

D1900089 A-Plus Suspension Satellite Amplifier

Electrical Characteristics.

The electrical specifications apply for VCC=+18v, VSS=-18v, +I=0.27mA, -I=-0.19mA with a T_{AMB}=25°C when only one OSEM is connected.

Parameter	Min	Typ	Max	Units	Notes
DC Voltage		±18		v	
Current		+0.27, -0.19		A	1 OSEM connected
D1900089 – A-plus Suspension Satellite Amplifier¹					
Trans-impedance Amplifier from PD in to Differential Output					
V/I Gain No OSEM Connected		242		KΩ	
Voltage Noise at 100Hz With OSEM Connected		2.9		μV/√Hz	
Voltage Noise at 100Hz				μV/√Hz	
LED Current Source					
Current Supply		35		mA	
Current Noise at 100Hz		0.85		nA/√Hz	
Whitened Filter					
Pole Frequency		10		Hz	
Zero Frequency		0.4		Hz	
Gain at Pole		31.6		dB	
Gain at Zero		9.6		dB	
Maximum Gain at 100Hz		35		dB	
PCB Board Voltage levels					
Power Supply		±14		v	
Current Supply no OSEM		+250, -200		mA	
Current Supply w/1 OSEM		+250, -190		mA	
DC Voltage at -10v Ref.					
TP23		+2.5		v	
TP24		-10		v	
DC Diff. Amp. Voltage Out					
TP1		+8.8		v	
TP2-TP3		-17.6		v	
Current Source					
TP4		+2.5		v	
TP5		+0.999		v	
TP6-TP28 (48Ω)		+1.66		v	
TP27-TP28(100Ω)		+3.52		v	
LED Current Source					
12.2Ω load on J1 at OSEM		+0.427		v	$\frac{0.427}{12.2} = 0.35\Omega$

¹ A-plus Suspension Satellite Amplifier integrate one pcb board and can be power through the coil driver or by rear connector (rack power). To use rear power (rack power), the rear panel needs to be replace and some modifications on pcb needs to be complete. The new connections include to connect H1 to Conec connector, also remove R23 and R19 and place these jumpers on J8 and J7. Rear panel option 2 manufacturing files are located on D1900408.

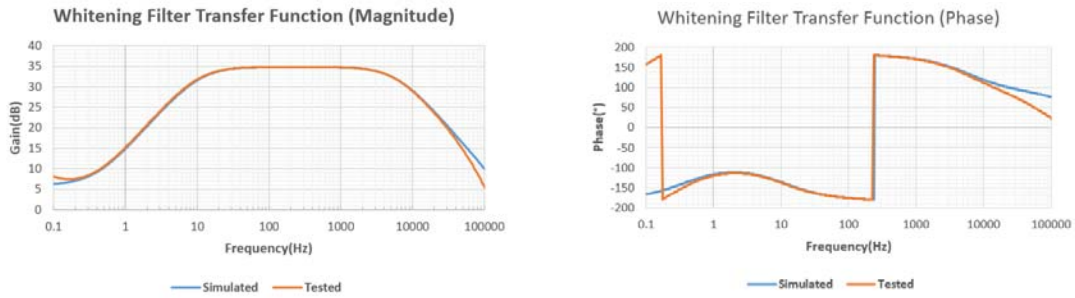


Fig.1 Left: Typical Plot from Whitening Filter(Magnitude). Right: Typical plot from Whitening Filter (Phase). These plots were captured with an input signal connected in series to a 121KΩ resistor.

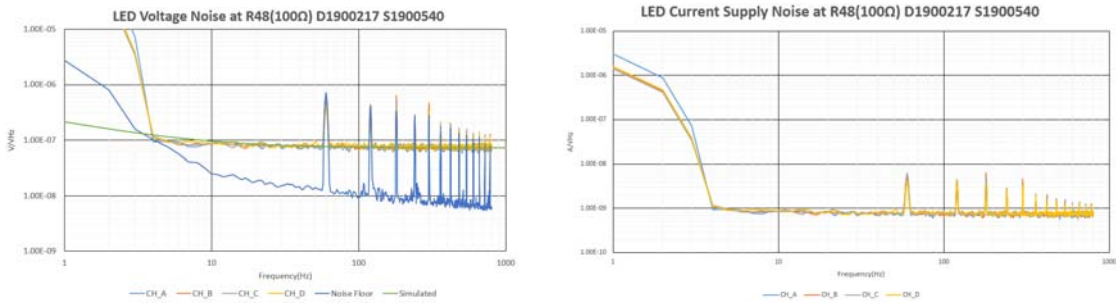


Fig.2 Left: Typical LED Voltage Noise (v/vHz) plot. Right: Typical LED Current Noise (A/vHz) plot. Voltage noise was measured differentially at R48(100Ω) and traces were taken at room temperature.

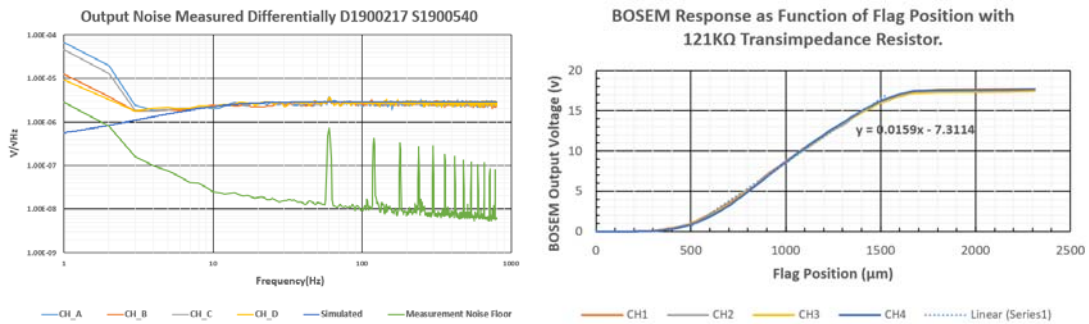


Fig. 3 Left: Typical Differential Driver Output Noise plot without OSEM connected. Right: Typical BOSEM Response as Function of Flag Position plot.

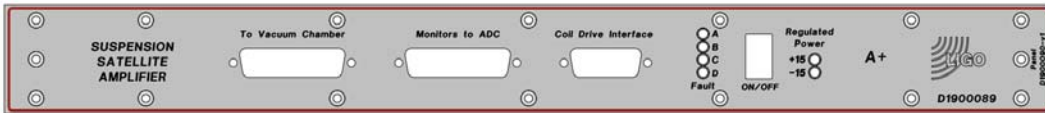


Fig.4 Front Panel.

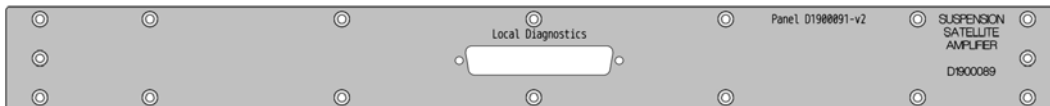


Fig.5 Rear Panel (DC Power from Coil Driver).

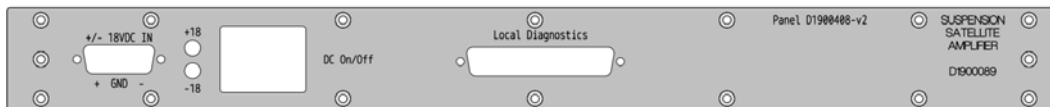


Fig.6 Rear Panel (Rack Power).

Some measurements at lower frequency(50Hz).

