

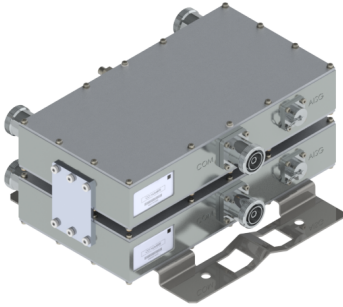


Filters & Combiners

DATA SHEET

600-700/800-900 Outdoor Diplexer

DPO-6789-XXX



- Combines the 600/700 MHz Band (617-798 MHz) and the 800/900 band (824-960 MHz) Band onto a common port.
- High power 200 W per port with low insertion loss
- Available DC/AISG pass through or AISG modem and output port, AISG 2.0 compliant
- Low intermodulation with isolation of >50 dB port to port
- Available twin unit configuration
- High reliability of >500K Hours MTBF and multi-strike lightning protection
- Lightweight outdoor enclosure with pole or wall mounting options

Overview

CCI's Outdoor Diplexer combines the 600/700 MHz band with the 800/900 band base stations onto a common feeder line. Specifically intended for use in dual band systems, the diplexer reduces the number of required feeder lines while providing a high degree of isolation between systems. By reducing the number of feeder lines, the cost to upgrade a site is reduced. Additionally, diplexers can be utilized in "crowded" sites where feeder lines are not easily accessible. Optional unit with two Diplexers mounted on a single bracket is available.

Technical Description:

The CCI Outdoor Diplexer provides full band performance in each band with low insertion loss, low Intermodulation, high isolation and high power handling. Excellent return loss and low insertion loss delivers an excellent match to antennas and base station, saving precious transmitter power. The fully weatherproof tower mount unit is available with DC/AISG pass options including a smart bias-tee or AISG modem and output port. The Smart Bias-Tee architecture 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 Diplexer housing is constructed from die cast aluminum and consists of an IP67 moisture proof enclosure, with IP67 immersion proof connectors suited to long-life masthead mounting. The Diplexer can be pole or wall mounted with the included bracket. The RF ports can be configured with either 4.3-10 or 7-16 connectors. CCI filter and combiner products are designed and produced to ISO 9001 certification standards for reliability and quality at our state-of-the-art engineering and manufacturing facilities.



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SPECIFICATIONS

600-700/800-900 Outdoor Diplexer

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	Common	617 - 798	18 dB minimum, 20 dB typical	
		824 - 960	18 dB minimum, 20 dB typical	
	600/700	617 - 798	18 dB minimum, 20 dB typical	
		824 - 960	18 dB minimum, 20 dB typical	
	Insertion Loss	COM to 600/700	617 - 798	0.2 dB typical, 0.5 dB max
		COM to 800/900	824 - 960	0.3 dB typical, 0.6 dB max
Isolation	COM to 600/700	824 - 960	50 dB minimum	
	COM to 800/900	617 - 798	50 dB minimum	

General Characteristics

Impedance	50 ohms
Continuous Average Power	200 W max. per input port simultaneous
Peak Envelope Power	2 kW max. per input port simultaneous
Intermodulation Performance(all ports)	<-117dBm (-160 dBc) typical (2 x +43 dBm tones) all bands
DC Pass Current/AISG Pass	3A/AISG signal (2.176 Mhz) per AISG 2.0

Environmental

Operating Temperature	-40 °C to +65 °C
Ingress Protection	IP67
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes per IEC61000-4-5

Mechanical

Model	Single	Twin
Connectors	3 x 7-16 DIN female or 3 x 4.3-10 female	6 x 7-16 DIN female or 6 x 4.3-10 female
Dimensions w/Bracket (HxWxD)	10.47 x 9.45 x 2.68 in. (266 x 240 x 68 mm)	11.1 x 9.45 x 5.04 in. (282 x 240 x 128 mm)
Housing Dimensions (HxWxD)	10.47 x 5.63 x 2.17 in. (266 x 143 x 55 mm)	10.47 x 5.63 x 4.53 in. (266 x 143 x 115 mm)
Weight	7.2 lbs (3.3 kg)	14.0 lbs (6.4 kg)
Frontal Wind Load @ 150 km/hour	172.6 N (38.8 lbs)	172.6 N (38.8 lbs)
Lateral Wind Load @150 km/hour	25.8 N (5.8 lbs)	51.6 N (11.6 lbs)
Mounting	Pole/Wall mounting bracket	Pole/Wall mounting bracket

