The home of the turntable

# THE VINYL ENGINE®

For more turntable manuals and setup information
please visit www.vinylengine.com

# Technics
by Panasonic

# SL-1500MK2

Quartz-Phase-Locked Control
Direct Drive Turntable with
Quartz Synthesizer Pitch Control


*Professional Series*

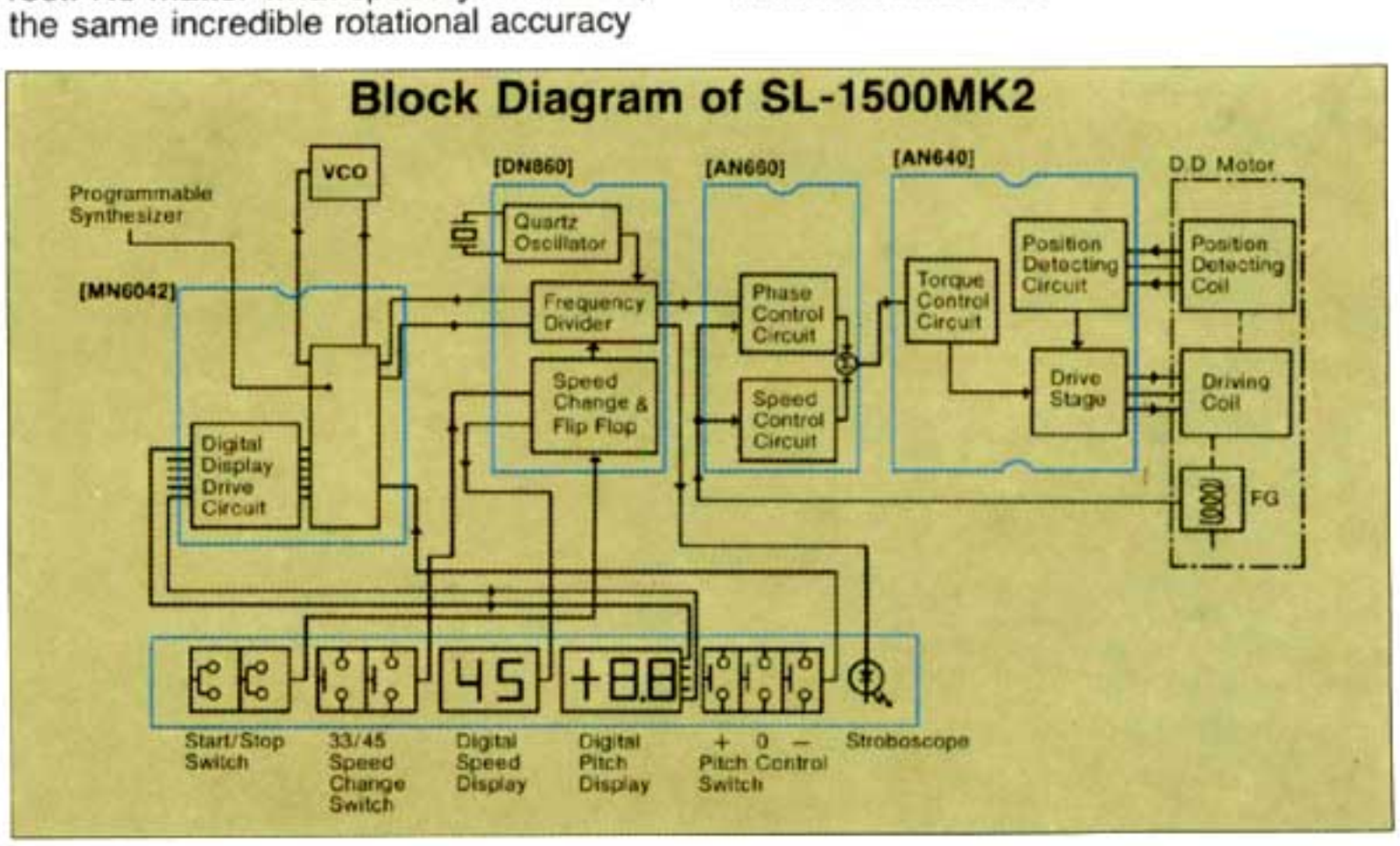
# SL-1500MK2

## Another World's First: Quartz Synthesizer Pitch Control with ±9.9% Range Digital Display Our Latest Direct Drive Turntable

