

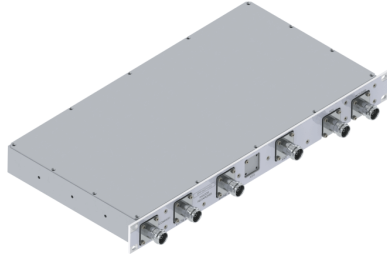


# Filters & Combiners

DATA SHEET

## Broadband Pentaplexer Combiner

5PR-6736-xxx



- Combines 600/700, 850/900, PCS (1850-1995), AWS (1695-2200) and WCS/BRS (2305-2690), which includes AWS 1-3 Extended
- High power 60 W per port with low insertion loss
- Low intermodulation with typical isolation of >50 dB per band
- Available DC/AISG pass using Smart Bias-T with pass through on any input port
- Rackmount model with additional mounting hardware for wall/pole mount
- Also available in an outdoor single or twin version, see model 5PO-6736-xxx
- High reliability of >500K Hours MTBF and multi-strike lightning protection

### Overview

Communication Components, Inc. Broadband Pentaplexer Combiner combines 600/700, 850/900, PCS, AWS and WCS/2600 band Basestation Tx/Rx signals onto a common port. Specifically intended for use in feeder line limited sites or multi-band high power DAS systems, the CCI Indoor Rack Mount Pentaplexer model 5PR-6736-xxx facilitates the addition of new technologies like 5G and new spectrum including 600 MHz and "AWS 1-3 Extended" to existing sites while providing a low insertion loss and a high degree of isolation between systems. The cost and complexity of upgrading a Macro or DAS site is significantly reduced.

The CCI Broadband Pentaplexer Combiner provides full band performance for each band with low insertion loss, low Intermodulation, and high power handling. Excellent return loss delivers the best match to the DAS system and base station, saving precious transmit power. This unit is a 19 inch rackmount and is shipped with additional hardware for pole or wall mounting. An outdoor version is also available in a single or twin configuration, see model number 5PO-6736-xxx. Both rackmount and outdoor units are fully weather rated.

### Technical Description:

The Broadband Pentaplexer Combiner consists of a multiple filters to combine (or divide) full band 600/700, 850/900, PCS, AWS, and WCS/2600 Band signals. This unit can be used as either a splitter or combiner to aggregate multiple bands on a common line. RF ports are available with 7-16 or 4.3-10 connectors. The filters have been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the Broadband Pentaplexer to minimize any passive intermodulation products from occurring. This Indoor Rack Mount Version can be wall or 19" rack mounted and all connectors are fully IP68 rated and the unit body is rated for IP67. The pole and wall mounting kit are included as an accessory.



