

## ENERGY AUDIT OVERVIEW

The Elite Software Energy AUDIT Program calculates monthly and annual heating and cooling costs for residential and light commercial buildings. Virtually any type of cooling and heating system can be simulated by AUDIT including standard DX, evaporative, air source heat pumps, water source heat pumps, and all types of fossil fueled furnaces and boilers (both standard and modulating). An optional version of AUDIT with appliance capabilities can calculate appliance and hot water energy use as well. AUDIT uses heating degree days, monthly weather bin data, and full load cooling hours in its calculations. Weather data for nearly 1,500 cities throughout the world is built-in to AUDIT and additional weather data can be easily added. Along with calculating energy costs, AUDIT also performs an economic analysis that allows you to compare system types and costs over any given study period. There is even a loan and lease analysis report designed to demonstrate affordability of better systems by showing that the effective net monthly cost is often very low when monthly energy savings are considered. To make system comparisons easy, AUDIT allows you to manually enter equipment data or automatically look it up for you from AHRI equipment data files which are provided with the software.

*Pictures of units from various manufacturers such as Carrier, Trane, Goodman, York, Lennox, Nordyne, Rheem, Climate Master, Florida Heat Pump, Waterfurnace and others are included and can be printed in reports.* Pictures for more manufacturers are coming soon. AUDIT provides a wide selection of nicely formatted color charts, graphs, and reports that can be previewed on screen or printed. *AUDIT includes a simple proposal report built right in and also has the option of making highly customized graphic proposals when used with Elite's Proposal Maker.*

## DEMONSTRATION VERSION

If you would like to evaluate AUDIT in further detail, you can **download free of charge** a functional demo of AUDIT from Elite's web site, [www.elitesoft.com](http://www.elitesoft.com) Alternately, a demo CD can be ordered directly from Elite Software. Functional demonstration versions can be "unlocked" into a full version.

## ENERGY AUDIT FEATURES

- Calculates Monthly & Annual Heating/Cooling Costs
- Simulates Nearly all Types of HVAC Systems
- **Prints Heat Pump Balance Point Graph**
- Optionally Analyzes Appliances and Hot Water Costs
- Handles Simple and Complex Utility Rate Structures
- Equipment Data for over 80 Manufacturers listed with AHRI
- **Displays Pictures of Thousands of Hvac Units**
- **Includes Accessory Databases to Help Sell Upgrades**
- Built-in Sales Proposals Plus Links to **Proposal Maker**
- **Prints Color Pie Charts and Bar Graphs**
- Performs Economic Comparison of HVAC Systems
- Loan, Lease, and Credit Card Purchase Comparisons
- **Great Sales Tool for Selling HVAC Systems**
- Links with RHVAC, CHVAC, and Proposal Maker
- **No Copy Protection Hassles!**

## PROGRAM INPUT

The Energy AUDIT Program has all the standard Windows features including toolbars and hyper linked help. All input data is checked at the time of entry so that no improper data can be entered. Two types of data are requested: general project data and specific HVAC system data. The general project data includes the summer and winter design conditions, total cooling hours, the project name and location, client information, fuel cost data, optional appliance data, and the design heating and cooling loads. The HVAC system data includes specific information on the system type, model number, efficiency, cost, capacity, and fuel used. An unlimited number of HVAC systems may be defined per project and each system can have a backup heating system specified as well. Economic data concerning initial system cost, interest and inflation rates, and loan amounts can also be entered. In order to minimize redundant input, AUDIT can also import data from project data files created by the Elite Software RHVAC program that performs Manual J HVAC load calculations. There is an import feature from the ASHRAE based CHVAC program as well.

## EQUIPMENT SELECTION

Although you can manually enter system information on equipment from any manufacturer, AUDIT also allows you to quickly select models from the AHRI equipment databases. By selecting a model number, all the information for the model is looked up and read into the program. This includes the AHRI reference number and qualifying tier. AUDIT can look up equipment data for all the manufacturers (over 80) whose products are listed in the Air Conditioning, Heating and Refrigeration Institute (AHRI) directory. The equipment data is provided at no extra charge with the AUDIT program. Data for over 50,000 models of hvac equipment is included and thousands of these models also have a picture included as well. AUDIT users can add more models and pictures of their own.

## SYSTEM REQUIREMENTS

AUDIT is a Windows program and will run on any computer with Windows '95 or higher including Windows 7

## PROGRAM OUTPUT

The Energy AUDIT program provides numerous color presentation quality reports including a title page, sales proposal, project summary, system comparisons, appliance analysis, hot water heating, investment, loan, and lease analysis, line graphs, pie charts, and bar graphs. The reports can be previewed on screen or printed on any model printer supported by Windows. Any combination of detailed and summary reports can be selected for printing. All reports reflect the input data that caused the calculated results. Shown here are just a few of the many reports that can be printed.

### Project Information

**Client:** Mr. and Mrs. Jeffrey Jones  
**Address:** 1234 First Street NW  
**City:** Harrisburg, PA 17103  
**Phone:** (717) 555-5294  
**FAX:** None  
**Comment:** Mrs. Jones prefers no calls before noon.

**Company:** Jake's Heating and Air  
**Representative:** Jake Massetti  
**Address:** 8724 West Halver St.  
**City:** Allentown, PA 18100  
**Phone:** (215) 555-HEAT  
**FAX:** (215) 555-COOL  
**Comment:** Bid prepared by Rodney.

