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**EAGLE SECURITY PRODUCTS, INC.**



## **Model 1500 Programmable Relay Timer**

### **INSTALLATION INSTRUCTIONS**

For firmware revisions 15 - 16.



**TWO-WAY  
AUDIO**  
Alarm Verification

**“LEADERS IN TWO WAY AUDIO TECHNOLOGY”**

## 1.0 GENERAL.

### 1.1 FEATURES.

The Model 1500 Programmable Relay Module features include:

- ◆ One N.O. / N.C. 10 Amp relay output.
- ◆ One open collector transistor output.
- ◆ Two activation inputs.
- ◆ Status LED, indicates when the relay is energized.
- ◆ Thirteen programmable relay modes of operation.
- ◆ Small footprint.
- ◆ Programmable time delay. 10 milli-seconds to 99 days.
- ◆ Primary & Secondary (Aux) trip inputs programmable for leading or falling edge.
- ◆ Relay activation: 10 milli-seconds to 99 hours.
- ◆ Secondary (Aux) output programmable as a driver for a speaker or relay.
- ◆ 0.0012% accuracy.
- ◆ AC or DC operation.
- ◆ Low current draw in standby.

## 2.0 REQUIREMENTS.

### 2.1 POWER.

Operating voltage: 9 to 24 VAC or 12 to 24 VDC  
Current draw (standby / active): 23mA / 75mA

## 3.0 INSTALLATION.

### 3.1 PROGRAMMING.

The Model 1500 is unique in that the relay and open collector transistor can be programmed to respond in a multitude of ways to the activation of the trip inputs. The **non-volatile memory** of the Model 1500 is programmed using the Model 2003 Programmer Interface and any standard Touch-Tone phone or telephone test set **but does not require access to a phone line.**

To program the Model 1500, connect the 6 pin cable (provided with the Model 2003 programmer interface) between the two headers labeled "PROGRAMMER" on both units. Plug a standard Touch-Tone phone into the phone jack on the Model 2003 programmer or connect a telephone test set to the two test points located on either side of the modular telephone connector. Before attempting to program the 1500 first determine the following:

1. What option or options do you want to change?
2. Fill out the option sheet on Page 7 and keep for your records.

To enter the program mode apply power to the Model 1500, lift the receiver of the telephone connected to the Model 2003 programmer (or place the line test set into 'TALK' mode) and then:

1. Press the **[\*]** button on the phone.
2. Enter the number of the option you want to change. Two digits must be entered for the option number. Example: To change Option 04 enter **[0][4]**. To change Option 11 enter **[1][1]**.
3. Press the **[#]** button. When you press the **[#]** button the relay will energize and the relay status LED will come on.
4. Now enter the new data for the option.
5. Press the **[#]** button **TWICE**. After the second **[#]** the relay will de-energize and the LED will turn off.

If you make a mistake or get lost while in the program mode entering **[#][\*]** will exit the program mode without saving any of your changes (relay de-energizes and LED turns off). This allows you to start over.

If you have more than one option to change and they follow each other in the program they can all be changed without exiting the program mode. Example: If you need to change Options 01, 02 & 03. Start with Option 01 and instead of pressing **[#][#]** after the data is entered for Option 01, continue entering data for Options 02 & 03 then press **[#][#]**.

To change options separated by several un-changed options, you can enter and exit the program mode at will. Example: To change Option 01 to a **13**, Option 02 to a **1** and Option 06 to a **05** the following entries would be made:

**\*01#** = enter program mode for Option 01  
**13** = data for Option 01  
**1** = data for Option 02  
**#** = exit program mode  
**\*06#** = enter program mode for Option 06  
**05** = data for Option 06  
**#** = exit program mode

Disconnect the Touch-Tone phone and 6-pin cable. The Model 1500 is now re-programmed. You **DO NOT** have to cycle the power off and on to activate it.

## 3.2 PROGRAMMING OPTIONS.

The following is a description of the 13 options presently available for the Model 1500.

### 3.2.1 Option 1: Relay Modes of operation selection.

**Note: All relay modes of operation 1–10 and 12–15 are initiated by the Primary Trip Input only. Mode 11 is Controlled by both the primary (main) & secondary inputs.**

**Mode 01** = Momentary relay activation.

**Mode 02** = Momentary relay activation with reset from the Secondary (Aux) input.

**Mode 03** = Alternate relay activation (toggle).

**Mode 04** = Timed delay before momentary relay activation.

**Mode 05** = Timed delay before relay activates & immediate relay de-activation.

**Mode 06** = Timed delay before momentary relay activation with reset (cancel) of delay period from the Secondary (Aux) Input.

**Mode 07** = Timed delay before momentary relay activation with re-start of delay period from the Secondary (Aux) Input.

**Mode 08** = Timed delay before momentary relay activation with re-start of delay period from the Primary Input.

**Mode 09** = Timed delay and then the Primary and Secondary (Aux) outputs follow Primary Trip input. (Also see Mode 14 below.)

