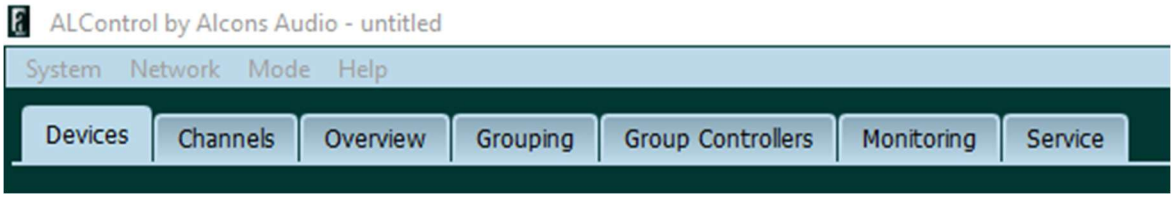
ALControl™ remote-control tutorial v1.73

User-interface of the program

The ALControl™ program is designed around the same “Tab” function as the control surface of the Amplified Loudspeaker Controler. Each Tab section has a different function and the subsequent order of folders enables an easy workflow for setting-up and operating the control network.



Devices: there are two sections in this Tab: In the *left* section, the discovered (when network on-line) Sentinel devices can be selected into the project; This can be done both with network in on-line or off-line mode. The type of device can be selected (S3, S10 or D6) (drop-down menu)

In the *right* section, you can change the output mode (drop-down menu) as well give the device a name. With the “blink” button, it is possible to let the Alcons logo on the ALC blink, to recognize which unit from a group of Sentinels this is. The “power sequencer” setting enables you to select a power-on delay for each device, in case of a sudden power outage.

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Channels: the selected ALC devices in the project form a list of channels. In this section, each channel can be configured with the required system factory preset (preset selector), the analogue or digital input signal and input channel. Each channel can also be configured with a manually selected name.

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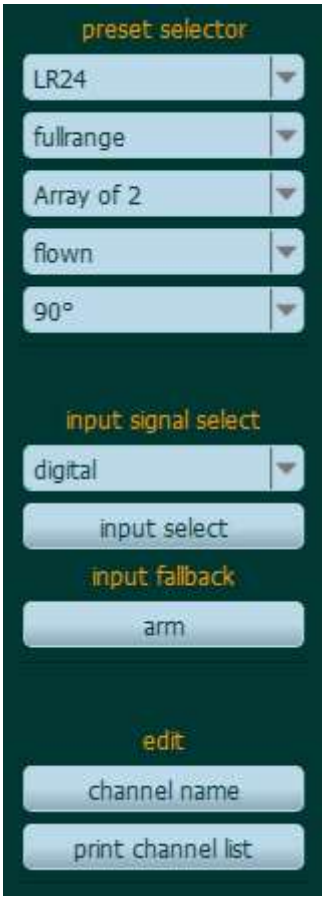

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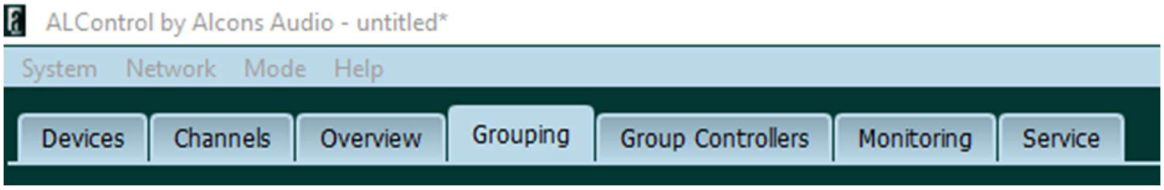
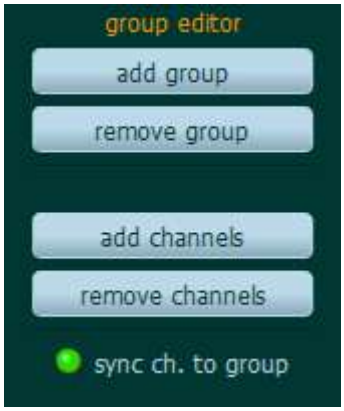
Overview: this section gives a complete overview of all channels in the configured system: For each channel, selected input, gain, mute, delay and equalizing settings are visible, as well the status of each channel on input signal, limit and amplifier channel temperature. This page is purely a read-out page and no setting can be changed, except for the input signal read-out, which can be switched between post-fader (default) and pre-fader (selectable).



Grouping: there are two sections in this Tab: In the *left* section (“channel list”), the configured channels can be selected, to be assembled in the groups made in the *right* section (“channel grouping”). By means of the “group editor”, the groups can be added/removed. Assigning the channels to the groups can be done through “drag & drop”, as well as with the “add channel” button.



