PSC Bell and Light System Owner's Manual

Copyright 2017

All Rights Reserved, Patent Pending

Professional Sound Corporation, Valencia, CA 91355 USA

Thank you for purchasing your new PSC Bell and Light System. We are confident that the new PSC Bell and Light System is the best, most advanced design on the market.   We spent hundreds of hours designing this system to be the best in the World.   Great care was taken to make this new design as flexible as possible to allow it to be used in many ways. This allows you, our customer to be able to use the system in many different ways, from a traditional wired remote control system to a fully automatic, recorder driven system to a convenient wireless remote control system.   Our flexible design starts with three main parts: Power Supply, Controller and the Bell and Light Stations.

A Word about PSC bell and Light Systems:

PSC has been designing and producing portable Bell and Light Systems for over 30 years. During these 30+ years, we have designed and engineered several generations of Bell and Light System designs.   Each new generation improves upon the previous design. Our latest (4th generation) Bell and Light System is by far the best system on the market. Many of our new design features begin within the main Power Supply of the PSC bell and Light System.   Our new Power Supply offers several new features. These include Dual Color Set Traffic Management, Fully Automatic Operation, and Wireless Operation. Additional new features were designed into our new Bell and Light Stations. These include: Dual Color Set Traffic Management, Omni View Lighting, Rugged, Roll Cage Construction and an overall Compact Housing for easy transport and storage. Finally, we designed our new remote control to be the smallest and most rugged in the Industry. We also include a stainless steel belt clip with three (3) available mounting positions to best suit your style of working.

4th Generation PSC Bell and Light Stations

Connector Panel & Switches

Flashing RED Lights

Steady GREEN Lights

Station Features:

- **Dual Color Mode for Easy Set Traffic Coordination…..PSC Exclusive Feature**
- **Omni View, 360 Degree Visibility…..PSC Exclusive Feature**
- **Most Compact Stations in the Industry…..PSC Exclusive Feature**
- **Most Rugged Stations in the Industry…..PSC Exclusive Feature**
- **3-Way Flash Speed…..PSC Exclusive Feature**
- **3-Way Mounting Threads, ¼-20, 3/8-16 and 5/8-27(Mic Stand Thread)…..PSC Exclusive Feature**
- **Switchable Bell…..PSC Original Design Feature**
- **Link Connector for Easy Daisy Chain Connections…..PSC Original Design Feature**

4th Generation PSC Bell and Light Power Supply

Power Supply Features:

- **Most Compact Power Supply in the Industry…..PSC Exclusive Feature**
- **Operates up to 80 Stations…..PSC Exclusive Feature**
- **Can be Operated Four Ways, Wired Manual, Wired Automatic, Wireless Automatic, Recorder Driven Wired Fully Automatic…..PSC Exclusive Features**
- **Fully Automatic Mode Self Generates Bell Start and Stop Pulses…..PSC Exclusive Feature**
- **Optional Wireless Remote with Extreme Security and One Mile Range…..PSC Exclusive Feature**

4th Generation PSC Bell and Light Remote Control

| Wired Remote Control | Uses Standard XLR Cables | Stainless Steel Belt Clip |

Controller Features:

- **Smallest Controller on the Market…..PSC Exclusive Feature**
- **Belt Clip Provided, including 3 Positions to Mount the Belt Clip…..PSC Exclusive Feature**
- **Made in the USA Stainless Steel Flush Push Button Switches…..PSC Exclusive Feature**
- **Uses Standard XLR Microphone Cables for Extensions…..PSC Original Feature**

Basic PSC 4th Generation Bell and Light System Components:
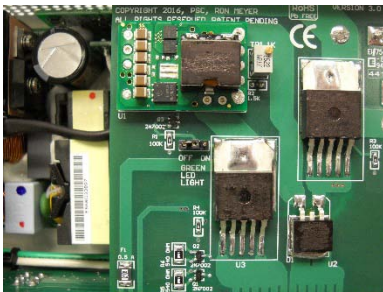
POWER SUPPLY:

Our new PSC Bell and Light Power Supply is the most compact in the industry. That means it is smaller and easier to store, use and ship. This new Power Supply design features the ability to power up to 80 of our new Bell and Light Stations.   In addition, this Power Supply has been designed to allow the use of our new Dual Color Stations.   This dual color feature is exclusive to PSC and allows for much better on set control of crew and staff movement. Everyone understands what a RED Light and GREEN Light signify, what to do when they see these two different colors. If you have ever driven a car, or walked across an intersection, you and everyone else on set already knows exactly what to do.   Our new system takes this human training and uses it to improve the control aspect of a Bell and Light Systems.   Our new Power Supply is factory set to work with our new Dual Color Stations.   The system will be lit with a soft, pleasant GREEN glow during all down times thus telling staff and set crew they are free to go about their business.   When the director yells "Roll Camera" the lights change from the pleasant GREEN to a commanding blinking RED light letting everyone on set know filming has begun.   Our new Power Supply also features an Automatic Operation Mode that will self-generate the appropriate Bell Rings per time honored film set conventions.   When filming is to begin, the system is armed either manually via a Wired Remote Controller or via a Wireless Remote Controller or via Wired Recorder Driven Controller. In the Automatic Mode, the system will generate a 2-second-long bell ring at the same time it will turn the light to RED.   When the director yells cut, the system will automatically give two (2) shorts rings of the bell signifying that the filming has finished and changing the light back to GREEN.