The SL-1500MK2 has wow & flutter of only 0.025% WRMS. That's low. But turntables have not always had this kind of rotational accuracy. In fact, most record albums are cut to a lower degree of precision. Back some eight years ago, Technics introduced the turntable that opened up the possibility of performance on this level. That turntable was the first direct drive turntable in the world. And since that breakthrough we at Technics have been working to improve on the basic direct drive concept. Last year, Technics SP-10MKⅡ opened up era of quartz control in professional turntables, finding quick and enthusiastic acclaim for its unrivaled speed accuracy, enormous torque and super-fast start/stop action. Now, we are proud to introduce the SL-1500MK2, another "world's first" on account of its totally quartz controlled drive with digital LED readout of the ±9.9% pitch chosen. In the SL-1500MK2 a quartz synthesizer is used not only for the standard speeds of 33-1/3 and 45 rpm, but also for changes in speed in 0.1% increments up to plus or minus 9.9%. Previous quartz controlled turntables lost rotational accuracy when run at speeds other than precisely 33-1/3 or 45 rpm because the quartz control had to be disengaged.
So that you know exactly how fast the turntable is turning, programmable synthesizer gives you a constant digital readout of the percentage difference from standard speed.

### Total Quartz Phase-Locked Control at 199 Speed Increments and Digital LED Pitch Readout Controlled by Quartz Synthesizer

By now most people have heard of quartz watches. The same quartz controlled split-second accuracy is used in Technics' Quartz synthesizer direct drive turntables to attain a mere 0.002% deviation from perfect rotational speed.
With the SL-1500MK2 speed is adjustable. So you can raise or lower the pitch on your records. In this way you can match playback pitch to that of a musical instrument. Or by the same token you can adjust the tempo during playback to comply with what you judge to be correct. No matter what speed you choose, the same incredible rotational accuracy is maintained. Because the quartz synthesizer is used to control all speeds, not just the standard 33-1/3 and 45 rpm. Operation is simple. Just press the plus or minus feather-touch button and speed will increase or decrease by 0.1%. Keep the button depressed and the pitch change will continue up to 9.9%. That means a total of 199 different speed settings are possible.
The LED display to the left of the pitch control buttons gives a readout of the pitch variation that you have chosen. Starting from 33-1/3, for instance, the display will show "+0.1%" after you've pressed the plus button once. An indication of plus 5.9% or minus 5.6% means that the musical pitch has been raised or lowered by one half note. All electronic controls and the LED digital display are out front for easy use even when the dust cover is down.



# Functional Beauty and Human Engineering

At Technics we start with the best in materials and technical know-how. By reaching for performance and simplifying design at the same time, we have come up with turntables that look good while doing their job better than any other turntables in the world. And at Technics we remember that turntables are used by people. So we incorporate features where they will be used when they will be used. There is nothing extra and there is nothing missing. Find out how good a turntable can be, spin a disc on the SL-1500MK2


## All Control Functions Effected by High Density ICs

The SL-1500MK2 has such a sleek functional design and such ease of operation that one may forget the technological and engineering complexity upon which it is based. High density integrated circuits are used to squeeze the operations of more than 3000 discrete elements in to a mere few inches of space. The IC's used cover these basic functions: quartz synthesizer pitch control and digital driver, quartz oscillator frequency divider and speed change control, phase and speed control, and full cycle integration type frequency generator. Furthermore, automatic operation is based on the most advanced detection and logic circuits.

