The Philosophy behind DENON’s Turntable Designs
To function as an essential part of a true high fidelity reproduction system, a turntable must maintain sufficiently stable rotational performance in spite of load changes taking place during the course of play.
To accomplish this, DENON’s turntables use as the drive motor, the core of the rotation system, a highly sophisticated AC servo motor.
This servo motor is virtually free from “cogging” and thus delivers a high signal-to-noise ratio in addition to its highly precise rotation.
The performance of any servo motor depends greatly upon the speed and precision of its detection system. DENON’s highly responsive servo motor is actually a magnetic record detecting system in which a magnetic head (much like that found on tape decks) is used to detect 1000 pulse signals which have been precisely recorded on the inner circumference of the turntable platter. The combination of this system with DENON’s Quartz Speed Control offers extremely low wow and flutter even in the presence of warped records and large variable loads.
To determine the ever decreasing amounts of wow and flutter, DENON developed a unique Pulse Wheel Measurement technique. With this method, even small residual amounts of wow and flutter can be measured, so that further improvement of the performance of DENON DP Series turntables can be accomplished. All DENON turntable mats have been improved to prevent the disc from vibrating. Recent developments in recording technology, namely those in direct cutting and pressing, have made the appearance of high quality recording widespread.
DENON, after thoroughly researching the problem of tracing performance, has developed the electronic dynamic servo tracer tonearm design, working together with an extremely stiff and light straight tonearm, dramatic improvements in sound quality.
DENON is proud to introduce its unique “non-resonance concept” design.

DENON’s Innovations in High Performance Turntable Design
DENON’s Dynamic Servo Tracer Turntable
Generally speaking, the occurrence of low frequency resonance in tonearm assemblies is inevitable. The point of this resonance is usually determined in conventional systems, as a function of both the compliance of the cartridge and the effective mass of the tonearm.
These bad effects from low frequency resonance are minimized by the adoption of electronic tonearm damping in both the horizontal and vertical planes.
The Dynamic Servo Tracer Tonearm has been adopted to fully exploit the advantages of lightweight tonearm for improved tracing performance and dramatic decrease in intermodulation distortion, resulting in sharp, clear sound reproduction.

DENON’s Magnetic Record Detection System
DENON’s magnetic recording detection system employs a magnetic head to detect 1,000 pulse signals which have been precisely recorded on the inner circumference of the turntable platter (inside its rim). It is at this point that changes in rotational speed of the turntable are easiest to check, unlike conventional FG servo systems which employ a frequency generator (FG) directly connected to a motor for detection.
Its accuracy is more than 10 times higher than that of other systems, accounting for its excellent responsiveness and speed. Coupled with DENON’s quartz lock (phase control based on quartz oscillation), the absolute highest level of rotational accuracy is achieved.

Fully-Automatic Completely Non-contact Electronically Controlled Tonearm
DENON firmly believes that fully-automatic operation should offer increased ease-of-use without sacrificing intrinsic performance. Strictly adhering to the principle of non-contact design, DENON engineers developed a fully-automatic electronically controlled tonearm. This non-contact electronically controlled servo tonearm is driven by a MC (moving coil) tape angular control motor.

Auto-lift Mechanism with Non-contact End-of-Play Sensor
DENON’s auto-lift mechanism uses a non-contact optical detection system to sense the end of the record. This applies no load on the tonearm and thus has no influence on tonal quality. (The tonearm moves freely by hand.)
Newly Developed Split Platter Construction to Effectively Cut Off The “ACOUSTIC FEEDBACK”, One of The Factors in Deterioration of The Sound Quality of The Turntable (DP-100M/80/75)

Once the platter resonates due to the sound pressure from the speakers, it becomes the echo to the signals cut to the record disc and impairs the sound. One of the important factors to prevent the deterioration in the sound quality then is to provide the structure where “resonance” is difficult to occur. A design born from such idea, is this split platter construction turntable based on the totally new theory. The turntable platter consists of two structures: upper platter where the record disc is mounted on, and the lower platter fixed to the motor shaft. The two structures are connected by the spring and damper. That is, the upper part is isolated from the motor and cabinet in view of vibration, a kind of high-cut litter is formed by the mass of upper platter and the compliance of the spring.

Also the upper platter and the lower designed in such a way so that they rotate together in the direction around the spindle thus the wow and flutter due to the rotational lag does not occur.

