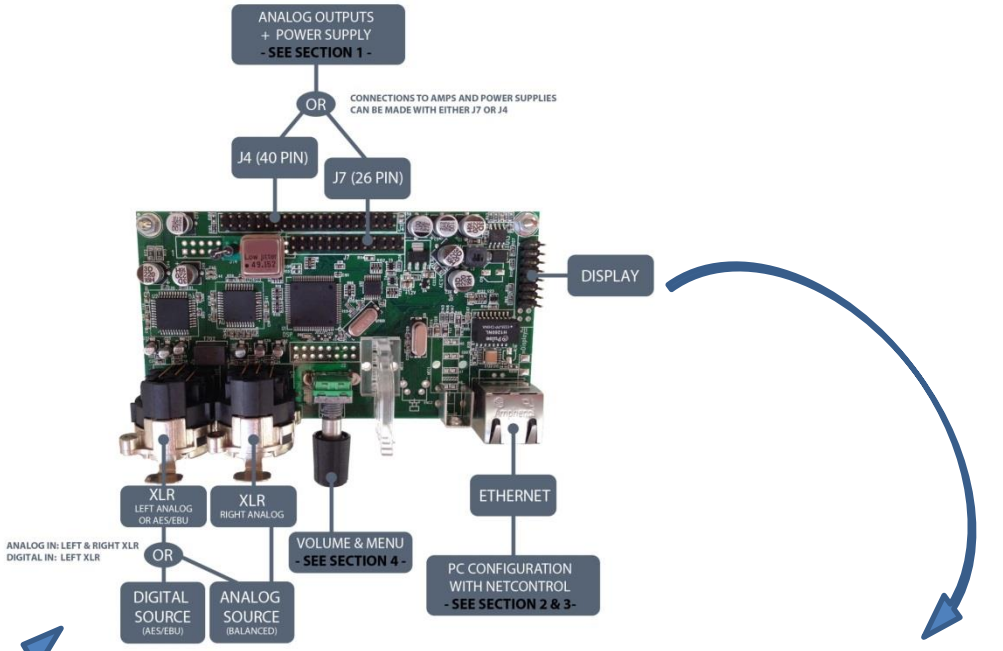

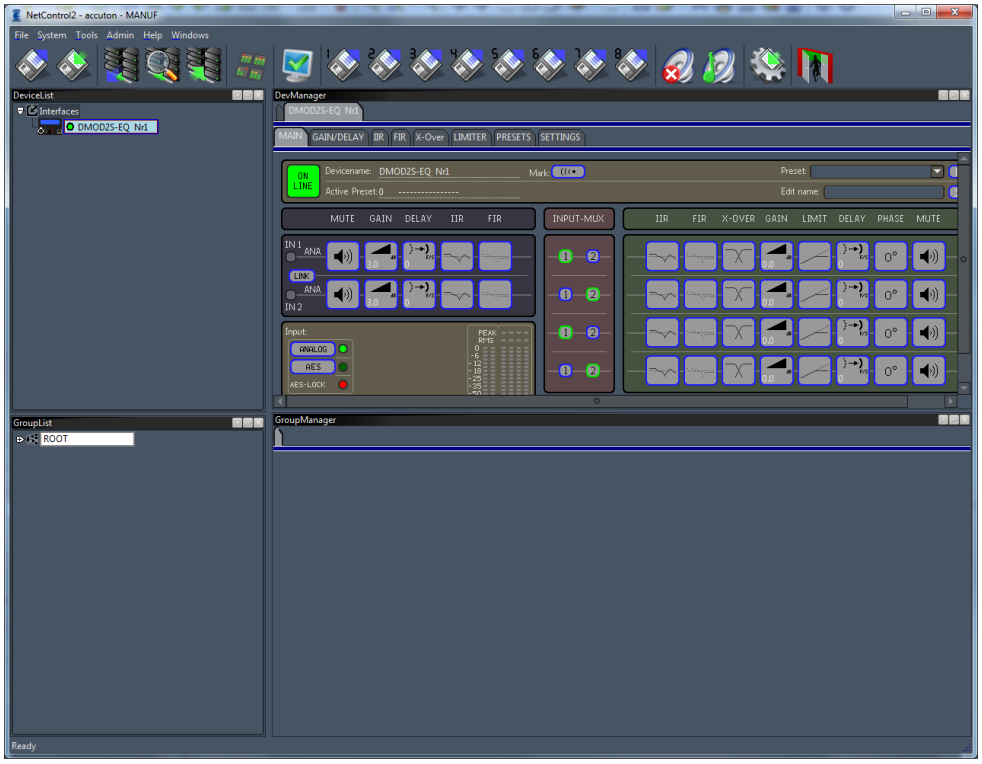

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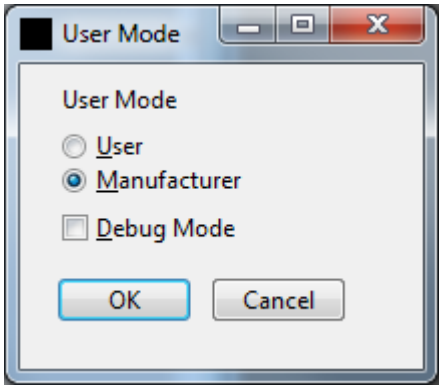
1 Overview and general handling

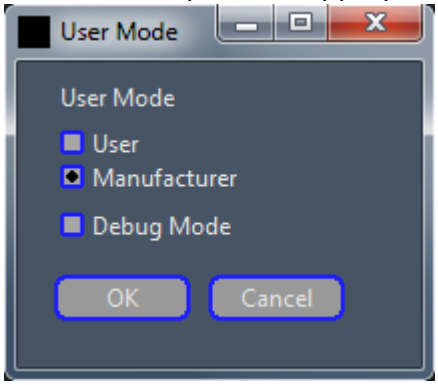
NetControl is the Accuton software to manage the configuration off all Accuton audio DSPs. The connection between the software and the devices is based on the standard Ethernet network.

The software offers two user modes. The user mode is defined during the start-up sequence.



The manufacturer mode is dedicated for the low level adjustment of the audio settings and is password protected.

The user mode can be changed within the user interface as well. The menu command “Tools → User Mode” opens the appropriate dialogue.



Each change of the user mode requires a restart of the software!

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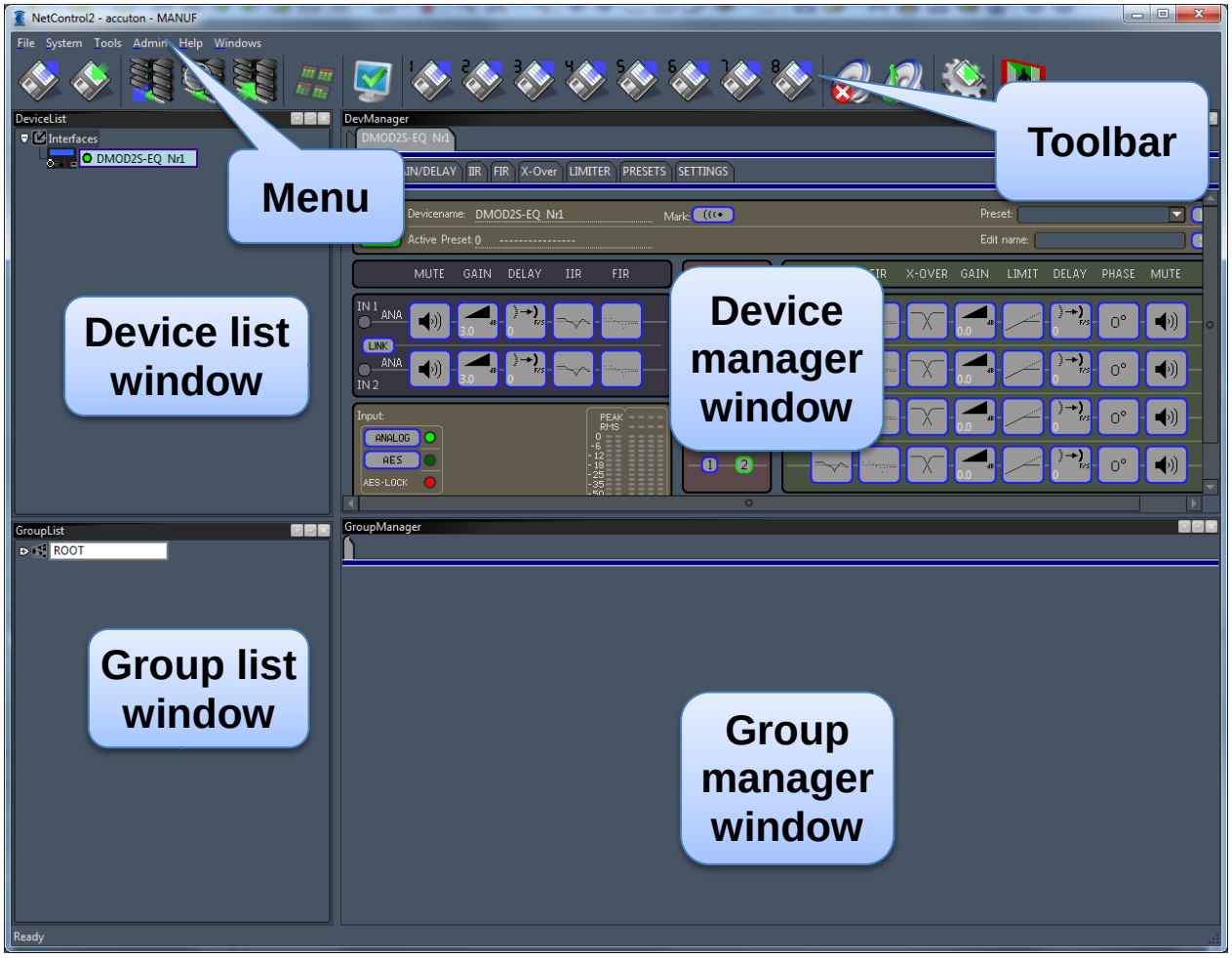
1.1 The User Interface

