

Technics

QUARTZ

Direct Drive Turntable

SP-10MK3

Operating instructions



Before operating this product, please read these instructions completely.

Thank you for choosing the SP-10MK3.
For optimum performance and safety, please read these instructions carefully.

Dear Stereo Fan

Technics. The science of sound. Our name represents over 100 high quality audio products, in every price range.

From our revolutionary direct drive turntables to our highly acclaimed linear phase speakers, Technics quality and value have become almost legendary among audio enthusiasts.

Our truly complete selection of turntables (including belt-drive, direct-drive, and quartz-locked models with varying degrees of automation) now includes an exciting line of linear tracking turntables with zero tracking error. Another innovation, direct drive cassette decks, is available in both slim and micro formats. In fact, with Technics micro series, you can assemble an entire system of the

highest quality with truly compact dimensions. And our receivers, which combine new class A amplification with quartz synthesizer tuning, have created tremendous excitement among reviewers and customers alike.

Amps, tuners, headphones, microphones, cartridges, openreel decks, sound processors—we are proud of all our high quality equipment and we are constantly seeking to improve our products, in terms of performance and handling ease. In addition, our confidence in the reliability of our merchandise (demonstrated by our warranties) and the reasons for our enormous and rapid growth become obvious.

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The model number of this product may be found on the back of the control unit, and the serial number on the bottom of the turntable unit.

Please note the model and serial numbers of this unit in the space provided and retain this booklet as a permanent record of your purchase to aid identification in the even of theft.

MODEL NUMBER

SP-10MK3

SERIAL NUMBER

**Warning: To reduce the risk of fire or electric shock,
do not expose this appliance to rain or moisture.**

■ The unique Technics motor combines the rotor and platter into one unit.
Moment of inertia: 1.1 ton/cm² Starting torque: 16 kg•cm

