

WHELEN[®]

ENGINEERING COMPANY INC.

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

Installation Guide: PPCS9R Power Control Center

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!

Warnings to Installers

Whelen's emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen's written instructions when installing or using this device. Emergency vehicles are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning devices. Controls should be placed within convenient reach of the operator so that they can operate the system without taking their eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer's instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SRS) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

Warnings to Users

Whelen's emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should be familiar with all applicable laws and regulations prior to the use of any emergency vehicle warning device. Whelen's audible warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.

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.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

- Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.
- Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.
- Any holes, either created or utilized by this product, should be made both air- and watertight using a sealant recommended by your vehicle manufacturer.
- 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 the 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 (this does not include products that use cigar power cords).
- If this product uses a remote device for activation or control, make sure that this device is located in an area that allows both the vehicle and the device to be operated safely in any driving condition.
- 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!**



CAUTION

Loud siren noise can cause hearing damage and/or loss. Refer to OSHA Section 1910.95 prior to putting ANY siren into service!

WARNING!

DISCONNECTING THE VEHICLE BRAKE LAMP CIRCUIT USING ANY SIRENS WITH RELAY OUTPUTS OR SWITCH CONTROLLERS COULD CAUSE VEHICLE OR PROPERTY DAMAGE, SERIOUS INJURY OR EVEN DEATH.

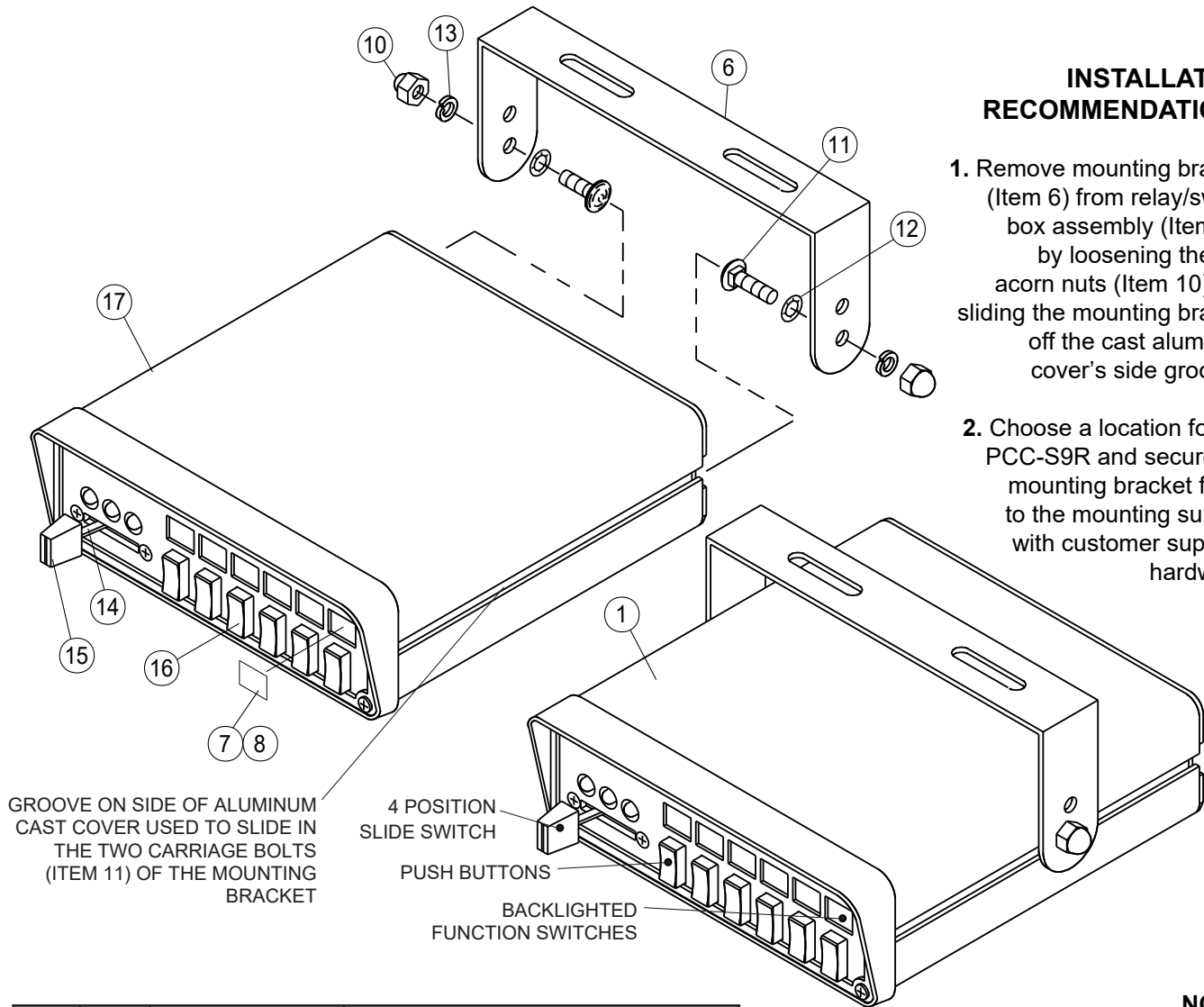
DISABLING THIS CIRCUIT IS A VIOLATION OF THE FEDERAL MOTOR VEHICLE SAFETY STANDARD FOR THE THIRD BRAKE LIGHT, AS WELL AS REAR BRAKE LIGHTS.

