

## ELK-960 Delay Timer

An economical adjustable time delay relay suitable for hundreds of applications. It features 12 or 24 Vdc operation, and can be configured for delayed turn-on, delayed turn-off, pulsating on/off, or single one-shot activation. Delay time is adjustable from 1 second to 60 minutes.

## ELK-965 Low Battery Cutoff and Power Switch

Designed to work with virtually any 12 Volt control panel or power supply. The convenient power switch permits the installer or user to disconnect both the battery and AC power for servicing or emergencies. Automatically disconnects the battery during an extended power outage if the voltage falls below 9 Vdc.

## ELK-998 Alarm Decals

Bright-colorful self adhesive vinyl decals that provide additional visual deterrent against robberies and break-ins. Manufactured using the finest quality UV resistant vinyl material and fade resistant inks. They are weather resistant and can be mounted to virtually any smooth wood, metal, or glass surface.

## ELK-999 Double Sided Foam Mounting Tape

Closed cell foam tape features an aggressive permanent adhesive on both sides. It may be used in place of mechanical fasteners to mount circuit boards and other devices. The 1/4 " thick foam is flexible and conforms to irregular surfaces. Packed in reusable poly storage box in pre-cut 1/2" x 1-1/2" pieces.

## ELK-800 Telephone Paging Amplifier

Compact audio amplifier for telephone paging, PA, and alarm annunciation. It can be centrally or remotely installed and saves money by requiring only 22-24 gauge telco or alarm type wire. It operates on 16.5 to 24 Volts AC or DC and has a built-in volume adjust. The output is short circuit protected and is capable of driving multiple speakers.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1) Reorient or relocate the receiving antenna. 2) Increase the separation between the equipment and receiver. 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. 4) Consult the dealer or an experienced radio/TV technician for help.

# Alarm Output Director ELK-941

## FEATURES

- Separates Steady and Pulsing Voltage From a Single Alarm Output and Directs This Into Two (2) Different Relay Outputs
- Positive or Neg. Low Current Trigger
- Two (2) SPDT Relay Outputs
- Ideal For Two (2) Channel Long Range Radio or Cellular Transmitters
- Option For Temporal Pulse On Relay 2
- Low Current Output During Delay Time
- LED Indication of Relay Status

## SPECIFICATIONS

- Operating Voltage: 12Vdc
- Input Trigger Voltage: 9 - 14Vdc
- Input Trigger Current: 15 mA
- Max. Current: 96mA (both relays on)
- Relay Contact Rating: 7A @ 30Vdc
- Valid Pulse Width: .1 - 4 sec. (.125-6hz)
- Size: 4.4" x 3" x 1.15"
- Meets ANSI S3.41 Audible Emergency Evacuation Signals 3-Pulse Pattern

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# Alarm Output Director ELK-941



## APPLICATION

The **ELK-941 Alarm Output Director** separates the steady and pulsing voltage from a single alarm output and directs this into two (2) different relay outputs. This is ideal for activating a two channel long-range radio or cellular transmitter, a two channel siren, strobe light, or existing bell from the single alarm outputs found in most control panels. A steady voltage input activates Relay 1 (typical for burglary) while a pulsing voltage input activates Relay 2 (typical for fire). A 3 to 4 second verification delay time occurs before the relays activate. Either relay can be set to ignore the delay time and provide an immediate output for installations requiring a siren or bell test. A separate output is available for triggering a low current sounder or LED during the delay time. An optional jumper configures Relay 2 to pulse in a temporal-code pattern which meets **ANSI Standard S3.41**. The input trigger to the **ELK-941** can be either positive or negative (pull to ground).

## OVERVIEW

The **ELK-941** separates the steady and pulsing voltage from a single alarm output and directs this into two (2) different relay outputs. Steady and pulsing voltage logic is available from most controls that provide only a single alarm output. The relays on the **ELK-941** are activated according to the trigger input, following a 3 to 4 second verification time delay. Relay 1 will activate if a steady input is verified, or Relay 2 will activate if a pulsing input is verified.

### INPUT CONNECTIONS

- [+12V]** Connect to the positive (+) side of a 12Vdc power source. Nominal operating range is 9 to 14Vdc.
- [- GND]** Connect to the negative (-) side of a 12 Vdc power source.
- [TRG]** A positive 9 to 14 Volt DC input or a neg. (pull to ground) to this terminal will activate the **ELK-941**. **The polarity of the trigger voltage must be selected using jumper J3.** The input trigger can be from a control panel's single alarm output, or from another source such as an automation controller/timer, a simple pushbutton switch, etc.

