

# TOMAR

## Operational & Programming **Instructions Manual**

# 950N

## Lightbar Series

IS0950N-01  
8.2.2005

## Programming Warning Modes Using The Lightbar Control Cable

The 950N Lightbar flash patterns may be custom programmed by using the Lightbar Control Cable.

The 950N Lightbars have a wide variety of Flash Patterns built into the 950SM-8 Power Supply. Using EEPROM flash memory, the 950SM-8 Power Supply can be reprogrammed many times. The 950SM-8 programs have been designed to allow independent programming of the Front/Corner and Rear/End Lamps. Factory set patterns & a complete list of programmable patterns are detailed in Appendix A for the length of 950N Lightbar you have ordered.

## EEPROM

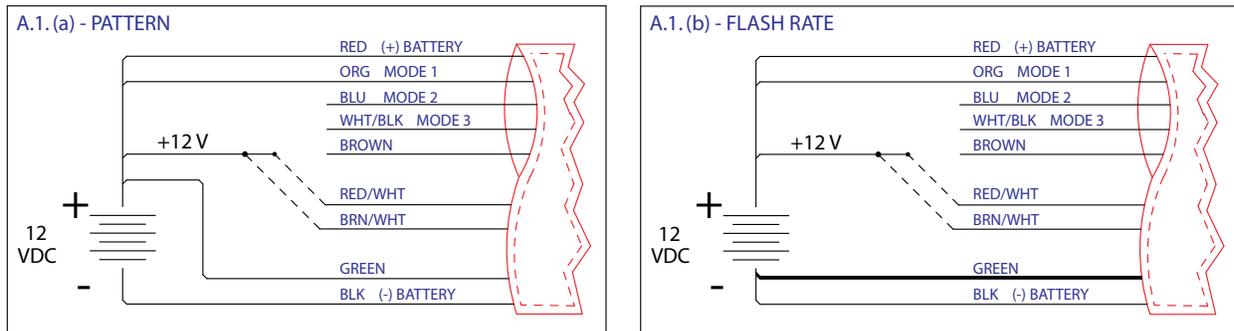
EEPROM (electrically erasable programmable read-only memory) is user-modifiable read-only memory (ROM) that can be erased and reprogrammed (written to) repeatedly through the application of programming commands. Unlike EPROM chips, EEPROMs do not need to be removed from the lightbar to be modified. A special form of EEPROM is flash memory, which uses normal PC voltages for erasure and reprogramming. The following pages detail the method used to change the 950SM-8 Power Supply factory set programming to an alternative available flash pattern using the lightbar control cable.

## Programming Warning Modes Using The Lightbar Control Cable

There are two ways to control the 950N lightbar. The first method is to control the lightbar by using a progressive slide switch. The second method is to control the lightbar using independent rocker or on/off switches. Section A details the procedure for programming the lightbar for use with a progressive slide switch. Section B details the procedure for programming the lightbar for use with independently controlled switches. The last pattern programmed becomes the operational default.

### A. Programming For Use With A Progressive Slide Switch.

**1. Programming Mode 1:** Activate the lightbar programming mode by GROUNDING the **Black** input wire and then apply +12vdc to the **Red** input wire and the **Green & Orange** control wire.



**(a) Selecting Flash Pattern:** Select the Mode 1 warning pattern by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the pattern one step. Continue until the desired pattern is selected.

Tapping the **Red/White** wire advances the **Rear & End Warning Lamps**

Tapping the **Brown/White** wire advances the **Front & Corner Warning Lamps**

(Note: May be done in any order)

**(b) Selecting Flash Rate:** With the lightbar still energized remove the **Green** wire from +12vdc and connect to ground. Select tile Mode 1 flash rate by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the flash rate one step. Continue until the desired flash rate is selected.

