

New features of CadnaA 2024

New features of **CadnaA 2023 MR1** and **2023 MR2** can be found [here](#).

Features

- Object Attributes now available per Variant. Instead of duplicating objects, objects can now be assigned different attribute values in different project variants (e.g. maximum speed in variant 1: 100 km/h and in variant 2: 80 km/h). For a detailed description and further details, see reference manual chapter 13.5
- „Copy Attributes“ to conveniently transfer the attributes between variants.
- @V# as new syntax for accessing variant-dependent attribute values (e.g. LP1@V2 or DTV@V2 for value of target variable 1 or DTV in variant 2)
- @SOF# resp. @STF# as a new syntax for accessing the spectral values of octave spectra (e.g. LP1@SOF500) or third-octave spectra (LP1@STF400).
- Expandable menu ">>" for easier selection of attributes including the new syntax in several places, e.g. "Modify attributes", Object Scan, Object tables, Generate Label.
- Adaptation of many attribute lists to new syntax (e.g. LP1_500 no longer available when creating a label at the receiver)
- Results table: Weighting of third octave and octave band values now takes over the settings in Options | Miscellaneous (previously: always linear weighting)

- ISO 9613-2 (2024) available as additional calculation standard for industry noise.
- CadnaA Object Foliage now with input option for forestal parameters for calculations according to ISO 9613-2 (2024) Annex A.2.3.
- Directivity of chimney stacks according to ISO 9613-2 (2024) Annex B now available.

- Updates to Spanish railway data when calculating with CNOSSOS-EU Directive 2021/1226 according to the updated documents containing application information from ADIV as well as CTB
 - New type of track “ES-ADIF FT Mono-block Sleeper/super soft pad” (Railway object)
 - New train class S-109 available in the default library
 - Updates to train class S-108 in the default library
 - New Brake Type “ES-Disco+4dB”
- Values were added for B and D-weighting.
- Closed auxiliary polygon in the 3D special view: FollowDGM=1 as a string variable in the memo field creates a terrain-following area.
- Fonts and font sizes for tables (e.g. object tables and library tables) are now user-definable in the Options | Miscellaneous menu.
- Lua: Access to the row and column number of a grid point with r.row and r.col
- Lua: Access to coordinate system via cna.get_epsg() and cna.set_epsg()
- New Keyword #(License) for querying information on the license used.
- Increase of the maximum number of characters per value for XLSX-Import from 256 to 4095.

- The RTF-Export template file now also contains vertical Area Sources.
- Update Road Type library for sonROAD18 (sonROAD18 - Weiterentwicklungen und Ergänzungen; Version 2.0; 2023-02-07). **Recommendation:** Use the Library-Manager (Tables | Library-Manager...) to copy the updated Library from the Default library to the Global library.
- Modification in the Railway dialogue: The Number of Trains can only be edited in the Railway dialogue if "(local)" is selected for the List of Trains.
- Evaluation parameters for calculating user-defined time ranges are also available for the tennis source. Usage: =f(x) with spomhxx (xx defines the time range)
- Opening of files which were created (or saved) with a newer CadnaA program version is no longer possible. (Previously: Opening was possible with a warning displayed which parts of the file were impossible to read. Saving such a file under the same filename after ignoring the warning message could lead to corrupt files or data loss.)
- Improvements for long calculations and the use of server license dongles have been implemented.

Bug Fixes

- Improvements regarding Modify Objects and the Appearance: Range of Scale.
- Optimizations related to the operating time of the Tennis - Point-of-Serve source.
- For ISO 9613-2 industrial sources, type "Single band" | Activated option "Calculation in 1/3-Octave Bands" partially incorrect use of the reflection loss has been fixed.
- Road object: For the calculation of road noise emissions with direct input of the emission level, a correction was made to take the road gradient into account if an option for automatic determination of the road gradient was selected.
- When using spectra with "Li from interior sources", an improved update method is used.
- Optimized use of the absorption coefficient alpha for the 3D reflector object.
- 3D-special view: incorrect display of crownings of screens (cylinder and curved cantilever) corrected.
- Calculation configuration Industry tab, option "Obstacles within Area Src not reflect": Reflectors inside the source are not taken into account even if they are located within the search radius of the receiver (previously only within the search radius around the source).
- Fixed license lag for CL when entering objects to the 2D view.
- Template "SonRoad18 (2021)": Check whether buildings have a reflection loss of 1 dB could lead to false warnings.
- Some columns of the default object tables have been changed to Column Width "auto" for an optimized shape export.
- Improvement in the allocation of folders imported via the ObjectTree.
- Adjustments to user-defined labels which are saved via Defaults >>.
- The function "Optimize Area Sources" (Calculation | Optimize Area Sources) did not provide a value for "After:" in the output dialogue, depending on the language set.

