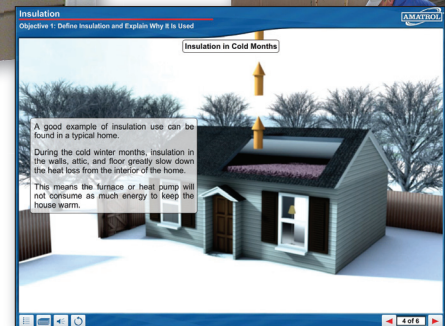


# Environmental Applications Learning System

T7083



Environmental Applications Learning System



Optional Interactive Multimedia and Student Reference Guide

## Learning Topics:

- Thermal System Performance
- Internal and External Heat Loads
- Insulation
- Psychrometrics
- Humidification Operations
- Residential Heating and Cooling
- Air Handling Systems
- Air Conditioner / Heat Pump Sizing

The Environmental Applications Learning System (T7083), an add-on to the Air Conditioning / Heat Pump Learning System (T7082), is a model of a house complete with insulation, siding, shingles, and a window. Learners gauge how these features affect a home's temperature by checking digital thermometer outputs connected to various temperature probes throughout the trainer. Learners then use components such as a ceiling fan, attic exhaust fan, attic vents, and static cling window tint to change the home's temperature and to learn about concepts like heat loads, insulation effectiveness, humidity, air movement, heat transfer, psychrometrics, and heat pump sizing.

When connected with the T7082 via a duct system, learners can use real-world instruments to measure and adjust the temperature within this scaled home replica. This combination of trainers will serve as an unparalleled learning experience for anyone in the HVAC or home construction field.



## Technical Data

Complete technical specifications available upon request.

### T7083 Shell

- 32" W x 54" H x 81" L
- Wood, 2x4 frame construction
- Vinyl siding
- Pitched roof with asphalt shingles
- Hinged roof with gas cylinders
- Roof thermostatically protected, 140 F

### Insulation System

- Ceiling insulation panels, removable (2)
- Glass window, single pane, sliding
- Insulated walls and floors

### Environmental Inputs

- Heater, 750 Watt
- Lights, 500 watt, quartz (2)
- Humidifier

### Comfort Controls

- Ceiling fan, 2 speed, reversible
- Attic exhaust fan
- Attic vents, adjustable (2)
- Static cling window tint

### Duct System

- Reversible supply and return for upper and lower positions
- Interface to T7082 coil
- Dampers
- Clear covers

### Instrumentation

- Digital Thermometer displays with remote probes (5)
- Thermostat probes with T7082 thermostat interface
- Digital humidity display

### Main Power and Control

- Master power switch, manual rocker type
- Circuit breaker, 15-amp
- 2 position On/Off switch for attic fan
- 2 position On/Off switch for ceiling fan
- 2 position On/Off switch for attic heater
- Duplex power outlet

### Student Curriculum (11605)

### Optional Multimedia (W11605)

### Instructor's Guide (11615)

### Install Guide (11625)

### Student Reference Guide (H11605)

### Requirements:

- Air Conditioning / Heat Pump Learning System (T7082)

- Mobile Work Station (82-610) or 30" tall table

### Computer Requirements:

- Please visit: <http://www.amatrol.com/support/computer-requirements/>

### Utility Requirements:

- 120 VAC

## Simulate Environmental Variables and Study Their Effect on a House!

Amatrol's T7083 uses an assortment of components, such as a heater, humidifier, and 500 watt lights to simulate environmental impact on home temperature and learn applicable skills like plotting a dehumidification process on a psychrometric chart.

The T7083 allows learners to simultaneously monitor the inner room temperature at the floor, mid-room, and ceiling levels; inner wall temperature; and attic temperature for a greater understanding of how different elements affect separate parts of the house. This is accomplished by using pre-mounted temperature sensors that are connected to digital outputs, so there's no need to open the house and adversely affect your data!

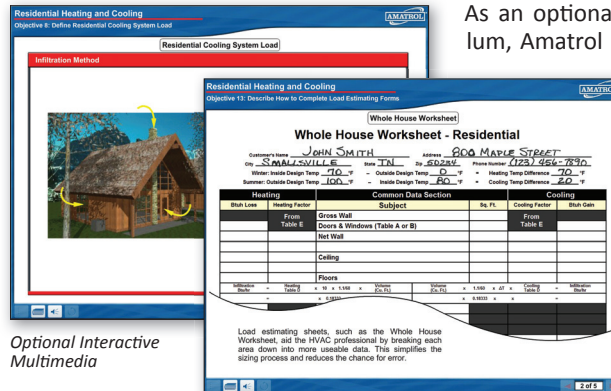
Power switches for the attic fan, ceiling fan, and attic heater will allow learners to practice skills like changing the air flow within a thermal system without opening the window and evaluating the effects of attic space conditioners on a thermal system.

## World-Class Cooling Curriculum!

Widely known for world-class curriculum, Amatrol worked closely with industry leaders and educators to produce unmatched learning materials for environmental applications that can be self-guided or taken in a classroom environment. The T7083's curriculum begins with the basics of thermal system performance before moving into more advanced areas, such as external and internal heat loads, thermal insulation effectiveness, humidification operations, air handling systems, and air conditioner/heat pump sizing.



Amatrol's T7082 and T7083



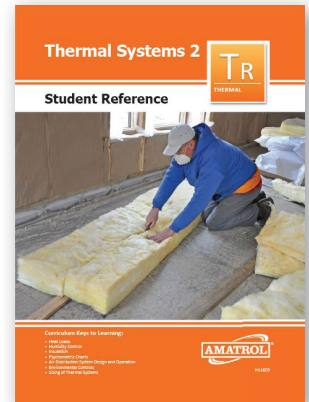
Optional Interactive Multimedia

As an optional alternative to our printed curriculum, Amatrol offers highly interactive multimedia that utilizes text, audio, and stunning 3D animations. As a specific example, learners will complete a load estimating form and then size a heat pump system given an application.

## Thermal Systems Student Reference Guide

A sample copy of the Thermal Systems 2 Student Reference Guide is included with the system for your evaluation. Sourced from the Environmental Applications multimedia curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfect-bound book. Student Reference Guides supplement these courses by providing a condensed, inexpensive reference tool that learners will find invaluable once they finish their training making it the perfect course takeaway.

If you would like to inquire about purchasing additional Student Reference Guides for your program, contact your local Amatrol Representative for more information.



Student Reference Guide

