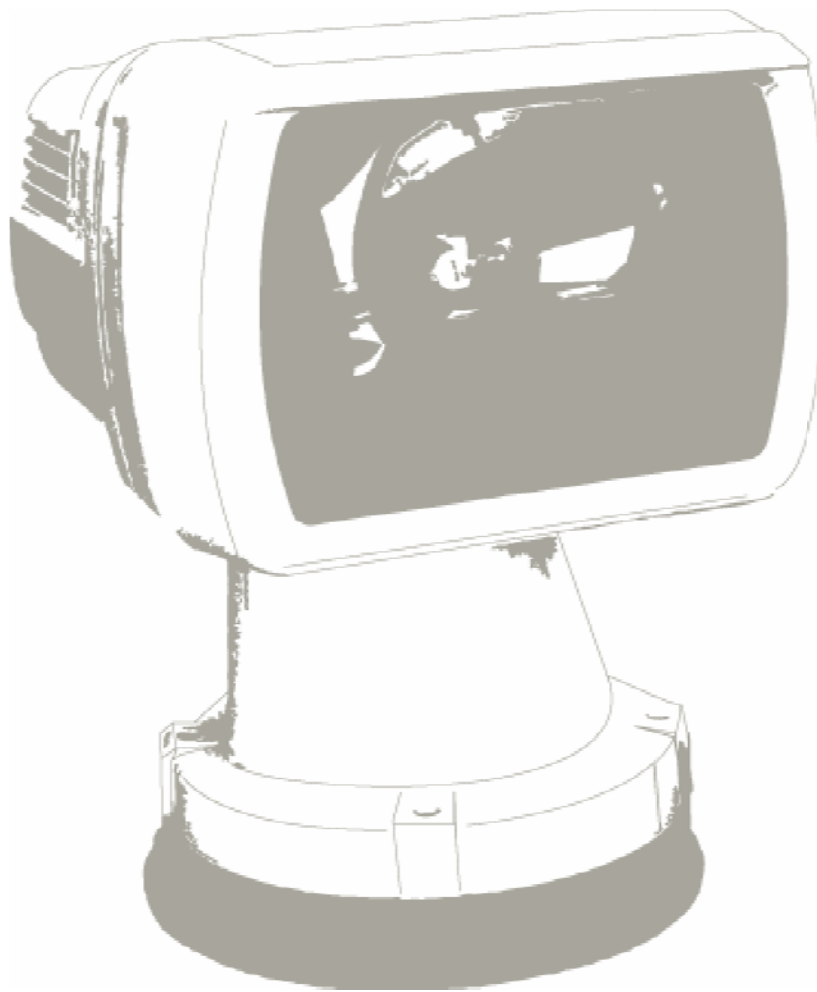# THE SCIENCE ACR OF SURVIVAL

PRODUCT SUPPORT MANUAL

RCL-600A//
Remote Control Searchlight System
with Joystick Remote Control Panel

Model No.: RCL-600A
Product No.: 1941(24V) and 1943(12V)

Y1-03-0139 Rev. J

⚠ **CAUTION:** Before proceeding to install, test or use your new ACR Electronics' product, please read this Product Support Manual in its entirety.

If you have questions regarding the contents of the manual, please contact our Technical Service Department at ACR Electronics, Inc., Telephone +1 (954) 981-3333. Please be ready to provide the technician with the page number you wish to discuss. If you have a question that is not covered in the manual, please visit our website and access the Frequently Asked Questions (FAQs) section for further information or call our Technical Service Department. The website address is www.acrartex.com. If in the future you lose this manual, you may access and print a replacement on the ACR website.

Table of Contents

⚠ **PLEASE READ ALL WARNINGS, CAUTIONS AND NOTES CAREFULLY**

SECTION 1 - HOW THE SEARCHLIGHT WORKS

The RCL-600A was specially designed for mariners who require a high intensity remote controlled searchlight that can stand up to the tough marine environment.

The RCL-600A is a xenon arc searchlight that produces six (6) million peak candle power. All functions of the RCL-600A can be electrically operated by remote control from the pilot area of the vessel. A remote control panel is supplied with the RCL-600A. An optional slave remote control panel is available (ACR Product No. 1942).

The sleek design and modern construction of the searchlight body makes it attractive for recreational and commercial vessels. The searchlight is totally enclosed and is made of rugged aluminum alloy. It is gasketed and finished to be resistant to the weather.