- A reset of the height Z is avoided when opening/closing a height point dialogue in the 3D-View (Options | 3D-View...).
- Attributes ACFTxxT/E/N corrected
- Road, HJ 2.4: Distribution of vehicles corrected when using MDTD as input

New features of CadnaA 2023 MR2

Cloud Licensing (CL)

- Cloud Licensing now available. Choose one of our new CadnaA CL products and run the software without Hardware USB dongle.
- Use Cloud Licenses in virtual environments like Amazon AWS or Microsoft Azure.

Changes Licensing

- Existing licensing model (with hardware USB dongles) is now called "On-Premise Licensing".
- 64-bit program version of CadnaA now available for all existing customers. If the 32-bit program version has been used until now, it is recommended to uninstall it and update the file associations of the *.cna files to the newly installed 64-bit program version to avoid accidental opening of files with old program versions (32-bit CadnaA 2023 MR1).
- Increase of the project size without Option L to 2000 buildings and screens each (before 1000 each). If the number of objects is exceeded, the projects can no longer be saved or exported.
- Use of up to 16 cores without Option PRO / 64 with Option PRO.
- Increase in project size for Modular light Industry/Road/Railway:
 - Increased limit for Modular light Industry licenses to 100 point sources (previously 50) and 60 line, area and horizontal area sources each (previously 30 each).
 - Increased limit for Modular light Road licenses to 60 Road objects (previously 30).
 - Increased limit for Modular light Railway licenses to 60 Railway objects (previously 30).
 - If the number of objects is exceeded, the projects can no longer be saved or exported.

Features

- When changing the Configuration of the Calculations via menu Tables | Variant, a warning is displayed in case of an incorrect input (e.g. typo).
- Calculation of the 3D reflector for NMPB08 calculation method now available.

Bug Fixes

- Incorrect assignment of superstructures with calculation method SRM II corrected.
- Incorrect display of object table for road types with sonRoad18 corrected.
- Input of wind speed for calculations according to VDI 3733 (stack directivity) corrected. Input is now only possible in the Configuration of Calculations.
- Partitioning of area sources with the angle scanning method corrected.

New features of CadnaA 2023 MR1

Features

- PlotDesigner
 - Mouse wheel zoom for easy zooming in the PlotDesigner view
 - Undo / Redo commands available via symbol bar, menu bar and keyboard shortcuts CTRL+Z and CTRL+Y
 - Keyboard shortcuts CTRL+C and CTRL+V to easily copy and paste cells.
 - Panning the view is now possible by holding down the mouse wheel or the middle mouse button.
 - Selection of objects in the PlotDesigner view improved:
 - Single click with left mouse button: With a single click - irrespective of the cell type - the cell which is in the foremost level in the view is always selected.
 - ALT key + single click with left mouse button: Similar to single click, but the selection only takes into account cells that are not containers.
 - CTRL + click with the left mouse button on a selected cell: Selects the higher-level container in the tree structure that contains the cell. With this function you can easily switch through the hierarchy levels.
 - Horizontal and vertical containers now with checkbox "consume unused space automatically" (default = active). If activated, this function corresponds to an empty cell with setting "as large as possible" in last position.
 - For an empty cell in a horizontal or vertical container, the size setting "auto" now corresponds to "as large as possible" in the respective container direction.
 - Improved handling of cells in a freely positionable container.
 - Function "Catch children" moves and - if necessary - scales the child cells if they do not fit into the container.
 - Zoom to the page when switching between pages.
 - Axis labelling is no longer displayed for rotated sections.
 - Improvements in the use of grid lines
 - Grid display "Areas of equal sound level" in connection with "Show grid values" is now also displayed in PlotDesigner.
- ObjectScan: Evaluation with settings *Object Type = Grid Point* significantly accelerated.
- Grid Arithmetics significantly accelerated.
- Shortcut CTRL+F opens the menu Edit | Search...
- When calibrating bitmaps, the original format is kept (before it was always changed to .bmp files)
- Color palettes of the default library are now displayed directly in the drop-down menu at Grid -> Appearance.
- New import format Aircraft Noise XML for DES, radar tracks and aircraft classes.
- Options | Land Use: Input of limiting values for the usage type "without usage" is no longer possible in order to avoid errors.