FUNCTIONS THAT BLACK OUT THE REAR BRAKE LIGHTS (SOMETIMES CALLED “BRAKE LIGHT CUT OUT”) MAY INTERFERE WITH THE BRAKE SHIFT LOCK MECHANISM, AND CAUSE THE VEHICLE TO MOVE UNEXPECTEDLY AND DANGEROUSLY.

DISCONNECTING THE BRAKE LIGHTS IN ANY WAY IS AT YOUR OWN RISK AND IS NOT RECOMMENDED BY WHELEN.

INSTALLATION RECOMMENDATIONS

1. Remove mounting bracket (Item 6) from relay/switch box assembly (Item 17) by loosening the two acorn nuts (Item 10) and sliding the mounting bracket off the cast aluminum cover's side grooves.
2. Choose a location for the PCC-S9R and secure the mounting bracket firmly to the mounting surface with customer supplied hardware.



GROOVE ON SIDE OF ALUMINUM CAST COVER USED TO SLIDE IN THE TWO CARRIAGE BOLTS (ITEM 11) OF THE MOUNTING BRACKET

4 POSITION SLIDE SWITCH

PUSH BUTTONS

BACKLIGHTED FUNCTION SWITCHES

PART OF ITEM 5
PART OF ITEM 9

QTY	ITEM	PART NUMBER	DESCRIPTION
*	*	01-0881403-00	PCC-S9R FINAL ASSEMBLY
1	1	41-0000000-85C	PB COVER
1	5	01-0481403-00	INSTALLATION KIT, MODEL PCC-S9R
REF	6	07-241559-000	BRACKET, BAIL STRAP PLASTIC
REF	7	10-0340730-01	LABEL, FUNCTION (W/WHITE LETTERS)
REF	8	10-0340731-01	LABEL, FUNCTION (W/WHITE LETTERS)
1	9	01-0415852-01	SCREW KIT
REF	10	13-104318-120	10-24 ACORN NUT STEEL ZINC
REF	11	14-104069-080	BOLT, 10-24 1/2" CARRIAGE
REF	12	16-1021220-45	WASHER, 10 INTERNAL TOOTH LOCK
REF	13	16-1031060-04	#10 SPLIT LOCKWASHER
REF	14	41-1101040-85C	SLIDE SWITCH
REF	15	08-0115440-00C	SLIDE SWITCH KNOB
REF	16	41-1712060-30C	PUSH BUTTON SWITCHES
1	17	01-0285545-00	PCC-S9R RELAY/SWITCH BOX ASSY

NOTE:

The Mounting Bracket may be installed in any position, as long as the relay/switch box assembly can slide in and out from the mounting bracket, and all switches are easily accessible.

3. Wire the unit (See Pg. 2) and slide the unit into position inside the mounting bracket. Finally, tighten the two acorn nuts (Item 10) located on each side of the PCC-S9R.

I. INTRODUCTION.

The PCC-S9R features a 4 position slide switch and six SPST push button switches. Five of these switches have 20 amp circuit capability for most primary and secondary warning functions. A SPST momentary contact switch (Switch #7, see page 4) compliments the Power Control Center with the ability to control strobe low power, gun lock, or trunk lock applications. In addition to controlling primary warning light functions, the slide switch has an automatic siren-turn-on feature. This gives the operator true single lever control over both primary warning lights and siren functions. The PCC-S9R is designed for a 12V DC system.

