



## Description of PRISM® (Advanced Version 1.0)

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### PRISM® (Advanced Version 1.0)

#### *A standardized tool for estimating energy savings from billing data*

The Advanced Version of PRISM® (PRInceton Scorekeeping Method)\* makes it easier than ever to transform run-of-the-mill billing data into statistically sound savings estimates. With PRISM, utilities and energy analysts can systematically estimate total savings from a conservation or demand-side management program, for large samples of houses or buildings participating in the program, and for comparison groups as well. Enhanced model tuning and data pruning in the new version of PRISM produce even more reliable savings estimates and expanded statistical capabilities, from the same readily available data.

Over the years, PRISM® has been acquired by some 500 organizations. With the original version of PRISM® released in 1986, PRISM® became the standardized billing-analysis evaluation method used by utilities, private firms, government agencies, and universities. Since then, with the new Advanced Version, PRISM® has been greatly improved in a Windows-based user interface that integrates major statistical enhancements with numerous user-friendly features that PRISM® users had been asking for. The attached figures (keep scrolling) offer a glimpse of some of the new features.

### Summary of Method

PRISM® is a statistical procedure that processes a year of monthly billing data from a house or building to produce a weather-adjusted Normalized Annual Consumption (NAC) index, along with other physically meaningful parameters and extensive reliability statistics. A key feature of the method is its estimation of best reference temperature to

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which heating and cooling degree-days in the model are computed. PRISM is generally run on the pre- and post-weatherization periods for all buildings in a sample to produce distributions of savings across the sample. With the new PRISM\*, participant and control groups are easily compared, in graphical and tabular forms.

## New Features

The new PRISM® includes the long awaited "HC" model, integrated into a comprehensive package of PRISM models containing:

- Heating-Only (HO) PRISM - Regular
- " " - Robust
- Cooling-Only (CO) PRISM - Regular
- " " - Robust
- Heating-and-Cooling (HC) PRISM

Additional new features include:

- Input data translators (including procedure for treating estimated readings);
- Statistical summaries of temperature data, and easy creation of "norm" files;
- Automated model selection (to match the consumption data to appropriate model);
- Automated identification and correction of undesigned estimated readings;
- Identification of cases with anomalous data, and automated application of Robust PRISM to these cases;
- Aggregate versions of HO, CO and HC PRISM, for weather adjustment of utility aggregate sales data;
- Interactive ("point-and-click") graphics for individual-building analysis;
- User-specified reliability criteria;
- Standardized summary of savings results for control vs. participant groups.

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## **The Package**

The software package comes on two 3½" high-density disks (a program disk, and a disk with sample data files) or on a CD. The package includes a Users' Guide to PRISM® (Advanced Version 1.0) in two parts: 1) **Getting Started**, with tutorials to help those who have never used PRISM and to teach beginning and experienced PRISM users about the new features; and 2) **Reference Manual**, with a full description of the available options, including how to access them in the software and how to interpret the results. A complete bibliography listing PRISM reports available from Princeton University is also provided.

## **Hardware Requirements**

PRISM® (Advanced Version 1.0) runs on IBM PCs and compatibles with Microsoft Windows. At least 4 MB of RAM is recommended, with more RAM required for large data sets.

## **Ordering Information**

A signed license agreement with Princeton University and prepayment are required prior to our shipment of the software. To obtain price information, or to initiate the ordering process, return to the PRISM® Home Page and click on Ordering PRISM.

## **Additional Information**

If you have questions not answered in this material, contact the PRISM office at 847-733-1469; Fax 847-733-1473.

