

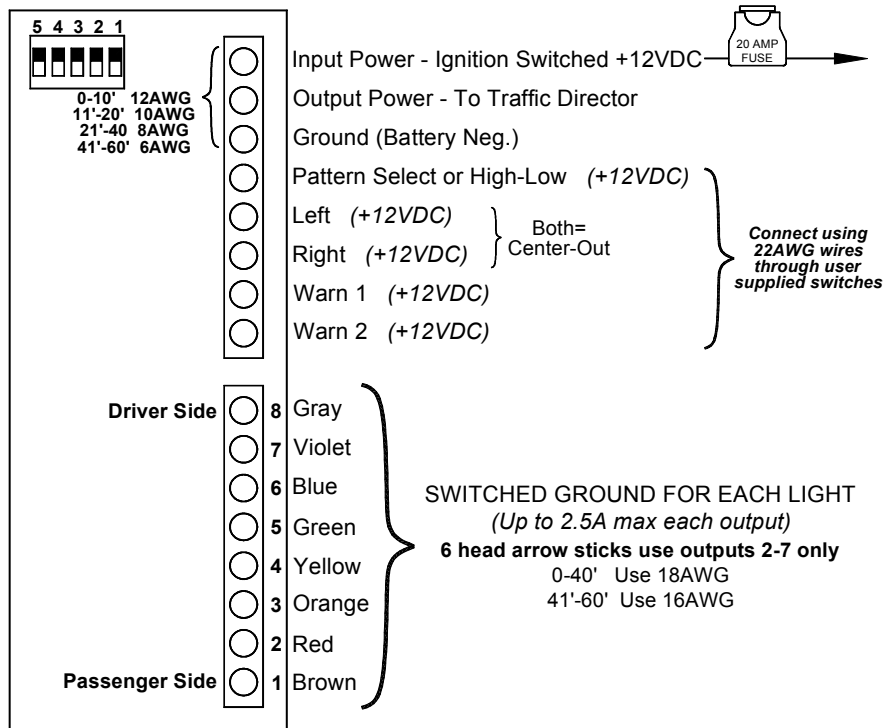
TDC-3 / STDC-3

Traffic Director Controller

Wiring

For proper installation and full operability, this controller requires a 20A ignition switched power source, connections to the negative terminal of the battery, and 4 or 5 external switches rated for a minimum 1A (*user supplied*).

Please Note: When the red wire is connected to +12VDC the light will draw a small current (0.08 mA). Occasionally vehicles may sit for extended periods of time (i.e. more than a few days), thus we recommend that the power terminals be routed through an ignition switched power source.



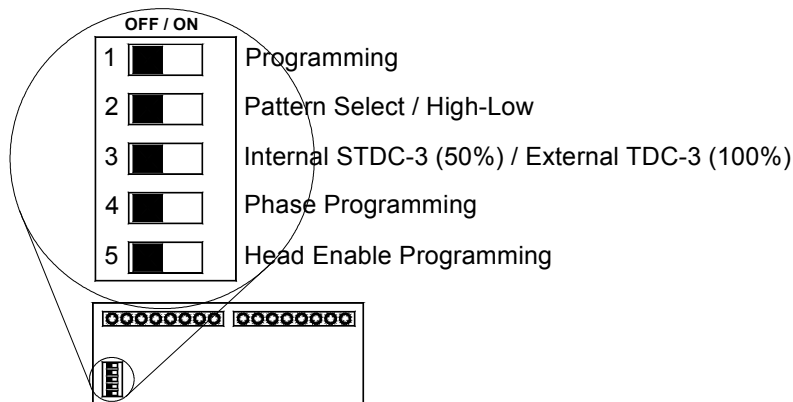
Programming

Programming is optional. If the default settings are acceptable, skip to the Operation section.

Programmable features include the following:

- Dim Option (High-Low)
- Pattern Selection
- External TDC-3 (100%) or Internal STDC-3 (50%) TD Power Settings
- Phase Selection (which heads alternate)
- Head Enable (which heads activate)
- Title 13 Programming
- Pattern Cycling
- Resetting the Factory defaults

There are five DIP switches that are used to set these options.