NetControl organizes the information about the devices and about the complete device network in four main sub-windows. The commands in the menu and the toolbar provide the functionality to work with the devices and with the network. A right-click on specific regions within the user interface ore on specific entries offers additional dedicated functionality within a pup-up menu. Devices can be reorganized just by drag-and-drop within a window or between different windows.



- Device list window: A list of all devices which were found in the network is shown here.
- Group list window: An overview about the entire system where devices are grouped according to the users preferences.
- Device manager window: This section shows all parameters for the currently selected device and allows modifying them. Storing and loading device-presets is also done from within this window.
- Group manager window: Group parametrization is displayed and manipulated within this window. The handling of the controls is the same as in the device manager window.

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1.2 Menu

The NetCotnrol menu offers the following commands:

File	• **Load System (toolbar icon: ):** Load system from a local file
	• **Store System (toolbar icon: ):** Save system to a local file
	• **Devices**
	  ○ **Store Preset to File:** The currently active parametrization of a device is stored to a local file.
	  ○ **Load Preset from File:** Loads parameters from a local preset file and sends them to the device. This overwrites the currently active parameterization.
	• **Exit (toolbar icon: ):** Exits NetControl

System	• **Clear system:** Clears the current system • **Edit System Shortcuts:** Dialogue for configuration of the system shortcuts. • **Load System 1-8:** A quick way to load specified system files from a local file.
Tools	• **Show Device List:** A dialogue which gives an overview over the connected devices and their IP-addresses. • **Updater:** The dialogue allows updating the preset and speaker library and the firmware of a device. • **Library Info:** Displays a list of device types that are currently available. • **Edit Library:** Allows editing the preset library and the speaker library content. • **Auto Renamer:** Opens the auto renamer dialoge • **User Settings:** Dialogue with general user settings • **User Mode:** Allows to toggle between different user modes
Admin	• **Encrypt:** Opens the Encrypt dialogue • **Settings:** Opens the dialogue for the manufacturer settings

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Help	• **About:** Opens the NetControl info dialogue showing the software version
Windows	• **All:** offers a rich functionality to organize all visible windows within the main window. ○ **Dock All:** all windows are docked to the specified edge of the main window (left / top / right / bottom). ○ **Float All:** all windows are floating within the main window. ○ **Auto-Hide All:** all windows are hidden into tabs on the specified edge of the main window (left / top / right / bottom). Clicking on one of the tabs or hoovering the mouse over the desired tab shows the specific window. ○ **Tabify and Dock All:** all windows are docked to the specified edge of the main window (left / top / right / bottom). Clicking on the tabs determines which window is visible. ○ **Tabify and Float All:** all windows are shown within one single sub window. Clicking on the tabs determines which window is visible. ○ **Close All:** Closes all displayed windows. ○ **DeviceList:** Shows or closes the 'Device List' sub window. Three different display types can be chosen: **Dock** (left / top / right / bottom) – **Float** – **Auto-Hide** (left / top / right / bottom) ○ **GroupList:** Shows or closes the 'Group List' sub window. Three different display types can be chosen: **Dock** (left / top / right / bottom) – **Float** – **Auto-Hide** (left / top / right / bottom) ○ **DevManager:** Shows or closes the 'Device Manager' sub window. Three different display types can be chosen: **Dock** (left / top / right / bottom) – **Float** – **Auto-Hide** (left / top / right / bottom) ○ **GroupManager:** Shows or closes the 'Group Manager' sub window. Three different display types can be chosen: **Dock** (left / top / right / bottom) – **Float** – **Auto-Hide** (left / top / right / bottom) • **Layouts:** A list of user defined settings on how to organize the sub windows within the main window. ○ **default:** the default style for window organization available after installation. • **Manage Windows:** Opens the dialogue 'Dockable Window Manger'

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1.3 Toolbar

The toolbar provides a quick access to the most frequently used functions summarized in the following table:

	Load system from file		Organize the sub windows according to the default layout
	Store system to file		Load system 1 … 8 from file
	Receive config from network		Mute all outputs, all device inputs and group inputs remain unchanged
	Scan network for devices		Unmute all outputs, all device inputs and group inputs remain unchanged
	Send config to network		Store device parameters
	Show the meter bridge		Exit NetControl

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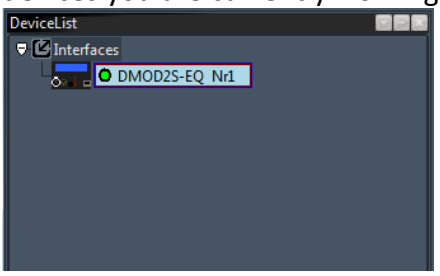
2 Device list window

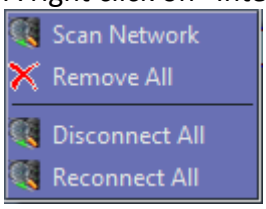
Connections to attached devices are managed in this window. A list gives an overview over all devices you are currently working with.



For each device in the network tree a green dot left to the device name indicates that NetControl is currently connected to the device. A red dot indicates that the device is currently not connected. The indicator is yellow while the connection is ongoing.

Left click on a device in order to select it. The parameters for the selected device are shown in the “device manager” window (see section 3).

A right click on “Interfaces” shows four options:



Scan Network	Opens the dialogue for the network scan.
Remove All	Removes all devices from the tree.
Disconnect All	Close connection to all devices listed in the tree.
Reconnect All	Reconnects to all devices listed in the tree.

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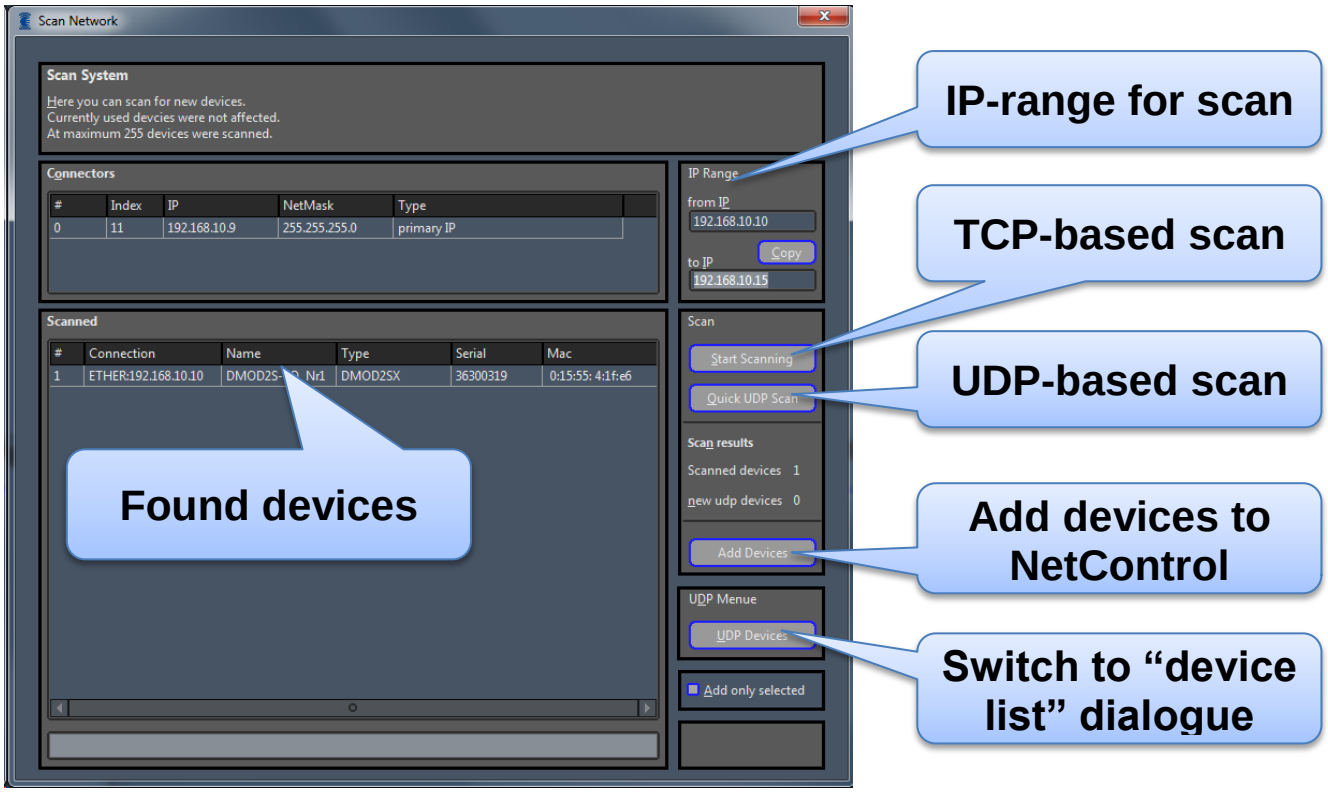
2.1 Scanning for devices