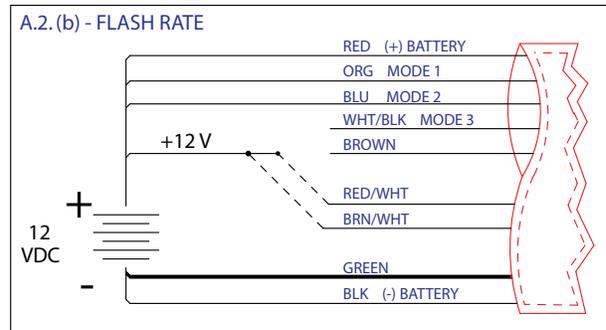
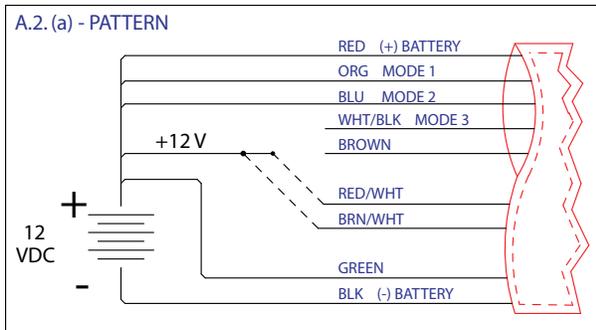
Tapping the **Red/White** wire advances the **Rear & End Flash Rate**

Tapping the **Brown/White** wire advances the **Front & Corner Flash Rate**

(Note: May be done in any order)

**(c) Remove power from all wires.** Flash pattern and rate are now set for Mode 1.  
(Orange)

**2. Programming- Mode 2:** Activate the lightbar programming mode by GROUNDING the **Black** input wire and then apply +12vdc to the **Red** input wire and the **Green & Orange & Blue** control wires.



**(a) Selecting Flash Pattern:** Select the Mode 2 warning pattern by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the pattern one step. Continue until the desired pattern is selected.

Tapping the **Red/White** wire advances the **Rear & End Warning Lamps**

Tapping the **Brown/White** wire advances the **Front & Corner Warning Lamps**

(Note: May be done in any order)

**(b) Selecting Flash Rate:** With the lightbar still energized remove the **Green** wire from +12vdc and connect to ground. Select the Mode 2 flash rate by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the flash rate one step. Continue until the desired flash rate is selected.

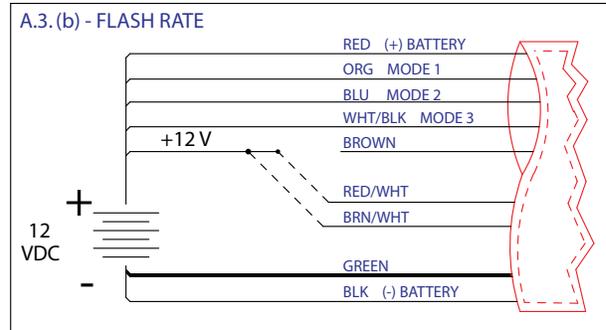
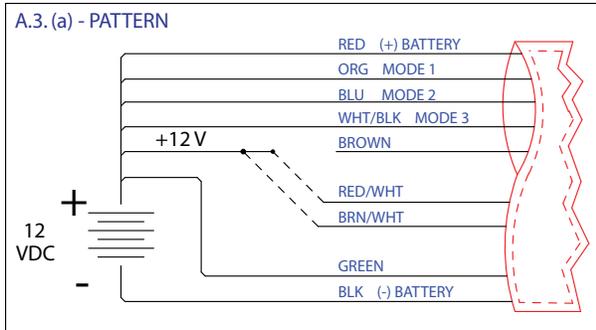
Tapping the **Red/White** wire advances the **Rear & End Flash Rate**

Tapping the **Brown/White** wire advances the **Front & Corner Flash Rate**

(Note: May be done in any order)

**(c) Remove power from all wires.** Flash pattern and rate are now set for Mode 2.  
(Orange & Blue)

**3. Programming Mode 3:** Activate the lightbar program mode by GROUNDING the **Black** input wire and then apply +12vdc to the **Red** input wire and the **Green & Orange** & **Blue & White/Black** control wires.



