

RF MultiMax!

UHF WIDE BAND ANTENNA SPLITTER

Operation Manual for RF MultiMax! with PCB V1.2
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DESCRIPTION

Thank you for purchasing the Professional Sound Corporation RF MultiMax! UHF Wide Band Antenna Splitter. PSC is confident that this new RF MultiMax! has set new standards for antenna splitting technologies and features. Please feel free to contact us if you have any comments or questions concerning your new RF MultiMax!. Additionally, we invite you to share your suggestions for new products you would like to see developed.

Professional Sound Corporation extends a one-year warranty on parts and labor to all RF MultiMax! owners who return their warranty cards at the time of purchase. This warranty gives you specific rights, which are stated on the card, and enables us to keep you informed of product updates.

The PSC RF MultiMax provides all the functions necessary to produce advanced RF antenna splits in the field. It's user friendly features, rugged design and RF purity make the RF MultiMax! perfect for reality shows, electronic field production (EFP) and feature film production. There's only one RF MultiMax! and it's from PSC.

SAFETY WARNINGS:

Please be sure that you have read this entire manual before operating this product.

While special attention has been given to your safety, the operator determines proper and safe use and conditions.

Please note the following:

Do not operate this product outdoors in wet conditions such as rain.

Do not operate this product from unknown AC sources where grounds or neutrals may be inoperative.

APPLICATIONS

- Reality Television Production
- Location recording (Dialogue and Music)
- Broadcast remotes

FUNCTIONS:

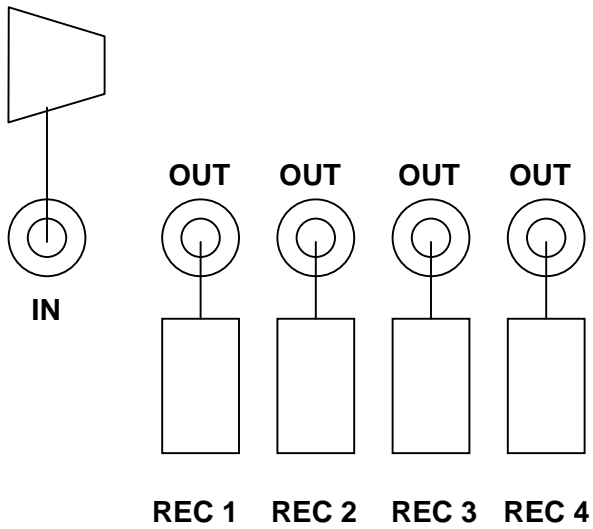
A. 1 X 4 PASSIVE SPLITTER/COMBINERS

The PSC RF MultiMax! contains two 1 x 4 splitter/combiners. These circuits are passive in design and thus can be used in either direction. This allows you the user to utilize them as 1 x 4 splitters or as 4 x 1 combiners.

USE AS 1 x 4 SPLITTERS

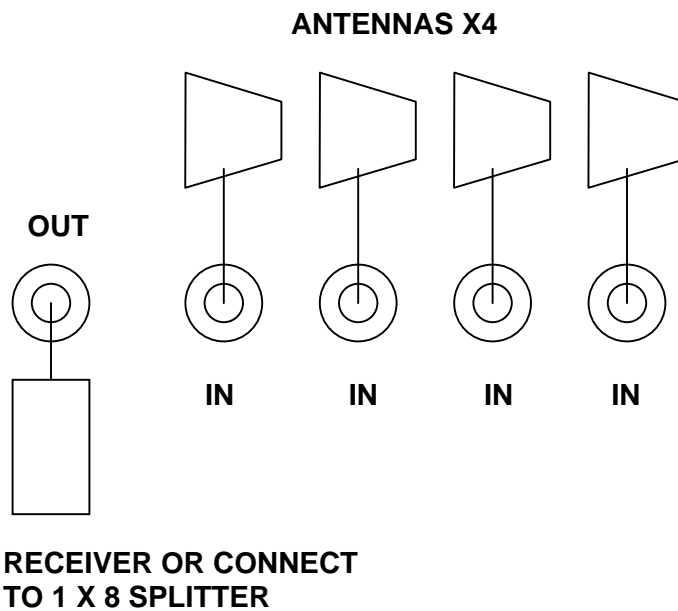
When used as splitters, a common antenna feed is split 4-ways and then sent on to the wireless receivers. Please note that when used as 1 x 4 splitters, there is an approximate signal loss of 9 dB through the splitter. Although we mention the use of these as splitters, they should only be used this way if you have run out of available active splitters (1 x 8 splitters). Splitting of low level RF signals are rarely done passively unless you have a known good, strong RF signal.