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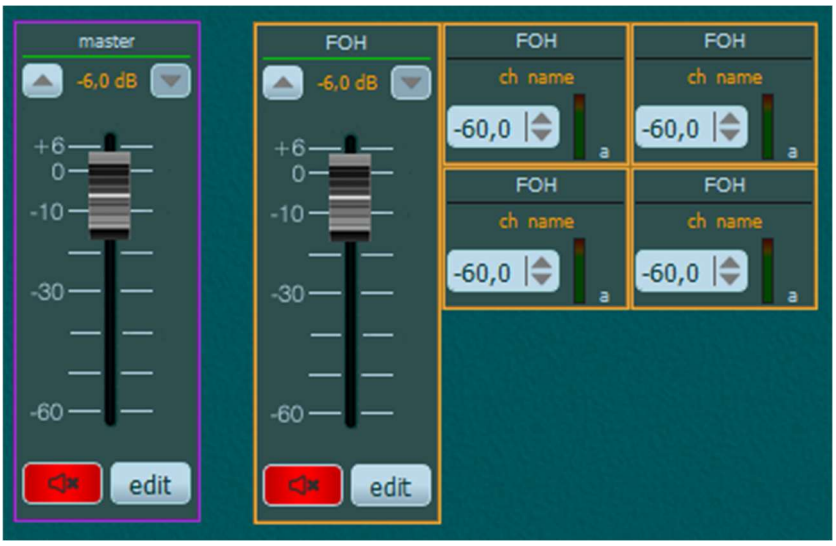
Group Controllers: resulting from the channel assignment, groups and sub-groups are formed that can be controlled in the “Group Controllers” Tab. The groups and sub-groups are visualized; This screen is visually free-configurable (drag & drop), without changing the relations between the groups and channels. EQ, delay and FIR filters can be controlled through the pop-up screen, that can also be used separately from the main program screen.



It’s also possible to move a complete group of channels simultaneously, by holding the left mouse button to draw a rectangle enclosing all channels.

On the screen, right hand side, display options can be selected; The read-out option per channel can be selected, like input, output, phase, impedance, temperature, a.o.

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Monitoring: this section enables close monitoring of all relevant parameters in the system. By clicking the desired device from the list, the pop-up screen shows three sections:

The “data” tab provides general status on temperature per channel and SMPS power, as well as speed stage of the fans and mains voltage. It also provides channel-specific information on output voltage, amps, wattage and impedance; Each parameter can also be traced (+ recorded) in real-time through the “plot” (pop-up) screen.

The “oplog” tab provides operational status info of the different sections inside ALC. In case of a problem, the device entry in the list and overview tab line indicate a certain color/status. By consulting the “oplog” tab, the function status is reset (stops blinking), but error remains!

The “firmware” tab shows the current firmware and library versions of the device.

Service: through this section the on-board firmware status of each ALC can be checked and updated, individually or as a selected group. Also individual gig logs can be viewed.

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Working with the program

The instructions below are also part of the on-board help function of the program.

Quick set up to remote control a unit

Make sure the Sentinel has the DHCP option set in the "setup > network" tab. In this case the Sentinel will automatically get an IP address from the network.

Start ALControl, after starting a network scan is performed and found devices are displayed in the "discovered ALControl devices" list in the Devices tab. Sometimes not all units are directly found, in this case press "Network > Scan" or Ctrl-F to manually perform a network scan. Just drag the unit from the list to the project space table "ALControl device in project" on the right. Multiple devices can be selected at the same time. All settings from the device are synchronised to ALControl. To see the presets and input routing go to the Channel tab, also check setup channels on how to adjust the preset and routing.

For a complete overview of the project device settings see the Overview tab. To adjust channel parameters like EQ and gain go to the Overview tab and click on a parameter, or Grouping tab and double click a channel in the "channel list". This opens a channel controller to quickly adjust parameters.

NOTE: EQ settings can be copy-pasted into each other by using the right-click mouse button on the EQ window.

NOTE: There is no concept of linking or ganging channel parameters in ALControl; channels that need to be "linked", should be placed in a group. The group controller controls parameters like gain, delay, EQ and the channels follow. Relative changes to the group settings can still be made in each individual channel controller, with the exception of the EQ.

This also applies to groups; if you need linking or ganging parameters of groups then use a sub group. A sub group copies all settings of the parent group, but relative changes can be made; in this case the EQ can also be changed compared to the parent by depressing the slave option for the needed EQ band. The gain works VCA-like; the highest or lowest gain stops the master gain which makes sure all relative gains are kept.

To see the device status go to the “Monitoring” tab and select the device you want to monitor. This will open a monitor surface.

