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**ArrayCalc simulation  
software.  
Licenses and credits.  
Quick guide 1.3 en**



Loading loudspeaker series data...

## **General information**

ArrayCalc simulation software.  
Licenses and credits. Quick guide

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## For both, safety and acoustic reasons, d&b line arrays must be designed using ArrayCalc.

Before setting up a system, read the respective manuals and safety instructions.

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

ArrayCalc uses a sophisticated mathematical model synthesizing each line-array cabinet's wavefront using measured high-resolution dispersion data. Sound pressure level is calculated in 3D using complex data (vector summation).

ArrayCalc also provides functionality to integrate individual d&b point source loudspeakers into a simulation project. Point sources are modeled using complex measured high-resolution 3D balloon data.

ArrayCalc is available as a native stand-alone application for PC and Mac.

## System requirements

<b>PC</b>	Intel/AMD 1.5 GHz or more (Intel i5 or higher recommended) Windows 7 or higher (64bit version recommended).
<b>Mac</b>	macOS 10.12 or later, 64-bit-processor.
<b>RAM</b>	4 GB (8 GB recommended).
<b>Graphics</b>	OpenGL support (v2.0 or higher).
<b>Free disk space</b>	200 MB
<b>Screen resolution</b>	1920 x 1080 or higher. On viewports smaller than 1600 x 900 the viewport has to be scrolled.

## Installing ArrayCalc

**Note:** Before installing and using ArrayCalc, read the ⇒ Chapter "Licenses and Credits" on page 5.

Do not delete any of the extracted files as long as ArrayCalc is installed on your computer.

<b>PC</b>	<ol style="list-style-type: none"><li>1. To install ArrayCalc, extract the zip-file to a dedicated folder.</li><li>2. Start "setup.exe" or "ArrayCalc.msi" and follow the instructions in the setup dialog.<ul style="list-style-type: none"><li>↳ The default installation path is: <b>C:\Program Files (x86)\dbaudio</b></li></ul></li></ol>
<b>Mac</b>	To install ArrayCalc, double click the "dmg-file" and move the ArrayCalc icon to your desired application folder.

## Starting ArrayCalc

**PC** ArrayCalc can either be started via the Windows Start Menu, where it will appear in Programs ⇒ dbaudio ⇒ ArrayCalc ⇒ ArrayCalc or by double-clicking the ArrayCalc desktop icon.

Windows automatically links ArrayCalc project files to ArrayCalc. Alternatively, the program can therefore be started by double clicking on any ArrayCalc project file.

**Mac** Click ArrayCalc or any ArrayCalc project file.

## Removing ArrayCalc

**PC**

1. To remove ArrayCalc from your computer, go to Start ⇒ Settings ⇒ Control Panel ⇒ Add or Remove Programs in the Control Panel folder.
2. Select the ArrayCalc entry from the list and click the «Remove» button.
  - ↳ The uninstall routine starts and the software is removed including all related components.


**Mac** Simply move the ArrayCalc icon from your application folder into the trash bin.

## ArrayCalc Updates

Within the ArrayCalc preferences, three update options can be enabled to search for updates either after a defined period, at program start or never.

## ArrayCalc Help

Detailed information on how to use and operate ArrayCalc is provided in the help system of the ArrayCalc software.

To access the help system, press F1 or select the help button (  ) from the ArrayCalc toolbar. This will launch the HelpViewer which provides an overview of the program as well as a search function and direct access to the related topics.

In addition, the ArrayCalc software will provide you with typical array configurations within the permitted load limits and will help you get familiar with the mechanical load conditions and limitations.

