WHELEN®
ENGINEERING COMPANY INC.

51 Winthrop Road
Chester, Connecticut 06412-0684
Phone: (860) 526-9504
Fax: (860) 526-4078
Internet: www.whelen.com
Sales e-mail: autosale@whelen.com
Canadian Sales e-mail: canadiansales@whelen.com
Customer Service e-mail: custserv@whelen.com

Installation and Operating Guide:
Traffic Advisor™ Control Head Models
TACTRL1A, TACTRL3A, TACTRL 4,
TACTRL4A, TACTRL21A, TACTRL23A,
TACTRL24A, TACTRL32

DANGER! Sirens produce extremely loud emergency warning tones! Exposure to these tones without proper and adequate hearing protection, could cause ear damage and/or hearing loss! The Occupational Safety & Health Administration (www.osha.gov) provides information necessary to determine safe exposure times in Occupational Noise Exposure Section 1910.95. Until you have determined the safe exposure times for your specific application, operators and anyone else in the immediate vicinity should be required to wear an approved hearing protection device. FAILURE TO FOLLOW THIS RECOMMENDATION COULD CAUSE HEARING LOSS!

Safety First

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

• **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**

• **Failure to use specified installation parts and/or hardware will void the product warranty!**

• **If mounting this product requires drilling holes, the installer MUST be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins. Also de-burr any holes and remove any metal shards or remnants. Install grommets into all wire passage holes.**

• **If this manual states that this product may be mounted with suction cups, magnets, tape or Velcro®, clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.**

• **Do not install this product or route any wires in the deployment area of your air bag. Equipment mounted or located in the air bag deployment area will damage or reduce the effectiveness of the air bag, or become a projectile that could cause serious personal injury or death. Refer to your vehicle owner's manual for the air bag deployment area. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.**

• **For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. The recommended procedure requires the product ground wire to be connected directly to the NEGATIVE (-) battery post.**

• **If this product uses a remote device to activate or control this product, make sure this control is located in an area that allows both the vehicle and the control to be operated safely in any driving condition. DO NOT ATTEMPT TO ACTIVATE OR CONTROL THIS DEVICE IN A HAZARDOUS DRIVING SITUATION.**

• **It is recommended that these instructions be stored in a safe place and referred to when performing maintenance and/or reinstallation of this product.**

• **FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!**

ACTIVATION OF THIS SIREN MAY DAMAGE UNPROTECTED EARS!

Wear Protection!

⚠CAUTION
Loud siren noise can cause hearing damage and/or loss. Refer to OSHA Section 1910.95 prior to putting ANY siren into service!
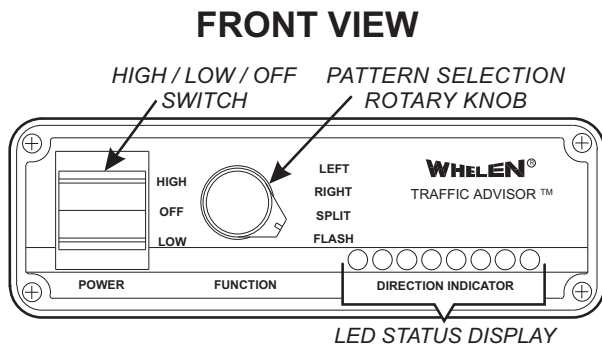
For warranty information regarding this product, visit www.whelen.com/warranty

Important Note: This manual is used for both 12-volt and 24-volt versions of TACTRL Series control head. All 24-volt versions are identical to their 12-volt counterparts in both function & operation. However, any fusing and wiring differences will be documented in the appropriate sections.

The TACTRL Series Control Head features a four-function rotary switch that allows the user to select from left arrow, right arrow, split arrow, or flash pattern. Dip switches on the rear panel determine which of the following patterns will be displayed when "flash" is selected (see "Dip Switch Programming" on page 3).

