

## d&b ArrayCalc V10 Release notes

The d&b ArrayCalc simulation software is the simulation tool for d&b line arrays, column and point source loudspeakers as well as subwoofers. This is a comprehensive toolbox for all tasks associated with acoustic design, performance prediction, alignment, rigging and safety parameters.

### OS requirements

**Windows:** Win7 or higher

**macOS (Intel):** 10.12 or higher

**macOS (M1):** 11.0 or higher

### Windows OS information:

On Windows, an automatic update of previous versions of ArrayCalc V10.16.1 is not possible using the internal update feature. Please install the latest version manually from [www.dbaudio.com](http://www.dbaudio.com).

**Note:** The Windows version starting from ArrayCalc V10.16.1 is created for 64-bit operating systems. This is the recommended version for all users. If a 32-bit version of ArrayCalc is required, use ArrayCalc V10.14.1 which can be downloaded from the [Software archive](#).

### V10.24.3

#### Bug fixes:

- ArrayCalc no longer freezes when using invalid remote ID or tabbing through the list of devices.
- Incorrect values for single pick point fixed when center of gravity is outside the available pick points.

07/2022

### V10.24.2

#### Bug fixes:

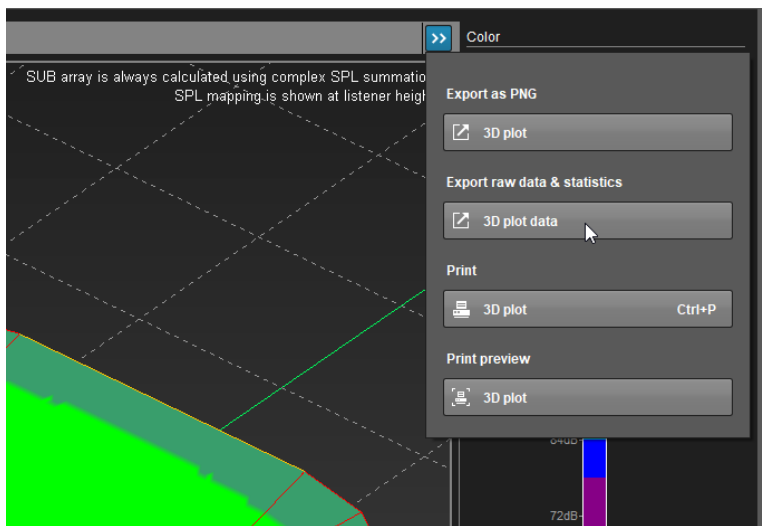
- Configure amps function for SUB array with 2-way active speakers fixed.
- Issue with endless freeze when pressing the tab key in a point source group fixed.
- Horizontal AL array no longer shows different Rigging conditions depending on horizontal aiming.
- 44S tilt angles and 24C/24C-E HF angles available again in the UI.
- Aiming section calculation now takes into account the 44S flush mount tilt angle.

06/2022

### V10.24.1

#### Features:

- Default level drops and Realizer values for A-Series ArrayProcessing improved.
- Export of SPL statistics for 3D plot simulation:



#### Bug fixes:

- Changing the advanced CPL is no longer only applied to the first two arrays of a multi-selection.
- 3D plot memories now show venue elements and mapping correctly aligned.
- Linking no longer lost when changing speaker type.
- Issue with adding new planes after loading a 3D plot memory fixed.
- Wrong XSL/XSLi pick point positions for load beam "front" fixed.

05/2022

### V10.22.3

#### Bug fixes:

- Row is now correctly selected when clicking into a remote ID or point source position field.
- Dante export now contains only device A of a DS100 Device Redundancy.
- Transparent state of duplicated structure venue element can no longer be edited.
- Unexpected behavior with amplifiers spreading over different source groups fixed.
- Profile view is now updated after adding multiple sources at once.

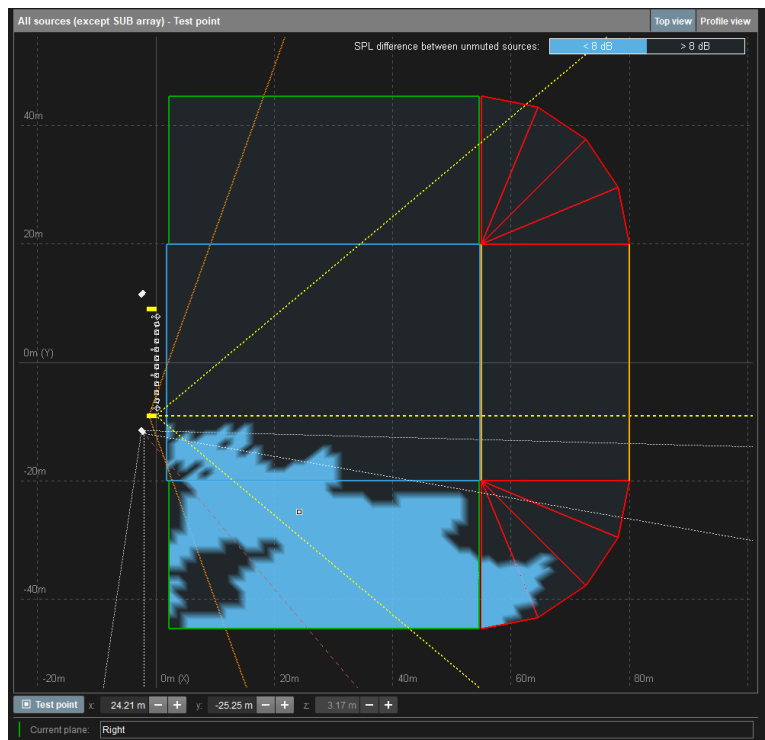
03/2022

### V10.22.2

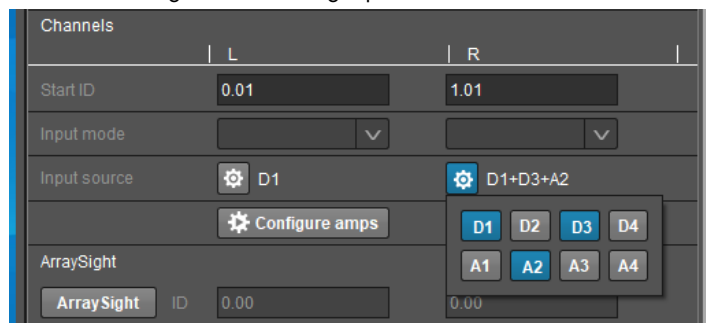
**Note:** Project files saved using the current ArrayCalc 10.22.2 version cannot be opened in older versions of ArrayCalc.

