# LoopCAD® 2024

# Feature Comparison

LoopCAD® is the premiere software for the creation of professional quality designs and circuit layout drawings for radiant heating and snowmelt systems. LoopCAD 2024 offers many advanced design features, including ACCA®-Approved calculations for Manual J® residential heating and cooling loads in the MJ8 Edition. LoopCAD is the easiest, most powerful radiant heating design tool available.

Download the free 30-day trial at:

www.LoopCAD.com/Downloads

| | |
|---|---|
| **Standard** Edition | ▪ Floorplan drawing and importing (PDF, AutoCAD, JPG)<br>▪ Automated circuit generation<br>▪ Easy Freehand circuit drawing and circuit editing<br>▪ Hydronic calculations based on manual input of heat loads (*automated heat loss calculations not included*)<br>▪ Supply/Return distribution piping<br>▪ 3D drawing views<br>▪ OEM Editions for detailed materials lists/quotations |
| **Professional** Edition | ▪ All features in Standard Edition, _**plus**_...<br>▪ Automated heat loss calculations as you draw<br>▪ ASHRAE residential heat loss calculations<br>▪ Verified CSA F280 residential heating and cooling load calculations |
| **MJ8** Edition | ▪ All features in Professional Edition, _**plus**_...<br>▪ ACCA-Approved Manual J (8th Edition) residential heating and cooling load calculations |

## General

| | | Standard | Professional | MJ8 |
|---|---|:---:|:---:|:---:|
| 1 | Create professional radiant heating circuit layout drawings quickly and easily | ● | ● | ● |
| 2 | Perform room-by-room residential heating and cooling* load calculations as you draw | | ● | ● |
| 3 | Perform detailed hydronic calculations | ● | ● | ● |
| 4 | Commercial Mode with special tools for commercial projects (select Editions only) | ● | ● | ● |
| 5 | Stand-alone program: AutoCAD[1] is not required | ● | ● | ● |
| 6 | Easily create new floor plan drawings or import existing drawings (PDF[2], AutoCAD, JPG) | ● | ● | ● |
| 7 | 3D Views automatically generated as you draw in 2D | ● | ● | ● |
| 8 | Support for slab, thin slab and in-joist radiant heating designs | ● | ● | ● |
| 9 | Make design changes in seconds - tube spacing, number of loops, pattern type and more | ● | ● | ● |
| 10 | **Quick Design Mode** allows complete radiant designs without detailed circuit layouts | ● | ● | ● |
| 11 | Supply/Return Distribution Piping feature | ● | ● | ● |
| 12 | Custom Tables that can be added to drawings for display of key design data | ● | ● | ● |
| 13 | Insert Images onto drawings help show design/project details | ● | ● | ● |
| 14 | Support for both IP (US) units and SI (Metric) units | ● | ● | ● |
| 15 | Drawings and design reports can be printed or exported to PDF files | ● | ● | ● |
| 16 | Report Packages lets you assemble multiple reports into a single PDF | ● | ● | ● |
| 17 | Notes Library lets you save and reuse frequently used notes | ● | ● | ● |
| 18 | Saving of Equipment Report items for documenting of HVAC equipment | ● | ● | ● |
| 19 | Export to Excel features for key design data and materials lists | ● | ● | ● |
| 20 | Video Tutorials and Help file get you up and running fast | ● | ● | ● |
| 21 | Free program updates and technical support included with active subscription | ● | ● | ● |

* Cooling loads available with CSA or Manual J calculation methods only.

# Floorplan Drawing

| | | Standard | Professional | MJ8 |
|---|---|:---:|:---:|:---:|
| 22 | Importing of AutoCAD, PDF and Scanned Drawing files for use as a drawing template | ● | ● | ● |
| 23 | Easy drawing of rooms with predefined shapes or freehand | ● | ● | ● |
| 24 | Draw in-room objects that can affect circuit patterns, like stairs and cabinets | ● | ● | ● |
| 25 | Enhanced wall tools include Curve Wall and Wall Bump-Out | ● | ● | ● |
| 26 | Snap to outline of existing floorplan drawing ensures proper vertical alignment | ● | ● | ● |
| 27 | Smart dimension labels automatically display dimensions and allow in-place editing | ● | ● | ● |
| 28 | Advanced PDF Scaling option for drawings that do not display dimensions | ● | ● | ● |
| 29 | Custom definition of joist properties | ● | ● | ● |
| 30 | Merge Rooms to reduce unit loads for small areas | ● | ● | ● |
| 31 | Easily add Clerestory Walls and Windows | ● | ● | ● |
| 32 | Rotate drawings temporarily for easier circuit drawing on angled floorplans | ● | ● | ● |