After a device has been physically connected to the Ethernet NetControl can scan for it and add it to the list of managed devices. This is done using the “Scan network” dialogue (right click on “Interfaces” in the “Device List” window and choose “Scan Network” or on the  icon in the toolbar):



- The “Connectors” field shows a list of all available network adapters, e.g. the IP-address of the computer that is currently running the NetControl software.
- On the right an IP-address range has to be defined. NetControl will search for attached devices within this IP-address range. The “Copy” button copies the start-IP address into the stop-IP field in order to simplify the search within one domain.
- The “Start Scanning” button initiates the scan and the progress bar on the bottom indicates the progress.
- “Quick UDP Scan” button: This scan is based on the UDP protocol instead of the TSP protocol. This scan type simply checks the entire accessible IP-range but the response of the devices is not guaranteed.
- All found devices are listed in the main part of the window. The user can identify the devices according to their name, IP-address or the serial number.
- The “Add Devices” button appears when at least one device is found. The new devices are added to NetControl when pressing this button. Only marked devices are added when “Add only selected” option has been chosen. NetControl automatically establishes a connection to the new devices.
- The “UDP Device” button opens the ”Device list” dialogue described in the next section.

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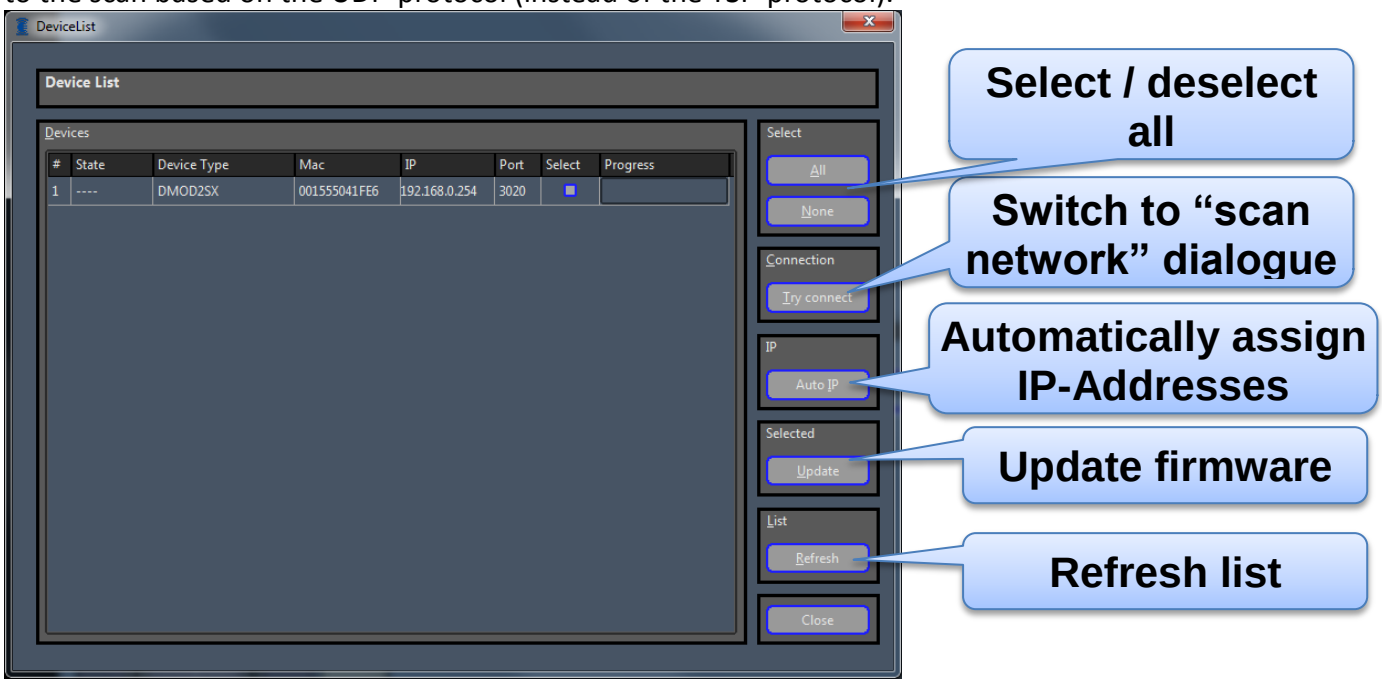
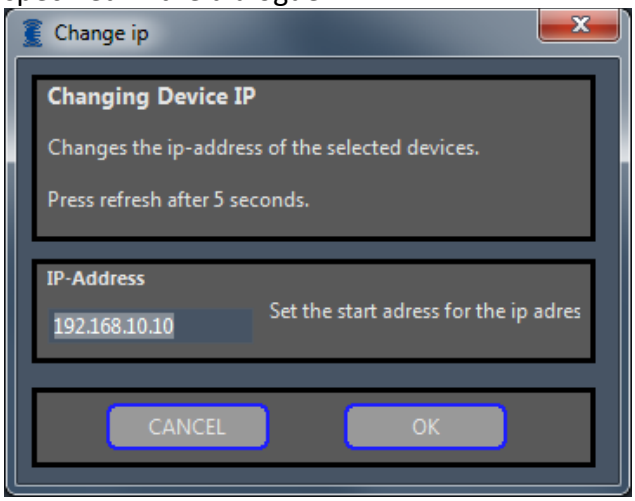
2.1.1 UDP Devices

This dialogue can either be started by the menu command “Tools → UDP devices” or from within the scanning dialogue described above. The dialogue shows all devices in the network responding to the scan based on the UDP-protocol (instead of the TSP-protocol).



Use the “Auto-IP” button in order to automatically redefine the IP-addresses of connected devices. If several devices are selected successive IP-addresses will be assigned starting from the address specified in the dialogue.



Press the “Refresh” button in order to update the information about the connected devices.

The “Update” button offers a quick way to update the firmware of several devices in one run. A file-dialogue is opened which asks to select the appropriate firmware file.

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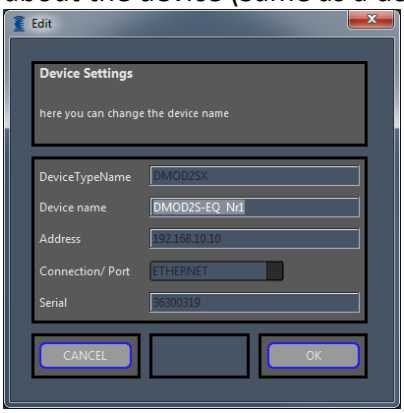
2.2 Device menu

A right click on a device name shows a popup menu. The amount of provided functions depends on the device type and on the current software mode. Use the menu command “Tools → User Mode” in order to switch between user mode and manufacturer mode if required.

Edit	Shows the following dialogue with general information about the device (Same as a double click on a device entry):  The device name can be changed for the sake of a quick identification within the system. This name must be unique within one system. The name of a device is also important during the merging process when working with groups. Additionally to this information the firmware version of the device can be retrieved directly from the device.
Remove device	Removes the selected device from the device list.
Store to Preset	The currently active parametrization of a device is stored to a local file.
Load from Preset	Loads device parameters from a local preset file and sends them to the device. This overwrites the currently active parameterization
Clear Group Param	
Repush	
Reload	Reloads parameters from the device into the software e.g. after a preset library update
Set Device Type	Opens a window which allows changing the type of the device. This is only important for initial factory setting (Accuton).
Disconnect	Closes the connection to the selected device.
Update Firmware	Opens a dialog for firmware update.