#### Features:

- Support of XSL-TOP setups for 30D amplifiers.
- Device redundancy for DS100.
- On the Alignment tab, indication of suitable test point areas where SPL differences between sources allow for a good time alignment within the relevant frequency band:



- Selection of input source from a separate menu, which allows all combinations of digital and analog inputs:



- including multi-selection mode:

Signal flow									
Status	Cab.	Speaker	Setup	Level/dB	Delays/ms	Filter	Link	Channel name	Input mode
✓	1	44S-Flush-90x30	—	0.0	0.3	CUT	—	Front Fill 01	D1+D2
✓	2	44S-Flush-90x30	—	0.0	0.3	CUT	1	Front Fill 02	A1 A2 A3 A4
✓	3	44S-Flush-90x30	—	0.0	0.3	CUT	2	Front Fill 03	D3
✓	4	44S-Flush-90x30	—	0.0	0.3	CUT	3	Front Fill 04	D4
✓	5	44S-Flush-90x30	—	0.0	0.3	CUT	4	Front Fill 05	D1+D2
✓	6	44S-Flush-90x30	—	0.0	0.3	CUT	5	Front Fill 06	D1+D2
✓	7	44S-Flush-90x30	—	0.0	0.3	CUT	6	Front Fill 07	D1+D2
Floor 360									
✓	1	44S-Flush-90x30	—	0.0	0.3	—	—	Floor 360 01	D4
✓	2	44S-Flush-90x30	—	0.0	0.3	—	1	Floor 360 02	D1+D2
✓	3	44S-Flush-90x30	—	0.0	0.3	—	2	Floor 360 03	D2

- Improved loudspeaker position & orientation for Soundscape projects. The calculation of loudspeaker position & orientation for Soundscape enabled projects was moved to ArrayCalc to obtain elaborated data. This improves position & orientation data of monitors, loudspeakers rotated vertically through more than  $\pm 90^\circ$  and horizontal A-Series arrays.
- The list of unused channels now also displays the amplifier model for each unused channel.

### Bug fixes:

- Missing update of project issue list fixed, which caused a crash after double-clicking on an outdated project issue.
- Now the patching is properly maintained after just opening and closing the drop-down for a DS10 or DS100 device.
- Patching for horizontally mounted A-Series arrays fixed.
- The tool tip of the error icon in the Cabinets table no longer shows a patch issue twice.
- Keyboard shortcuts added to the "Shortcuts overview - General" Help section to toggle between different views.
- Linking for E12-X, E12-DX and E8-X setups fixed: linking is not possible for E12-X and E12-DX. For E8-X, only linking of two channels is possible.
- For symmetrical linking where you can link only two speakers, the dialog with the linking options for "Recommended" and "Maximum" is no longer shown.
- When selecting several groups of venue elements which are all the same color and opening the color selection dialog, now the correct color is shown.
- Crashes after saving a project file while having selected multiple joined groups fixed.
- On macOS, the system selected in the "Add multiple sources" option is now correctly applied when the sources are created.
- Issue with copy/pasting the configuration of an array with the "mount. frame" option fixed.
- Crash of the Soundscape simulation calculation caused after exporting or printing the Soundscape SPL mapping fixed.
- The Soundscape simulation now shows a warning message if you use more than 64 Soundscape sources and start a calculation.
- When using two Function groups with the "Main system" mode, they are now treated independently in the Soundscape simulation.
- Wrong level handling for embedded function groups occurring in projects with more than one main speaker group fixed.

02/2022

### V10.20.1

### Features:

- Support of XSL(i)8 / XSL(i)12.
- Improved SL-Series setups.
- New Soundscape System view offering:
  - Soundscape SPL mapping calculation.
  - Soundscape Localization calculation.
- Configuration of Delay and Spread factor for the Soundscape Function groups in the Devices view.
- Support of DN1 network switch.
- Snapshot view now displayed as a separate window, which can be opened from the main menu.
- Quick method to add a new snapshot by clicking the snapshot icon in the tool bar or using the CTRL+T (Windows) or CMD+T (macOS) keyboard shortcuts.
- Parts list view now displayed as a separate window, which can be opened from the main menu.
- Printing of Parts list directly from the main menu without opening the Parts list window.

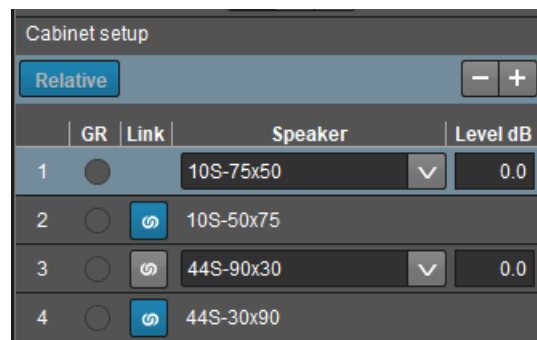
- Importing a venue offered with two options
  - Replace current venue
  - Add venue elements without replacing current venue
- All elements showing date or time on the GUI now use the format defined in the settings of the operating system.
- On the Sources view, a new option is provided in the "+" menu for adding sources: The new "Add multiple sources" option opens a dialog, which allows you to easily create several sources in one go and define the type of the source, the name, the system, and the number of cabinets.
- On the "Network devices" tab on the Devices view, the "+" menu now provides an additional option to add multiple network devices. Selecting this option opens a dialog window, which allows you to easily create a list of new network devices to be added to the project.
- Release notes are now available using the "Release notes" menu item in the Help menu of ArrayCalc.
- Using the "Link cabinets" button in the Devices view for one or more source groups, which have a different maximum number of linked cabinets than the recommended number of linked cabinets, now offers the option to automatically link the recommended number or the maximum number of cabinets.

#### Notes:

- For the Soundscape simulation, the ArrayProcessing (AP) data has been extended. This requires a recalculation of the AP data for project files, which were created with ArrayCalc versions prior to V10.20. When loading an older project file with AP enabled in ArrayCalc V10.20.x, the AP indicator for the array will be displayed in orange to indicate that the AP data should be recalculated.

#### Bug fixes:

- Issue with the "3D plot" view loudspeakers drawn in the color of a plane or an obstacle fixed.
- Copy&paste or export&import of an SL-Series array with the load beam position set to "front" no longer resets the load beam position to "standard".
- Issue when importing an array with ArrayProcessing enabled and then recalculating the ArrayProcessing data for this array providing no results fixed.
- For a linked speaker, now the speaker type including the horn rotation is shown, which allows you to also check the horn rotation of the linked speakers.



