d&b ArrayCalc V11 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:	Win10 or higher
macOS (Intel):	10.14 or higher
macOS (M1/M2):	11.0 or higher

Notes:

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.

For Windows N OS, the MS "Media Feature Pack" must be installed manually.

Project file compatibility

To check whether your project will open in ArrayCalc, please refer to the project file compatibility table at the end of this document.

V11.8.1

Bug fixes:

- Application no longer incorrectly displays an OpenGL error message on Windows 11.

10/2024

V11.8.0

Features:

- D90 amplifier added without Milan functionality.
- IEC60268-16 spectrum added to SPL simulation.
- 3D plot SPL raw data and statistics export extended with closest 90% to max SPL.
- Severity of project issue for extended link limits reduced from "Warning" to "Information" in order not to disturb the workflow with R1.

Bug fixes:

- Application no longer crashes when loading data from different memory slots multiple times.
- Application no longer freezes when using "Intrinsic" or "Reset" function in the AP dialog.
- More detailed dialog for activating ArrayProcessing in asymmetrical situations.
- License options of DS100 devices now correctly included in project issue report when using Early reflections or Positioning plane types.
- Changing Y coordinate of symmetric point source on Rigging plot view now correctly applied to 3D plot mapping.
- Amplifier models in the selection on Devices view are now correctly sorted.

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- Scrolling the table of devices now works correctly for all window sizes.
- Selection behavior corrected after having added a new function group to the project.

<div align="right">10/2024</div>

V11.6.0

Features:

- Extended link limits option for expert users.

Bug fixes:

- Crash when deleting all cabinets of a point source group with linked cabinets fixed.
- Crash when moving grabber of super elliptic plane fixed.
- Significant differences between HeadroomCalc results and 3D plot SPL values for active loudspeakers fixed.

<div align="right">04/2024</div>

V11.4.0

Features:

- Support of the first d&b MILAN devices DS100M and DS20.
- Support of MILAN for generic devices.
- Amplifier-dependent recommended and max link.
- Enhanced EASE export "Coordinates of all sources"
  - Now exports connected loudspeaker type and level.
  - No need to change speaker model and levels in EASE any more. (Therefore the speaker needs to be in your project database).
- Custom rooms chapter included in Technical Information "TI501".

Bug fixes:

- Incorrect highest SPL on 3D plot shown in some edge cases fixed.
- Level over distance diagram not updating correctly for duplicated sources fixed.
- Gaps in Level over distance diagram for certain splay angles and venue configurations fixed.
- "Frame height front" can now be set to a value below zero also on the Rigging plot view.
- Obstacles now considered again in Level over distance diagram.
- Wrong icons for mirror X/Y of a venue element fixed.
- Splay angle of outermost cabinet of a horizontal A-Series array now updating correctly on the mapping plots.
- Point source Profile view showing no venue elements for certain horizontal angles fixed.
- On Devices view, cabinets and sources with remote ID conflicts now correctly show an error icon.
- Example project "Install - Small Theater 360" now correctly uses Vi-SUBs instead of Vi TOPs in the "Flown SUBs" source.
- The "AP" LED in the Sources table is now hidden when ArrayProcessing is disabled in the Advanced features.
- "Recalculate all AP slots" now also works when Bypass slot is selected or when Level Avoidance Planes are used.

<div align="right">01/2024</div>

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V11.2.2

Bug fixes:

- Crash when duplicating sources fixed.
- Crash when loading a project where amplifiers had been removed in R1 fixed.
- Crash when switching from B6 to B6-INFRA fixed.
- Missing venue elements in Level over distance diagram for big horizontal angles fixed.
- Level over distance diagram now shown again in printouts.
- Stretched 3D plot in printouts of very wide windows fixed.
- Import of arrays and point sources after importing a SUB array fixed.

11/2023

V11.2.1

Bug fixes:

- Crash when un-joining venue elements fixed.
- Crash when saving project after changing remote ID fixed.
- Application no longer freezes when opening AP dialog with split paired array.
- Missing ArrayCalc help contents fixed.
- Missing intrinsic curve in AP dialog fixed.
- Loudspeaker positions no longer shifted in mixed SUB/TOP array setup.
- Unexpected behavior with coarse decrement with small cuboid elements fixed.
- Plot and scale colors in Soundscape simulation now correctly match.
- Selecting a single point source no longer highlights the whole source group in 3D map on Devices view.
- Unexpected LOD graph on Sources view while selecting empty slots in ArrayProcessing dialog fixed.
- 3D plot now correctly recalculates automatically after deleting a source.