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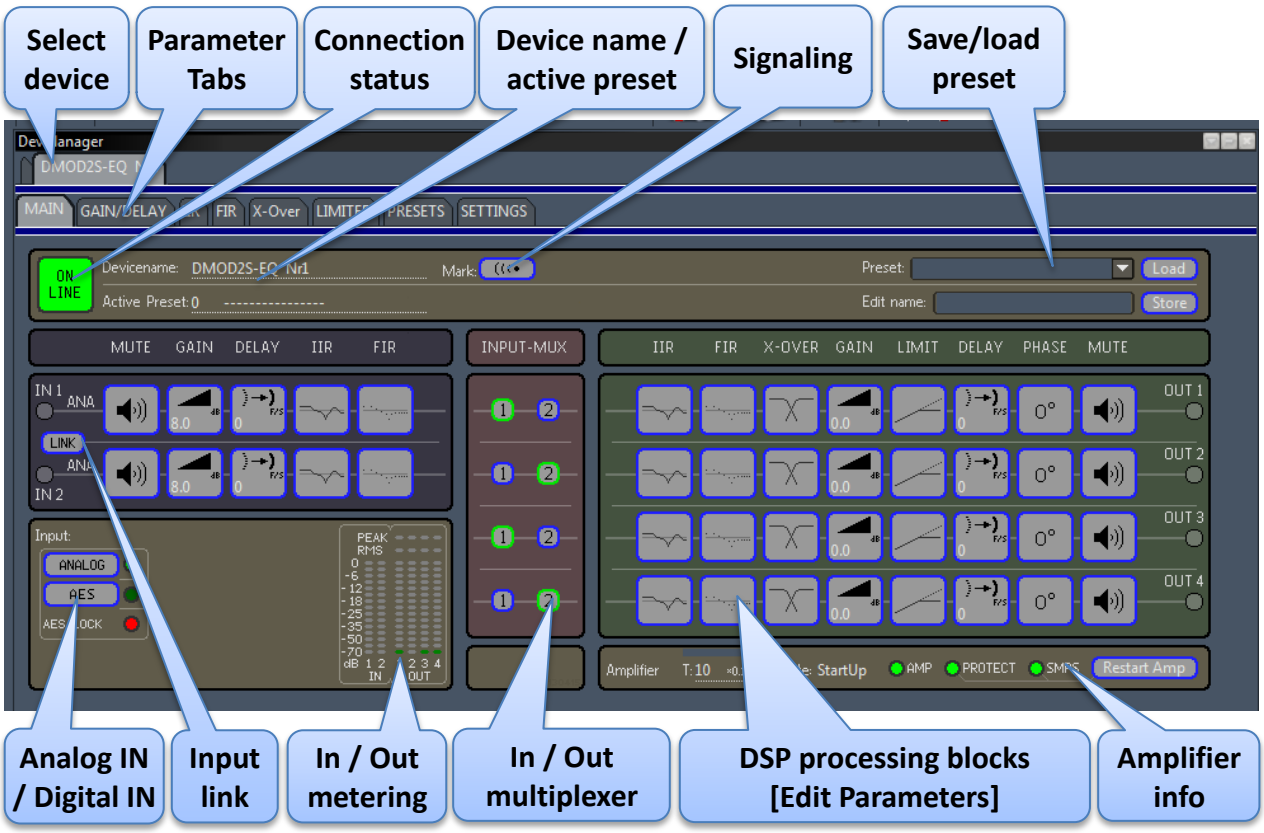
3 Device manager window

This is the main window to configure the exact parametrization of the selected device. The different types of parameters are organized on several views. Directly click on the signal-flow blocks within the MAIN-tab or alternatively on the corresponding tabs in order to access the details.

3.1 MAIN Tab

The main tab view provides a brief overview over the device. It shows In- and Out levels, channel mutes, the selected preset, status signals and a block diagram of the device processing chain.



- In order to edit the device parameters just click on the appropriate block. The display will switch to the associated view providing the functionality. The view can also be activated directly by clicking the associated parameter tab.
- On the lower left side the input type (analogue / digital) can be defined.
- The input channels can be linked. Every parameter change will now equally affect all linked channels.
- On the lower right side information for the amplifier is displayed.
- The complete parametrization of the device can be stored to presets both on the device and in a local file. It is then possible to quickly change between different presets. More details are provided in the “Presets-Tab” section below.
- Pressing the signaling button activates the LED-indicator on the device interface and simplifies to physically locate it within a network.

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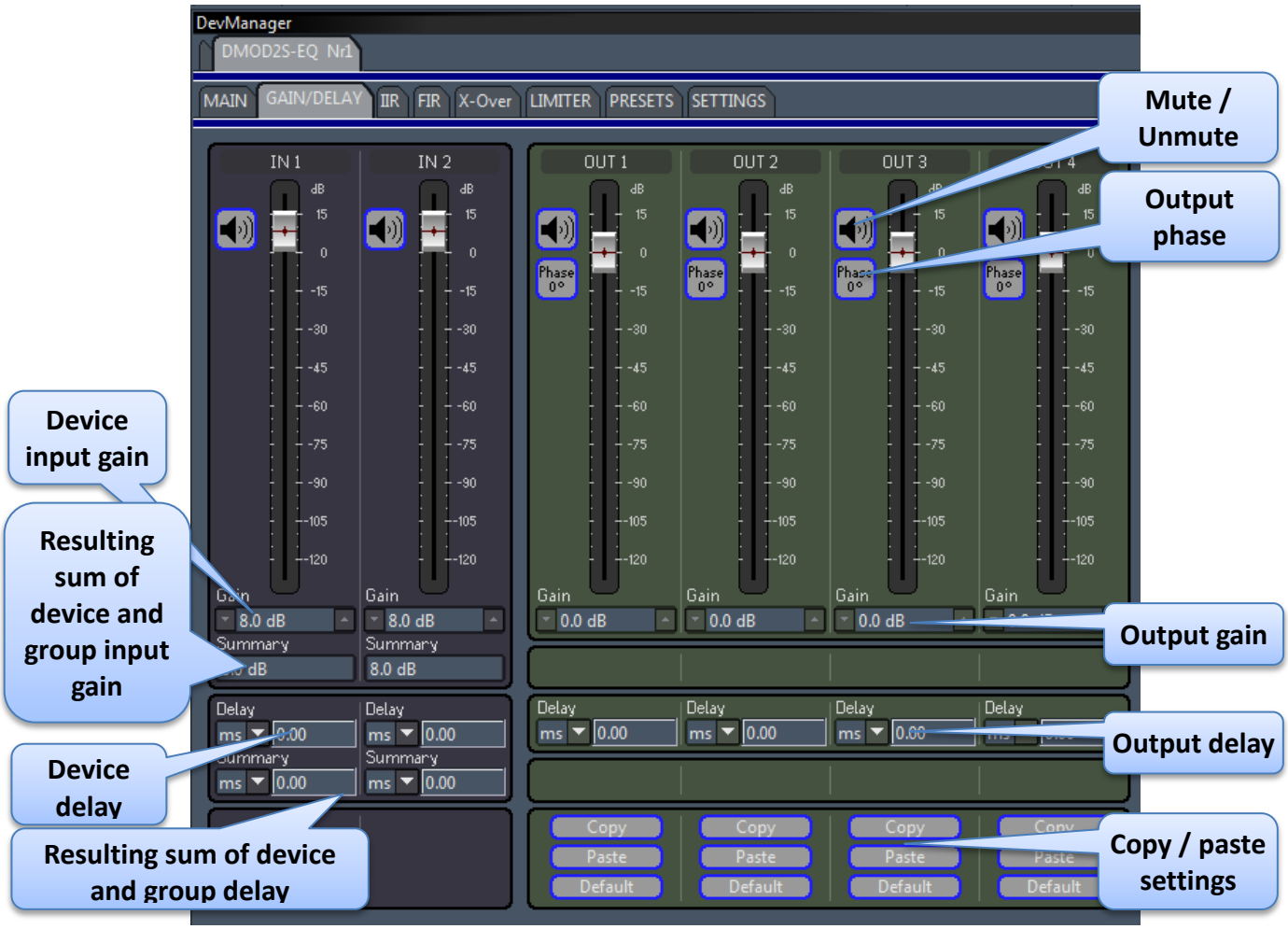
3.2 GAIN/DELAY Tab



- The „IN" section on the left allows modifying the device's input gain and delay. It also shows the combined delay and gain which takes into account group settings (see section 4).
- Analogously the "OUT" section on the right controls the output gain and delay. It is generally available in manufacturer mode only. For EQ devices the output section is also available in the user mode.
- The copy/paste functionality provides a quick way to transfer the settings of one channel to another one and also to a different device.