> Network settings
In the menu Network you can select the network adapter which is used for auto detecting units by selecting it with "Select network interface"

NOTE: To force a device discovery scan press "Network > Scan" or use ctrl+F.

ALControl uses ID's to control up to 254 devices; the ID is automatically taken from the last IP address number. This means that you can have devices in different sub nets, but they must have a unique last IP number. If two devices in different subnets have the same ID, a warning is shown when attempting to add the discovered unit to the project. In this case you can edit the IP address of the unit in the project to free up the ID or merge the two units which means you would drop the discovered unit over the project unit.

To do this, set ALControl in offline mode (Network > go offline); now drag the discovered device over the project device. When going back online, all settings you made in the project

device will be copied to the discovered device. This procedure also allows for offline preparation of a project. Firstly you create a project with all fictional IP addresses; once on site have ALControl in offline mode and match the discovered devices with the prepared project devices. To identify a discovered device remotely, you can right-click it and do a “Blink logo”, to visually verify the position of the amp.

NOTE: if a project, loaded while in offline mode, contains a conflicting IP address with a discovered device, it is mandatory to change the IP address (double click on the list entry) of the project device. Now the discovered device can be matched with any other device in the project.

By default the discovered devices are synced to the project devices with the same IP address when going online.

Proceed to setup device to further set up a device.

Proceed to setup channels on how to further set up a channel.

Proceed to start project on how to start a new project

Set up devices

> Adding devices

Adding a device is done by pressing the "add device" button. A dialog opens to enter the IP address. Before pressing the "add device" button make sure you select the correct device type. When the device is connected to the network; ALControl connects automatically and will ask if settings should be taken from the device into ALControl or that the settings from ALControl should be copied into the device. Note that the IP addresses of units discovered in the network cannot be used; in this case drag the discovered unit to the project area. All settings are taken from the unit into ALControl.

>Change device ALControl name

The ALControl name can be edited with the "ALControl name" button or right-click menu button; all selected devices are renamed.

> Set up output mode

Make sure you select the correct output mode for the intended application. The output mode should match with the intended speaker usage i.e. single channel (VR8, VR12, etc) active two way (LR18, BC543, etc) or four way (LR28) The ALC Sentinel 3 has the option to select a bridge mode on channels 1+2 and/or 3+4; The Director 6 has the option to select a bridge mode on channels 1+2 and/or 3+4 and/or 5+6 and/or 7+8.

If a discovered device is added to the project the output mode can be changed by selecting the unit in the "ALControl devices in project" list and then select the needed output mode in

the "change output mode" drop down box. All channel presets are reset (empty preset is loaded) and possibly are removed from their groups. You can change settings on a selection of devices at the same time.

> Set up synchronisation mode

The sync mode determines if settings should be taken from the device ("Device to ALControl"). The synchronisation action takes place the moment a connection can be established with the device (i.e. Mains or ethernet cable plugged in) or when ALControl switches from offline to online. When you manually add a device the sync mode defaults to "device to ALControl" and can be modified with the sync mode selector. If the device connects and "device to ALControl" is set ALControl asks how to sync the unit. You can select the sync direction in the popup menu. If the sync direction is "ALControl to device", all settings from ALControl will be copied into the device.

When the "Device to ALControl" method is selected, local changes on a device can be made and imported into ALControl the next time the system switches from an offline to online state. Switching between online and offline can be done via the "Network > go online/offline" option. NOTE: changing EQ settings on the device, on channels which are in a group will sync back to the group EQ settings when going online.

Discovered devices put into the project space, change automatically their sync mode to "ALControl to device" after all settings are copied from the device to ALControl.

When a project is opened, all devices set their sync mode to "ALControl to device".

>Select pre-amp setting

This selects the pre-amp gain, choose low-noise in quiet applications to improve signal to noise ratio. The high headroom allows the pre-amp to deal with high input signals.

>Select power-up mode

This selects the power-up behaviour of the device when the Mains is plugged in.

See also: power sequencer chapter : “Device power-up mode selector”.

> Removing devices

Removing a device is done by pressing the "remove device" button or right-click mouse menu; all selected device are removed.

> Updating device firmware

ALControl automatically downloads the latest available firmware for the supported devices, when it is connected to the Internet. New firmware versions can be found in the Service tab

right hand side "available firmware versions" table. All devices running an older firmware version are shown in orange in the left hand side "device firmware versions" table. A selection of devices to be updated can be made in the "device firmware versions" table; when pressing "update devices / start", the update procedure will begin.

NOTE: changes to devices in the project are made in the Devices tab with the controls on the right hand side of the "ALControl devices in project" table. These controls contain the output mode, ALControl name, sync mode and high headroom/low noise setting. To change a setting; first select the devices that need to be changed in the "ALControl devices in project" table, then apply the setting. It is not possible to change the output mode of different device types simultaneously.

