YAMAHA YP-D8

Natural Sound Direct-Drive Turntable

Twelve-Pole, 24-Slot DC Motor for Precision Rotation

Opto-Electrical Sensing Auto Stop Mechanism

Yamaha's Original High-Sensitivity Tonearm

Solid Particleboard Base, Ebony Finished

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Yamaha: Dedication to Musical Excellence

Today the world's largest manufacturer of musical instruments is also a leader in audio fidelity. For nearly a hundred years Yamaha craftsmen have been designing full, natural sound into our renowned pianos, organs, wind and string instruments—a rich musical tradition that makes us unique in the audio world. Part of the reason is our generations of musical sensitivity. But it's also due to our immense technological and production capabilities—built over decades of supplying fine musical instruments to the world.

The Basics

Audio performance depends upon a wide range of technologies. While Yamaha's computer-controlled circuit design and testing is second to none, our musical instrument experience has given us expertise in many other crucial fields. The Yamaha factories which produce LSIs and semiconductors for our electronic organs were also important in the development of the revolutionary Yamaha vertical FET and SIT used in our top-line B-2 power amplifier and C-2 stereo preamp. They are also responsible for our unique vapor deposition production of the world's only pure beryllium dome speaker diaphragms. After years of blending and forming the metals in our brass instruments, we were able to develop the special alloys used in our powerful speaker magnets. Piano frame diecast techniques are behind the ideal weight and acoustic properties of our turntable platters and speaker frames. And Yamaha piano soundboard research and cabinet woodcrafting is reflected in our resonance-free turntables.

In-House

Every crucial part of every Yamaha audio component is Yamaha made. That's how we set our own quality standards. And that's how we can afford to innovate every step of the way: When a part or material doesn't do justice to the music we simply develop one that does.

The Payoff

When you have musicians and audio engineers speaking the same language the result is full natural sound fidelity, plus innovative features which translate directly into improved tonal quality or operating convenience. Yamaha's insistence on total music performance, not just isolated specs, is behind a revolutionary new approach to audio component design—one that makes the YP-D8 a truly musical and accurate turntable. Only with Yamaha turntables can you hear records played as intended by their creators, with all original musical content intact.

THE YP-D8: A DIRECT DRIVE TURNTAB EASE OF OPERATION AND EXTREMELY

MOTOR, SERVOSYSTEM AND PLATTER

Precision 12-Pole, 24-Slot, DC Direct Drive Motor

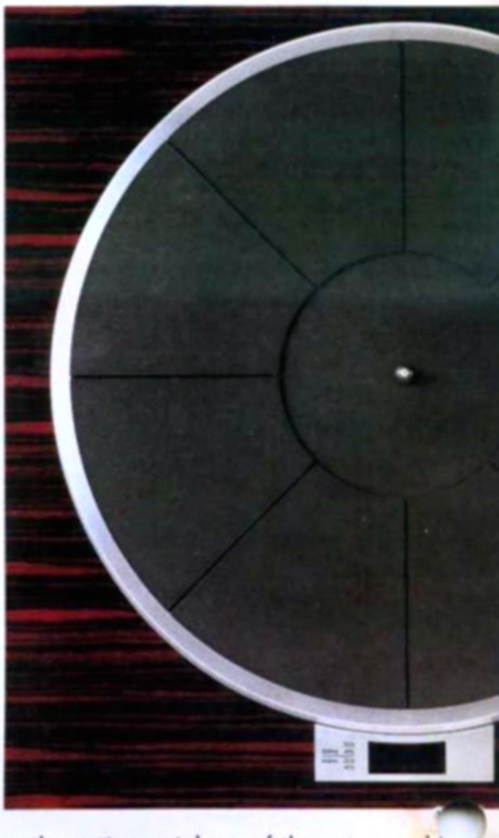
The concept behind the high-torque motor that we have specially designed for the YP-D8 stems from a scientific fact: the more torque a motor has, the less prone it is to speed deviation. The motor is the FG servo DC type, with Hall elements, and it boasts a starting torque as high as 1,000 gram·cm. You'll want to compare this torque with what other platters offer—usually around 300 to 700 grams·cm. Rumble is as low as 73dB (DIN-B).

