

Sound Pressure Level in db(a)



The depreciation of sound vs distance assumes that measurements are taken in still air 'open field' conditions, and that the sound will not be interrupted by buildings, hills or other objects

The sound level emitted by a sounder is usually measured in db at 1 metre. As the distance from the sounder increases the audible level of the sounder reduces.

The rate of reduction, normally known as attenuation, is approximately 6db as the distance doubles.

Eg. For a sounder with an output of 100db at 1 mtr the audible level will be 94db at 2 mtr, 88db at 4 mtr, 82 db at 8 mtr.

From the following table you can calculate the db level required from a sounder to achieve a given alarm sound level at a known distance from the sounder. It can be seen on the table that to achieve 84db at 128 mtr distance a sounder with an output of 126 db must be used.

METRES	SOUND PRESSURE LEVEL IN db(a)														
1	95	100	102	104	106	108	110	112	114	116	118	120	122	124	126
2	89	94	96	98	100	102	104	106	108	110	112	114	116	118	120
4	83	88	90	92	94	96	98	100	102	104	106	108	110	112	114
8	77	82	84	86	88	90	92	94	96	98	100	102	104	106	108
16	71	76	78	80	82	84	86	88	90	92	94	96	98	100	102
32	65	70	72	74	76	78	80	82	84	86	88	90	92	94	96
64	59	64	66	68	70	72	74	76	78	80	82	84	86	88	90
128	53	58	60	62	64	66	68	70	72	74	76	78	80	82	84

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