NOTE: the main controller firmware version is visible, but this firmware cannot be updated through ALControl.

NOTE: these operations do not work in “Show” mode.

see set up channels re. how to set up a channel.

Set up channels

> Input source, speaker preset and name

In the Channels tab you can set the channel speaker presets, input source, input type (digital or analog) and the channel name. Multiple channels can be selected and have their properties changed at the same time.

NOTE: if the selected channels have different output modes. the preset change will only apply to the first channels, starting from the top, it can change and display a message when it cannot change the preset anymore.

For mono sub inputs, free configuring of any input summing combination is possible.

> Preset options

The preset options can also be changed in multiple channel selections; If channels with different presets are selected, the options of the first preset in the list are displayed and the channels with different presets are ignored when applying the selection.

NOTE: all table columns can be sorted by pressing the column header.

Name your channels so that they are easy put in groups i.e. if you have 4 amps driving the FOH with LR24 then a logic channel name would be "FOH – LR24”. This way when you

create a group "FOH" you know these channels need to be in there. Channels can also be named in multiple selections.

NOTE: these operations do not work in show mode.

> Gain, mute, output polarity, FIR, delay and EQ

The channel controller, opened by double clicking a channel in the "Grouping" tab channel list can be used to adjust the gain, mute, EQ, delay, FIR filter and polarity of a channel, when not using groups.

To switch polarity press the Ø button.

Some hints on using the EQ: dragging the diamond will directly affect the frequency and gain. Double clicking the diamond will allow you to reset the current band. By clicking and holding the right mouse button on the diamond, the q factor can be adjusted; move the mouse to the right and q increases, moving to the left decreases the q.

When a channel is moved to a group settings for the delay, gain, mute and EQ are taken from the group controller. The FIR filter and polarity however will remain and can still be adjusted per channel.

NOTE: when you change the channel preset the FIR filter will be removed.

Starting a project

There are two ways of starting a new project; online with the devices already connected to the network or offline to prepare a project.

Note: make sure you configure your devices with a fixed IP address when using system files, otherwise if DHCP is used, the devices might get a different IP address after a restart. The IP addresses of the devices in the project are stored as part of the system file.

DHCP mode can be useful if connected to a guest network and setup the remote quickly for a single event.

offline situation

online situation

Adding devices in offline situations

In this case we assume there is no connection to a network or a device

 indicates host offline

Or when the host is connected, ALControl is switched to offline mode via the menu "Network > Go offline" or was started in offline mode via the option "Network > Start in offline mode"

 indicates ALControl offline

You set up a project by adding amps in the "Devices" tab by pressing the "add device" button. It is important to select the correct device type i.e. the model you want to connect with. The sync direction can be selected in a pop-up menu upon connection with the device, given that the default "device to ALControl" sync direction is not changed.

When you add a device, you have to assign an IP address. This address should correspond to the actual device IP address. See “set device IP address” for more info. Note that if, for example an ALC Sentinel 3 is added with a certain IP address but on that same IP address an ALC Sentinel 10 device responds when scanning the network, then this device cannot be added and an error message will appear. The added device stays offline. In this case you either change the IP address of the actual device or change the IP address of the device in the "ALControl devices in project" list by double clicking its list entry.

> Change device IP address

You can change the IP address of a device controller by double clicking the entry in the "ALControl devices in project" table. Note that changing the IP address in ALControl will not change the IP address of the actual device. After the IP address change the actual device will reappear in the discovered devices list.

> ALControl device name

Set the ALControl name by pressing the "ALControl name" button to something useful i.e. that designates the device. This name can be found on the device itself under the "System > network" tab.

Set the ALControl name by pressing the "ALControl name" button. This name can be found on the device itself under the "System > network" tab.

>Select output mode

To match the device with active speakers or bridge mode (Sentinel 3 only) it is important to choose the correct output configuration of the channels. Default when a device is added it is set to single channels but this can be changed with the output mode selector.

> Loading a project with ALControl in offline mode

In this case we assume ALControl is in offline mode (Menu -> Go offline) and connected to a network with devices connected. These devices will show up in the discovered devices list. If then a project is loaded which contains devices with the same IP addresses as the discovered devices; you can either match these to a certain project device or leave them in the discovered list and they will be moved to the project and automatically synced with their matching discovered devices when ALControl is switched online. To match a device from the discovered list to a device in the project list, simply drag the discovered device over the device in the project list you want it to sync with. The project device changes its IP address to that of the actual device. All settings from the project device are copied to the actual device when ALControl is switched back online.

see set up device re. how to set up a device.