As a result, even if the player comes under the influence of the surrounding vibration or the reproduced sound from the speakers, such vibration is cut off by the split platter construction before it is transmitted to the upper platter or the record disc.

In addition, the sound pressure which is directly transmitted from the speaker to the record disc or the upper platter is effectively absorbed to realize the high-quality record sound reproduction.

The Incomparable Performance And Reliability (DP-100M)

The crystalization of the high technology and vast experience are now available in model DP-100M professional equipments with a smooth out-rotor 3 phase AC servo motor for disc cutting lathe, split platter construction with spring and oil damper mechanism.

Cartridges

**DL-1000A** Lightest Amorphous Boron Cantilever MC Cartridge
- Frequency response: 20 Hz - 110 kHz
- Stylus force: 0.8 ± 0.1 g
- Weight: 6.0 g

**DL-103M** Light Weight MC Cartridge
- Frequency response: 20 Hz - 60 kHz
- Stylus force: 1.4 ± 0.2 g
- Weight: 4.7 g

**DL-301** Light Weight High Tracking Performance MC Cartridge
- Frequency response: 20 Hz - 60 kHz
- Stylus force: 1.4 ± 0.2 g
- Weight: 4.7 g

**DL-300** Light Weight MC Cartridge
- Frequency response: 20 Hz - 40 kHz
- Stylus force: 1.8 ± 0.3 g
- Weight: 4.2 g

**DL-300/T** Includes wide band range transformer.

**DL-305** Light Weight Amorphous Boron Cantilever MC Cartridge
- Frequency response: 20 Hz - 75 kHz
- Stylus force: 1.2 ± 0.2 g
- Weight: 5.8 g

**DL-303** Lightest Vibration System MC Cartridge
- Frequency response: 20 Hz - 70 kHz
- Stylus force: 1.2 ± 0.2 g
- Weight: 5.8 g

**DL-307** Light Weight Amorphous Boron Cantilever MC Cartridge
- Frequency response: 20 Hz - 60 kHz
- Stylus force: 1.4 ± 0.2 g
- Weight: 4.7 g

**DL-103D**, **DL-103S** High Performance MC Cartridge
- Frequency response: 20 Hz - 65 kHz
- Stylus force: 1.5 ± 0.2 g
- Weight: 7.5 g

**DL-103D**, **DL-103S** High Performance MC Cartridge
- Frequency response: 20 Hz - 65 kHz
- Stylus force: 1.5 ± 0.2 g
- Weight: 7.5 g

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**DL-103D**, **DL-103S** High Performance MC Cartridge
- Frequency response: 20 Hz - 65 kHz
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DENON

- The top of the line in the DP series of high technology and vast experience with a wealth of know-how in professional equipments.
- Employing a smooth out-rotor 3-phase AC servo motor for disc cutting lathe and professional turntable, achieving high S/N 90 dB (DIN-B).
- A split platter construction, consisting of the upper and lower platters are connected by the spring and oil damper, perfectly eliminates the acoustic feedback.
- DENON dynamic servo tracer system controls low frequency resonance in the tonearm, thereby optimizing tracing performance of the widest range of top quality cartridge.
- Interchangeable universal S-shaped tonearm and lightweight straight tonearm and both included.
- DENON’s newly developed tonearm float system prevents the degradation of tone quality.
- Newly designed spring insulators efficiently reduce vibration.

DENON’s unique magnetic record detection high quality turntable featuring quartz phase locked loop control system.
- A split platter construction, consisting of the upper and lower platters are connected by the spring and rubber damper, eliminates the external vibration.
- Newly developed out-rotor 3-phase AC servo motor makes more of the merits of split platter construction turntable.
- 3-phase AC servo motor and magnetic speed detection system assure absolute speed accuracy and extraordinary stability against the temperature change or load variation.
- Turntable mat designed with the aid of laser holographic analysis.
- Bi-directional servo and electronic brake quick rise and full characteristics for starting and speed changeover.

- A high precision turntable speed control servo system achieved by the highly responsive AC servo motor and magnetic record detection system that maintains extraordinary stability against the temperature change or load variation for long years.
- Newly introduced split platter construction turntable isolates external vibration.
- Bi-directional servo and electric brake quick raise and full characteristics for starting and speed changeover.
- Smooth AC out-rotor type servo motor produce unprecedented high performance a S/N ratio above 80 dB (DIN-B)
- Turntable mat designed with the aid of laser holographic analysis.
DENON's dynamic servo tracer tonearm has improved tracing performance and a dramatic decrease in intermodulation distortion, resulting in sharp, clear sound reproduction.

