MARTIN ERA150 Wash
Acoustic Test Report

HARMAN Professional Denmark ApS - Olof Palmes Allé 44 - 8200 Aarhus N - Denmark - www.martin.com

Title

MARTIN ERA150 Wash Acoustic Test Report

Test conditions

Test carried out according to ISO 3744:2010(E)

Device tested

Make: HARMAN Professional Denmark ApS

Model: ERA150 Wash

Serial no: 15600700015

Software version: V1.01G

Results

An image of the test setup can be found on Page 3. Test results are listed in Table 1 on Page 5. Figures of measurement results are shown in Appendix A on Page 6.

HARMAN Professional Denmark ApS, R&D QA are responsible for the test results given in this report.

Environment

Temperature: 25.0°C Ta

Humidity: 60 %RH

AC mains power: 230 V, 50 Hz

Background noise level: 8.9 dBA

Warm-up time: 30 minutes at each test scenario

Fixture placement: Fixture was placed at least one meter from walls and ceiling, as described in the Standard ISO 3744:2010(E)

Remarks

Test results apply only to the tested specimen.

Rev: (last five)	Made by:	Description:	Approved by:	Date approved:
A	Kevin Guo	ERA150 Wash noise level Measurement		2022-03-28

Setup

The product was placed indoors in a semi-anechoic room in the internal Lab of Harman Technology in Shenzhen, China (See Figure 1). The ceiling and walls were all acoustically absorbent, and the floor was reflective. The main dimensions of the room were 5.9m * 4.9m * 3.3m (length * width * height).