ANTENNA



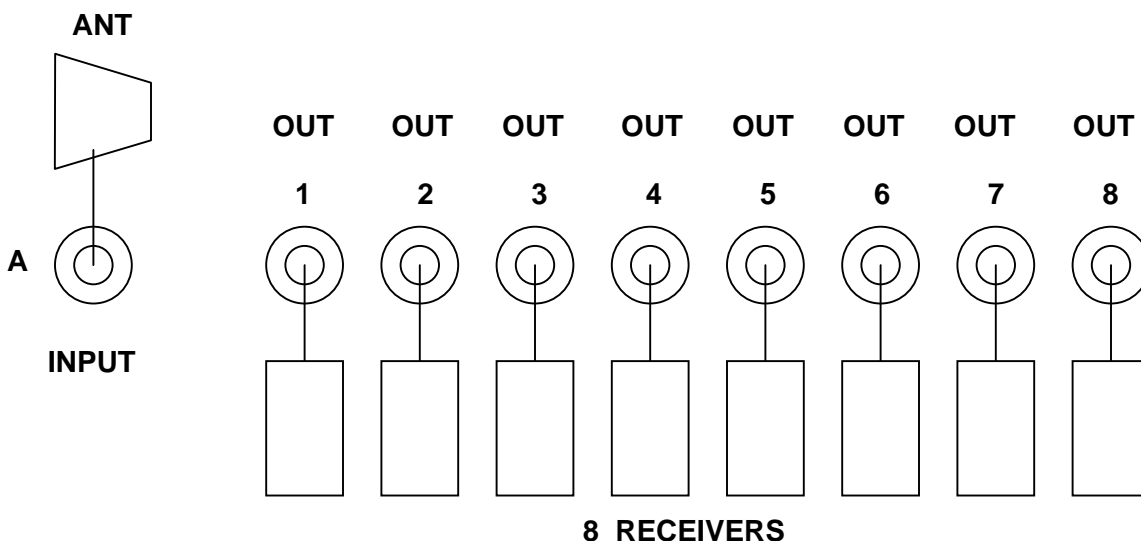
USE AS 4 x 1 COMBINERS

This is the primary use and design of this portion of the RF MultiMax! When used as a combiner, 4 antennas may be combined into one RF output that can then be sent to the other 1 x 8 active splitters for distribution to all of your wireless. For example: You need to provide RF coverage of a large house or facility for a realty television show. You can easily set up 4 pairs of diversity antennas in four different rooms of the house and feed these four pairs into the 4 x 1 combiners. You now have a single output (diversity would be a pair of outputs) that combines all of the RF signals picked up by the antennas in all four rooms. This output can then be patched into the 1 x 8 splitters and RF is now available from all rooms of the house to all wireless receivers.



B. 1 X 8 ACTIVE SPLITTERS

The PSC RF MultiMax! contains four independent 1 x 8 active splitters that can be used either by themselves or in conjunction with the 4 x 1 combiners. Each of these 1 x 8 active splitters contains a very low noise amplifier, a high pass filter and an 8-way splitter providing a low noise signal splitting function without loss and with a high degree of isolation between the signals of your wireless receivers. Because the devices are active, they cannot be used as combiners. You must only feed an RF signal into the single BNC connector labeled with a letter such as "A", "B", "C", or "D". This signal will then be amplified and split up 8-ways and feed to the corresponding 8 output BNC connectors. These connectors are then connected to the wireless receivers. The 1 x 8 active splitters can be daisy-chained for special applications.



