

## APPENDIX C Description of the 6 noises added to the data-base

Some additional noises were added to the original data-base in order to make it more widely useful, e.g. in civil applications.

The following noises were added:

- Voice babble This babble is 100 people speaking in a canteen. The room radius is over two meters therefore individual voices are slightly audible; we consider this to be a realistic situation.
- F-16 This is cockpit noise recorded at the copilot position under various flight conditions. It was found that the flight condition had only a minor effect on the noise; the reproduced noise can therefore be considered to be representative.
- Factory Two recordings were made: the first near plate-cutting and electrical welding equipment; the second in a car-production hall.
- Cars A number of recordings of noise within various cars was obtained under various driving conditions. It was found that recordings made on an asphalt road were representative of most conditions. Also that recordings on a brick road with the engine in the 3<sup>rd</sup> gear were representative of low speed conditions.

The recordings used for the data-base were made under rainy conditions, however this had only a minor effect on the noise signals and can be considered a worst case.

In Table III the additional samples are listed and described, the sound levels in dB(A) during the actual recording are given.

Tabel III. Description of the additional noise samples for the Noise Data-base.

no.	source	description
19	Voice babble	canteen, 100 people, 88 dB(A)
20	F-16 two-seat	co-pilot place, 300-600 Feet, 500 Knots, 103 dB(A)
21	Car Factory	car floor production, electrical welding, 83 dB(A)
22	Car Factory	car production hall, 74 dB(A)
23	Car Volvo-340	120 km/h, 4 <sup>th</sup> gear, asphalt road, 76.5 dB(A)
24	Car Volvo-340	50 km/h, 3 <sup>rd</sup> gear, brick road, 73.5 dB(A).

Nr. 19 Voice babble

Freq	$L_{eq}$	$L_{avg}$	$\sigma$	$L_{90}$	$L_{10}$	$L_{10-90}$
80 Hz	-35.3	-36.3	2.8	-39	-31	8
100 Hz	-20.5	-21.2	2.7	-24	-18	6
125 Hz	-15.4	-15.8	1.9	-18	-13	5
160 Hz	-15.4	-16.2	2.5	-19	-13	6
200 Hz	-15.9	-16.8	2.7	-20	-13	7
250 Hz	-16.8	-17.4	2.4	-20	-14	6
315 Hz	-15.8	-16.4	2.2	-19	-13	6
400 Hz	-15.0	-15.5	2.1	-18	-12	6
500 Hz	-13.9	-14.8	2.7	-18	-10	8
630 Hz	-15.3	-16.0	2.6	-19	-12	7
800 Hz	-19.1	-20.2	3.2	-24	-16	8
1kHz	-21.1	-22.7	3.8	-27	-18	9
1.25kHz	-21.1	-22.6	3.8	-28	-18	10
1.6kHz	-21.3	-22.4	3.1	-26	-18	8
2kHz	-25.1	-25.9	2.5	-29	-22	7
2.5kHz	-25.2	-26.1	2.8	-29	-22	7
3.15kHz	-27.9	-28.9	2.9	-32	-25	7
4kHz	-32.0	-32.7	2.4	-35	-29	6
5kHz	-39.5	-40.6	2.9	-44	-37	7
6.3kHz	-38.9	-41.0	3.7	-45	-36	9
8kHz	-41.0	-42.1	3.0	-45	-38	7
10kHz	-42.3	-43.3	2.9	-47	-39	8
A	-9.6	-9.9	1.8	-12	-7	5
Lin	-5.0	-5.2	1.3	-7	-3	4