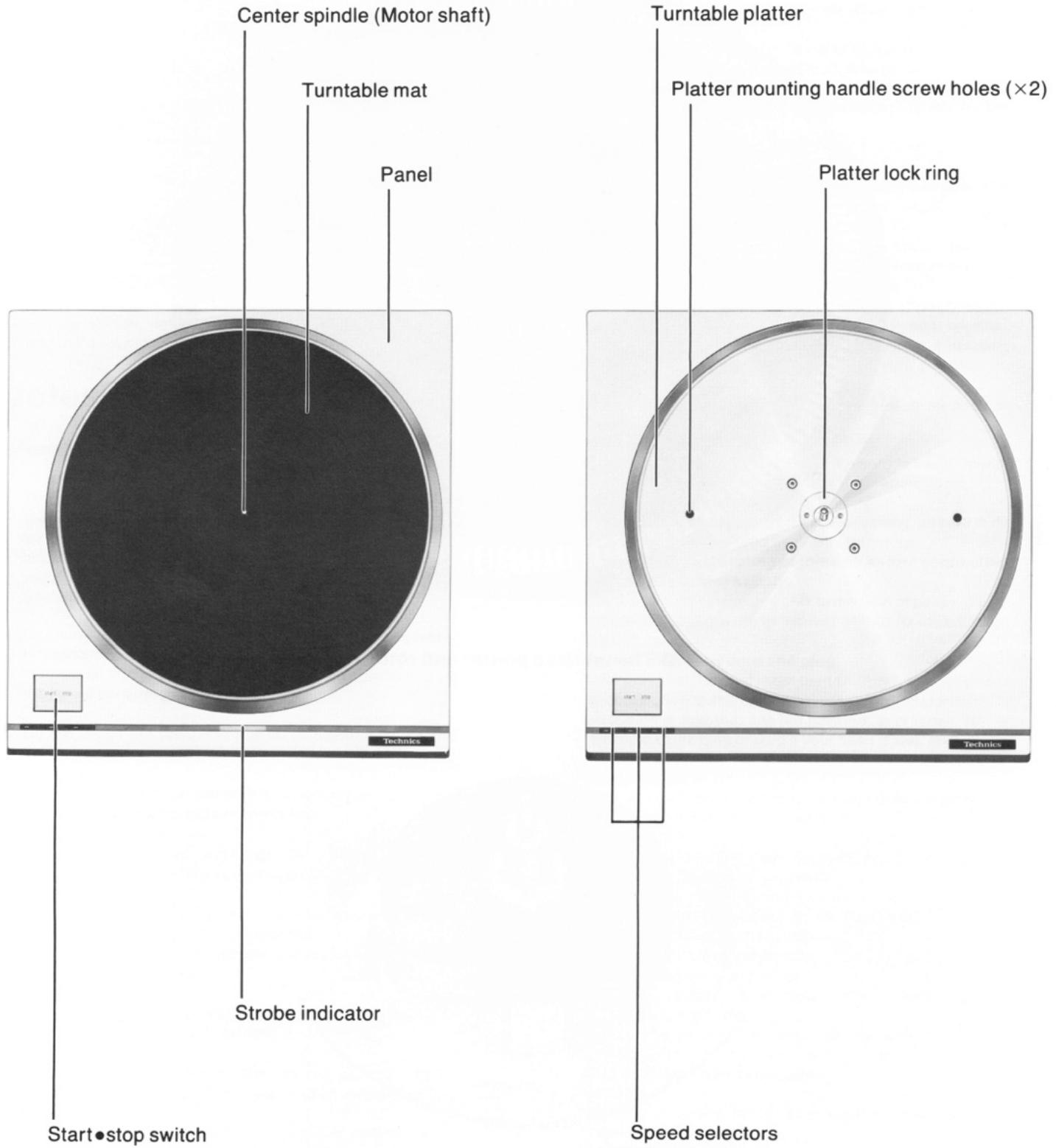


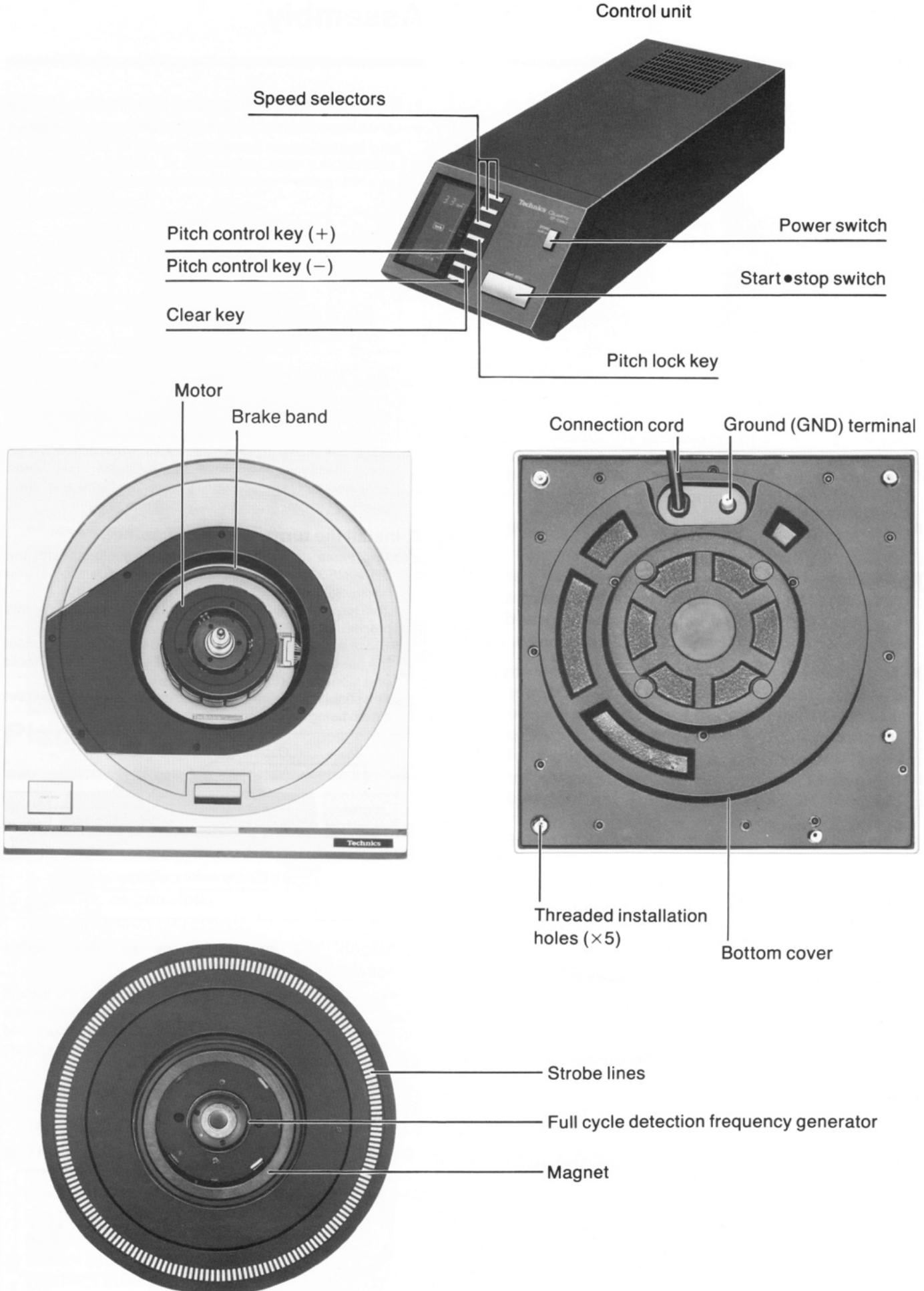
■ The unitized platter and rotor



■ Motor stator of the SP-10MK3

Parts identification





Before unpacking

- Open the shipping carton and confirm that all of the following parts are included:

SP-10MK3 unit	1
Turntable platter	1
Turntable mat	1
Control unit	1
Ground wire (GND)	1
Platter mounting handle	2
Platter lock ring	1
Platter lock wrench	1
Panel installation screws (M5×45)	5
(M5×60)	5
Panel installation washers	5
45-rpm adapter	1
Lubricating oil	1
Installation diagram	1
Turntable platter cleaner	1
Cleaning cloth	1

- Do not plug in the power cord until the turntable has been completely assembled.
- Do not press the start•stop switch when the turntable platter is not in place.
- Always turn the power off before mounting or removing the turntable platter. If the platter is mounted or removed with the power turned on, the braking mechanism will be damaged.
- The turntable platter is made of an aluminum die-cast base under coated with a copper alloy and then polished to a very high degree of precision. The platter is also treated to resist dust and dirt. To preserve the luster of the platter surface, always wipe the platter clean of all fingerprints using the included cloth.

Before assembly

■ Selecting the cabinet

Because the SP-10MK3 has an extremely high starting torque (16 kg•cm) only cabinets made of very thick and heavy materials should be used.

Note:

Be sure to use rubber insulation feet made of a material sufficiently sturdy to support the cabinet and turntable.

■ Selecting the tonearm

Always take into account the effective length of the tonearm to be used when selecting the cabinet. Install the tonearm following the instructions in the tonearm owner's manual.

Assembly

1. Referring to the installation diagram, make openings in the cabinet for the turntable base and installation screws. (Fig. 1)

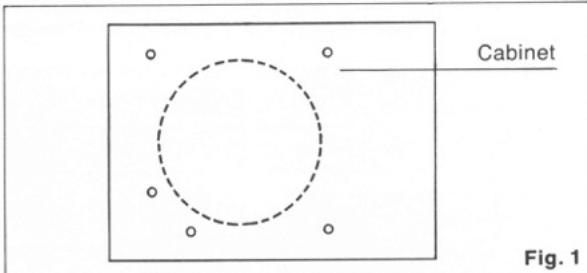


Fig. 1

Note:

As there may be slight errors in lengths and positions in the installation diagram, confirm that all openings are in the correct locations by actually measuring off the distances shown in the diagram. Also, when determining the installation position of the turntable, take into consideration the position of the tonearm and the openings for the ground wire and phono cable.

2. Install the turntable in the cabinet.

- Two types of installation screws are included with the SP-10MK3. Use the type that is best for the cabinet you have selected.
- The turntable platter should not be in place during this procedure.
- Place a suitable support (furnished styrofoam pad) under the base panel to protect the spindle from external shocks and vibrations. (Fig. 2)
You should also place a soft cloth over the panel to protect it from being scratched.

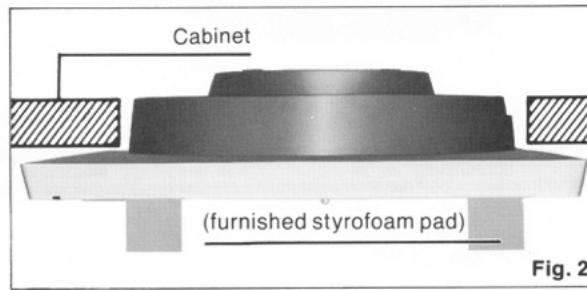


Fig. 2

3. Attach the ground wire to the motor assembly. (Fig. 3)

- Loosen the ground terminal, insert one end of the ground wire and tighten the terminal again. Once the ground wire has been attached, turn the cabinet upside-down and bring the ends of the phono cable and ground wire out from underneath the cabinet.

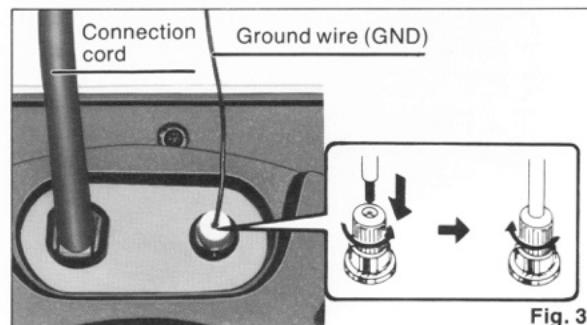


Fig. 3

Connections

4. Attach the turntable platter. (Figs. 4 and 5)

- Screw the two handles into the turntable handle screw holes as far as they will go.
- Holding the platter by the handles, lower it slowly over the center spindle. When the platter is in place, remove the two handles.