## ArrayCalc features

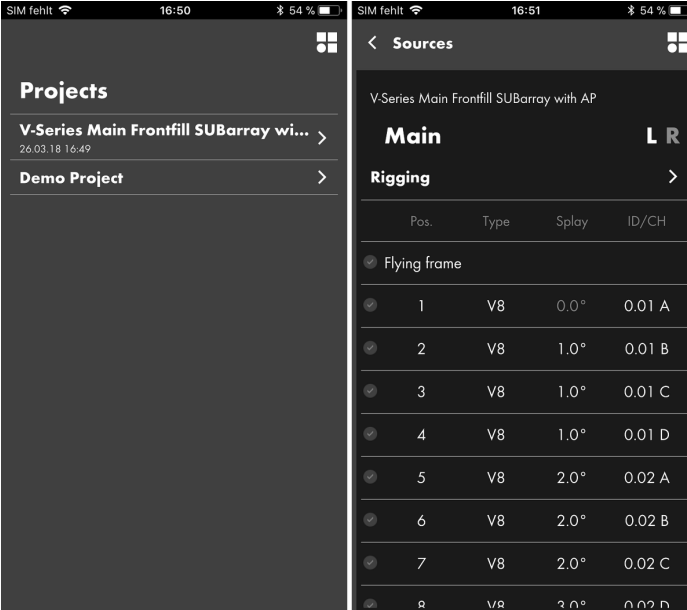
- Editing of three-dimensional listening planes to create audience areas in a given venue and shape.
- Help function to obtain venue dimensions using laser distance finders and inclinometers.
- Level distribution on all selected audience listening areas displayed as a color mapping on the planes. Calculation gives either selectable individual frequency bands from 32 Hz to 12.5 kHz or broadband linear-, A- or C- weighted summed levels using pink noise or IEC 60268 spectrum as an excitation signal.
- Calculation of absolute sound pressure levels in audience areas including system headroom supervision for the selected input signals.
- Combination of up to 20 different array pairs distributed across the venue plus ground stacked subwoofers in L/R combinations or arranged as SUB array.
- Calculation of ArrayProcessing settings for line arrays.
- Flown subwoofers integrated into the line arrays or flown as separate columns.
- Additional integration of up to 14 groups of d&b point source loudspeaker.
- Additional integration of xC column loudspeakers.
- Supporting algorithms for vertical aiming and splay angle settings of arrays as well as SUB array settings.
- Tuning of all relevant amplifier settings like level, array coupling, crossover and cardioid modes.
- Simulation of air absorption effects depending on environmental conditions, tuning of the respective amplifier settings.
- System time alignment between different sources and subwoofers using impulse and phase response data.
- Calculation of load and space requirements for rigging points.
- Calculation and supervision of electronic and physical load conditions as well as mechanical forces within arrays.
- Design and calculation printouts, printable parts lists for inventory control and loading as well as DXF and EASE export functions.
- Project file exchange with d&b R1 Remote control software.
- Complete system design and set up toolbox for the d&b DS family of products such as DS10, DS20 or DS100 Soundscape (please also refer to TI 501, which can be downloaded from the d&b website at [www.dbaudio.com](http://www.dbaudio.com)).

## ArrayCalc Viewer app

ArrayCalc provides a rigging plot with all necessary coordinates, dimensions and weights of arrays and a parts list, detailing all components required. These information can be exported or printed.

However, the d&b ArrayCalc Viewer app presents this key information for positioning and flying the system on a mobile device. Once the system has been designed, calculated and optimized, ArrayCalc provides a dedicated file export (\*.dbev). This file can be shared via email, AirDrop, or downloaded onto any iOS or Android device.

The app provides data such as splay angle, amplifier channel ID and cabling information, flying frame height and the height of the lowest edge, frame angle, horizontal aiming, Pickpoints, weight and load status. Any change to the system design can be distributed to each user immediately, ensuring an efficient and user friendly approach to rigging.



Pos.	Type	Splay	ID/CH
Flying frame			
1	V8	0.0°	0.01 A
2	V8	1.0°	0.01 B
3	V8	1.0°	0.01 C
4	V8	1.0°	0.01 D
5	V8	2.0°	0.02 A
6	V8	2.0°	0.02 B
7	V8	2.0°	0.02 C
8	V8	2.0°	0.02 D

This software uses a number of third-party libraries to provide certain features. These libraries are supplied along with the software. If you are interested in the source code, please contact us by email at [software.support@dbaudio.com](mailto:software.support@dbaudio.com).

### Core functionality

#### Data Compression Library (zlib)

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#### Easing Equations by Robert Penner

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#### Efficient Binary-Decimal and Decimal-Binary Conversion Routines for IEEE Doubles

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#### MD5

Written by Colin Plumb in 1993, no copyright is claimed.

Ian Jackson <ian@chiark.greenend.org.uk>

#### PCRE2 - Stack-less Just-In-Time Compiler

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### **Secure Hash Algorithm SHA-3 - Keccak**

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#### Secure Hash Algorithm SHA-3 - brg\_endian

Version <https://github.com/BrianGladman/sha/commit/4b9e13ead2c5b5e41ca27c65de4dd69ae0bac228>,

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