AP | CDØ

Audio Test Signals

58 audio test signals for use with AP2700, ATS, APWIN and for general audio testing.

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Audio Precision AP-CD0 Audio Test Signals

All tracks have triangular dither unless otherwise indicated.

Track	Description	Duration	Test File (note—see last page)
REFERENCE			**in \A-A\ folder unless indicated**
1	997 Hz sine wave at 0 dBFS	30 s	0 dBr reference (1)
NOISE			
2	Quiet track, no data, no dither, "infinity zero" (satisfies AES17 "Idle channel noise")	30 s	A-A NOISE (2)
3	Quiet track, no data, triangular dither	30 s	A-A NOISE (2)
4	Quiet track, no data, shaped triangular dither	30 s	A-A NOISE (2)
FREQUENCY SWEEP at 0 dBFS			
5	120 tones 20 Hz–20 kHz (high resolution sweep)	1 s each	X-A FREQ RESP
6	31 tones 20 Hz–20 kHz	1 s each	X-A FREQ RESP
7	120 tones 20 Hz–20 kHz (high resolution sweep)	0.5 s each	X-A FREQ RESP
8	31 tones 20 Hz–20 kHz	0.5 s each	X-A FREQ RESP
9	11 tones at ISO 1 octave spacing	1 s each	X-A FREQ RESP (3)
10	21 tones at ISO 1/2 octave spacing	1 s each	X-A FREQ RESP (3)
11	31 tones at ISO 1/3 octave spacing	1 s each	X-A FREQ RESP (3)
12	11 tones at ISO 1 octave spacing	3 s each	X-A THD+N VS FREQ (3,4)
13	21 tones at ISO 1/2 octave spacing	3 s each	X-A THD+N VS FREQ (3,4)
14	31 tones at ISO 1/3 octave spacing	3 s each	X-A THD+N VS FREQ (3,4)
FREQUENCY SWEEP at –20 dBFS			
15	120 tones 20 Hz–20 kHz (high resolution sweep)	1 s each	X-A FREQ RESP
16	31 tones 20 Hz–20 kHz	1 s each	X-A FREQ RESP
17	120 tones 20 Hz–20 kHz (high resolution sweep)	0.5 s each	X-A FREQ RESP
18	31 tones 20 Hz–20 kHz	0.5 s each	X-A FREQ RESP
19	11 tones at ISO 1 octave spacing	1 s each	X-A FREQ RESP (3)
20	21 tones at ISO 1/2 octave spacing	1 s each	X-A FREQ RESP (3)
21	31 tones at ISO 1/3 octave spacing	1 s each	X-A FREQ RESP (3)
22	11 tones at ISO 1 octave spacing	3 s each	X-A THD+N VS FREQ (3,4)
23	21 tones at ISO 1/2 octave spacing	3 s each	X-A THD+N VS FREQ (3,4)
24	31 tones at ISO 1/3 octave spacing	3 s each	X-A THD+N VS FREQ (3,4)

