TEKVOX

TEK 1 Applications

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Applications

TekMonitors are not programmed like other control systems using a program language; they are configured using a PC application called TekWizard. With some IT experience an installer is able to configure a TekMonitor by following the step-by-step guide in TekWizard. Although there is no programming, TekWizard does provide for some logic operations in the creation of macros. A macro is just a list of commands executed by a logic input, software, user or time event. A macro is basically a group of commands to provide simple automation.

The Logic Inputs generate two types of events that are linked to macros. These input events occur when the input goes high (open circuit) or low (connection to ground).

These applications provide the system integrator with some concepts of how to apply the TEK 1. Within TekWizard are templates that coincide with these applications.

TEK 1 Applications

- Standard Projector Connection
- 12 volt Security Alarm
- Miniature 24 volt Security Alarm
- Occupancy Detection and Lighting
- Occupancy Detection, Lighting Control and Miniature Alarm
- Occupancy Detection, Lighting and Screen Control
- IR Control

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Standard Projector Connection

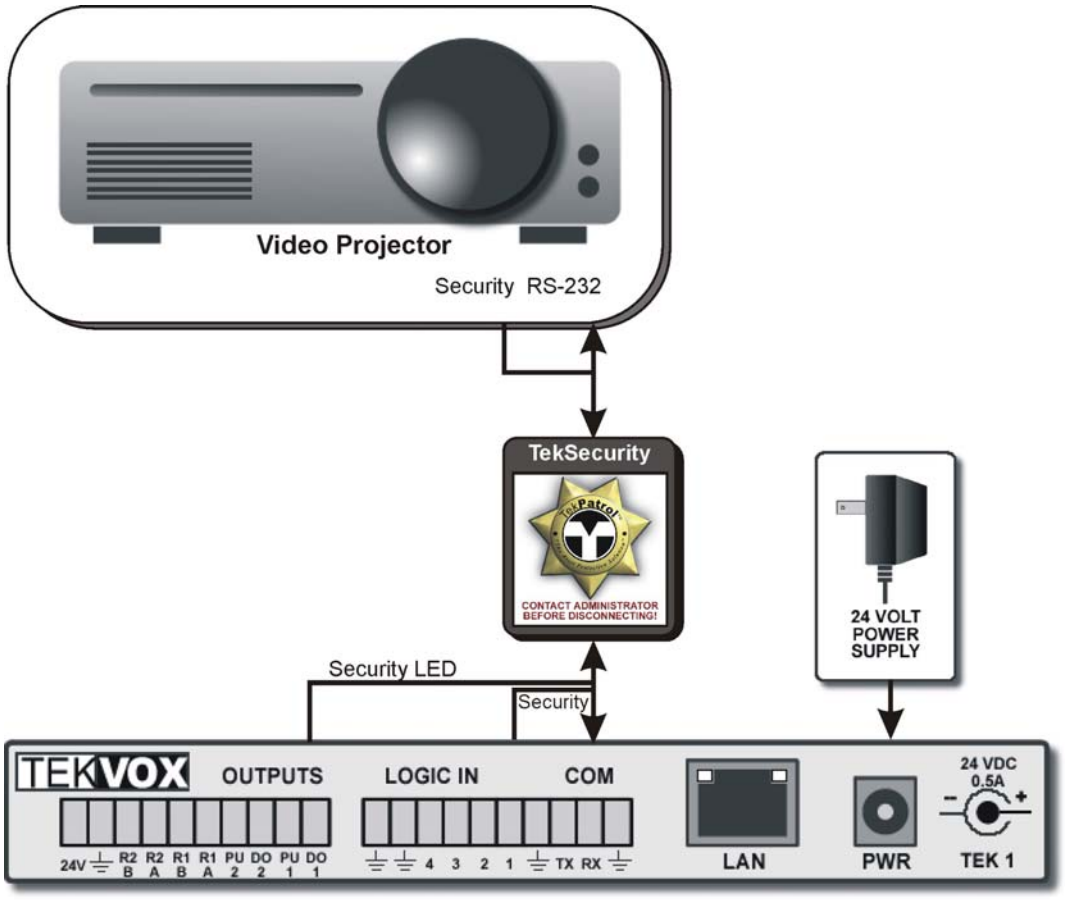
TekWizard Template: TekVox – Standard

In a standard configuration a TEK 1 is used to control, monitor and provide security for a video projector or large screen display. The TEK 1 is installed in the ceiling and a control cable is installed between the TEK 1 and the TekSecurity warning indicator. TekSecurity is installed on the projector and a short control cable is installed between TekSecurity and the display device.