> Scanning the network

When ALControl is connected to the network and the menu's "Network > Scan" or ctrl+F is pressed, the units that are found in the network will be synced (all your ALControl settings are copied to the device) and appear "online" in the "ALControl devices in project" table and the "channels" tab list. A channel can now be directly controlled when double clicked in the "Grouping" tab channel list. Note that the sync mode is "ALControl to device"

> Offline preparation not knowing device IP addresses

Another option to prepare the system is to add the devices needed in the project; setup the channel presets and groups, etc. However, when adding the units it could be that the IP addresses of the actual devices is unknown or can change under DHCP usage. In this case you use an IP range for example 1.1.1.1 - 1.1.1.2 - 1.1.1.3, etc when adding devices. After connecting to the network and all actual devices are discovered you set ALControl in the offline mode and load the prepared project. You can now identify the devices in the "discovered ALControl devices" list by blinking their logo by selecting the devices in the list and press “blink logo”; now drag this device over to the project device it should be matched with, all settings are copied from the project unit to the actual unit when ALControl is switched to online mode. Even if the project device sync mode was still set to "device to ALControl". The project device takes over the IP address of the discovered device. Note that the sync method is set to "ALControl to device" for the units in the project.

This method can be handy in combination with DHCP enabled in the devices. ALControl can start by default in offline mode; you can change this option in the top menu "Network > Start in offline mode"

NOTE: Storing a project with DHCP settings, set by a DHCP server, may result in changed IP addresses after a power-on restart!

To prevent unwanted situations (devices can have their IP addresses swapped), make sure you start the ALControl program in offline mode. Then load the project; the devices will show up in the discovered list. Now identify the devices; right click on the discovered device and press "blink logo" and match the device with the device in the project.

When all devices are properly matched again switch the program back online.

NOTE: the device type must match a Sentinel 3, cannot be matched to a Sentinel 10.

Proceed to create groups to start making groups.

Adding devices in online situations

In an online situation (devices powered and connected) the amps should appear in the "discovered ALControl devices" list in the Devices tab. Note that with the "Network > select network interface" control it's possible to select on which network the scan/auto discovery takes place. This is useful when having multiple network interface cards installed. Now you have two options for starting a project; either you open an existing project created before (System > open or ctrl+O), then the amps are set back in the state you saved them in (the amps in the discovered device list that are part of this project are removed from the list); or you start a new project by dragging discovered devices into a new project.

To force a network rescan press Network > scan or crtl+F. If units are found in the network the radar icon lights up.

> Adding devices to the project

Devices that are dragged into ALControl always sync their settings to ALControl. The sync method can be changed by selecting the device and choose the sync mode in the drop down

box. If "Device to ALControl" is chosen, the changes that are made on the device when it was offline (either by switching ALControl to offline or the unit was temporarily not connected) are taken into account when the unit or ALControl comes back online. The system will ask if the changes should be imported or set back to the ALControl settings. NOTE: channels that are in a group always set their EQ to the group master.

You can also move the discovered amp to the project space by pressing the "move to project" button, while having the amp selected in the list. The ALControl settings are synced from the amp's settings, so presets input source etc is synced from the amp to the remote; in the grouping tab channel list you can open a channel and directly control it. If you need a different setup proceed as you would have added the amp manually.

NOTE: normally connected devices are automatically discovered in the network and can be moved from the discovered list into the project list. If somehow (due to operating system or network settings) the auto discovery does not work, devices need to be added manually, in this situation the sync mode will be "device to ALControl" otherwise the settings are overwritten with the default empty device settings from ALControl. The sync mode of the added device can be changed with the sync mode selector.

> Identifying devices

Units can be visually identified by pressing the "blink logo" button and select the device in the "ALControl devices in project" list. You can select multiple devices at the same time to identify a group of devices.

> Output mode of the device

Note that it might be necessary to change output mode. You can select multiple units and change output mode, however units need to be of the same type (the ALC Sentinel 3 has different output modes compared to the ALC Sentinel 10 for example). Changing the output mode sets all presets to empty; no signal can come out of the amp anymore, this is important because active presets can have tweeters directly connected to a channel! If a unit with channels in a group changes its output mode, the channels will be removed from the group.

