



Technical Specifications

There are three different main configurations available: CadnaA **Standard**, CadnaA **Basic** and CadnaA **Modular**. They vary only in the number of noise types and number of implemented standards. Plenty of powerful features like grid noise maps (horizontal, vertical), building noise maps, grid arithmetic, distributed calculation (PCSP), multithreading, GIS integration, web export, Dynamic-3D, plot designer and numerous import and export interfaces such as AutoCAD DXF, ESRI Shape files, MapInfo, Open Street Map, ASCII, or QSI are already included in the main configuration. Further features can be added according to the user's needs by selecting additional options.

CadnaA Versions

CadnaA Modular

One type of noise source
One calculation standard

CadnaA Basic

All types of noise source
One calculation standard per noise type

CadnaA Standard

All types of noise source
All calculation standards per noise type

Available calculation standards

Industry	Road	Railway	Aircraft (Option FLG required)
ISO 9613-2, VBUI CONCAWE VDI 2714/ 2720 DIN 18005 ÖAL Richtlinie Nr. 28 BS 5228 Nordic General Prediction Method Nord 2000 Ljud från vindkraftverk Harmonoise, P2P calculation model NMPB08-Industry CNOSSOS-EU CNOSSOS-Germany (BUB) CNOSSOS-Austria HJ2.4-2009 Schall 03 (2014)	NMPB-Routes-96 RLS-90, VBUS RLS-19 DIN 18005 RVS 04.02.11 STL 86 SonRoad SonRoad 18 CRTN TemaNord 1996:525 Czech Method NMPB-Routes-08 TNM CNOSSOS-EU CNOSSOS-Germany (BUB) CNOSSOS-Austria HJ2.4-2009	RMR, SRM II Schall 03 (1990), VBUSch Schall03 2014 DIN 18005 ONR 305011 Semibel NMPB-Fer CRN TemaNord 1996:524 FTA/FRA 2018 NMPB08-Fer CNOSSOS-EU CNOSSOS-Germany (BUB) CNOSSOS-Austria	DIN 45684 AzB 2008 / ICAN ÖAL 24 ECAC Doc. 29 2 nd Edition ECAC Doc. 29 3 rd Edition ECAC Doc. 29 4 th Edition Integrated Noise Method (INM 7.0d) AzB 75 CNOSSOS-EU CNOSSOS-Germany (BUB)

CadnaA Options Overview

BMP (Bitmap and other interfaces)

- ✓ Bitmap handling (more than 40 different file formats).
- ✓ Google Maps interface.
- ✓ Connection with Web Mapping Services (WMS).
- ✓ Import and visualization of 3D symbols in the 3D special view.
- ✓ Export of results to Google Earth (.kmz).

PRO (Extended RAM usage and additional tools which enhance efficiency)

- ✓ Support of up to 2048 GB of RAM*. Importing and handling of large amount of data within one single project file.
- ✓ 64-Bit software version*. Multithreading up to 64 cores*.
- ✓ Additional tools to speed up and facilitate your work like e.g: Migration assistant, Transfer attributes, Find errors in DTM, Thin out height points, Automatic closing of polygon points.

*requires 64-bit operating system

BPL (Back-tracing of sound power levels)

- ✓ Manual or automatic optimization of noise emission.
- ✓ Calibration of area sources of which the sound power level is unknown.
- ✓ Automatic fixation of noise quota for urban development projects.

X (Extended analysis and postprocessing features)

- ✓ Extended features for analysis and postprocessing, especially valuable for e.g. noise mapping: Object-scan, population density estimation, monetary evaluation, conflict maps.
- ✓ LUA scripting language for automation of CadnaA tasks and many more user-definable customized functionalities.
- ✓ Additional features: automatic closing of polygons, thin out height points.

L (Large scale projects)

- ✓ Calculation with unlimited number of screening objects for large scale projects.

SET (Sound Emission & Transmission)

- ✓ Calculation of frequency spectra of radiated sound power determined from the technical parameters of a sound source.
- ✓ Modeling of complex devices with multiple sound sources and radiating areas, reproducing their inner sound flux and transmission to connected parts.
- ✓ User-defined sound source models.