# Filters & Combiners

## SPECIFICATIONS

### Broadband Pentaplexer Combiner

5PR-6736-xxx

#### Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	Common	617 - 798	18 dB min., 20 dB typ.	
		824 - 960	18 dB min., 20 dB typ.	
		1850 - 1995	18 dB min., 20 dB typ.	
		1695 - 1780	18 dB min., 20 dB typ.	
		2110 - 2200	18 dB min., 20 dB typ.	
		2305 - 2690	18 dB min., 20 dB typ.	
		600/700	617 - 798	18 dB min., 20 dB typ.
		850/900	824 - 960	18 dB min., 20 dB typ.
		PCS	1850 - 1995	18 dB min., 20 dB typ.
		AWS	1695 - 1780	18 dB min., 20 dB typ.
Insertion Loss	COM to 600/700	617 - 798	0.35 dB typ., 0.55 dB max.	
		824 - 960	0.35 dB typ., 0.65 dB max.	
		1850 - 1995	0.35 dB typ., 0.40 dB max.	
		1695 - 1780	0.35 dB typ., 0.40 dB max.	
		2110 - 2220	0.35 dB typ., 0.40 dB max.	
		2305 - 2690	0.35 dB typ., 0.55 dB max.	
		COM to 850/900	824 - 960	0.35 dB typ., 0.65 dB max.
		COM to PCS	1850 - 1995	0.35 dB typ., 0.40 dB max.
		COM to AWS	1695 - 1780	0.35 dB typ., 0.40 dB max.
		COM to WCS/2600	2305 - 2690	0.35 dB typ., 0.55 dB max.
Isolation	COM to 600/700	824 - 960	50 dB min.	
		1850 - 1995	50 dB min.	
		1695 - 1780	50 dB min.	
		2110 - 2200	50 dB min.	
		2305 - 2690	50 dB min.	
	COM to 850/900	617 - 798	50 dB min.	
		1850 - 1995	50 dB min.	
		1695 - 1780	50 dB min.	
		2110 - 2200	50 dB min.	
		2305 - 2690	50 dB min.	
	COM to PCS	617 - 798	50 dB min.	
		824 - 960	50 dB min.	
		1695 - 1780	50 dB min.	
		2110 - 2200	50 dB min.	
		2305 - 2690	50 dB min.	
	COM to AWS	617 - 798	50 dB min.	
		824 - 960	50 dB min.	
		1850 - 1995	50 dB min.	
		2305 - 2690	50 dB min.	
	COM to WCS/2600	617 - 798	50 dB min.	
824 - 960		50 dB min.		
1850 - 1995		50 dB min.		
2110 - 2180		50 dB min.		
2180 - 2200		40 dB min.		



# Filters & Combiners

## SPECIFICATIONS

### Broadband Pentaplexer Combiner

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General Characteristics	
Impedance	50 ohms
Continuous Average Power	100 W max.
Peak Envelope Power	2 kW max.
Intermodulation Performance COM port	<-117 dBm (-160 dBc) typical (2 x +43 dBm tones) all bands

### Environmental Specification

Operating Temperature	-40 °C to +65 °C
Ingress Protection	IP68(Connectors), IP67 (Unit Body)
Relative Humidity	0 - 99%
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes each, IEC61000-4-5

### Mechanical Specification

Indoor Rack Mount	
Connectors	6 x 7-16 DIN female long neck or 6 x 4.3-10 - per Pentaplexer
Dimensions (body only)	9.21 x 17.72 x 1.73 in. (234.0 x 450.0 x 44.0 mm)
Dimensions with connectors and panel	10.39 x 19.01 x 1.73 in. (264.0 x 483.0 x 44.0 mm)
Weight	18.15 lbs (8.25 kg)
Mounting	Rack Mount