SECTION 2 - PREPARING TO INSTALL

2.1 Unpacking the RCL-600A
Before proceeding with the installation of the RCL-600A, please verify that the content of the box includes the following:

- Light housing with wires, 12V (Product number 1943), OR Light assembly,24V (Product number 1941)
- RCL-600A xenon bulb (located inside packing foam)
- Joystick
- Product Support Manual
- Instruction sheet for RCL-600 upgrade (for Product Number 1943),OR Instruction sheet for RCL-600 (for Product Number 1941)
- Warranty card

If any of the above is missing, please contact ACR Electronics' Technical Service by email at service@acrartex,com or by phone at 1 (800) 432-0227. Please be ready to provide the serial number of your unit and location of purchase.

SECTION 3 - INSTALLATION

3.1   Wiring the unit
The RCL-600A Remote Control Searchlight consists of searchlight unit and a master remote control panel. The user must supply the cable and/or wire to power the unit (see Appendix A for Cable Selection Tables). The source must be a fused 24 VDC, 10 amp supply (product number 1941) or a fused 12 VDC, 20 amp supply (product number 1943). This cable is to be attached to the searchlight as shown in the connection diagram. See Figure 1.

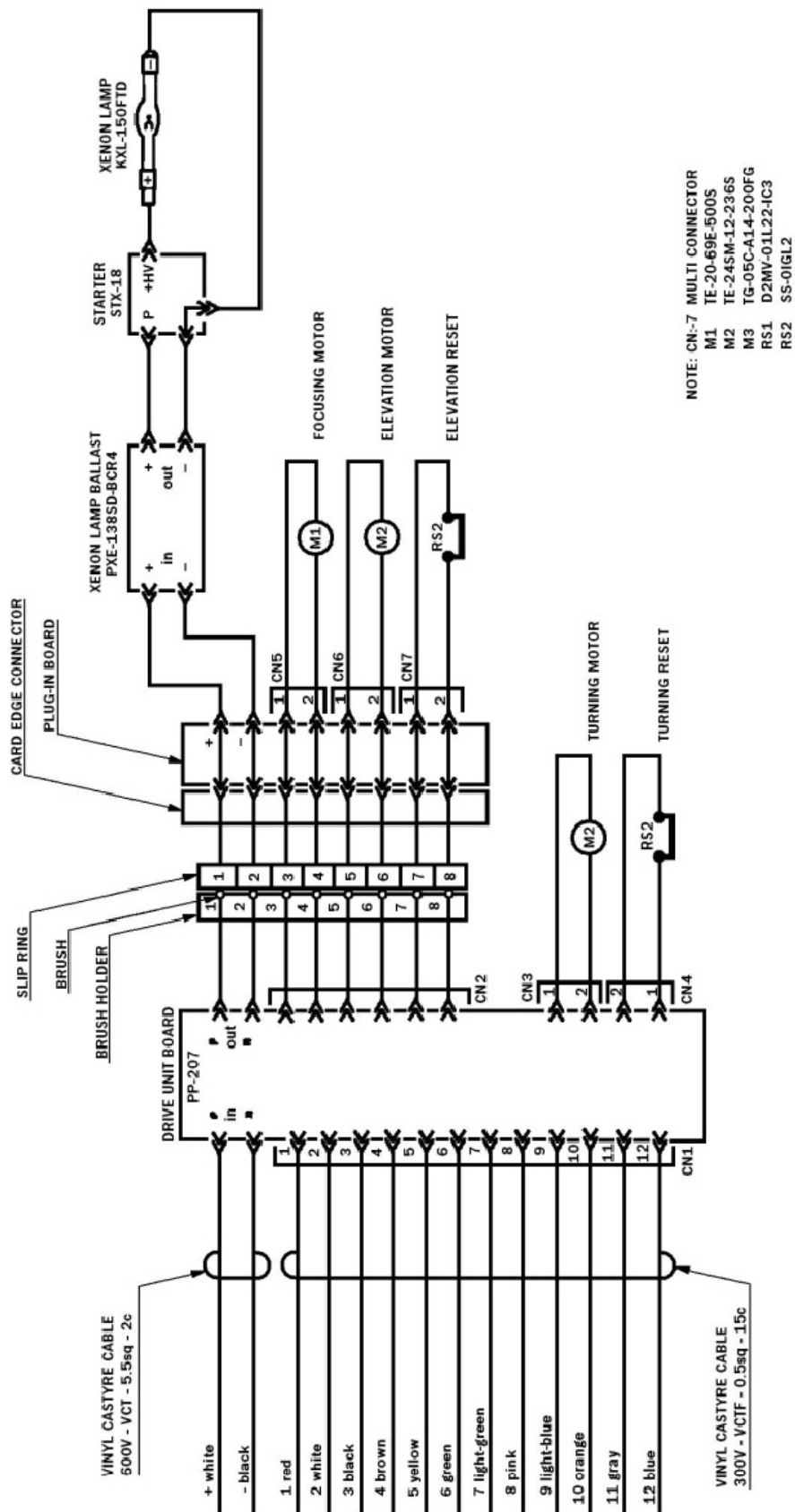⚠️**CAUTION:** Observe polarities when attaching wires!