- Text blocks "OPT_OLD_CALC", which can be used to perform calculations according to earlier versions of CadnaA, are now listed as a warning in the consistency check.
- If an error occurs while saving a file, a warning message is displayed. The last successfully saved state is retained.
- Optimization when displaying auxiliary polygons for which the line width is defined by a formula with match() or matchx().
- Self-screening for the rail object is now also displayed in the 3D Special view.

Calculation Methods

- RLS-19, Road Surface correction according to table 4a: Changes when entering speed values in the interval [61, 64] km/h. *For details, see the German version of this document.*
- HJ 2.4 2021 Railway: Calculation of 3D reflector and screen with cantilever improved (changes already in release 2023)
- SonRoad18:
 - Import of road types now possible via ODBC/Excel interface. For more details on attributes, see manual "Attributes, Variables, and Keywords".
 - Default table of object type Road now shows Lw' in the column header (instead of Lr,e before).
- Object Scan:
 - Preset „EU/DE 2021/1226, Quietest grid point near building, Step 2“: Window size changed to 0.0001 m in order to avoid errors with adjacent buildings.
 - Preset „EU 2015/996: People in level classes (Single dwelling)“: Evaluation for buildings with hidden façade points (e.g. due to neighboring buildings) corrected.
 - Preset EU/DE 2021/1226 | Quietest grid point near building | Step 2: Formula for validity of a grid point can now be defined.
- Templates 2021/1226 EU/DE/AT:
 - Menu Grid | Specification: "Exclude building" setting now always checked to be active.
 - Menu Calculation | Configuration | Tab General: Setting „Extrapolate Grid 'under' Buildings“ checked to be active.

Attributes, Variables and Keywords

- Keyword #(ObjAtt, CalcConf, Paramter2) extended with attributes for accessing settings of calculation method HJ 2.4 Industry, Road and Railway.
- Keyword #(GLK, Parameter1, Parameter2) now with second parameter to reference a specific plan cell of the plot designer.
- Access to the object scan results table now possible via the #(Table, ObjScan) keyword, e.g. to be used in combination with "Print report".
- Can be used via Lua with cna.run_macro(). For more information see manual at #(ObjAtt, OBJ_SCAN) or #(SetObjAtt, OBJ_SCAN, ...).

Bug Fixes

- Interoperability with CadnaB:

- Fixed error while loading façade points to CadnaA.
- CadnaB basement floors are now correctly considered in CadnaA.
- Partial levels are now calculated for CadnaB buildings (source)
- Tables | Variants | Modify Calculation Configuration: When reading and writing via the folder symbol, a point is now always used as decimal separator (previously dependent on the setting in menu Properties | Other)
- Menu Grid | Open | Ascii-Grid: Import fixed
- Export of number of flights for AzB corrected (previously deviation by -1 if evening period was not used)
- Menu Extras | ObjectScan: Evaluation with settings *Object Type = Grid Point* and *Action /Sum into = Specified Areas / Polygons*: Grid points with unequal height /width (dx != dy) are now considered correctly.
- Menu Import | Bitmaps: Fixed error when importing multiple bitmaps at once.
- Rotation of bitmaps corrected, e.g. if bitmaps are part of a Multiselection and the Multiselection is rotated by holding down the ALT key.
- When using the function "Change ObjectTree assignment" in connection with variant- or group-dependent activations, an incorrect activation state of objects could occur. Implementation corrected.
- Multiselect:
 - When displaying a table filtered for multi-selection and deleting all rows, now only the objects of the multi-selection are deleted (previously all objects were deleted)
 - In an object table filtered for Multiselection, the MULTISEL attribute can now be changed via "Change column".
- Undo / Redo function: A transformation defined during import was taken into account in subsequent undo and redo steps, so that objects moved further. Transformation is now no longer taken into account.
- Undo / Redo function: If a railway object was assigned emissions by a *number of trains* list, this list was not restored correctly after executing undo and redo.
- Possible crashes avoided:
 - Export via object table | Print
 - APL Calculation
 - Calculation of the ground absorption map for very big projects.
 - Exceeded ID length by assignment of an ObjectTree group