High-Low/Pattern Option

This controller is equipped with an option allowing you to dim the light for nighttime operation. If you do not need this feature, skip this section.

The Pattern Select/High-Low Option DIP switch is used to control the function of the Pattern Select/High-Low terminal (see previous page). That terminal is normally used for Pattern Programming (see *next page*). If you are using the Dim feature, AFTER PROGRAMMING YOUR FLASH PATTERNS, flip this switch into the ON position (RIGHT in the diagram above). When +12VDC is applied to the Pattern Select/High-Low terminal, the light will dim.

TDC-3 External Traffic Director / STDC-3 Internal Traffic Director

This controller can be used to control either "external" Traffic Directors or "internal" Traffic Directors (ones integrated in lightbars) based upon the setting of DIP switch 3.

- The TDC-3 is set for use with an external Traffic Director and runs at full power.
- The STDC-3 is defaulted for use with any of our internal Traffic Directors in our lightbars. The internal setting runs at 50% power.

DO NOT USE THE EXTERNAL SETTING WITH INTERNAL TRAFFIC DIRECTORS. DOING SO WILL OVERLOAD THOSE HEADS AND RESULT IN PREMATURE FAILURE.

Programming (CONT'D)

Pattern Programming

Basic Pattern Selection

The first step in programming is to select a basic pattern for each of the 3 modes:

- Warn 1
- Warn 2
- Traffic Directing Patterns (L, C-O, and R)

1. Connect the Power and Ground terminals as indicated on the first page and activate the ignition switched power.
2. Activate the function you wish to program by connecting the corresponding terminal to +12VDC.
3. Touch and release the Pattern Select terminal to +12VDC to scroll through the patterns shown to the right. (*Traffic Director L, C-O, R shown below.*)

Note: At any time you can shortcut to the patterns with the asterisks by holding the pattern select wire to +12VDC for the indicated time.

4. Repeat for each function you wish to program.

Patterns for Traffic Director

(Left, Right, and Center Out functions all use the same pattern)

- | | | | |
|-----------------------------|---------------------|----|---------------------------------------|
| SAE J595 Compliant Patterns | California Title 13 | 1 | Standard (Default) * |
| | | 2 | 6-Head TD with End Flash |
| | | 3 | Standard w/End Blink |
| | | 4 | Two-Head Traveling |
| | | 5 | California Title 13 ** |
| | | 6 | California Title 13 Fast |
| | | 7 | Four Head Traveling |
| | | 8 | Snake |
| | | 9 | Pop |
| | | 10 | 6-Head Pattern (used with end arrows) |

- * Shortcut Pattern #1 (3 sec/1 flash)
- ** Shortcut Pattern #2 (6 sec/2 flashes)

Patterns for Warning Lights

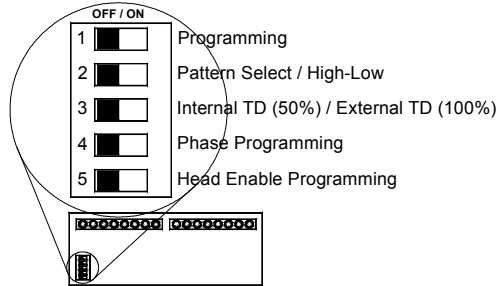
(Level 1, Level 2, and TD Warn/Pursuit)