Figure 1

3.2 Mounting the remote control panel (master)

The remote control panel can be mounted where desired using appropriate marine grade mounting hardware. For water-resistant installation, some type of gasketing (neoprene sheet, silicone sealant, etc.) must be used. In all cases, the remote control panel should be mounted in a protected area. Refer to Figure 2 for mounting and wiring details.
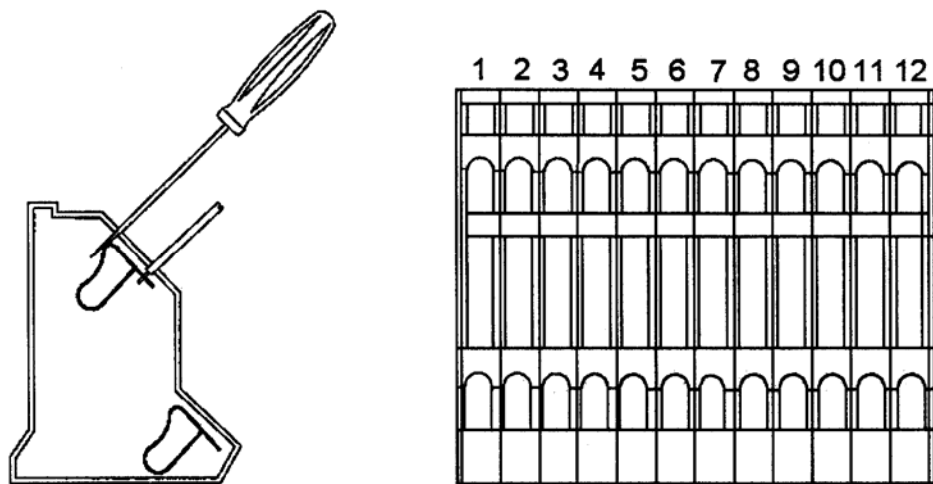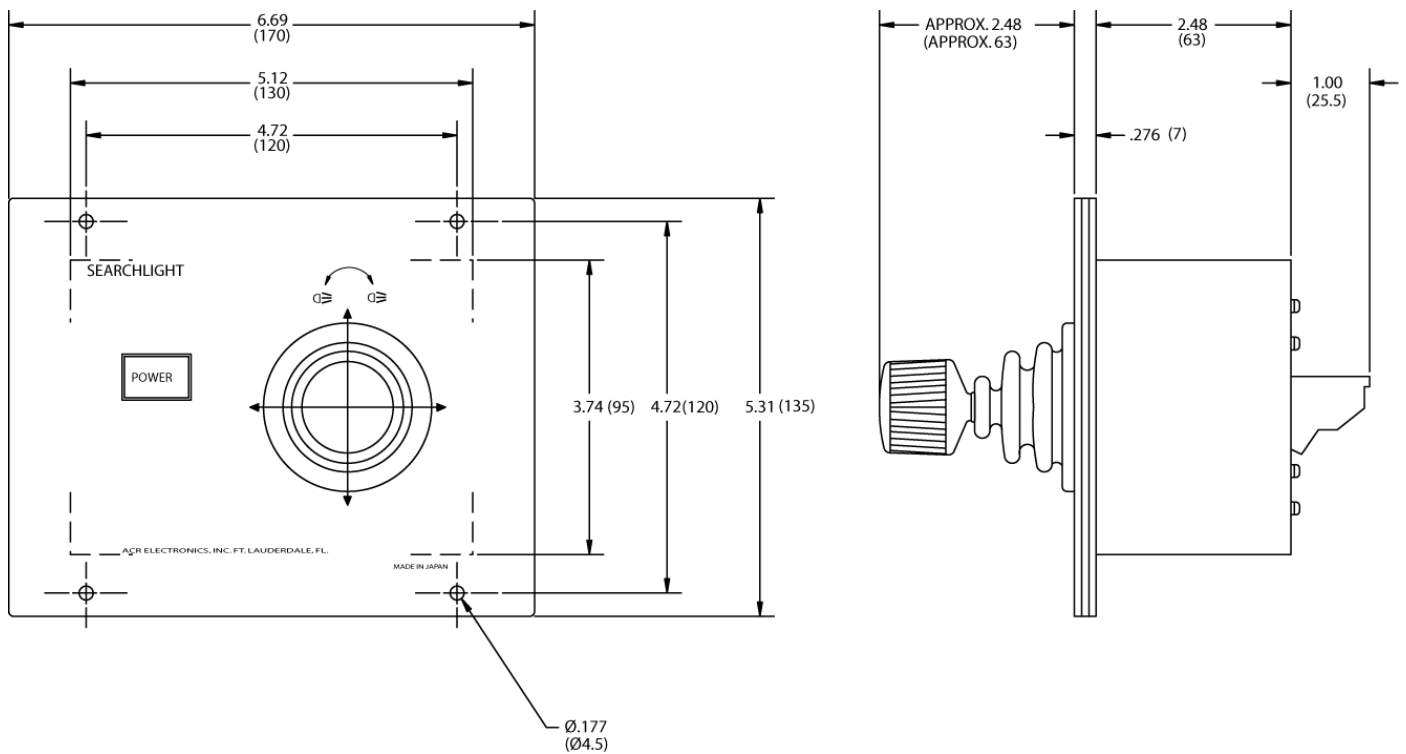
Figure 2