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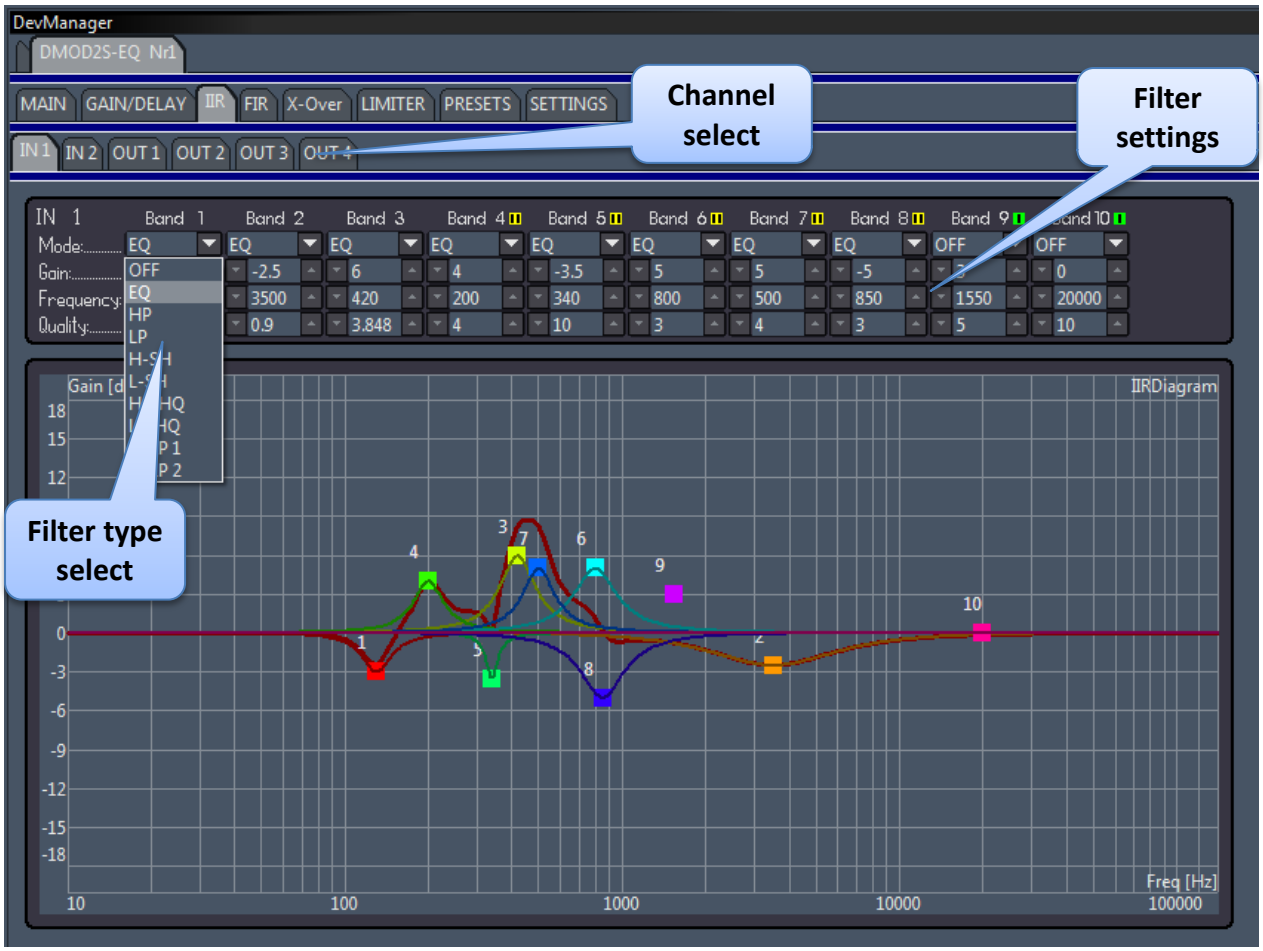
3.3 IIR Tab



- There is one sub-tab for each input and for each output channel of the device. For each channel there are 10 IIR filter bands available. Each band is configured by selecting the filter type and by parametrizing it.
- The sub-tabs for the OUT channels are generally only available in the manufacturer mode. For this reason they are also not available in the group settings. Only for EQ-devices output channels can also be controlled from within the user mode.

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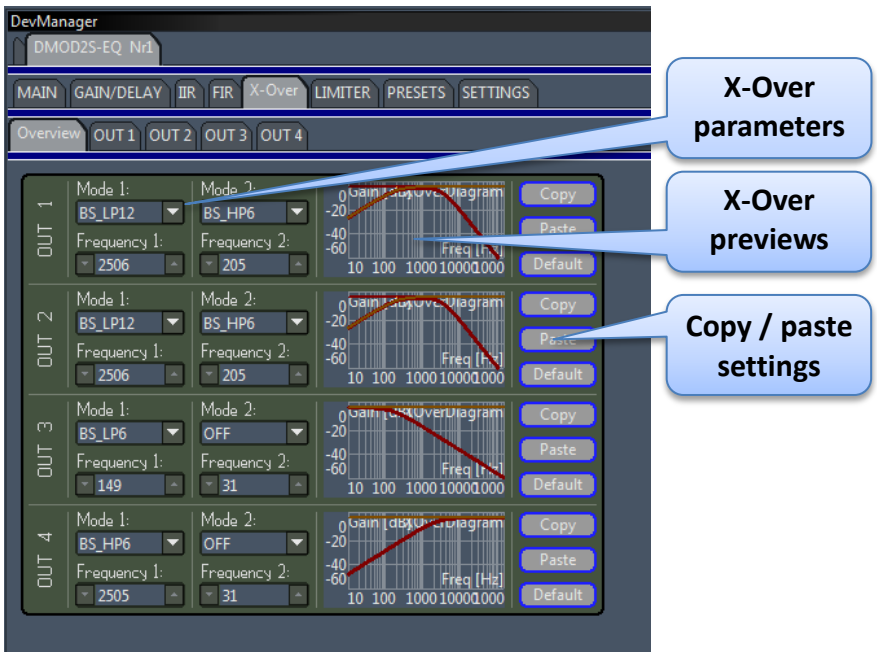
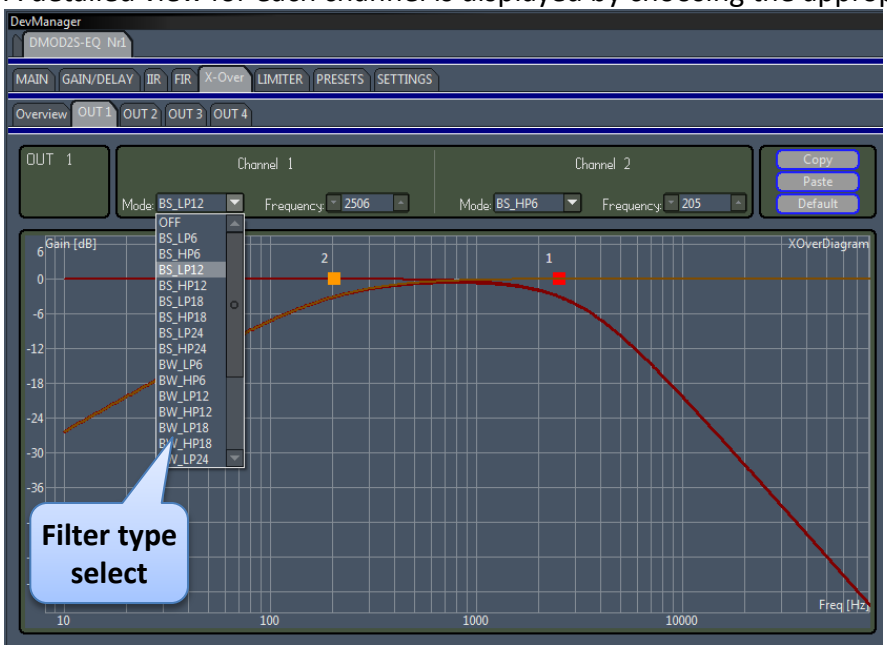
3.4 X-Over Tab

Up to two X-Over filters with different characteristics can be applied for each output channel. The overview-sub-tab shows a summary for all output channels. Using the copy / paste functionality parameters of a specific channel can be quickly transferred to other channels and also to a different device.



A detailed view for each channel is displayed by choosing the appropriate sub-tab.



Similar to previously mentioned output parameters these settings are only available in manufacturer mode they are also not group controlled.