09/2023

V11.2.0

Features:

- Soundscape View:
  - Soundscape simulation now works in 3D. Peeking under balconies is therefore now possible without disabling venue elements.
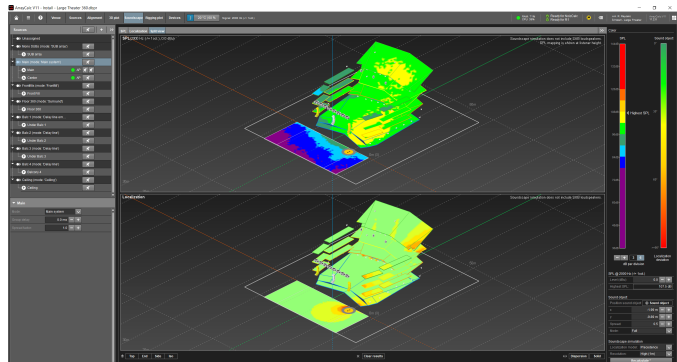

  - The raw simulation results (e.g. SPL and localization deviation) per grid point can now be exported for statistical analysis.
  - Refined Function Group tree: better indication of unused items and design refinements.
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- Sources:
  - SUB array now supports rotation of single SUBs for all systems to enable arrays with a mixture of cabinets in horizontal and upright orientation.
  - Greatly increased limit on number of sources and point source cabinets.
- Devices view:
  - A missing audio network device between DS100 outputs and amplifier channels no longer blocks the project from being ready for R1. In that case, ArrayCalc nevertheless shows a warning since technically speaking the patch is incomplete.
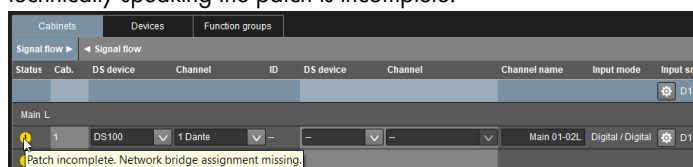
  - Columns which are not required for patching (level, delay and filters) are no longer shown in cabinets patching table.
  - Expandable 3D plot map on Devices view
- In preparation for a new ArrayCalc Viewer feature allowing you to transfer source data without the need for an internet connection, ArrayCalc now shows rigging information per source as QR code.
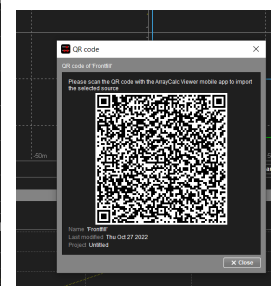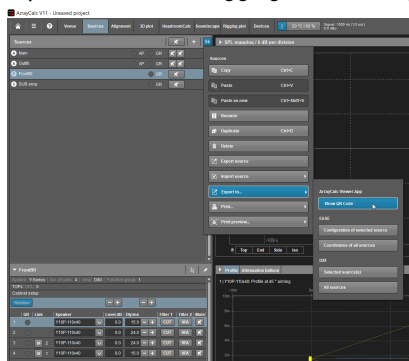
- Project report now also shown on Home view.
- Performance improved when calculating multiple AP slots.

Bug fixes:
- Misleading display/count of B8-SUBs and B4-SUBs in parts list fixed.
- Wrongly counted rigging hardware in parts list fixed.
- Profile and Direct sound level vs. distance diagrams on Sources view now correctly reflect 44S tilt angle.
- Changing from a four-channel amp to a two-channel amp now correctly preserves Line/Arc settings for the speakers.
- More space reserved for project name in 3D plot PNG export and printout.
- Issue with absolute editing of multi-selection of linked cabinets fixed.
- Amplifier output mode and input source now correctly taken over when duplicating a point source group.
- Issue with jumpy behavior in venue editor when moving a plane while in highly zoomed-in view fixed.
- Speaker type drop-down order in mutli-selection editing mode now corresponds to order in single selection mode.
- After increasing the number of loudspeakers in a point source group, the CUT and HFA filters have no more random settings.

