



# Filters & Combiners

## DATA SHEET

### PCS A&D Plus E thru G In-Band Combiner

PFC-1819-AD-EG



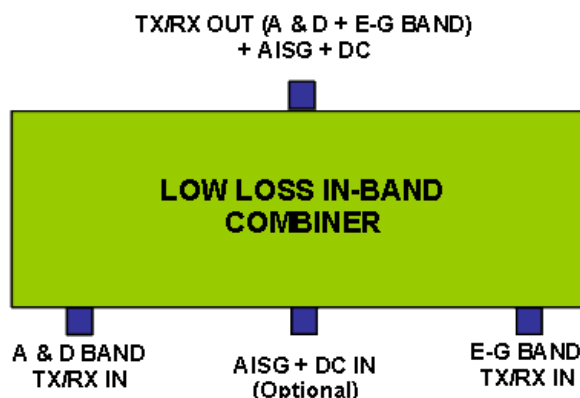
- Combines two Base Station Outputs in the PCS A and D Plus E thru G Sub-bands onto a Single Feeder
- Low Loss Combining
- Full Transmit and Receive Combining typ. 0.3 dB loss
- Optional DC + AISG Modem to power TMA's and Antennas available
- High Reliability Design
- High Power Handling
- Excellent Filter Response
- Temperature Stable
- Fully Passive
- Low Intermodulation
- Optional Wall Mount Kit Available

#### Overview

CCI's Low Loss PCS In-Band Combiner combines two Base Station outputs on the A and D plus E thru G sub-bands of the PCS (1900 MHz) band onto a single feeder without the insertion loss normally associated with hybrid combiners. The unit is fully passive and delivers a matched low insertion loss solution for the sharing of common feeder lines and antennas. The unit requires no power and has a DC Block on the Input ports. Optional AISG port which connects to an AISG Modem that provides DC + AISG signal to power TMA's and Antennas is available. The unit is housed in a weatherproof outdoor enclosure suitable for tower mount application.

#### Technical Description:

Internal duplexers deliver signal to independent Tx and Rx filter combiners, enabling a high level of control and performance to maintain good isolation while minimizing insertion loss. Stages are kept to a minimum to maximize power and efficiency. Transmit paths are fully isolated from Receive paths to prevent intermodulation products. The tower mount unit consists of multiple band-pass filters and an optional AISG Modem which are all housed in an IP67 moisture proof enclosure, with IP68 immersion proof connectors suited for long-life masthead mounting. The unit provides protection against lightning strikes via a multi-stage surge protection circuit.





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## SPECIFICATIONS

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#### Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	TX/RX OUT	1850 - 1870	18 dB min., 20 dB typ.
		1885 - 1915	18 dB min., 20 dB typ.
		1930 - 1950	18 dB min., 20 dB typ.
		1965 - 1995	18 dB min., 20 dB typ.
	TX/RX IN 1 (A-D)	1850 - 1870	18 dB min., 20 dB typ.
		1930 - 1950	18 dB min., 20 dB typ.
	TX/RX IN 2 (E-G)	1885 - 1915	18 dB min., 20 dB typ.
		1965 - 1995	18 dB min., 20 dB typ.
Insertion Loss	TX/RX IN 1 (A-D) to TX/RX OUT	1850 - 1870	0.3 dB typ., 0.5 dB at band edge over Temp.
		1930 - 1950	0.3 dB typ., 0.5 dB at band edge over Temp.
	TX/RX IN 2 (E-G) to TX/RX OUT	1885 - 1915	0.3 dB typ., 0.5 dB at band edge over Temp.
		1965 - 1995	0.3 dB typ., 0.5 dB at band edge over Temp.
Attenuation	TX/RX OUT to TX/RX IN 1 (A-D)	1885 - 1915	30 dB min.
		1965 - 1995	30 dB min.
	TX/RX OUT to TX/RX IN 2 (E-G)	1850 - 1870	30 dB min.
		1930 - 1950	30 dB min.
Isolation	TX/RX IN 1 (A-D) to TX/RX IN 2 (E-G)	1850 - 1870	30 dB min.
		1885 - 1915	30 dB min.
		1930 - 1950	30 dB min.
		1965 - 1995	30 dB min.

