

DSRMC06 Series

Best Practices Receiver Multicoupler

The receiver multicoupler is a key element of a radio communications system, not only connecting the receivers onto a single antenna but even improving receiver sensitivity. Because the low noise amplifier (LNA) of the multicoupler is placed before all system receivers, it determines the ultimate sensitivity of the entire system.

The DSRMC06 series multicoupler is designed to meet stringent industry standards to provide the performance and features required by complex digital radio systems. Coupled with dbSpectra's line of milled window filters, or custom designed filtering (when required), the DSRMC06 provides unparalleled system performance. System sensitivity will be at its best, allowing talkback from difficult locations when critical communications are necessary.



Features and Benefits

- **Frequency Ranges** - Models cover VHF, UHF, and 700/800/900 MHz.
- **Post Filter Ports** – Allow a secondary filter for greater selectivity positioned after the LNA to minimize impact on the noise figure.
- **30 dB Test Port**—Allows static and effective Receiver sensitivity testing without disconnecting the RX path.
- **Adjustable Electronic Attenuator**—Adjustable 1-15 dB attenuator (1 dB steps) to optimize reserve gain of the system.
- **LNA Alarm Monitoring (optional)** — Provides dry contact for external alarming and local LED indicators.
- **LNA Design**—Quadrature-coupled LNA for optimum noise figure and excellent third order intercept.
- **Self-Terminating Splitter**—Unused ports on splitter outputs require no termination.
- **Compact Size** – 8 or 16 Channels in 1 RU of rack space.
- **Input Power** – AC or DC Models available.
- **Battery Backup**: AC models support a secondary 12 VDC power input.

System Specifications

Frequency Range	Noise Figure	Gain (0 dB Atten)
136 - 174 MHz	2.7 dB	9 dB
370 – 470 MHz	2.2 dB	9.5 dB
470 - 512 MHz	2.5 dB	9 dB
700 – 824 MHz	1.5 dB	15 dB
824 – 902 MHz	2.0 dB	14 dB

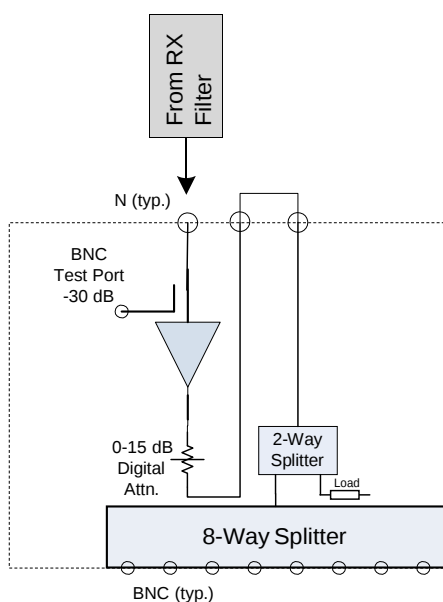
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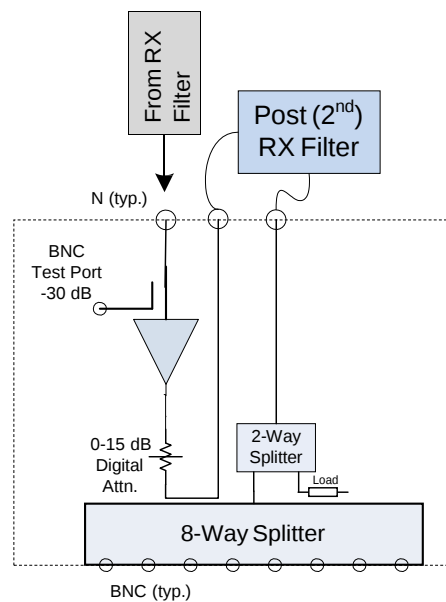
Electrical Specifications	
Frequency Range	See Ordering Information
LNA Type	Quadrature Coupled
LNA OIP3	> +40 dBm
Isolation: RX to RX Port	20 dB min.
VSWR (Input/Output)	1.5:1 (at 50 Ohms)
Power Requirements	90-240 VAC at 50-60 Hz, or -48 VDC (*AC Models also support +12 VDC)
Attenuator	Adjustable from 1-15 dB in 1 dB steps
Test Port	30 dB coupler

Mechanical Specifications	
Dimensions	1.75" H x 19" W x 10.25" D
Connectors:	
Input & Post Filter	N-Female
Output	BNC Female
Test Port	BNC Female
Alarm (optional)	Connector Block
Mounting Hardware	EIA 19" Rack
Alarm Output	Form-C Contacts
Temperature	-30° to +60° C