**(a) Selecting Flash Pattern:** Select the Mode 3 warning pattern by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the pattern one step. Continue until the desired pattern is selected.

Tapping the **Red/White** wire advances the **Rear & End Warning Lamps**

Tapping the **Brown/White** wire advances the **Front & Corner Warning Lamps**

(Note: May be done in any order)

**(b) Selecting Flash Rate:** With the lightbar still energized remove the **Green** wire from +12vdc and connect to ground. Select the Mode 3 flash rate by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the flash rate one step. Continue until the desired flash rate is selected.

Tapping the **Red/White** wire advances the **Rear & End Flash Rate**

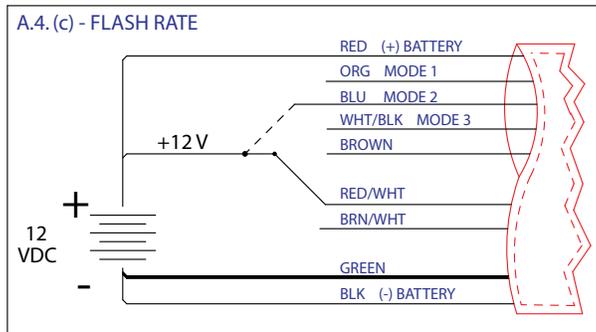
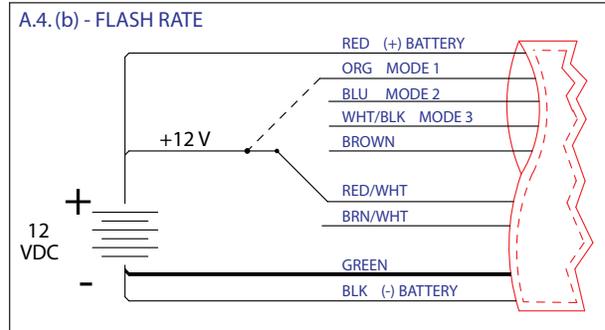
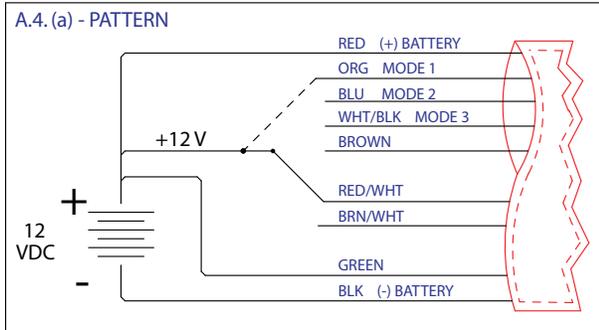
Tapping the **Brown/White** wire advances the **Front & Corner Flash Rate**

(Note: May be done in any order)

**(c) Remove power from all wires.** Flash pattern and rate are now set for Mode 3.

(Orange, Blue & White/Black)

**4. Programming Traffic Direction Mode:** Activate the lightbar program mode by GROUNDING the **Black** input wire and then apply +12vdc to the **Red** input wire and the **Green & Red/White** control wire.



**(a) Selecting Front Warning Flash Pattern:** Select the Front warning lamps associated with the Traffic Direction Modes by applying and removing (tapping) +12vdc to **Orange** wire. Each tap advances the pattern one step. Continue until the desired pattern is selected.

**(b) Selecting Front Warning Flash Rate:** With the lightbar still energized remove the **Green** wire from +12vdc and connect to ground. Select Front warning flash rate by applying and removing (tapping) +12vdc to the **Orange** wire. Each tap advances the flash rate one step. Continue until the desired flash rate is selected.