- Changing a loudspeaker series using "Dual Channel" mode within an array to a series using "2-Way Active" mode no longer causes empty drop down lists for the Output mode and the Channel selection on the Devices view.
- Changing a source group from a 4 channel amplifier type to a 2 channel amplifier type no longer creates any issues when saving the project.
- Crash caused by saving a project that uses a specific patching of a D10 devices in a chain fixed.
- On macOS, the status icon for the source groups on the Devices view is no longer cut off.
- Angle entries in the range from -360° to -180° or from 180° to 360° are no longer converted to an equivalent representation but are now kept.
- Crash caused when importing a venue while several venue elements have been multi-selected fixed.

10/2021

### V10.18.3

#### Features:

- B8-SUB can now also be used in a "xC-Series" point source group.

#### Bug fixes:

- A Dante preset file exported by ArrayCalc can now be loaded in Dante Controller V4.4 without errors.
- Using a 40D amplifier no longer results in a conflicted snapshot when loading the project in R1.
- For A-Series arrays with symmetrical linking mode, a double click in the "Link" column of a loudspeaker without link button no longer shows an unexpected link button and no longer leads to subsequent crashes.
- Crashes caused by several types of user interactions during SPL mapping calculation in the "3D plot" view fixed.
- Crash when changing the transparency mode of listening planes while an SPL mapping calculation for a point source group is running fixed.
- After changing a multi-selection of xS-Series loudspeakers without tilt angle support (e.g. 10S) to loudspeakers with tilt angle support (44S-Flush), the tilt angle drop down list for the multi-selection is no longer disabled.
- For a multi-selection of C-Series loudspeakers in a point source group, the drop down list for the loudspeaker type now includes the C4-SUB and C7-SUB.
- In a source group, changing the amplifier type from an amplifier with input mode selection (D80, D20) to one without (10D, 30D, 40D) while having unused channels no longer causes subsequent patching errors.
- When changing the series of a source group and the new series is not supported by the currently selected amplifier type, the required change of the amplifier type no longer causes invalid channel settings and subsequent issues.
- ArrayCalc no longer shows unintended "The project file was changed in another program" message when project file is saved in a shared folder on macOS using a newer version of OneDrive.
- Outdated section in the help manual regarding the selection of the resolution for the "Direct sound level vs. distance" in the Sources view removed.

- Using CTRL+Enter (Windows) or CMD+Enter (macOS) to automatically assign remote IDs no longer changes the selection in the "Output mode" drop down menu nor does it create an empty and disabled Output mode list.
- When changing the amplifier model, the patch for the associated DS10 or DS100 devices is now correctly maintained.

7/2021

## V10.18.1

### Features:

- Support of 40D amplifier.
- In the "Cabinets" table on the Devices view, the signal flow can be changed from left to right or vice versa using the "Signal flow →" and "Signal flow ←" buttons just below the "Cabinets" tab. The default signal flow direction can be configured in Preferences.
- In the Cabinets tab on the Devices view, the output mode is only shown for the associated channel pair. This simplifies the selection in the drop down list as there are less entries.
- On the Devices view, the columns of the "Cabinets" table and the DS10 and DS100 "Channels" table are now colored to better identify the associated sections .
- In the "Cabinets" table on the Devices view, the DS10 AES output channels are now shown in pairs.
- On the Devices view, status icons have been added for source groups and in the "Channels" table for DS10 and DS100 devices.
- In the "Project report" dialog, an entry indicating an error can be double clicked or the respective icon can be clicked once to navigate to the source of the issue.
- When switching between "flown" and "flown install" for the mounting of an array, ArrayCalc will keep the number of cabinets and the settings if these are supported by the target mounting type.
- The following issues have been added to the project issue management relating to NoizCalc
  - No sources defined (severity: error)
  - No unmuted TOP loudspeaker with acoustic data for simulation (severity: error)
  - NoizCalc reference point  $z = 0$  (severity: warning)

### Bug fixes:

- The "Link cabinets" function on the Devices view now links
  - two KSL8
  - two KSLi8
  - two KSL12
  - two KSLi12
- It is possible again to create an array with just one Q7 loudspeaker.
- Single pick point calculation fixed in the case that the center of the gravity line is at the right side of the mounting reference point.
- ArrayCalc no longer freezes when you change a SUB to a Top loudspeaker in an array where the next loudspeaker is a SUB which is linked and a frame is mounted between SUB and Top loudspeakers.
- When switching between Metric and Imperial units, the "Overall dimensions" shown below the "Required space" diagram on the Rigging plot view now update correctly to the new unit settings.

- When not all loudspeakers in a point source group can be simulated (e.g. all M4), the drop down list for the source used for alignment to the SUB array now shows the correct names of the other source groups which can be used for alignment.
- When clicking in the "Filter 1" column of a point source group for a linked loudspeaker and then pressing the Space key, no unexpected button will pop up.
- Issue with the Balloon data of 44S flush mount loudspeakers fixed when a non zero tilt angle is applied.
- The selection of the E8-X, E12-X and E12-DX setups force a "Dual channel" output mode.

06/2021

### V10.16.3

#### Bug fixes:

- DS Device Input/Output naming in the drop down list now starts with the channel number to quickly jump to a specific list entry using the keyboard.
- Using the same DS10 output for several loudspeakers is no longer treated as a patching error when the Soundscape feature is disabled.
- Crashes when using the 3D plot memory load and save functions fixed.
- Changing the color scale now not only applies to the 3D plot live view but also to the 3D plot memory views.
- A 3D plot calculation is now interrupted when duplicating a source group.
- Crash when importing a new venue during a running 3D plot calculation fixed.
- Setting the "Listening" type for a cuboid venue element no longer applies a default listener height of 1.7m.
- When a KSL-SUB or KSLi-SUB is used in a flown array, only the standard load beam position is allowed.
- When changing a SUB loudspeaker to a TOP loudspeaker type in a Point source group, the CPL value configured in the Point source group is now correctly taken over.
- On the Alignment view, changing the position of the SUB array is now correctly reflected in the "Top view" and "Profile view" diagrams.
- Empty drop down list for the system selection of a SUB array fixed when "Mixed SUB array" has been selected.
- Double entry of "1xKSL-SUB upright" in the drop down list for the system selection of a SUB array fixed. Now it correctly shows "1xKSL-SUB upright" only once plus "1xKSLi-SUB upright".
- When the "Mix TOP/SUB" output mode is selected, the "12S-SUB" setup is assigned to the second unused channel instead of the "Linear" setup since the setup must be a "SUB" setup.
- The "Link cabinets" function now links
  - four 44S speakers instead of only two.
  - two 44S clusters.
  - three 10S loudspeakers instead of only two.
  - three 10S-D loudspeakers instead of only two.
- "Ready for R1" and "Ready for NoizCalc" icons are now also visible when ArrayCalc is in day mode.