**Mode 10** = Continuous repeat cycle timer.

**Mode 11** = Primary & Secondary (Aux) inputs must both be active to activate the relay.

**Mode 12** = Momentary relay activation with any change to the Primary input (open to closed, closed to open).

**Mode 13** = Momentary relay activation with any change to the Primary input (open to closed, closed to open). Any change to the Primary input (while the relay is active) will reset the relay.

**Mode 14** = Separate Timed Delays for Primary and Secondary (Aux) outputs, then both outputs follow the Primary Input.

**Mode 15** = The operation for this mode is the same as Mode 05 except the relay is momentary.

**Option 01 description.** This option selects the mode under which the Model 1500's, on board relay and secondary (Aux) output will operate. Enter a number from 01 to 15 representing the mode of operation you desire. **The leading 0 is mandatory.**

Enter a **01** for this option and each time the PRIMARY TRIP input is activated it will cause the relay to energize immediately for the programmed period of time selected in Options 6 & 7. At the end of that period the relay will automatically de-energize. Subsequent PRIMARY TRIP activations during relay activation are ignored. (See Door Strike description).

Enter **0 2** for this option and each time the PRIMARY TRIP input is activated it will cause the relay to energize immediately for the programmed period of time selected in Options 6 & 7. At the end of that period the relay will automatically de-energize. In addition, the relay can be de-energized immediately by activation of the Secondary (Aux) input.

Enter a **0 3** for this option and the relay will change state each time the PRIMARY TRIP input is activated. (See Power Supply Switching description.)

Enter a **0 4** for this option and an activation of the PRIMARY TRIP input will cause the Timed Delay period, selected in Options 4 & 5, to commence. At the end of the delay period the relay will energize for the programmed time period selected in Options 6 & 7. (See Exit/Entry Delay description.)

Enter a **0 5** for this option and an activation of the PRIMARY TRIP input will cause the Timed Delay period, selected in Options 4 & 5, to commence. At the end of the delay period the relay will energize, and stay energized. Activating the PRIMARY TRIP input again will de-energize the relay immediately.

Enter a **0 6** for this option and an activation of the PRIMARY TRIP input will cause a Timed Delay period to commence and at the end of the delay period the relay will energize for a programmed time period. In addition the timed delay period can be reset (cancelled) with the Secondary (Aux) input.

Enter a **0 7** for this option and an activation of the PRIMARY TRIP input will cause a Timed Delay period to commence and at the end of the delay period the relay will energize for a programmed time period. In addition the timed delay period can be re-started (causes it to start over) with the Secondary (Aux) input.

Enter a **0 8** for this option and an activation of the PRIMARY TRIP input will cause a Timed Delay period to commence and at the end of the delay period the relay will energize for a programmed time period. The Timed Delay period can be re-started (causes it to start over) with the Primary input. (See No Activity description.) Note: This mode overrides the Secondary (Aux) input options 8 through 12.

Enter a **0 9** for this option and an activation of the PRIMARY TRIP input will cause a Timed Delay period to commence. At the end of the Timed Delay period the primary and secondary (Aux) outputs will follow the state of the Primary Trip input. (See Garage & Loading Door bypass description.) Note: This mode overrides the Secondary (Aux) input options 8 through 12.

Enter a **1 0** for this option and the relay will momentarily activate on a continuous repeat cycle determined by Options 4 & 5. The first activation will occur after the delay time selected in Options 4 & 5 plus the offset time selected in Option 13. The cycle will then repeat itself based on the delay time selected in Options 4 & 5 only. Options 6 & 7 select the relay activation time. (See 7-day test timer description). With this option the 1500 can also be used as an LED flasher, an irrigation pump controller or for any other repeat event application.

Enter an **1 1** for this option and the relay will only activate when both the Primary & Secondary (Aux) inputs are active. The relay will stay energized until one or both of the inputs returns to the standby state.

Enter a **1 2** for this option and the relay will momentarily activate on any change of state (an open going closed or a closed going open) on the PRIMARY TRIP. Options 6 & 7 control the activation time of the relay.

Enter a **1 3** for this option and the relay will momentarily activate on any change of state (an open going closed or a closed going open) on the PRIMARY TRIP. However, the relay will automatically de-energize if the PRIMARY TRIP changes state again while the relay is still energized. Options 6 & 7 control the activation time of the relay.

Enter a **1 4** for this option and an activation of the PRIMARY TRIP input will cause two separate Timed Delay periods to commence. At the end of the primary Timed Delay period, the primary output will follow the state of the Primary Trip input. At the end of the secondary (Aux) Timed Delay period, the secondary (Aux) output will follow the state of the Primary Trip input.

Enter a **1 5** for this option and an activation of the PRIMARY TRIP input will cause the Timed Delay period, selected in Options 4 & 5, to commence. At the end of the delay period the relay will energize, for the programmed period of time selected in Options 6 & 7. Activating the PRIMARY TRIP input again (before the relay times out) will de-energize the relay immediately.