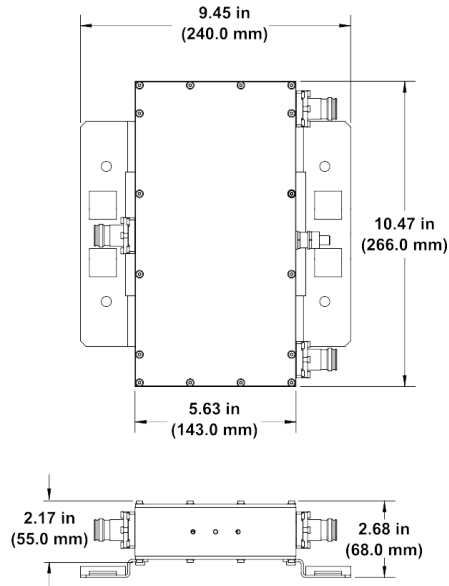


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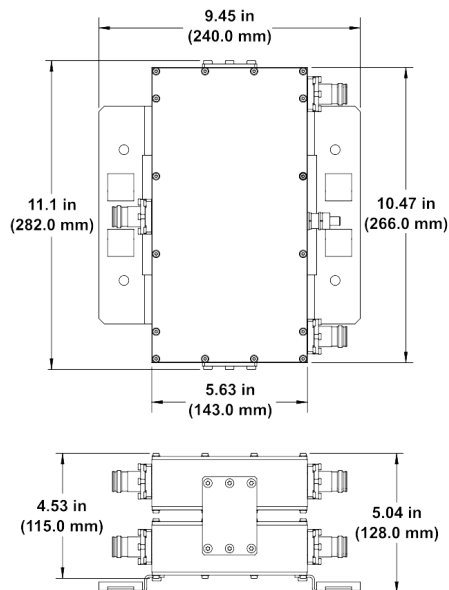
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Outdoor Diplexer Outline Drawing



Outdoor Twin Diplexer Outline Drawing



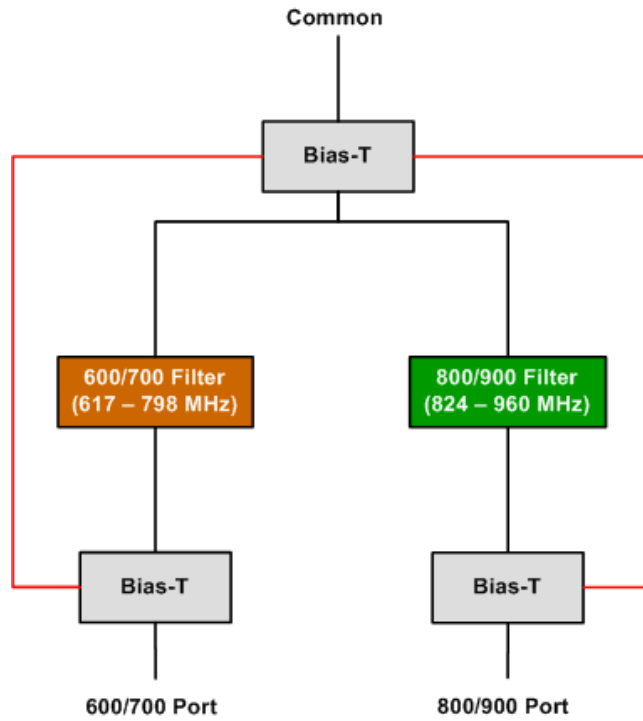
Filters & Combiners

SPECIFICATIONS

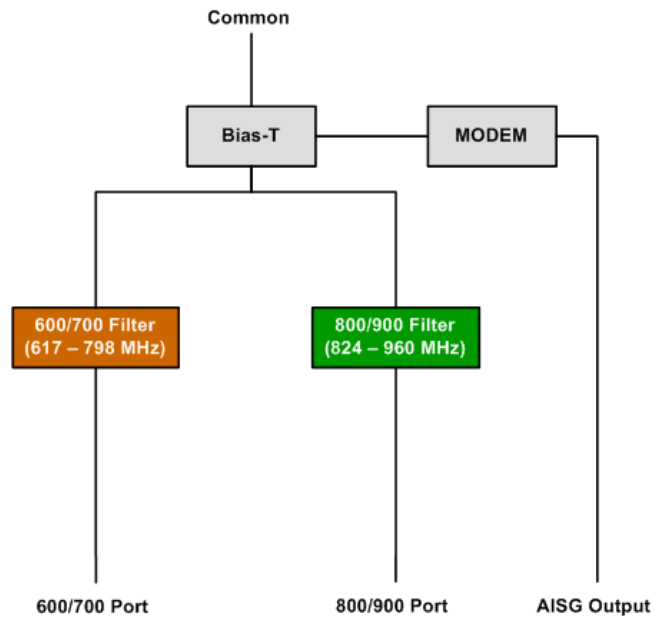
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Block Diagram



600-700/800-900 Diplexer with Smart Bias-T Block Diagram



600-700/800-900 Diplexer with AISG Modem Block Diagram



Filters & Combiners

STANDARDS & CERTIFICATIONS

600-700/800-900 Outdoor Diplexer

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Parts & Accessories

DPO-6789-x-S1	Outdoor Diplexer with 7-16 DIN connectors
DPO-6789-x-S2	Outdoor Diplexer with 4.3-10 connectors
DPO-6789-x-T1	Outdoor Twin Diplexer with 7/16 DIN connectors
DPO-6789-x-T2	Outdoor Twin Diplexer with 4.3-10 connectors

Option (-x)	Description
-M	AISG Modem and Output Port
-S	Smart Bias-T, DC/AISG Pass through on either port
-0	No DC/AISG Pass through and No DC Block
-1	DC/AISG Pass through 600/700 Low Band to COMMON, DC Block on 800/900 port
-2	DC/AISG Pass through 800/900 Band to COMMON, DC Block on 600/700 port

Standards & Compliance

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

Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001



CCI

Communication Components Inc.

EXTENDING WIRELESS PERFORMANCE