



# Filters & Combiners

DATA SHEET

## Broadband Quadplexer Combiner

QPX-07081921A



- Low Loss
- Small, lightweight
- AISG 2.0 compliant
- Good Isolation
- Good IM
- Lightning protected
- High reliability
- Full 700, 850, PCS, and AWS bands
- Includes AWS-3 Band

### Overview

Communication Components, Inc. Outdoor Broadband Quadplexer Combiner combines 700 MHz, 850 MHz, PCS and AWS band Basestation Tx/Rx signals onto a common port. Specifically intended for use in quad band systems with limited feeder lines, the CCI Quadplexer model QPX-07081921A facilitates the addition of new technologies including LTE and new spectrum including AWS-3 to existing sites while providing a high degree of isolation between systems. By reducing the number of feeder lines, the cost to upgrade a site (tower loading, leasing and installation costs) is reduced.

The CCI Outdoor Broadband Quadplexer 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 antennas and base station, saving precious transmit power. DC and AISG pass-through retains full RET and TMA capability utilizing CCI's AISG suite of products.

### Technical Description:

The Outdoor Broadband Quadplexer Combiner consists of multiple filters to combine (or divide) full band 700 MHz, 850 MHz, PCS and AWS signals. This tower mount unit can be used as either a splitter or combiner to aggregate multiple bands on a common feeder line. All RF ports are DIN 7-16 connectors. The fully weatherproof tower mount unit incorporates a unique intelligent Bias-T architecture which passes the DC and AISG carrier frequency from any of the input ports to the common port while blocking the DC and AISG signals from being re-injected into the other input ports. The unit has internal lightning strike protection using a multi-stage surge protection circuit.

The filters have been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the Broadband Diplexer to minimize any passive intermodulation products from occurring. All DIN Connectors are fully IP68 rated and the unit body is rated for IP66.



# Filters & Combiners

## SPECIFICATIONS

### Broadband Quadplexer Combiner

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#### Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	Common	698 - 798	18 dB min., 20 dB typ.	
		824 - 894	18 dB min., 20 dB typ.	
		1850 - 1990	18 dB min., 20 dB typ.	
		1710 - 1780	18 dB min., 20 dB typ.	
		2110 - 2180	18 dB min., 20 dB typ.	
	700	698 - 798	18 dB min., 20 dB typ.	
	850	824 - 894	18 dB min., 20 dB typ.	
	PCS	1850 - 1990	18 dB min., 20 dB typ.	
	AWS	1710 - 1780	18 dB min., 20 dB typ.	
		2110 - 2180	18 dB min., 20 dB typ.	
	Insertion Loss	COM to 700	698 - 798	0.2 dB typ.
		COM to 850	824 - 894	0.2 dB typ.
		COM to PCS	1850 - 1990	0.2 dB typ.
		COM to AWS	1710 - 1780	0.25 dB typ.
			2110 - 2180	0.25 dB typ.
Rejection	COM to 700	824 - 894	50 dB min.	
		1710 - 2180	50 dB min.	
	COM to 850	698 - 798	50 dB min.	
		1710 - 2180	50 dB min.	
	COM to PCS	698 - 798	50 dB min.	
		1710 - 1780	50 dB min.	
	COM to AWS	2110 - 2180	50 dB min.	
		698 - 894	50 dB min.	
		1850 - 1990	50 dB min.	

General Characteristics	
Impedance	50 ohms
Continuous Average Power	200 W max.
Peak Envelope Power	2 kW max.
Intermodulation Performance(all ports)	<-110 dBm (-153 dBc) typical (2 x +43 dBm tones) all bands
DC Pass Current/AISG Pass (Any Port to COMMON port)	3A/AISG signal (2.176 Mhz) per AISG 2.0

#### Environmental Specification

Operating Temperature	-40 °C to +65 °C
Enclosure	IP66 (Unit Body), IP68 (Connector)
Relative Humidity	0 - 45 %
MTBF	>500,000 hours
Lightning Protection	8/20us, ±20KA max, 10 strikes each, IEC61000-4-5