II. MOUNTING (See page 1).

III. WIRING. All wiring tasks take place at the rear of the PCC-S9R relay/switch box assembly.

IMPORTANT NOTE: Before attempting any wiring, make sure all switches are in the "OFF" position. The slide switch must be in the full left position, and all push buttons must be fully extended.

A. The 12 position output connector block is located on the rear of the relay/switch box assembly behind the slide switch. Disregard any number molded into the plastic connector housing. Refer instead to the illustration and reference chart on page 4 for switch-to-output position information. The PCC-S9R is supplied with a bag of crimp-on, push on connectors sized to accept customer supplied 14 AWG wire. Leave enough slack in all these wires to allow the relay/switch box assembly to be removed from the mounting bracket (see page 1). Strip wire ends approximately 1/4" and insert into terminal. Crimp firmly. Insert the wire into the appropriate output position of the output connector block.

B. The two wire harness on the rear of the relay/switch box assembly has a mating two wire connector harness to be crimped to a customer supplied 2 conductor cable and wired into the vehicular electrical system (See page 4).

1. The red wire is the positive feed for all the switches and indicator lights. This wire should be connected to the vehicle fuse block "ACCESSORY OUTLET". Failure to use the "ACCESSORY" outlet will cause the indicator lights to remain on, and drain the vehicle battery. This circuit is protected by a 3 amp fuse located on the relay board inside the relay/switch box assembly. This system master fuse is accessible by removing the aluminum extruded cover from the relay board.

2. The black wire is the ground for all switches and relays. Connect this wire to a good electrical ground.

C. Output number 4 in the terminal block is the auxiliary siren turn-on feature from slide switch position number 3 (red LED indicator). Its purpose, when connected to a siren amplifier, is to turn on the siren. This output provides a

ground for automatic activation of the electronic siren. Check your electronic siren owners manual for compatibility with this feature. The siren tone is determined by the setting of the siren function control knob located on the siren amplifier unit.

CAUTION! If this feature is not to be used, do not make this wire connection! However, if this feature is to be used, insert the end of the blue wire assembly with the push on connector into the output position number 4 on the output connector block.

NOTE: The length of the supplied blue wire assembly, 13 in., requires the Models PCC-S9R Power Control Center and the siren amplifier to be mounted in close proximity.

D. Connect the 10 AWG red wire to the battery positive terminal. Fuse this circuit at 50 amps as close as possible to the power source.

IV. OPERATION. The PCC-S9R uses a 6 pole dip switch to program the output operation of the slide switch. The PCC-S9R is shipped with the dip switch levers in the open position (depressed on the end with the word OPEN), allowing single output operation in each slide switch active position. For multiple outlet functions see illustration on page 3 and programming mode chart on page 5. The dip switch is located on the relay board of the PCC-S9R (see page 3 and 5), and is accessible by removing the aluminum extruded cover from the relay board (see page 3). With all electrical connections made, and the vehicle "ACCESSORY" outlet on, the PCC-S9R will display the following characteristics: The slide switch LED indicators will be off, and the green LED indicators will be lit behind the function windows located above the push button switches. As the slide switch is moved progressively to the right, the green, yellow, and red LED indicators will turn on in sequence as well as the corresponding output(s) located in the output block. As each push button is depressed, the green indicator back lighting the function window will change to red and the corresponding output on the output block will turn on (see page 4 for switch details). Note that switch number 7 is a momentary contact switch with isolated contacts. The indicator light will show red and the outlet will remain on only as long as the button is depressed. This circuit must be fused by a customer supplied one amp fuse. Most likely uses for this switch are strobe low power, trunk lock, or gun lock.

V. FUNCTION LABELS. The PCC-S9R is supplied with an assortment of commonly used function labels. Verify the function of each push button switch. Peel the labels from the backing sheet and stick them on the front of the appropriate switch function window.

VI. TROUBLE SHOOTING.

A. NOTHING WORKS.

1. Check that "ACCESSORY" outlet is on.
2. Check Black wire for a good electrical ground (see step III.B.2.)
3. Check fuse in 10 AWG red power wire. (see step III.D.)
4. Check 3 amp master fuse on relay board. (see step III.B.1.)

B. ONE SWITCH DOES NOT WORK.

1. Check output fuse located on rear of the relay/switch box assembly (see page 4).
2. Check that crimp connectors are properly installed. (see step III. A.)