- | | | | |
|----------------------------|---------------------|----|------------------------------------|
| SAE J595 Approved Patterns | California Title 13 | 1 | Flicker * |
| | | 2 | Slow Singleflash |
| | | 3 | Fast Singleflash |
| | | 4 | Slow Doubleflash |
| | | 5 | Fast Doubleflash |
| | | 6 | Slow Tripleflash |
| | | 7 | Fast Tripleflash (Level 2 default) |
| | | 8 | Quadflash |
| | | 9 | Quintflash |
| | | 10 | Tripleflash w/Post Pop |
| | | 11 | Quadflash w/Post Pop |
| | | 12 | Quintflash w/Pre Pop |
| | | 13 | Singleflash Flicker ** |
| | | 14 | Doubleflash Flicker |
| | | 15 | Single, Quad w/Post Pop, Flicker |
| | | 16 | Delta-Omega |
| | | 17 | Delta-Omega Moving *** |
| | | 18 | Random 1 |
| | | 19 | Random 2 |
| | | 20 | Flashing Bounce |
| | | 21 | Full Bounce (Level 1 default) |
| | | 22 | Split Bounce |
| | | 23 | Half Bounce |
| | | 24 | Bounce w/End Pop |
| | | 25 | Search Lights |
| | | 26 | Eyeballz |
| | | 27 | Fade Invert |
| | | 28 | Singleflash w/Alternating Ends |
| | | 29 | Triple In/Triple Out |
| | | 30 | Two Speed (Pursuit default) |

- * Shortcut Pattern #1 (3 sec/1 flash)
- ** Shortcut Pattern #2 (6 sec/2 flashes)
- *** Shortcut Pattern #3 (9 sec/3 flashes)

Please note: All California Title 13 and SAE J595 approved patterns need to be configured properly to ensure compliance with those specifications.

Programming (CONTD)



Optional Phase Selection
(Programmable for Patterns 1-16 only)

Each output terminal has two Phases, an “On” phase and an “Off” phase. You can program each output for either Phase, allowing you to customize which heads on your Traffic Director flash On together and which are Off together during the **Warn 1** and **Warn 2** functions.

1. Connect the Power and Ground terminals as indicated on the first page and activate the ignition switched power.
2. Activate the **Warn 1** or **Warn 2** function you wish to program by connecting the corresponding terminal to +12VDC.
3. Flip ON then OFF the Phase Programming DIP switch to scroll through the five optional Phase variations.
4. If desired, repeat for the other **Warn** function.

	Head 1	Head 2	Head 3	Head 4	Head 5	Head 6	Head 7	Head 8
Standard 1	Phase 1	Phase 2	Phase 1	Phase 2	Phase 2	Phase 1	Phase 2	Phase 1
Simultaneous 2	Phase 1	Phase 1	Phase 1	Phase 1	Phase 1	Phase 1	Phase 1	Phase 1
CAL T13 3	Phase 1	Phase 1	Phase 1	Phase 1	Phase 2	Phase 2	Phase 2	Phase 2
Alt Pairs 4	Phase 1	Phase 2	Phase 2	Phase 1	Phase 1	Phase 2	Phase 2	Phase 1
Center Two 5	Phase 1	Phase 1	Phase 1	Phase 2	Phase 2	Phase 1	Phase 1	Phase 1

Optional Head Enable

This controller also has the ability for the installer to select which heads are active for any given function. You may wish to de-activate several heads in your Warn 1 Pattern to indicate less urgency. Or you may wish to have a 6 head Traffic Director pattern with the end heads flashing the Warn 1 or 2 patterns. This option can be programmed for any of the functions.

1. Connect the Power and Ground terminals as indicated on the first page and activate the ignition switched power.
2. Activate the function you wish to program by connecting the corresponding terminal to +12VDC.
3. Briefly switch on, then off the Head Enable Programming DIP switch to scroll through the 11 optional variations.
(Note: only options 1-3 are available for the Traffic Director Functions.)
4. Repeat for each function you wish to program.

	Head 1	Head 2	Head 3	Head 4	Head 5	Head 6	Head 7	Head 8
1	ON	ON	ON	ON	ON	ON	ON	ON
2	ON	ON	ON	ON	ON	ON	ON	ON
3	ON	ON	ON	ON	ON	ON	ON	ON
4	ON	ON	ON	ON	ON	ON	ON	ON
5	ON	ON	ON	ON	ON	ON	ON	ON
6	ON	ON	ON	ON	ON	ON	ON	ON
7	ON	ON	ON	ON	ON	ON	ON	ON
8	ON	ON	ON	ON	ON	ON	ON	ON
9	ON	ON	ON	ON	ON	ON	ON	ON
10	ON	ON	ON	ON	ON	ON	ON	ON
11	ON	ON	ON	ON	ON	ON	ON	ON

Programming (CONTD)

Pattern Cycling of Simultaneous Functions

This section is **OPTIONAL**. 'Pattern Cycling of Simultaneous Functions' refers to how the connected light reacts if you activate more than one function at the same time.