## All Front Controls

Technics designs equipment for excellent musical reproduction. But we never forget that equipment is operated by people. So we put the control buttons and LED display in-line on the front panel for optimum handling convenience. The control buttons have a 0.4 mm stroke and take 90 grams of pressure to operate the circuits. This allows precision control capability without the annoyance of accidental operation.

## Double Isolated Suspension System and Special Base Material Prevents Acoustic Feedback Problems

Acoustic feedback is a serious threat to turntable performance. Technics developed the double isolated system to cut feedback down to virtually zero. The aluminum diecast turntable base is supported by one set of isolators. The inner main base is made of a newly developed anti-resonant heavy material molded from fiberglass and other inorganic materials, and is suspended from the turntable base by a second set of isolators. All important turntable, motor and tonearm assembly are mounted on this main base. This unique construction makes the turntable practically feedback proof.

## Sensitive Gimbal Suspension Tonearm

20 miniature balls in bearings finished to a tolerance of ±0.5 microns reduce friction and improve response. The arm is so sensitive that it will respond to forces as tiny as 7 mg. So you can expect to get all the performance your high compliance cartridge is designed to give.

**Manually Operated Tonearm and Output Muting**

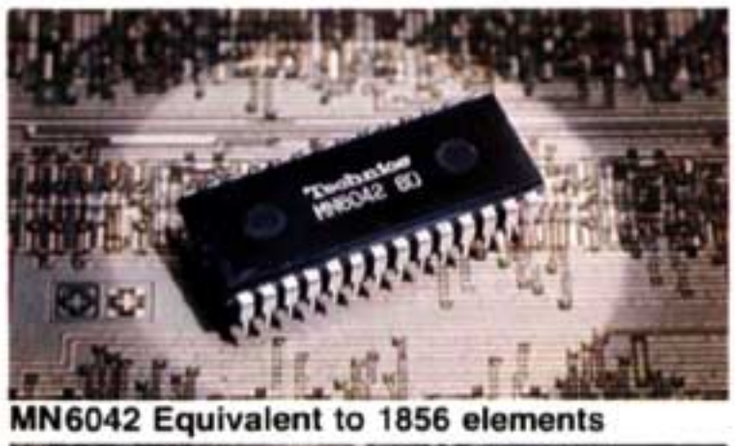
If you're looking for smooth, out front control of all tonearm operations, take a look at the SL-1500MK2. Better yet, try it out. It's perfect for professional applications where automatic operation is not needed. An electronic muting circuit is engaged by cueing lever to cut off the irritating noise when the needle is set down on or lifted up from the record.

**S/N ratio 73 dB (DIN 45539B)**
**Wow & Flutter 0.025% (WRMS)**

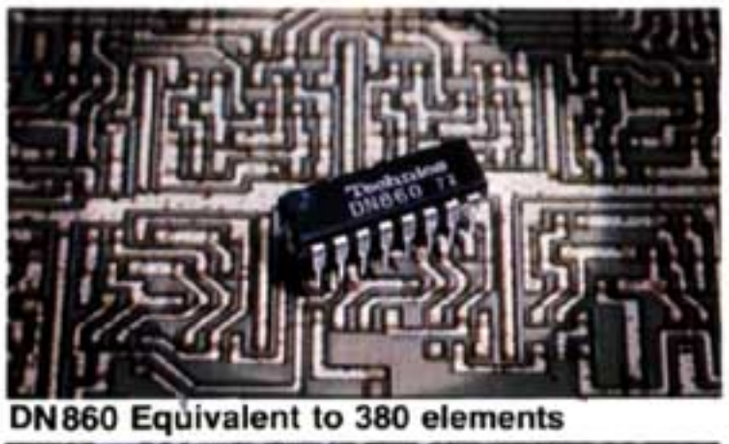
There is no point going into detail about these figures except to point out that they are better than the standards to which your record albums are made.