> Changing IP address

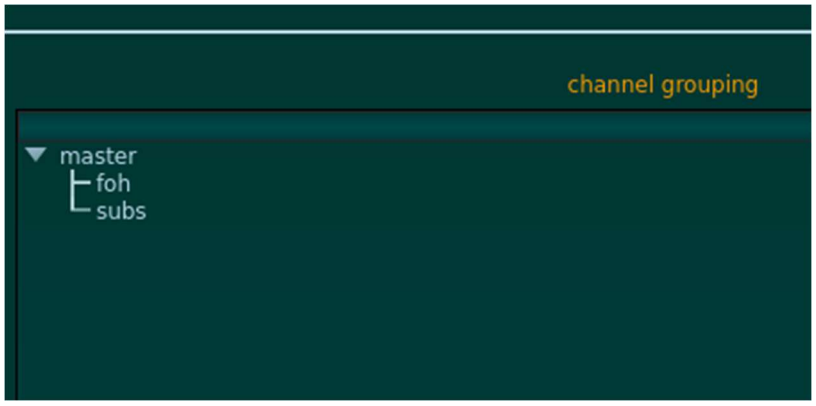
You can change the IP address of a device by double clicking the entry in the "ALControl devices in project" table. If the device was online, it will move back to the "discovered ALControl devices" list and the changed unit will appear offline, until a unit with matching IP address is connected to the network.

Proceed to create groups to start making groups.

Creating groups

> Adding a root group

When the channels are set up you can start creating groups. Press the "add group" button or right mouse click menu to add a root group. Usually you want to have a root group "master" under which you create every part (subgroup) of the system that exists in the same zone. For example the FOH and the subs might need different volume settings but need an overall volume setting from the master so that their relative volumes are changed equally. So you would get:



To create a new root entry (root controller) make sure nothing is selected in the tree and then press "add group"

> Adding a sub group

To create a subgroup select the group you want the subgroup to be part of and press "add group" or right mouse click menu.

NOTE: There is no concept of linking or ganging channel parameters in ALControl; channels that need to be "linked", should be placed in a group. The group controller controls parameters like gain, delay, EQ and the channels follow. Relative changes to the group settings can still be made in each individual channel controller, with the exception of the EQ.

This also applies to groups; if you need linking or ganging parameters of groups then use a sub group. A sub group copies all settings of the parent group, but relative changes can be made; in this case the EQ can also be changed compared to the parent by depressing the slave option for the needed EQ band. The gain works VCA-like; the highest or lowest gain stops the master gain which makes sure all relative gains are kept.

> Remove a group or sub group

To remove a sub group press the remove group button. Note that channels will also be removed. When a root group is removed also all sub groups and channels will be removed.

> Rename a group

To rename a group right-click on the group to be renamed and select "rename group" or use the right mouse click menu.

> Add channel to a group

The needed channels can be selected in the channel list and can be either dragged in a group or moved with the "add channel" button; In this case you also need to select the group you want to have the channels in. The channel now takes over the setting from its group master (gain, EQ, delay, mute)

NOTE: A channel can also be dragged into another group within the Grouping tree view.

> Remove channels

To remove a channel, select it and press “remove channel” or use the right mouse click menu. If you would double click a channel in the "channel list" list a channel control opens. It closes automatically when the channel moves to a group. Channels can also be dragged from one group to the other.

> Rename channels

To rename a channel go the ~~the~~ "channels" tab and select the channel you would like to rename. A selection of multiple channel can be renamed at the same time.

> Sync channel to group

By default channels which are put into a group, have their settings synced to this group. When "sync ch. to group" is switched off, channels are not synced to the group controller they are put in. This allows for just a number of channels to be put in a group, just to mute or do some overall gain changes to these channels whithout changing specific eq, delay, etc settings.

NOTE: all channel list table columns can be sorted by pressing the column header items.

A channel can also be dragged into another group within the grouping tree view.

> Group gain control

The group channel controllers have a gain box which sets the relative gain against the group gain. A channel can also be muted separately. The channel has a signal input bar with input clip indication and an output VU meter. The channel has a power indicator between group- and channel name which is green when the device is on, this bar also shows output clip in red. When an active preset is selected additional meters for the active channels are displayed along with a Solo button. The Solo button can be used to solo the individual channels/speaker sections of an active preset to check if the speaker is functioning correctly. This is only possible in setup mode and if a channel is not muted; when switching to show

mode or mute the group or channel the solo is disengaged. The gain control works VCA-like, with the highest and lowest gain blocking the master to make sure all relative levels are kept.

> Group EQ control

To EQ the group, press the group controller EQ/delay button in the Group Controllers tab. A sub group EQ, by default, slaves to the group above it in the hierarchy. If you need to make separate changes in the sub group EQ you can decouple a band from its parent by depressing the slave button; now you can make changes to this band which are not affected by any parenting group controller. When pressing the slave option all settings are set back to the parent EQ again.

Some hints on using the EQ: dragging the diamond will directly affect the frequency and gain. Double clicking the diamond will allow you to reset the current band. By clicking and holding the right mouse button on the diamond the q factor can be adjusted; move the mouse to the right and q increases, moving to the left decreases the q. EQ settings can be copy-pasted by right-clicking the mouse on the EQ-window and selecting a band or all bands.