FLG (Aircraft noise)

- ✓ Calculation of noise contours around airports.
- ✓ Calculation of evaluation parameters such as the number of exceedances or flight statistics.

FLG-RAD (Radar Tracks)

- ✓ Aircraft noise calculation based on radar data.
- ✓ RADAR Import formats: Fanomos, Stanly, Topsonic, user-defined.
- ✓ Time period selection.
- ✓ Group classification according to ICAO-code.
- ✓ Automatic filtering of RADAR tracks.

APL (Air pollution)

- ✓ Calculation of air pollutants distribution for more than 50 pollutants.
- ✓ Exposure maps for air pollutants for industrial and road sources.
- ✓ Import of annual or multi-annual statistics of meteorological parameters.
- ✓ Standardized emission factors for road traffic.

CALC (Distributed calculation)

- ✓ Calculation of complex projects from 5 up to 20 computers simultaneously in a network (with a separate hardlock key installed on the server computer).
- ✓ Can be combined with **Option L** for unlimited number of screening objects.

Calculation Technology

- Feature included in the software option
- The software option marked with this icon is needed as pre-requisite
- x Not available due to CadnaA configuration

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
32-Bit version Use of 2Gb RAM Maximum	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
64-Bit version (Use of up to 2048 GB* RAM, 64-Bit O.S. is prerequisite) <i>*Depends on the Operating System</i>					<input checked="" type="checkbox"/>								
Multi-threaded calculation (up to 32 cores)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Multi-threaded calculation (up to 64 cores)					<input checked="" type="checkbox"/>								
Ray Tracing calculation method	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Angle Scanning calculation method	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Projection at line and area sources	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Maximum order of reflection	20	20											
Batch calculation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Maximum number of obstacles per project	16 M.	16 M.											
Maximum number of buildings per calculation	1000	1000											
Maximum number of screening objects per calculation	1000	1000											
Unlimited number of buildings and obstacles per calculation							<input checked="" type="checkbox"/>						
PCSP distributed calculation (Up to 1000 Buildings and Screening Objects)											<input checked="" type="checkbox"/>		
PCSP distributed calculation (Unlimited Buildings and Screening Objects)							<input type="checkbox"/>					<input checked="" type="checkbox"/>	
DYNMAP Update of calculated noise maps based on measurements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Air Pollution AUSTAL2000 Calculation Method													<input checked="" type="checkbox"/>

Noise Sources

- Feature included in the software option
- The software option marked with this icon is needed as pre-requisite
- x Not available due to CadnaA configuration

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
Point source													
Line source	<input type="checkbox"/>												
Horizontal area source	Module	<input checked="" type="checkbox"/>											
Vertical area source	Industry												
Tennis point of serve													
Optimizable area source	<input type="checkbox"/>												
Module	Industry			<input checked="" type="checkbox"/>									
Sound power level input modes: Direct PWL, PWL based on interior sources, PWL based on sound pressure level	<input type="checkbox"/>												
Module	Industry			<input checked="" type="checkbox"/>									
Sound power level based on moving machinery for line and area industrial sources	<input type="checkbox"/>												
Module	Industry			<input checked="" type="checkbox"/>									
Sound power level estimation based on transmission loss and interior level	<input type="checkbox"/>												
Module	Industry			<input checked="" type="checkbox"/>									
Estimation of sound power from the technical parameters of a sound source (32 modules) Fans and Blades (5) Diesel Motors (4) Electric Motors (6) Pumps (13) Trafo (4)	<input type="checkbox"/>												
Module	Industry			<input checked="" type="checkbox"/>									
Extended database of source modules based on technical parameters (306 source modules included)	<input type="checkbox"/>												
Module	Industry									<input checked="" type="checkbox"/>			
User-defined sound source modules based on technical parameters	<input type="checkbox"/>												
Module	Industry									<input checked="" type="checkbox"/>			
Calculation of sound power level of complex interconnected source systems, accounting for Radiation and Transmission	<input type="checkbox"/>												
Module	Industry									<input checked="" type="checkbox"/>			
Road source	<input type="checkbox"/>												
Module	Industry			<input checked="" type="checkbox"/>									
Traffic light-controlled road crossing	Module												
Parking lot	Road												
Railway source	<input type="checkbox"/>												
Module	Railway			<input checked="" type="checkbox"/>									
Airport	x												
Module	Industry			<input type="checkbox"/>						<input checked="" type="checkbox"/>			
Air route source													
RADAR track	x												
Module	Industry			<input type="checkbox"/>						<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Further Object Types