### OUTPUT CONNECTIONS

- [-P]** "Pre-activation" Output (30mA MAX). This is active immediately following the application of a trigger input for 3 to 4 seconds while the **ELK-941** verifies whether the input is steady or pulsing. ***Upon determination of steady or pulse, the appropriate relay will activate and this output will cease.*** Note: If the trigger input is pulsing, this output will also pulse.
- [NO]** Relay 1 Normally Open contact. This terminal is connected with the COM terminal whenever the relay is ON (activated).
- [COM]** Relay 1 Common contact. This "pole" or switching part of the relay is connected to the N/O terminal when the relay is ON (activated), and to the N/C terminal when the relay is OFF (at rest).
- [NC]** Relay 1 Normally Closed contact. This terminal is connected with the COM terminal whenever the relay is OFF (at rest).
- [NO]** Relay 2 Normally Open contact. This terminal is connected with the COM terminal whenever the relay is ON (activated).
- [COM]** Relay 2 Common contact. This "pole" or switching part of the relay is connected to the N/O terminal when the relay is ON (activated), and to the N/C terminal when the relay is OFF (at rest).
- [NC]** Relay 2 Normally Closed contact. This terminal is connected with the COM terminal whenever the relay is OFF (at rest).

## Optional Jumper Descriptions

### J1 RELAY MODE

**TEMPORAL:** In the TEMPORAL position, Relay 2 will be switched on and off in a 3 pulse pattern (3 half-second pulses followed by a 1-1/2 second pause) whenever a pulsing input is detected. This setting has no effect on Relay 1 (it will always be steady).

**STEADY:** In the STEADY mode, Relay 2 will be steady (solid) when a pulsing input is detected.

**IMPORTANT NOTE:** With Jumper **J1** in the STEADY position, the **ELK-941** will provide dual mode latch, whereby if a steady input activation is followed by a pulsing input or visa-versa, both relays will activate and stay on until the trigger input is completely removed. If the **ELK-941** is used to activate a long range radio or other communications device, this feature prevents restoral signals from being transmitted until both conditions are resolved.

### J2 IMMEDIATE OUTPUT

When an input trigger is first applied, the **ELK-941** requires a 3 to 4 second verification time delay to determine if the input is steady or pulsing. If a siren is connected, it may be desirable to immediately activate one of the relays during this delay time. Such uses include closing ring-back, siren test upon arming, etc. Jumper **J2** selects which relay will activate (if any) during this time. If Relay 1 or 2 is selected for immediate output, the selected relay will "follow" the trigger. ie: If the trigger is steady, the relay will be steady. If the input is pulsing, the relay will pulse. Once the **ELK-941** has verified what type of input is being applied, the appropriate relay will then be activated (which may or may not be the same relay that was selected for immediate output).

**RELAY 1:** With the jumper in this position Relay 1 will turn on during the verification time delay.

**RELAY 2:** With the jumper in this position Relay 2 will turn on during the verification time delay.

**OFF:** With the jumper in this position neither Relay will turn on during the verification time delay.

**Note:** The **-P** terminal can be used to trigger a piezo or other low current device for audible or visual needs. If the trigger input is pulsing, this output will also pulse. The position of jumper **J2** has no effect on the **-P** terminal.

### J3 TRG (Trigger Polarity)

This jumper bar is used to set the proper input trigger polarity.

- +** Set **J3** to "+" if the ELK-941 will be triggered by a positive voltage input.
- Set **J3** to "-" if the ELK-941 will be triggered by a negative (pull to ground).

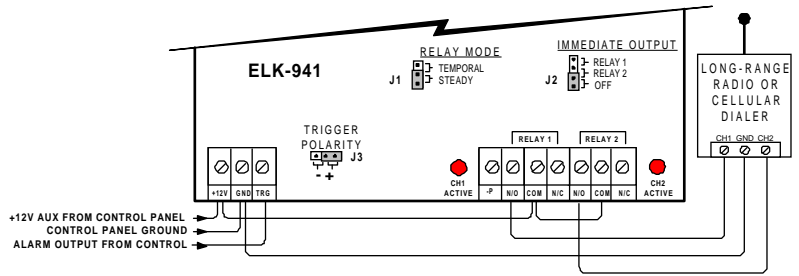
# APPLICATIONS AND WIRING DIAGRAMS

## Long-Range Radio or Cellular Transmitter Interface

### Jumper Settings

- J1 = STEADY** - Output of Relay 2 is steady. If both a steady and pulsing input is detected, the dual-mode latch keeps both relays on until input trigger is removed.
- J2 = OFF** - No Immediate Alarm output from either relay.
- J3 = +/-** - Depends on polarity of control's alarm output.

