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Schools regularly install video projectors and monitors to enhance the learning experience, but often overlook the operating cost. It is not uncommon for projectors to remain on overnight or even over an entire weekend. When a projector is operating, it consumes lamp life, energy, and produces additional heat for the HVAC system to remove. A typical projector costs around $324 a year (180 days) to operate and consumes 250 kWh of electricity. If your school district however, has 1000 projectors, then it will annually spend $324,000 and consume 250,214 kWh of electricity solely on projector operation.

In 2007, Lone Star College (LSC) in Houston, Texas installed a TEKVOX TekPatrol™ projector management system for evaluation in one of their classrooms. This system only included a TekMonitor and occupancy sensor to turn off the projector once people left the room. After a test period, LSC concluded that with a managed system, they would save $18.60 on lamp replacement (per lamp) when compared to projectors that were not managed by TekPatrol

After reviewing various types of mediated classroom systems, LSC decided to install over 250 classrooms throughout their various campuses using the TEK CMC-3 Classroom Media Center package. With this package, each mediated classroom has the ability to display multiple HDMI, VGA, Component, and Video sources as well as addressing energy consumption by using the occupancy sensor to turn off projectors and lights. Included in this package were two lighting power packs to control the lights. The lights were split into front and rear zones and controlled by the occupancy sensor and projector power. When the projector is turned on, the front lights go off, and when the projector goes off, the front lights go back on. All of this was easily controlled by our TekKeypad 8, eight button keypad.

Utilizing an occupancy sensor and two zones of lights is beneficial. This allows students to see the screen without it being washed out by the lights and the projector can operate at its lower lamp level. Using the lower lamp level of a projector can add 30% to the life of the lamp and projector. Energy saved by turning off the front lights offsets the energy consumed by the projector. Automatically turning off the lights and projector when people leave the room reduces energy consumption and increases the lamp life of the projector.

To illustrate the cost and energy savings we have created a Return On Investment and Energy Calculator. This calculator allows you to enter the number of projectors your school has and change multiple settings to match a typical classroom situation. Below is an illustration of just how much you can save if your school has 1000 projectors installed.

Calculations

	Cost To Operate	kWh Used						
Cost to Operate the Projectors With No Control Per Year:	$32,388.86	25,021	kWh					
Cost to Operate the Lights With No Control Per Year:	$45,435.60	454,356	kWh					
Cost to Operate the Projectors and Lights With No Control Per Year:	$77,824.46	479,377	kWh					

TekPatrol

	Cost To Operate	kWh Used		Dollars Saved	kWh Saved		% Savings
Cost to Operate the Projectors With TekPatrol Per Year:	$18,360.00	19,440	kWh	$14,028.86	5,581	kWh	43.31%
Cost to Operate the Lights With TekPatrol Per Year:	$27,216.00	272,160	kWh	$18,219.60	182,196	kWh	40.10%
Cost to Operate the Projectors and Lights With TekPatrol Per Year:	$45,576.00	291,600	kWh	$32,248.46	187,777	kWh	41.44%

Return On Investment 2.48 Years

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This calculator can be found on our website at www.tekvox.com