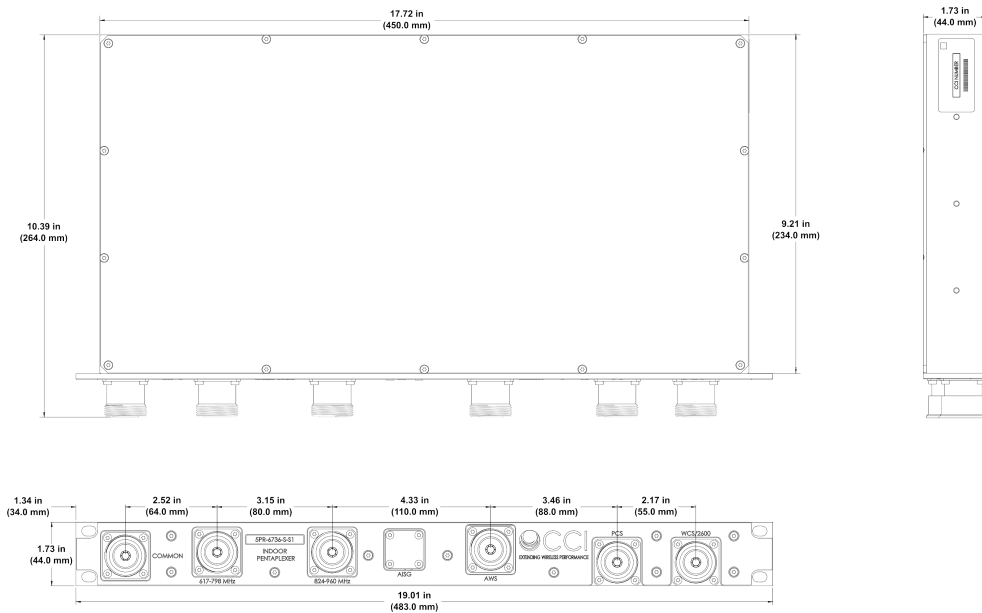


# Filters & Combiners

## SPECIFICATIONS

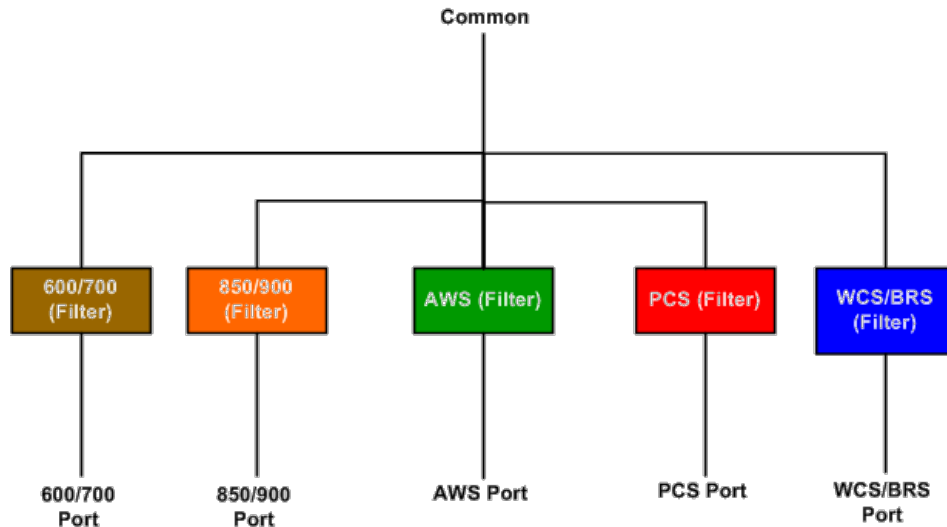
### Broadband Pentaplexer Combiner

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Indoor Rack Mount Single Broadband Pentaplexer Outline Drawing

### Block Diagram



Indoor Rack Mount Broadband Pentaplexer with No DC-AISG Pass-thru Block Diagram



# Filters & Combiners

STANDARDS & CERTIFICATIONS

## Broadband Pentaplexer Combiner

5PR-6736-xxx

### Parts & Accessories

- 5PR-6736-0-S1** Indoor Single Broadband Pentaplexer with No DC/AISG Pass-thru and 7-16 DIN connectors
- 5PR-6736-S-S1** Indoor Single Broadband Pentaplexer with Smart Bias-T, DC/AISG Pass through on any port and 7-16 connectors
- 5PR-6736-M-S1** Indoor Single Broadband Pentaplexer with AISG Modem with AISG output port for DC/AISG Pass through and 7-16 connectors
- 5PR-6736-0-S2** Indoor Single Broadband Pentaplexer with No DC/AISG Pass-thru and 4.3-10 connectors
- 5PR-6736-S-S2** Indoor Single Broadband Pentaplexer with Smart Bias-T, DC/AISG Pass through on any port and 4.3-10 connectors
- 5PR-6736-M-S2** Indoor Single Broadband Pentaplexer with AISG Modem with AISG output port for DC/AISG Pass through and 4.3-10 connectors

### Certifications

- Safety** EN 60950-1, UL 60950-1
- Emission** EN 55022
- Immunity** EN 55024
- Environmental** IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, IEC61000-4-5, GR-63-CORE 4.3.1, EN 60529 IP67, IP68

### Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001