This controller is programmed such that when you activate one of the Traffic Directing patterns (Left, Right, or Center-Out) at the same time as one of the Warning patterns, the TD pattern will override the Warn pattern.

You may skip the rest of this section if the above setting is acceptable.

Traffic Director Cycle Count refers to the number times the Traffic Directing Pattern (Right, Left, Center-Out) will repeat before alternating to the Warn Pattern. It is defaulted to 0. This means the function is deactivated and the Traffic Director will ALWAYS override the Warn pattern when both are activated at the same time. Change this to one of the other values (1-8) to enable the feature, thus alternating the TD pattern with the Warn pattern.

Warn Cycle Count refers to the number times the Warn pattern will repeat before alternating to the Traffic Directing Pattern. It is defaulted to 1. This means that any time the TD Cycle Count is changed to anything but "0", 1 Warn pattern will alternate with the Traffic Director pattern. Change this to one of the other values (2-8) to have the Warn pattern repeat multiple times before alternating with the TD pattern.

To change these settings:

1. Flip the Programming DIP switch into the ON position (right in the diagram on the previous page).
2. Connect the Power and Ground terminals as indicated on the first page and activate the ignition switched power.
3. Program the **Traffic Director Cycle Count**:
 - A. Activate the Left function by connecting the corresponding terminal to +12VDC. *(Please note that the Left, Right, and Center-Out will all have the same Cycle Count and can be programmed using any one of those functions.)*
The light heads that you have connected will illuminate indicating what the current **Traffic Director Cycle Count** is.
Ex: If no heads are lit, the feature is off. (Default setting Warning Patterns)
If Head 1 is lit, that mode is programmed to cycle 1 time. (Default setting for Traffic Director Patterns)
If Head 2 is lit, that mode is programmed to cycle 2 times.
If Head 3 is lit, that mode is programmed to cycle 3 times
and so on through Head 8.
 - B. Touch and release the Pattern Select terminal to +12VDC to scroll through the different Cycle Counts.
 - C. Deactivate the Traffic Director once you select the desired Cycle Count.
4. Repeat step 3 using one of the Warn terminals to program the **Warn Cycle Count**. *(Please note that both Warn patterns will all have the same Cycle Count and can be programmed using either of those functions.)*
5. Flip the Programming DIP switch OFF and disconnect power.

Programming (CONTD)

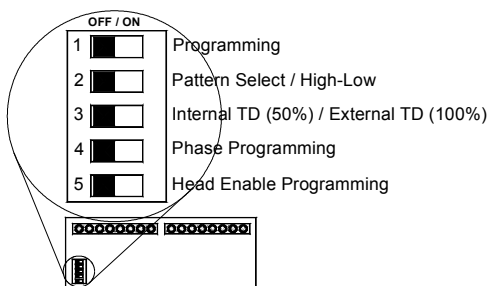
Resetting to Factory Default Settings

1. Connect the Power and Ground terminals as indicated on the first page and activate the ignition switched power. Ensure that none of the mode inputs (Right, Left, Warn 1, or Warn 2) are activated.
2. Flip the Programming DIP switch ON position (to the RIGHT in the diagram below). All lights should start flashing.
3. Flip on Head Enable Programming DIP switch until the lights go off and all of the heads light up sequentially from left to right.
4. Once all of the heads are illuminated, flip the Head Enable Programming DIP switch off and the controller will be restored to the factory default settings.
5. Flip the Programming DIP switch into the OFF position.