- The flag in the tool bar which indicates whether there are any entries in the project report now uses a yellow background when there is at least one entry with the "warning" severity level and a red background when there is at least one entry with the "error" severity level.
- When using a project file with an activated "locked" macOS file system attribute, the Save-As operation no longer fails.
- The "Disable ArrayProcessing" dialog now uses the same button order for macOS as for Windows.
- For macOS, the message box that is prompted when changes to the current project have not been saved after double-clicking another project file in the macOS Finder activating the current ArrayCalc instance, is now the same as when using the "Open" function in ArrayCalc after having modified the current project. In both cases, using the "Yes" button saves the modifications.

04/2021

## V10.16.2

### Bug fixes:

- Crash during devices setup fixed.

02/2021

## V10.16.1

The Windows version of ArrayCalc V10.16.1 is created for 64-bit operating systems and has to be downloaded and installed manually. This is the recommended version for all users.

If a 32-bit version of ArrayCalc is required, use ArrayCalc V10.14.1 which can be downloaded from the [Software archive](#).

### Features:

- Devices table added to Devices view. The table serves to manage the device names.
- Project issues are now shown in a separate "Project report" window, which can be moved, for example, onto a second screen. The window can be opened by clicking on the flag in the tool bar (next to the Project author and Project name icons).



The "Validate project" button, which in previous ArrayCalc versions was included in the ">>" menu on the Devices view, is now available in the "Project report" window.

- Projects can now be saved even if there are amplifier issues like duplicated remote IDs. In this case, however, the project is not yet "Ready for R1" and cannot be opened in R1. The issues must first be resolved in ArrayCalc. Whether a project is "Ready for R1" or not is shown in the tool bar of ArrayCalc.
- Support of the new Soundscape function groups "Outfill embedded" and "Delay line embedded" added.
- Further Soundscape example projects added.
- A chain of two DS10 devices can now be built:  
DS10 → DS10 → amplifier → loudspeaker
- ArraySight devices added to a project are now automatically configured using Remote IDs of the subnet 99, such as 99.01, etc.

- When adding new monitors, the default loudspeaker now is M6 instead of M2 since M6 is also supported by the D20, D6, and 10D amplifiers.
- Default Input mode for newly created D80 and D20 devices now is "Digital / Digital".
- When importing a source group, the Remote IDs of the imported file are now taken over instead of being newly generated.
- Improved load limit calculation.

#### **Bug fixes:**

- Crash when moving the venue origin by 200 m in z direction fixed.
- SPL mapping diagram on the Sources view now correctly reflects changes to the tilt angle of 44S loudspeakers.
- After deleting the last V-SUB in a vertically flown A-Series array, the V Flying frame is correctly replaced by the AL Flying frame.
- For a vertically flown A-Series array with two V-SUBs the print-out and the Rigging plot view now show the correct single pick point instead of "-".
- The Arrival time diagram on the Alignment view now shows all impulses even if a high number of source groups is used.
- On the Alignment view, the minus button for the relative adaptation of the delay for all sources to the SUB array now correctly decrements to the minimum delay value.
- On the print-out and the PNG export of the 3D plot, the selected loudspeakers are no longer drawn with the highlight color.
- ArraySight devices are taken into account in the Parts list.
- Wrong values for single pick point position for xA-Series arrays displayed on the Rigging plot view fixed if the xA-Flying bar adapter is mounted in a rearward direction.
- A project with two arrays using the same DS10/D100 channel for patching can now be successfully saved.
- EASE export for stacked arrays fixed. Please use new EASE GLLs for latest compatibility.
- EASE export for 24C with non-zero HF angles fixed.
- For a 24C loudspeaker with a rotation of 90° and a non-zero HF angle, the line for the HF angle is now correctly drawn and matches the 3D plot results.
- Freezing of ArrayCalc fixed when changing number of cabinet positions of the SUB array on 3D plot while Array Calc is already calculating.

02/2021

### **V10.14.1**

#### **Features:**

- Support of 44S loudspeaker.
- Support of KSLi rigging accessories.
- Support of AL V-SUB adapter frame (Z5461)
- Support of ALi Mounting Frame Top (Z5459)
- Venue database: The "Venue database" consists of a list of venues, which is hosted on a d&b server and can be accessed using ArrayCalc. To open the "Venue Database" dialog, go to the "Venue" view in ArrayCalc and select the "Venue Database" option from the ">>" menu.

**Bug fixes:**

- Missing  $-10^\circ$  angle for the KSL stacking frame added in the dropdown list for the "Splay to frame/SUB" item.
- Issue with a duplicated patch caused by changing remote IDs for an array or SUB array that is patched to a DS10 or DS100 fixed.
- In the Devices view, it is no longer possible to assign a function group to an array without defined loudspeakers.
- On macOS, ArrayCalc no longer crashes when moving the ArrayCalc window from one screen to another and then open and close several drop-down lists.
- On macOS, the position, size and the screen used in the last session is now correctly restored.
- Issue with a project file containing a T-Series point source group with a Q-SUB or E15-SUB not loading fixed.
- Unexpected geometry changes of an Arc segment after multi-selection and drag&drop in the venue elements table fixed.
- Crash when loading a project from the 3D plot memory containing an additional amplifier group with "All series" settings fixed.

**Note:**

The HF angles for the 24C and 24C-E are now stored as negative angles as they describe the HF adjustments in a mathematically negative direction.

ArrayCalc automatically detects older projects and converts the positive values for the HF angle into negative values.

When using the latest NoizCalc update, this version expects 24C and 24C-E HF angles as negative values. When you have an older dbpr project file with 24C or 24C-E loudspeakers, first load it and save it using ArrayCalc V10.14 before using this project with the latest NoizCalc version.

10/2020

**V10.12.4****Bug fixes:**

- Issue with the "Profile at  $0^\circ$  aiming" diagram in the Alignment view fixed, which used wrong coordinates of the test point when planes of the array were in the back.
- Inconsistent number of comma/semicolon separators in the CSV patch export fixed.
- Issue with wrong indication of password protection fixed when loading a venue file (\*.dbacv) or a file from ArrayCalc V7 and previous versions (\*.dbac).
- Issue with saving a project after using the 3D plot functions to save to or load from the 3D view memories fixed.
- ArrayCalc no longer shows "The project file was changed in another program" message when project file is saved in a shared OneDrive folder on macOS.
- Issue with total number of amplifiers incorrectly displayed in the Devices view after enabling ArrayProcessing fixed when the cabinets of the array were previously linked.
- Scrolling within several tables using the track pad on macOS fixed.
- The collapsed state of the source group settings pane is now properly maintained when selecting another source group.
- Issue with the venue comments section showing two vertical scroll bars fixed.