# Circuit (Loop) Drawing

| | | Standard | Professional | MJ8 |
|---|---|:---:|:---:|:---:|
| 33 | Automatic circuit generation, even in complex room shapes | ● | ● | ● |
| 34 | Many circuit pattern options including single and double serpentines, double serpentine with fill region, perimeter, wide-radius serpentine (in-joist), counterflow | ● | ● | ● |
| 35 | **Automated Counterflow circuit patterns** – spiral and serpentine options | ● | ● | ● |
| 36 | Automatically generates in-joist serpentine patterns with 2-line and 3-line options | ● | ● | ● |
| 37 | **Custom Circuit Areas** to subdivide larger rooms and snow melt areas for optimum auto-circuit generation | ● | ● | ● |
| 38 | Circuit lengths calculated and updated automatically | ● | ● | ● |
| 39 | Option for circuits to go around or under obstructions (i.e. cabinets, islands,…) | ● | ● | ● |
| 40 | Multiple tube spacing supported within the same room | ● | ● | ● |
| 41 | Easily edit the automatic circuits to optimize your design | ● | ● | ● |
| 42 | Fast freehand drawing for fully custom circuits in any room or groups of rooms | ● | ● | ● |
| 43 | Copy, Flip and Rotate circuits and groups of circuits | ● | ● | ● |
| 44 | Flow direction setting with special color shaded view, with auto direction option | ● | ● | ● |
| 45 | Tubing above/below subfloor options | ● | ● | ● |
| 46 | **Offset Circuits** function for quick drawing along complex walls or edges | ● | ● | ● |
| 47 | Draw multiple leaders from room to manifold in a single operation | ● | ● | ● |
| 48 | Auto-connect of nearby circuits to a manifold | ● | ● | ● |
| 49 | Manifolds capable of connecting to circuits on multiple floorplans or levels. | ● | ● | ● |

# Load Calculations

| | | Standard | Professional | MJ8 |
|---|---|:---:|:---:|:---:|
| 50 | ASHRAE 2017 residential heat loss calculations performed as you draw | | ● | ● |
| 51 | CSA F280-12 (R2021) residential heating and cooling load calculations | | ● | ● |
| 52 | **NEW** Verified CSA F280-12 calculations including the Annex D Summary Report | | ● | ● |
| 53 | ACCA-Approved Manual J calculations for residential heating and cooling loads (8th Edition Version 2.5) | | | ● |
| 54 | Manual J advanced calculations support | | | ● |
| 55 | Manual J block and room load calculations | | | ● |
| 56 | Manual J AED (Adequate Exposure Diversity) calculations and graphs | | | ● |
| 57 | Manual J Peak Load Procedure option | | | ● |
| 58 | Manual J October cooling load evaluation automatically performed | | | ● |
| 59 | Manual J estimated room CFM | | | ● |
| 60 | Manual J calculations for Infiltration for **Maximum ACH50 values** | | | ● |
| 61 | Manual J Review step to assist with project analysis and review | | | ● |
| 62 | Manual J approved report formats | | | ● |
| 63 | Create custom climate locations and save for reuse on other projects | | ● | ● |
| 64 | Ability to specify rooms heated by radiant, baseboard, forced air or other heat | ● | ● | ● |
| 65 | Automatic calculation of required supplemental heat based on radiant circuit design | ● | ● | ● |
| 66 | R-value lists for all major structural components | | ● | ● |
| 67 | **Custom Construction Library** to save your custom construction items for re-use | | ● | ● |
| 68 | Support for cold partitions with editing of cold side temperatures | | ● | ● |
| 69 | Manual input of heat loads and back losses | ● | ● | |
| 70 | Project Wizard guides you through the setup of construction defaults for your project | | ● | ● |
| 71 | **Project Templates** to save your common project settings for re-use | ● | ● | ● |
| 72 | Estimated Air Flow (CFM) calculations | | ● | ● |
| 73 | Graphical views of calculated unit heat load data via color shading of rooms | | ● | ● |
| 74 | Spreadsheet style view of data provides easy review and analysis | ● | ● | ● |
| 75 | Heat loss summary and detailed report options | | ● | ● |