C. SIREN AMPLIFIER DOES NOT OPERATE IN SLIDE SWITCH POSITION NUMBER 3 (RED LED).

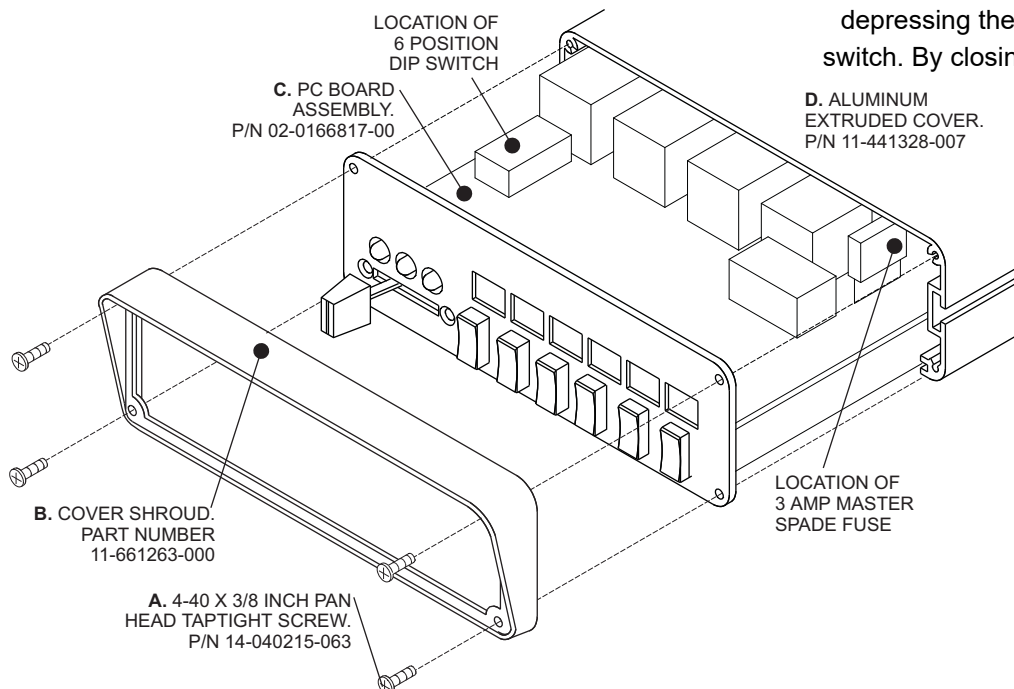
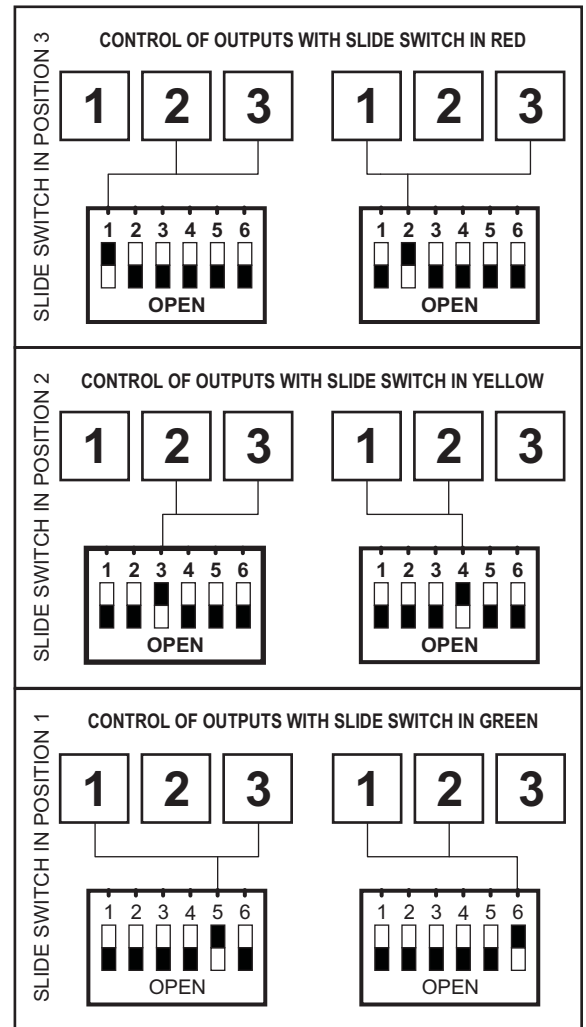
1. Check blue wire connections (see step III. C.)
2. Check that siren amplifier harness is plugged in.
3. Check that there is power to the siren amplifier.
4. Check that siren tone selector is not in "P.A." or "RADIO".