- Performance and out-of-memory issues fixed when using drag&drop for a larger number of venue elements in the venue element list.
- Crash when using drag&drop for a joined venue group in the venue element list fixed.
- Issue with drag&drop not inserting an element at the intended place after adding new venue elements fixed.
- Issue with changes made to the venue elements of a saved project not marking the project as modified when there are multi-selected elements fixed.
- Issue with the color selected for a plane not correctly shown in the 3D plot fixed.
- "Position z" and "Vertical aiming" values for the SUB array are now shown as read-only elements in both the Alignment view and the Sources view. Editing those values is still only allowed in the 3D plot view.
- Field for the number of cabinets per position in the SUB array is now correctly updated after an invalid input is made.
- Issue with the speaker selection drop down for an Additional amplifier group listing the speaker multiple times when using "All series" fixed.
- Issue with the DS100 output channel names being overwritten by automatically generated names when opening a project file fixed.
- The "Duplicate remote IDs found" message in the "Unused channels" section now correctly shown whenever the remote ID is used on more than one amplifier, no matter if those amplifiers have unused channels or not.

08/2020

## V10.12.1

### Features:

- Support of KSL-SUB loudspeaker.
- Support of A-Series stacked on AL base plate.
- Support of SL-Series stacked.
- Support of SL-Series carts.
- EASE export for SL-Series CPL.
- Reduced configuration option.
- Option to create a new source group on import.
- Displaying horizontal dispersion lines of the selected loudspeaker.
- Enabling ArrayProcessing and AutoSplay and performing Copy, Paste, Import and Export of source groups is now also possible on the Alignment and the 3D plot view.
- Extended availability of loudspeakers when a certain series is selected
  - For A-Series arrays and point source groups, the V-SUB can be used.
  - For E-Series point source groups, the B4-SUB and B8-SUB can be used.
  - For KSL stacked arrays and point sources, the SL-SUB can be used.
  - For T-Series point source groups, the B4-SUB, Q-SUB and E15-SUB can be used.
  - For xS-Series point source groups, the B8-SUB can be used.
  - For Y-Series point source groups, the B6-SUB and B6-INFRA can be used.

**Bug fixes:**

- Issue with wrong number of amplifiers shown on the Parts list view fixed.
- Issue with missing units of the absolute values of a multiselection of loudspeakers in a Point source group or a SUB array fixed.
- Issue with an amplifier input mix like 1+2 only allowing to select one output for the connected DS device fixed.
- Issue showing a distorted venue in the SPL mapping diagram after minimizing the profile view for a Point source group fixed.
- Number of total amplifiers now correctly updating when multi-selecting source groups in the Devices view.
- Crash when changing to the "Audio network devices" tab containing non-distinct patches fixed.
- Issue with the configuration for the HF orientation of xA-Series arrays fixed, which was not correctly restored when loading a project.
- Missing automatic scrolling when moving with the TAB key through input fields fixed.
- Issue on Windows 10 with window of another application popping into the foreground fixed.
- Issue with All elements list on Venue view jumping to the top when rearranging it using drag&drop fixed.
- Issue with an Arc segment becoming distorted after changing from multi-selection of venue elements to a single selection by clicking on the color selection fixed.
- Issue with unfinished automatic recalculation after printing 3D plot fixed.

03/2020

**V10.10.4****Bug fixes:**

- Issue with EASE export for array-processed source groups fixed.
- Issue with intersections for superelliptic planes not being shown correctly on Profile view fixed.
- Issue with the "position z" value of the SUB array fixed, which was not set correctly after loading a project.
- Conversion of the old CPL value to the new SL-Series CPL value now properly works when importing a GSL or KSL array from a previous ArrayCalc version.
- Issue with the sound of some loudspeakers placed next to an obstacle being absorbed and the sound of others at the same position not being affected fixed.
- Issue with patch validation checking for AES neighboring patches routed to input source D2 and D3 on an amplifier fixed.
- Crash sporadically happening when changing tabs on the Devices view fixed.
- Crash fixed when clicking several times on the Delay for a point source group on the Alignment view while Autocalculate is enabled on the Sources view.
- Issue with saving a project file when patching the input for several amplifier channels to the same DS10 output fixed.

02/2020

## V10.10.2

### Bug fixes:

- In the Alignment "Top view" diagram, the scaling of the buttons for moving the test point has been improved to more useful increments of 10 cm instead of 1 cm.
- Crash caused when disabling ArrayProcessing for an array fixed.
- Missing update of the mute "different" state corrected when changing the mute state of individual speakers in a point source group with symmetrical configuration.
- Issue with snapshots generated for KSL or GSL arrays without ArrayProcessing causing a conflict in R1 fixed.

01/2020

## V10.10.1

### Features:

- Support of new CPL function for the SL-Series. Coupling for low and mid frequencies can now be set separately (CPL low, CPL mid). Available for all GSL and KSL setups (AP, Arc, Line).
- Support of the new THC (Temperature & Humidity Control) function for all array-processed setups which allows subsequent temperature and humidity adjustment in R1 without the need for recalculation in ArrayCalc.

**Note:** Both the THC function and the new CPL function for the SL-Series require the use of the latest version of R1 V3.10.0 (or higher) in combination with the latest amplifier firmware V2.20.00 (or higher).

**Note:** Existing project files based on an old ArrayCalc or R1 version can still be used in combination with old firmware. To use the new firmware including the new functions with existing project files, ArrayProcessing data must be recalculated using ArrayCalc and the R1 AutoCreate function should be re-executed.

### Bug fixes:

- Indication of incorrect coverage value of AL90 used as a point source in ArrayCalc Help fixed.
- Admission to change an array-processed array to D12 after loading a project fixed.
- Wrong calculation of Required space diagram on Rigging plot fixed.

12/2019

## V10.8.3

### MacOS information:

This new ArrayCalc version V10.8.3 requires macOS 10.12 or higher. If you are running macOS versions prior to 10.12, you can use ArrayCalc version 10.6.13 from our heritage software section. See link:

<https://www.dbaudio.com/global/en/products/software/software-archive/>

### Bug fixes:

- Issue when loading a project file containing M4, M6 or Ci90 from previous ArrayCalc versions fixed.
- Issue when loading a project file using a Q7 in a line array fixed.