### 3.2.2 Option 02: Primary Trip Input Standby State.

- 1** = N.C. (Normally Closed)
- 2** = N.O. (Normally Open)

**Option 2 description.** This option determines the standby state of the PRIMARY TRIP input. The Primary Trip input has an internal resistor connected to DC ground (0 VDC) and its associated output has an internal resistor connected to +12 VDC. When a closure is made across the two, the input will be at +6 VDC and when the closure is removed the input will return to 0 VDC. The input is activated when it switches from the standby state to the opposite active state.

Enter a **1** for this option to select N.C. (input & output shorted) as the standby state.  
Enter a **2** for this option to select N.O. (input & output not shorted) as the standby state.

The Primary Trip input can also be activated by an external voltage source. (Consult the factory.)

### 3.2.3 Option 03: Secondary (Aux) Trip Input Standby state.

- 1** = N.C. (Normally Closed)
- 2** = N.O. (Normally Open)

**Option 3 description.** This option determines the standby state of the Secondary (Aux) Trip input. This input has an internal resistor connected to +12 VDC and its associated output is connected directly to DC ground (0 VDC). When a closure is made across the two, the input will be at 0 VDC and when the closure is removed the input will return to +12 VDC. The input is activated when it switches from the standby state to the opposite active state.

Enter a **1** for this option to select N.C. (input & output shorted) as the Standby state.  
Enter a **2** for this option to select N.O. (input & output not shorted) as the Standby state.

The Secondary (Aux) Trip input can also be activated by an external voltage source. (Consult the factory.)

### 3.2.4 Option 04: Timed delay before relay activation

Any two digits **01-99** (numbers only) may be programmed.

**Option 4 description.** This option selects the amount of time after the Primary Trip input is activated before the relay energizes. This time period is called the TIMED DELAY and can be programmed as short as 10-milliseconds or as long as 99 days. This option works in conjunction with Option 5.

Enter a number **01-99** representing the timed delay desired. For single numbers 01-09, **the leading 0 is mandatory.**

### 3.2.5 Option 05: Time delay unit of measure.

- 1** = milliseconds ..... (10-millisecond increments)
- 2** = seconds ..... (1 second increments)
- 3** = minutes ..... (1 minute increments)
- 4** = hours ..... (1 hour increments)
- 5** = days ..... (1 day increments)

**Note. Options 5 & 7 modify the values entered for Options 4 & 6, respectively.**

**Option 05 description.** This option is used to modify the number entered in Option 4.

Enter a **1** for this option if you want the number in Option 4 to be clocked in 10ms increments.  
Enter a **2** for this option if you want the number in Option 4 to be clocked in 1-second increments.  
Enter a **3** for this option if you want the number in Option 4 to be clocked in 1-minute increments.  
Enter a **4** for this option if you want the number in Option 4 to be clocked in 1-hour increments.  
Enter a **5** for this option if you want the number in Option 4 to be clocked in 1-day increments.

**Example:** If Option 4 is programmed as **15** and Option 5 is programmed as **2** the Timed Delay will be 15 seconds.

### 3.2.6 Option 06: Relay activation.

Any two digits, **01-99** (numbers only,) may be programmed.

**Option 6 description.** This option selects the amount of time the relay will stay energized when used in a momentary configuration. This time period is called the RELAY ACTIVATION time and can be programmed as short as 10-milliseconds or as long as 99 hours. This option works in conjunction with Option 7.

Enter a number from **0 1-9 9** representing the relay activation time desired. For single numbers 01-09, **the leading 0 is mandatory.**

### 3.2.7 Option 07: Relay activation unit of measure.

- 1** = milliseconds ..... (10-millisecond increments)
- 2** = seconds ..... (1 second increments)
- 3** = minutes ..... (1 minute increments)
- 4** = hours ..... (1 hour increments)

**Note. Options 5 & 7 modify the values entered for Options 4 & 6, respectively.**

**Option 7 description.** This option is used to modify the number entered in Option 6.

- Enter a **1** for this option if you want the number in Option 6 to be clocked in 10ms increments.
- Enter a **2** for this option if you want the number in Option 6 to be clocked in 1-second increments.
- Enter a **3** for this option if you want the number in Option 6 to be clocked in 1-minute increments.
- Enter a **4** for this option if you want the number in Option 6 to be clocked in 1-hour increments.

Example: If Option 6 is programmed as **1 5** and Option 7 is programmed as **1** the relay activation will be 150ms.

### 3.2.8 Option 08: Auxiliary Output Mode

- 1** = Speaker Driver
- 2** = Relay Driver

**Option 8 description:** This option is used to select the Auxiliary output as either a speaker driver, with a built-in tone generator or as a relay driver.