3.3 Wiring of remote control panel

The remote control panel is shipped with a 6-foot (1.83-meter) long, 20 AWG cable. The cable will be attached to the searchlight and should be connected to the corresponding contacts on the remote control panel based on the wire color. Refer to Figure 3.
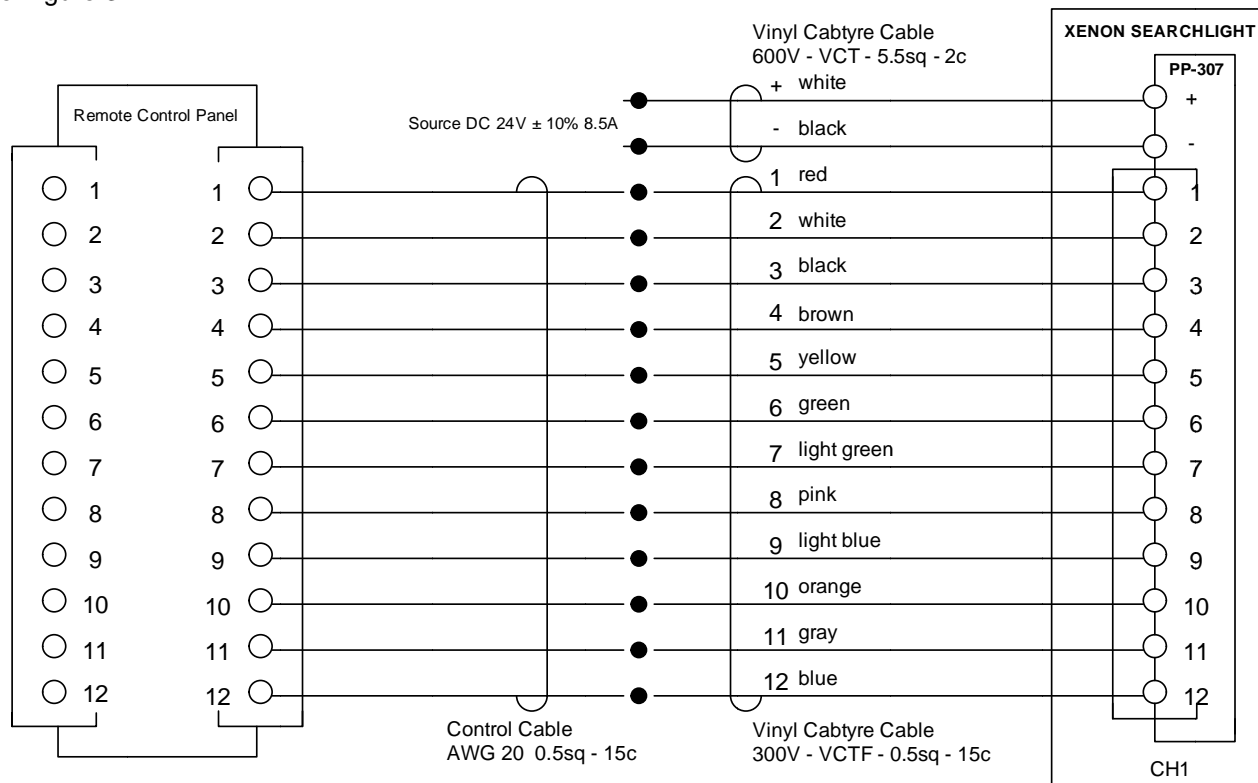