Model DP-72L tonearm is made from a newly developed heat-tempered straight tube and a light and stiff lamination damped headshell to realize a great improvement in sound quality.

DENON's AC servo motor with the exclusive magnetic record detection system.

Interchangeable lightweight straight tonearm and universal S-shaped tonearm makes the DP-72L perfectly compatible with cartridges of all types, including high compliance designs.

Non-contact anti-skating system with an electronic servo control.

Acoustic feedback is greatly reduced through the use of 90 mm laminated thick wooden base a special thick aluminum turntable and aluminum diecast phono motor frame.

The DP-62L turntable features the dynamic servo tracer system with its unique "non-resonance concept" design for a dramatic improvement in sound quality.

Low frequency resonance is minimized by the adoption of an electronic tonearm damping system, resulting in sharp, clear sound reproduction.

Light weight straight tonearm equipped with a laminate damped headshell.

DENON's AC servo motor with the exclusive magnetic record detection servo system.

Electronic auto lift system with non-contact end sensor.

Non-contact anti-skating system with an electronic servo control.

A natural wood laminate base provides excellent isolation from vibration.

Heavy die-cast platter with excellent acoustic characteristics.

Stable die-cast tonearm base with a resonance-resistant design.

Microprocessor-controlled tonearm combines absolute safety and convenience of operation. Contactless design preserves fidelity while automatic functions protect delicate stylus tips and records. Program search feature lets you locate cuts in either direction via "hands-off" operation.

DENON's dynamic servo tracer system controls low frequency resonances in the tonearm, thereby optimizing tracing performance of the widest range of top quality cartridges.

Automatic record size detection system: When no record is present, the tonearm won't function thereby protecting the stylus tip from any potential damage.

The DP-52F's rotation system consists of DENON's quartz speed control; dual-direction speed servo; and DENON's high performance AC servo motor.

Features a non-contact electronic servo tonearm and an electronic servo lifter.

Electronic stylus pressures and anti-skating adjustment system automatically sets optimal stylus pressure and anti-skating without contact with the tonearm.
• Features DENON’s non-contact electronic servo tonearm and electronic servo lifter.
• Automatic record size detection system. When no record is present on the turntable, the tonearm won’t function, thereby protecting the stylus tip from any potential damage.
• The DP-51F’s rotation system consists of DENON’s quartz speed control system; dual direction speed servo; and DENON’s patented high performance AC servo motor.
• DENON’s dynamic servo tracer system controls low frequency resonance in the low mass, straight tonearm; thereby optimizing the tracing performance of the widest range of top quality cartridges.
• Electronic stylus pressure and anti-skating adjustment system automatically sets optimal stylus pressure and anti-skating levels without contact with the tonearm.
• Microprocessor-controlled tonearm combines absolute safety and convenience of operation. Contactless design preserves fidelity, while automatic functions protect delicate stylus tips and records.

DENON’s dynamic servo tracer system controls low frequency resonance in the low mass straight tonearm, thereby optimizing the performance and tracing ability of the widest range of top quality cartridges.
• Features DENON’s non-contact electronic servo tonearm and electronic servo lifter.
• Automatic record size detection system. When no record is present on the turntable, the tonearm won’t function thereby protecting the stylus tip from any potential damage.
• Lightweight straight tonearm extracts the maximum performance from the latest generation of high quality phono cartridges.
• A wood laminate base provides excellent isolation from vibration.
• Precise rotation speed is maintained by the DENON quartz magnetic record detection system.

DENON’s dynamic servo tracer system controls low frequency resonance in the low-mass straight tonearm, and the resonance is minimized by the adoption of electronic tonearm damping in both the horizontal and vertical planes.
• Outstanding anti-howling characteristics through a cabinet made of a new high density compound that offers excellent vibration damping.
• Lightweight straight tonearm extracts the high performance of today’s light and high compliance cartridges.
• Precise rotation speed is maintained by the DENON quartz magnetic record detection system.
• Features DENON’s non-contact electronic servo tonearm and electronic servo lifter.
• Built in quick repeat system.
• Non-contact anti-skating system with an electronic servo control.
The DP-30LII tonearm employs an auto-lift system with a non-contact record-end sensor that doesn't affect sound quality.