Nr. 20 F-16 jet noise, 300-600 Feet, 500 knots

Freq	L <sub>eq</sub>	L <sub>avg</sub>	$\sigma$	L <sub>90</sub>	L <sub>10</sub>	L <sub>10-90</sub>
80 Hz	-16.7	-17.1	2.0	-19	-14	5
100 Hz	-17.5	-18.0	2.3	-21	-15	6
125 Hz	-15.3	-15.7	2.0	-18	-13	5
160 Hz	-14.5	-14.7	1.4	-16	-13	3
200 Hz	-16.6	-17.2	2.3	-20	-14	6
250 Hz	-17.3	-17.9	2.1	-20	-15	5
315 Hz	-16.9	-17.3	1.8	-19	-15	4
400 Hz	-15.5	-15.9	1.9	-18	-13	5
500 Hz	-15.5	-15.9	1.9	-18	-14	4
630 Hz	-12.8	-13.0	1.3	-14	-11	3
800 Hz	-16.6	-16.7	1.0	-18	-15	3
1kHz	-18.2	-18.3	1.0	-19	-17	2
1.25kHz	-16.7	-16.9	1.1	-18	-15	3
1.6kHz	-17.2	-17.5	1.6	-19	-15	4
2kHz	-21.4	-21.6	1.1	-22	-19	3
2.5kHz	-13.5	-13.6	1.0	-15	-12	3
3.15kHz	-17.9	-18.0	0.8	-19	-16	3
4kHz	-16.3	-16.4	0.6	-17	-15	2
5kHz	-18.8	-18.8	0.5	-19	-18	1
6.3kHz	-23.8	-23.9	0.5	-24	-23	1
8kHz	-26.2	-26.3	0.5	-27	-25	2
10kHz	-31.1	-31.1	0.5	-31	-30	1
A	-5.4	-5.5	0.6	-6	-5	1
Lin	-2.8	-2.9	0.6	-3	-2	1

Nr. 21 Car factory, car floor production

Freq	L <sub>eq</sub>	L <sub>avg</sub>	$\sigma$	L <sub>90</sub>	L <sub>10</sub>	L <sub>10-90</sub>
80 Hz	-21.5	-22.2	2.4	-25	-18	7
100 Hz	-21.4	-22.2	2.7	-25	-19	6
125 Hz	-20.9	-21.5	2.2	-24	-18	6
160 Hz	-20.0	-20.8	2.6	-23	-17	6
200 Hz	-17.9	-18.6	2.3	-21	-15	6
250 Hz	-15.5	-15.9	1.7	-18	-14	4
315 Hz	-19.8	-20.2	2.0	-22	-17	5
400 Hz	-19.1	-19.5	1.7	-21	-16	5
500 Hz	-19.0	-19.3	1.7	-21	-17	4
630 Hz	-17.7	-18.0	1.4	-20	-16	4
800 Hz	-17.2	-17.8	2.3	-20	-14	6
1kHz	-17.9	-18.4	2.0	-21	-15	6
1.25kHz	-19.5	-20.0	2.0	-23	-17	6
1.6kHz	-20.6	-21.0	1.8	-23	-18	5
2kHz	-21.2	-21.5	1.7	-23	-19	4
2.5kHz	-21.6	-22.0	1.8	-24	-19	5
3.15kHz	-21.9	-22.5	2.2	-25	-19	6
4kHz	-22.6	-23.4	2.6	-26	-20	6
5kHz	-23.1	-24.3	3.2	-29	-19	10
6.3kHz	-23.2	-25.3	4.0	-31	-19	12
8kHz	-23.2	-26.0	4.6	-32	-19	13
10kHz	-23.1	-26.3	4.9	-32	-19	13
A	-8.5	-8.7	1.5	-10	-6	4
Lin	-5.2	-5.4	1.2	-7	-4	3

Nr. 22 Car factory, production hall

Freq	$L_{eq}$	$L_{avg}$	$\sigma$	$L_{90}$	$L_{10}$	$L_{10-90}$
80 Hz	-14.3	-15.0	2.3	-18	-12	6
100 Hz	-14.1	-15.0	2.7	-18	-11	7
125 Hz	-17.0	-17.4	1.9	-19	-15	4
160 Hz	-16.4	-16.8	1.8	-19	-14	5
200 Hz	-12.3	-12.6	1.7	-14	-10	4
250 Hz	-13.6	-14.0	1.9	-16	-11	5
315 Hz	-17.4	-17.6	1.3	-19	-16	3
400 Hz	-15.4	-15.7	1.5	-17	-14	3
500 Hz	-16.7	-16.8	1.1	-18	-15	3
630 Hz	-15.9	-16.1	1.3	-18	-14	4
800 Hz	-17.4	-17.5	0.8	-18	-16	2
1kHz	-17.8	-17.9	0.9	-19	-16	3
1.25kHz	-18.5	-18.6	0.8	-19	-17	2
1.6kHz	-20.1	-20.1	0.6	-21	-19	2
2kHz	-22.5	-22.6	0.6	-23	-21	2
2.5kHz	-23.7	-24.1	1.7	-25	-22	3
3.15kHz	-25.8	-26.4	2.0	-28	-24	4
4kHz	-28.7	-29.0	1.4	-30	-27	3
5kHz	-31.1	-31.3	1.4	-33	-29	4
6.3kHz	-34.4	-34.7	1.4	-36	-33	3
8kHz	-37.8	-38.1	1.5	-39	-36	3
10kHz	-39.7	-40.0	1.4	-41	-38	3
A	-8.7	-8.7	0.4	-9	-8	1
Lin	-0.6	-0.7	0.8	-1	1	2