> Polarity control

To adjust the polarity of a channel select the Ø button in the display control of the "Group Controllers" tab. All channel controllers show their current polarity state, press the channels Ø button to switch its polarity. Or select a specific group of channels with Ctrl+left mouse button and use the right mouse button menu to adjust polarity.

> FIR filtering

To show the current FIR filter loaded into the channels, press the FIR button in the display control of the "Group Controllers" tab. To load or remove a FIR filter go to the FIR tab in the group editor, opened by clicking the "edit" button of the group controller. For more info see “Using FIR filters “.

NOTE: when changing the preset on a channel, the FIR filter will be removed.

> Group delay control

To add delays start with setting the delay in the group master if needed. If parts of the system under the same master need different delay settings, the subgroup controller can set a relative delay by switching the absolute/relative control to relative. When set to “absolute”, the subgroup controller slaves to the controller above it in the hierarchy. The channel controller can also set its own delay relative to the group or sub group; this is handy when creating bass arrays, where the channels in the bass group need different delay settings compared to each other, but also may need an overall delay from the group master or sub group. In some cases you may want to change the delay or gain of some channels (outer two in a bass array, etc) but keep an overall delay for the sub group; in this case, select the channels with ctrl+mouse left button, now the right mouse button opens an edit menu in which gain, delay, mute and polarity for the selected channels can be set.

> Channel mute to group

The group controller features a "ch. to group mute" button which allows a channel mute to mute the entire group it's in. As of Sentinel front software 1.33 the mutes of the Sentinel can be operated (if option is set in the mute preferences of the Sentinel menu) while being remote controlled. This allows to mute an entire group from a single Sentinel channel.

> Identifying devices in a group

The group controller blink logo button blinks all logos of devices which have one or more channels in this group.

NOTE: Quick changes to channels in the "Group Controllers" can be made by selecting channels (mouse drag area or Ctrl+left mouse button for individual selection) when all needed channels are selected, a right mouse button click gives a menu with direct access to gain, delay, mute and polarity.

Monitoring a device

To monitor the status of a device or check firmware versions go to the Monitoring tab and double click the device to monitor. This will add a monitor control panel. Multiple panels can be arranged in the monitor space.

> Plotting

The monitor allows to plot a channel parameter. The plotter can be stopped for inspection of the curve by pressing the stop button and will start with a clean plot after pressing start. The range of the y-axis can autoscale (default) or manually be adjusted.

> Operational log (Oplog)

The Oplog tab shows the status of the unit. If an error occurs the device entry in the list will blink red along with the overview tab line. This makes the error visible when not being in the Monitoring tab. Note that by going into the monitor control panel's Oplog tab, the error condition is reset, but not the error itself!

> Downloading log files

The device log files can be downloaded by pressing the log file type in the drop down selector in the Oplog tab.

Device error condition

In case a device encounters an error condition, indicated by a red blinking encoder (ALC Sentinel) ALControl responds by blinking the Monitoring tab text in red, so that in every tab the error condition can be seen. To inspect the situation, press the Monitoring tab and double click the red flashing device status entry in the monitor area list. The device's monitor opens and by pressing the "Oplog" tab the error can be inspected and the error condition is reset i.e. stops blinking. Proper steps need to be taken to address the actual error condition if necessary.

> Reset error condition

If the error condition is reset in ALControl the red encoder on the device is also reset. In case an operator needs to inspect the unit the blink logo function in the Devices tab can help identify the device.

Sequencing power-on of multiple devices

This feature can help to automatically switch on multiple devices on the same circuit-breaker or Phase without tripping that breaker or overload the Phase (main breaker trips) due to high inrush currents that can occur when switching on more than 5 units at the same time.

> Sequenced on switching

To switch on multiple devices just select the devices in the list set a delay time between switch actions and press the ON button. All devices in the list will switch from standby state to ON (if a device in the selection is already on nothing happens with that device) one after the other with the set delay time in between. The default delay time is set at 1 second but can be adjusted between 0 and 2 seconds with steps of 0,1 seconds.

> Switching to standby

To switch multiple devices from ON to standby just select again the desired devices in the list and press OFF, this is not sequenced.

> Device power-up mode selector

As of Sentinel front-firmware 1.42 it is possible to select the power-up behaviour on Mains-plug insertion. When "on" is selected (default behaviour) the device starts up to fully on. When "standby" is selected the device starts up in standby mode. In this case for example when a power outage occurs, all connected amplifiers will start in standby reducing a possible Mains peak tripping the circuit-breaker. Power sequencing can then be done in a controlled manner via the ALControl power sequencer. This mode can also be applied on devices that are put in standby by third party equipment and will return to standby when the Mains returns after a power outage. When "previous" is selected the device will return to the power state it was in (the moment the Mains dropped) on return of the Mains.