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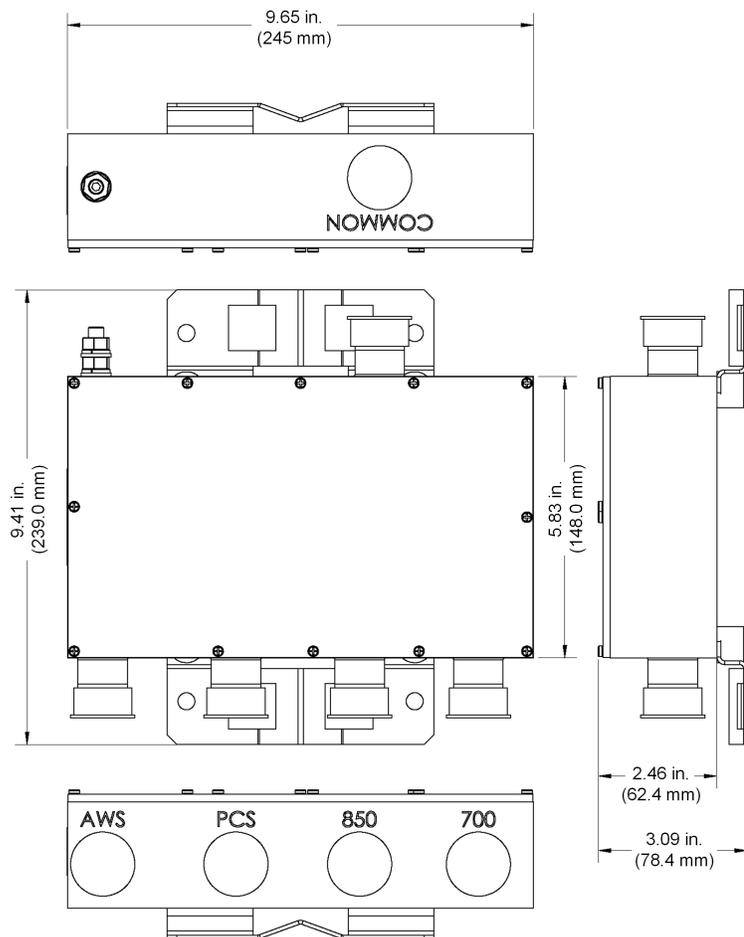
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#### Mechanical Specification

Connectors	5 x 7-16 DIN female long neck
Dimensions (w/o connectors or brackets)(HxWxD)	5.83 x 9.65 x 2.46 in. (148 x 245 x 62.4 mm)
Dimensions (with brackets)(HxWxD)	9.41 x 9.65 x 3.09 in. (239 x 245 x 78.4 mm)
Weight (w/o Bracket)	12.0 lbs (5.4 kg)
Mounting	Pole/Wall mounting bracket



Outdoor Broadband Quadplexer Outline Drawing



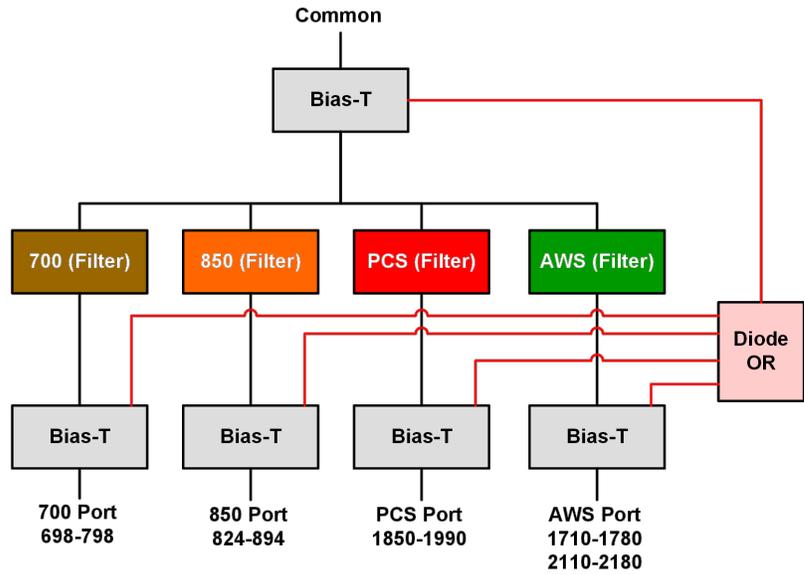
# Filters & Combiners

SPECIFICATIONS

Broadband Quadplexer Combiner

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Block Diagram



Outdoor Broadband Quadplexer Block Diagram



# Filters & Combiners

ORDERING

Broadband Quadplexer Combiner

QPX-07081921A

Parts & Accessories

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[QPX-07081921A](#) Outdoor Pole/Wall Mount Quadplexer

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[QPX-07081921A-D](#) Twin Outdoor Pole/Wall Mount Quadplexer

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# Filters & Combiners

STANDARDS &  
CERTIFICATIONS

Broadband Quadplexer Combiner

QPX-07081921A

Certifications

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