**Integral Rotor Platter Motor**

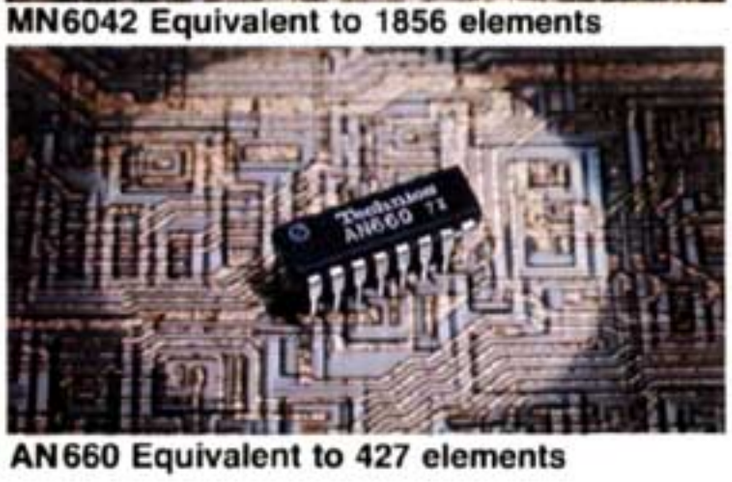
A refinement of the basic direct drive idea, the integral rotor platter merely combines the turntable platter with the rotor of the motor. The number of parts is reduced and performance is improved as evidenced by the low wow and flutter achieved.