Installing TekSecurity on the video projector adds a theft deterrent by flashing a Red LED on the TekPatrol Security Logo when security is enabled. This indicator also lets a service technician know that the projector is under security and to disable security before working on it.

Features

- Internal timers for Lamp, Maintenance, Monthly Usage, Total Usage and System Off
- Detects cut cables for device security (Reports by Email)
- Email Reports including Device Errors, Monthly Usage and Security Email



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12 volt Security Alarm

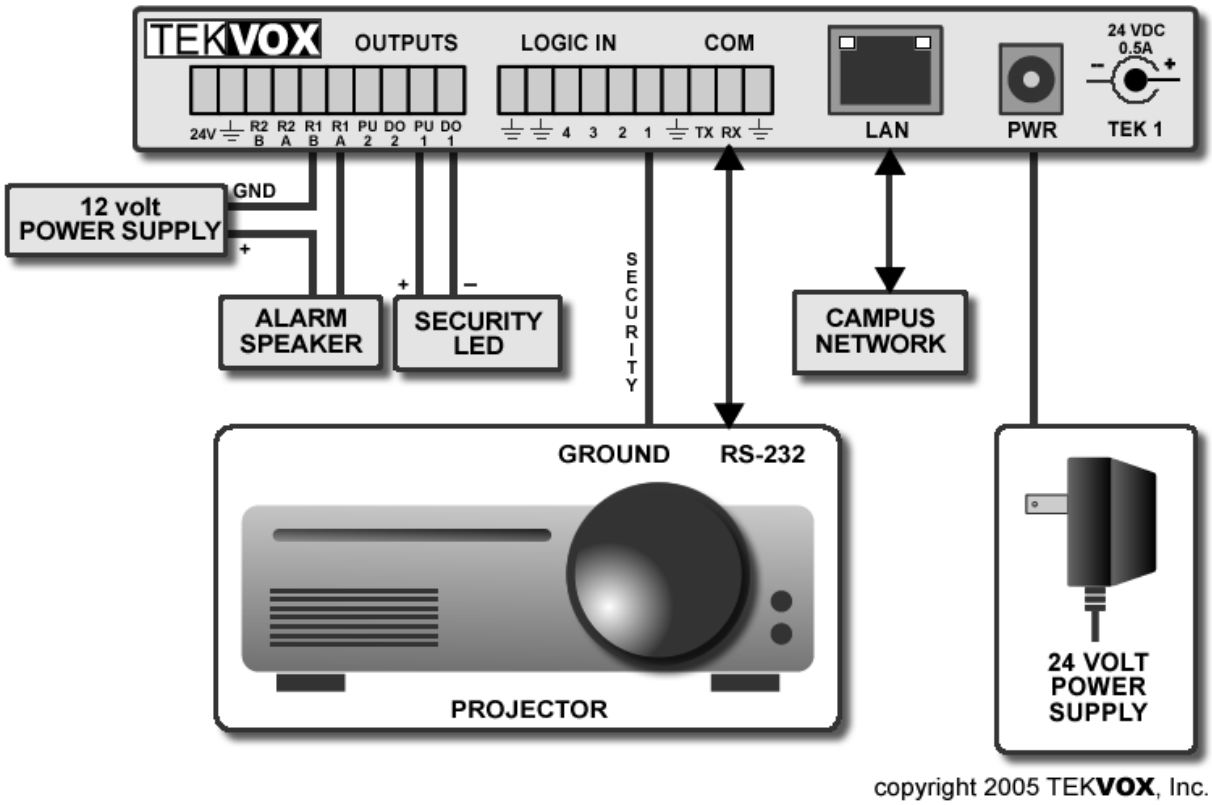
TekWizard Template: TekVox – 12V Alarm

Adding an alarm to a TEK 1 provides extra security for a video projector in a classroom. Most alarms operate on 12 volts and draw about 500 milliamps. For these types of alarms use a separate 12 volt power supply and one of the TEK 1 relays to operate the alarm.