Track	Description	Duration	Test File (note—see last page)
AMPLITUDE SWEEP			
25	400 Hz sine wave, swept 0 dBFS to –110 dBFS	5 s each	\D-A\X-A D-A LINEARITY (4)
26	FREQUENCY-CONTROLLED AMPLITUDE SWEEP 1: > Left channel: 300 Hz, swept 0 to –110 dBFS > Right channel: 1000 Hz to 890 Hz in 10 Hz steps	5 s each 60 s total	X-A FreqCtrl L CH AMPL LINEARITY
27	FREQUENCY-CONTROLLED AMPLITUDE SWEEP 2: > Right channel: 300 Hz, swept 0 to –110 dBFS > Left channel: 1000 Hz to 890 Hz in 10 Hz steps	5 s each 60 s total	X-A FreqCtrl R CH AMPL LINEARITY
28	0 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
29	–3 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
30	–6 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
31	–10 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
32	–20 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
33	–30 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
34	–40 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
35	–50 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
36	–60 dBFS, 400 Hz sine wave (satisfies AES17 "Noise in the presence of signal")	30 s	\D-A\X-A DYN RANGE (2)
37	–70 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
38	–80 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
39	–90 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
40	–100 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
41	–110 dBFS, 400 Hz sine wave	30 s	X-A THD+N VS AMPL (4)
SPECIAL MEASUREMENT—all have no dither			
42	1 kHz square wave at 0 dBFS	15 s	A-A VIEW WAVEFORM
43	Polarity waveform: 1 kHz pos., 2 kHz neg, at 0 dBFS	15 s	A-A VIEW WAVEFORM
44	J-Test waveform	15 s	\Dig Interface\DIO INTERF EYE-PATTERN
45	Walking ones: 10 samples/step	15 s	\D-D\X-D BIT ERRORS WALKING 1 (5)
46	Walking zeros: 10 samples/step	15 s	\D-D\X-D BIT ERRORS WALKING 1 (5)
47	Monotonicity: 10 samples/step	15 s	\D-A\X-A MONOTONICITY
48	Distortion cal: 1 kHz at 0 dBFS + 2 kHz at –40 dBFS	15 s	X-A THD+N VS FREQ (6)
49	Distortion cal: 1 kHz at 0 dBFS + 2 kHz at –60 dBFS	15 s	X-A THD+N VS FREQ (6)
50	Distortion cal: 1 kHz at 0 dBFS + 2 kHz at –80 dBFS	15 s	X-A THD+N VS FREQ (6)

Track	Description	Duration	Test File (note—see below)
ARBITRARY WAVEFORM SIGNALS			
51	SMPTE IMD signal: 63 Hz + 7 kHz, 4:1 ratio	30 s	A-A SMPTE VS AMPL (4)
52	Twin-tone IMD signal: 19 kHz + 20 kHz	30 s	A-A CCIF VS AMPL (4)
53	Twin-tone IMD signal: 14 kHz + 15 kHz	30 s	A-A CCIF VS AMPL (4)
54	31 tones: 16 Hz to 20 kHz (multitone) "44kMulTon31.agm"	10 s	X-A MULTI SPECTRUM (2,7)
55	11 tones: 1 octave ISO spacing (multitone) "44kMulTonIso1perOct.agm"	10 s	X-A MULTI SPECTRUM (2,7)
56	21 tones: 1/2 octave ISO spacing (multitone) "44kMulTonIso2perOct.agm"	10 s	X-A MULTI SPECTRUM (2,7)
57	31 tones: 1/3 octave ISO spacing (multitone) "44kMulTonIso3perOct.agm"	10 s	X-A MULTI SPECTRUM (2,7)
58	31 monaural tones (same on R & L), plus 6 crosstalk tones (multitone) "44kMulTon30+6.ags"	10 s	X-A MULTI SPECTRUM (2,7)

NOTES

1. Set Analyzer dBr reference by pressing the F4 key while playing Track 1 (the 0 dBFS tone).
2. Valid noise tests depend upon having the Analyzer dBr reference set to 0 dBr=0 dBFS (see note 1).
3. ISO tone sequences start at 16 Hz. Set the Sweep panel Source 1 Start field to 16 Hz to capture the first tone.
4. Audio Analyzer meters will display distortion. On the Sweep panel select Single Point to read distortion at a single level. Check the Stereo box to take Stereo (2 channel) data.
5. ATS-2 cannot analyze walking ones / walking zeros signals.
6. Check the Sweep panel Single Point check box. Set Sweep panel Source 1 Start field to 1 kHz. See the test result in the Data Editor.
7. Enter the waveform file name (*.agm, *.ags) for the track used in the Analog Generator panel Waveform field to inform the analyzer of the multitone. Select Spectrum, Response, Distortion, Noise, etc. modes in the Multitone Analyzer panel Measurement field. Appropriate sweep tables, if you choose to use them, are available in the same folder as the Waveform files.