Figure 3

3.4 Installing the searchlight

The searchlight can be mounted where desired, using 3/8" length stainless steel fasteners. Keep navigational aids, antennas, etc., out of the beam path of the light. It is recommended to mount antennas 10 feet (3.05 meters) above the light, at a minimum. Be sure the 4 nylon shoulder washers, supplied with the searchlight, have been inserted in the searchlight base mounting holes to prevent a galvanic reaction between the mounting hardware and the base of the searchlight. Also make sure that the mounting base gasket is securely in place before bolting down. Silicone grease should be applied to the bottom of the gasket to help in waterproofing the unit.

When mounting, be sure that the unit is able to rotate 360° without hitting any obstructions. Refer to Figure 4 for mounting details. Mount unit so that the ID label on the mounting base faces forward. This is the home position when light is reset.

See instructions on controls. See Section 4.2 for bulb installation.

⚠ **CAUTION:** The searchlight is not designed for inverted mounting.

⚠ **CAUTION:** Xenon-Arc lights emit electromagnet radiation, which may interfere with some communication or navigation systems mounted on board.

The preferred location for communication and navigation equipment system antennas is at least 3 meters directly above the light.

After the light is installed, all critical communication and navigation systems should be checked for proper operation with the light turned ON and rotated in all directions.
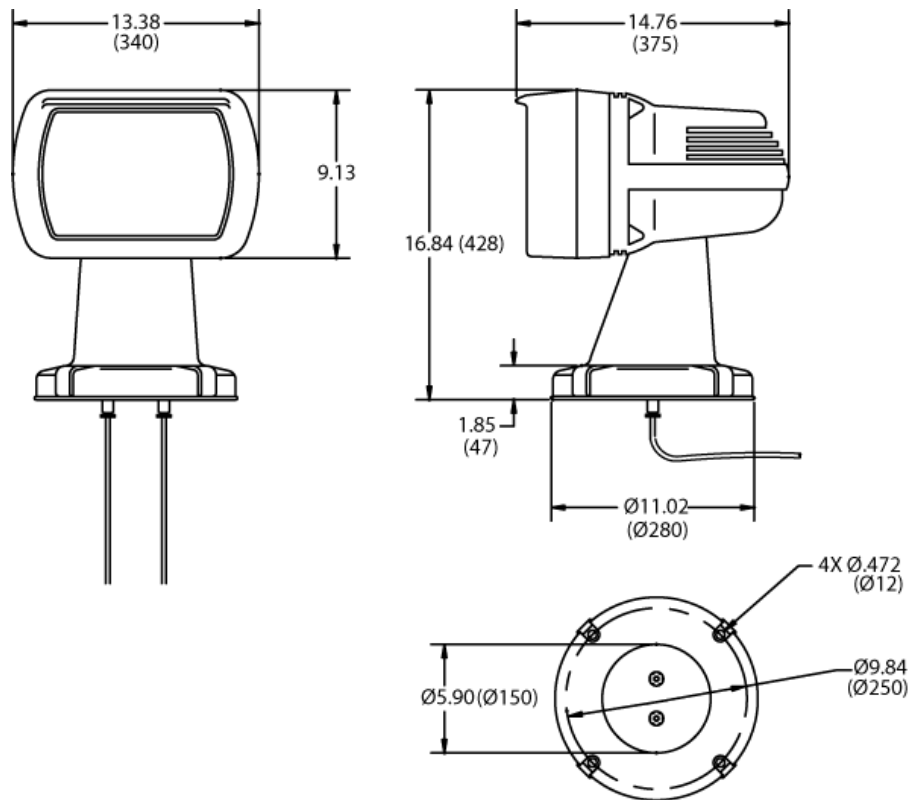
Figure 4

3.5   Installing a second remote control panel (slave)
The second remote control panel is optional. This section refers to Product No. 1942 only.

The second Remote Control Panel may be mounted similarly to the first. The second remote control panel is wired parallel to the first remote control panel. Connect cable to sockets on back of control panels. The master panel should have cable plugged into top socket row 2. The slave panel should have the cable plugged into bottom socket row 1 (refer to Figure 5).

