

# Recordable Voice Module And Siren ELK-120

## FEATURES

- Two Recordable Voice Channels:  
Up to 10 seconds of message each or one 20 second message when combined
- Two Siren Channels with Bell, Yelp, or Buzzer
- Temporal Coded Bell meets ANSI standard for Audible Emergency Evacuation Signaling
- Recordings stored in nonvolatile memory
- Positive or negative voltage triggering
- Voice channels accept momentary triggers
- "One shot" or continuous voice play settings
- Built-in condenser microphone for recording
- Auto channel select from a single input - steady or pulsing
- Adjustable speaker volume and current draw
- Powerful 24 watt audio amplifier
- PC sound card interface connector

## SPECIFICATIONS

- Operating Voltage: 9 to 14 Vdc
- Adjustable current draw: 1/4 to 1.8 Amps
- Low current triggers: 9 to 14 Vdc @ 30 mA
- Maximum sound level: 122 dB \*\*
- Maximum speaker loading: 4 Ohms
- Pulsing input: 1/2 to 2 PPS, 50% duty cycle
- Size: 3" x 5" x 1.25" (76 x 127 x 32 mm)

\*\* 13.8 VDC @ 1 meter with one 8 Ohm speaker.



ELK PRODUCTS, INC.®

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## Recordable Voice Module And Siren ELK-120



## APPLICATION

The versatile **ELK-120** is a 2 channel custom **recordable voice module** and 2 channel **siren driver**. Recordable channels provide 10 seconds of message each, or one 20 second message when combined. Siren channels offer choice of three sounds: **Temporal Coded Bell, Yelp, or Industrial Buzzer**. Adjustable volume and flexible triggers make the ELK-120 suitable for applications ranging from security alarms to talking sales demonstrations. The recordable channels can be configured to play once or to repeat endlessly. Combine the recordings with the built-in electronic siren sounds to make a uniquely customized siren. Optional **ELK-129 Computer Sound Card Interface** may be used to record sounds from a PC with a stereo sound card.

**Instructions Printed On Inside**

# OPERATION

## Overview

The ELK-120 is a two channel recordable voice module and two channel siren driver. Voice messages are stored in non-volatile memory and may be re-recorded as needed. Each channel can be activated by a positive (+) 9-14 Vdc input supplied from a control panel or switched power source. The ELK-120 also has a negative (-) input terminal **-V1** as explained in these instructions.

Connect the ELK-120 according to one of the diagrams under "INSTALLATION & HOOKUP EXAMPLES".

## Positive (+) Trigger Input Channels

There are four (4) positive (+) trigger input channels. The inputs for voice are marked **+V1** (Channel 1) and **+V2** (Channel 2). The siren inputs are marked **+S3** (Siren, Channel 3) and **+B4** (Bell, Channel 4). These inputs may be activated separately or combined (activated at the same time) to achieve mixed playback of voice and siren sounds.

**NOTE:** If a pulsing voltage is applied to Channel 3 (Yelp) **+S3**, the ELK-120 will automatically play the Channel 4 (Temporal Coded Bell) sound.

## Negative (-) Trigger Input Channel

The ELK-120 has one (1) negative (-) trigger input marked **-V1**, for control panels (such as DSC) that have a switched negative alarm output. This input internally activates Channels 3 and 1 together if a steady input is applied, and Channels 4 and 2 if a pulsing input is applied. For example: when a constant negative (-) is applied to this input, the voice message in channel 1 will be played followed by the channel 3 (Yelp) siren sound. If a pulsing negative (-) is applied, the voice message in channel 2 will be played followed by the channel 4 (Temporal Coded Bell) sound.

## Voice Record Time

The maximum record time is 10 seconds per channel, or 20 seconds total. The ELK-120 allows one long 20 second message to be recorded into Channel 1 provided Channel 2 is not used. Care must be taken not to exceed the allowable time when recording. If a message recorded into Channel 1 exceeds 10 seconds then do not use Channel 2. If Channel 2 were triggered, only the end of Channel 1's message would be heard.

**WARNING:** If more than 10 seconds is recorded into Channel 1, then any message recorded into Channel 2 will cause part of Channel 1's message to be lost.