Cloning

If you are installing multiple controllers and have a number of options to set, you may find it easier to set up one, then “clone” its settings onto the other controllers. To do so, proceed as follows:

1. Connect both controllers to their respective Traffic Directors, hook up the Power and Ground terminals as indicated on the first page, and activate the ignition switched power.
2. Program the first controller to all of your desired settings.
3. Use a wire to connect together the Pattern Select terminals from both controllers. Temporarily remove any other wires connected to the Pattern Select terminals.
4. Flip the Programming DIP switches from both controllers into the ON position (RIGHT in the diagram to the right). Both Traffic Directors should start flashing all heads.
5. Locate the Phase Programming DIP switch on the controller you are reprogramming and flip it ON until the Traffic Director lights go off. Flip the Phase Programming DIP switch OFF and the new programming information will begin uploading to the second unit. Once it has successfully completed uploading all of the programming, the entire Traffic Director will illuminate into a steady burn mode. Repeat programming if not.
6. Flip the Programming DIP switches from both controllers into the OFF position and remove the wire connecting the lights. Programming should be completed.
7. Disconnect the wire connecting the Pattern Select terminals from both circuits and reconnect any wires that were previously connected to those terminals (if applicable).



Operating Instructions

Main control of this light is done through the first set of terminals. They should be connected to +12VDC through several switches (*user supplied*) as indicated on the first page.

Dim

If the High-Low/Pattern Option is set for High-Low (see page 7), then applying +12VDC will dim the light (typically used in nighttime applications).

Left

Applying +12VDC to this wire will produce a pattern directing traffic left.

Right

Applying +12VDC to this wire will produce a pattern directing traffic right.

Center-Out

Applying +12VDC to BOTH the Left and Right terminals will produce the Center-Out Pattern.

Warn 1

This is usually intended as a slower, less urgent mode typically used when parked.

Warn 2

This mode is intended for high-urgency situations, such as a high speed chase, requiring significant warning power. It is usually a faster pattern than Warn 1.

The Warn 2 pattern will override the Warn 1 pattern.

Activation of Both Warn and Traffic Directing Functions

Depending upon programming, the light will have different outputs when multiple functions are activated at the same time. Please review *Pattern Cycling of Simultaneous Functions* on the previous page to determine how your controller is programmed.



LED FIVE YEAR LIMITED WARRANTY

The manufacturer warrants this LED light against factory defects in material and workmanship for five years after the date of purchase. The owner will be responsible for returning to the Service Center any defective item(s) with the transportation costs prepaid. The manufacturer will, without charge, repair or replace *at its option*, products, or part(s), which its inspection determines to be defective. Repaired or replacement item(s) will be returned to the purchaser with transportation costs prepaid from the service point. A copy of the purchaser's receipt must be returned with the defective item(s) in order to qualify for the warranty coverage. Exclusions from this warranty include, but are not limited to, domes, and/or the finish. This warranty shall not apply to any light, which has been altered, such that in the manufacturer's judgment, the performance or reliability has been affected, or if any damage has resulted from abnormal use or service.

There are no warranties expressed or implied (including any warranty of merchantability or fitness), which extend this warranty period. **The loss of use of the product, loss of time, inconvenience, commercial loss or consequential damages, including costs of any labor, are not covered.** The manufacturer reserves the right to change the design of the product without assuming any obligation to modify any product previously manufactured.

This warranty gives you specific legal rights. You might also have additional rights that may vary from state to state. Some states do not allow limitations on how long an implied warranty lasts. Some states do not allow the exclusion or limitation of incidental or consequential damages. Therefore, the above limitation(s) or exclusion(s) may not apply to you.

If you have any questions concerning this or any other product, please contact our **Customer Service Department** at (585) 226-9787.

If a product must be returned for any reason, please contact our Customer Service Department to obtain a Returned Materials Authorization number (RMA #) before you ship the product back. Please write the RMA # clearly on the package near the mailing label.

NOTICE

Due to continuous product improvements, we must reserve the right to change any specifications and information, contained in this manual at any time without notice. Star Headlight & Lantern Co., Inc. makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Star Headlight & Lantern Co., Inc. shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this manual.



PROUDLY MADE IN THE USA
An ISO 9001:2008 Certified Company