- Empty "Grab link position" diagram fixed when loading a project with an array using Compression mode.
- Issues when saving a project containing a mixed SUB array fixed.
- Dispersion lines for the outer cabinets of an A-Series horizontal array fixed.
- For A-Series arrays, the single pickpoint is no longer shown in steps of 0.5 but in steps of integer values.
- For V-Series arrays, in practice the last possible pickpoint hole position 40 cannot be used. Therefore in ArrayCalc position 39.5 was defined as the last possible pickpoint position.
- Issue with a message prompted that the project was changed by another program fixed when saving a project in a DropBox folder using macOS.
- After importing a SUB array, the Alignment section for the SUB array is now properly shown.
- After changing the amplifier model from D80 to D12, the project file can now be properly loaded.
- Crash when changing amplifier model from D80 to D12 and applying the "Configure amps" function fixed.
- Crash when changing the series for multiple selected arrays fixed.
- Crash when changing the SUB system of a symmetrically linked SUB array fixed.
- Crash when changing the linking mode of the SUB array fixed.
- Missing labels for the positions in the SUB array fixed.
- Missing update of the speaker drop-down selection for a point source group in the Alignment view fixed.
- Typing error in the Preferences dialog for the "Controls" tab fixed.

12/2019

## V10.8.2

### MacOS information:

This new ArrayCalc version V10.8.2 requires macOS 10.12 or higher. If you are running macOS versions prior to 10.12, you can use ArrayCalc version 10.6.13 from our heritage software section. See link:

<https://www.dbaudio.com/global/en/products/software/software-archive/>

### Features:

- Support of A-Series
- Support of B8-SUB in SUB array

### Bug fixes:

- In a mixed operation of HiDPI and normal screens, all icons on normal screen are now displayed in the correct size.
- Inconsistent behavior in changing loudspeaker types in a mixed SUB array fixed.
- Y coordinate in the "Alignment SUB array" diagram always displaying 0 fixed.
- Issue with parts of the balloon being cut off for J-SUB, J-INFRA and SL-SUB fixed.
- Issue with AP symmetry warning for circular planes fixed.
- Wrong limit for maximum number of cabinets for Q-Series and T-Series fixed.
- Issue with tessellation of a superelliptic plane fixed if one of the minor axis is zero.

- Issue with rotating a multi-selection of arc segments by 180° fixed.
- Issue with a multi-selection of planes fixed if they show different values for the back height although it is the same value.
- In mixed SUB arrays, the field for entering the number of cabinets per position is now correctly enabled.
- The number of characters allowed in the field for the name of an ArrayProcessing slot now corresponds to the number of characters allowed in the remote control of the amplifier (15).
- B8-SUB polarity swap fixed.
- Wrong single pickpoint hole position for KSL with load beam position "front" fixed.
- Issue with Top/End/Side/ISO buttons on the Rigging plot view not resetting the zoom and translation factor to the default value fixed.
- Issue with changing a single array to a paired array resulting in splay angle changes only applying to the left side fixed.
- ArraySight devices that were created in R1 are no longer skipped when loading the project. Instead a dialog opens which enables the user to assign the ArraySight devices to arrays.
- Possible wrong SL-SUB splay angle setting of 2.5° adjusted to the correct value of 2.0.

10/2019

#### **V10.6.13**

##### **Bug fixes:**

- Wrong profile diagrams fixed.
- Function group setting fixed to apply to both hangs when changing a single array into a paired array.

06/2019

#### **V10.6.12**

##### **Bug fixes:**

- Wrong pick point values for Q Flying Adapter fixed.
- Wrong number of loudspeakers for an additional amplifier group shown in the Parts list on Summary tab fixed.
- Crash when dragging and dropping cabinets and then reducing the number of cabinets in the source group fixed.
- Part numbers of the xS/xA Series updated.
- Possible change of position of a multiselection of locked venue elements with different shapes fixed.
- Possible change of the type of a locked venue element fixed.
- Automatically generated amplifier channel names no longer use the input number but the cabinet number when the channel is patched to a DS10.
- Issue with the import of source groups regarding non-linked cabinets on the same amplifier channel fixed.
- Maximum number of linked cabinets for Ci80 fixed to 4.
- Missing update of the symmetrical twin of a point source regarding horizontal aiming fixed.
- When using the tab key to just switch through input fields of a multi-selection with different values, the existing value is no longer taken over for all selected elements.
- Unused 2-way active channel of a 10D set to not supported C3 fixed.
- Issue with the test point not following the plane profile in SUB array alignment diagram fixed.



- Missing curve of J-SUB in diagram of section 5.8 in T1385 added.
- Issue with zooming Venue editor back in again after zooming out to maximum fixed.
- Issue with displaying the data of the wrong cabinet of a point source group fixed when changing source group selection.
- Using "Configure amplifiers" now also recreates the amplifier names.

06/2019

#### **V10.6.9**

##### **Features:**

- Support of B8-SUB.

##### **Bug fixes:**

- Smaller bug fixes and improvements.

04/2019

#### **V10.6.6**

##### **Bug fixes:**

- Crash when opening a project on MacOS using double click or 'Open with' fixed.
- Incorrect warnings that a file saved in the cloud is used by another application while saving fixed.
- Wrong default value of relative delay of a newly added SUB array fixed.
- Export problems to Dante controller when project names contain an ampersand fixed.

03/2019

#### **V10.6.4**

##### **Bug fixes:**

- Crash when reading snapshot entries during project load fixed.
- Shrinking speaker type field after changing the speaker type in a point source group fixed.
- -/+ buttons now properly aligned with input fields of a point source group.
- Possible changes in dock height fixed when switching between Sources, Alignment and 3D plot.

02/2019

#### **V10.6.3**

##### **Features:**

- Support of upright SL-SUBs in the SUB array.
- Inclinator laser beam shown for GSL and KSL systems.
- Rigging comment field added.
- Saving of project file improved.
- New option in Preferences regarding zooming direction using the mouse wheel.
- New option in Preferences regarding diagram rotation.

**Notes:**

- When installing ArrayCalc V10 on Windows, no desktop shortcut will be created any more.

**Bug fixes:**

- Locking mechanism added to prevent accidental overwriting when working with R1 & ArrayCalc on the same project at the same time. (Requires R1 V3.6.0 or higher).

02/2019

**V10.4.7****Bug fixes:**

- Issue with missing update of the compression load limits when changing the value for the compression hoist fixed.
- Issue with wrong loudspeaker type shown in R1 fixed when source groups contain linked cabinets.
- Crash caused when saving a project after reducing the number of cabinets or changing remote IDs for a source group with linked loudspeakers fixed.
- No more unintended password prompt when opening a project created using the Western Arabic numeric system on a computer that does not use this setting.
- Issue caused when reordering cabinets with drag&drop and trying to link the cabinets fixed.
- Level over distance diagram now properly updated when importing or pasting an array.
- Conflicted snapshot fixed when loading a project in R1 that uses C-Series loudspeakers.