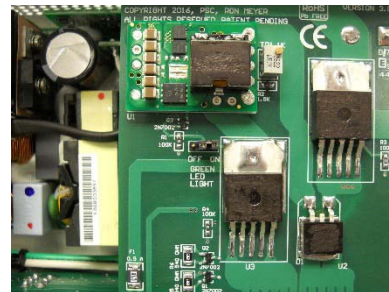**Please note that the system is not directly controlled from the directors voice.

Power Supply Functions and Features:

Dual Color Mode for Easy Set Traffic Coordination. This feature originates in our Power Supply and requires the use of our new Dual Color Stations.   This feature can be disabled via an internal jumper.   If you want to use this new power supply with our older stations, you must disable the dual color mode of operation. This is easily accomplished by moving an internal jumper on the top PCB of the power supply. The jumper location is clearly marked on the PCB.   To disable the "GREEN LED" dual color function, simply unplug the unit from AC power and disconnect all other cables to the unit. Then remove the 8 case screws found on the Left and Right sides of the unit. Now simply lift off the cover and find the jumper marked "GREEN LED LIGHT" and reposition the jumper as shown in the photos below. Once you have moved the jumper to the desired position, simply re-assemble the power supply.

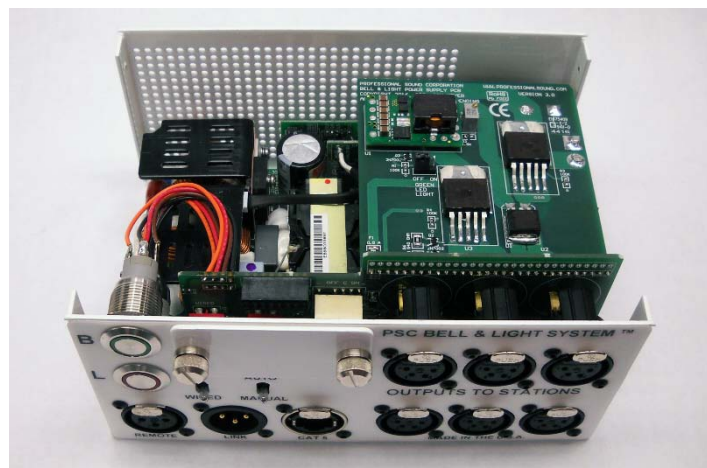GREEN LED (Dual Color Mode) Turned OFF

 Set for use with older PSC B&L Stations

GREEN LED (Dual Color Mode) Turned ON

 Set for use with new PSC B&L Stations

Most Compact Power Supply in the Industry. Our Power Supply is a fully 20% smaller than any of our competitors. This new design is the result of hundreds of hours of engineering design and development work.

Compact, efficient, well-engineered Power Supply

Operates up to 80 Stations.   Yes, even though it is the most compact, our power supply will operate up to 80 of our new PSC Bell and Light Stations.   That is nearly 3x more stations than our competitor.   This 80-station operation is achieved through super-efficient electronic design engineering of both the power supply and the stations.

Four Way Operation.   Wired Manual, Wired Fully Automatic, Wireless Automatic, Recorder Driven Wired Fully Automatic.   These features alone make PSC the obvious choice. Use it in the way that makes the most sense for your style or working.

Close up of User Mode Switches….shown in basic manual operation mode.

The PSC Bell and Light Power Supply has two user mode switches. These switches control how the power supply operates. The first switch is labeled "RF" and "WIRED". This switch determines what type of control system the operator wants to use to operate the system.   In the "WIRED" mode, the system is controlled via either our hand held wired Remote Controller (most common use) or via a hard-wired line to a given recorder interface such as a connection to a SD 970 recorder.   The later use requires setting the second switch to "AUTO" and an appropriate interface cable form the SD 970 to the PSC Bell and Light System Power Supply.

The second switch is labeled "AUTO" and "MANUAL".   This switch controls how the bells and lights are operated.   In the "MANUAL" mode, the system is operated manually using our wired remote controller.   This is how all of our past bell and light systems have been operated. In the "AUTO" mode, the PSC bell and Light Power Supply is simply triggered at the start and stop of recording and the system generates the appropriate bell rings and controls the LED lights.   This mode can be

triggered using a simple wired remote or automatically triggered via a connection to a recorder such as the SD 970.

