



Code Officials: Beware of Inappropriate Load Calculation Software

Manual J® is the industry-developed, ANSI-recognized national standard for estimating residential heating and cooling loads for HVACR systems. It is the only load calculation standard referenced in the International Residential Code and International Energy Efficiency Code. Authorities having jurisdiction (AHJ) may approve alternative methods of load calculation; however, most AHJs recognize Manual J8 due to its long history and wide acceptance in the HVAC industry.

Given the complexities of modeling modern construction, HVAC design professionals are encouraged to use software for accurate system design. However, not all load calculation software is created equal.

ACCA reminds code officials that only those software programs that have been approved and licensed by ACCA as “Powered by Manual J®” are considered compliant with the procedure referenced in Manual J8.

As of today, the only software programs that meet the requirements for Manual J load calculation are¹:

- RHVAC Residential Load Calculation from Elite Software
- Right-J8 from Wrightsoft
- AccuLoads from ADTEK Software Company
- EnergyGauge from Florida Solar Energy Center
- HVAC ResLoad-J for iPad from CarmelSoft
- MJ8 Editions of HeatCAD and LoopCAD from Avenir

Any other software program, online service, or mobile application cannot be considered to be compliant with the Manual J standard and should not be used where Manual J is required. Use of non-authorized software may pose a liability for the contractor that represents that they have complied with the Manual J procedures.

It should be noted that using an ACCA approved and licensed software program does not automatically ensure an accurate load calculation. Though the software is procedurally compatible with the current edition of Manual J, the practitioner (and by extension, the permit reviewer) must be aware that each software program has built-in defaults. These defaults have a significant effect on the solutions produced by the program, but may not accurately reflect the conditions of an individual project. It is incumbent upon the design practitioner *and* the permit reviewer to be aware of the defaults and whether or not they are correct for a project.

For more information on Manual J, the ACCA system design process, and load calculation software, please visit <https://www.acca.org/standards/> or contact ACCA Manager of Codes and Standard, Luis Romeo Escobar, at luis.escobar@acca.org.

Manual J is a registered federal trademark of the Air Conditioning Contractors of America. The full citation is ANSI/ACCA 2 Manual J – 2011 (*Residential Load Calculation*).

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The Air Conditioning Contractors of America (ACCA) is a non-profit association serving more than 60,000 professionals and 4,000 businesses in the HVACR community, who work together to promote professional contracting, energy efficiency, and healthy, comfortable indoor environments for all Americans. For more information, visit www.acca.org.

¹ For the most current list of software programs approved and licensed by ACCA as “Powered by Manual J®”, visit <https://www.acca.org/standards/software>.

ACCA has a well-defined protocol for reviewing third party software programs to ensure compliance to the Manual J procedures, sensitivities, and capabilities. Software providers interested in applying for validation and licensing of their product are encouraged to contact: Glenn C. Hourahan, P.E. Senior Vice President, ACCA glenn.hourahan@acca.org.