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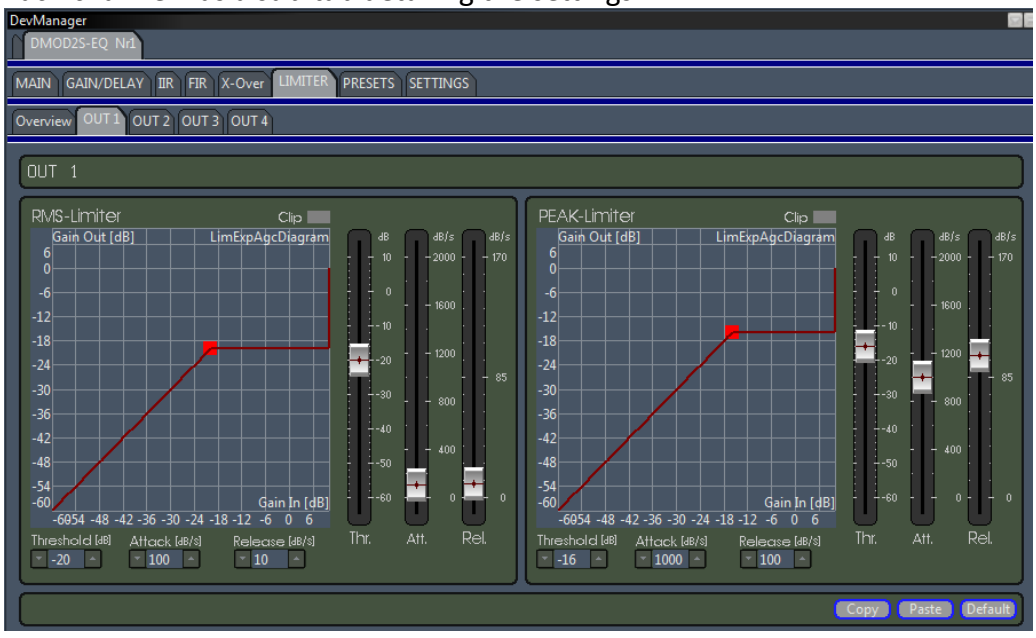
3.5 LIMITER-Tab

Two limiters can be configured for each output. The first one can be configured as a long term RMS limiter and the second one as a short term peak limiter. The attack and release values are given in dB per second. This allows configuring both the attack time and the attack strength by a single parameter (the same for release).
Using the copy / paste functionality parameters of a specific channel can be quickly transferred to other channels and to different devices.

Each channel has a sub-tab detailing the settings.



Please carefully check mechanical and electrical power handling of your speaker drivers, as well as power handling of your amplifiers to align RMS and PEAK limiters.

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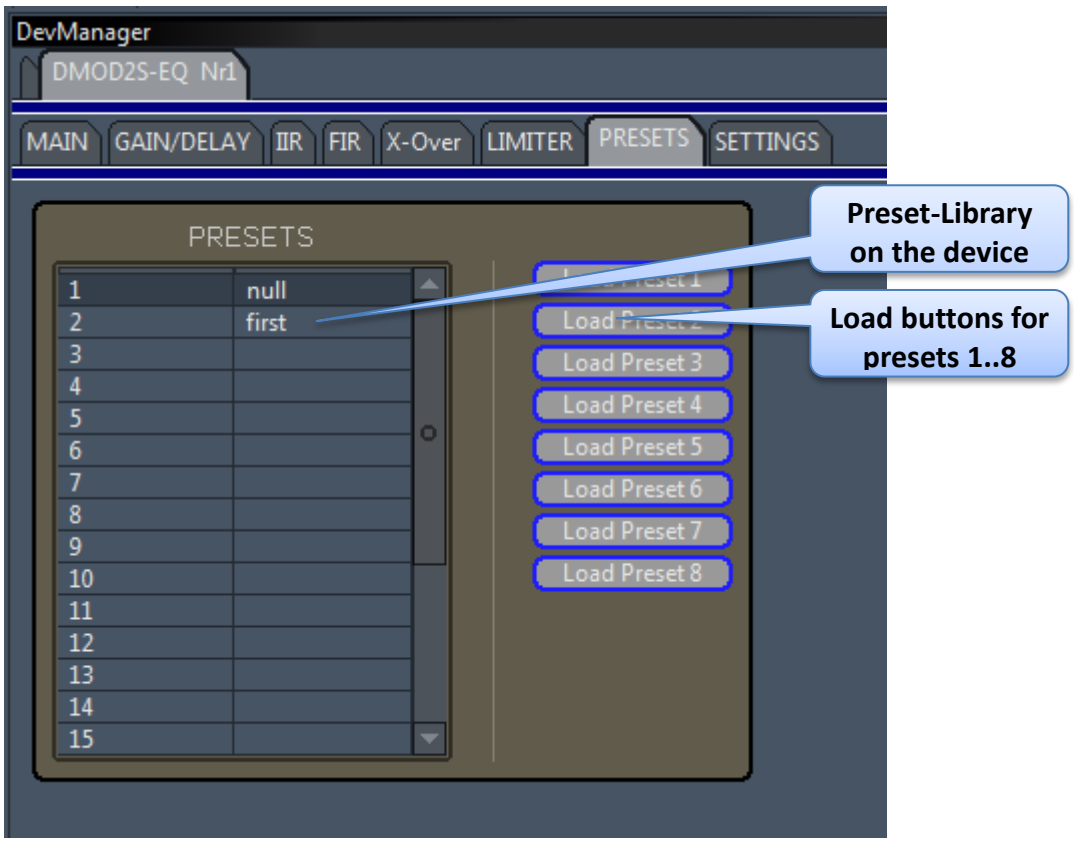
3.6 Device-View PRESETS Tab

Here the preset library currently present on the device is displayed as a list view. Preset 1..8 can quickly be loaded by pressing the appropriate load button thus defining the currently active parametrization.



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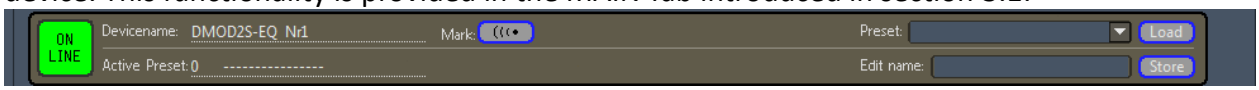
3.6.1 Managing several presets on one device

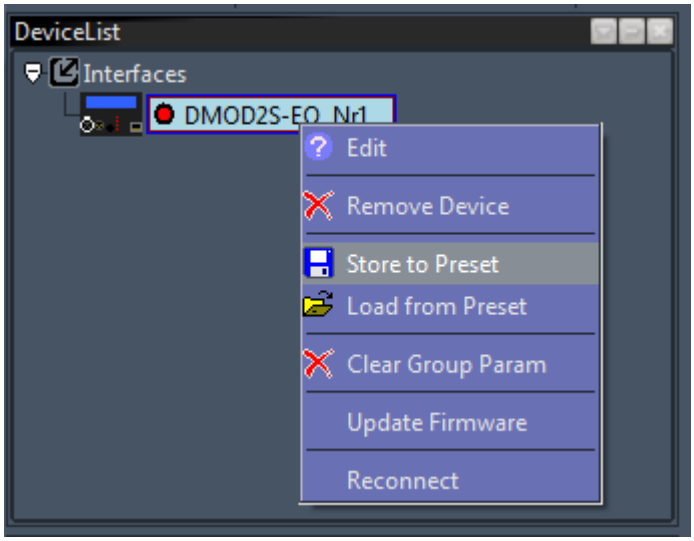
Once all parameters are tuned to their desired values the setting can be stored as a preset on the device. This functionality is provided in the MAIN Tab introduced in section 3.1:



1. Select the destination slot from the preset drop-down menu on the right side.
2. Edit the name of the preset according to your preferences and press the store button.
3. This automatically specifies this preset slot as the currently active preset on the device. It will then be automatically reactivated after the device has been switched off.
   a. The currently active preset slot and the preset name is displayed both on the left side of the MAIN-Tab and on the display of the device interface.
4. Choose a different preset from the drop-down menu and press load in order to switch to a different preset. It will be indicated as the active preset on the left and on the interface display.

3.6.2 Saving presets to a local file

The currently active device parameters can also be saved to a local file. This is done by a right click on the device name in the device list window or in the group list window.



Choosing the “Store to Preset” option from the pop-up menu opens the appropriate file dialogue. In order to retrieve device parameters from a local file the equivalent option “Load from Preset” has to be used. The loaded parameters overwrite the active parametrization data. In order to store them permanently on the device proceed as described above.