### Design Data

**Project Title:** Jones Residence  
**Building Area:** 555  
**People:** 5

**Cooling Load:** 14,485 BTUH  
**Heating Load:** 19,714 BTUH  
**Loads Adjust:** 0.77  
**Factor:**  
**A/C On Temp:** 50 F

**Occupancy:** 12 HRS  
**Comment:** Proposal for change out, as existing unit needs repairs, and is 12+ years old.

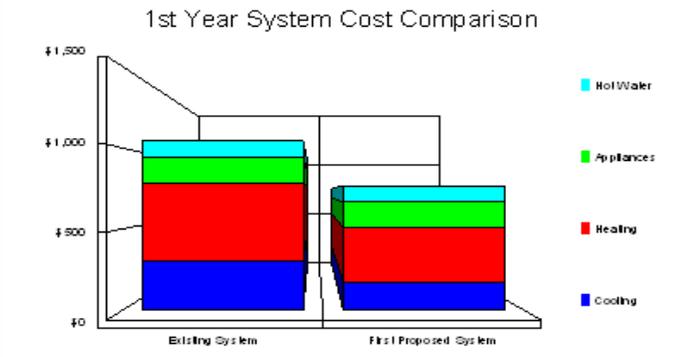
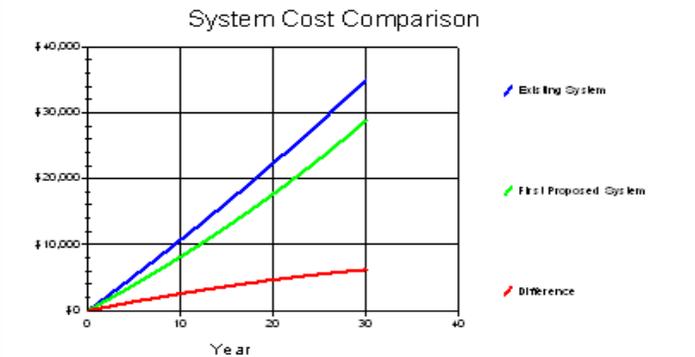
**City Reference:** HARRISBURG, PENNSYLVANIA  
**Summer Outdoor:** 92 °F  
**Summer Indoor:** 75 °F  
**Cooling Hours:** 1,000

**Winter Outdoor:** 10 °F  
**Winter Indoor:** 72 °F  
**Degree Days:** 5,410

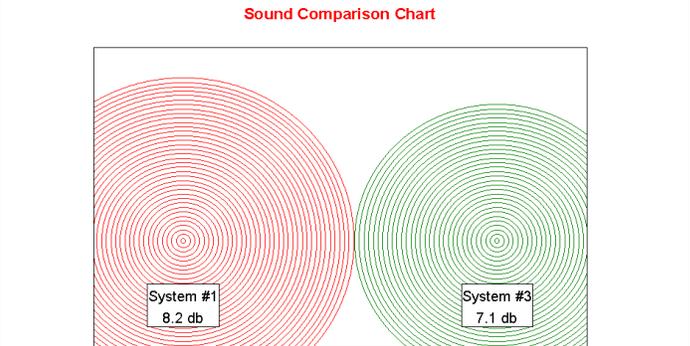
### Annual Operating Cost Estimate

Description	Fuel Rates Set	Total Heating Cost	Total Cooling Cost	Water Heating Cost	Domestic Energy Cost	Annual Service Charges	Total Operating Cost	Average Monthly Cost
Existing System	1	\$467	\$286	\$100	\$208	\$0	\$1,061	\$88
First Proposed System	1	\$320	\$165	\$100	\$208	\$0	\$793	\$66
Second Proposed System	1	\$206	\$140	\$100	\$208	\$0	\$654	\$55

### Comparison Graphs 1 - Sys. 1 vs. Sys. 2



### Comparison Report

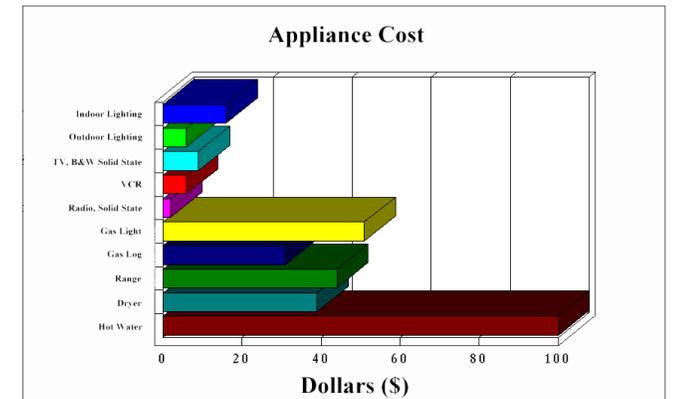


### Projected Cumulative Energy Cost Comparison

Year	System #1 Annual Total Cost	System #2 Annual Total Cost	Annual Expected Savings	Cumulative Expected Savings
1	\$1,061	\$793	-\$268	-\$268
2	\$1,069	\$804	-\$264	-\$533
3	\$1,077	\$816	-\$260	-\$793
4	\$1,085	\$829	-\$256	-\$1,049
5	\$1,093	\$841	-\$252	-\$1,302
10	\$1,138	\$907	-\$231	-\$2,499
15	\$1,187	\$981	-\$207	-\$3,581
20	\$1,242	\$1,062	-\$180	-\$4,536
25	\$1,302	\$1,151	-\$151	-\$5,350

Note: Table includes Cooling, Heating, Appliance and Hot Water costs. List Price and Service Charges Not Listed.

### Appliance Report



### Input Data Pie Chart