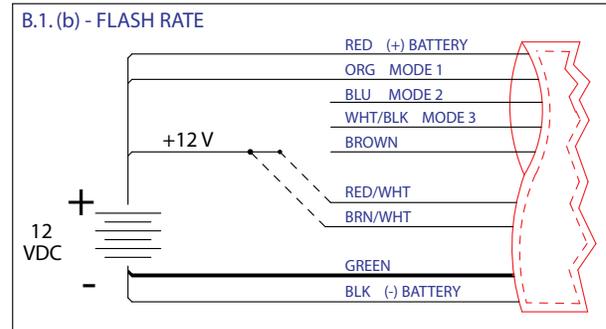
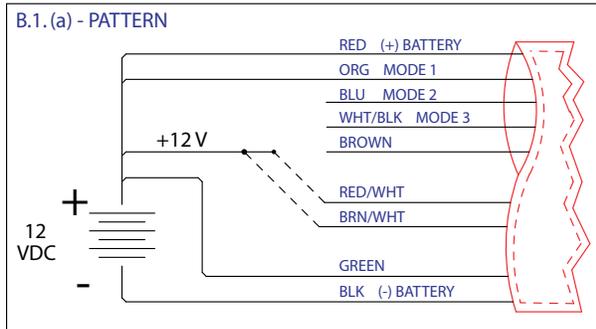
**(c) Selecting Traffic Direction Flash Rate:** With the lightbar still energized and the **Green** wire connected to ground. Select Traffic Direction flash rate by applying and removing (tapping) +12vdc to the **Blue** wire. Each tap advances the flash rate one step. Continue until the desired flash rate is selected.

**(d) Remove power from all wires.** Flash pattern and rate are now set for Traffic Direction Modes.

Note: It is only necessary to set the Traffic Direction Mode in one direction. The program selected then becomes the default for all directions.

## B. Programming For Use With Independently Controlled Switches.

**1. Programming Switch 1:** Activate the lightbar program mode by GROUNDING the **Black** input wire and then apply +12vdc to the **Red** input wire and the **Green & Orange** control wire.



**(a) Selecting Flash Pattern:** Select the Switch 1 warning pattern by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the pattern one step. Continue until the desired pattern is selected.

Tapping the **Red/White** wire advances the **Rear & End Warning Lamps**

Tapping the **Brown/White** wire advances the **Front & Corner Warning Lamps**

(Note: May be done in any order)

**(b) Selecting Flash Rate:** With the lightbar still energized remove the **Green** wire from +12vdc and connect to ground. Select the Switch 1 flash rate by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the flash rate one step. Continue until the desired flash rate is selected.

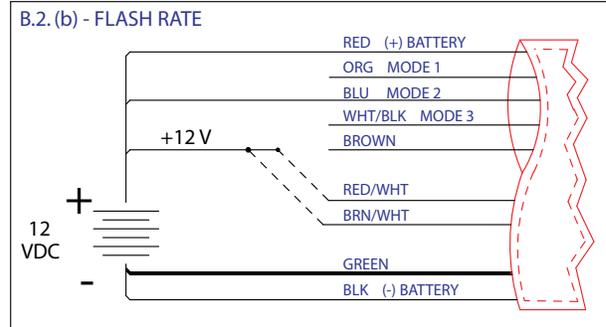
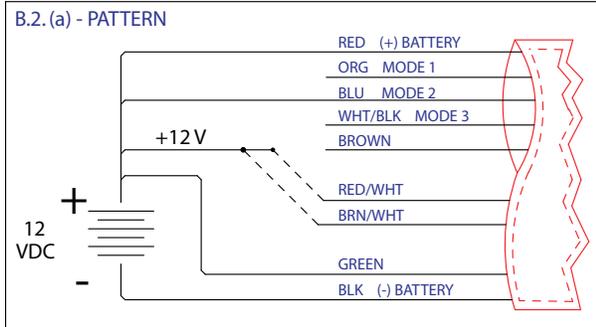
Tapping the **Red/White** wire advances the **Rear & End Flash Rate**

Tapping the **Brown/White** wire advances the **Front & Corner Flash Rate**

(Note: May be done in any order)

**(c) Remove power from all wires.** Flash pattern and rate are now set for Switch 1.  
(Orange)

**2. Programming Switch 2:** Activate the lightbar program mode by GROUNDING the **Black** input wire and then apply +12vdc to the **Red** input wire and the **Green & Blue** control wire.