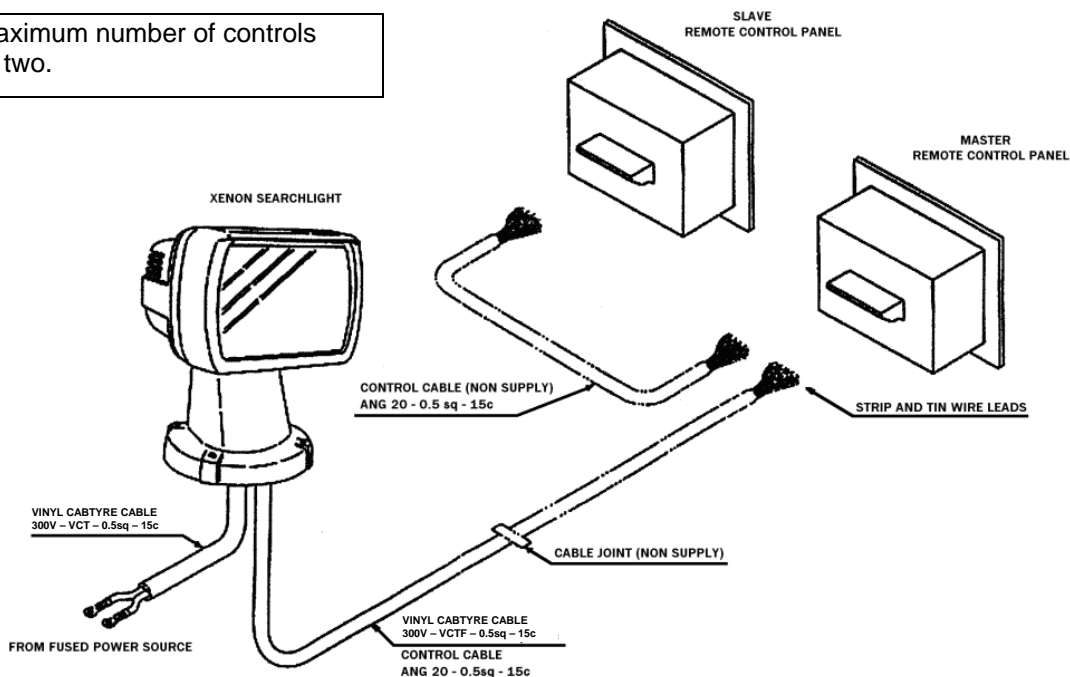NOTE: The maximum number of controls cannot exceed two.

Figure 5

SECTION 4 - OPERATION

4.1   Instructions on Controls

A. Rotation
> Up/Down/Left/Right- Move joy stick in the desired direction.
> Low Speed Range- 0° to 7.5°
> High Speed Range- 7.5° to 15°