### 3.2.9 Option 09: Activation Input For Auxiliary Output

- 1** = Primary Trip Input
- 2** = Auxiliary Trip Input

**Option 9 description:** This option is used to select which of the two inputs will activate the Auxiliary Output when it in turn is selected as a Relay Driver in Option 8.

### 3.2.10 Option 10. Auxiliary Output Activation Mode

- 1** = Activate Immediately with a trip.
- 2** = Start a time delay with a trip. At the end of the delay, activate the Auxiliary Output.

**Option 10 description:** This option is used to select how the Auxiliary Output will react to an activation of the selected trip input, if it is selected as a relay driver in Option 8.

### 3.2.11 Option 11: Timed Delay Before Auxiliary Output Activation (In seconds)

Any two digits, **0 1-9 9** (numbers only) may be programmed.

**Option 11 description.** This option selects the delay period after activation on a trip input before the Auxiliary Output will activate. This time period can be programmed as short as 1 second or as long as 99 seconds. Enter a number from 01-99 representing the relay activation time desired. For single numbers 01-09, **the leading 0 is mandatory.**

### 3.2.12 Option 12: Auxiliary Output Activation Time (In seconds)

Any two digits, **01-99** (numbers only) may be programmed.

**Option 12 description.** This option selects the amount of time the Auxiliary Output will stay energized. This time period can be programmed as short as 1 second or as long as 99 seconds.

Enter a number from **01-99** representing the Auxiliary Output activation time desired. For single numbers 01-09, **the leading 0 is mandatory.**

### 3.2.13 Option 13: Offset (in hours)

This option applies ONLY when Mode 10 (Repeat Cycle Timer) of Option 1 is used, it is otherwise ignored. Any two digits, **01-99** (numbers only) may be programmed. NOTE. For NO OFFSET enter 00 for this option.

**Option 13 Description:** If a **7** has been programmed for Option 1 then this option is used to select an additional one time delay (offset) before the start of the first cycle of the continuous repeat cycle. The time selected in this option (in hours) is added to the delay selected in Options 4 & 5 but only once. After this initial time expires only the delay period selected in Options 4 & 5 apply. (See 7-day test timer description.)

Once you have selected the options above, record them in the following Program Option Record and use it when entering the program data into the 1500.

## Program Option Record

<u>0</u> <u>1</u>	<u>2</u>	<u>2</u>	<u>3</u> <u>0</u>	<u>2</u>	<u>1</u> <u>5</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>0</u> <u>1</u>	<u>0</u> <u>1</u>	<u>0</u> <u>0</u>	Data Default
01	02	03	04	05	06	07	08	09	10	11	12	13	Option

### Option 01 = RELAY MODE of OPERATION

- 01 = Momentary
- 02 = Momentary with reset from secondary (Aux) input
- 03 = Alternate
- 04 = Timed delay before momentary
- 05 = Timed delay before activation – immediate de-activation - relay stays on
- 06 = Timed delay before activation with reset (cancel) from secondary (Aux) input
- 07 = Timed delay before activation with re-start from secondary (Aux) input
- 08 = Timed delay before momentary with re-start from primary input
- 09 = Timed delay and then both outputs follow primary input
- 10 = Continuous repeat cycle timer
- 11 = Primary & secondary (Aux) inputs must both be active to energize relay, relay then follows the inputs
- 12 = Momentary with any change in the primary input status
- 13 = Momentary with any change in the primary input status with reset (cancel) if primary input changes again while relay is energized.
- 14 = Separate timed delays for Primary & Secondary (Aux) outputs. Outputs then follow Primary Input.
- 15 = Timed delay before momentary activation – immediate de-activation.

### Option 02 = PRIMARY INPUT STAND-BY STATE

- 1 = NC
- 2 = NO

### Option 03 = SECONDARY (AUX) INPUT STAND-BY STATE

- 1 = NC
- 2 = NO

### Option 04 = TIMED DELAY BEFORE PRIMARY OUTPUT ACTIVATION

- 01 – 99

### Option 05 = TIMED DELAY UNITS OF MEASURE

- 1 = milliseconds
- 2 = seconds
- 3 = minutes
- 4 = hours

### Option 06 = RELAY ACTIVATION TIME

- 01 – 99

### Option 07 = RELAY ACTIVATION TIME UNITS OF MEASURE

- 1 = milliseconds
- 2 = seconds
- 3 = minutes
- 4 = hours

### Option 08 = SECONDARY (AUX) OUTPUT MODE

- 1 = Speaker driver
- 2 = Relay driver

### Option 09 = ACTIVATION INPUT for SECONDARY (AUX) OUTPUT

- 1 = Primary
- 2 = Secondary (Aux)

