for them to be controlled with LINUS Control, and the amplifiers are still individually identified within LINUS Control by the last octet of their IP. This means that it would be completely acceptable to have an IP / Subnet setting on the control computer of **192.168.10.250 / 255.255.0.0** with two amplifiers at **192.168.10.1** and **192.168.181.13**, but it would not be possible for there to be two amplifiers at **192.168.14.140** and **192.168.29.140**, as their last octets (140) clash.

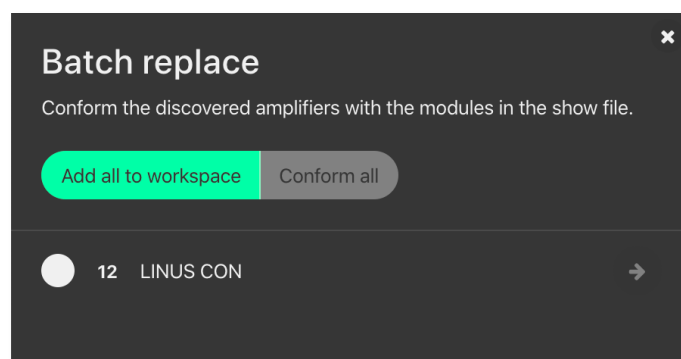
The ID Number in the top right of the LCD on the front panel of the amplifier / controllers always repeats the last octet of the IP address.

Note – changing the IP Address from the front panel will always change the amplifier back to the default 192.168.1.X range, where X is the ID number chosen from the front panel. To retain the custom IP Range, you must change the IP Address of the amplifier either through LINUS Control, or with the 3rd Party Control protocol.

To change an amplifier to a custom range within LINUS Control, take a note of the current IP Address of the amplifier. Ensure that the subnet mask of the control computer will allow the LINUS Control application to talk to the amplifier; if this is set incorrectly, the amplifier may still be discovered by LINUS Control, however it will not be able to communicate. In this instance, it will be presented in the discovery list as “not reachable”:

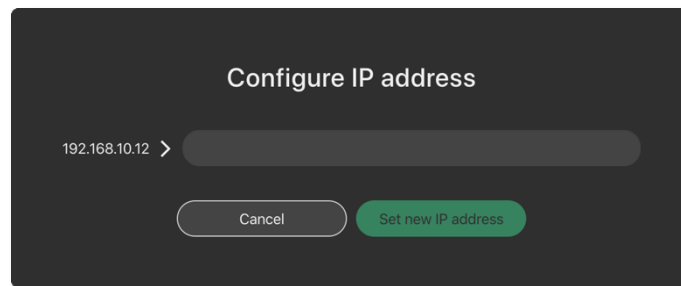


With the IP & Subnet of the control computer set correctly, the device will be reachable and can be added to the workspace:





When the amplifier is added to the workspace, click the relevant **Configure IP** button, on the AMPS page. This will launch a dialog, where the IP Address of the amplifier can be adjusted.

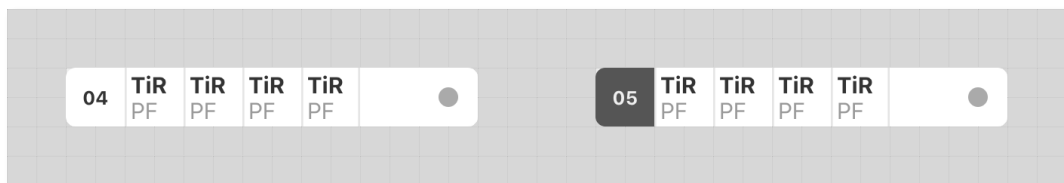


If the last octet of the new IP address is unchanged, the amplifier will show up on the workspace with the new IP. If not, it will show as offline on the workspace, and will show up as a newly discovered amplifier within the discovery list – it can then be replaced with the amplifier in the workspace using the standard method.

1.4. Standby / Wake Up

All amplifiers, with the exception of LINUS10 and LINUS CON, when online, can be put in and out of 'standby' from the SETUP page within LINUS Control.

To recap, an amplifier is shown as **on** or **in standby** with a grey colour to the left of the icon:



To place an amplifier in or out of standby, with LINUS Control online, click the left square housing the ID number on the left. This will toggle the amp between on, or standby. The front panel switch works in combination with LINUS Control in a "Latest takes precedence" manner – I.E: LINUS Control can override a front panel switch and "wake up" an amplifier that's in standby with its front panel switch off, simply by clicking the grey square on the left.

1.5. Q-SYS Plugin

A Q-SYS Plugin has been launched "LINUS Q-SYS Plugin" allowing the control of a range of LINUS Amplifier parameters, from Q-SYS Designer. Please see the accompanying document "*LINUS Q-SYS Plugin Operation Manual v2.2.14.pdf*" for further information.



1.6. Loudspeaker Menu Declutter

The loudspeaker selection menu within LINUS Control now features subheadings for the 'preset' column, which sort the preset by DS-FIR class:

Family	Model	Preset
Line Array	✓ APS	Full DS-FIR (High Precision)
✓ APS-Series	N-APS	Arrayed
HOPS-Series		Single
Column Line-Source		Half DS-FIR
G-Series		Arrayed >
D-Series		Single >
Subwoofers		Low DS-FIR (Low Latency)
Stage Monitors		Arrayed >>
Special Applications		Single >>
Discontinued		

- **'Full DS-FIR - High Precision'** presets feature the flattest possible phase response for the loudspeaker, and are optimised for the highest fidelity reproduction. As a side effect of this, they do exhibit a slightly longer "latency" than the other classes of preset. They should always be the first choice, however if latency is found to be an issue, then choosing another class may be required.
- **'Low DS-FIR - Low Latency'** presets feature the shortest possible throughput latency through the amplifier, and often are simply IIR presets. These presets are a 'last ditch' resort whenever the High Precision or 'Half DS-FIR' presets exhibit too much latency. Loudspeakers within the Low Latency class are not guaranteed to be phase-compatible with each other, for they are designed to be as fast as possible, at the expense of the phase response.
- **'Half DS-FIR'** presets offer a halfway house between the two extremes, and are often an acceptable compromise.

*NOTE - Different classes of presets should **NEVER** be mixed within a line array / point source array*

1.7. Extended Cardioid Presets

Extended Cardioid presets for SCP/-F and SCV-F are now included within the loudspeaker library. Please see the technical bulletin "Cardioid Deployments.pdf" for further guidance on their usage.