B. Focus
> Rotate focusing knob for desired light spot size (wide or narrow)

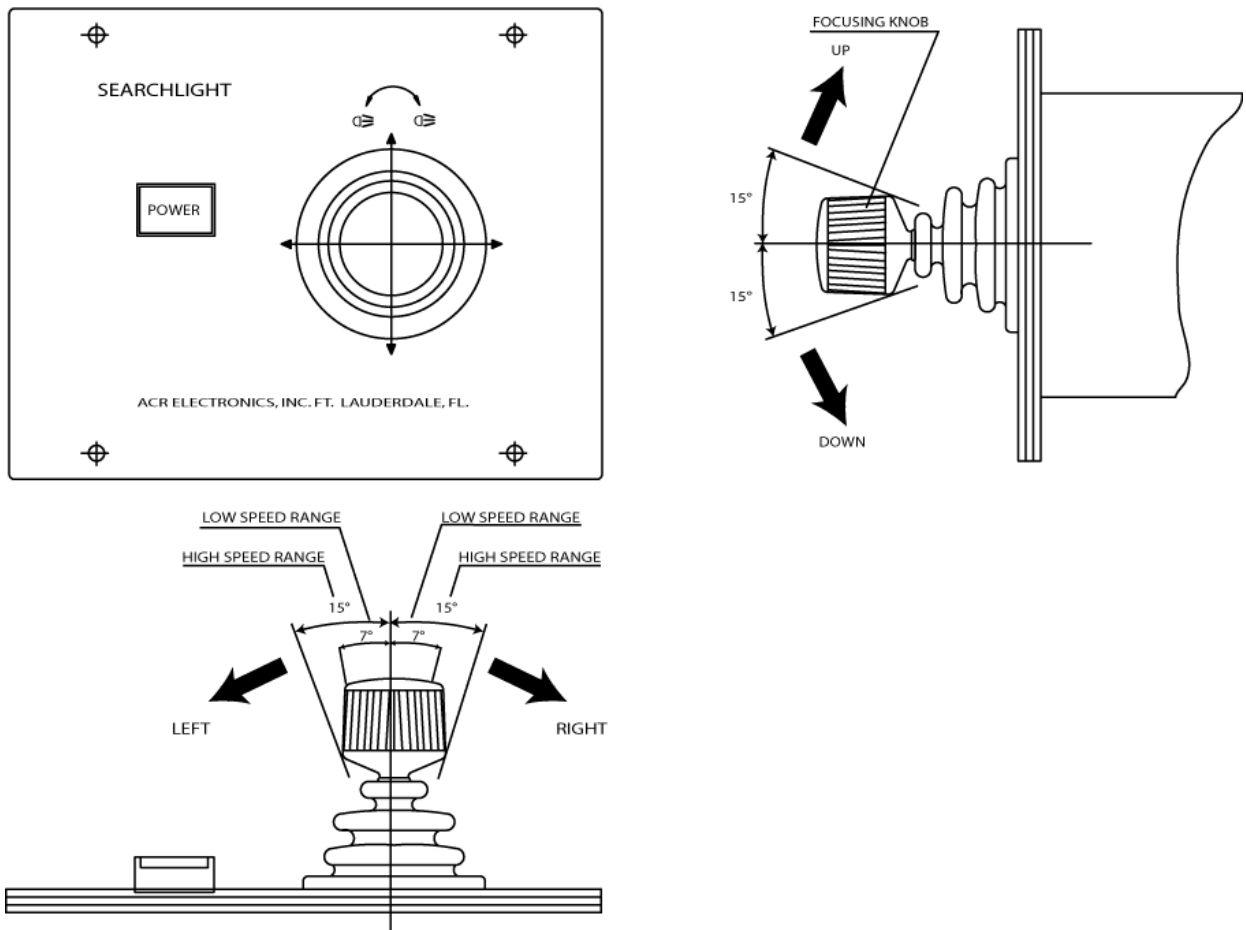C. Operation of CPF99 Control Panel

Figure 6

SECTION 5- CARE AND MAINTENANCE

5.1   General care

The RCL-600A is relatively maintenance free. Clean the exterior of the light with a mild detergent and water if desired. Rotate the light left, then right and up then down periodically to keep motors and turning surfaces clean and operational.

> ⚠️ **WARNING:** DO NOT rotate the light manually. This will strip the gear rack.

5.2   Bulb Replacement

A 150W xenon short arc lamp is provided with your RCL-600A. If it should need replacement, it can be ordered through an ACR dealer or through ACR Electronics. The part number is P/N 6007.

> ⚠️ **CAUTION:** Failure to follow replacement instructions carefully can result in damage to bulb and/or lights. All part sales are final.

To replace the lamps, follow these steps:

> ⚠️ **WARNING:** Turn OFF the power switch when installing lamp.

> ⚠️ **WARNING:** Do NOT touch glass or parabolic reflectors with fingers or tools! Use cloth gloves.

1. Disconnect unit from power source and allow cooling.
2. Remove four screws holding front frame and glass with provided 6mm hex wrench.
3. Loosen mounting collar of lamp by turning collar counter clockwise. Unhook wire from opposite end of lamp. Pull lamp out of mounting collar. Installation is done in reverse order.
4. Replace front frame and glass and install the four retaining screws. Be sure gasket is properly lubricated and securely in place.
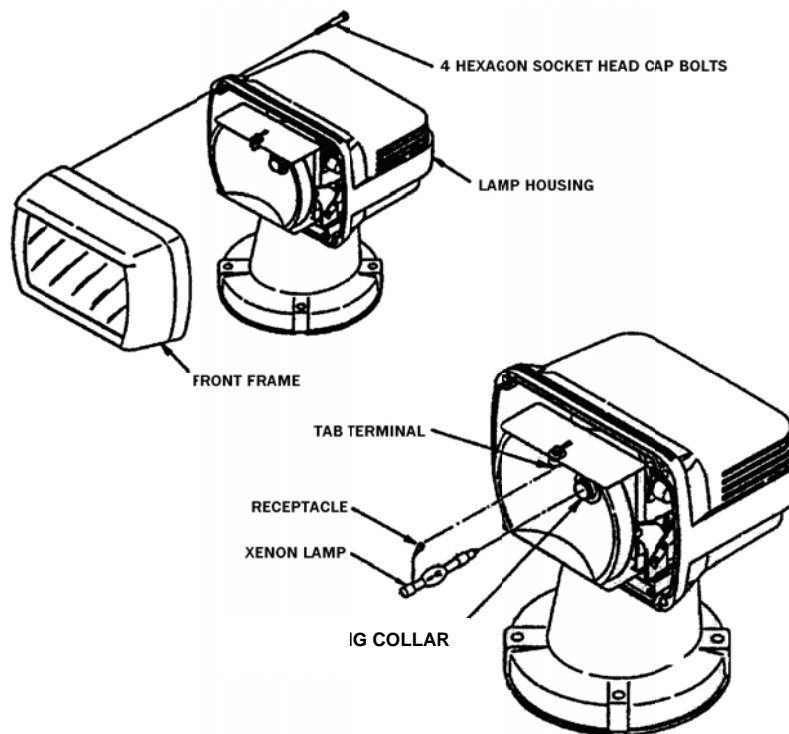5. Reconnect unit to power source.