Switch Settings:

The switches are set like this when using a standard wired remote controller. All operations of the Bell and Light System are controlled manually. *NOTE* Requires the use of the PSC Remote Control. *THIS IS THE MOST COMMON USE OF THE PSC BELL AND LIGHT SYSTEM*

The switches are set like this when using a recorder driven, wired, fully automatic setup. All operations of the Bell and Light System are controlled and run automatically from the recorder such as the SD 970. *NOTE* Requires the use of an optional SD 970 interface box and Cat5 or Cat6 cable.

The switches are set like this when using the optional hand held RF Remote Control. All operations of the bells and lights are generated automatically with the simple press of a start or

stop button on the RF Remote Control. *NOTE* Requires the optional RF Receiver module and RF Hand Held Remote.

Fully Automatic Mode: Self Generates Bell Start and Stop Pulses while controlling the dual color lights.   Upon activation at the start of a take on a film set (automatic modes) the power supply generates one long blast of the bell while simultaneously illuminating the RED lights. At the end of the take, when the direct yells "cut" the power supply turns the lights from an attention getting bright RED to a soothing GREEN and then gives two short blasts of the bell.   All of these timing functions are controlled and generated automatically by the power supply and thus allow the sound mixer to be doing other more important tasks at hand.

Link Connector, this is another feature originally brought to you by PSC and featured in our previous generation systems.   It is used to allow easy and convenient, "Daisy Chain" wiring of additional Power Supplies for use in very large systems. While we doubt you will ever need a system larger than 80 stations, anything is possible!

Optional Wireless Remote (Available Soon) Our optional wireless remote control system frees up the operator from being tied to a cabled remote control.   Our system uses Lynx TM Technology to provide both extreme range, reliability and security. This system is pre-programmed to one specific operating code with an 80-bit security code for trouble free operation. This system also offers up to a one-mile operational range.

Option RF Receiver Module Installed in the Power Supply and Hand Held RF Remote Control

Recorder Driven Automatic Operation: (Available Soon) Our Power Supply can be operated in a recorder driven, fully automatic mode.   For example, you can operate our system directly from the GPIO "REMOTE" connector port on the rear panel of your Sound Devices 970 machine.   Press "RECORD" on your SDS 970 and our bell and light system goes into action automatically.   It will generate one long blast of the bell and turn the lights to RED. Press "STOP" on your SD 970 and the

system automatically generates two short blasts of the bell and turns the lights to GREEN. *NOTE* Requires optional PSC SDS970 Interface box and a Cat5 or Cat6 cable.

This Power Supply can be plugged into and operated from 90 to 264Vac making it easy to use world-wide with any adjustment.   The rear panel of the power supply contains a standard machine AC receptacle.   Simply plug in a matching AC cable to the rear of the unit and plug the AC cable into any standard AC wall outlet.

Rear View of Power Supply showing AC Receptacle

Bell and Light Station:

Dual Color Mode for Easy Set Traffic Coordination. It works like a traffic light, red means Stop, Green means Go.

Soothing GREEN = Free to Walk and Talk   **Flashing RED during Filming = Quiet on Set**

Omni View, 360 Degree Visibility.   Our Competitors station only offers marginal 180 degree viewing, our station can be viewed a full 360 degrees.

Completely Round Design for Easy Viewing from any Direction

Most Compact Stations in the Industry.   This means you can pack, store and ship more stations in one Pelican case than any other brand.

Super Rugged Housing Design.   Our Station design includes a full, built in "roll cage" for industrial strength "field tested" ruggedness in a compact package. We have placed several thousand lbs on top of one of our stations. Try that with our competitor's product and you are left with a pile of scrap metal :O

PSC Exclusive "ROLL CAGE" Design Protects the Electronics

3-Way Flash Speed, from a soothing slow speed to an attention demanding fast flash rate, the choice is yours. Each station offers an individually selectable flash rate. The switch is marked "S" (slow flash rate), "M" (medium flash rate) or "F" (fast flash rate)

3 Different Mounting Thread Standard. Our Bell and Light Stations come standard with three different mounting threads. These include ¼"-20, 3/8"-16 and 5/8"-27 which is compatible with common microphone stands.

Switchable Bell, this feature was originally offered on our 3rd generation systems and is a PSC original feature. Some station locations may not need or want a bell ringing. To disable the bell function simply switch it off on any individual station.

Link Connector, this is another feature originally brought to you by PSC and featured in our previous generation systems. It is used to allow easy and convenient, "Daisy Chain" wiring of the Bell and Light Stations. The two XLR connectors are individually labeled. Just connect a station cable from the power supply to the Male XLR. You can then simply run another cable from the "LINK" female XLR connector to the next station. You can easily daisy chain up to 10 stations and run daisy chain cables up to 1000 feet from the power supply for easy building wiring set up and use.