Other devices like the room's PC and monitor can also be protected by TEK 1. This is accomplished by looping a security wire from one of the unused Logic Inputs on the TEK 1, through the PC and monitor, and then back to ground on the TEK 1. For someone to remove any of these monitored items they must first cut the security wire. Cutting the security wire removes the ground from the monitored input causing an alarm event macro to be executed.

Features

- Internal timers for Lamp, Maintenance, Monthly Usage, Total Usage and System Off
- Detects cut cables for device security
- Email Reports including Device Errors, Monthly Usage and Security Email
- Enables an alarm if the security cable is cut



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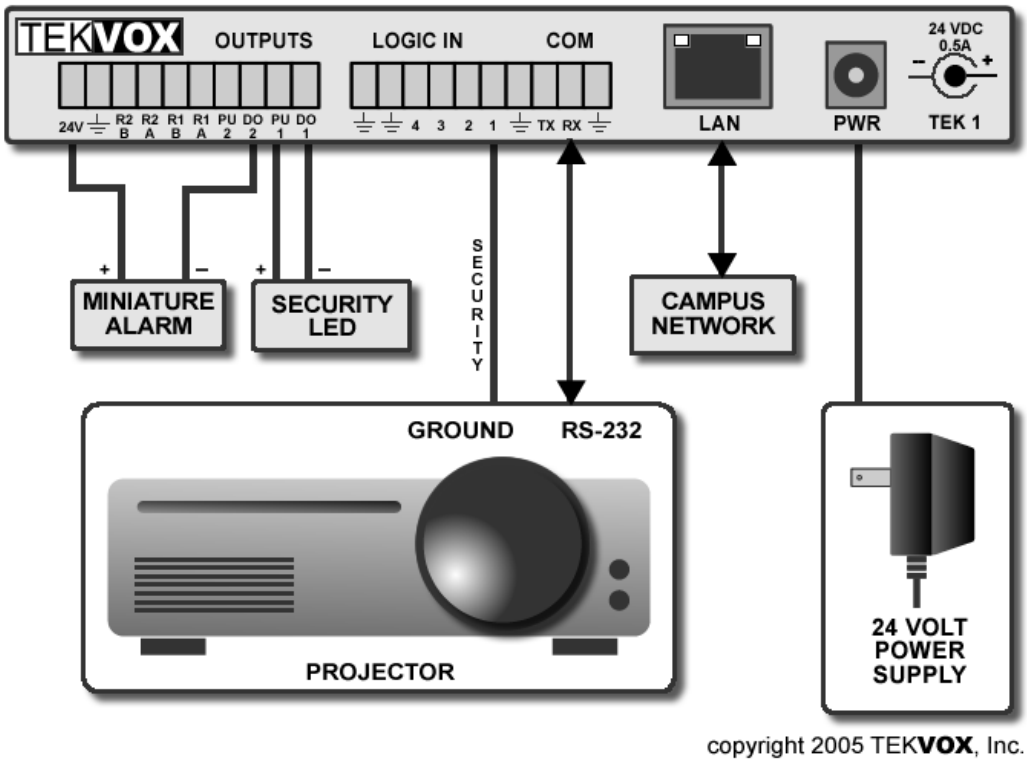
Miniature 24 volt Security Alarm

TekWizard Template: TekVox – 24V Alarm

TekVox offers a miniature 24 volt alarm that can operate from the second Digital Output (DO 2). This alarm operates with the same power supply powering the TEK 1.

Features

- Internal timers for Lamp, Maintenance, Monthly Usage, Total Usage and System Off
- Detects cut cables for device security
- Email Reports including Device Errors, Monthly Usage and Security Email
- Enables an alarm if the security cable is cut



TEK 1 with Occupancy Detection and Lighting Control

TekWizard Template: TekVox - Occupancy1

Occupancy detection for lighting has become a required device in most new installations. To improve the performance and operation of the lighting control, the TEK 1 has the ability to interface with an occupancy detector and lighting controls. When motion is detected, the occupancy detector triggers a high event on Input 2 of the TEK 1. Once motion is no longer detected, the occupancy detector triggers a low event on this input.