01/2019

**V10.4.4****Bug fixes:**

- KSL data (weight, center of gravity, splay offsets for both Compression- and Tension rigging modes) updated with production average.
- KSL stacked option temporarily disabled as it does not support KSL carts yet.
- Venue: Issue with editing the corner points of quadrangular planes fixed.
- Issues with SUB array print preview and printout missing 3dB per division text fixed.
- Display issues when using various screens with different ratios or different scaling settings fixed.
- Issues fixed when reading .dbac project files from older ArrayCalc versions.

12/2018

**V10.4.3****Bug fixes:**

- Crash after splitting an array and copying the data of the left hang to the right hang fixed.
- Crash when opening a .dbac (old project file format) project fixed when the project contains an array without a loudspeaker system selected.

- Issue with disabled splay angle dropdown of the lowest box in a stacked array fixed.
- Issue with loading a project containing a mixed SUB array with activated HCD filter fixed.
- Issue with ArrayProcessing symmetry warning fixed.
- Issue with linking not working after disabling ArrayProcessing fixed.
- Issue with empty temperature dropdown in ArrayProcessing dialog fixed.
- Issue with using Configure amplifiers option while symmetrical linking is activated fixed. Configure amplifiers did not start with channel A while symmetrical linking was activated.
- Wrong relative delay incrementation of a point source group containing linked cabinets fixed.
- Issue with odd round shapes drawn instead of a cuboid fixed when the cuboid was placed outside of the visible area of the Venue view diagram.
- Issue with high curvature values changing the coordinates of P1/P2 of a super elliptic listening plane fixed.
- Missing update of receiver channel names of DS10 on Devices view after running Configure patch option fixed.
- Issue with the selection of a D20 amplifier for an M4 monitor in a Point source group fixed.
- Selection of Mix TOP/SUB output mode for a D12 amplifier no longer needs to be made twice to be activated.

11/2018

#### **V10.4.1**

##### **Features:**

- Support of KSL loudspeakers.
- Color (green) for GSL and KSL loudspeakers Compression ok sign updated.
- Symmetrical pair linking for point source groups, the SUB array and additional amplifier groups.
- Permitted number of source groups and sources increased: 40 arrays, 30 point source groups with maximum 50 loudspeakers each and 20 additional amplifier groups.
- Start of ArrayCalc sped up by loading only acoustic data of loudspeakers used in the current project.
- Markup for Early reflections areas on Venue view improved.
- Enabling and disabling of ArrayProcessing for a multiselection of arrays.
- Collapse option added in Details views.
- DS100 EnScene and EnSpace license settings can now also be edited in ArrayCalc.

##### **Bug fixes:**

- Crash when loading a project containing invalid CAN subnets fixed.
- Changing the loudspeaker type does no longer cause unsupported linking.
- Unnecessary SPL recalculation when changing pickpoint fixed.
- Issue with storing Alignment test point coordinates fixed.
- Opacity option in color picker of Venue elements removed.
- Issue with Configure amplifiers resulting in different output mode settings for a particular amplifier fixed.

- ArrayCalc no longer overwrites EnScene or EnSpace settings from R1.
- Wrongly added offset of around 40m (130ft) on printouts of Level over distance diagram fixed.
- Project can now be correctly saved after having changed a stacked array from 0 to 1 loudspeaker.
- Flat cuboids can now be properly edited and duplicated.
- Issue with SUB array alignment test point fixed when it “flies” away from the listening plane.
- Issue with test point on Alignment view fixed when it does not snap to set the listener height of the respective listening plane.
- Issue with incorrectly triggered messages about file changes made by another application (e.g. R1) on MacOS fixed.

10/2018

## V10.2.5

### Bug fixes:

- Crash when printing a 3D plot memory including non-transparent obstacles fixed.
- Issue with grey areas when printing or exporting 3D plot to PNG fixed.
- Issue with invalid SPL calculation resolution on 3D plot diagram and point source group mapping diagram fixed.
- Issue with HFC settings not taken into account for Q-Series in Level over distance diagram and 3D plot diagram fixed.
- Issue with not working deselection for a multiselection of planes fixed.
- Unintentional shift of a multiselection of planes after saving the project fixed.
- Drawing issues with V-, Y- and T-Series cabinets in Array view and 3D plot diagram fixed.

07/2018

## V10.2.4

### Bug fixes:

- Crash when using drag & drop to move cabinets on Sources view fixed.
- Crash when printing or exporting 3D plot of projects containing venue element groups fixed.
- Permanently disabled ArrayProcessing feature fixed.
- Scale ratio of Venue profile view diagram corrected.
- Possible Remote IDs for D12, D6 and E-PAC outside of CAN range fixed.
- Misaligned column headers when scrolling on Devices view fixed.
- Non-rectangular listening planes no longer permitted as Early reflections areas.
- ArrayProcessing button now shows the progress when preparatory calculations have to be performed.
- Single pickpoint calculation for GSL arrays corrected.
- Issues with file saving after having loaded a .dbac2 project fixed.
- Issues with linking 12S-SUB fixed.
- Missing HF orientation dropdown menu for single xA-Series arrays fixed.
- Differences between live and memory diagram printouts on 3D plot view fixed.

- Issues with imported venues after saving and reloading projects fixed.
- Issue with setting the height (z) of a multiselection of quadrangular venue elements fixed.

07/2018

## V10.2.2

### Bug fixes:

- Issue with saving project files containing compressed GSL setups fixed.
- Issue with phase response calculation of SUB array on Alignment view fixed.
- Crash when using the undo function after deleting several planes with DEL key fixed.
- Crash when printing or exporting 3D plot quad view as PNG fixed.
- Color selection dialog now also correctly displays the currently selected color.
- Wrong channel naming of linked cabinets fixed.
- Issue with cabinets not selected after using the respective splay angle dropdown menus in the cabinets table on Mac OS fixed.
- Configure amplifiers option now working correctly for mixed and linked SUB array.
- Issue with linked boxes of SUB array in .dbpr files fixed.
- Issue with opening .dbac files containing obstacles fixed.
- Issue with transparency of obstacles in y direction fixed.
- When selecting elements individually in All elements list of Venue view, the multiselection buttons are now disabled.

06/2018

## V10.2.0

### Features:

- Heritage loudspeakers now available in point source groups.
- All elements list on Venue view enhanced with additional functionality including drag-and-drop, multiselection using the shift key and display of the basic shape of an element.
- Separate comments section on Venue view added.
- Profile diagram for test point selection added on Alignment view.
- Using the mousewheel to change dropdown values can now be disabled in Preferences.
- Copying an array with ArrayProcessing enabled now also copies the the ArrayProcessing settings.
- Automatic patching option for DS100 devices added.