Controller:

Standard Wired Remote Control

Smallest Controller. Yes, our remote control is the smallest, most rugged unit on the market. It is built from rugged 6061-T6 aircraft aluminum and finished in a high durability powder coat paint. The housing is held together by six stainless steel screws for long term field worthiness.

Belt Clip Provided.   The Stainless-Steel Belt Clip can be mounted in one of three convenient positions thus assuring easy use by both left and right handed people or for easy attaching to your sound cart.

Stainless Steel Flush Push Button Switches. We researched, tested, and use only the best, Stainless Steel Vandal Proof Switches. These switches are flush mounted and protected by the overhanging housing sides. This design eliminates nearly any possible switch damage.

Standard XLR Microphone Cables for Extensions. PSC originated this standard for wired remote controls. Need a longer remote control cable? Simply plug in another XLR microphone cable, and carry on with your day. Every sound mixer has a huge collection of 3 pin XLR microphone cables on hand so there is no need to buy, keep and use any specialized remote control cables.

Specifications:

Power Supply:

Size:	**6.800" x 5.200" x 3.25" (17.25cm x 13.2cm x 8.3cm)**
Weight:	**2.2Lbs (1Kg)**
Input Power:	**90 to 264Vac, 47 to 63Hz**
Output Power:	**13.8Vdc Nominal**
Control Functions:	**Bell Push Button Switch, Light Push Button, Switch, Manual or Automatic Toggle Switch, Wired or RF Toggle Switch**
Station Capacity:	**80 Stations!**
Housing Material:	**6061-T6 Aircraft Aluminum**
Finish:	**Gloss White, High Durability Powder Coat**

Stations:

Size:	**5.250" x 5.250" x 4.475" (13.3cm x 13.3cm x 11.4cm)**
Weight:	**1Lb, 12oz (0.8Kg)**
LED Color:	**Tranquil GREEN, Vivid RED**
Flash Rate:	**User Selectable, 1Hz, 2Hz or 4Hz**
Bell Disable:	**Toggle Switch**
Housing Material:	**6061-T6 Aircraft Aluminum**
Finish:	**Gloss White, High Durability Powder Coat**

Controller:

Size:	**3.300" x 1.375" x 1.725" (8.3cm x 3.5cm x 4.4cm)**
Weight:	**5.2oz (140gm)**
Switches:	**Stainless Steel, Flush Mount, Push Button w/LED Lighting Ring**
Belt Clip:	**Stainless Steel**
Housing Material:	**6061-T6 Aircraft Aluminum**
Finish:	**Gloss White, High Durability Powder Coat**

LIMITED WARRANTY CERTIFICATE:

Professional Sound Corporation warrants the PSC Bell and Light Power Supply, Station and Remote Controller to be free of defective material and workmanship for a period of one year from the original date of purchase and agrees to repair or replace such defective parts or the whole product at its option, provided that the equipment is returned to Professional Sound Corporation. Shipping and insurance costs to and from Professional Sound Corporation must be prepaid by the owner. This warranty does not cover damage due to accident, careless handling, abuse or misuse, improper connection and/or installation, improper electrical contact, wet or overly dusty location or other improper operating environment, improper electrical connection, charging or grounding. This warranty will be null and void in the event of removal, alteration or tampering with the serial number, or by service or repair work not performed by Professional Sound Corporation. Proof of purchase date (copy of invoice) must be furnished before warranty service will be performed. This warranty is in lieu of any other warranty, expressed or implied, including warranties without limitation, products being merchantable at the time of purchase or suitable for a particular purpose. This warranty does not extend to, or include consequential damage.

CE

DECLARATION OF CONFORMITY

EMC: This product is in compliance with the Electromagnetic Compatibility Directive, 89/336/EEC as defined in EN 50081-1, EN55022 and EN 50082-1. IEC801-2, IEC8013 and IEC801-4.

LVD: This product is in compliance with the requirements of the Low Voltage Directive, 73/23/EEC. 93/68/EEC as defined in EN60065, 1993 and/or EN60950/A1/A2/A3: 1995

TRADE NAME: PSC Bell and Light System Power Supply, Station, Remote Control

RESPONSIBLE PARTY: Professional Sound Corp.

28085 Smyth Drive

Valencia, CA 91355 USA

CONTACT PERSON: Ronald Meyer   (661) 295-9395

TYPE OF PRODUCT: Portable Bell & Light System

MANUFACTURER: Professional Sound Corp.

28085 Smyth Drive

Valencia, CA 91355 USA

We hereby declare that the equipment bearing the trade name and model number listed above has been tested in accordance with the requirements contained in the above listed directives. All necessary steps have been taken and are in force to assure that production units manufactured will conform to Directive guidelines.

December 2016   Professional Sound Corporation.