#### General Characteristics

Impedance	50 ohms
Continuous Average Power	200 W max. (all ports)
Peak Envelope Power	2 kW max. (all ports)
Intermodulation Performance(at ANT port in RX band)	<-117 dBm (-160 dBc) typical (2 x +43 dBm tones) all bands
	<-127 dBm (-162 dBc) typical (2 x +35 dBm tones) all bands
AISG (Optional)	AISG 2.0 Compatible

#### Environmental

Operating Temperature	-40 °C to +65 °C
Enclosure	IP67 (Unit Body), IP68 (Connector) - Suitable for Outdoor Applications
MTBF	>500,000 hours
Lightning Protection	8/20us, ±20KA max, 10 strikes per IEC61000-4-5



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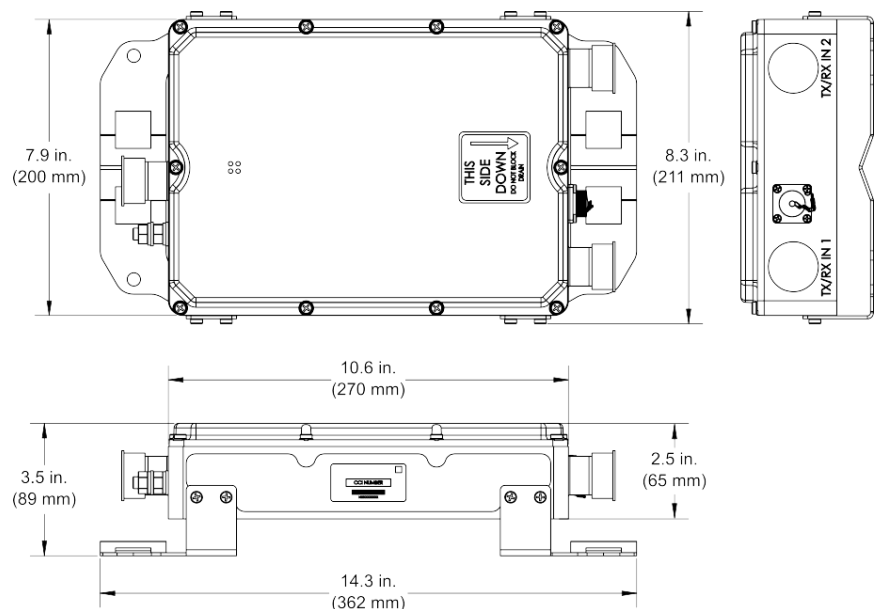
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#### Mechanical

Connectors	3 x 7-16 DIN female; 1x AISG-female
Dimensions(body only)(HxWxD)	10.6 x 7.9 x 2.5 in. (270 x 200 x 65 mm)
Dimensions (with brackets)(HxWxD)	14.3 x 8.3 x 3.5 in. (362 x 211 x 89 mm)
Weight with brackets	12 lbs (5.5 kg)
Mounting	Pole/Wall mounting bracket



PCS A & D plus E thru G In-Band Combiner Outline Drawing



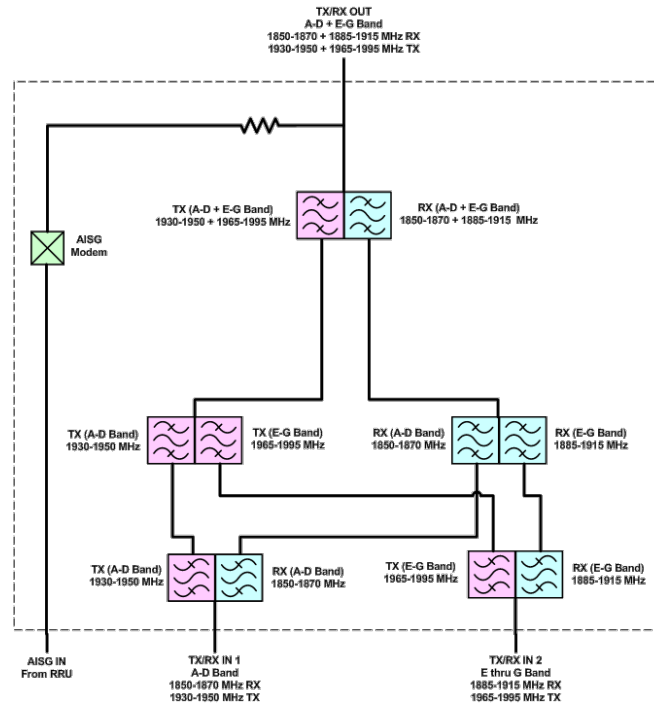
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## SPECIFICATIONS

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### Block Diagram



PCS A & D plus E thru G In-Band Combiner Block Diagram



# Filters & Combiners

## ORDERING

PCS A&D Plus E thru G In-Band Combiner

PFC-1819-AD-EG

Parts & Accessories

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**PFC-1819-AD-EG** In-Band Combiner with bracket (with DC Block, no AISG modem & no AISG port)

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**PFC-1819-AD-EG-AG** In-Band Combiner with bracket, AISG modem and AISG port

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# Filters & Combiners

## STANDARDS & CERTIFICATIONS

### PCS A&D Plus E thru G In-Band Combiner

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#### Certifications

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



**CCI** Communication Components Inc.  
EXTENDING WIRELESS PERFORMANCE