Precision and Responsive FG Servosystem

Because we've employed a most accurate and responsive FG servosystem, the YP-D8 features a low wow and flutter or 0.03% (WRMS). Inside the motor is an FG (Frequency Generator) to monitor the instant-by-instant speed of the platter's rotation. Of interest to serious audiophiles, when the motor is rotating at a precise speed, the FG generates a sinusoidal signal of 100Hz (for 33⅓ rpm) and 135Hz (for 45 rpm).

In the event that the speed of the motor deviates from the regulated speed, such irregularity changes the frequency generated by the FG. That frequency is then converted into a corrective voltage which in turn controls the drive current of the motor. Thus speed is kept constant, assuring always accurate musical pitch in reproduced records.

Yamaha's consideration for the finer points of speed accuracy doesn't end there, in our FG servosystem, our Electro-Magnetical Sensor serves as a part of this self-correcting system. It is formed by a magnetic pattern

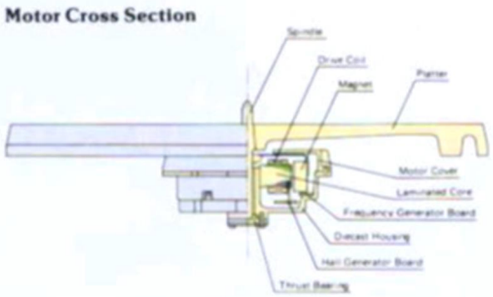


on the entire periphery of the rotor, and by a stationary coil that detects the magnetic pattern of the rotor from moment to moment. Thus, even when the FG itself generates wow and flutter owing to mechanical inconcentricity, the detection ability of the FG remains as high and dependable as possible, because the outputs from the coil are averaged out and any detection error is effectively cancelled.

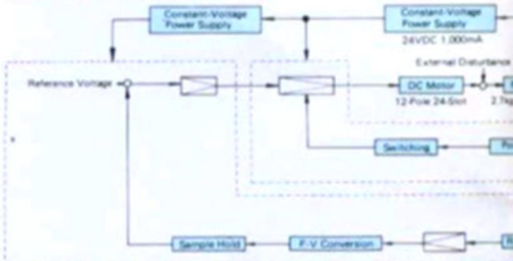
Heavy 2.7kg Aluminum Die-Cast Platter (Rubber Mat Included)

The perfect finishing touch for the Yamaha

Motor Cross Section



Servo System Block Diagram



Turntable and Strobe Patterns

Mirror/Lamp Strobo System

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LE THAT FEATURES MAXIMUM
HIGH PRECISION

FG servosystem is the heavy aluminum die-cast platter on the YP-D8. It weighs a hefty 2.7kg (5.94 lbs.) mat included, and has a high 360kg·cm² moment of inertia. Because it offers an ideal flywheel effect for smooth rotation with low wow/flutter, the musical performance of the YP-D8 extraordinary clean and highly-resolved sound.

Strobo and Pitch Control Convenience

Here are two features every user can appreciate. The YP-D8 permits fine pitch adjustment up to ±3%. You'll note, on the periphery of the platter there are stroboscopic patterns—one pair for 33⅓ rpm and another pair for 45 rpm—to permit the user to check the accuracy of platter rotation. For convenience, a mirror/lamp system is employed so that the patterns can be checked at the eye level.

OPERATIONAL EASE

Opto-Electrical Sensing Auto Stop Mechanism

With the YP-D8, there is no need to worry about causing unnecessary wear to the stylus after it has entered the record's lead-out groove, or about accidentally droppping the stylus on the record while typing the return the tonearm with your fingers. These are two good reasons to appreciate the unique Yamaha Opto-Electrical Sensing Auto Stop mechanism.

Here is how it works: The mechanism's cueing bar gently lifts the tonearm up (and shuts the power off) the moment the stylus traces the innermost lead-out grooves of the record in play. The mechanism is formed of a mobile shutter, mounted at the end of the tonearm center shaft, and an opto-electrical device (an LED and a CdS). When the device detects the end-of-play status of the record, it triggers an electromagnetic solenoid which in turn activates the cueing bar and power-off switch.