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Macros

Motion –
If System Power is On - The system off countdown timer is stopped and reset.
If System On is Off - The lights go on.

No Motion –
If System Power is On - The system off countdown timer runs. If this timer reaches zero, a system off Macro is called, shutting down the system.
If System Power is Off - The lights go off.

A 2K ¼ watt resistor is used to create an off state for the occupancy detector. When the occupancy detector is off, its output floats causing the TEK 1 to think it is on. Placing this resistor between the input and ground creates an off state for the occupancy detector.

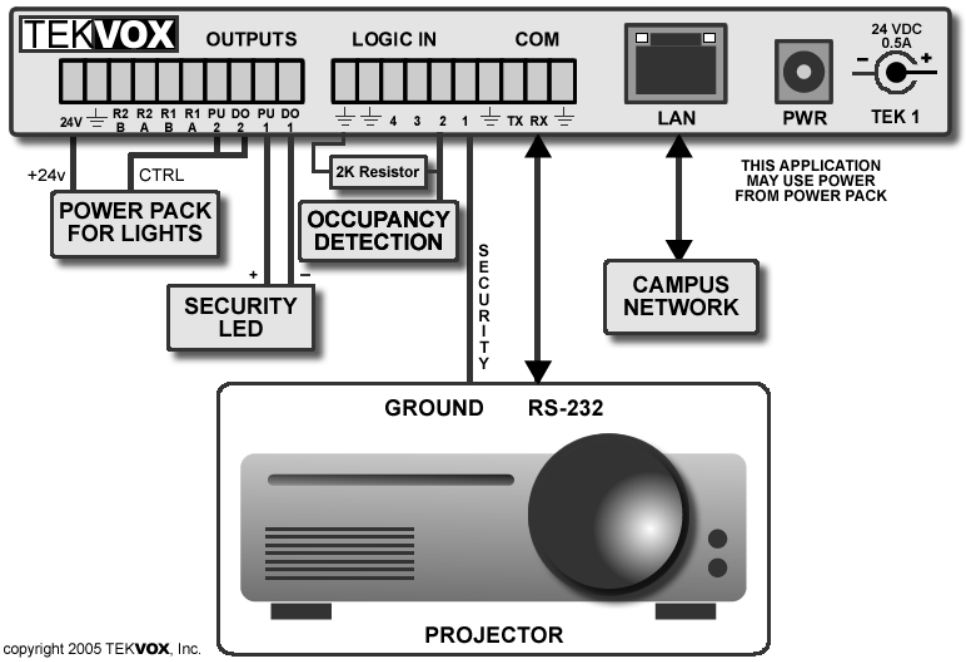
If the TekControl software is running on the room's PC, a message can be displayed that the system is about ready to shut down. This allows the user to reset the system timer from the PC. Lights can also be controlled by the user from the PC.

This method of controlling the lights from the TEK 1 solves the problem with the lights automatically shutting off when there are only a few people in the room. Also, the TEK 1 can power off other devices when no one is in the room, thereby saving energy and extending the bulb life of a video projector

Note that when using a Digital Output to control a lighting power pack, the logic is reversed. This means when power is first applied to the TEK 1 the Digital Output is in an open state, causing the pull-up resistor to supply current to turn on the power pack. Once the TEK 1 is running, a command is issued to turn on this output causing the power pack to go off. Using a relay solves this problem.