POWERING:

A. DC POWER, 4PIN XLR

The PSC RF MultiMax! can be powered from DC for ease of use in the field. The RF MultiMax! is designed to operate off any DC voltage within the range of 9 to 18 VDC. To power the RF MultiMax! in this way, you simply have to plug in a 4-pin XLR power cable from your battery. In keeping with industry standards, Pin 1 is Ground and Pin 4 is Positive. Because the RF MultiMax! is reverse-polarity protected, if you inadvertently miss-wire your power cable, no damage will be done, the RF MultiMax! simply will not power up. The PSC RF MultiMax! contains a DC to DC converter that allows it to operate over wide range of input voltage without difficulty. At a common voltage of 12Vdc, the RF MultiMax! consumes approximately 280mA.. Current is inversely proportional to the operating voltage. For example: at 10Vdc the current consumption is 375mA, at 18Vdc the current consumption is 200mA.

B. AC POWER, MAINS

The PSC RF MultiMax! can also be operated from AC mains. The AC input voltage range is 100Vac to 240 Vac, 50 to 60Hz. This allows the RF MultiMax! to operate worldwide without adjustment or jumper setting. Power consumption is approximately 20 watts when operated from AC mains.

CONSTRUCTION

A. CHASSIS

The chassis of the RF MultiMax! is made from formed steel and an aluminum face plate. The chassis is painted with a textured finish black paint and the aluminum front panel is anodized black for a professional appearance. The case occupies two rack spaces and can be installed in all standard racks.

B. ELECTRONIC TOPOLOGY

The circuitry within the RF MultiMax! has been designed to provide years of trouble free use under normal operating conditions. The DC power supply is reverse polarity protected and the AC supply is designed for wide input range use. The internal voltage regulation is designed for quite, trouble free operation and all of the BNC inputs and outputs are DC protected.

C. ENVIRONMENTAL OPERATION

The PSC RF MultiMax! Can operate over a temperature range of -4F to +158 F (-20C to +70C).

WARRANTY AND NON-WARRANTY SERVICE

In the unlikely event your RF MultiMax! requires service it should be carefully packed and shipped prepaid to:

Professional Sound Corporation
Service Department
28085 Smyth Drive
Valencia, CA 91355 USA
PH 661-295-9395
FAX 661-295-8398
e-mail techsupport@professionalsound.com

Please call before shipping your RF MultiMax!. We may be able to solve your problem via the phone. We are always willing to help you with your RF MultiMax! questions.

WARRANTY:

Complete details of the PSC RF MultiMax! warranty are given on the enclosed blue warranty registration card. If you did not receive one, please contact your local dealer or call us directly.

SPECIFICATIONS

Size:	2 Space Rack Mount
Weight:	9lbs. (4Kg)
Temp Range:	-4 to +158F (-20 to +70C)
AC Power:	100 to 240Vac, 50-60Hz 0.5 Amp
DC Power:	9 to 18Vdc, Pin 1 Ground, Pin 4 Positive
Case Material:	Steel with Aluminum Face Plate
Finish:	Black Texture Paint, Black Anodize
Global Gain:	Active Splitters, unity gain, +/-2dB
Freq. Response:	450Mhz to 900Mhz
Noise Figure :	2.8dB
Maximum Input:	+13dB
Output Isolation:	>24dB
Warranty:	1 Year, Limited

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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, 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 MultiMax!

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

CONTACT PERSON: Ronald Meyer
(661) 295-9395

TYPE OF PRODUCT: Antenna Splitter

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 2003

Professional Sound Corporation.