Pre & Post Filter Configuration



Normal Single Pre-Filter Configuration



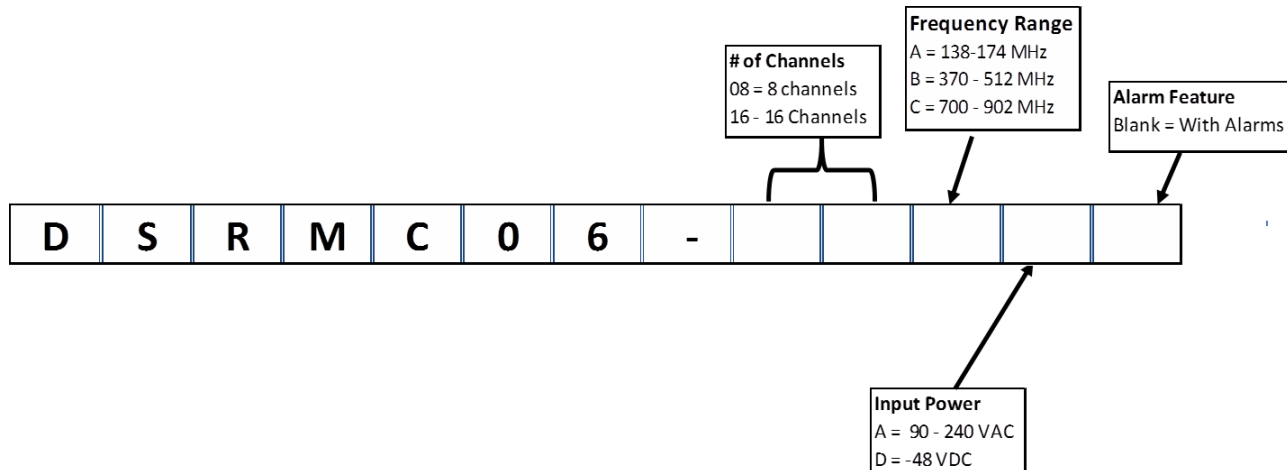
Post-Filter Configuration for Additional Selectivity

The block diagrams illustrate how additional filtering can be added after the amplifier. The use of a post filter provides additional protection to your receiver. Because it is placed after the LNA, the additional loss of the post filter has minimum impact to the sensitivity of your receiver.

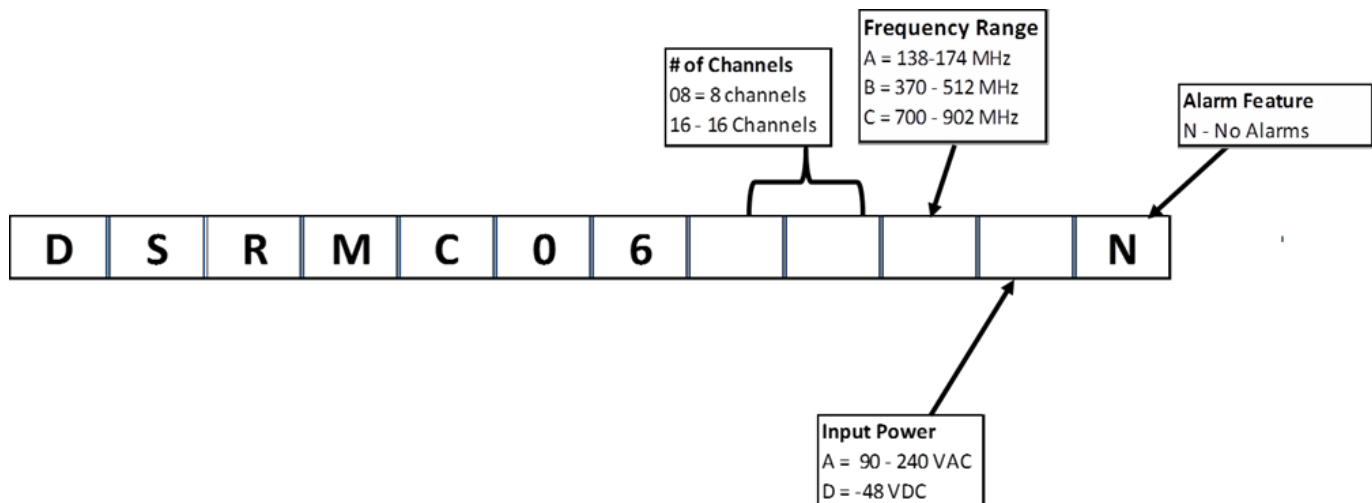
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Ordering Information

Premium Models with LNA Alarm Monitoring



Standard Models (No Alarm Feature)



Accessory

DSRMC06-EXP

8-Channel Expansion Kit (Includes splitter and cable assembly)