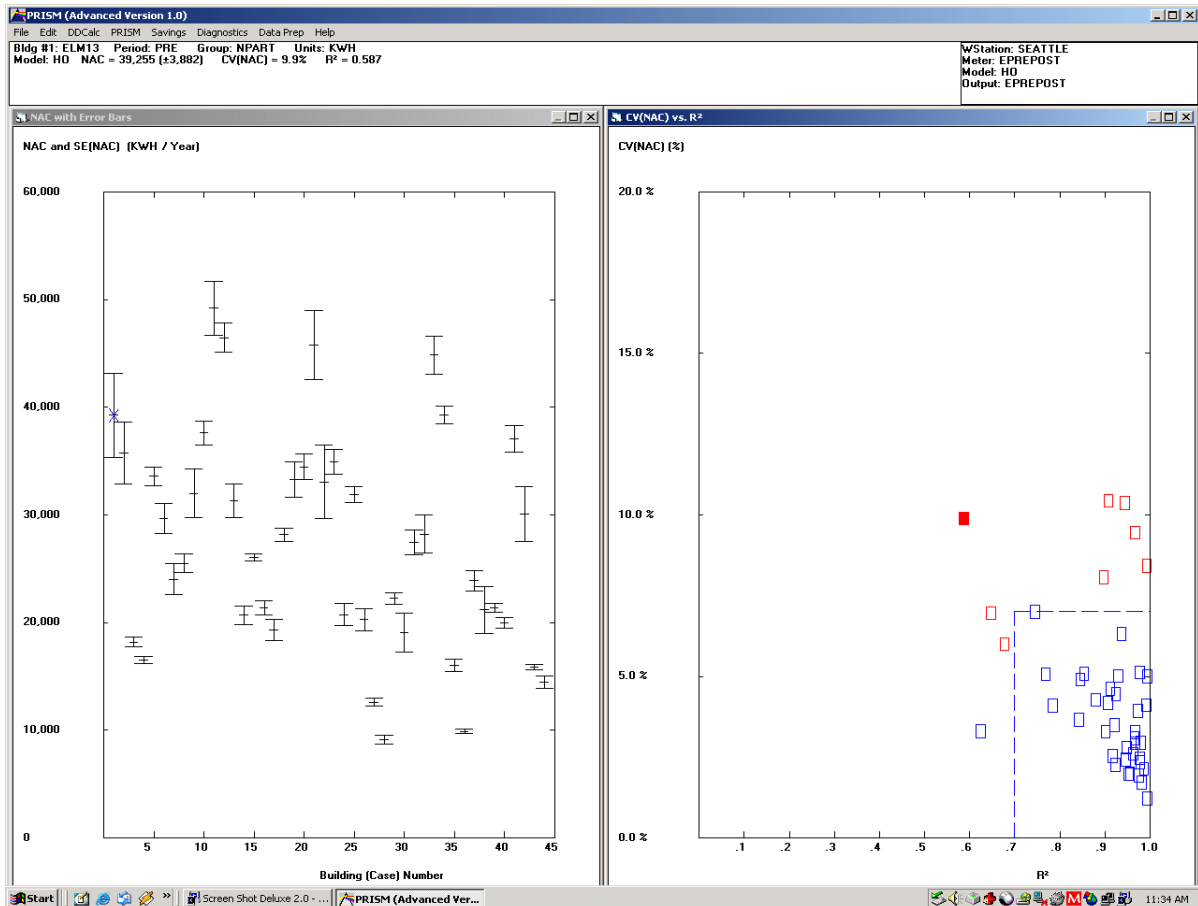


Figure 1. Examples of screens available in Advanced Version of PRISM: a) **summary plots** showing NAC (on left) and CV(NAC) vs. R<sup>2</sup> (on right) for all buildings included in PRISM run.