Nr. 23 Car, Volvo 340, 120 km/h, 4th gear, wet asphalt road

Freq	$L_{eq}$	$L_{avg}$	$\sigma$	$L_{90}$	$L_{10}$	$L_{10-90}$
80 Hz	-18.5	-19.0	2.1	-21	-16	5
100 Hz	-17.8	-18.2	2.0	-20	-15	5
125 Hz	-16.0	-16.4	2.0	-18	-14	4
160 Hz	-22.1	-22.4	1.7	-24	-19	5
200 Hz	-24.4	-24.7	1.5	-26	-23	3
250 Hz	-30.9	-31.1	1.4	-33	-29	4
315 Hz	-32.7	-32.9	1.3	-34	-31	3
400 Hz	-34.5	-34.7	1.4	-36	-33	3
500 Hz	-35.6	-35.7	1.0	-37	-34	3
630 Hz	-34.1	-34.2	1.1	-35	-33	2
800 Hz	-37.0	-37.1	0.9	-38	-36	2
1kHz	-39.4	-39.5	1.0	-41	-38	3
1.25kHz	-39.4	-39.5	0.7	-40	-38	2
1.6kHz	-42.1	-42.2	0.9	-43	-41	2
2kHz	-45.6	-45.7	0.9	-47	-44	3
2.5kHz	-46.9	-47.0	0.5	-47	-46	1
3.15kHz	-47.2	-47.2	0.0	-47	-47	0
4kHz	-47.2	-47.2	0.0	-47	-47	0
5kHz	-47.2	-47.2	0.0	-47	-47	0
6.3kHz	-47.2	-47.2	0.0	-47	-47	0
8kHz	-47.2	-47.2	0.0	-47	-47	0
10kHz	-47.2	-47.2	0.0	-47	-47	0
A	-25.6	-25.6	0.6	-26	-24	2
Lin	-4.8	-5.1	1.7	-7	-3	4

Nr. 24 Car, Volvo 340, 50 km/h, 3rd gear, brick road

Freq	$L_{eq}$	$L_{avg}$	$\sigma$	$L_{90}$	$L_{10}$	$L_{10-90}$
80 Hz	-12.6	-13.0	1.8	-15	-10	5
100 Hz	-11.2	-11.9	2.4	-15	-8	7
125 Hz	-13.0	-13.5	2.1	-16	-10	6
160 Hz	-21.3	-21.6	1.6	-23	-19	4
200 Hz	-24.3	-25.0	2.5	-28	-21	7
250 Hz	-33.9	-34.7	2.6	-37	-31	6
315 Hz	-35.6	-36.3	2.5	-39	-33	6
400 Hz	-38.8	-39.6	2.5	-42	-36	6
500 Hz	-42.5	-43.1	2.2	-45	-39	6
630 Hz	-45.7	-46.1	1.6	-47	-44	3
800 Hz	-47.0	-47.1	0.4	-47	-47	0
1kHz	-47.2	-47.2	0.0	-47	-47	0
1.25kHz	-47.2	-47.2	0.0	-47	-47	0
1.6kHz	-47.2	-47.2	0.0	-47	-47	0
2kHz	-47.2	-47.2	0.0	-47	-47	0
2.5kHz	-47.2	-47.2	0.0	-47	-47	0
3.15kHz	-47.2	-47.2	0.0	-47	-47	0
4kHz	-47.2	-47.2	0.0	-47	-47	0
5kHz	-47.2	-47.2	0.0	-47	-47	0
6.3kHz	-47.2	-47.2	0.0	-47	-47	0
8kHz	-47.2	-47.2	0.0	-47	-47	0
10kHz	-47.2	-47.2	0.0	-47	-47	0
A	-24.0	-24.1	1.2	-25	-22	3
Lin	-0.7	-19.8	24.3	-47	3	50