### Option 10 = SECONDARY (AUX) OUTPUT ACTIVATION MODE

- 1 = Immediate
- 2 = Delayed

### Option 11 = TIMED DELAY BEFORE SECONDARY (AUX) OUTPUT ACTIVATION

- 01 – 99 seconds

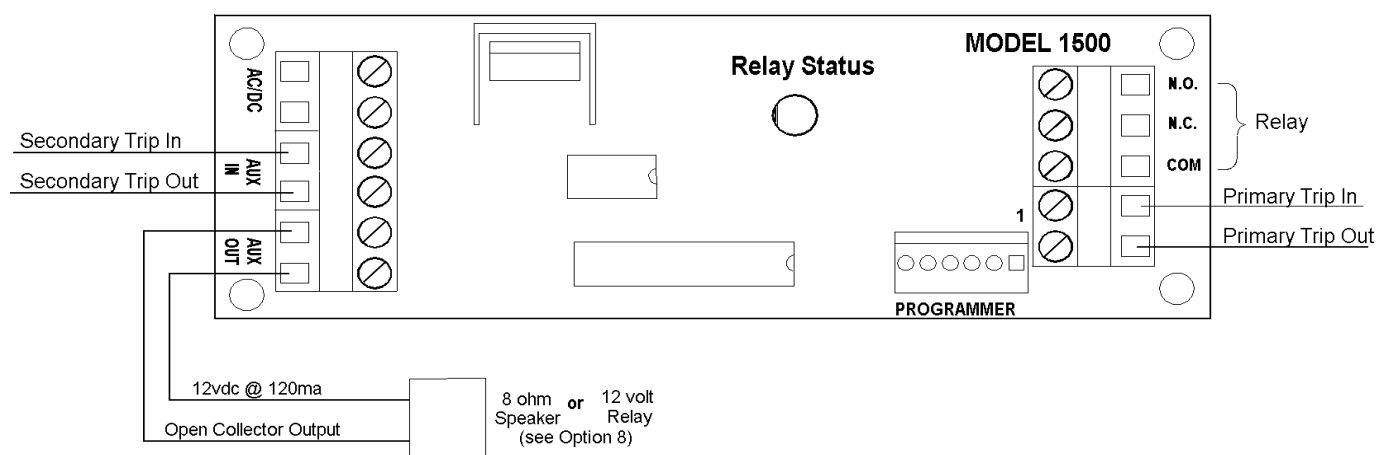
### Option 12 = SECONDARY (AUX) OUTPUT ACTIVATION TIME

- 01 – 99 seconds

### Option 13 = CONTINUOUS CYCLE TIMER OFFSET

- 01 – 99 hours

## Wiring Diagram



### 3.3 APPLICATION DESCRIPTIONS.

The following is a description of a few applications for the Model 1500 Programmable Relay Timer.

#### **Door Strike - With immediate reset. (For other single door access applications see Eagle Model 1910)**

Select a suitable location for the Model 1500 and mount it. Remember it is narrow enough to fit inside most door jams. Mount a normally open (N.O.) pushbutton switch inside the locked area. Mount a normally closed (N.C.) door contact on the door being controlled.

Connect the N.O. pushbutton switch to the Primary Trip input. Connect the N.C. door contact to the Secondary (Aux) input pigtail cable. Connect the door strike to the N.O. and Common contacts of the Model 1500's relay.

Select the following options:

Option 1 = **0 2** ..... Momentary relay activation with Primary Trip input with reset from the Auxiliary input.

Option 2 = **2** ..... Primary Trip is using N.O. contacts.

Option 3 = **1** ..... Secondary (Aux) input is using N.C. contacts.

Option 4 = **1 1** ..... This option is not used.

Option 5 = **1** ..... This option is not used.

Option 6 = **1 6** ..... Because you are using the Reset function you only need to allow the user enough time to get to the door and open it.

Option 7 = **2** ..... Selects seconds as the base clock.

Options 8 - 13 are not used.

Connect AC or DC power to the Model 1500.

Program the Model 1500 using the Model 2003 Programmer Interface board and a Touch-Tone phone or test set.

Test the Model 1500 by pressing the push button switch. When the door strike activates open the door and the door strike will release. Test it again by activating the door strike but do not open the door. The door strike will automatically release in 15 seconds. Adjust the relay activation time (Option 6) as needed.

#### **Door Strike - Without immediate reset.**

Do not install the N.C. door contact. Program Option 1 as a **0 1**. All other options are the same as above. The operation is the same as above except the door strike stays active until the relay times out.

#### **Remote Power Supply Switching (Remote toggle.)**

The Model 1500 allows the use of a push button switch and light gauge wires to control a power supply or any other load that needs to be switched on and off remotely.

Connect the pushbutton switch to the Primary trip input. Connect the load to the N.O. and Common contacts of the Model 1500's relay. Connect either 12 VDC or 12 VAC to the Model 1500. (Continued next page.)

*(See option settings on next page.)*

## **Remote Power Supply Switching (Cont'd.)**

Select the following options:

Option 1 = **0 3** ..... Alternate relay activation with Primary Trip input.

Option 2 = **2** ..... Primary Trip is using N.O. contacts.

Options 3 - 13 are not used.