- Feature included in the software option
- The software option marked with this icon is needed as pre-requisite
- × Not available due to CadnaA configuration

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
Barrier													
Barrier with cantilever													
Barrier with curved cantilever (3D)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Floating barrier													
Roof edge (3D)													
Building	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Embankment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Bridge plate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
3D-Reflector	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Area of ground absorption	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Foliage area	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Built—up area	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Cylinder	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Contour line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Line of fault	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Height point	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Area of designated land use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Bitmap Object			<input checked="" type="checkbox"/>										
Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Text box	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Auxiliary polygon	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Symbol	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
3D Symbol			<input checked="" type="checkbox"/>										
Station	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Horizontal calculation area	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Vertical calculation area	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
CadnaB building Sound source and obstacle object for the interoperability with CadnaB (requires CadnaB as additional separate software)	<input checked="" type="checkbox"/>	Module Industry <input checked="" type="checkbox"/>											

Calculation Results and Postprocessing

- Feature included in the software option
- The software option marked with this icon is needed as pre-requisite
- x Not available due to CadnaA configuration

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
Calculation at receiver points	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Partial levels at receiver points	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Calculation protocol for receiver points	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Building noise maps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Horizontal grid calculations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Vertical grid calculations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Unlimited number of grid receivers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Calculation of up to 4 evaluation parameters	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Arithmetic of grids Up to 7 grid collections (4 eval. parameters and terrain)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Noise evaluation parameters L _{day} L _{evening} L _{night} L _{dn} L _{dn} L _{min} L _{max} L ₁₀ (CRTN)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Calculation of the loudest hour level L_{1hMax} for day, evening and night	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Calculation of L_{max} for industrial sources	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
User defined noise evaluation parameters	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Partial noise-type related evaluation parameters e.g. Industry Noise Map in projects with other types of noise sources (such as roads)	<input checked="" type="checkbox"/>	Need 2 modules <input checked="" type="checkbox"/>											
Multiple source effect Calculation according to VDI3722 and Miedema	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Frequency maps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Uncertainty maps (combined uncertainty for source and propagation) SigmaD SigmaE SigmaN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Calculation of terrain maps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Automatic optimization of noise barriers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Pass-By level calculations for traffic Sources time-based sound pressure levels based on passing sound sources like cars or trains.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
3D Pass-by level based auralization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Aircraft related noise evaluation parameters DNL CNEL LAEQ LAEQd LAEQn SEL LAMAX EPNL PNLTM *relevant with INM/ECAC 3-/CNOSSOS Standards	x								<input checked="" type="checkbox"/>				
Calculation of arousal reactions during night period	x								<input checked="" type="checkbox"/>				
Number of Aircraft Events Above Threshold NATd NATe NATn SigmaNATd SigmaNATe SigmaNATn	x								<input checked="" type="checkbox"/>				
Evaluation of maximum Level statistics FlgStatD FlgStatE FlgStatN SigFlgStatD SigFlgStatE	x								<input checked="" type="checkbox"/>				

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
SigFlgStatN													
Automatic generation of noise protection zones	x							<input checked="" type="checkbox"/>					
Automatic generation of conflict maps	x					<input checked="" type="checkbox"/>							
Estimation of the population density	x					<input checked="" type="checkbox"/>							
Monetary evaluation according to BUWAL method Evaluation of noise reduction measures with regards to the reduction in value of rented flats caused by high noise levels	x					<input checked="" type="checkbox"/>							
Noise impact evaluation by single number ratings	x					<input checked="" type="checkbox"/>							
Object Scan Statistical Evaluation of object attributes or calculated values by using predefined or user defined formulae (i.e. annoyed residents within a certain level range)	x					<input checked="" type="checkbox"/>							
3D animated noise maps Noise map video captured from the 3D view for moving sources	x					<input checked="" type="checkbox"/>							
Air pollution maps for different components: Benzene, F, NH3, NO, NO2, NOx, SO2, Tetrachlorethylen, As, Cd, Hg, Ni, Pb, Tl, PM10 (fine particles), and odor													<input checked="" type="checkbox"/>