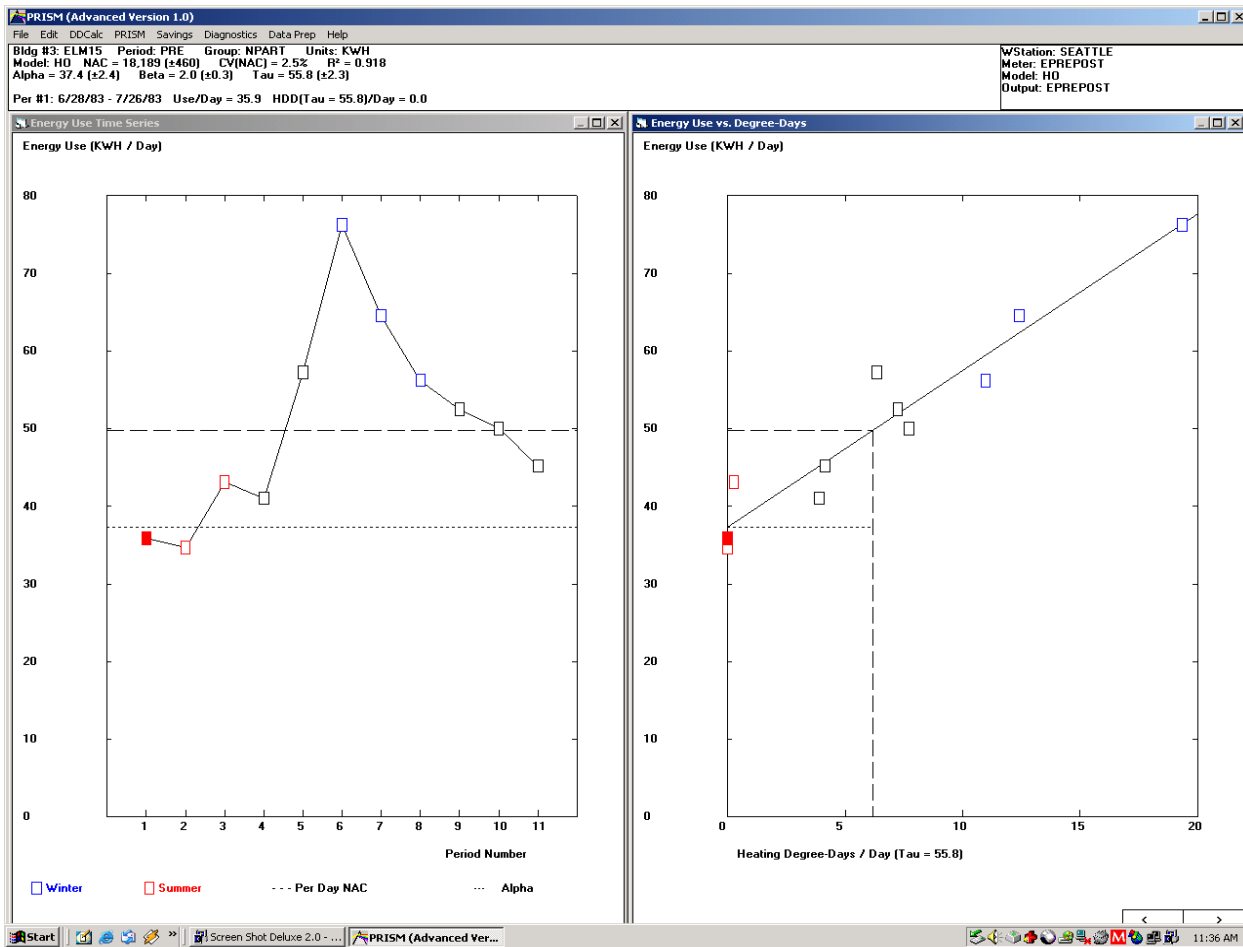


Figure 1. Examples of screens available in Advanced Version of PRISM: b) **energy use plots** showing consumption vs. period (on left) and the PRISM fit (on right) for one of the buildings.

