

Active 8-Way GPS Antenna Splitter



The **ALDCBS1X8 GPS Amplified Splitter** from GPS Networking, Inc. is a one input, eight output device with 13dB min. gain. The frequency response covers the GPS L1 & L2 bands with excellent gain flatness. In the normal configuration, one of the splitter RF outputs (J1) passes DC from the connected GPS receiver through the splitter to the antenna, allowing the GPS receiver to power both the antenna and the splitter amp. The other RF outputs (J2, J3, J4, J5, J6, J7, J8) are DC loaded with a 200Ω resistor to simulate the antenna current draw.

Options:



Network: This option gives you a splitter that has its own power source & all output ports are DC-blocked. When you designate the Network option you must also designate the antenna voltage to be provided by the splitter power source as well as the source voltage. The antenna voltage range is 5 - 15VDC. The Source voltages available are 8-28VDC / 110AC / 220EuroAC / 240UKAC.

Hi-Isolation: This option gives you a splitter that has high isolation (40db) between output ports. When you designate the Hi-Isolation option you will not get full amplification (14.5db). The Hi-Isolation option gives you 4.5dB gain on a 1X8.

Applications:

1. GPS Networking's 1X8 GPS antenna splitters are GPS distribution systems. They allow you to supply an entire facility or system with 8 GPS carriers. The network option is very popular with this model as it is then a stand alone system and does not need a receiver to power its antenna.
2. Amplified splitters with the Hi-Isolation option are a good option when you are mixing different brands of receivers, older receivers or less expensive receivers. Some GPS receivers leak the local oscillator, their clock signal or reflect the GPS signal due to a less than optimum input VSWR these problems cause degradation in performance. This can vary from a slight loss of performance, to the point that one or more of the receivers no longer operate. The Hi-Isolation option prevents these problems.

Electrical Specifications, $T_A = 25^\circ\text{C}$

Parameter	Conditions	Min	Typ	Max	Units
Frequency Range	Ant – Any Output, Unused Outputs - 50Ω	1.1		1.7	GHz
Input/Output Impedance ⁽¹⁾	Ant, J1, J2, J3, J4, J5, J6, J7, J8		50		Ω
Gain	Normal Configuration Ant–Any Output, Unused Outputs - 50Ω	13	14.5	16.5	dB
	Hi Isolation Config, Ant–Any Output, Unused Outputs - 50Ω	3	4.5	6.5	dB
Input SWR	All ports - 50Ω			2.0:1	-
Output SWR	Normal Configuration, All ports - 50Ω			1.8:1	-
	Hi Isolation Configuration, All ports - 50Ω			1.3:1	-
Noise Figure	Normal Configuration, Ant–Any Output, Unused Outputs - 50Ω		3.8	4.3	dB
	Hi Isolation Configuration, Ant–Any Output, Unused Outputs - 50Ω		4.0	4.5	dB
Gain Flatness	L1 – L2 ; Ant – Any Output, Unused Outputs - 50Ω		0,5	1	dB
Amplitude Balance	J1 – J2 ; Ant – Any Output, Unused Outputs - 50Ω			0.5	dB
Phase Balance	Phase (J1 – J2) ; Ant – Any Output, Unused Outputs - 50Ω			1.0	deg
Isolation	Normal Configuration, Adjacent Ports, Ant - 50Ω	10			dB
	Hi Isolation Configuration, Adjacent Ports, Ant - 50Ω	35			
Group delay Flatness	$\tau_{d,max} - \tau_{d,min}$: Ant – J1, J2 - 50Ω ; Ant – J2, J1 - 50Ω			1	ns
Required DC Input Voltage	Non-Network Configuration, DC Input on J	3.6		15	VDC
Current ⁽²⁾	Amplifier Current Draw, All ports - 50Ω			15	mA

(1) Input/Output Impedance = 75Ω for 75Ω connector option.

(2) Current draw on input DC port in the non-networked configuration.

Mechanical

Dimensions	
Height	33,0 mm
Width (not including connectors)	63,5 mm
Length (not including connectors)	114,5 mm
Length Base Plate	133,5 mm
Weight	286 g
Operating Temperature Range	- 40°C to + 75°C