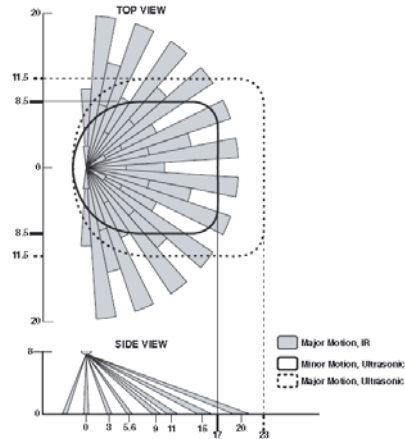




### Small Room Occupancy Sensor

This sensor provides a unidirectional pattern to eliminate the possible detection of someone walking by the door. Even if the door is closed an occupancy sensor is able to pickup movement through glass. This sensor can cover 500 sq. ft. and should be mounted near the door or at least ten feet away from and pointing towards the major movement or instructor in the room. See Warnings and Cautions below.

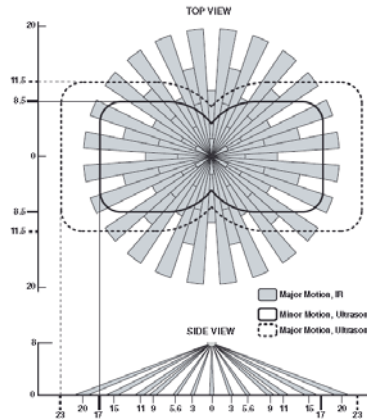


### Specifications

TEKVOX Part Number .....	78002
Multi-Technology .....	Uses both IR and Ultrasonic sensors
Coverage.....	180° 500 Sq. Ft.
Transducer Pairs.....	1
Frequency .....	40 kHz
Housing .....	Rugged, high-impact, injection molded plastic.
Size & Weight: .....	4.5" dia., 1.5" height; 5 oz. (114 mm dia., 38 mm height; 142 g).
Color.....	White
Power Requirements.....	24 VDC, 30 mA
Output.....	24 VDC Active High
Operating Environment .....	32°F to 104°F (0°C to 40°C); 0% to 95% relative humidity, non-condensing.

### Large Room Occupancy Sensor

This sensor provides a bidirectional pattern to cover a larger area. This sensor can cover 1000 sq. ft. and should be mounted near the center of the room. The sensor should not be pointed towards the door. Even if the door is closed an occupancy sensor is able to pickup movement through glass. See Warnings and Cautions.



### Specifications

TEKVOX Part Number .....	78003
Multi-Technology .....	Uses both IR and Ultrasonic sensors
Coverage .....	360° 1000 Sq. Ft.
Transducer Pairs .....	2
Frequency .....	40 kHz
Housing .....	Rugged, high-impact, injection molded plastic.
Size & Weight: .....	4.5" dia., 1.5" height; 5 oz. (114 mm dia., 38 mm height; 142 g).
Color .....	White
Power Requirements .....	24 VDC, 40 mA
Output .....	24 VDC Active High
Operating Environment .....	32°F to 104°F (0°C to 40°C); 0% to 95% relative humidity, non-condensing.

### WARNINGS AND CAUTIONS:

For indoor use only

- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, consult a qualified electrician.
- Sensors must be mounted on a vibration free surface.
- All sensors must be mounted at least 6 feet away from air vents.
- Do not mount sensors closer than 10 feet from each other.
- Do not touch the surface of the lens. Clean outer surface with a damp cloth only.



## General Operation

Occupancy sensors have two tasks: keeping the video projector on while the room is occupied and, conversely turning the video projector off when unoccupied. Ultrasonic (Doppler shift) motion detection gives maximum sensitivity yet can be vulnerable to false triggering from air conditioning currents, corridor activity and movement of inanimate objects. Infrared motion sensing gives immunity to false triggering, but lacks sensitivity at greater distances. Multi-technology sensors combine the benefits of both infrared and ultrasonic technologies for unrivaled performance and reliability.

Upon entry into a room, the infrared detects motion and enables the occupancy sensor. If lights are controlled, the TEK 1 turns on the lights. Once the occupancy sensor is enabled by infrared motion, both the ultrasonic and infrared sensors keep the occupancy sensor timer and TEK 1's system off timer active. When the occupancy sensor no longer detects motion, the lights go off and the TEK 1 starts its system off countdown timer. If this timer reaches 0 the video projector is turned off.