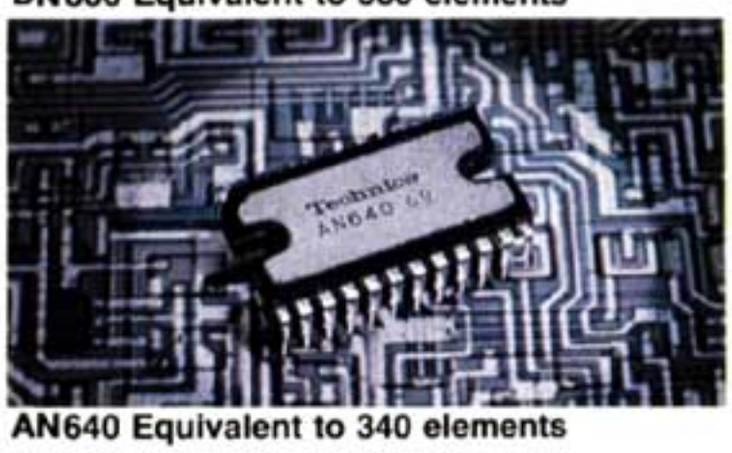
**MN6042 Equivalent to 1856 elements**



**DN860 Equivalent to 380 elements**



**AN660 Equivalent to 427 elements**



**AN640 Equivalent to 340 elements**

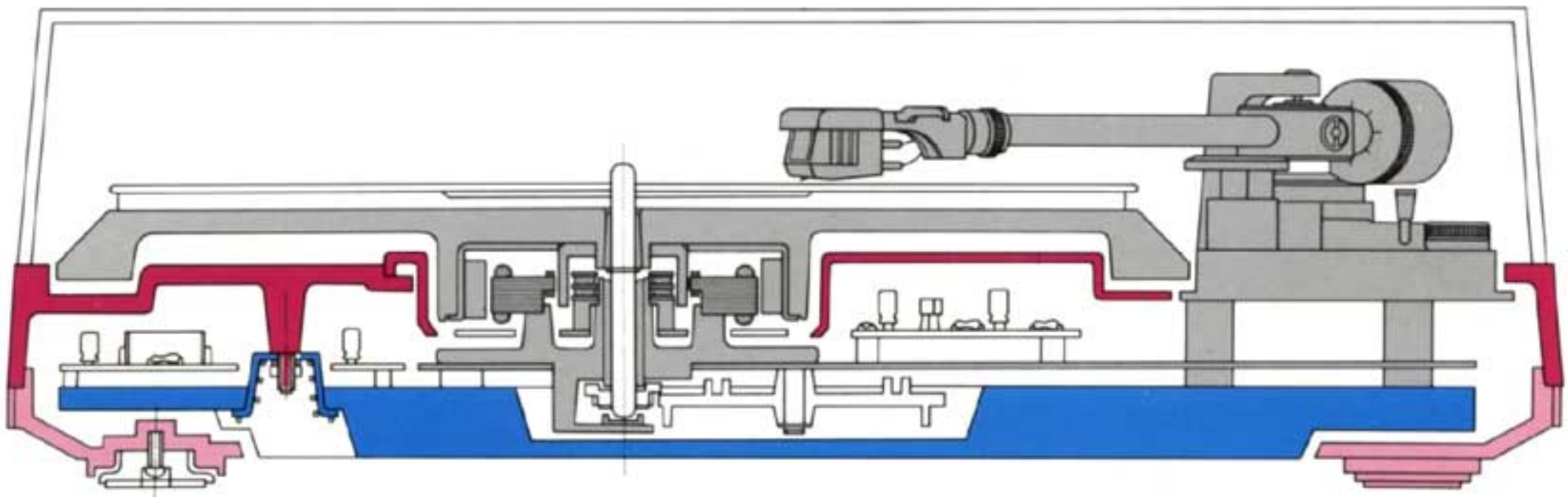

### Enormous Torque for Fast Starts, Steady Speed

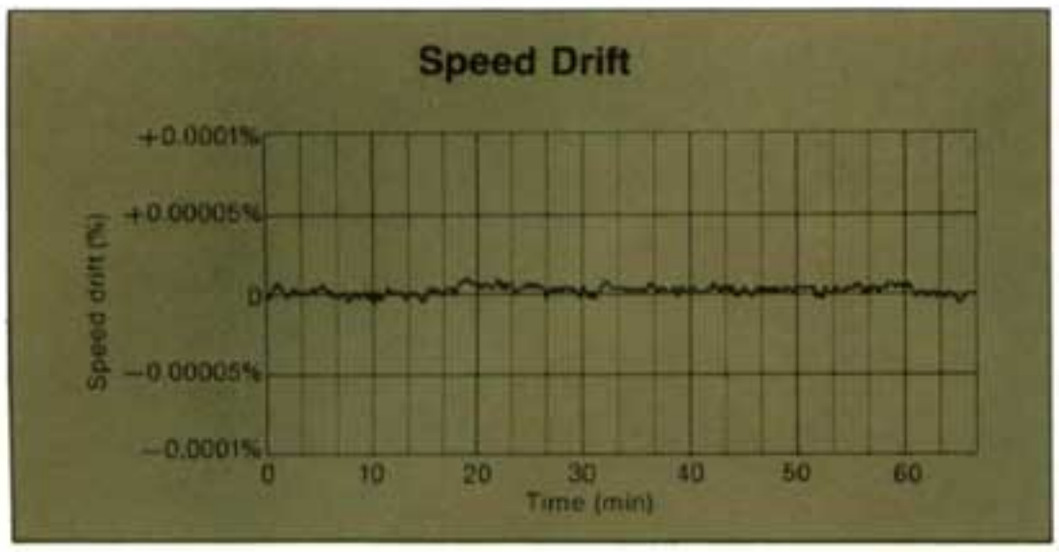
The integral rotor platter motor delivers 1.3 lb·in (1.5 kg·cm) torque to virtually eliminate the speed fluctuations caused by tonearm or record cleaner drag. In fact, if you could fit 150 tonearms tracking 2 grams each onto this turntable, it would still rotate at precisely the chosen speed. But in more realistic terms, this enormous torque gives very quick starts. From standstill, the platter reaches 33-1/3 rpm within 0.7 sec. (a quarter of a turn). This is a big advantage in many professional applications where nearly instant cueing is a necessity. Quick braking is achieved with a fully electronic system.