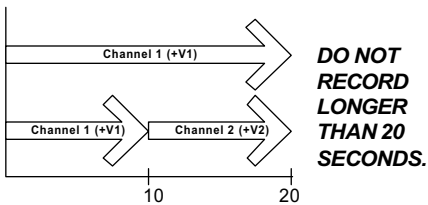


Figure 1 - Record Time In Seconds

## Activating The Voice Channels (Playback)

**Continuous (maintained) trigger:** To playback a message recorded on Channel 1 or Channel 2, apply a positive (+) 9 to 14 Vdc to terminal **+V1** for Channel 1, or to terminal **+V2** for Channel 2. The message will play (and repeat) for as long as the power is applied, provided Jumper **JP2** ("Close For Single Play") is in the Open position. See Figure 2.

**Momentary trigger:** Connecting terminals **+12V** and **Neg** to a constant (+) 9 to 14 Vdc power source allows voice channels to playback with a momentary trigger voltage. All operating power is drawn from the constant power source. Current draw from the +V1 and +V2 input triggers will then be approximately 30 mA. In the momentary trigger mode each message is played through to the end (one cycle).

## Recording Voice Messages

**Note:** Jumper **JP1** must be in the closed position (C) to enable the on-board microphone. In addition, jumper **JP2** should be in the open (O) position so that playback will be in the continuous Loop mode. See Figure 2.

To record a voice message, activate the desired channel in the continuous trigger mode by applying a positive (+) 9 to 14 Vdc voltage to the input (**+V1** or **+V2**). The ELK-120 will start playing the message (if any) that was previously recorded. While the message is playing, press and hold the record switch **SW1**, then speak clearly into the on-board microphone. Release the record switch at the end of the message or at the end of 10 seconds, whichever comes first. When the record switch is released the new message will immediately be played. Remove the trigger voltage to stop the message playback. To change the message or correct a mistake repeat the above procedure. To record the other channel apply the trigger voltage to that channel and repeat the above procedure. If more than 10 seconds is required, a 20 second message may be recorded into Channel 1 provided Channel 2 is not used.

## Continuous Loop Playback or One Shot

Jumper option, **JP2** ("Close For Single Play") can be used to lockout the voice messages after a single play. The trigger for the channel must then be removed and/or reapplied before the message will be played again.

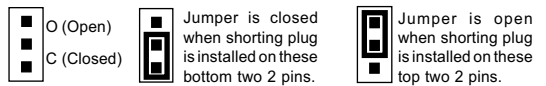


Figure 2 - Jumper Selections

## Siren Sounds

A choice of three (3) sounds (**Temporal Coded Bell**, **Yelp**, and **Industrial Buzzer**) may be obtained from the siren channels. Applying a positive (+) 9 to 14 Vdc trigger voltage to the specified input(s) will activate the corresponding sound. Terminal **+S3** activates the **Yelp** sound, and terminal **+B4** activates the **Bell** sound. Applying the same trigger to terminals **+S3** and **+B4** at the same time will produce the **Industrial Buzzer** sound.

## Mixing Siren Sounds and Voice Messages

To combine a siren sound with a voice message simply apply a positive (+) 9 to 14 Vdc trigger voltage to any siren input and any voice input at the same time. EG: To obtain a burglary warning message on channel 1 followed by the Yelp siren sound, simply apply a trigger voltage to channel **+V1** and **+S3** at the same time. The two channels will alternately play until the trigger is removed.

**Exception:** Voice channels 1 & 2 can be set to play only once per activation cycle by placing jumper **JP2** ("Close For Single Play") in the closed position. The siren sound(s) continue until the activation input is removed.

## Volume and Current Adjust

Turning the **Volume Increase** knob clockwise increases the speaker volume. The louder the volume, the higher the current draw. The volume and current draw may be adjusted to match the current capability of power input.

**NOTE:** The output level of the siren sounds have been factory set to be compatible with the voice message sound levels. To maximize the siren output, cut resistor **R9** (located below and to the left of the volume adjust knob).