Features

- Internal timers for Lamp, Maintenance, Monthly Usage, Total Usage and System Off
- Detects cut cables for device security
- Email Reports including Device Errors, Monthly Usage and Security Email
- Detects movement to automatically power on and off lights
- Detects the lack of movement to automatically shut down the system



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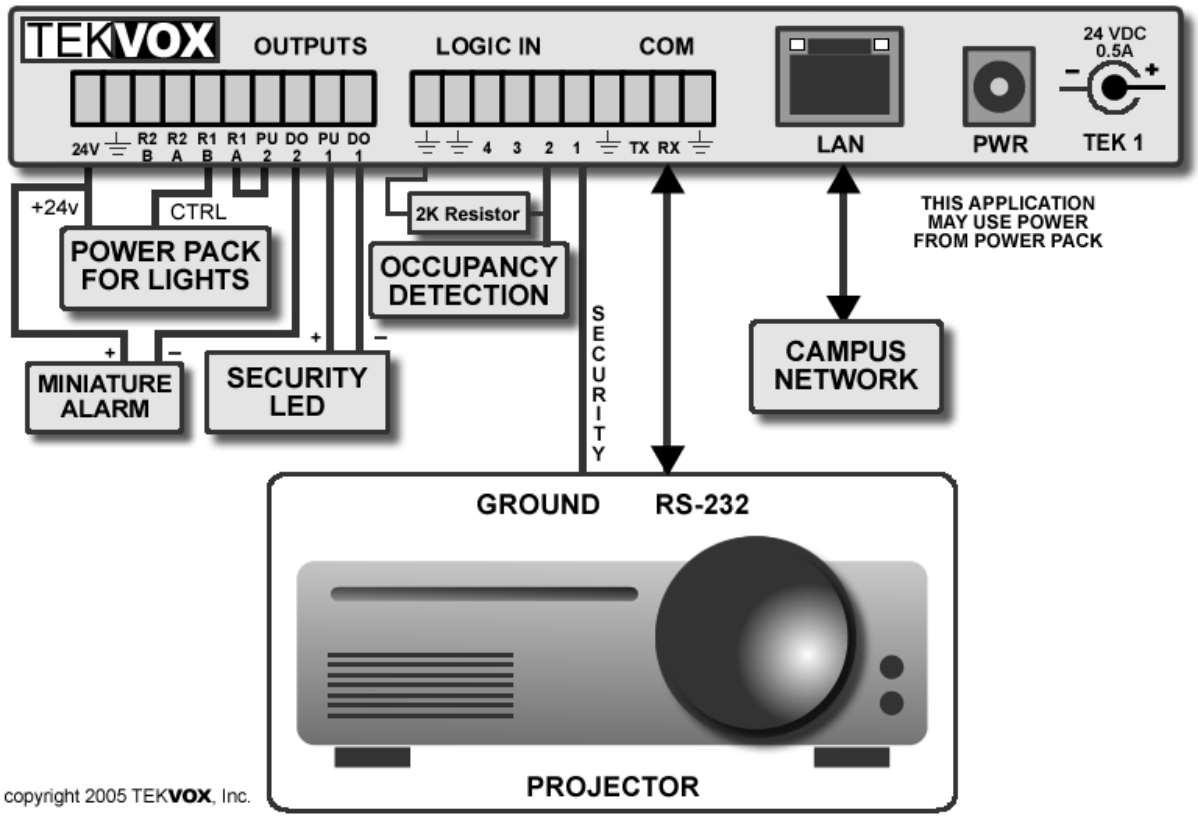
Occupancy Detection, Lighting Control and Miniature Alarm

TekWizard Template: TekVox – Occupancy2

As mentioned above the TEK 1 has the ability to operate with an occupancy detector. Since there is an extra logic output, a miniature alarm can be added to the TEK 1.

Features

- Internal timers for Lamp, Maintenance, Monthly Usage, Total Usage and System Off
- Detects cut cables for device security
- Email Reports including Device Errors, Monthly Usage and Security Email
- Detects movement to automatically power lights on and off
- Detects the lack of movement to automatically shut down the system
- Enables an alarm if the security cable is cut