- **One Lamp Sequence to TripleFlash™**
- **One Lamp Sequence to DoubleFlash**
- **Sequence to Solid**
- **Solid Arrow**
- **Two Lamp Sequences**
- **Three Lamp Sequences**
- **Four Lamp Sequences**
- **Sequence On / Sequence Off**
- **Remote Flash Control (TACTRL1A Only)**

Remote Flash Control is the new feature on the TACTRL1A. This allows for the remote activation of the flash function when the T/A head is off. Turning on the control head overrides the auxiliary control. This is ideal for activation with a slide switch control.

FRONT VIEW

HIGH / LOW / OFF SWITCH *PATTERN SELECTION ROTARY KNOB*

LED STATUS DISPLAY

A Center-Off Rocker Switch is used to turn the unit on and off, in either high or low power mode. The TACTRL has an LED status display that provides a visual indication of the current light pattern.

Installation: Mounting Control Head

1. Position the bail strap in the selected mounting location. Using an awl or other suitable tool, scribe the surface where the mounting hole are to be drilled.

Caution: Permanent mounting of this product will require drilling. It is absolutely necessary to make sure that no other vehicle components could be damaged by this process. Check both sides of the mounting surface before starting. If damage is likely, select a different mounting location.

2. Drill the mounting holes in the areas scribed in step 1. The size of the drill bit should be determined by the size of the mounting hardware (customer supplied) and thickness of the mounting surface.

3. Using your mounting hardware, secure the bail strap to the mounting location. **NOTE: There are 2 sets of holes on the bail strap for positioning the control head at 2 different heights (see Page 3).**

4. With the bail strap in place, insert the carriage bolt along with the external tooth lock washer (supplied) into the assembly hole from the inner side of the Bail Strap as shown.

5. Place the split lock washer and the acorn nut on the protruding bolt on the outer side of the bail strap. Loosely secure the acorn nut to the carriage bolt.

6. Now slide the control head onto the carriage bolts. Once it is in the position that the customer has chosen, tighten the acorn nuts until the unit is firmly secured.

Wiring the Traffic Advisor™ System

1. Plug the connector into the back of the control head unit (see "Rear View" next page).

2. Extend the RED and BLACK wires to the battery.

3. Connect the RED wire to one end of a user supplied fuse block. *Do not connect this unit to the battery yet.*

4. Connect the BLACK wire to the vehicle's chassis ground

5. Extend and connect the WHITE wire to the accessory switch for the back light controls (TACTRL1A only).

6. Route the cable from the TA to the control head.

7. Following the pin charts for your model on page 3, insert the contact wires into their positions. Check that the wires are fully inserted by pulling back on them firmly.

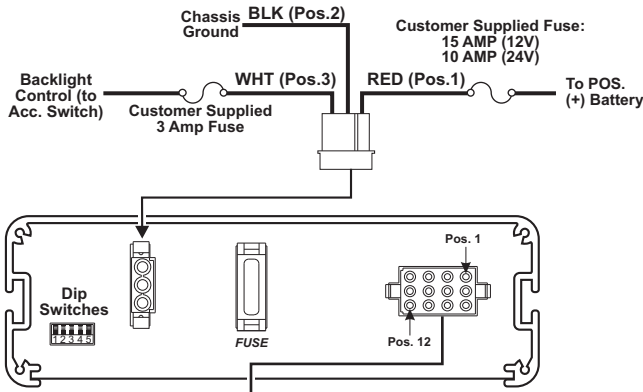8. Plug the connector(s) into the back of the control head.

WARNING! All customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and <u>FUSED</u> at the battery to carry that load. DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!
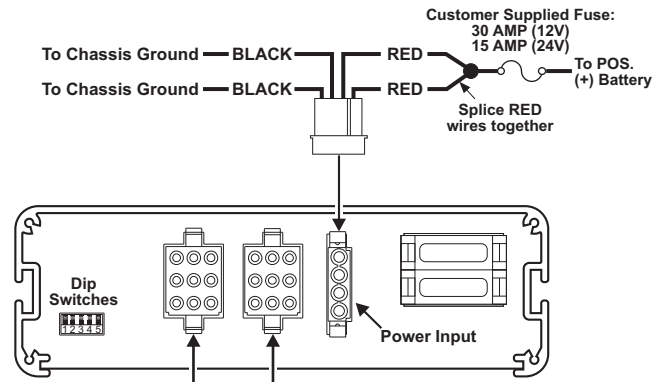
(See "Wire Chart" on page 3)