D. OPENING THE POWER CONTROL CENTER.

1. If power control center is secured by mounting bracket in its location, slide unit from the mounting bracket (See Installation on page 1).

IMPORTANT WARNING. if the unit is connected to the power source, disconnect the power.

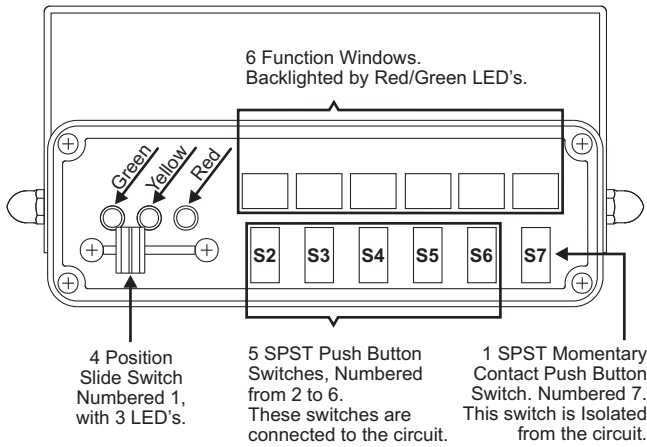
2. Remove the four screws (item A), located on the four corners of the face plate.
3. Remove cover shroud (item B), and slide PC board assembly (item C) from aluminum extruded cover (item D).



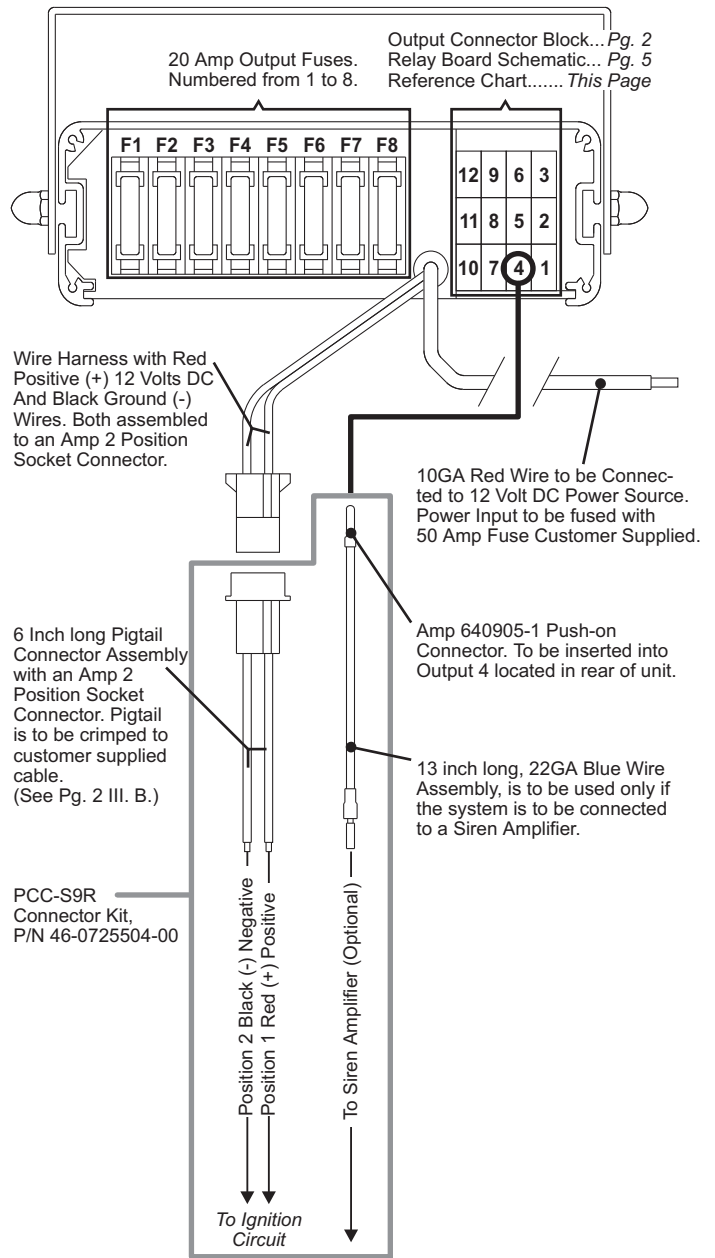
Shown above are the different modes available by depressing the switch levers located on the dip switch. By closing the switch lever (in depressed position on the side with the numbers) a choice of two or three simultaneous functions are available for the three active slide switch positions by the use of the output functions 1, 2 and 3 located on the output connector block (See IV, Pg. 2)

