



*The difference between heat and comfort.*

# SmartRooms™

Thermal Comfort System  
By Therma-Ray

## RADIANT CEILING SYSTEMS

### Features & Benefits

- Superior Heating Comfort. Gentle even temperature from floor to ceiling
- Energy Savings - Dollar for Dollar. the most energy efficient heating system on the market today
- Maintenance free and easy to install
- Motionless, Quiet and completely concealed for decorating freedom
- Healthy — Greatly reduces airborne contaminants and dust
- Precisely controlled in each room and warms people and objects first
- Less ex-filtration of air and heat lost at the ceiling
- Affordable Installation and increases property and resale values
- A fraction of the cost of tubing (hydronic) and Ground Source Heat Pump Systems.
- Safe & Clean - No Combustible or Emissions
- Energy Star Thermostats
- Certified as an Education Provider by the US Green Building Council (USGBC) and the American Institute of Architects (AIA)

“Why would you want to put the heat in the ceiling, because hot air rises”. - That’s the most common response to the idea of an efficient and comfortable heating system in the ceiling. It is true, hot air does indeed rise, but the fact is - a radiant ceiling system works exactly like the sun as it warms the earth. Radiant rays travel in straight lines warming every object, surface and person in the room. A radiant ceiling system is like walking into a room with the sun shining - gently warming the entire room.

For over 25 Years, Therma-Ray has been manufacturing Radiant Ceiling Systems with unparalleled success. The **SmartRooms** Radiant Ceiling Systems consist of a Tefzel insulated conductor wire embedded in one of three ways: In a Gypsum Board, Acoustical Ceiling Tile or in a Metal Housing. The ceiling panels can be installed above sheetrock, in suspended ceiling framework, surface mounted or hung with cables from the ceiling for warehouses and manufacturing areas.

**SmartRooms** radiant ceiling systems are available in 120v, 240v, 208v and 277v models.



Residential



Commercial / Industrial



Garages & Shops

**Perfect for:** Homes, Garages, Sunrooms, Condominiums, Churches, Schools, Apartments, Malls, Commercial / Industrial Buildings, Hotels, Restaurants, Retail Buildings - And Many More .....

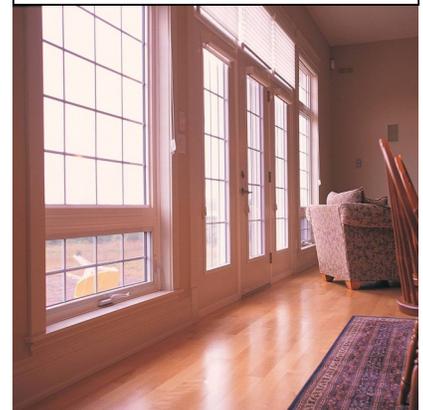
### HOW RADIANT HEAT WORKS

As sure as the sun shines, radiant heat is something with which we are all familiar. Think of the way the world is warmed - a direct transference of heat from object to object, without fans, pumps or hoses - silent, invisible and motionless.

A **SmartRooms** environment works exactly the same way. Unlike conventional heating, our system automatically warms people and objects first, not the air. Just as the sun does, and that’s what makes **SmartRooms** so smart. Radiant rays, like light rays travel in straight lines and radiant rays travel naturally from warmer objects to cooler objects. The cooler surfaces act like magnets to the warmth. **SmartRooms** Ceiling Systems generate this type of heat and comfort.

Warmth is gently radiated to the objects in the room like the walls, floor, furniture and most importantly - “You”.