The installation of your Traffic Advisor System will be complete after the fuse block wire is connected to the POSITIVE (+) terminal of the battery. After this connection has been made, inspect the fuses at the control head and at the battery. If either of these fuses are blown, carefully inspect all of the circuit wires and make sure they are wired correctly. Replace blown fuses with one of an identical amp rating as the original. If these fuses blow after installation or activation, contact Whelen Engineering Technical Support.

IMPORTANT! It is the responsibility of the installation technician to make sure that the installation and operation of this product will not interfere with or compromise the operation or efficiency of any vehicle equipment! Before returning the vehicle to active service, visually confirm the proper operation of this product, as well as all vehicle components/equipment.
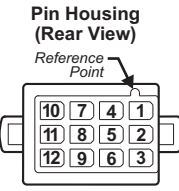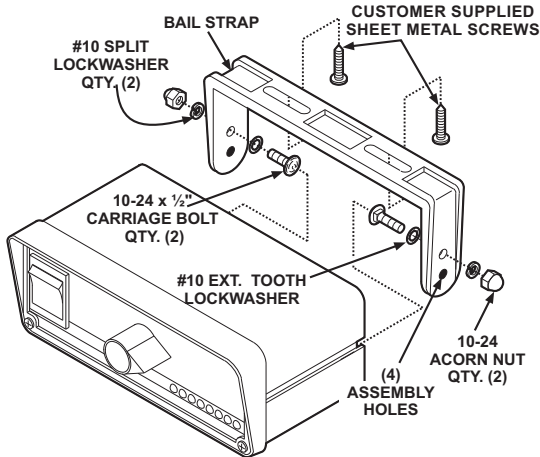
Rear View TACTRL1A

Chassis Ground — **BLK (Pos.2)**

Customer Supplied Fuse:
15 AMP (12V)
10 AMP (24V)

Backlight Control (to Acc. Switch) — **WHT (Pos.3)** — Customer Supplied 3 Amp Fuse

RED (Pos.1) — To POS. (+) Battery

Dip Switches | 1 2 3 4 5

FUSE

Pos. 1
Pos. 12

Pin Housing (Rear View)

Reference Point

PIN	FUNCTION:	WIRE
1	Lamp 1 (-)	BRN
2	Lamp 2 (-)	RED
3	Lamp 3 (-)	ORN
4	Lamp 4 (-)	YEL
5	Lamp 5 (-)	GRN
6	Lamp 6 (-)	BLU

PIN	FUNCTION:	WIRE
7	Lamp 7 (-)	VIO
8	Lamp 8 (-)	GRY
9	+BAT	WHT
10	N/C	N/C
11	N/C	N/C
12	Aux Input [1]	WHT/BLU

Requires a SP/ST switch and a 3 Amp fuse. (Customer Supplied)

Pin Housing layout: 10 7 4 1 / 11 8 5 2 / 12 9 6 3

Rear View TACTRL3A & TACTRL4A

To Chassis Ground — **BLACK** — **RED**
To Chassis Ground — **BLACK** — **RED**

Customer Supplied Fuse:
30 AMP (12V)
15 AMP (24V)

To POS. (+) Battery

Splice RED wires together

Dip Switches | 1 2 3 4 5

Power Input

RIGHT SIDE CONNECTOR

PIN	FUNCTION:
1	Lamp 5 (-)
2	Lamp 5 (+)
3	Lamp 6 (-)
4	Lamp 6 (+)
5	Lamp 7 (-)
6	Lamp 7 (+)
7	Lamp 8 (-)
8	Lamp 8 (+)
9	N/C

LEFT SIDE CONNECTOR

PIN	FUNCTION:
1	Lamp 1 (-)
2	Lamp 1 (+)
3	Lamp 2 (-)
4	Lamp 2 (+)
5	Lamp 3 (-)
6	Lamp 3 (+)
7	Lamp 4 (-)
8	Lamp 4 (+)
9	N/C

Pin Housing (Rear View)

Pin Housing layout: 1 2 3 / 4 5 6 / 7 8 9

Reference Point

NOTE: These are the functions of the PIN connectors on the back of the control head. Refer to your Traffic Advisor manual for your specific input cable wire functions.