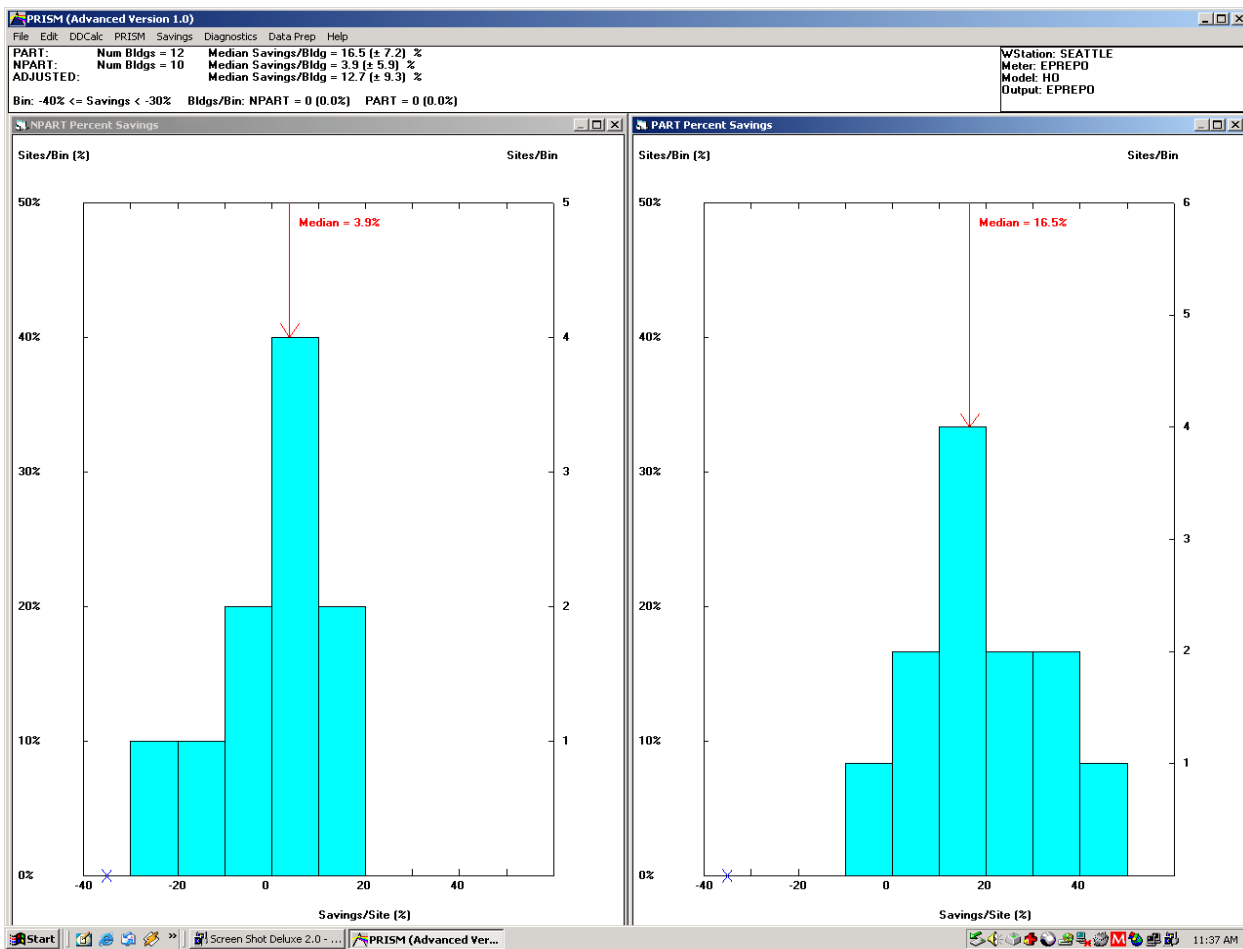


Figure 1. Examples of screens available in Advanced Version of PRISM: c) **summary of savings results** for buildings in sample, separated by non-participants (on left) vs. participants (on right).

Figure 1. Examples of screens available in Advanced Version of PRISM: a) **summary plots** showing NAC (on left) and CV(NAC) vs.  $R^2$  (on right) for all buildings included in PRISM run; b) **energy use plots** showing consumption vs. period (on left) and the PRISM fit (on right) for one of the buildings; and c) **summary of savings results** for buildings in sample, separated by non-participants (on left) vs. participants (on right).