**(a) Selecting Flash Pattern:** Select the Switch 2 warning pattern by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the pattern one step. Continue until the desired pattern is selected.

Tapping the **Red/White** wire advances the **Rear & End Warning Lamps**

Tapping the **Brown/White** wire advances the **Front & Corner Warning Lamps**

(Note: May be done in any order)

**(b) Selecting Flash Rate:** With the lightbar still energized remove the **Green** wire from +12vdc and connect to ground. Select the Switch 2 flash rate by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the flash rate one step. Continue until the desired flash rate is selected.

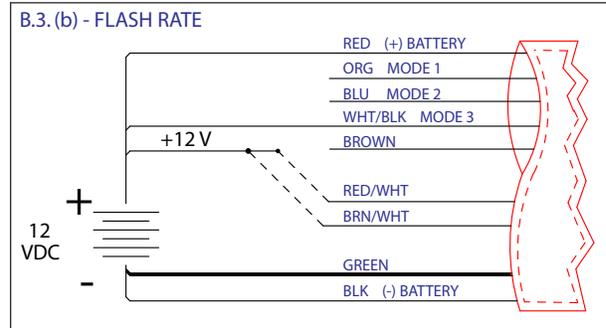
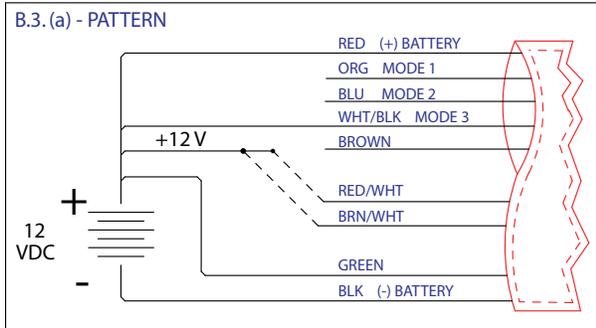
Tapping the **Red/White** wire advances the **Rear & End Flash Rate**

Tapping the **Brown/White** wire advances the **Front & Corner Flash Rate**

(Note: May be done in any order)

**(c) Remove power from all wires.** Flash pattern and rate are now set for Switch 2. (Blue)

**3. Programming Switch 3:** Activate the lightbar program mode by GROUNDING the **Black** input wire and then apply +12vdc to the **Red** input wire and the **Green & White/Black** control wire.



**(a) Selecting Flash Pattern:** Select the Switch 3 warning pattern by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the pattern one step. Continue until the desired pattern is selected.

Tapping the **Red/White** wire advances the **Rear & End Warning Lamps**

Tapping the **Brown/White** wire advances the **Front & Corner Warning Lamps**

(Note: May be done in any order)

**(b) Selecting Flash Rate:** With the lightbar still energized remove the **Green** wire from +12vdc and connect to ground. Select the Switch 3 flash rate by applying and removing (tapping) +12vdc to the appropriate wire as listed below. Each tap advances the flash rate one step. Continue until the desired flash rate is selected.

Tapping the **Red/White** wire advances the **Rear & End Flash Rate**

Tapping the **Brown/White** wire advances the **Front & Corner Flash Rate**

(Note: May be done in any order)

**(c) Remove power from all wires.** Flash pattern and rate are now set for Switch 3.

(White/Black)

Note: To program Traffic Direction Modes, reference Section A - 4 above.

NOTE: If two or more independently controlled switches are to be activated simultaneously, the wire combination must be programmed as well.

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