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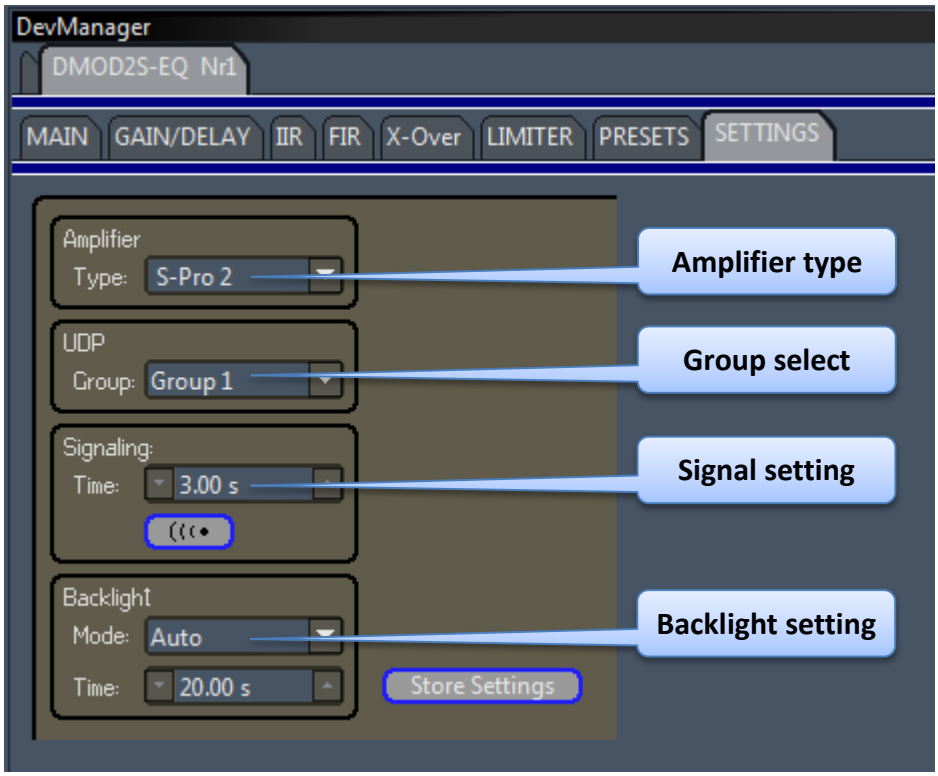
3.7 SETTINGS Tab



- In this tab general settings of a device can be modified.
- Two or more devices in the network can be interlinked by assigning them to the same UDP group. This functionality e.g. allows to automatically adopting the parameter changes on one device to all linked devices. E.g. the volume of the entire group can be changed simply by turning the rotary knob of one of the devices.
- In order to physically locate a device a signal with the specified duration can be send to it which then activates LED-indicators on the device interface.
- The backlight of the device display can be parametrized according to individual preferences.

3.7.1 Working with UDP-Groups

Once two or more devices are associated to one UDP-Group they mutually synchronize volume changes and preset changes from the device display:

- Changing the volume using the rotary knob of one device automatically sets the volume of all other devices to the same value.
- Changing the preset via the rotary knob on one device automatically updates all other devices to the same preset slot.
  - The preset names do not need to be the same.
  - If a preset slot is empty on one device it keeps the preceding preset slot active.
  - Note: Only the active slot is synchronized. This function does not change the preset parametrizations stored on each device.
- The synchronization does not work as long as devices are connected to the NetControl software. Disconnect all devices from NetControl in order to check the UDP-Group settings!

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4 Working with Systems

A very useful feature of the NetControl software is the possibility to build up hierarchical groups. This provides smart controlling even in a complicated setup.
The complete system is visualized as a trees structure in the “group list” window. By selecting a group from the list it’s parameters are shown in the “group manager” window. The controls for Gain/Delay and IIR have the same look and feel as the device controls described in section 3.

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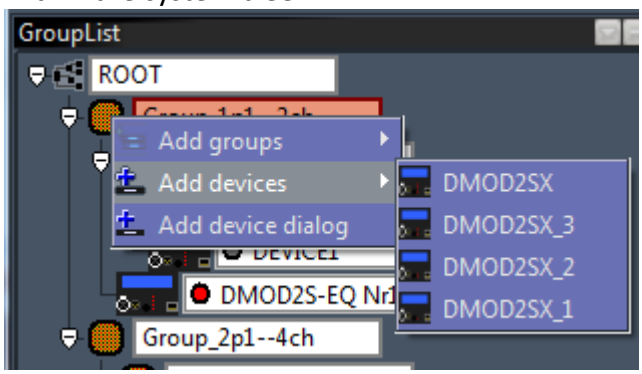
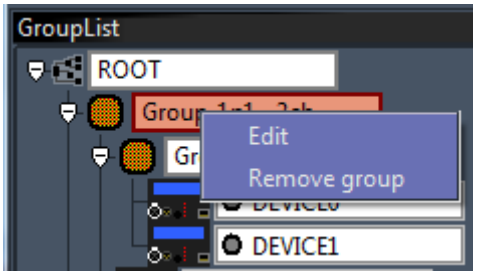
4.1 Working with groups

Several devices in the network can be grouped whereby the group hierarchy can have a depth of two levels. Two types of groups, with two and four channels respectively, can be chosen. For the DSP192-4-111 a 2CH group is recommended corresponding to its 2 input channels.

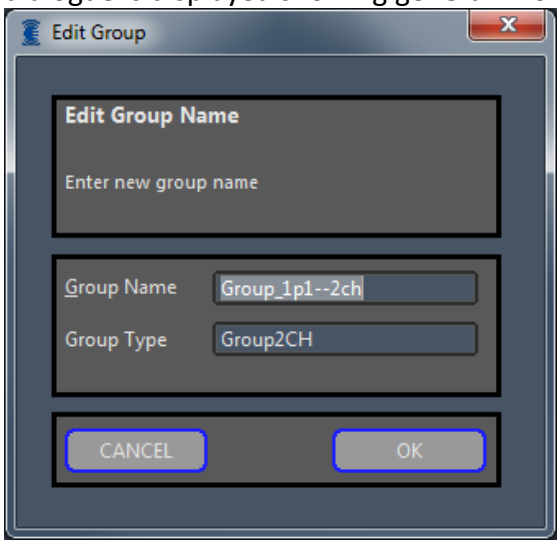
Right-click either on the “root”-group or on an existing group in order to get the pop-up menu which offers the options to add additional groups and devices. Use drag-and-drop to shift devices within the system tree.





Similarly, to add devices from the network just use the drag-and-drop functionality between the “device list” window and the “group list” window. The information about the group association is automatically stored in the device.

A double click on the group name or by choosing the “Edit”-option from the pop-up menu a dialogue is displayed showing general information. It e.g. allows specifying the group name.



When a group assignement is currently stored on the connected devices the system structure can be retrieved from the devices by clicking the tool bar icon  .

Choose the “Remove group” from the pop-up menu in order to delete a group and all associated devices and subgroups from the current system. If a device is removed from the System, this information is automatically stored on the device.

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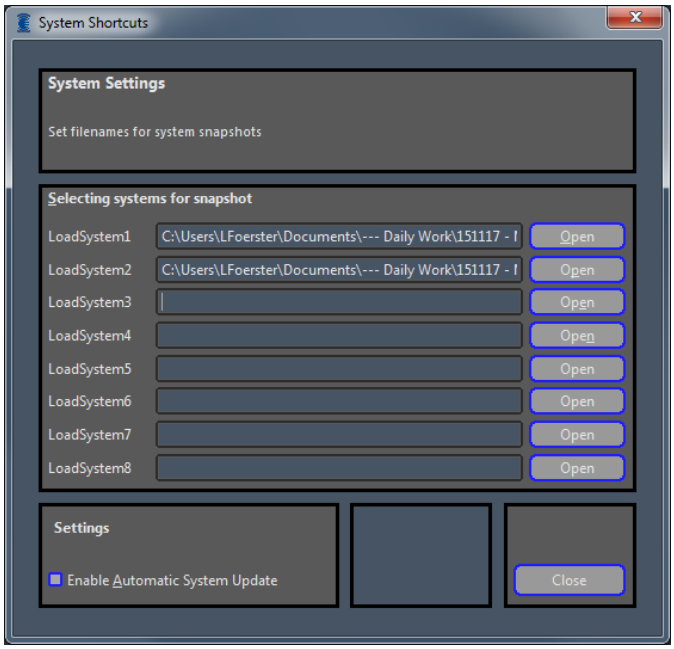
4.1.1 Load / Store systems to a local file

To load or store the system setting to a local file click on the “Save system” icon or on the “Load system” icon in the toolbar. Alternatively use the appropriate entries in the file menu. Attention! An existing system structure is cleared both in the NetControl tree and on all currently connected devices before a system file is loaded. System files do not store the complete parametrization of the devices. Apart from the system structure only the settings for the group input channels and settings for the currently active device input channels are stored. Information for output channel settings con only be stored in local preset files.

Up to 8 locally stored system files can be assigned to the corresponding “Snapshot” icons in the toolbar for quick access to these system files. This is very useful for locations with different setups. To assign a stored system to a snapshot icon use the menu command “System → Edit System Shortcuts”.

After a system file has been loaded it needs to be merged with the connected devices as described in section 4.1.2.



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4.1.2 Virtual systems

A complete system structure can be build and parametrized with virtual devices. They are indicated by a gray dot in front of the device name. Once completed, the settings can be transferred to real devices in the network.

