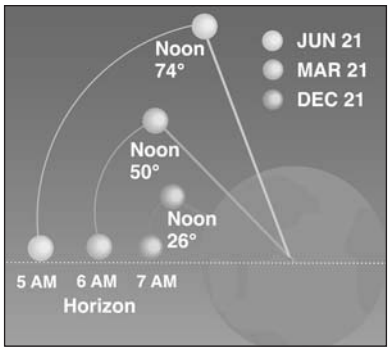
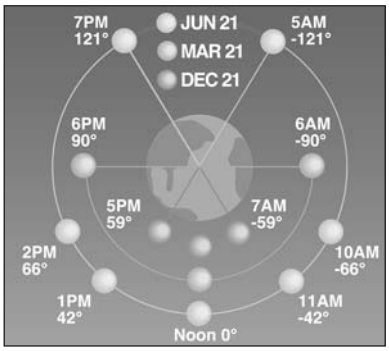
Overview: MechoShade Electronic Control Systems

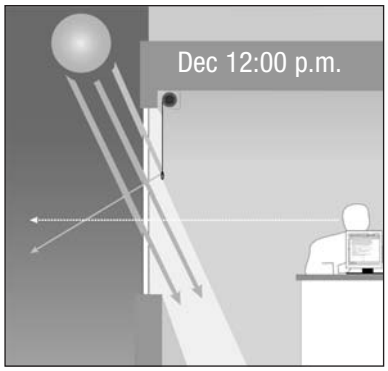
WindowManagement™ with AAC SolarTrac™

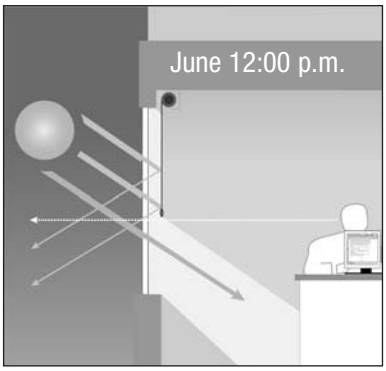
MechoShade's AAC SolarTrac™ System, is a software based control system, designed to automatically adjust the position of the shades incrementally on the window to maximize view and daylight while protecting people and work surfaces from direct sun and excessive brightness and glare. AAC SolarTrac can react to local climactic variables such as sunny or cloudy conditions.





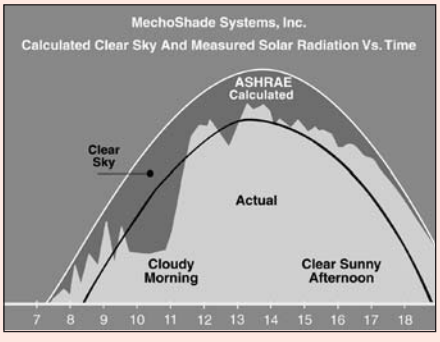
The AAC SolarTrac adjusts shades incrementally on the window in accordance with the solar profile angle and BTU load relative to each zone or orientation.





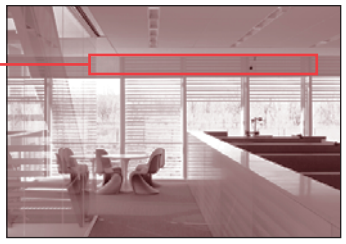
The position of the shades is determined for each zone based on the window geometry, orientation, glazing optical properties, allowable solar penetration, and real-time sky conditions, ie sunny or cloudy. The goal is to provide shading on the window when and where needed, while leaving as much of the window unshaded in order to maximize view and control glare. In other words....total WindowManagement.

Sky Analysis



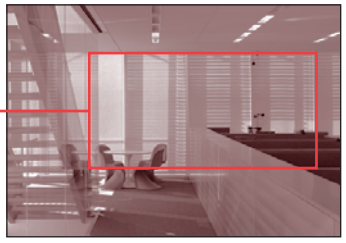
Through the use of three roof mounted solar sensors, AAC SolarTrac compares the actual measured solar radiation (sunshine) vs AHSRAE calculated clear sky radiation. The AAC SolarTrac uses this data to determine “clear” or “cloudy” sky conditions and operates accordingly. If it is determined to be sunny, then the shades move to their proper positions. If cloudy, they would typically be programmed to roll up. Time delays built into the program prevent excess shade movement on days with variable conditions.

2:15



2:40

3:45



At **2:15 p.m.** the AAC SolarTrac has lowered the shades in reaction to the sun's shift to the west elevation. The light dimming system senses enough daylight for the overhead lights to remain off.

At **2:40 p.m.** the sun moves further onto the West elevation, becoming more direct. The AAC SolarTrac lowers the shades to the next position, to control the solar penetration into the work area. The light dimming system continues to keep the lights off due to adequate natural light in the space.

At **3:45 p.m.** the AAC SolarTrac reacts to the solar gain and glare conditions created as the sun sets, by lowering the shades to the maximum down position. The light dimming system has activated some of the lights, while leaving others off, based on the light levels achieved in each area.

For more information on AAC SolarTrac see pages 4.46 – 4.48, 4.50 and 4.55.

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