



389.1
2011

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ISO 389-1:1998
Acoustics — Reference zero for the calibration of audiometric equipment — Part 1:
Reference equivalent threshold sound pressure levels for pure tones and
supra-aural earphones
(IDT)



2012

27 2002 . N9 1&4- « — 1.0—2004 « », »

1 « - » (« 4 »)

2 358 « »

3 1 2011 . N9 671 -

4 389-1:1998 « 1. -

» (ISO 389-1:1998 «Acoustics — Reference zero for the calibration of audiometric equipment — Part 1: Reference equivalent threshold sound pressure levels for pure tones and supra-aural earphones»).

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303:1970 (), 60318-3).

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Telephonies 39

MX 41/AR (51)

Beyer

DT 48.
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318:1970 (60318-1:2009).

1 389:1985.

« » 60318-1.

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1 389:1985

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125 8000

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State system (ensuring the uniformity of measurements. Acoustics. Reference zero for the calibration of audiometric equipment. Part 1. Reference equivalent threshold sound pressure levels of pure tones for supra-aural earphones

— 2012—12—01

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60318-3. « » 60318-1. 4.3

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60318-1:2009 {1 60318-1:2009 Electroacoustics—Simulators of human head and ear — Part 1: Ear simulator for the measurement of supra-aural and circumaural earphones) 60318-3:1998 3.

Electroacoustics — Simulators of human head and ear — Part 3: Acoustic coupler for the calibration of supra-aural earphones used in audiometry) (IEC 60318-3:1998

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3.1 (air conduction):

3.2 (acoustic coupler):

3.3 « » (artificial ear):

1 « »

2 « » 60318-1.

3.4 (threshold of hearing):

50% (ontologically normal person):

3.6 [equivalent threshold sound pressure level (monaural earphone listening)]:

3.7 ()'1) [reference equivalent threshold sound pressure level (RETSPL)]:

16 30 « »

7029.

3.8 () (hearing level (of pure tone)):

3.9 () (hearing threshold level (of a given ear)):

6189 8253-1.

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4.2 48 Telephonies TDH 39 60318-3,

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11 RETSPL.

« », 3.7 « »
», 27072—86.

I,		
	Beyer DT 46	Telephonies 39* MX41/AR (S1)
	(20),	
12S	47.5	45
160	40.5	37.5
200	34	31.5
250	28.5	25.5
315	23	20
400	18.5	15
500	14.5	11.5
630	11.5	8.5
750	9.5	7.5
600	9	7
1000	8	7
1250	7.5	6.5
1500	7.5	6.5
1600	7.5	7
2000	8	9
2500	7	9.5
3000	6	10
31S0	6	10
4000	5.5	9.5
5000	7	13
6000	8	15.5
6300	9	15
8000	14.5	13

* 1963 . Telephonies 39
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TDH 39
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125	45
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200	32.5
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630	10.5
750	9
600	8.5
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1250	7.5
1500	7.5
1600	8
2000	9
2500	10.5
3000	11.5
3150	11.5
4000	12
5000	11
6000	16
6300	21
8000	15.5

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a) }:

b) , , :

c) () : () :

d) () ,

e) , , 60318-1. « 25 : — 25 . 116* . , « » 0.2 : ;) (4.5 ± 0,5) . « » : a) « » ; b) ; c) (4.5 ± 0.5) .

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1 2.

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Beyer 48.

1950 1960

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- Centre National d'Etudes de Telecommunications, Palaiseau. France:
- Physikalisch-Technische Bundesanstalt. Braunschweig. Germany;
- National Physical Laboratory. Teddington. United Kingdom:
- National Bureau of Standards. Washington DC. USA;

Telephonics 39.

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(60318-3)

» (60318-1).

- Audiologiske Institutt. Rikshospitalet. Oslo. Norway;
- Karolinska Institute!. Stockholm. Sweden:
- National Bureau of Standards. Washington DC. USA:
- National Physical Laboratory. Teddington. United Kingdom:
- Physikalisch-Technische Bundesanstalt. Braunschweig. Germany.

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- Health and Welfare. Ottawa. Canada:
- Physikalisch-Technische Bundesanstalt. Braunschweig. Germany;
- Regionejukhuset. Lmkopmg. Sweden;
- Technical University. Lyngby. Denmark.

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- [1] MRASS. and DIESTEL. H.G. *Acoustica*. 9. 1959. . 61—64
- [2] WEISSLER. P.6. International Standard Reference Zero for Audiometers. *J. Acoust. Soc. Amer.*. 44. 1968. pp. 264—275
- [3] Cox. Jr.. J.R. and 8ILGER. R.C. Suggestion Relative to the Standardization of Loudness-Balance Data for the Telephonies TOH-39 Earphone. *J. Acoust Soc. Amer.*. 32. 1960. pp. 1081—1082
- [4] WHITTLE. L.S. and OELANY. M.E. Equivalent Threshold Sound-Pressure Levels for the TOH-39/MX41-AR Earphone. *J. Acoust. Soc. Amer.*, 39.1966. pp. 1 187—1188
- [5] MICHAEL. P.L. and BIENVENUEG. R. A companson of acoustical performance between a new one-piece earphone cushion and the conventional two-piece MX-41IAR cushion. *J. Acoust. Soc. Amer.*. 67(2). 1980. pp. 693—698
- [6] ROBINSON. O.W. A proposal for Audiometnc zero referred to the IEC arufctel ear. UK National Physical Laboratory. Acoustics Report Ac 85 (1978)
- [7] ARLIN6ER. S. Normal thresholds of heanng at preferred frequencies. *Scand. Audiol.*. 11.1982. pp. 285—266
- (6) RASMUSSEN. O. Reference equivalent threshold sound pressure levels for headphones at one-third octave standard frequencies. Internal Report No. 14.1981. The Acoustics Laboratory. Technical University of Denmark. Lyngby
- (9) BRINKMANN. K. and RICHTER. U. Determination of the normal threshold of hearing by bone conduction using different types of bone vibrators. *Audiological Acoustics*. 22.1983. pp. 62—85 and 114—122
- (10) BENWELL. DA. and HUSSEY. R.6. Reference equivalent threshold sound pressure levels at 5 and 6.3 kHz using Telephonies TDH 39 earphones with MX-411AR cushions. *J. Acoust. Soc. Amer.*. 72. 1982. Supplement 1. p. S. 109
- (11) ISO 266:1997. Acoustics — Preferred frequencies
- (12) ISO 6253-1:2010 Acoustics — Audiometnc test methods—Part 1: Pure-tone air end bone conduction audiometry
- (13) 7029:2000 Acoustics — Statistical distnbution of hearing thresholds as a function of age
- (14) ISO 389-3:1994 Acoustics — Reference zero for the calibration of audiometric equipment — Part 3: Reference equivalent threshold force levels for pure tones and bone vibrators
- (15) ISO 6253-1:2010 Acoustics — Audiometnc test methods—Part 1: Pure-tone air and bone conduction audiometry

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