- Lightweight straight tonearm extracts maximum performance from the latest generation of high-quality phono cartridges.
- Outstanding anti-howlng characteristics through a cabinet made of new compound HDC (High Density Compound—a mixture of special materials). HDC has a specific gravity of close to 2 (two to three times greater than ordinary wooden cabinets), and offers excellent vibration damping characteristics.
- Trim and slim profile with up-front control system.
- Unique magnetic record detection system for speed servo and AC motor.

The tonearm drive system of the DP-11F, the most critical element of any automatic turntable, is a totally non-contact design, and is under the control of a microprocessor. An electronic servo lifter is employed for smooth, safe (and contactless) movement of the tonearm.

- A lightweight straight arm is mounted to extract maximum performance from even the latest generation of low-cost cartridges. However, its DENON servo tracer system assures proper matching with all types of cartridges.
- DENON's quick repeat system provides faster return to the lead-in groove of a record by not returning to rest.
- DENON's quartz speed control system assures highly accurate rotation stability.
- Flat, front panel, soft push-button controls eliminate the potential disturbances and inconvenience caused by conventional turntable switches.

### Head Shells

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL-67</td>
<td>Straight tonearm for DP-72L/62L</td>
</tr>
<tr>
<td>PCL-75</td>
<td>Straight tonearm for DP-100M</td>
</tr>
<tr>
<td>PCL-50</td>
<td>Head Shell for DP-52F/51F</td>
</tr>
<tr>
<td>PCL-30</td>
<td>Head Shell for DP-45F/35F/30LII</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL-5</td>
<td>Magnesium Alloy Diecast Head Shell</td>
<td>6 g</td>
</tr>
<tr>
<td>PCL-4</td>
<td>Magnesium Alloy Head Shell</td>
<td>9 g</td>
</tr>
</tbody>
</table>
## Phone Motor Section

**Drive System**
- DP-100M: Bi-directional servo control direct drive system
- DP-80: Bi-directional servo control direct drive system
- DP-75: Bi-directional servo control direct drive system
- DP-72L: Bi-directional servo control direct drive system

**Motor**

<table>
<thead>
<tr>
<th>Model</th>
<th>Control System</th>
<th>Speed Control</th>
<th>Rotation Stability</th>
<th>Load Characteristics</th>
<th>Turntable Platter</th>
<th>Tonearm Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP-100M</td>
<td>Direct drive</td>
<td>Servo control</td>
<td>15 sec to 50 rpm</td>
<td>0.5 kg/s</td>
<td>Fluid damping split platter</td>
<td>Both straight and S-shaped equipped</td>
</tr>
<tr>
<td>DP-80</td>
<td>Direct drive</td>
<td>Servo control</td>
<td>15 sec to 50 rpm</td>
<td>0.5 kg/s</td>
<td>Fluid damping split platter</td>
<td>Both straight and S-shaped equipped</td>
</tr>
<tr>
<td>DP-75</td>
<td>Direct drive</td>
<td>Servo control</td>
<td>15 sec to 50 rpm</td>
<td>0.5 kg/s</td>
<td>Fluid damping split platter</td>
<td>Both straight and S-shaped equipped</td>
</tr>
<tr>
<td>DP-72L</td>
<td>Direct drive</td>
<td>Servo control</td>
<td>15 sec to 50 rpm</td>
<td>0.5 kg/s</td>
<td>Fluid damping split platter</td>
<td>Both straight and S-shaped equipped</td>
</tr>
</tbody>
</table>

**Power supply**
- AC 120 V/220 V 240 V 50/60 Hz
- AC 120 V/220 V 240 V 50/60 Hz
- AC 120 V/220 V 240 V 50/60 Hz
- AC 120 V/220 V 240 V 50/60 Hz

**Dimensions**
- 450 (W) x 150 (D) x 190 (H) mm
- 450 (W) x 150 (D) x 190 (H) mm
- 450 (W) x 150 (D) x 190 (H) mm
- 450 (W) x 150 (D) x 190 (H) mm

**Weight**
- 7 kg
- 7 kg
- 7 kg
- 7 kg

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## Specifications are subject to change without notice.

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