Import Formats

- Feature included in the software option
- The software option marked with this icon is needed as pre-requisite
- x Not available due to CadnaA configuration

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
AutoCAD (.dxf)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Trimble SketchUp 2015 (.skp)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Trimble SketchUp 2019 (.skp)					<input checked="" type="checkbox"/>								
GIS formats ESRI Shape files (.shp) Atlas GIS (.bna) GYpSiNOISE MapInfo (.mif) AED-Sicad	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
ASCII formats ASCII-Objects ASCII-Grid DTM (.asc) ASCII-Spectra Building Height Points Winput-DGM Numbers of Trains (.txt) Height points (.xyz)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Noise software formats CadnaA SoundPLAN LimA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
XML formats Open Street Map (.osm) GML CityGML NMPB08-Trains (.xml)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Other formats EDBS T-Mobil Slip SOSI NTF STRATIS (.cst) Noise Mapping England (.nme)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
QSI Interchange format according to DIN 45687	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Other CAD formats AutoCAD (.dwg) Microstation (.dgn)			<input checked="" type="checkbox"/>										
Google Maps interface			<input checked="" type="checkbox"/>										
Import from Web Mapping Services (WMS)			<input checked="" type="checkbox"/>										
Bitmap formats CALs Raster, DCX, DWF, ECW, IMG, GIF, ICA, JFIF, JPEG, JTIF, LEAD CMP, PCT, MAC, MSP, MPT, OS/2 Bitmap, PCD, PCX, PSD, PNG, PostScript Raster, RAS, TIFF, TIFF CCITT, LZW, TARGA, BMP, WMF), WinFax Group 3, WinFax Group 4, WPG WordPerfect raster files			<input checked="" type="checkbox"/>										
Raster formats CadnaA Grids (.cnr) ESRI-ASCII Grids (.asc, .hdr) ASCII-Grids (.rst) LimA Grids (.ert) SoundPLAN Grids IMMI Grids (.ird) AUSTAL Grids (.dmna) Miskam Grids (.zwk) NMGF Grids (.grd)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Aircraft INM import formats ANP Database INM Study INM Operations <i>*Only with INM Calculation Standard</i>	x							<input checked="" type="checkbox"/>					
Import of RADAR tracks FANOMOS STANLY Topsonic User-Defined	x							<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Import from MS Excel files	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
ODBC— interface Import of external databases of object's attributes and libraries (i.e. Sound Power Levels, Absorptions, Noise Reduction Indices, directivities and measurements from sound analyzers.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Import of annual or multi-annual statistics of meteorological parameters (.akt, .akterm)													<input checked="" type="checkbox"/>
Import of directivities of loudspeakers in CLF format (*.CF1, *.CF2 and *.XHN)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											

Modelling Tools and Project Organization

- Feature included in the software option
- The software option marked with this icon is needed as pre-requisite
- × Not available due to CadnaA configuration

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
Actions applied to single objects Edit, Delete, Import here, Duplicate, Force Rectangle, Orthogonalize, Convert to, Transformation, Generate Label, Parallel Object, Break Lines, Break Areas, Simplify Geo, Spline, Modify Order of Points, Break into Pieces, Connect Lines, Fit DTM to Object, Fit Object to DTM, Hyperlink, Generate Station, Edit Facades, Generate Radiating Building, Set Length, Generate Rails, Cross Section, Generate Floors, Snap Object to Façade	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Actions applied to multiple objects ("modify objects" command) Delete, Modify Attributes, Duplicate, Force Rectangle, Orthogonalize, Object Snap, Modify order of Points, Spline, Simplify Geo, Break into Pieces, Connect Lines, Transformation, Convert to, Generate Rails, Generate Station, Generate Building Evaluation, Generate Label, Generate Floors, Parallel Object, Activation, Swap Name/ID, Delete Duplicates, Fit DTM to Object, Fit Object to DTM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Object Tree Project Organization in hierarchical structure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Up to 16 variants/scenarios per CadnaA project file	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Assignment of groups to variants	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Global and Local libraries Sound Power Levels, Absorptions, Noise Reduction Index, Directivities, 2D & 3D Symbols, Diurnal patterns, train classes, grid palettes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Library Manager	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Lua scripting e.g. for task automation	×					<input checked="" type="checkbox"/>							
Additional action for multiple objects ("modify objects" command) Lua command	×					<input checked="" type="checkbox"/>							
Automatic closing of auxiliary polygons	×				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
Thin out height points	×				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
Find errors in DTM					<input checked="" type="checkbox"/>								
Transfer attributes					<input checked="" type="checkbox"/>								
Migration assistant RLS90->RLS19 data conversion for existing project file when switching calculation standard					<input checked="" type="checkbox"/>								
Automatic filtering of RADAR—tracks	×							<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Presentation of Results and 3D Visualization

