



PSC RF Multi SR 12 Pack “Single Band” Frequency Range: 470Mhz to 700Mhz



- Supports up to 6 Slot Receivers
- Provides RF Distribution
- Provides Remote Antenna Power
- Smart Battery Slot for Rechargeable Operation
- Built in Power Management/Charging Circuitry
- Built in DC Power Distribution
- RF “Flow Through” Outputs
- Multi Color LED Smart Battery Fuel Gauge
- Multiple Threaded Mounting Points

Thank you for purchasing your new PSC RF Multi 12 Pack. This device combines a convenient way to mount and house up to six RF Slot Receivers in a compact and rugged portable housing. The PSC RF 12 Pack also provides RF distribution, remote antenna powering, RF flow through, and power distribution to allow powering of your other equipment. This new design can be powered from an easily accessible, removable "Smart" battery. Built in "Smart" battery power management electronics allow the "Smart" battery to be re-charged within the unit. We believe this design is the new gold standard for compact RF receiver systems.

PLEASE BE SURE THAT YOU HAVE READ AND UNDERSTOOD THIS ENTIRE OPERATIONAL MANUAL BEFORE OPERATING THE PSC RF MULTI 12 PACK!

CAUTION! WHEN POWERING AUXILIARY EQUIPMENT FROM THE POWER OUTPUTS, ALL AUXILIARY EQUIPMENT SHOULD BE REVERSE POLARITY PROTECTED AND PROPERLY FUSED AT ALL TIMES.

THE PSC RF MULTI 12 PACK IS DESIGNED TO BE POWERED FROM AN INTERNAL "SMART" BATTERY OF 98 OR 99 WATT/HOUR RATING. IT CAN ALSO BE POWERED FROM AN EXTERNAL SOURCE OF 12-16VDC. THE USE OF ANY EXTERNAL POWER SOURCE SHOULD ONLY BE USED IF THE EXTERNAL POWER SOURCE IS PROPERLY GROUNDED AND OF THE CORRECT POLARITY AND CURRENT CAPACITY. THE USE OF UNKNOWN OR IMPROPER EXTERNAL POWER SOURCES COULD RESULT IN DAMAGE TO THE UNIT AND/OR POSSIBLE BODILY HARM INCLUDING ELECTROCUTION AND FATALITY. PSC, ITS OFFICERS, EMPLOYEES AND SHARE HOLDERS DO NOT ACCEPT ANY RESPONSIBILITY FOR MISUSE, IMPROPER POWER CONNECTION, IMPROPER ELECTRICAL CONNECTION OR GROUNDING.

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Product Description:

The PSC RF Multi SR 12 Pack contains two separate, active 1 x 8 RF splitters for use with up to six slot style receivers. This compact, rugged device was developed using the latest super low noise RF amplifiers and will operate over an extended frequency range of 470Mhz to 700Mhz.

Its two inputs are traditional BNC connectors for ease of use in interfacing with your external antennas. Each of the SMA outputs offers a typical isolation factor of 24 to 28dB between radio receivers. The PSC RF Multi SR 12 Pack also has the ability to power external powered antennas or remote line amplifiers. There are two front panel mounted switches on the unit. One is marked "MAIN POWER" and this controls the overall power to the unit. The second switch is marked "ANT PWR" and this switch controls the power being sent to an external powered antenna or remote line amplifier. The entire unit can be powered internally from an optional Smart battery or from a source of external DC power of 12Vdc @ approximately 1.4 Amps for power up to six radio receivers. If additional equipment is to be powered from the power distribution outputs, then your source of external DC power should be rated at up to 8 Amps. On the left side of the unit there are 12 TA3M mini XLR output connectors. These provide audio output from the three slot receivers. There are also two DB-25 connectors that are wired to the ADAT standard and provide an additional audio output capability. In addition, there are two chassis mounted SMA connectors on the left side panel of the unit. These offer two additional RF outputs that can be used to feed another PSC RF Multi SR 12 Pack or PSC RF Multi SR Six Pack or a PSC RF Multi SMA or another radio receiver other similar device.

The PSC RF Multi 12 Pack is equipped with two mounting holes for use in mounting the Six Pack to Sound Devices 664 and 688. These two screw holes line up with the factory screws on the Sound Devices units. This allows you to mechanically secure the Six Pack to your Sound Devices 664 or 688. There are also 4 threaded mounting points on the top and bottom panels. These mounting points use a 6-32 thread.

Panel Views:



Left Side Panel showing:

2 x DB-25 Audio Output Connectors

12x TA3M Audio Output Connections

2 x SMA RF Outputs (loop throughs)



Right Side Panel Showing:

5 x Power Outputs

Dual USB Power Port

XLR-4-Male External Power

Aaton Digital (Hydra) USB Port

Smart Battery Slot

Powering, Internal Battery:

The PSC RF 12 Pack is designed to be powered from most any 98 or 99 Watt hour “Smart” Battery. These smart batteries are made by various companies such RRC and Audioroot or Inspired Energy. The Smart Battery is held in place with a stainless-steel spring clip. To remove the Smart battery, simply pull the battery clip toward the front of the RF 12 Pack and slide the battery out.