### Bug fixes:

- Issue with triangular planes mirrored upside down fixed.
- Missing alignment of splay angles of left and right hangs of a duplicated paired array fixed.

06/2018

## V10.0.14

### Bug fixes:

- Crash when selecting a point source group on Devices view fixed.
- Delay values can no longer be set to less than 0.3 ms or to negative values.

- Backward compatibility with .dbac files fixed.

05/2018

## V10.0.13

### Bug fixes:

- Issue with level incremented twice for linked loudspeakers fixed.
- Issue with P0 of arc segment in Venue editor no longer movable fixed.
- Issue with E-PACs in Additional amplifier groups and CPL fixed.
- Saving 3D plot to memory workflow optimized.
- 3D plot resolution value no longer missing after loading .dbac2 project files.
- Audio networking devices are now properly deleted after disabling the Audio networking feature.
- Issue with not correctly restored total delay of linked loudspeakers in a SUB array fixed.
- Issue with moving locked planes when using relative editing fixed.
- Issue with wrong positions of joined venue elements after importing a venue fixed.
- Issue with Structure type venue elements not always being transparent fixed.
- Missing update of frequency list in the simulated signal section of point source groups corrected when switching between these groups .

05/2018

## V10.0.12

### Bug fixes:

- Crash fixed when saving a project after disabling the ArraySight feature.
- Issue fixed where ArraySight devices are not removed from a project after deleting the relevant array.
- Issue with unreported duplicate RemoteIDs fixed when the same RemoteID is used for both an ArraySight device and an amplifier.
- Issue with Y7P/Y10P listed as V7P/V10P in Parts list fixed.
- Issue with level increased twice for linked loudspeakers fixed.
- Missing amplifier RemoteID in ArrayCalc viewer file (.dbev) fixed.
- Issue with disabled HFC switch fixed when creating a new project with air absorption enabled by default.
- Issues caused by exported Dante controller preset files named using an umlaut fixed.
- Issue caused by duplicating a point source group with CUT enabled fixed.
- Issue with the absolute value editing fields fixed when changing the Lock option while multiple planes are selected.

04/2018

## V10.0.11

### Bug fixes:

- Crash fixed when reducing the number of cabinets of an array containing linked cabinets or when transforming a paired array containing linked cabinets into a single array.
- Crash fixed when enabling/disabling the ArraySight option in a project that does not contain any source group.

- Missing update of amplifier names after renaming a source group fixed.
- Missing update of input mode when unlinking channels fixed.
- Missing update of input source when unlinking the cabinets of an array fixed.

04/2018

#### **X10.0.10 Beta**

##### **Bug fixes:**

- Crash when clicking in the name field of a Function group fixed.
- Crash when selecting a DS100 without selecting a DS10 first fixed.
- Crash when reducing the number of cabinets per position in SUB array fixed.
- Crash when changing SUB systems from linked B4-SUB to V-SUB fixed.
- Issue with loss of patch of even Dante channels after saving and reloading fixed.

03/2018

#### **X10.0.9 Beta**

##### **Bug fixes:**

- Crash when saving project containing duplicated point source groups with linked cabinets fixed.
- Crash when performing "Configure amplifiers" for certain projects fixed.
- Issue caused by loading a project after importing a source group containing linked loudspeakers fixed.
- Issue with case sensitive renaming of DS100 channels fixed.
- Issues with the availability of combined input sources (e.g. 1+2) for point source groups fixed.
- Issue with export to ArrayCalc viewer file fixed.

02/2018

#### **X10.0.6 Beta**

##### **Features:**

- Air absorption calculation/compensation improved by wider and finer humidity options.

##### **Bug fixes:**

- Crash fixed when loading projects containing mixed SUB arrays with linked cabinets and in "hop" mode.
- Crash in a Point source group fixed caused by a J-SUB with INFRA switch enabled which is changed to E-Series.
- Issue with copied or imported SUB arrays fixed.
- Missing keyboard interaction option for buttons on Devices view / Cabinets table added.
- Invalid values in snapshots of Additional amplifier groups fixed.
- Wrong mute values in snapshots of Additional amplifier groups fixed.
- Missing description of simulated signal on Memory slots of 3D plot fixed.
- Issue with linked inputs during the patch validation fixed.
- Issue with levels of linked cabinets in stacked arrays after project reload fixed.

- Already patched DS10 or DS100 assignment no longer lost when patching an output channel.
- Unexpected behavior of AutoSplay in connection with certain array / Venue settings fixed.
- "Name" column of the Venue objects table widened. Venue: Missing Listener height input field for triangular shapes added.

01/2018

#### **X10.0.4 Beta**

##### **Bug fixes:**

- Crash when increasing the number of positions of a SUB array with more than one cabinet per position fixed.
- ArrayCalc Help: Wrong screenshot for Point Source signal selection and SPL summation method fixed.
- Delay and level of linked cabinets reset when reading project fixed.
- Tab key navigation inside tables fixed.

12/2017

#### **X10.0.3 Beta**

##### **Bug fixes:**

- Crash when increasing the number of point sources fixed.
- Crash fixed when saving a project where some sources assigned to audio networking have been deleted.
- Issue with loading input source settings of D6/D12 from project file fixed.
- Issue with reading the rotation of linked point sources from project file fixed.
- Issue with saving a project containing large snapshots/system settings fixed.
- Issue with duplicate Remote IDs fixed.
- Missing confirmation dialog added when deleting snapshots.

12/2017

#### **X10.0.1 Beta**

##### **Features:**

- ArrayCalc V10 and R1 V3 include support for the new integrated project file format (\*.dbpr). This new project file format can be opened and saved in both ArrayCalc and R1.  
Note: Please note ArrayCalc V10 can open .dbac2 project files but not save them. Please check the Software Newsletter 12/2017 for details regarding the recommended workflow.
- Support of d&b Soundscape systems, including DS100 Signal Engine, En-Scene and En-Space software options.
- New triangular Venue element shape, improvements on Arc segment shape which can now also be elliptic.
- New Venue element types. Venue element types can now be changed no matter which shape.
- Join/Split of Venue elements.
- Multiselection and drag&drop of cabinets.
- Linking and amplifier selection already available on Source view.
- Point source groups now support SUBs as well.
- SUB array can be deleted from projects where it is not used.
- Pan and zoom for Alignment top view diagram.



- Overall dimensions of an array displayed below the Required space diagram on Rigging plot view.
- Support of DS10 and DS100, including export of a Dante Controller preset file.

For a detailed description of the new features, please also refer to the Software Newsletter 12/2017.

12/2017