- Feature included in the software option
- The software option marked with this icon is needed as pre-requisite
- x Not available due to CadnaA configuration

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
Display of calculated rays in 2D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
2D Horizontal noise maps Iso dB-Lines, noise contours, Raster Oversampling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
2D Vertical noise maps Iso dB-Lines, noise contours, Raster Oversampling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Building noise maps in 2D view Ribbons, Spheres, Octagons, Level boxes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Pass-by level graph for line sources	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Pass—by based 3D auralization of traffic sources	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
2D animated noise maps for line moving sources	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Plot—Designer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
User defined table of results	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Open-GL based 3D visualization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Selection and edition of objects in the 3D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Recalculation of DTM and objects directly in 3D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Free movement and save up to 10 predefined views	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Appearance of objects in 3D depending on attributes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Display of calculated rays in the 3D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Display of 3D directivities in the 3D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Display of horizontal noise maps in 3D view Projected or at the real height	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Display of vertical noise maps in 3D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Noise map of buildings Color map, Spheres, Octagons, Level boxes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Display of text labels in 3D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Display of ground maps in 3D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Import and visualization of 3D symbols (* .obj format)				<input checked="" type="checkbox"/>									
Animation of 3D symbols (rotation)				<input checked="" type="checkbox"/>									
Stereoscopic 3D display with passive 3D glasses *Compatible 3D TV required	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Interactive scene video recording (.avi) from 3D view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Display of lightning sources (street lights)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Import of skybox ambient images				<input checked="" type="checkbox"/>									
Import of facade images to the buildings				<input checked="" type="checkbox"/>									
Projection of background images i.e. Google Maps or aerial imagery				<input checked="" type="checkbox"/>									

Export Formats

- Feature included in the software option
- The software option marked with this icon is needed as pre-requisite
- x Not available due to CadnaA configuration

Feature name	Configuration		Options										
	Modular	Basic Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
AutoCAD— DXF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
GIS formats ESRI /ArcInfo (.shp) ArcView Grid (.asc, .hdr) GYpSiNOISE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
ASCII formats Text Files (.txt) Building Height Points Numbers of Trains (.txt) Rich Text Format (.rtf) Compact Protocol	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Export of full reports to Ms Office Ms Word (.docx) Ms Excel (.xlsx)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Noise software formats LimA (.bna, .bnx) Immis-Luft (.dbf)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
QSI Interchange Format According to DIN 45687	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Google SketchUp Materials (.skm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
Bitmap Files (.bmp)			<input checked="" type="checkbox"/>										
Google Earth (.kml)			<input checked="" type="checkbox"/>										
Web Bitmaps PNG files at different magnification levels			<input checked="" type="checkbox"/>										
AzB related export formats AzB-QSI, AzB-DES, AzB-XML, AzB-Lmax, AzB-Segment, AzB-Zones	x							<input checked="" type="checkbox"/>					
SET-T Graph (.gv)										<input checked="" type="checkbox"/>			
Grid formats CadnaA Grids (.cnr) ASCII-Grids (.rst) LimA Grids (.ert) NMGF Grids (.grd)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
QSI Statistical Analysis report DIN 45687	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											

CadnaA Recommended Packages

Software Package	Configuration		Options										
	Basic	Standard	BMP	BPL	PRO	X	L	FLG	RAD	SET	CALC	CALC XL	APL
CadnaA BASIC BMP	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>										
CadnaA STANDARD BMP		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
CadnaA BASIC NOISE MAPPING	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
CadnaA STANDARD NOISE MAPPING		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

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