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- Changing values in the venue elements multi-select widget in absolute mode no longer unexpectedly causes switch to relative mode.
- Switching ArrayProcessing on/off no longer resets the level of all cabinets to 0 dB.
- Changing a system to A-Series no longer resets the "Frame height front (z)" unexpectedly to 8.00 m.
- Y Flying adapter load limit calculation for tight splay angles fixed.
- Quickly changing frequency on 3D plot while autocalculate is enabled no longer leads to a highest SPL value of 0 dB.
- Arc segments with inner radius smaller than approx. 0.95 m now correctly drawn in the Venue editor.

08/2023

V11.0.5

Bug fixes:
- Reworked Soundscape example projects.
- HeadroomCalc:
  - "Auto trim" no longer causes a crash when using speakers without acoustic data.
  - Unrealistic HeadroomCalc results for upright KSL-SUB and KSLi-SUB fixed.
  - Occasional result inaccuracy for main arrays with enabled ArrayProcessing fixed.
- Vi-SUBs now selectable below Vi Mounting frame top.
- Slightly wrong weight of XSL/XSLi-SUB and XSL Sub Flying Frame fixed.
- Linking limits of 44S clusters corrected.
- Help content for signal selection updated.

06/2023

V11.0.4

Bug fixes:
- Crash when changing a 5D supported system to a system not supporting the 5D fixed.
- Crash when loading a project with certain stacked systems fixed.
- On Mac OS V10.14 (or earlier versions) the message "Identity of developer cannot be confirmed" is no longer shown.
- Missing update in the ArrayView diagram after duplicating a source fixed.
- With Yi mounting frame bottom, the number of Yi8s below SUBs is no longer limited to one.
- Long source names no longer truncated unexpectedly.
- Point Source "Level over distance diagram" now updates correctly after changing the position or rotation of the cabinet.
- After changing the horizontal aiming of the SUB array, the UI is now correctly updated again.
- Unexpected handling of uncovered data points in 3D plot data export fixed.
- SPL mapping no longer shows unsymmetrical results for symmetric source positions and venue.
- With Vi/Yi mounting frames, ArrayCalc no longer offers forbidden mixed SUB/TOP setups.

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- Project settings dialog no longer shown twice when opening a new ArrayCalc instance.
- Single pick point information added for flying adapters.
- Mirror function for a set of venue elements now correctly maintains the order of elements.
- Sketchup plug-in import no longer triggers a warning.

05/2023

V11.0.3

Bug fixes:
- Issue with A-weighted spectrum SPL calculation in 3D plot and Level over distance diagram fixed.
  - Please note: This might result in a different SPL as compared to ArrayCalc V10.
- Crash when changing loudspeaker series for an array fixed.
- HeadroomCalc: Calculation now also allowed for sources without balloon data provided they are muted.
- Issue with rotation of point source loudspeakers to 0° fixed.
- "Failed to save project" error after importing sources fixed.
- Auto-incrementing remote ID using CTRL/CMD+Enter now also works when the first cabinet is linked.
- Wrong rigging hardware setup after importing an array fixed.
- ArrayCalc no longer shows an AP symmetry violation when the curvature value of a super-elliptic plane is increased.
- Parts list print-out (detailed) now also contains D40 amplifiers.
- Changing frequency for point source group simulation no longer resets "Interferences < 163 Hz".
- Level over distance diagram update issue when changing signal type for point source groups fixed.
- When changing an array's x/y position, the pick point position on the rigging view is now correctly updated.
- Dispersion lines of point sources are now correctly updated after moving venue origin.
- Mac OS: Issue when changing simulated frequencies using up/down keys fixed.

02/2023

V11.0.2

Notes:
This version is installed separately and can be used in parallel to an existing ArrayCalc V10 installation.

Features:
- Brand-new HeadroomCalc feature allowing you to accurately quantify system headroom and output SPL metrics based on user-defined audio files, such as specific evacuation messages or representative music samples, to precisely predict compliance with tender requirements or legal specifications:

- Please note: HeadroomCalc needs to be enabled in the project settings ("Advanced features" tab).
- The time-averaged spectrum at the NoizCalc Reference point is saved in the project file for predictions in NoizCalc 3.2.