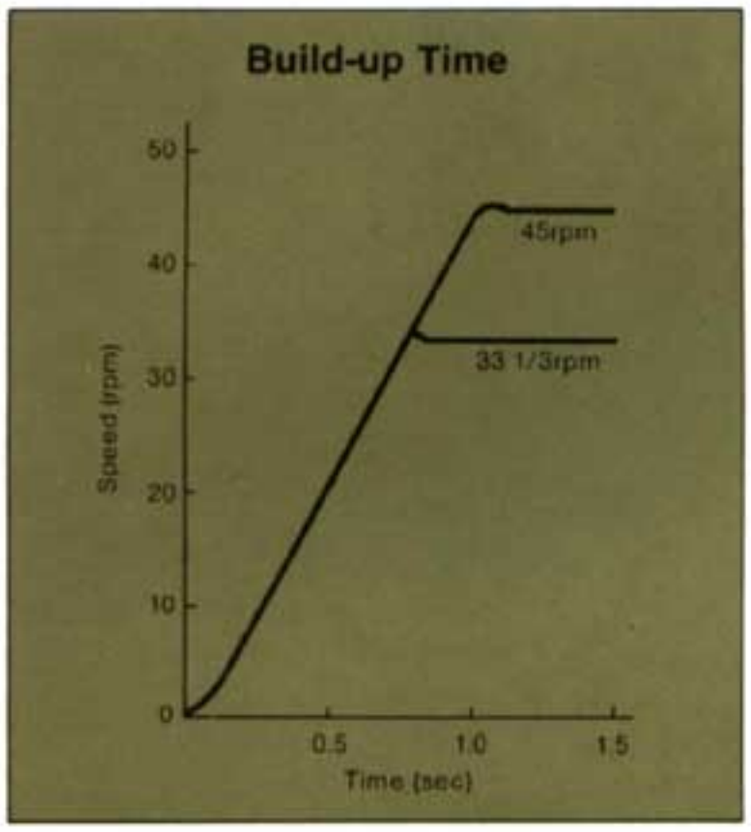
### Other Features

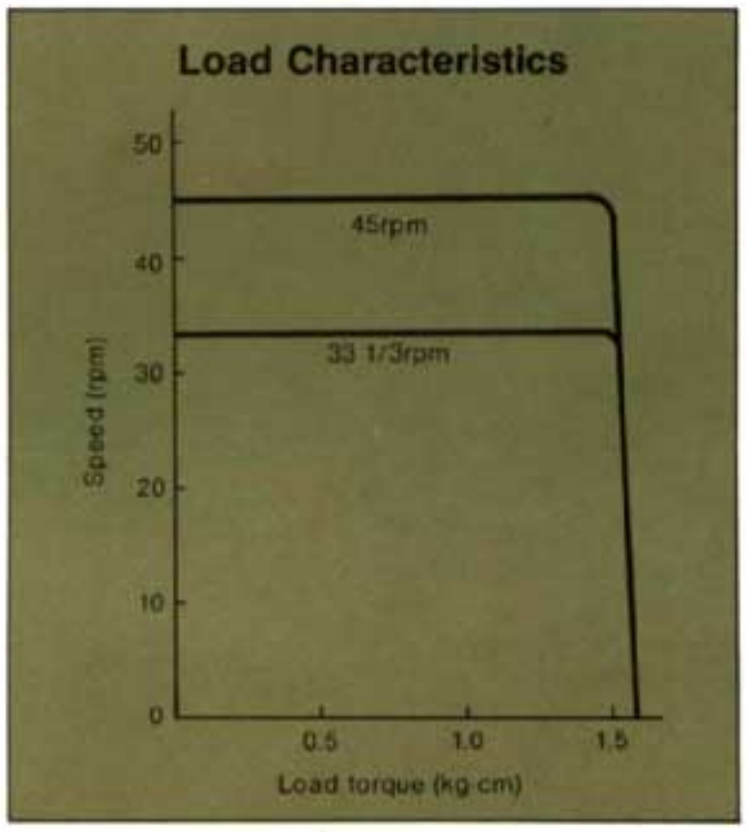
- Arm height is adjustable within a range of 6 mm to accommodate varying cartridge dimensions.
- Zinc diecast heavy tonearm base for improved acoustic characteristics.
- Resonance dampened head shell with unique overhang adjuster.
- Low capacitance phonocables.