Figure 7

> ⚠️ **CAUTION:** If you handle the xenon lamp with dirty hands, wipe off the stain on the glass with alcohol.

APPENDIX A - CABLE SELECTION TABLES

TABLE 1- Cable Selection Table, RCL-600A, 12V

Source cable size	
0 – 30 ft run	AWG 12
30 – 50 ft run	AWG 8
50 – 100 ft run	AWG 6
Control cable size	
0 – 100 ft run	AWG 16
Remote panels cable size	
0 – 100 ft run	AWG 16

TABLE 2- Cable Selection Table, RCL-600A, 24V

Main cable and source cable size	
0 – 30 ft run	AWG 14
30 – 50 ft run	AWG 12
50 – 100 ft run	AWG 10
Control cable size	
0 – 100 ft run	AWG 16
Remote panels cable size	
0 – 100 ft run	AWG 16

APPENDIX B - RCL-600A SPECIFICATIONS

Characteristic	Specification
Lamp housing	Aluminum alloy die casting
Base	Aluminum alloy die casting
Power source, 24V	21.6 – 26.4 V
Power source, 12V	12V
Fuse, 24V	10 amp
Fuse, 12V	20 amp
Reflector	High quality parabolic glass
Lamp	150W Xenon short arc lamp
Peak beam candle power	6,000,000 CD
Beam spread	About 1°
Operation method	Electric remote control
Elevation angle	Up 18°, down 30°
Turning angle	360° (Continuous)
Elevation speed	About 7.5°/sec.
Turning speed	Low about 11°sec., High about 27° sec.

APPENDIX C - ACCESSORIES

The following are options and replacement parts that can be ordered for your searchlight:

Item	ACR Product Number (P/N)
Replacement bulbs: 150W, 12V or 24V lamp	6007
Joystick, for second station for 24V RLC-600A (no cable)	1942

APPENDIX D - WARRANTY, NOTICES

Limited Warranty

This product is warranted against factory defects in material and workmanship for a period of 1 (one) year* from date of purchase or receipt as a gift. During the warranty period ACR Electronics, Inc. will repair or, at its option, replace the unit at no cost to you for labor, materials and return transportation from ACR. For further assistance, please contact our Technical Service Department at ACR Electronics, Inc., 5757 Ravenswood Road, Fort Lauderdale, FL 33312-6645. Email: service@acrartex.com, Fax: +1 (954) 983-5087, Telephone: +1 (954) 981-3333.

This warranty does not apply if the product has been damaged by accident or misuse, or as a result of service or modification performed by an unauthorized factory. Except as otherwise expressly stated in the previous paragraph, THE COMPANY MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER WITH RESPECT TO THIS PRODUCT. The Company shall not be liable for consequential or special damages.

To place the warranty in effect, register online at www.acrartex.com or return the attached card within 10 days.

*Five years for the following products: EPIRB, PLB, S-VDR, SSAS.

Notices

ACR Electronics diligently works to provide a high quality Product Support Manual, however, despite best efforts, information is subject to change without notice, and omissions and inaccuracies are possible. ACR cannot accept liability for manual contents. To ensure that you have the most recent version of the Product Support Manual, please visit the ACR website at www.acrartex.com.

©2012 by ACR Electronics, Inc. All rights reserved. Reproduction in whole or in part is permitted only with permission of ACR Electronics, Inc.

Ongoing product improvements may change product specifications without notice.

Trademarks or registered trademarks are the property of their respective owners.