*A dedicated internal microprocessor continually analyzes the room environment and adjusts itself automatically. The internal timer and ultrasonic sensitivity are automatically adjusted. Once installed, the occupancy sensor does not require manual adjustment or calibration.*

## How the Occupancy Sensor Automatically Adapts

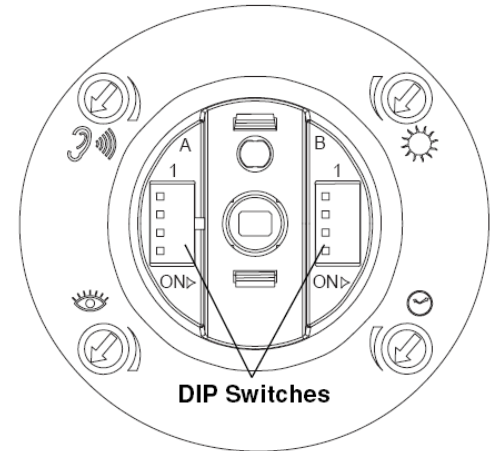
Condition	Example	Adaptive Reaction
Timer Left In Test Mode – The sensor remains in a 6 sec test mode.	An installer accidentally leaves the sensor in the 6 sec. timer test mode and the lights may go off or on every 6 sec.	The sensor automatically resets the timer to 10 min after 15 .min of test mode.
False-On - The sensor incorrectly turns the lights on.	The sensor detects movement in the corridor or hallway and the room lights turn on.	After an initial movement is sensed, if another movement is not sensed within the timer setting then the delayed off time setting is automatically reduced.
False-Off - The sensor incorrectly turns the lights off.	The sensor does not detect movement because an occupant sits virtually motionless at a desk and the lights turn off.	If motion is sensed within a short period after the lights go off, then the current delayed off-time setting is increased



### Controls

#### DIP switch settings

Switch	Bank A	Switch Functions	Switch Settings
	<b>Bank A</b>	<b>OFF</b>	<b>ON</b>
A1	Single/Multi-Tech Mode	Multi-Tech	Single Tech
A2	PIR/Ultrasonic Mode	PIR	Ultrasonic
A3	Manual Mode	Auto Adapting Enabled	Auto Adapting Disabled
A4	Walk-Thru Disable	Walk-Thru Enabled	Walk-Thru Disabled
	<b>Bank B</b>	<b>OFF</b>	<b>ON</b>
B1	Override to On	Auto Mode	Lights forced On
B2	Override to Off	Auto Mode	Lights forced Off
B3	Test Mode OFF	_ON_OFF	Enter/Exit Test Mode
B4	LED Disable LEDS	Enabled	LEDS Disabled