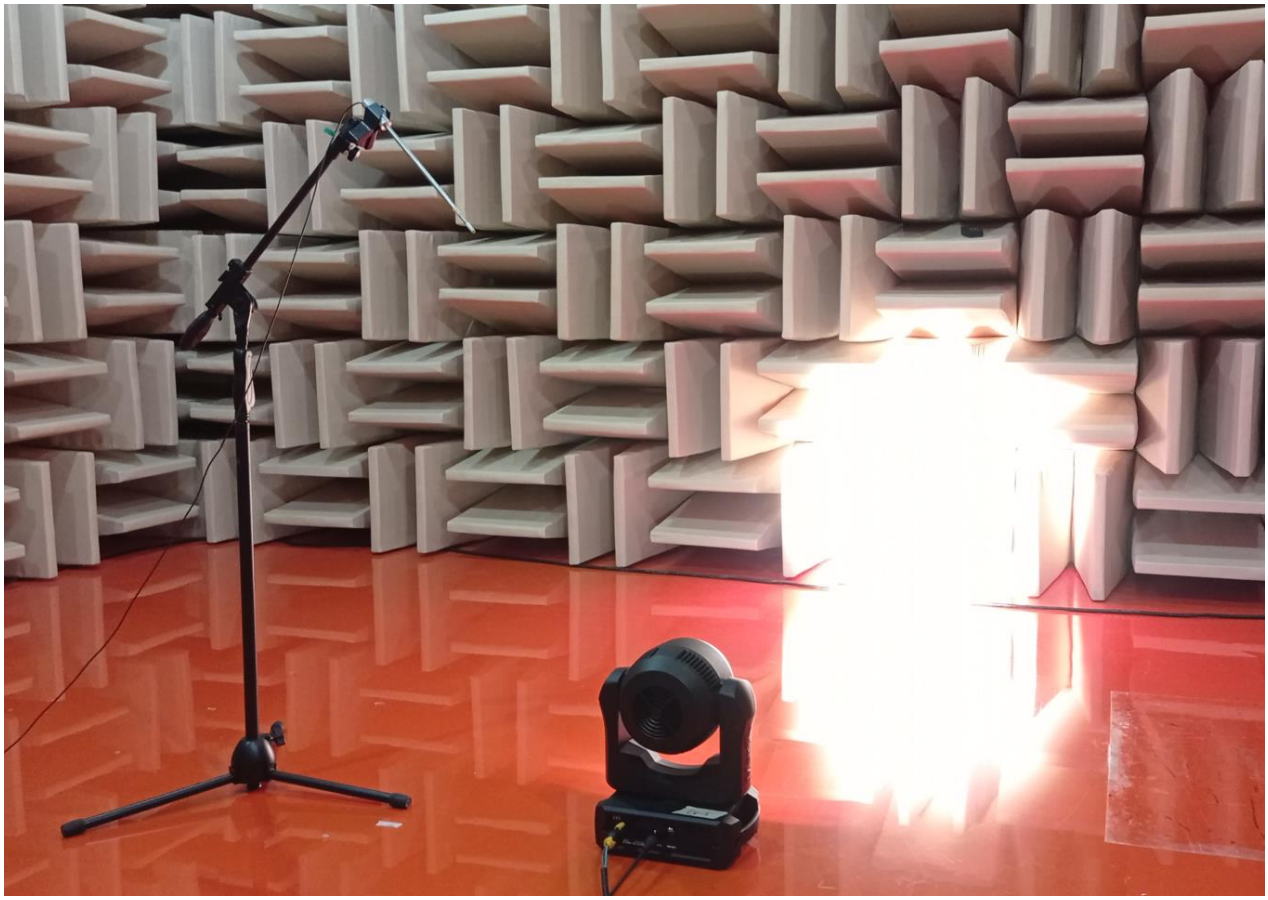


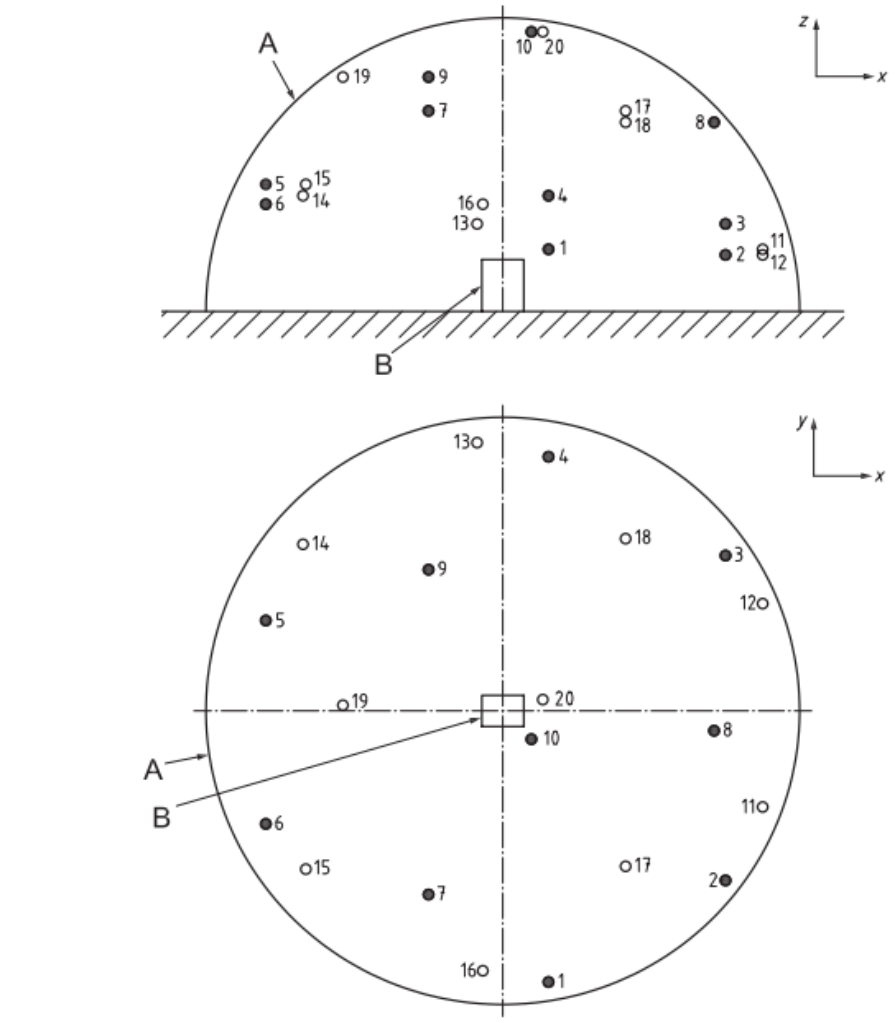
Figure 1: Test setup

The product was allowed a minimum 30 minutes of warm-up time before measurements were performed.

Measurement method

Measurements were carried out using a setup with 1 microphone. The microphone was in turn moved to the measurement positions described below.

Measurement setup at hemispherical measurement model, as figure 2



Key

- ● key microphone positions (1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
- ○ additional microphone positions (11, 12, 13, 14, 15, 16, 17, 18, 19, 20)
- A measurement surface
- B reference box

Figure 2: Microphone Positions

Note：

1. R=1.5m.
2. S=2πR², Measurement surface area: 14.14 m².
3. 10 key microphones were taken measurement, as the range of A-weighted sound pressure levels measured at position 1 to 10 does not exceed 10 dB, additional 11 to 20 can be not considered.
4. The dimensions of the reference box: 21.5 cm x 32.6 cm x 33.0 cm.

Instrumentation

Please refer to Page 6 for instrumentation list.

Results

The ERA150 Wash was measured in 3 different scenarios:

- Full power

1. All effects static, Light source ON, 100% output white light (calibrate CTC=6000K) - Regulated Fan Mode

2. All effects static, Light source ON, 100% output white light (calibrate CTC=6000K) – Full Fan Mode

3. All effects static, Light source ON, 100% output white light (calibrate CTC=6000K) – Theater Mode

Test positions and sound pressure levels are shown in Table 1.

Distance from fixture	Regulated Fan [dB(A)]	Full Fan [dB(A)]	Theater [dB(A)]
LpA at 0m	45.0	54.0	42.3
LpA at 1m	**37.0**	**46.1**	**34.3**
LpA at 4m	25.0	34.1	22.3
LpA at 7m	20.1	29.2	17.4

Table 1: Sound Pressure Levels

The duration of the acoustical measurement for each position is 30s.

After calculated the time-averaged sound pressure levels of all positions and background noise, the difference between the two values is more than 15dB, therefore no correction for background noise shall be applied.

Sound Pressure Levels have been converted from Sound Power Levels using the formula: LpA = (LwA – $\text{reduction}_{\text{distance}}$)

Reductions used: 8dB(A)@1m, 20dB(A)@4m, 24.9dB(A)@7m

- Idle Power

1. All effects static, light source OFF- Regulated Fan Mode

Test positions and sound pressure levels are shown in Table 2.

Distance from fixture	Idle [dB(A)]
LpA at 1m	<23.7

Table 2: Sound Pressure Levels

The duration of the acoustical measurement for each position is 30s.

Noise level details

Test equipment:

Instrumentation

Equipment	Maker	Type
Harman	NTi Audio	NTi XL2 A2A-14709-E0
Harman	NTi Audio	MIC MA220 No.7587
Harman		Semi-anechoic room
Harman		Digital Barometer
Harman		Data logger for atmosphere & environment

Table 3: Instruments Used