As shown, this hookup is used to activate two channels on a long-range radio or cellular transmitter. Relay 1 activates on steady input; Relay 2 activates on pulsing input. Both relays will stay on until trigger input is removed if both a steady and pulsing input is detected. (Dual mode latch)



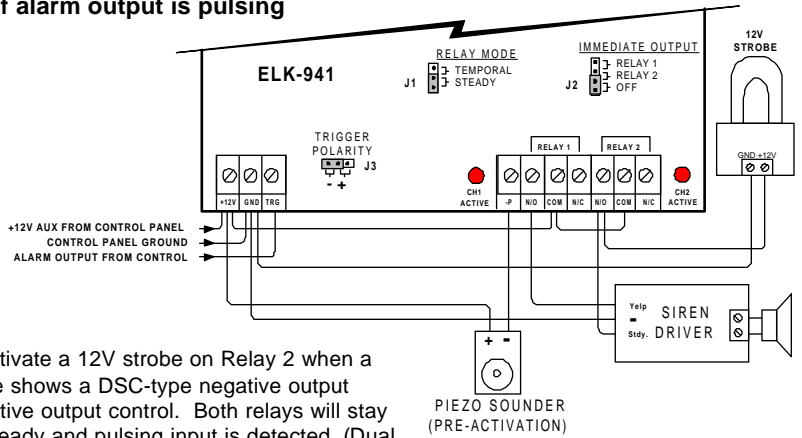
## Siren and Strobe Light activation from negative polarity alarm output

Strobe light will only activate if alarm output is pulsing

### Jumper Settings

- J1 = STEADY** - Output of Relay 2 is steady. If both a steady and pulsing input is detected, the dual mode latch keeps both relays on until input trigger is removed.
- J2 = OFF** - No Immediate Alarm output on either channel.
- J3 = "-"** - Negative polarity alarm output (DSC type control).

As shown, this hookup is used to activate a 12V strobe on Relay 2 when a pulsing output is detected. Example shows a DSC-type negative output control. Both relays will stay on until input is removed if both a steady and pulsing input is detected. (Dual mode latch) Note: The 12V Aux output must be capable of supplying enough current to drive the strobe and the siren driver.

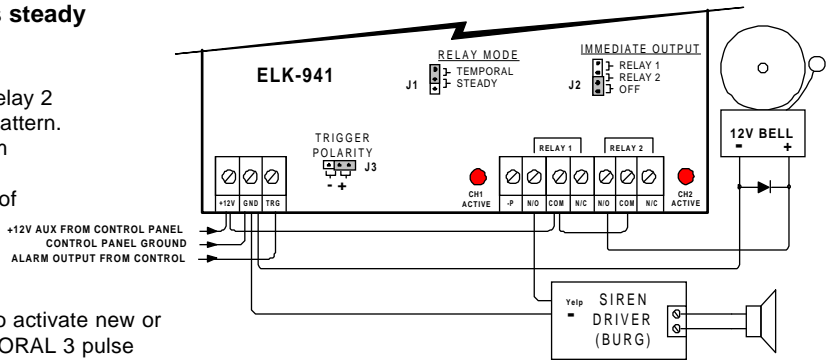


## Temporal coded bell from pulsing alarm output, Siren activation if alarm output is steady

### Jumper Settings

- J1 = TEMPORAL** - Output of Relay 2 will be Temporal 3 pulse pattern.
- J2 = OFF** - No Immediate Alarm output on either channel.
- J3 = +/-** - Depends on polarity of control's alarm output.

As shown, this hookup is used to activate new or existing Bells in the ANSI TEMPORAL 3 pulse pattern from a pulsing alarm output and a standard siren from a steady alarm output.



## Elk-100 Siren Yelp sound from steady alarm output, Temporal coded sound if alarm output is pulsing

### Jumper Settings

- J1 = TEMPORAL** - Output of Relay 2 will be Temporal 3 pulse pattern.
- J2 = RELAY 2** - Relay 2 will activate immediately upon trigger input and during the 3 to 4 second verification time delay.
- J3 = +/-** - Depends on polarity of control's alarm output.

As shown, this hookup is used to activate an ELK-100 siren Yelp sound on Relay 1 from a steady alarm output and a Temporal 3 pulse sound on Relay 2 from a pulsing alarm output. Relay 2 will also activate immediately during the 3 to 4 second verification time delay (regardless of a steady or pulsing input trigger). This immediate output feature is good if the control does a siren test at arm or disarm time.