System mode

By default the program starts in setup mode indicated by the "gear" icon on the right. In this mode all editing can be done.

Via the menu Mode selector the system can be put in show mode. In show mode selecting channels is not possible. Mute, standby, delay on/off functions need to be confirmed by the user. The gain slider changes its response to mouse input so that small changes can be made easily. Show mode is indicated by the "spotlights" icon on the right.

Using FIR filters

> How to load FIR filters

Start with generating any kind of magnitude and/or phase EQ-ing using a tool that can create FIR filters. Make sure you set the sample rate to 96kHz, the max number of taps is 664 and should be an even number. The output should be a mono 32bit float *.txt (default) *.dat or *.bin file and can be applied simultaneous over a selection of channels in the group controller's FIR tab channel list. To load the filter select the channels you want to apply the filter to, then press the "load FIR filter" button and select your generated coefficients file. All channels will now apply the filter.

> How to remove FIR filters

To remove the filter just load an empty (no coefficients inside) *.txt file and the filter will be removed or alternatively, when you change the preset on a channel with a FIR filter loaded, the FIR filter will also be removed. The amplifier will remember and load the filter the next

time it is started. When you do not have the remote control you can remove the filter by reselecting or change the preset on that channel. It is only possible to load FIR filters using ALControl.

> Highlight channel selection

You can highlight the channel selection from the FIR tab in the Group Controller tab, all channel controllers in the selection will set their channel name to a green color. To activate this, tick the "show ch." selection box.

Set Up the Audio Fallback System

This system allows the digital AES3 input to fallback to the analog input of the ALC. For example, if digital audio is fed into the ALC on channels 1 and 2 from AES3 input 1, the system can automatically switch over to analog inputs 1 and 2 as a backup for the digital AES3 inputs.

> Setting Up the Fallback

From ALControl, or the ALC itself, the channels can individually be "armed" by enabling the channel fallback and AES3 is detected. This can be done in the ALControl Channels tab, where multiple channels can be set at the same time, or in the ALC itself under System -> Setup -> Audio Fallback. When AES3 is no longer detected (e.g., cable unplugged), the ALC switches to the analog input. An analog copy of the digital signal should be provided on the same inputs as the AES3. For example, if AES3 1 (channels 1 and 2) is used, the analog copy should also be on inputs 1 and 2.

> Monitoring the AES3

In the Channels tab, an AES3 column indicates whether the AES3 signal is detected, i.e., if a valid clock is present. In this case, the indicator lights up. If the input combines multiple signals from different AES3 sources, all sources need to be active for the indicator to light up. Each of these sources should also have an analog counterpart. When a fallback occurs, this indicator can be useful to decide when to switch back to the digital input source.

In the Group Controllers tab, a "src fb" button is added to provide an overview of the fallback status for the entire system. It shows the current source (src) and the state of the fallback system (fb). This can be "disabled" if the fallback is off, "enabled" when the fallback is on, and "triggered" if the system has switched to the analog backup line. In this case, a reset (rst) button appears, allowing the user to switch the source back to the digital AES3 input. Note that it also shows the AES3 signal detection (green indicator), as in the Channels tab, which can help decide when to press the reset button. Additionally, it shows the AES3 gain trim in relation to the analog input sensitivity.

> Fallback alarm

When a fallback occurs the Channels tab will blink red to indicate the fallback occurred. The affected channels set their "source" cell background color to red. In the Channels tab multiple channels can be switched back to the AES3 digital input at the same time. To disable the alarm the Channels tab must be clicked.

> Gain Matching

The gain of the AES3 can be trimmed to match the analog inputs. This can be done in ALControl under the Devices tab, where multiple ALC's can be set at the same time, or on the ALC itself under System -> Setup -> Audio Fallback.

Note: In Showmode channel selection in the Channels tab is prohibited, so to switch the source back to AES3 digital input Showmode must be disabled first. Or alternitively the affected channels can be directly reset in the Group Controllers tab under "src fb"

Saving

At any point in time you can save your work by the "System > save as" or ctrl+S controls.

To open an existing project, press the "System > open" or ctrl+O control to load in a project; This will remove all added devices and the current grouping structure. The last 10 loaded projects are remembered and can be quickly selected from the System drop down menu.

All devices in the project that are in the network will be synced and appear online. If some devices are not automatically found then they can be manually scanned by the "Network > scan" or ctrl+F control.

NOTE: The above tutorial can also be found aboard the program under “Help” in the menu bar, select “ALControl help”, or press F1.

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