# Hydronic Calculations

| | | Standard | Professional | MJ8 |
|---|---|:---:|:---:|:---:|
| 76 | Hydronics heating calculations based on calculated heat load data | | ● | ● |
| 77 | Hydronics calculations based on optional manual heat load data input | ● | ● | ● |
| 78 | Calculates required surface, panel, and water supply temperatures | ● | ● | ● |
| 79 | Easy adjustment of water temperature using slider tool | ● | ● | ● |
| 80 | Fluid flow rate and head loss calculations for tubing, manifolds and Supply/Return Piping | ● | ● | ● |
| 81 | Support for water only or glycol mixtures | ● | ● | ● |
| 82 | Independently set the Fluid ΔT and Fluid Type for individual manifolds | ● | ● | ● |
| 83 | Variable or fixed temperature drop settings | ● | ● | ● |

| | | Standard | Professional | MJ8 |
|---|---|:---:|:---:|:---:|
| 84 | Automatic detection of areas left unheated | ● | ● | ● |
| 85 | Calculations for circuits spanning multiple rooms and with different unit heat loads | ● | ● | ● |
| 86 | Radiant panel types can be assigned for the entire floorplan or room-by-room | ● | ● | ● |
| 87 | 3D models of radiant panel structures | ● | ● | ● |
| 88 | Zone assignments can be edited in drawing view or data view | ● | ● | ● |
| 89 | Graphical views of calculated data via color shading of rooms | ● | ● | ● |
| 90 | Spreadsheet style view of data provides easy review and analysis | ● | ● | ● |

## Snowmelt Design

| | | Standard | Professional | MJ8 |
|---|---|:---:|:---:|:---:|
| 91 | Calculation of snowmelt loads using ASHRAE methods (select US cities only) | | ● | ● |
| 92 | Manual input option for snowmelt loads | ● | ● | ● |
| 93 | Calculates supply water temperatures | ● | ● | ● |
| 94 | Automatic circuit generation | ● | ● | ● |
| 95 | Freehand drawing tools for manual circuits same as in radiant heating | ● | ● | ● |
| 96 | Support for concrete, asphalt and paver installations | ● | ● | ● |
| 97 | Flow rate and head loss calculations | ● | ● | ● |
| 98 | Specify Unheated Snow Melt Areas (central regions surrounded by heated areas) | ● | ● | ● |
| 99 | Drawing of distribution piping with curved or straight lines (select Editions only) | ● | ● | ● |
| 100 | Custom Table for display of snow melt panel data | ● | ● | ● |

## OEM (Manufacturer) Editions

| | | Standard | Professional | MJ8 |
|---|---|:---:|:---:|:---:|
| 101 | Easily install OEM Editions from participating Manufacturers at no additional cost** | ● | ● | ● |
| 102 | OEM database of components with pictures and specifications | ● | ● | ● |
| 103 | Product pricing (if supplied by OEM) | ● | ● | ● |
| 104 | Automated web-based updates for product prices | ● | ● | ● |
| 105 | Integration of OEM components and design parameters into the design process, including tubing types, manifolds, controls, panel outputs, water temperatures, etc. | ● | ● | ● |
| 106 | Calculation of OEM-specific materials lists | ● | ● | ● |
| 107 | Full quotation features and reports | ● | ● | ● |
| 108 | Free Spreadsheet-Mode for quick designs without a drawing (select OEM Editions only) | ● | ● | ● |

** No additional cost for non-locked generic licenses only.