## Cross Section of SL-1500MK2






# Quartz Synthesizer Pitch Control Series Also Feature:

**SL-1300MK2 The Fully-Automatic**

**SL-1400MK2 The Semi-Automatic**

# Technical Specifications

**TURNTABLE SECTION**

| | |
|---|---|
| Type | Quartz-phase-locked control direct drive manual turntable |
| Motor | Ultra-low-speed brushless DC motor |
| Turntable platter | Aluminum diecast, diameter 13" (33 cm), weight 5.5 lb. (2.5 kg) moment of inertia 116 lb·in² (340 kg·cm²) |
| Turntable speeds | 33⅓ and 45 rpm |
| Pitch controls | Quartz synthesizer pitch control ±9.9% range digital pitch readout |
| Starting torque | 1.3 lb·in (1.5 kg·cm) |
| Speed fluctuation due to load torque | 0% within 1.3 lb·in (1.5 kg·cm) |
| Speed drift | Within ±0.002% |
| Wow and flutter | 0.025% WRMS (JIS C5521) ±0.035% weighted zero to peak (DIN 45507) |
| Rumble | −50 dB (DIN 45539A) −73 dB (DIN 45539B) |

**TONEARM SECTION**

| | |
|---|---|
| Type | Universal "S" shaped tubular arm, static-balanced type, with anti-skating force control device, oil-damped cueing device in both directions |
| Effective length | 9-1/16" (230 mm) |
| Overhang | 19/32" (15 mm) |
| Tracking error angle | +1° at the inner groove of record +3° at the outer groove of record |
| Friction | 7 mg (lateral, vertical) |
| Effective mass | 22 g (with a cartridge weighing 6 g at 1.75 g tracking force) |
| Offset angle | 21.5° |
| Tonearm height adjustment | 6 mm |
| Adjustable tracking force | 0～3 g |
| Headshell weight | 9.5 g |
| Cartridge weight range | 5～11 g |

**GENERAL**

| | |
|---|---|
| Power consumption | 11 W |
| Power supply | AC 120 V, 50/60 Hz |
| Dimensions (H×W×D) | 5-45/64"×17-45/64"×15-7/64" (14.5×45.3×38.4 cm) |
| Weight | 25.4 lb. (11.5 kg) |

**Technics**
**by Panasonic**

**Panasonic Company**
**Division of Matsushita Electric Corporation of America**
EXECUTIVE OFFICES: One Panasonic Way, Secaucus, New Jersey 07094 (201)348-7000
PANSONIC NEW YORK: 50 Meadowlands Parkway, Secaucus, New Jersey 07094 (201)348-7000
PANASONIC NEW JERSEY: 50 Meadowlands Parkway, Secaucus, New Jersey 07094 (201)348-7000
PANASONIC BOSTON: C.C. & F. Industrial Park, 31 Suffolk Road, Mansfield, Mass. 02048 (617)339-9115
PANASONIC BALTIMORE: 11 Azar Court, Baltimore, Md. 21227 (301)247-4300
PANASONIC CHICAGO: 363 N. Third Avenue, Des Plaines, Ill. 60016 (312)299-7171
PANASONIC ATLANTA: 1 Meca Way, Duluth, Georgia 30136 (404)448-1100
PANASONIC DALLAS: 1825 Walnut Hill Lane, Irving, Texas 75062 (214) 258-2828
NEWCRAFT, INC.: 8383 Wilshire Blvd., Beverly Hills, Calif. 90211 (213)655-5160
PANASONIC SALES COMPANY: Ave. 65 de Infanteria, Km. 9.7, Victoria Industrial Park, Carolina, Puerto Rico 00630 (809)769-4320
MATSUSHITA ELECTRIC OF HAWAII, INC.: 320 Waiakamilo Road, Honolulu, Hawaii 96817 (808)847-5361

Specifications subject to change without notice. Printed in Japan 6773M1