

Experiment 4: Underwater Acoustic Modem Source Level Test

Model: UAM-08160H

Version: —

Document Type: Performance Test

Experiment Content

Power on the acoustic communication and the hydrophone. Transmit data to control the acoustic communication to emit sound in order of increasing power levels (from 1 to 16). Send 5 times at each power level, record 5 sets of data, calculate the average value, and record it in the table.

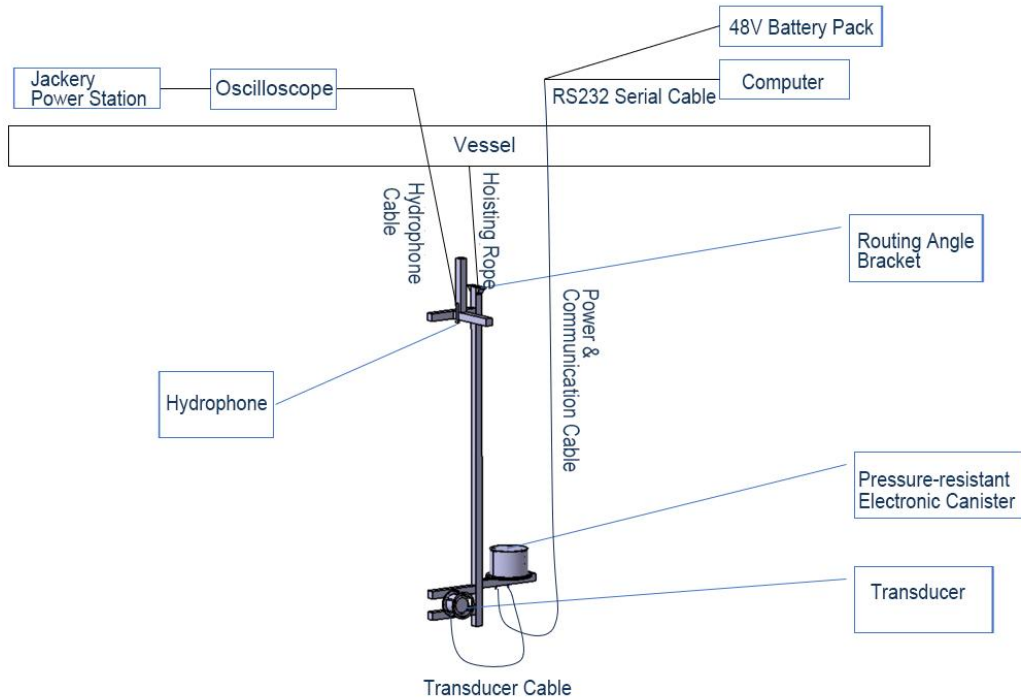


Figure: Test system schematic

Test Records and Results

Setting	Power level: 1			
	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
Record	1	7.9	166.3	166.2
	2	8.2	166.6	
	3	7.6	166.0	
	4	7.4	165.7	
	5	8	166.4	

Setting	Power level: 2			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	15	171.9	172.2
	2	16	172.4	
	3	15	171.9	
	4	16	172.4	
	5	16	172.4	
Setting	Power level: 3			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	23	175.6	175.6
	2	22	175.2	
	3	21	174.8	
	4	22	175.2	
	5	22	175.2	
Setting	Power level: 4			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	29	177.6	177.6
	2	29	177.6	
	3	30	177.9	
	4	31	178.2	
	5	30	177.9	
Setting	Power level: 5			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)

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	1	33	178.7	178.7
	2	40	180.4	
	3	36	179.5	
	4	35	179.2	
	5	40	180.4	
Setting	Power level: 6			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	50	182.3	182.3
	2	47	181.8	
	3	52	182.7	
	4	52	182.7	
	5	46	181.6	
Setting	Power level: 7			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	53	182.8	182.8
	2	55	183.2	
	3	52	182.7	
	4	49	182.2	
	5	51	182.5	
Setting	Power level: 8			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	60	183.9	183.9
	2	62	184.2	
	3	57	183.5	

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	4	62	184.2	
	5	61	184.1	
Setting	Power level: 9			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	70	185.2	185.2
	2	70	185.2	
	3	75	185.8	
	4	74	185.7	
	5	74	185.7	
Setting	Power level: 10			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	88	187.2	187.2
	2	85	186.9	
	3	83	186.7	
	4	86	187.0	
	5	83	186.7	
Setting	Power level: 11			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	79	186.3	186.3
	2	78	186.2	
	3	78	186.2	
	4	79	186.3	
	5	82	186.6	
Setting	Power level: 12			

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Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	89	187.3	187.3
	2	84	186.8	
	3	83	186.7	
	4	82	186.6	
	5	88	187.2	
Setting	Power level: 13			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	94	187.8	187.8
	2	87	187.1	
	3	93	187.7	
	4	92	187.6	
	5	91	187.5	
Setting	Power level: 14			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	99	188.3	188.3
	2	94	187.8	
	3	97	188.1	
	4	89	187.3	
	5	93	187.7	
Setting	Power level: 15			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	100	188.3	188.3

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	2	105	188.8	
	3	99	188.3	
	4	98	188.2	
	5	99	188.3	
Setting	Power level: 16			
Record	Serial Number	RMS value of the signal received by the hydrophone (mV)	Source Level (dB)	Average value (dB)
	1	103	188.6	188.6
	2	104	188.7	
	3	107	188.9	
	4	102	188.5	
	5	108	189.0	