

PSC PowerStar RF™

Power and RF Distribution



- **Low Noise Power Distribution**
 - **Dual Power Inputs**
- **Multi-Color LED Battery Level Meter**
 - **USB Power Output**
- **Diversity 1 x 4 Active RF Splitter**
- **Low Noise, High Current RF Amplifiers**
 - **“Single Band” 470-700Mhz**
- **“Dual Band” 470-618Mhz & 940-960Mhz**
 - **“Wide Band” 470-960Mhz**
 - **Compact Package**
 - **Made in the U.S.A.**

Operation Manual Version 1.0

Copyright 2023 Professional Sound Corporation

28085 Smyth Drive, Valencia, CA 91355 USA

Thank you for purchasing your new PSC PowerStar RF. This product is the result of more than a decade of experience in designing and manufacturing Power and RF distribution systems. This compact, ruggedly built product should provide you with years of trouble-free service.



Compact Size



Top Panel:

Main Power Switch

Antenna Power Switches

BNC RF Inputs

USB Power Output (2 Amps maximum)

LED Battery Level Meter



Bottom Panel:

**2x TB4M Power Inputs,
Wired Pins 1&2 = Ground (-)
Pins 3&4 Positive (+)**



Front Panel:

**SMA RF Output Connectors
Coaxial Power Output Connectors**



BELT CLIP

The PSC PowerStar RF combines two of our most popular products. It has a built in Power Distribution system with dual external DC inputs allowing the use of two batteries or a battery and an AC power supply. It also has a built in Diversity RF antenna distribution system. Each half of the RF distribution system offers an active 1x4 RF splitter. You can use this system to feed up to four (4) diversity receivers from one diversity set of receive antennas. This compact, rugged device was developed using the latest super low noise, high current RF amplifiers and will operate over various frequency ranges based on which bandpass filter the unit is built with. Its two inputs are traditional BNC connectors for ease of use in interfacing with your external antennas. It will also provide individually switched DC power to supply remote powered antennas and remote RF amplifiers.



RF BNC Inputs Marked as "A" and "B"

Power Switch: "ON" powers up main unit.

"ANT PWR" powers up unit and provides power to remote powered antennas or RF amplifiers.



RF SMA outputs Marked as “A” and “B” Sides

Power Output Connectors

One is “Always On” and is surrounded by a BLUE ring

Each of the RF SMA output connectors offers a typical isolation factor of 24 to 28dB between radio receivers.

There is a three-way switch located on the top panel between the two BNC RF inputs. This switch has two positions: “OFF” and “ON”. When the unit is turned ‘ON,’ the battery level meter will light up indicating proper battery level. If the battery level meter does not light up, you may have an under-voltage or discharged battery connected. Please note that the Multi-Color LED battery meter has 1 RED LED, 1 YELLOW LED and 2 GREEN LEDS. A fully charged battery should light up all four LEDs. As the battery discharges, the top GREEN LED will go out followed by the next Green LED, followed by the Yellow LED. Once the RED LED goes out, you should immediately change out your re-chargeable battery to a freshly charged one. and main power and remote ANTENNA PWR switched on. The switch utilizes a light up LED switch handle. When used in normal mode, the switch batt lights up GREEN. When the unit is switched to also provide remote antenna power, the switch lights up RED. The RF section of the unit will operate over a very wide voltage range from 7 to 18Vdc. Your external equipment that will be powered from this unit will generally operate from about 10.8Vdc up to about 16.5Vdc. The Multi-Colored LED battery meter can be calibrated to work with two different voltage (chemistry) battery types. This includes 14.4 volt Lithium-Ion Batteries such as modern NP-1 Batteries and Smart Batteries. The Multi-Color Battery LED Meter can also be set to work

with older 12.8Vdc rated Sealed lead Acid (SLA) batteries and with Lithium Iron Phosphate (LiFePO4) batteries. Inside the unit is a small circuit board jumper that can be set for either battery voltage type. Battery voltage is printed on the circuit board near the jumper for easy adjustment. This jumper calibrates the Multi-Color LED Battery meter to work with your individual battery type. All units are factory set to work with 14.4V Lithium-Ion Batteries (NP-1 and Smart batteries). The unit can be powered from any source of external DC power of 7 to 18Vdc @ approximately 120 mA when only using it for RF distribution. Please note that there are two External battery inputs. These may be used with either one of two batteries (NP-1, Smart Battery, or Lithium Iron Phosphate (LiFePO4)). Alternatively, you can use one battery and a PSC AC power Supply (Part number FPSCM3PAC). This will ensure that your system operates from AC power and you will have a battery back-up in case you accidentally get disconnected from AC power. Basically, it forms an un-interruptible power supply.



All LEDs lighted, indicating a full battery



3 of 4 LEDs lighted, indicating 75% charged battery



2 of 4 LEDs lighted, indicating 50% charged battery



RED LED only lighted, indicating less than 25% battery charge

INSTRUCTIONS FOR USE:

- 1. Connect a source of external 12Vdc power to the 4 pin mini XLR connector on the bottom of the unit.**
- 2. Connect your two receiver antennas to the RF input BNC connectors on the top of the unit.**
- 3. Connect the power outputs of the PowerStar RF to the power inputs of your other devices such as radio receivers and recorders.**
- 4. Connect the RF (SMA) outputs of the PowerStar RF to the RF inputs of your radio receivers using SMA to SMA or SMA to BNC cables.**
- 5. Power up the unit. When using powered antennas or remote line amplifiers, turn the antenna power switches to "ANT PWR" power switch to "ANT PWR." For all other uses, turn the antenna power switches to OFF.**

NOTE When used with ENG "bag" mixing setups, we recommend that you remotely mount your receive antennas up away from your equipment on your bag's shoulder straps. Alternately, you can mount your two receive antennas down and out in front of your bag. The main idea is to make sure that your receive antennas are not in the same plane (at the same height) as any transmitter antennas (camera hops for example) that are in your bag in order to minimize receiver RF overload from nearby transmitters.

SPECIFICATIONS:

Housing Size:	3.75" x 2.5" x 1.425" 96mm x 64mm x 36mm)
Weight:	7.5oz (213gm)
Power:	External DC, 10.8-18Vdc @ 120mA
Current Per Power Output:	3A max
Overall Max Current:	6 Amps with one battery, 10 Amps with two batteries. 6 Amps using optional AC power supply
USB Power Output:	5V at up to 2 Amps
Frequency Range:	470-700 Mhz (Single Band Model) 470-618Mhz & 940-960Mhz (Dual Band Model) 470-960Mhz (Wide Band Model)
Input Impedance:	50 Ohms
Output Impedance:	50 Ohms
Max Input Signal Before Limiting:	+13dB
IP3	+31
Noise Figure:	0.8dB
Chassis Material:	Aircraft Aluminum
End Plate Material:	Stainless Steel
Finish:	Black anodize
Warranty:	1 Year, limited

DECLARATION OF CONFORMITY

STANDARD: EN 60065.2012 Power, Safety
EN 55032.2012 Part 1, Emissions
EN55032.2012 Part 2, Immunity

TRADE NAME: PSC

MODEL: RF Multi Mini

RESPONSIBLE PARTY: Professional Sound Corp.
28085 Smyth Drive
Valencia, CA 91355 USA

CONTACT PERSON: Ronald Meyer
(661) 295-9395

TYPE OF PRODUCT: Antenna Distribution

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.

July 2023 Professional Sound Corporation.

Professional Sound Corporation 28085 Smyth Drive, Valencia, CA 91355

PH (661) 295-9395 Fax (661) 295-8392 email sales@professionalsound.com