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TEST

RECORD

ORTOFON TEST RECORD

Thank you for purchasing the Ortofon Test Record.

Ortofon's new Test Record is designed to allow you to verify your HiFi system in the most natural audio surroundings at home. The Test Record contains special test signals developed for analyzing cartridge performance as well as its interaction with your tonearm and turntable.

The Tests

Each side of the record consists of 15 tracks which have been cut from 1-4 and 5-15:

1. Frequency Sweep Left Channel 800 Hz – 50 kHz. Log. 28 sec. Linear cut* (800 – 20000 Hz ±1,5 dB)
2. Frequency Sweep Right Channel 800 Hz – 50 kHz. Log. 28 sec. Linier cut* (800 – 20000 Hz ±1,5 dB)
3. Frequency Sweep Left Channel 800 Hz – 50 kHz. Log. 28 sec. Linear cut* (800 – 20000 Hz ±1,5 dB)
4. Frequency Sweep Right Channel 800 Hz – 50 kHz. Log. 28 sec. Linear cut* (800 – 20000 Hz ±1,5 dB)
5. Reference tone 1000 Hz 5 cm/sec rms Left
6. Reference tone 1000 Hz 5 cm/sec rms Right
7. Reference tone 1000 Hz 5 cm/sec rms Left
8. Reference tone 1000 Hz 5 cm/sec rms Right
9. Tracking ability, lateral 50 µm peak
10. Tracking ability, lateral 60 µm peak
11. Tracking ability, lateral 70 µm peak
12. Tracking ability, lateral 80 µm peak
13. Tracking ability, lateral 90 µm peak
14. Tracking ability, lateral 100 µm peak
15. Square Wave Form 2.7 msec duty cycle 3:7

* The record has a constant velocity amplitude throughout the sweep.

Introduction

Before testing your cartridge, please verify the HiFi system's functionality. The left speaker should be connected to the left amplifier channel and vice versa; both speakers should work in phase and be optimally positioned in the room.

The Test Record is designed to be played through your system with in-built RIAA equalization. Volume control is recommended to be set at a moderate signal level.

Please refer to your turntable and tonearm's instructions for correct installation and alignment, adjust tonearm to be parallel to record surface, set Vertical Tracking Force and antiskating according to the cartridge's recommended technical data, and adjust stylus overhang.

Azimuth adjustment or vertical alignment of the cartridge is very important for optimal channel separation.

The checking is easily done by lowering the cartridge onto a thin mirror placed on the record surface and examining whether the reflection lines up square with the cartridge, when viewed from the front. During this test the tonearm must still be parallel to the record surface. If not obtainable because of mirror thickness, remove record and work directly on the mat. To adjust, check the manual for the turntable or cartridge.

1-4 Frequency sweep – a tool for checking frequency response

There are several factors which can affect frequency response, including cable capacitance, cartridge loading, tracking force and worn parts. Because of this, it can be difficult to achieve perfectly flat frequency response. Sometimes by making small compromises in the cartridge loading, a better overall frequency response can be achieved. Considering the above the signal must be clean throughout the sweep.

5-8 Reference tone for testing channel output

With this standard reference signal it is possible to check the correctness of the connections of the left and right channels, channel balance and speed of the turntable.

9 -14 Tracking ability test, 315 Hz lateral modulation

These tracks contain a 315 Hz signal, recorded at increasing pick amplitudes of 50, 60, 70, 80, 90 and 100 micrometers. Please refer to your cartridge's tracking ability value specified in the technical data sheet. Your cartridge should be able to track the actual level without audible distortion. Inability to track can be heard as a departure from a pure tone or a sputtering and intermittent tone. To determine if it is one or both channels, the balance control can be utilized. In case of differing tracking ability in the left and right channels it is probably necessary to readjust the anti-skating correction of the tonearm. If both channels fail to track properly, then vertical tracking force should be increased until no further improvement of tracking force can be obtained.

15 Square Wave Form 2.7 msec duty cycle 3:7

When monitoring the output of your cartridge with an oscilloscope you'll then see a square wave located precisely above each other if the connection from the cartridge is correct.

Conclusion

After successful completion of the above test procedures, you can ensure that your cartridge is optimized. Still the human ear is very sensitive to difference in tone distortion; its level depends on the stylus condition and record wear. To maintain optimal sound reproduction and to minimize wear on your records as well as on your stylus, we recommend the following procedure before and after each playback:

- Remove dust carefully from record surfaces by using a fine antistatic brush or cloth before every use.
- Please remember to remove dust from the diamond tip before and after playback of each record.
- In order to keep electrical contacts clean and to lubricate the knurled nut on the tonearm, Ortofon recommends occasionally a light spray of contact cleaner like DeoxIT ®Gold G-Series into the tonearm socket.

It should be noted that some phono equalizers may generate some tone distortion, which cannot be referred to the cartridge.

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5-800149-12 Test Record, User guide. Produced by Ortofon.

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Ortofon offers a wide range of high quality accessories for installation and alignment of phono cartridges on tonearms, please refer to www.ortofon.com/hifi/products/accessories.

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