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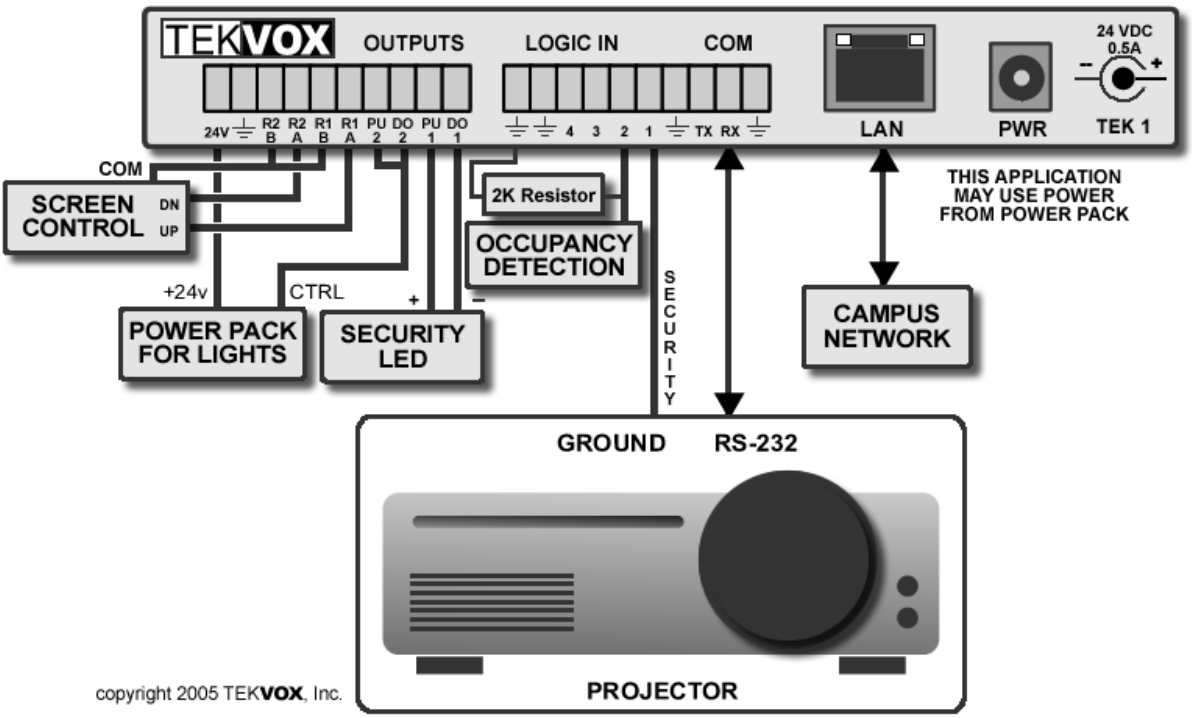
Occupancy Detection, Lighting and Screen Control

TekWizard Template: TekVox – Occupancy3

As mentioned above the TEK 1 has the ability to operate with an occupancy detector. Since there are two relays on the TEK 1, it is possible to control a projection screen or raise and lower a projector lift.

Features

- Internal timers for Lamp, Maintenance, Monthly Usage, Total Usage and System Off
- Detects cut cables for device security
- Email Reports including Device Errors, Monthly Usage and Security Email
- Detects movement to automatically power lights on and off
- Detects the lack of movement to automatically shut down the system
- Controls other items like projection screens and projector lifts



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IR Control

In some installations the display device only has IR control. For these types of installations the TEK 1 is not able to communicate directly with the device. With a few add-on products the TEK 1 can monitor and control these types of devices. Below are some suggested add-on type devices and how to use them with the TEK 1.

It may not be necessary to control the projector. The projector may already be controlled by an IR device. For these installations all that is required is to determine if the projector is on or off by using only a power current sensor.

By adding a power current sensor at the display device the TEK 1 can determine if the device is powered on. Once the TEK 1 knows the device is on, the internal lamp and maintenance timers within the TEK 1 are operable.

Power Current Sensor

- AMX PCS
- Display Devices PCS-02

To control the display device add a programmable RS-232 to IR. The TEK 1 can then be programmed to communicate with the IR module.

Programmable RS-232 to IR module

- Xantech RS232IR Module

For security monitoring use the TekSecurity cable and connect the Security connection to a ground connection on the display device.

Features

- Internal timers for Lamp, Maintenance, Monthly Usage, Total Usage and System Off
- Detects cut cables for device security (Reports by Email)
- Email Reports including Device Errors, Monthly Usage and Security Email
- Allows for IR only controlled devices
- Determines if the monitored device is actually powered on