▪ Rigging hardware now selectable in Cabinets table.

- V, Y and Q flying adapters added.
- Vi and Yi top and bottom frames added.
- Vi8/12 and Yi8/12 loudspeakers added.
- Ti Flying bar, T Base plate, V Stack adapter and Y Base plate added.
- XSL now offers both Compression frame and Pullback frame in pullback mounting mode.

▪ Group tree view for function groups on Soundscape view:
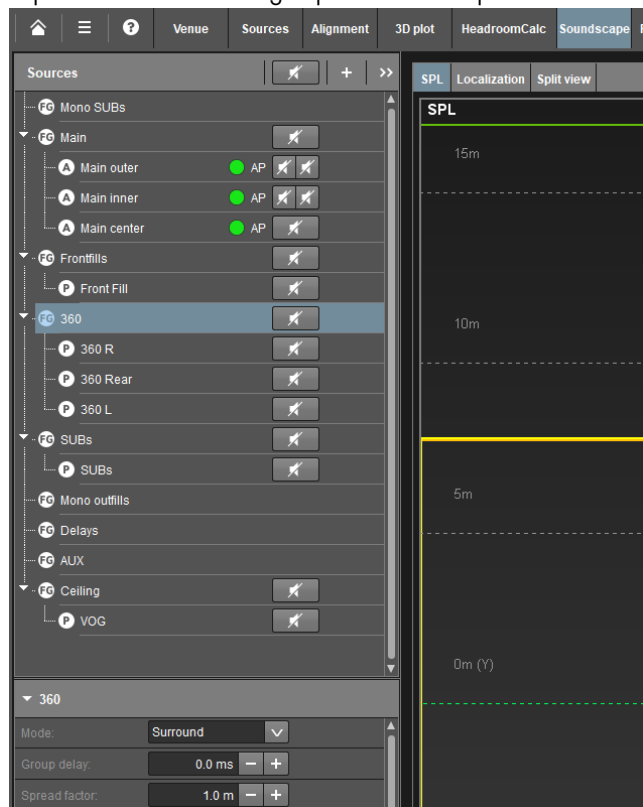
- Support of E15(X)-SUB, Ti-SUB, E0, E3 and xA line array loudspeaker setups for 5D amplifiers.
- Venue database now accessible from Home view and offering enlarged image view.
- Pullback frame now visible in required space diagram on rigging view.
- Parts list now only lists parts that are actually used in the project.
- For point source groups and additional amplifier groups, different amplifier models and input modes can now be configured.
- Project report now shows a warning when a function group but no matrix output is assigned to a source. This warning is also shown when opening the project with R1.
- ArrayCalc now always uses the maximum level of antialiasing for all diagrams. The respective configuration has therefore been removed from the Preferences dialog.

Bug fixes:

- Crash when quickly changing splays of A-Series arrays fixed.
- Y values of SUB array cabinets updated again after applying layout.
- X, Y, Z values of point source and SUB array cabinets now updated again after applying layout.
- Description of KSL-SUB filter switch of Mixed SUB array corrected.
- Layout issues of parts list summary printout with several arrays fixed.
- B6-SUB no longer listed as B6-INF in parts list.
- Graphical artifacts in Level over distance diagram while autocalculate is enabled fixed.

01/2023

Project file compatibility

The following table lists the supported software versions required to maintain project file compatibility.

Created in...	Open with...			
ArrayCalc	**ArrayCalc**	**ArrayCalc Viewer**	**R1**	**NoizCalc**
11.6.x	11.6.x		3.36.x	
11.4.x	11.4.x	1.22.x	3.34.x	4.0
11.2.x	11.2.x	1.20.x	3.32.x	
11.0.x	11.0.x		3.30.x	3.2
10.26.x	10.26.x		3.26.x	
10.24.x	10.24.x	1.18.x		3.0
10.22.x	10.22.x		3.22.x	2.8

Note:

In general, project files are upward compatible, i.e. later versions of an application open project files created with previous versions of the same application.

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