The system has many advantages. One, the mechanism doesn't harm any arm sensitivity or cause a tracking problem with lightweight cartridges as other mechanisms often do. And unlike other position-sensing end-of-play mechanisms, ours works on the velocity of the tonearm as it moves toward the center of the record; no erroneous detection (and erroneous arm liftup) can occur, however long playing time the record may be or however close the lead-out groove or a record may be to the center label. A third advantage is the mechanical arrangement by which manual operation is possible any time; the lifter and cueing bar are mechanically coupled for error-free manual operation at any time. A fourth advantage is that since the cueing is operated by an electro magnetic solenoid, the entire mechanism is simple and compact, again contributing to resonance/howl-free performance in the YP-D8. Finally, when the STOP button is pressed, the arm will lift up, shutting the power off.

TONEARM; SUPPORT AND HEADSHELL

Yamaha's Original High-Sensitivity Tonearm

The tonearm on the YP-D8 is one of the most sensitive you can own. As little as 3mg vertical weight depressed the tonearm and only 5mg horizontal force displaces it to either side. Some other arms require as much as 10 or 100mg of force to be moved vertically and horizontally. The arm of the YP-D8 traces warped records as smoothly and accurately as it does heavily-modulated records, with no trace of intermodulation.

Low-Friction Gimbal Support

The support of the YP-D8's arm is of the gimbal type, formed of two separate moving structures, one for the horizontal plane and the other for the vertical plane.

Superfinished Chrome Molybdenum Pivots

The pivots are ground by our superfinish process for precision and durability. The material, chrome molybdenum, is known for hardness; when in contact with another metal surface, it effectively resists scratches and abrasion.

Zinc Die-Cast Arm Base

To ensure that the arm is not affected by

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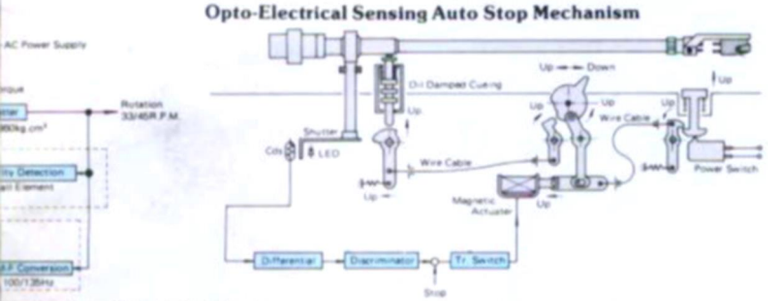
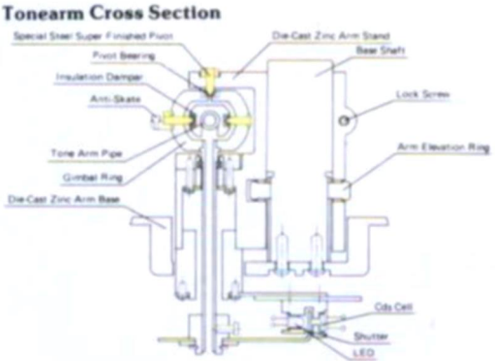
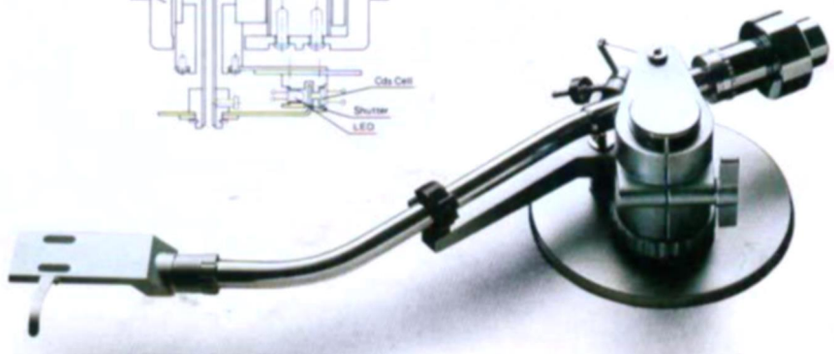
Opto-Electrical Sensing Auto Stop Mechanism



Tonearm Cross Section



Yamaha's Original Tonearm



Platter Speed/Stop Switches

Arm Lifter

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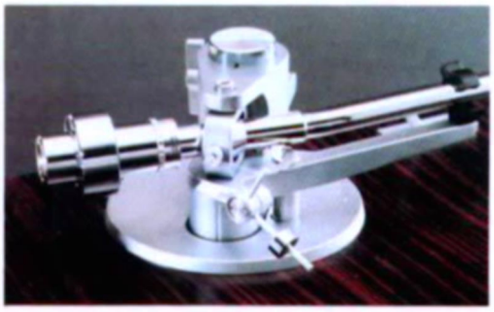
structure-horne vibrations, the tonearm of the YP-D8 is deeply and firmly secured by a heavy (1kg) zinc die-cast base. Thus tonearm performance remains as high as ever, impervious to sonical bombardment from the speakers.