BAIL STRAP

CUSTOMER SUPPLIED SHEET METAL SCREWS

#10 SPLIT LOCKWASHER QTY. (2)

10-24 x ½" CARRIAGE BOLT QTY. (2)

#10 EXT. TOOTH LOCKWASHER

10-24 ACORN NUT QTY. (2)

(4) ASSEMBLY HOLES

RECOMMENDED WIRE SIZE

POWER WIRES		AUXILIARY CONTROL WIRES	
13 FT.	14 AWG	26 FT.	18 AWG
21 FT.	12 AWG	42 FT.	16 AWG
33 FT.	10 AWG		

DIP SWITCH PROGRAMMING: TACTRL1A & TACTRL4A

1	2	3	4	5	LEFT	RIGHT	SPLIT	FLASH
X	X	D	D	D	Sequence TripleFlash™	Sequence TripleFlash™	Sequence TripleFlash™	SingleFlash
X	X	U	D	D	Sequence DoubleFlash	Sequence DoubleFlash	Sequence DoubleFlash	DoubleFlash
X	X	D	U	D	Sequence to Solid	Sequence to Solid	Sequence to Solid	DoubleFlash
X	X	U	U	D	Solid Half Arrow	Solid Half Arrow	Alternating Solid Half Arrow	DoubleFlash
X	X	D	D	U	Sequence Two Lamps	Sequence Two Lamps	Sequence Two Lamps	DoubleFlash
X	X	U	D	U	Sequence Three Lamps	Sequence Three Lamps	Sequence Three Lamps	DoubleFlash
X	X	D	U	U	Sequence Four Lamps	Sequence Four Lamps	Sequence Four Lamps	DoubleFlash
X	X	U	U	U	Sequence On Sequence Off	Sequence On Sequence Off	Sequence On Sequence Off	DoubleFlash

UP = *6 LIGHT ARRAY* **DOWN =** *8 LIGHT ARRAY* **U =** *UP* **D =** *DOWN*

UP = *ENABLE END LAMPS* **DOWN =** *DISABLE END LAMPS*
To shut end-cap arrows off on T/A bars for a non-directional warning.

DIP SWITCH PROGRAMMING: TACTRL3A

1	2	3	4	5	LEFT	RIGHT	SPLIT	FLASH
X	X	D	D	D	Sequence TripleFlash	Sequence TripleFlash	Sequence TripleFlash	Alt Arrow Tips/ Solid Bar
X	X	U	D	D	Sequence to Solid	Sequence to Solid	Sequence to Solid	Alt Arrow Tips/ Solid Bar
X	X	D	U	D	Sequence On/ Sequence Off	Sequence On/ Sequence Off	Sequence On/ Sequence Off	Alt Arrow Tips/ Solid Bar
X	X	U	U	D	Solid Full Arrow	Solid Full Arrow	Solid Full Arrow	Alt Arrow Tips/ Solid Bar
X	X	D	D	U	Solid Full Arrow	Solid Full Arrow	Solid Full Arrow	Arrow Tips
X	X	U	D	U	Solid Full Arrow	Solid Full Arrow	Solid Full Arrow	Solid Bar
X	X	D	U	U	Solid Half Arrow	Solid Half Arrow	Solid Full Arrow	Arrow Tips
X	X	U	U	U	Solid Half Arrow	Solid Half Arrow	Solid Full Arrow	Solid Bar

UP = Normal **DOWN =** Reversed (Swap Left & Right) **U =** *UP* **D =** *DOWN*

UP = MUTCD-compliant Patterns **DOWN =** Standard Arrow Patterns