Powering, External DC:

The PSC RF 12 Pack is equipped with a full-size, chassis 4 pin male XLR that is used for external powering. This connector is wired for both external powering only (no battery charging) and also for Smart battery charging. (see next paragraph below). For operating the unit from external power only, pins 1 and 4 are used as follows:

Pin 1 = Ground (-)

Pin 4 = Positive (+12Vdc to +16Vdc)

Smart Battery Charging:

The PSC RF 12 Pack is equipped to be able to charge the internal Smart battery. The internal charger is set up to provide up to 4 Amps of charging current. This will fully recharge a 98 or 99 Watt/hour Smart battery in about 1.5 hours. To operate the PSC RF 12 Pack and charge the internal Smart battery, Pins 1 and 3 are used as follows:

Pin 1 = Ground (-)

Pin 3 = Positive +19Vdc

Please note that you must use the proper rated power supply when using the charging function. The supplied AC power supply is rated at 19Vdc at 7.9 Amps. If you must use another power supply, it must be rated the same at 19Vdc at 7.9 Amps or greater current.

WARNING: THE USE OF AC POWER SUPPLIES WITH A RATING OF LESS THAN 7.9 AMPS MAY RESULT IN DAMAGE TO THE PSC RF 12 PACK WHEN CHARGING AN INTERNAL SMART BATTERY AND SAID DAMAGE WILL NOT BE COVERED UNDER WARRANTY.

Smart Battery Fuel Gauge:

The RF 12 Pack is equipped with a simple, easy to read, multi-color LED battery fuel gauge. This LED fuel gauge is located just above the main power switch. The LED fuel gauge is multi colored from RED to YELLOW to GREEN to BLUE. The various colored LEDs are also marked with approximate percentage of remaining battery capacity.

RF Circuitry:

The PSC RF 12 Pack is equipped with two complete RF chains for proper diversity RF feeds to your slot receivers. The two RF chains are labeled "A" and "B". Each RF chain contains a Bias T Circuit used to allow DC voltage to be send out of the external antenna inputs for use with powered antennas or remote RF amplifiers. Each RF chain also includes a low pass RF filter, RF limiter circuitry, a very low noise RF amplifier, a specially designed RF bandpass filter and a proper RF splitter.

BNC RF Inputs (Antenna Connections):

The External RF Antenna Inputs are standard BNC connectors with a 50-ohm impedance. These BNC connectors are used to connect external antennas such as Log Periodic Arrays (shark fins) that are either passive or active, Dipole Antennas, Circular Polarized Antennas and most any other 50 Ohm RF receive antennas. Please use high quality, 50 Ohm RF cables for best results. RG-8 and RG-8X are highly recommended. RG-58 is only recommended for lengths up to 15 feet.

Powering Remote Antennas or Remote RF Amplifiers

The PSC RF 12 Pack is equipped to be able to power remote powered antennas or remote RF amplifiers. The RF 12 Pack will send a DC voltage out of the two BNC RF input connectors. This DC voltage travels along the RF antenna cable and is used by powered (active) antennas. There is a switch that activates this remote antenna power. It is located on the lower left side of the front panel just to the left of the main power switch.

SMA RF Signal Loop Throughs (RF Outputs)

These two SMA connectors provide a convenient way to allow RF signals to flow out of the RF 12 Pack into another radio receiver, additional RF 12 Pack, additional RF 6 Pack or other device that utilizes RF receiver signals (receive antenna signals)

Installing Receivers:

Installing your slot receivers is a simple operation. Make sure slot receivers are equipped with a DB-25 connector on receivers. Depending on brand, you may also need to use a machined adapter plate to allow the receiver to sit at the proper depth in the PSC RF 12 Pack. These include:

Lectrosonics SRB requires their SRUNI kit.

Wisycom MCR42 requires their SCK42-IK-PSC kit.

Audio Limited A10-RX must be equipped with DB25 bottom

After the receivers are fully seated into the PSC RF 12 Pack, please secure the receivers with the receivers included M3 threaded screws. You may now connect the RF cables that feed the RF signals into the RF receivers. The RF cables are equipped with right-angle SMA connectors. These RF cables are normally wired in a crisscross pattern. This will insure that RF antenna "A" feeds RF input "A" on your receivers. In some cases, it may make for a cleaner mechanical layout to wire the RF cables without the crisscross pattern. This is a perfectly acceptable RF solution and will work just fine.

Optional Aaton Digital Interface (Aaton Hydra System)

Your PSC RF 12 Pack may be equipped with the optional Aaton Digital Interface System, (Hydra System). If your unit is equipped with the Aaton system, there will be a USB connector on the right-side panel of the unit marked as "AATON DIGITAL USB". You can use this connection to connect the PSC RF 12 Pack to your Cantar X3, your Cantar Mini or to a Laptop running various manufactures software. With this system you can remotely control the slot receiver's frequency settings, monitor RF signal strength, co-ordinate frequency sweeps, etc.