WIRING DIAGRAM FOR THE PCC-S9R POWER CONTROL CENTER

PCC-S9R FRONT VIEW



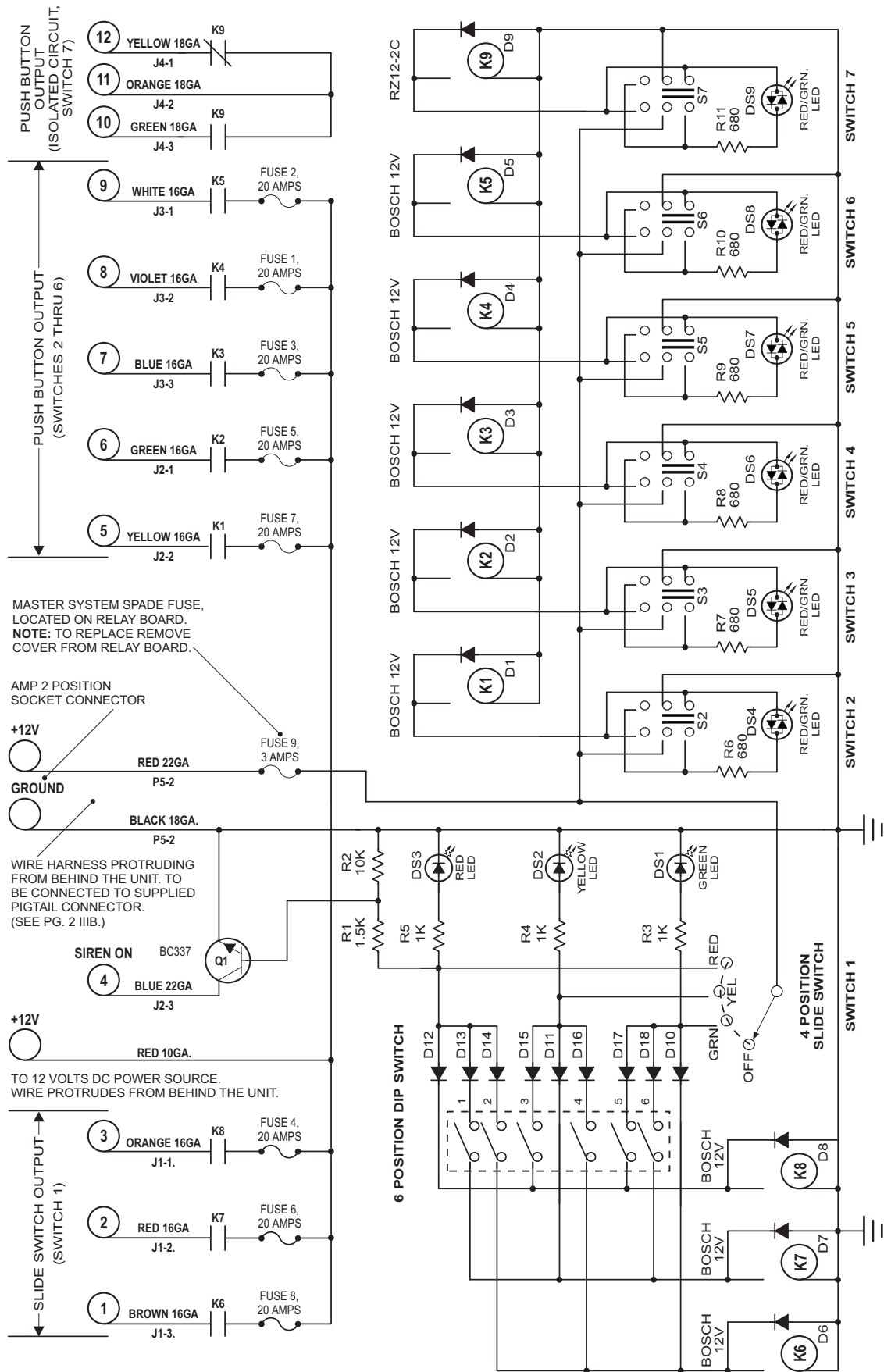
PCC-S9R REAR VIEW



OUTPUT	ACTIVATION	FUNCTION	FUSE
1	SLIDE SWITCH GREEN	NORMALLY OPEN 20 AMPS (MAX) @ 13.5 VDC	F8
2	SLIDE SWITCH YELLOW	NORMALLY OPEN 20 AMPS (MAX) @ 13.5 VDC	F6
3	SLIDE SWITCH RED	NORMALLY OPEN 20 AMPS (MAX) @ 13.5 VDC	F4
4	SLIDE SWITCH RED	SIREN ON. OPEN COLLECTOR 250mA (MAX) NOTE: THIS FUNCTION ACTIVATES A WHELEN WS-295MP SIREN AMP.	N/A
5	PUSH BUTTON SWITCH 2	NORMALLY OPEN 20 AMPS (MAX) @ 13.5 VDC	F7
6	PUSH BUTTON SWITCH 3	NORMALLY OPEN 20 AMPS (MAX) @ 13.5 VDC	F5
7	PUSH BUTTON SWITCH 4	NORMALLY OPEN 20 AMPS (MAX) @ 13.5 VDC	F3
8	PUSH BUTTON SWITCH 5	NORMALLY OPEN 20 AMPS (MAX) @ 13.5 VDC	F1
9	PUSH BUTTON SWITCH 6	NORMALLY OPEN 20 AMPS (MAX) @ 13.5 VDC	F2
10	PUSH BUTTON SWITCH 7	NORMALLY OPEN 1 AMP (MAX) COMMON	N/A
11	N/A	+13.5VDC ACC.	EXT.
12	PUSH BUTTON SWITCH 7	NORMALLY CLOSED 1 AMP (MAX)	N/A

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 fused "at the battery" to carry that load.

PCC-S9R RELAY BOARD SCHEMATIC



MASTER SYSTEM SPADE FUSE, LOCATED ON RELAY BOARD. **NOTE:** TO REPLACE REMOVE COVER FROM RELAY BOARD.