Each time the switch is pressed the relay will change state.

## **Exit/Entry Delay**

Most alarm panels today have programmable zones that can be selected as exit/entry delay zones with one and sometimes two programmable delays. When you need an additional delay, e.g., for a longer time period than the alarm panel provides, the Model 1500 can be used as follows:

Mount the Model 1500 inside the alarm panel's metal box. Connect 12 VDC to the Model 1500. Connect the door contact to the Primary trip input. Connect the appropriate contacts from the Model 1500's relay in series or parallel (N.O. vs. N.C.) to the door contacts of the entry/exit door you are bypassing.

For this example we will use a 5-minute Timed Delay and 500 millisecond Relay Activation.

Select the following options:

Option 1 = **0 1** ..... Momentary relay activation.

Option 2 = **[?]** ..... Select **1** or **2** to correspond to the door contact configuration.

Option 3 = **1** ..... Secondary (Aux) input is using N.C. contacts.

Option 4 = **1 1** ..... This option is not used.

Option 5 = **1** ..... This option is not used.

Option 6 = **0 5** ..... Sets the relay activation timer to 5 minutes.

Option 7 = **3** ..... Selects minutes as the base clock for the relay activation.

Options 8 - 13 are not used.

When the exit/entry door opens the Timed Delay begins. If the alarm panel is not turned off before the Timed Delay expires (in this case 5 minutes) no alarm will be activated.

## **No-Activity Timer**

With more elderly individuals living alone in their homes there is a growing need to know as soon as possible that a life-threatening event has occurred. Hard-wired panic buttons and RF pendants provide a means to communicate most of these events. But for those occurrences when the person is not wearing the pendant, cannot reach a panic button or is unconscious, the Model 1500 can be used to monitor the normal activity of the person in the house and trip an alarm when these activities cease.

This activity could be monitored with an RF transmitter on a toilet flush, a motion detector in a bedroom or kitchen, etc... These sensors would then reset the No-Activity timer function of the Model 1500. In the event that the reset does not occur within the time selected for No-Activity, the relay on the Model 1500 would activate and trip the alarm reporting equipment.

Mount the Model 1500 in the alarm panel. Connect 12 VDC from the panel to the Model 1500. Connect the output from the RF Receiver to the Primary Trip input. Connect the appropriate relay contacts from the Model 1500 to the alarm panel zone input. Connect an 8-ohm speaker to the Secondary (Aux) Output pigtail cable. The Model 1500 will begin emitting a warning tone 30 minutes before the Timed Delay expires to alert the user of the pending alarm.

For this example we will use 12 hours as the No-Activity timer and 5 seconds as the Relay Activation Time.

Select the following options:

Option 1 = **0 6** ..... Timed Delay before momentary relay activation with reset from the Primary input.

Option 2 = **[?]** ..... Select **1** or **2** to correspond to the RF receiver's configuration.

Option 3 = **1** ..... This option is not used.

Option 4 = **1 2** ..... Sets the delay timer to 12 (as in 12 hours).

Option 5 = **4** ..... Selects 1 hour as the base clock for the Timed Delay.

Option 6 = **0 5** ..... Sets the relay activation timer to 5 (as in 5 seconds)

Option 7 = **2** ..... Selects 1 second as the base clock for the relay activation.

Option 8 = **1** ..... Selects the Auxiliary output as a speaker driver.

Option 9 = **2**

Options 10 - 13 are not used.

You must "jump-start" the No-Activity timer by activating the device connected to the Primary Trip input. After that, each time the device is activated, the No-Activity timer will reset and start over. If the Primary Trip input does not get activated the Model 1500 will begin emitting a warning tone 30 minutes prior to the relay activation. When the relay activates it will trip the alarm panel.

***(Continued on next page.)***

**Note to Installers:**

**To speed up testing of the No-Activity Timer. With power removed from the Model 1500 connect a piece of wire across the Secondary (Aux) Input. Apply power to the Model 1500. This will cause the base clock of the 1500 to switch from 1 hour to 1 second. With the example above, that would mean that without an activation of the Primary Trip input, the warning tones will start at 11.5 minutes and last for ½ minute. At 12 minutes the relay will activate. Remove the wire from the Secondary (Aux) input and the base clock will return to 1 hour.**

**Garage Door Bypassing**

Generally, overhead garage doors in residential alarm installations are not monitored. This is because the exit/entry delay required would be excessive and compromises the rest of the system. Because of this, when the homeowner arms the alarm system at night they have to physically go look to see if the door(s) is closed or more likely forget to look and arm the system with an open garage door. The Model 1500 can be used to bypass the garage door for a long period of time and then monitor the door(s) status and report it to the alarm system.

