

JIS

JAPANESE INDUSTRIAL STANDARD

Glossary of Acoustical Terms (General)

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

JAPANESE INDUSTRIAL STANDARD
Glossary of Acoustical Terms (General)

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1. Scope

This Japanese Industrial Standard specifies the general main terms regarding acoustics.

2. Terms and Definitions

The terms and definitions shall be as given in the following:

Furthermore, English equivalents are given for reference.

- Remarks
1. Those which have been arranged of 2 or more terms shall be used preferentially according to its order.
 2. For those terms of which readings are ambiguous, readings are given in parentheses under the terms.
 3. Those terms which have been indicated in bold letters in the definitions of terms are those contained in this Standard.

Applicable Standards:

JIS C 1502-Sound Level Meters
JIS C 1505-Precision Sound Level Meters
JIS C 1510-Vibration Level Meters

Corresponding International Standard:

IEC 50 (801)-Chapter 801: Acoustics and electroacoustics



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No.	Term (Japanese character)	Reading	Definition	Informative reference	
				English equivalent	
1001	音, 音響	OTO, ONKYŌ	A sound wave or an acoustic sense being created by it. Remark: All is not sound wave that creates acoustic sense. For example, the sound of an ultrasonic frequency.	sound	
1002	音響学	ONKYŌGAKU	A science regarding sounds.	acoustics	
1003	純音	JUN-ON	A sound of which instantaneous value of sound pressure is the simple sine function of time.	pure sound, pure tone	
1004	複合音	FUKUGŌ-ON	A sound composed of several pure sounds different in frequency. Remark: This term is mainly used for the sounds of audio frequencies.	complex sound, complex tone	
1005	基本波	KIHONHA	Among the components of a complex wave, a component having a fundamental frequency.	fundamental	
1006	基本音	KIHON-ON	Among the components of a complex sound, a component having a fundamental frequency. Remark: This term is mainly used for the sounds of audible frequencies.	fundamental tone	
1007	基本振動	KIHON SHINDŌ	Among the components of a vibration, a component having a fundamental frequency.	fundamental vibration	
1008	部分音	BUBUN-ON	Each pure sound composing a complex sound.	partial, partial tone	

No.	Term (Japanese character)	Reading	Definition	Informative reference	
				English equivalent	
1009	部分振動	BUBUN SHINDŌ	Respective components in a vibration composed of two or more of frequency components.	partial vibration	
1010	調波 (ちようは)	CHŌHA	Each component of periodical complex wave. It includes also fundamentals. The frequency of a harmonic is an integer multiple of fundamental frequencies.	harmonic	
1011	高調波 (こうちようは)	KŌCHŌHA	Among the respective components of periodical complex waves, those other than the fundamental. The n th higher harmonic means that of having n times the frequency of fundamental frequency.	higher harmonic	
1012	倍音	BAI ON	Among the respective components of periodical complex sound, those other than fundamental tones. The n times sound means that of having n times the frequency of fundamental frequency. Remark: This term is mainly used for the sounds of audio frequencies.	harmonic tone	
1013	倍振動	BAI SHINDŌ	Among the respective components of periodical vibration, those other than the fundamental vibration. The n th time vibration means that of having n times the frequency of fundamental frequency.	harmonic vibration	
1014	調和成分	CHŌWA SEIBUN	Among the components of a complex sound, that of which frequency is in a relation of harmonic tone.	harmonic component	

No.	Term (Japanese character)	Reading	Definition	Informative reference	
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1015	非調和成分	HICHŌWA SEIBUN	Among the components of a complex sound, a component which is not of harmonic component.	non-harmonic component	
1016	低調波, 分数調波, サブハーモニック	TEICHŌHA, BUNSŪCHŌHA, SABU HĀMONIKKU	Among the vibrating components of a system which exhibit periodical forced vibration, that having the frequency of fundamental frequency of external force divided by an integer.	subharmonic	
1017	上音 (じょうおん)	JŌON	In a complex sound, the partial tones other than fundamental tone. These are called as the first overtone, the second overtone, ... in the order from that of the smallest frequency. In a complex sound, which is periodical, if it has a second harmonic tone, this becomes the first overtone.	overtone	
1018	震音 (しんおん)	SHIN-ON	A sound of which frequency varies continuously in a certain range and also periodically.	warble tone	
1019	雑音, ノイズ	ZATSUON, NOIZU	Sound or vibration of which amplitude, phase, frequency, etc. irregularly fluctuate statistically.	noise	
1020	騒音	SŌON	Undesirable sounds. For example, those sounds which disturb hearing of voices, musics, etc. and cause impediments and sufferings on life.	noise	

No.	Term (Japanese character)	Reading	Definition	Informative reference	
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1021	白色雑音, (はくしよくざつおん) ホワイトノイズ	HAKUSHOKU ZATSUON, HOWAITO NOIZU	That noise having a property of which strength of component included in unit frequency zone (1 Hz) is constant regardless of frequencies.	white noise	
1022	ピンクノイズ	PINKU NOIZU	That noise having a property of which strength of component included in unit frequency zone (1 Hz) is inverse proportion to frequency.	pink noise	
1023	暗騒音 (あんそうおん)	AN SŌON	When a certain sound has been taken as an object, that sound presents at the location when that sound is absent.	background noise	
1024	残響 (ざんきょう)	ZANKYŌ	A phenomenon where a sound sustains, even after the sound source has stopped, due to a multiple reflection.	reverberation	
1025	音響スペクトル, 音のスペクトル	ONKYŌ SUPEKU- TORU, OTONO SUPEKU- TORU	Those components of a sound pressure, strength of sound, etc. which have been indicated as the functions of frequencies.	sound spectrum	
1026	静圧 (せいあつ)	SEIATSU	The pressure in the fluid medium when no sound wave exists. Remark: Quantitative symbol: p_s Unit symbol: Pa (= N/m ²) 101.325 kPa = 1 atm	static pressure	