AMP 2 POSITION SOCKET CONNECTOR

+12V
RED 22GA
P5-2
GROUND
BLACK 18GA.
P5-2

WIRE HARNESS PROTRUDING FROM BEHIND THE UNIT, TO BE CONNECTED TO SUPPLIED PIGTAIL CONNECTOR. (SEE PG. 2 IIIB.)

SIREN ON BC337 Q1
4 BLUE 22GA J2-3

+12V
RED 10GA.
TO 12 VOLTS DC POWER SOURCE. WIRE PROTRUDES FROM BEHIND THE UNIT.

1 BROWN 16GA K6 FUSE 8, 20 AMPS J1-3.

2 RED 16GA K7 FUSE 6, 20 AMPS J1-2.

3 ORANGE 16GA K8 FUSE 4, 20 AMPS J1-1.

4 BLUE 22GA J2-3

5 YELLOW 16GA K1 FUSE 7, 20 AMPS J2-2.

6 GREEN 16GA K2 FUSE 5, 20 AMPS J2-1.

7 BLUE 16GA K3 FUSE 3, 20 AMPS J3-3.

8 VIOLET 16GA K4 FUSE 1, 20 AMPS J3-2.

9 WHITE 16GA K5 FUSE 2, 20 AMPS J3-1.

10 GREEN 18GA J4-3

11 ORANGE 18GA J4-2

12 YELLOW 18GA K9

SEE PAGES 2, 3 & 5 FOR DIP SWITCH INFORMATION.

DIP SWITCH PROGRAMMING MODES

DIP SWITCH NUMBER	SLIDE SWITCH POSITION	OUTPUT ACTIVE
1	RED	2 & 3
2	RED	1 & 3
3	YELLOW	3 & 2
4	YELLOW	1 & 2
5	GREEN	3 & 1
6	GREEN	2 & 1

NOTE: UNLESS OTHERWISE SPECIFIED, RESISTORS ARE IN OHMS, 1/4W 5% TOLERANCE. ALL DIODES ARE 1N4005
NOTE: THE 6 RED/GREEN LEDs ARE LOCATED BEHIND THE FUNCTION WINDOWS, ON THE FACE PLATE OF THE UNIT, ABOVE THE 6 SPST PUSH BUTTON SWITCHES.