



## Microphone Frequency Response Measurement Report

**Customer:** Cascade Microphones  
**Project No.:** J2007-020

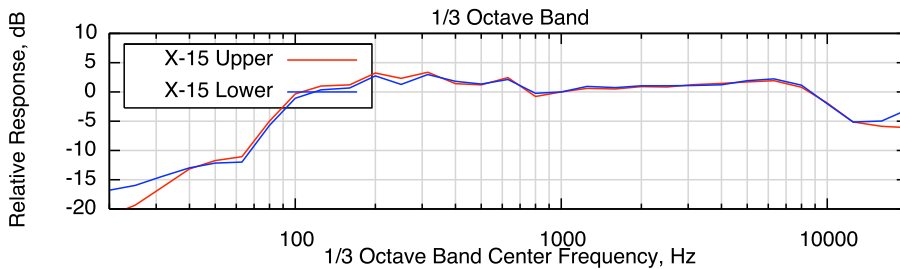
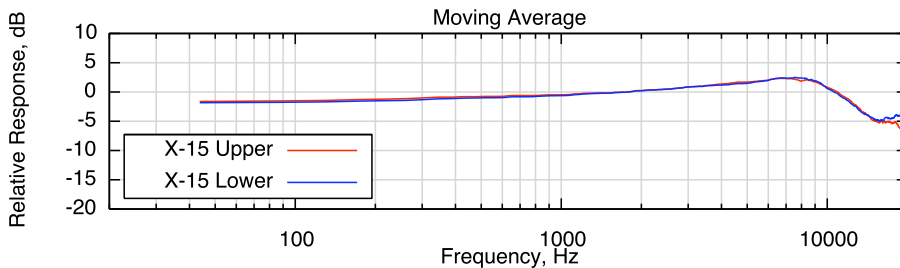
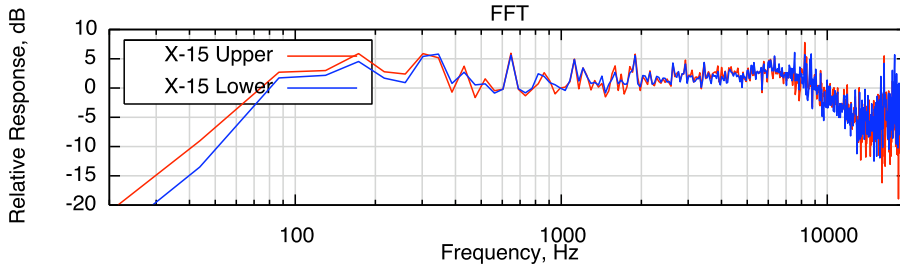
**Address:** 3720 Gravelly Beach Loop NW  
Olympia, WA 98502

**Microphone Manufacturer:** Cascade Microphones  
**Serial Number:** N/A

**Model Number:** X-15  
**Phantom Power:** N/A

**Measurement Date:** Jan 18, 2006  
**Engineer:** H. Singleton

**Temperature:** 68°F/20°C  
**Humidity:** 23%

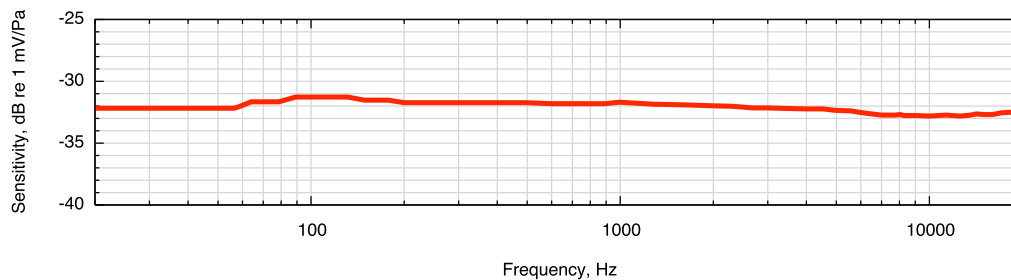


1/3 OB Results		
Freq. Element	Resp. (dB)	
	Upper	Lower
25	-19.35	-15.98
31.5	-16.32	-14.46
40	-13.15	-12.97
50	-11.73	-12.16
63	-11.06	-11.99
80	-4.99	-5.71
100	-0.35	-1.08
125	1.01	0.37
160	1.21	0.67
200	3.24	2.74
250	2.33	1.28
315	3.37	2.97
400	1.42	1.82
500	1.21	1.35
630	2.46	2.13
800	-0.78	-0.24
1000	0.00	0.00
1250	0.61	0.95
1600	0.50	0.74
2000	0.91	1.05
2500	0.84	1.05
3150	1.25	1.11
4000	1.45	1.22
5000	1.72	1.92
6300	1.92	2.23
8000	0.81	1.15
10000	-1.89	-2.03
12500	-5.13	-5.14
16000	-5.87	-4.97

This frequency response measurement is not a NIST-traceable calibration.

### Reference Microphone

Reference Microphone Frequency Response: ACO Pacific 7052S, S/N 31220, Cal. Date March 16, 2006



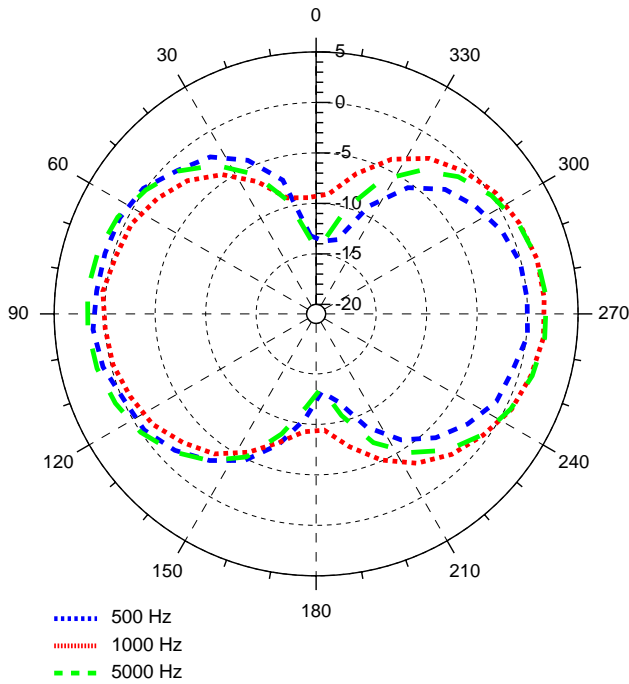


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### Supplemental Information

<b>Customer:</b> Cascade Microphones	<b>Address:</b> 3720 Gravelly Beach Loop NW
<b>Project No.:</b> J2007-020	Olympia, WA 98502
<b>Microphone Manufacturer:</b> Cascade Microphones	<b>Model Number:</b> X-15
<b>Serial Number:</b> N/A	<b>Phantom Power:</b> N/A
<b>Measurement Date:</b> Jan 18, 2006	<b>Temperature:</b> 68°F/20°C
<b>Engineer:</b> H. Singleton	<b>Humidity:</b> 23%
<b>Ref. Calibrator:</b> GenRad 1986	
<b>Serial Number:</b> 00242	
<b>Microphone Sensitivity:</b> -51.7 dB (2.6 mV/Pa) Lower	<b>Noise Floor:</b> <17 dBA Lower
(re 1000Hz, 94 dB) -51.7 dB (2.6 mV/Pa) Upper	<17 dBA Upper

Cascade X-15 Ribbon Microphone Polar Response (Upper)



Cascade X-15 Ribbon Microphone Polar Response (Lower)