When the garage door has been closed and then opens, the Timed Delay is activated via the Primary Trip input. When the Timed Delay expires the Model 1500 looks at the Primary Trip input and if the garage door is open the relay will energize and stay energized until the door is closed. This will produce either a Not Ready condition (if the alarm panel is disarmed) or an Alarm condition (if the alarm panel is armed). If the garage door is closed when the Timed Delay expires the relay will stay de-energized. The garage door is ignored during the Timed Delay.

Mount the Model 1500 in the alarm panel. Connect 12 VDC from the panel to the Model 1500. Connect the large gap overhead door contact to the Primary Trip input. Connect the appropriate relay contacts from the Model 1500 to the alarm panel zone input.

For this example we will use 3 minutes as the Timed Delay.

Select the following options:

- Option 1 = **0 9** ..... Timed Delay and then outputs follow Primary Trip input.
- Option 2 = **[?]**..... Select **1** or **2** to correspond to the door contact configuration.
- Option 3 = **1** ..... This option is not used.
- Option 4 = **0 3** ..... Sets the delay timer to 3 (as in 3 minutes).
- Option 5 = **3** ..... Selects minutes as the base clock for the Timed Delay.
- Options 6 - 13 are not used.

**Scenario #1.**

The homeowner comes home and opens the garage door. They disarm the alarm but leave the garage door open. After 3 minutes the Timed Delay expires and the relay closes. Later that night the homeowner tries to arm the alarm system but cannot because the garage door zone is **Not Ready**.

**Scenario #2.**

The homeowner comes home and opens the garage door. They disarm the alarm panel and close the garage door. When the Timed Delay expires the garage door is closed so the relay stays de-energized. Later on they open the garage door but forget to close it. In 3 minutes the relay will energize and causes a **Not Ready** condition.

**Loading Door Bypassing**

Many small businesses that alarm their buildings during non-business hours often leave the back doors unprotected during business hours. The reason they do is because these doors are used to take in deliveries, take out the trash, employee smoke breaks etc. and this would require the constant bypassing and un-bypassing of that zone from the alarm panel arming station. In addition, employees will often prop these doors open and then forget to close them, which leaves the business wide open to the outside. The Model 1500 can be used to monitor these doors and report when they are left open. The Model 1500 would operate the same way as for the overhead garage door bypass. The Primary Trip input could be activated by a separate door contact mounted on the exit door or for greater security a Push Button switch mounted next to the door. During the day when an employee opens the door or presses the PB switch, the Timed Delay would activate and if the door was left open when the Timed Delay expired the relay would energize. The relay contacts could then be used to cause a supervisory failure on the alarm panel or optionally an 8 ohm speaker can be connected to the Secondary (Aux) output and it will sound a warning for as long as the door is left open after the Timed Delay expires.

Mount the Model 1500 in the alarm panel. Connect 12 VDC from the panel to the Model 1500. Connect the door contact to the Primary Trip input. Connect the appropriate relay contacts from the Model 1500 to the alarm panel zone input if you want to create a supervisory alarm and/or connect an 8-ohm speaker to the Secondary (Aux) Output pigtail cable if you want the 1500 to generate an audible alert.

***(See option settings on the next page.)***

### **Loading Door Bypassing (Cont'd.)**

For this example we will use 10 minutes as the Timed Delay. Select the following options:

- Option 1 = **0 9** ..... Timed Delay and then relay follows Primary Trip input.
- Option 2 = **[?]** ..... Select **1** or **2** to correspond to the door contact configuration.
- Option 3 = **1** ..... This option is not used.
- Option 4 = **1 0** ..... Sets the delay timer to 10 (as in 10 minutes).
- Option 5 = **3** ..... Selects minutes as the base clock for the Timed Delay.
- Option 6 = **1 1** ..... This option is not used.
- Option 7 = **1** ..... This option is not used.
- Option 8 = **1** ..... Selects the Auxiliary Output as a speaker driver. (If desired.)
- Options 9 –13 are not used.

### **7 Day Test Timer**

The Model 1500 can be used as a continuous repeat event timer such as a 7 day test timer for automatically testing the communicator in an alarm system once a week. Using the Primary trip Input to start the cycle the Model 1500 will continuously repeat the cycle based on the delay time programmed in Options 4 & 5. The relay will close after each cycle for a period determined by Options 6 & 7.

In addition to the continuous repeat cycle timer a one time offset period can be selected in Option 13 to facilitate setting the proper time of day that the relay closure will occur.

Example: It's 6:00PM and you want the test to occur at 2:00AM tomorrow and then at 2:00AM every seven days after that but you do not want to stick around till 2:00AM tomorrow to trip the Primary Trip Input. To avoid this, simply program Option 13 as 08 and eight hours after you activate the Primary trip Input the continuous repeat cycle will commence.

Mount the Model 1500 in the alarm panel. Connect 12 VDC from the panel to the Model 1500. Connect the appropriate relay contacts (N.O./N.C.) from the Model 1500 to the alarm panel Test or Zone input.

For this example we will use 7 days for the Timed Delay repeat cycle, and 1 second for the relay closure time.