**SmartRooms** combines the most natural form of heating known to mankind with the latest in comfort technology.



## RADIANT CEILING SYSTEMS



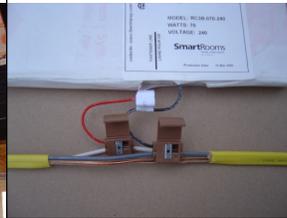
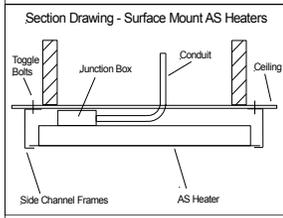


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## INSTALLATION PROCESS

Gypsum Ceiling Panels	Wiring & Testing	Connection Enclosure	Ready for Sheetrock	Comfort & Efficiency
 <p>Plastic strapping is placed along the bottom of the trusses or joists to hold the panels in place.</p> <p>The gypsum ceiling panels come in a variety of wattages and sizes for working around obstructions such as can lights, ceiling fans, etc...</p>	 <p>The heating panels are wired in parallel with 12 Ga. wire and 3M-567 connectors. Wiring should be done by a certified electrician and in accordance with NEC code requirements. A resistance test is done to verify that all the panels are wired correctly and working properly.</p>	 <p>PC-1 Endcaps are used to cover the connections per NEC code requirements.</p> <p>The circuits are wired directly to line voltage thermostats or they can also be wired to a <b>SmartRooms</b> relay control box in conjunction with low voltage thermostats.</p>	 <p>A heat loss should be done to determine the amount of panels needed for each room.</p> <p>A plastic barrier can be placed according to local building codes and then sheetrock added to the ceiling to complete the radiant ceiling system.</p>	 <p>The radiant ceiling system is completely concealed creating an invisible, silent and most importantly comfortable and affordable heating system.</p> <p>Each room can be precisely controlled for even greater savings and individual comfort.</p>
Architectural Series (AS)	Wiring	Install Options	Thermostats & Controls	Comfort & Efficiency
 <p>The AS frames are mounted to the ceiling and then the heaters are placed in the framework. The framework consists of two side channels and two end channels. The Architectural Series (AS) heaters are available in 2' x 2' and 2' x 4' sizes.</p>	 <p>Wiring should be done by a certified electrician and in accordance with NEC code. The AS heaters are wired in series on a circuit using 12 gauge wire. Models available are: 120v, 240v, 208v, and 277v voltages (250 - 750 Watts)</p>	 <p>The framework is 4 inches in height creating a very low profile and slim design.</p> <p>The AS Heaters can also be suspended from the ceiling with cables or chains in high ceiling applications such as in warehouses or manufacturing</p>	 <p>The circuits are wired to the <b>SmartRooms</b> relay control box and then to the service panel. Line voltage thermostats can also be used depending on the load for each area.</p> <p>For even greater savings &amp; comfort, each area or room can be controlled separately.</p>	 <p>The Architectural Series Heaters create a clean, quiet, safe and comfortable working environment.</p> <p>The AS Heaters are energy efficient and very affordable to operate, especially when comparing to a standard forced-air convection system.</p>
Commercial - AS Heaters	Commercial - Acoustical	<b>Manufactured By:</b>		
 <p>AS Heaters are high output heaters designed for high heat loss areas. They can be installed in flush-mount T-Bar framework, providing greater design freedom and comfort. Very energy efficient for primary heating and also for controlling ice &amp; condensation.</p>	 <p>Acoustical (Suspended Ceiling) panels are low wattage heaters that are also installed in flush-mount T-Bar applications. Suspended Ceiling Panels are perfect for offices, schools, basements, etc. providing unsurpassed comfort and freedom of design.</p>	<p>Therma-Ray, Inc.</p> <p>670 Wilsey Road - Fredericton, New Brunswick Canada E3B 7K4</p> <p>(506) 457-4600 / (506) 457-4699 - Fax <a href="http://www.Thermaray.com">www.Thermaray.com</a></p>		
<b>For More Information”</b>				
<p>SmartHeat <a href="http://www.thesmartestheat.com">www.thesmartestheat.com</a></p> <p>Marc Tobin (605) 725-1295 / (800) 656-1291</p> <p><a href="mailto:smartheat@nvc.net">smartheat@nvc.net</a></p>				