

## List of symbols

symbol	unit	description
$v$	$\text{m s}^{-1}$	wave velocity
$y$	m	displacement
$c$	$\text{m s}^{-1}$	speed of sound
$P_0$	Pa	ambient air pressure
$p$	Pa	sound pressure, pressure perturbation
$\rho_0$	$\text{kg m}^{-3}$	ambient air density
$\rho$	$\text{kg m}^{-3}$	acoustic density, density perturbation
$\gamma$	.	ratio of specific heat capacities
$r$	$\text{J kg}^{-1} \text{K}^{-1}$	specific gas constant
$T$	K	temperature
$a$	.	amplitude
$r$	m	radial distance
$d$	m	distance
$\phi$	rad	phase or steering angle
$\omega$	$\text{rad s}^{-1}$	angular frequency
$f$	Hz	frequency
$\lambda$	m	wavelength
$k$	$\text{rad m}^{-1}$	wave number
$u$	$\text{m s}^{-1}$	particle velocity, acoustic velocity
$z$	$\text{Pa s m}^{-1}$	acoustic impedance
$I$	$\text{W m}^{-2}$	sound intensity
$W$	W	sound power
$E_{(A)}$	$\text{Pa}^2 \text{hour}$	A-weighted noise dose
$D$	m	characteristic dimension
$L$	m	length
$S$	$\text{m}^2$	surface area
$A$	$\text{m}^2$	effective total absorption area
$E$	J	sound energy
$\mathcal{E}$	$\text{J m}^{-3}$	sound energy density
$\alpha$	.	absorption coefficient
$V$	$\text{m}^3$	volume
$T_{60}$	s	reverberation time
$R_A$	$\text{m}^2$	room constant
$d_c$	m	critical distance, room radius
$s$	.	audio signal
$h$	.	impulse response
$\theta$	rad	angle
$Q$	$\text{N m}^{-1}$	source strength
$\tau$	s	time delay
$\Delta$	m	added path length
$N$	.	number of microphones
.	dB	decibel, $10 \log_{10}(\cdot)$
SIL	dB	sound intensity level, re. $I_{\text{ref}} = 10^{-12} \text{W m}^{-2}$
SWL	dB	sound power level, re. $W_{\text{ref}} = 10^{-12} \text{W}$
SPL	dB	sound pressure level, re. $p_{\text{ref}} = 2 \times 10^{-5} \text{Pa}$