DIP Switches

#### LEDs

Green – Ultrasonic detection  
Red – Infrared detection

#### Adjustments

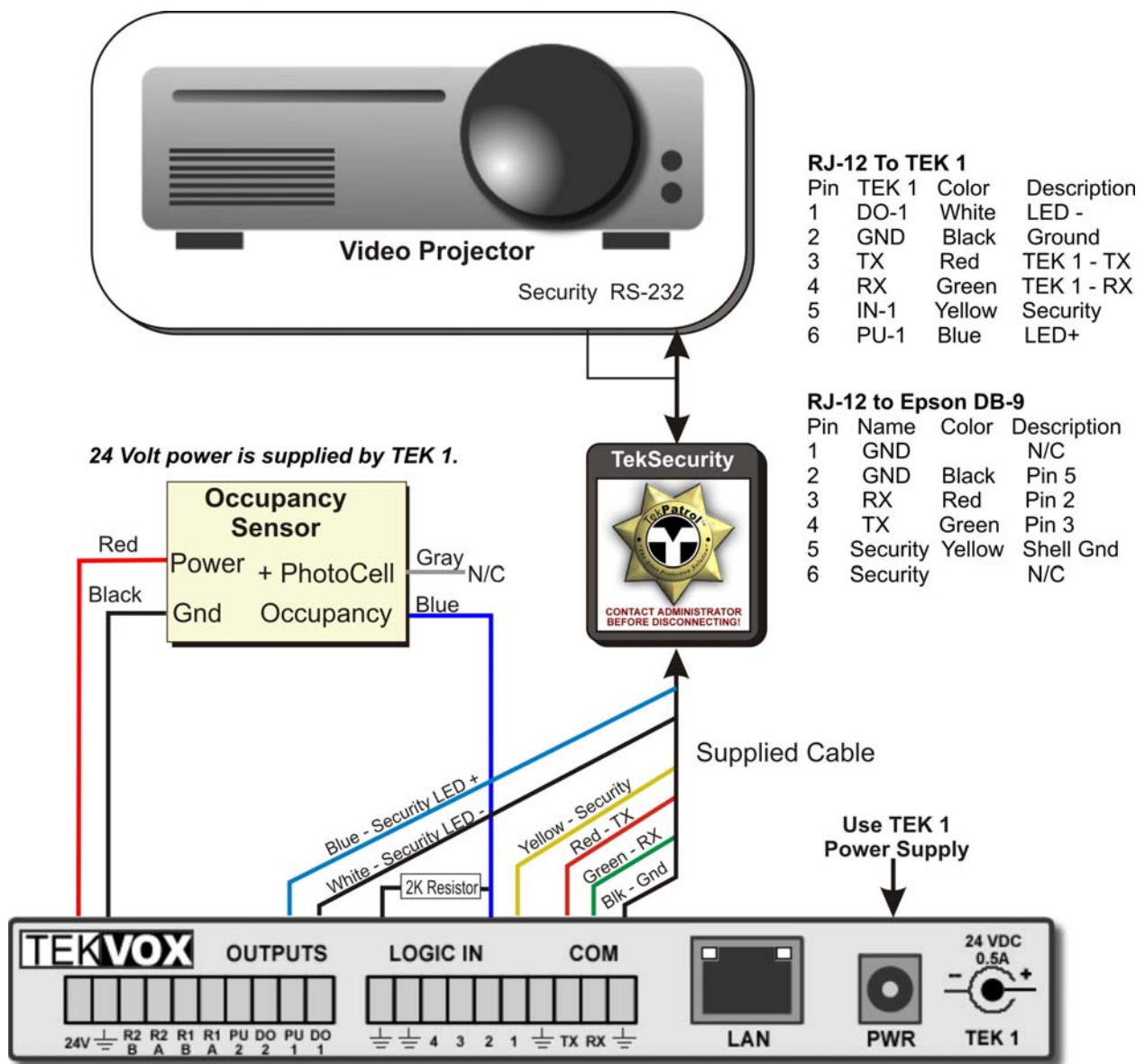
Knob Color: Control	Function	Automatic Operation	Conditions Analyzed in Automatic Operation	Knob Setting Under Manual Operation**	Recommended Manual Setting
Green: Ultrasonic Sensitivity	Sets the ultrasonic range	Sensor analyzes room and sets sensitivity to optimal setting	Air currents False-on occurrences False-off "	Linear range setting Full CCW = min (off) Full CW = max range	50%
Red: Infrared Sensitivity	Sets the infrared range	Same as above	Room (surface) temp Lens dirt Signal to noise ratio	Same as above	75%
Black: Timer	Sets the length of time lights will remain on after last motion is sensed	Timer setting generally increased during learning period, then decreases to minimize "on" time	False-off occurrences Error free operation decreases the timer setting	Linear range setting Full CCW = min Full CW = max (30 min.)	33% 10 min.
Blue: Photocell	Sets level of daylight needed to prevent the lights from turning on	No automatic operation	N/A	Linear range setting Full CCW = min daylight Full CW = max (off)	Off unless used



### Wiring Diagrams

The output control of the occupancy sensor is typically connected to a power pack which is used to control the room lights. This output produces 24 volts when motion is detected. Once the occupancy sensor times out, the output control becomes an open circuit. To interface the occupancy sensor to a logic input on the TEK 1 a 2000 ohm ¼ watt resistor must be installed between the blue wire of the occupancy sensor and ground. This resistor is supplied with the TEKVOX occupancy sensor. When using an occupancy sensor with the TEK 1, the 24 Volt power is supplied by the TEK 1. If a Lighting power pack is used, the Power Pack can be used to power the TEK 1.

### Without Lighting Control or Power Pack



### With Lighting Control and Power Pack