DC Power Distribution:

The RF 12 Pack is equipped with a built in DC power distribution system. This allows you to power other pieces of audio equipment from the internal Smart battery. These DC outputs are located on the right-side panel of the RF 12 Pack. One connector has a 4 Amp limit and the others have 2.5 Amp limits. These connectors are all individually Polyfuse protected and filtered. These outputs have a **regulated 12Vdc output** that is provided by an internal DC to DC convertor. These outputs have a maximum total DC current output of 6 Amps.

Powering Up Unit:

Powering up (ON) the unit is as simple as flipping the main power switch upward. The main power switch is located on the left side, lower corner of the front panel. Directly above the main power switch is the Smart battery Fuel Gauge. This fuel gauge will light up when the unit is powered up and when there is a smart battery installed and or if the PSC AC power supply is connected and powered up.

Audio Outputs, Mini XLR:

The RF 12 Pack is equipped with 12 x Mini XLR male connectors. These connectors are located on the left side panel of the PSC RF 12 Pack. These connectors will output Analog Balanced audio signals or AES Digital Audio Signals depending on your receiver's capability and settings. Please note that AED digital signals will only appear on the odd numbered outputs.

TA3M Mini XLR Audio Outputs :

The TA3M output connectors are wired to follow industry standards:

Pin 1 = Ground

Pin 2 = Audio High (+)

Pin 3 = Audio Low (-)

Audio Outputs, DB-25 Snake Connection:

The PSC RF 12 Pack is also equipped with 2 x DB-25 multi-channel audio snake cable connectors. These DB-25 connectors are wired to ADAT wiring standards as listed below: These DB-25 connectors are wired in parallel to the mini XLR connectors.

DB-25 Connector Pinouts:

Audio Output Receiver 1, channel 1	Pin 25 = Ground
	Pin 24 = Audio High (+)
	Pin 12 = Audio Low (-)
Audio Output Receiver 1, channel 2	Pin 11 = Ground
	Pin10 = Audio High (+)
	Pin 23 = Audio Low (-)
Audio Output Receiver 2, channel 1	Pin 22 = Ground
	Pin 21 = Audio High (+)
	Pin 9 = Audio Low (-)
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Audio Output Receiver 2, channel 2	Pin 8 = Ground
	Pin 7 = Audio High (+)
	Pin 20 = Audio Low (-)
Audio Output Receiver 3, channel 1	Pin 19 = Ground
	Pin 18 = Audio High (+)
	Pin 6 = Audio Low (-)
Audio Output Receiver 3, channel 2	Pin 5 = Ground
	Pin 4 = Audio High (+)
	Pin 17 = Audio Low (-)

The second DB-25 connector follows the same wiring for Receivers 4 through 6.

Mechanical Mounting Points:



Photo above shows the four (4) locations of the mounting screws

The PSC RF Multi SR 12 Pack is also equipped with four threaded mounting holes on both the top and bottom panels. These threaded mounting holes are compatible with 6-32 screws. The screw threaded inserts are a “blind” fastener style. That means they have a limited thread length available and will not allow you to use a screw that is too long. This “blind” fastener threaded insert is used so that you cannot thread in a longer than necessary screw that would damage the circuit board inside the unit.



Photo above shows mounting points for use with Sound Devices 688

The PSC RF 12 Pack has two mounting holes designed to allow it to be screwed onto a Sound Devices 688. These two mounting points are shown in the photo above where the blue arrows are pointing.

SPECIFICATIONS:

SIZE:	13" x 6.5" x 3.3" (33cm x 16.5cm 8.3cm)
WEIGHT:	4 Lbs (1.8Kg)
HOUSING MATERIAL:	Aircraft Aluminum
HOUSING FINISH:	Black Anodize Type II, Black Powder Coating
EXTERNAL POWER, NO BATTERY CHARGING:	12-16Vdc, 1.4 Amps nominal, 8 Amps Maximum Pin 1 = Ground, Pin 4 = +12 to +16Vdc
EXTERNAL POWER, FOR BATTERY CHARGING:	19Vdc, (7.9 Amps Minimum Power Supply Rating) Pin 1 = Ground, Pin 3 = +19Vdc
RF INPUTS:	BNC Connectors, 50 Ohm
RF OUPUTS:	SMA Connectors, 50 Ohm
RF FREQUENCY RANGE:	470Mhz to 700Mhz
DC POWER OUTPUTS:	Co-axial Power Connectors (Switchcraft 712A) 1 x 4 Amp, 4 x 2.5 Amps, 6 Amps Total Maximum
AUDIO OUTPUT CONNECTORS:	TA3M Mini XLR Male connectors, balanced signal (x12) DB-25 Female Connectors, balanced signal (x2) ADAT wiring standard
RECHAGABLE BATTERY:	Smart Battery, 98 Watt/hour or 99 Watt/hour Built in 4 Amp charger

LIMITED WARRANTY CERTIFICATE:

Professional Sound Corporation warrants the PSC RF Multi SR 12 Pack 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.

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, IEC801-3 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

MODEL: RF Multi SR Six Pack

RESPONSIBLE PARTY: Professional Sound Corp.
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TYPE OF PRODUCT: Antenna/Power Distribution

MANUFACTURER: Professional Sound Corp.
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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.

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