String/Counterweight Anti-Skating

The Yamaha YP-D8 uses a unique and precision string/counterweight anti-skating device. This is the most accurate, smooth working one in existence.



Arm Height Adjustable up to ±3mm

You've read about the YP-D8's Opto-Electrical Sensing Auto Stop mechanism. Note here that unlike other automatic or semi-automatic turntables, this device has a facility to permit the raising or lowering of the arm height by ±3mm, or a 6mm maximum. Located at the base of the support column, the adjusting ring permits operation even during record playback.

Light, Firm Aluminum Die-Cast Headshell

For the YP-D8, we've employed an aluminum die-cast shell with low specific gravity and ideal firmness. It is solid, and resists resonance, thanks to strategically placed ribs.

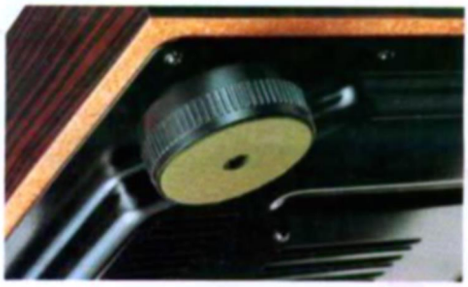
CABINET AND SUSPENSION

Solid Particleboard Base

The motor and associated parts of the YP-D8 are housed not in a hollow, echoing box-like cabinet, but instead are secured inside a solid cube, formed of layered particleboard 64mm thick. The base, therefore, cannot resonate with sound pressure, and it absorbs spurious vibration effectively. Howling is avoided and tone quality further improved by the use of a 1.6mm-thick iron sheet, firmly secured at the bottom of the ebony-finished base.

Insulating System

Howling is further prevented by the use of Yamaha's Insulating System. This not only absorbs external vibrations effectively but also helps to make record reproduction more musical in the most delicate way, thanks to the rubber and felt materials especially selected by Yamaha for use in our audio equipment and world famous musical instruments.



Thick, Heavy Acrylic Dust Cover

A record on the platter of the Yamaha YP-D8 is protected from dirt and dust by this heavy and attractive cover. Its extra thickness prevents sympathetic howling for still better results and true high fidelity sound.

SPECIFICATIONS

PLATTER	
Drive System	FG Servo Direct Drive
Motor	12-pole, 24-slot DC Hall effect DC servomotor
Motor Torque	1000 g-cm
Platter	Aluminum die-cast 31.5 cm 2.7 kg (including rubber mat)
Platter Moment of Inertia	360 kg-cm² (including rubber mat)
Speeds	33-1/3 and 45 rpm
Signal-to-Noise Ratio	Better than 60 dB /Better than 73 dB (DIN-B)
Wow and Flutter	Less than 0.03% (WRMS)/0.04% (DIN)
Speed Variation	±3% (strobe provided)
TONEARM	
Type	S-Shaped statically balanced tonearm
Effective Length	232 mm
Overhang	16 mm
Tonearm Base	Zinc die-cast 1000 g
Tonearm Height Adjustment Range	±3 mm
Anti-Skate Device	String/Counterweight
Tonearm Lifter	Oil damped
Headshell	Aluminum die-cast (12 g), plug-in type
Suitable Cartridge Weight	2 – 15 g 9 – 23 g (sub weight included)
CABINET	
Type	Solid particle board
Finish	Ebony open-pore finish
Dust Cover	Transparent acrylic
Hinges	Removable, free-stop type
Insulators	Height adjustable
Bottom Board	Black-painted iron sheet, 1.6 mm thick
GENERAL	
Power Supplies	U.S.A. and Canada: AC 120 V, 60 Hz Australia 240 V, 50 Hz Other Areas: AC 110-130/220-240 V, 50/60 Hz
Power Consumption	U.S.A. and Canada: 6 W Other Areas: 6 W
Dimensions (W x H x D)	470 x 378 x 163 mm (18-1/2" x 14-7/8" x 6-7/16")
Weight	15 kg (33 lbs.)

Specification subject to change without notice

For details please contact:

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