Select the following options:

- Option 1 = **1 0** ..... Selects the continuous repeat cycle timer mode.
- Option 2 = **2** ..... This option is not used.
- Option 3 = **2** ..... This option is not used.
- Option 4 = **0 7** ..... Sets the delay timer to 7 (as in 7 days).
- Option 5 = **5** ..... Selects days as the base clock for the Timed Delay.
- Option 6 = **0 1** ..... Sets the relay closure timer to 1 (as in 1 second)
- Option 7 = **2** ..... Selects seconds as the base clock for the relay timer.
- Options 8 - 12 are not used.
- Option 13 = **0 8** ..... Selects 8 hours as the offset before the continuous repeat cycle begins.

### **Smart Logical "AND" Function / "Dual-tech" implementation**

The Model 1500 can be used as a smart logical "AND" function. This allows the user to implement their own form of 'dual-tech' technology.

Example: Suppose you have a PIR and a photo beam you wish to 'marry' into a dual-tech type sensor i.e., both must be tripped to activate the panel zone.

Mount the Model 1500 in the alarm panel. Connect 12 VDC from the panel to the Model 1500. Connect the PIR output to the primary trip input and the photo beam output to the secondary (Aux) trip input. Connect the appropriate relay contacts (N.O./N.C.) from the Model 1500 to the alarm panel Test or Zone input.

Select the following options:

- Option 1 = **1 1** ..... Selects the logical 'AND' function.
- Option 2 = **1** ..... Selects NC.
- Option 3 = **1** ..... Selects NC.
- Options 4 - 13 are not used.

**4.0 NOTES & RETURNS.**

As with all electronic devices, electrostatic discharges can damage the components. Handle the circuit board with care!

Features and specifications subject to change without notification.

Trademarks and Registered Trademarks are the property of their respective owners.

**RETURNS:**

**IMPORTANT. COPY, COMPLETE AND RETURN THIS FORM WITH YOUR RETURNS.**

**NOTE. YOU MUST OBTAIN A RMA NUMBER FROM TECH SUPPORT FROM THE FIELD BEFORE RETURNING PRODUCT.**

**SECTION 1 (TO BE COMPLETED BY DEALER)**

DATE ...../...../.....

RMA NUMBER .....  
DEALER NAME .....  
ADDRESS .....  
CITY/STATE ..... ZIP .....

PHONE No. (.....) .....  
FAX No. (.....) .....  
CONTACT .....

SHIP TO .....  
.....

SHIP REPAIRED PRODUCT VIA:  
UPS    UPS BLUE    UPS RED  
YOUR FED-EX # .....

**SECTION 2 (TO BE COMPLETED BY DEALER)**

LINE #	PART NUMBER	DESCRIBE PROBLEM	COSMETIC REPAIR (Y/N)
1			
2			
3			

**Have any other applications for which you have used the Model 1500 Programmable Relay Timer and would like to see added to this manual?**

**Are there any other features you think the Model 1500 is missing?**

**Please contact us at: 1-800-334-7188 or email: [sales@eagle-security.com](mailto:sales@eagle-security.com) to discuss your ideas and needs!**

## **5.0 CONTACT INFORMATION**

### EAGLE SECURITY PRODUCTS MODEL 1500 PROGRAMMABLE RELAY TIMER

Eagle Security Products, Inc.  
11650 Genesee Street Suite #2  
Alden, NY 14004-9630  
SALES. 800.334.7188 or 716.937.0095  
FAX. 716.937.3127  
[www.eagle-security.com](http://www.eagle-security.com)  
Tech support email: [tech@eagle-security.com](mailto:tech@eagle-security.com)  
Sales email: [sales@eagle-security.com](mailto:sales@eagle-security.com)

**TECHNICAL SUPPORT HOTLINE: 800.447.E<sub>3</sub> A<sub>2</sub> G<sub>4</sub> L<sub>5</sub> E**

#### **LIMITED WARRANTY**

Eagle Security Products, Inc. Warrants that the products of its manufacture shall be free from defects in materials or workmanship to one year from the date of invoice if such goods have been properly installed, are subject to normal proper use, and have not been modified in any manner whatsoever. Upon return of the defective product to the nearest Eagle Security Products dealer, Eagle Security Products will, at its sole discretion, either repair or replace, at no cost to the customer, such goods as may be of defective material or workmanship. Customers outside the United States are to return products to their distributor for repair.

In addition, any out of the box failure will be replaced at no charge providing the unit has not been altered physically. Alterations include, but not limited to, soldering, the addition of tape / foam tape or any form of physical damage.

EAGLE SECURITY PRODUCTS, INC. SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM LOSS OF PROPERTY OR OTHER DAMAGE OR LOSSES OWING TO THE FAILURE OF EAGLE SECURITY PRODUCTS' PRODUCTS BEYOND THE COST OF REPAIR OR REPLACEMENT OF ANY DEFECTIVE PRODUCTS.

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