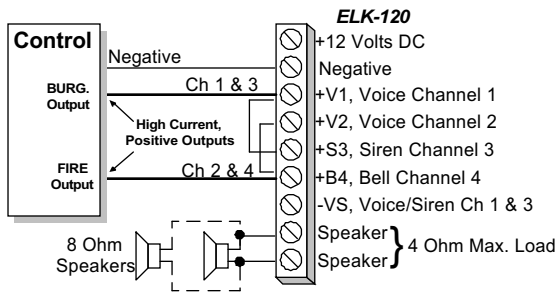
## Computer Sound Card Interface (ELK-129)

The recordable Channels may also be programmed using a PC equipped with a stereo sound card and the ELK-129 Sound Card Interface. Plug the ELK-129 into the **J1** Programmer connector and place jumper **JP1** in the open position to disable the on-board microphone.

# INSTALLATION & HOOKUP EXAMPLES

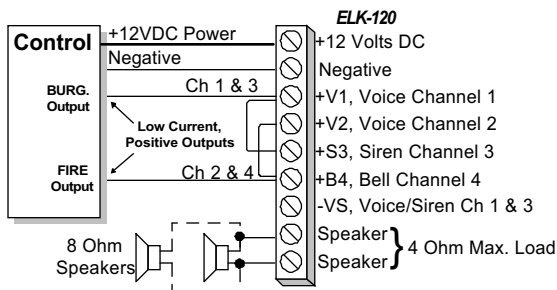
Note: Dashed Lines Indicate Optional Connections.

**Standard Method: Control panel with two alarm outputs capable of 2 Amps max. each.**



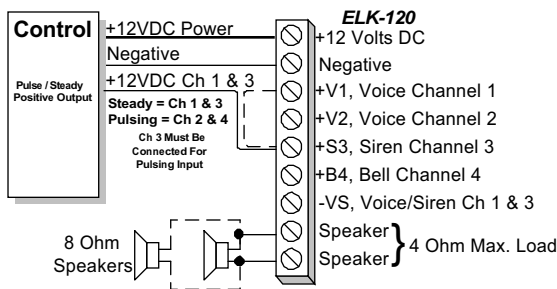
All current must be supplied from the Burg and Fire Outputs on the Control. Average current draw with 8 Ohm speaker load is 1.2 Amps, or 1.8 Amps with 4 Ohm load.

**Low Current Trigger Method: One or two positive alarm outputs capable of 30 mA ea.**



The operational current will be supplied from a constant +12 Vdc auxiliary source. The siren and voice channel trigger terminals draw only 30 mA from the control alarm outputs.

**Single Alarm Output Method: One alarm output with a steady / pulse option.**

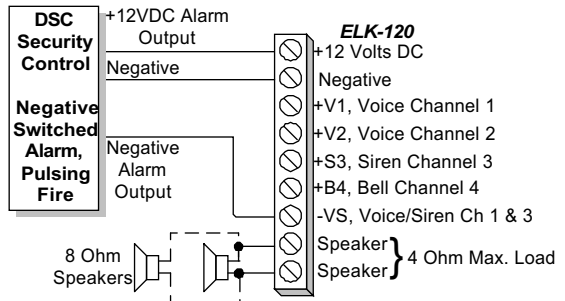


A steady 9 to 14 Vdc on Channel 3 (+S3) will activate the Siren sound and optionally the Voice Channel 1 (+V1). A pulsing voltage (.5 to 2 pulses per second) on Channel 3 (+S3) will activate the Temporal Coded Bell sound and optionally the Voice Channel 2 (+V2).

**Note:** Pulsing is only detected on terminal +S3 and terminal -VS.

**Single Alarm Output With Switched Negative:**

Controls panels such as DSC provide an alarm output with a switched negative, requiring a special hookup.



The -VS terminal internally activates Voice Channel 1 and Siren Channel 3 upon a steady voltage input. A pulsing voltage input (.5 to 2 pulses per second) on terminal -VS internally activates Voice Channel 2 and Bell Channel 4.

**Industrial Buzzer Siren Sound**

The industrial buzzer siren sound is triggered by connecting Channel 3 (+S3) and Channel 4 (+B4) together. It may be triggered along with Voice Channels 1 and/or Voice Channel 2 as described previously.