There are two ways to merge the system with real devices. In both cases the name of the real and the virtual devices must be identical. Of course the device types must be equal as well.

1. A real device can be manually merged with a virtual device by dragging it on the virtual device. The real device adopts the parametrization of the virtual device (The virtual device disappears from the system).
2. An automatic merging of the entire system is started by clicking the “Send config to network” icon  in the toolbar. The parametrization is transferred from the virtual to the real devices when their names are equal.

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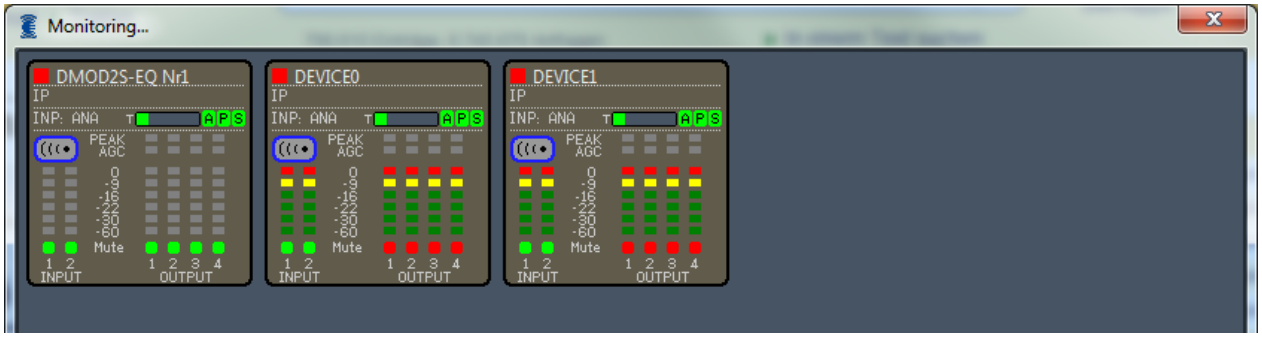
5 Supplementary tools

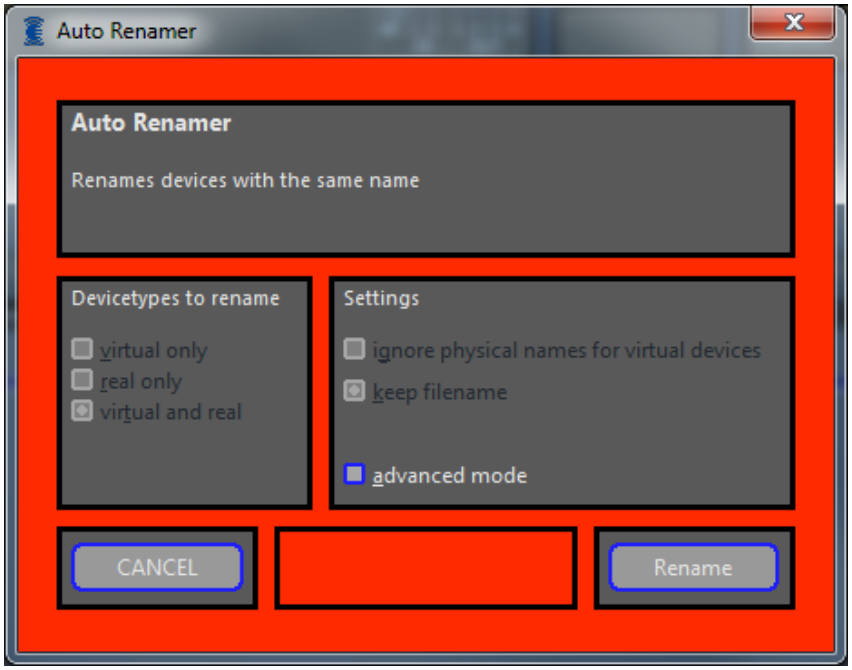
5.1 The Meter-bridge view

Press the “Meter Bridge” icon  in the toolbar to open the monitoring window with level meters for the in- and outputs of all connected devices.



5.2 Auto renamer

In order to automatically make sure that all devices in the network have unique names the auto renamer tool can be used. Use the menu command “Tools → Auto renamer”.



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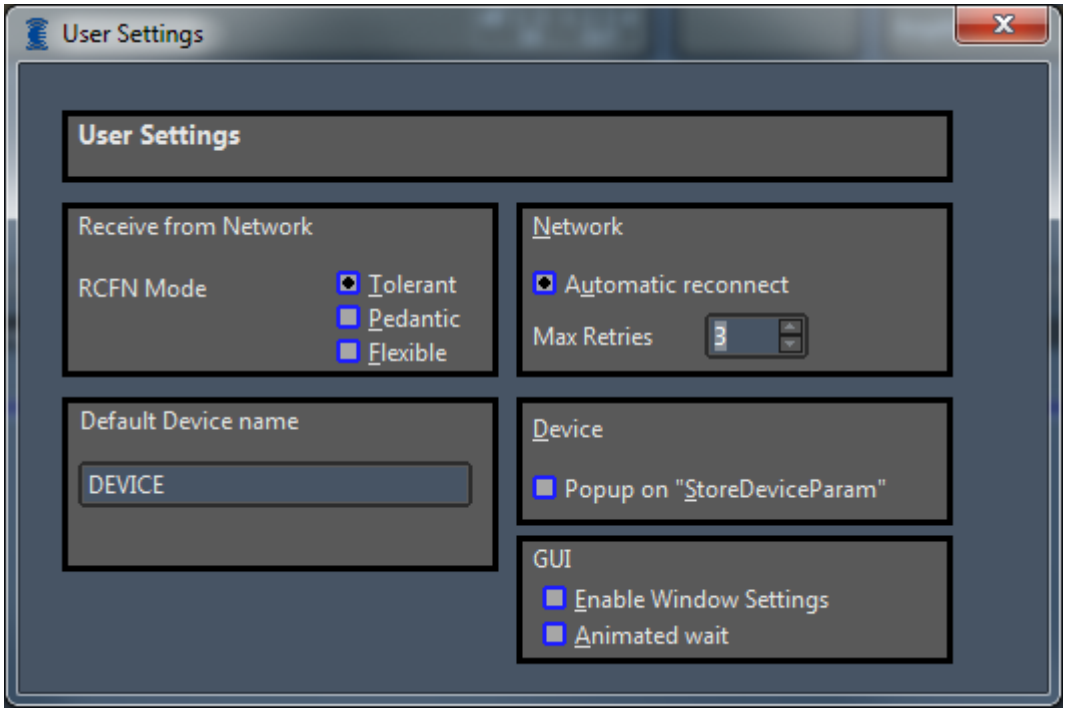
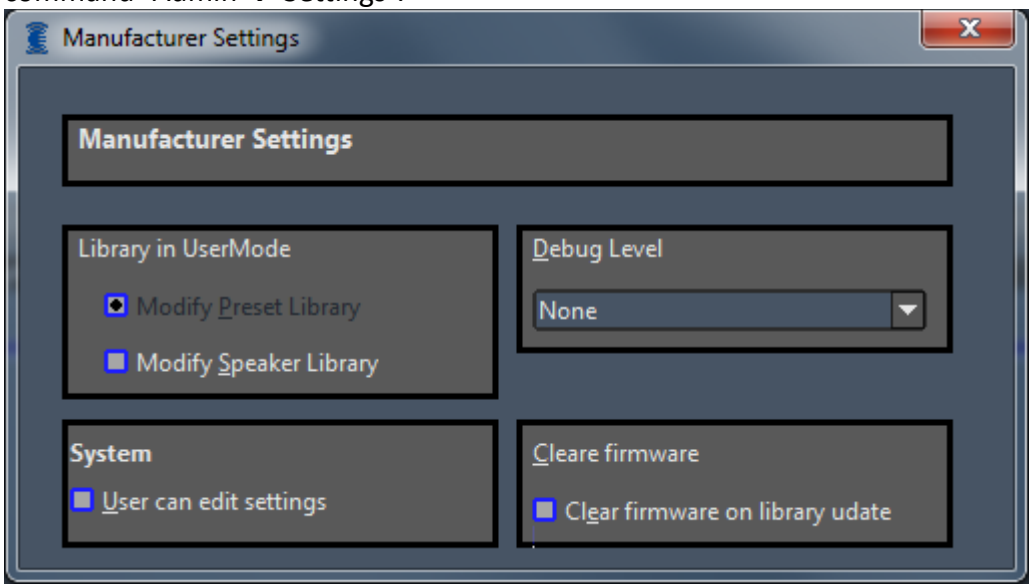
5.3 User mode

The manufacturer type user can customize some NetControl functions. This dialogue is invoked by the menu command “Tools → User mode”.



5.4 Manufacturer settings

The scope of the user mode is customized in the following dialogue displayed by the menu command “Admin → Settings”.



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