No.	Term (Japanese character)	Reading	Definition	Informative reference	
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1027	音圧	ON-ATSU	The variation from the static pressure of pressure in a medium causing due to the sound wave in a fluid medium. It is usually indicated by effective value. Remark: Quantitative symbol: p or p_a Unit symbol: Pa ($= \text{N/m}^2$)	sound pressure	
1028	媒質	BAISHITSU	That medium which transmits sound wave. In the case of the sound wave, it is an elastic body.	medium	
1029	粒子	RYŪSHI	The micro-part of medium in which sound wave exists, having dimension smaller enough being compared with the wavelength of sound wave.	particle	
1030	粒子変位	RYŪSHI HEN-I	The displacement of particles in a medium from an equilibrium state. Usually it is indicated by effective value. Remark: Quantitative symbol: ξ Unit symbol: m	particle displacement	
1031	粒子速度	RYŪSHI SOKUDO	The time differential of the instantaneous value of particle displacement. Usually it is indicated by effective value. Remark: Quantitative symbol: u or v Unit symbol: m/s	particle velocity	

No.	Term (Japanese character)	Reading	Definition	Informative reference	
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1032	体積速度	TAISEKI SOKUDO	That has been integrated products, over the entire vibrating surface, of the area of micro-part taken on the vibrating surface and the vertical component of particle velocity to its surface. Remark: Quantitative symbol: q or U Unit symbol: m^3/s	volume velocity	
1033	音源	ONGEN	That is generating sounds.	sound source	
1034	点音源	TEN-ONGEN	A sound source which radiates sound wave uniformly in all directions in a free sound field, having the vibrating surface of sufficiently small dimension compared with the wavelength of generated sound wave, and of which all parts are displacing in the same phase.	simple sound source, monopole	
1035	音源の強さ	ONGEN NO TSUYOSA	The volume velocity of a sound source generating the sound wave of sine wave. Remarks 1. Unit symbol: m^3/s 2. This term is applicable only in the case where the magnitude of sound source is sufficiently small compared with the wavelength.	strength of a sound source, strength of a simple sound source	

No.	Term (Japanese character)	Reading	Definition	Informative reference	
				English equivalent	
1036	音響出力, 音源の音響パワー	ONKYŌ SHUTSU RYOKU, ONGEN NO ONKYŌ PAWA	Within a designated frequency band, the total sound energy which is radiated from a sound source in unit time. It is equivalent to the sound energy passing through a closed curved surface enclosing the sound source in a unit time. Remark: Quantitative symbol: P or P_a Unit symbol: W	sound power of a source	
1037	音響エネルギー	ONKYŌ ENERUGĪ	Among the total energy of a certain part in medium, the dynamical energy which has been generated by sound. Remark: Unit symbol: J	sound energy	
1038	音響パワー, 音響エネルギー束	ONKYŌ PAWA, ONKYŌ ENERUGĪ SOKU	A sound energy which passes through a certain designated surface in a unit time. The time mean value of the product of the same phase components of the instantaneous values of the volume velocity and sound pressure in vertical direction to a designated surface. Remark: Quantitative symbol: P or P_a Unit symbol: W	sound energy flux, sound power through a surface element	
1039	音の強さ	OTO NO TSUYOSA	At the one point in a sound field, the sound energy which passes through a unit area vertical to the advancing direction of a sound wave in a unit time. Remark: Quantitative symbol: I or J Unit symbol: W/m^2	sound intensity	

No.	Term (Japanese character)	Reading	Definition	Informative reference	
				English equivalent	
1040	音響エネルギー密度	ONKYŌ ENERUGI MITSUDO	The ratio of a sound energy included in the micro-part of a sound field to the volume of its micro-part. Remark: Quantitative symbol: w , w_a or E Unit symbol: J/m^3	sound energy density	
1041	放射	HŌSHA	A phenomenon where the energy of wave is discharged into a medium from a source of wave.	radiation	
1042	放射圧	HŌSHA ATSU	The force per unit area in one direction, acting on a substance placed in a sound field. However, the force due to the flow of medium is excluded.	radiation pressure	
1043	ひずみ	HIZUMI	(1) The undesirable variation of wave form. This consists of a non-linear form distortion caused by the non-linearity between the input and the output, an amplitude distortion caused by unevenness in the amplitude-frequency characteristics of the system, and a phase distortion caused by the fact that the phase difference between the input and the output is unproportional to the frequency. (2) The variations of shape and volume caused by stresses.	(1) distortion	(2) strain

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No.	Term (Japanese character)	Reading	Definition	Informative reference English equivalent
1044	音の大きさ, ラウドネス	OTONO ŌKISA, RAUDONESU	The attribute of acoustic sense related to the sound intensity. This is arranged on a scale from the small to the large. Remarks 1. Quantitative symbol: N Unit symbol: sone 2. Considering the sound of 40 phon of magnitude of sound level to be 1 sone, the magnitude of sound, being judged as n times that sound by a person having normal audition, is signified as n sone.	loudness
1045	レベル	REBERU	The logarithm of the ratio of a certain quantity to the standard quantity of its quantity. It is necessary to clearly state the base of logarithm, standard quantity and the type of level. Remarks 1. The type of level is indicated by the combination of a term expressing the perceived quantity. For example, sound pressure level, sound power level, etc. 2. The name of unit and unit symbol are different according to the selecting methods of the base of logarithm. In the case where a natural logarithm, e ($= 2.71\cdots$) as a base, is used, the name of unit is Nepa,	level