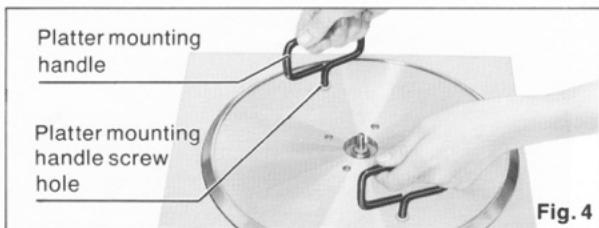


Fig. 4

Note:

The platter is extremely heavy (10 kg.-22 lbs.). Handle it very carefully being particularly careful not to drop it.

- Lock the platter to the center spindle by placing the platter locking ring over the center spindle and then turning the locking ring clockwise with the accessory platter lock wrench so the platter is firmly attached to the spindle.
- Place the turntable mat on the platter.

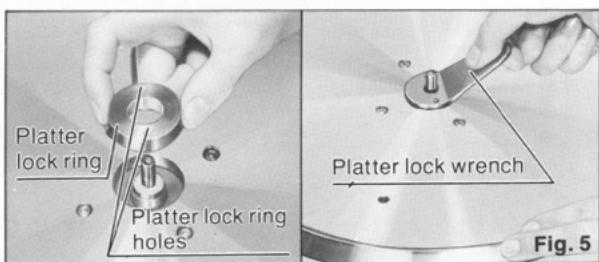


Fig. 5

Placement

- Place the unit in a stable and horizontal position where there is little or no vibration.
- Place the unit away from the speakers so that it will be subject to as little direct sound radiation as possible.

Note:

If the turntable is placed too close to one or both of the loudspeakers, vibrations may be transmitted to the platter via the floor or the air. These vibrations can then be picked up by the phono cartridge, sent to the amplifier and then on to the speakers again causing acoustic feedback. If the turntable must be placed near the speakers, put a piece of felt or cement blocks under the speakers to lower the chance of acoustic feedback occurring. This unit should also be separated from AM/FM tuners since it may cause some interference to radio reception.

- The control unit is easily affected by magnetic fields generated by amplifiers and other components with power transformers. Keep the control unit as far as possible from such components.
- Do not place the unit where it will be exposed to direct sunlight, dust, moisture or heat.
- Place it in a well ventilated location.

1. Attach the connection cord to the control unit. (Fig. 6)

- Insert the connector firmly into the control unit jack and then tighten the connector ring by turning it clockwise as far as it will go.

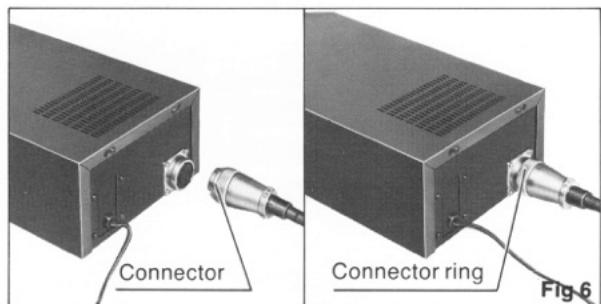


Fig. 6

2. Connect the ground wire to the ground (GND) terminal on the amplifier or to the chassis. (Fig. 7)

Note:

The ground wire connection must be made to assure proper operation of the turntable. If this connection is forgotten, an unpleasant humming noise will be heard.

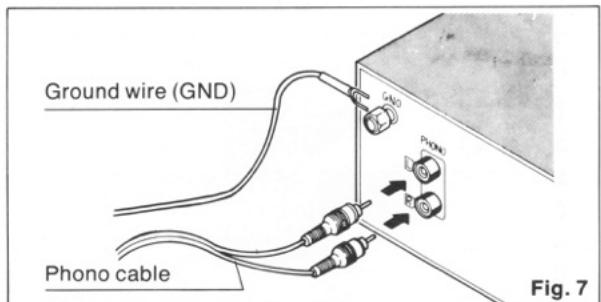


Fig. 7

3. Plug the control unit power cord into a wall socket or the switched AC outlet on the rear panel of the amplifier. (Fig. 8)

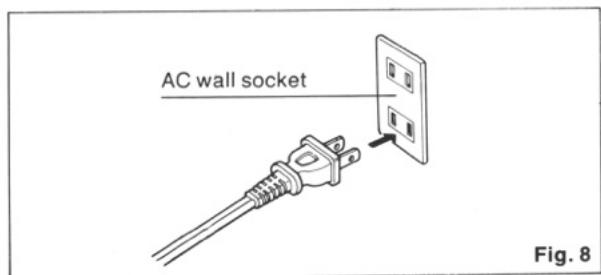


Fig. 8

Operations

1. Turn on the control unit power switch. (Fig. 9)

- Depress the power switch (■) to turn power on. The speed indicator and pitch indicator will light up to show that power has been turned on. The green strobe indicator and [33] speed selector indicator on the turntable will also light up.
- Depress the power switch again (■) to turn power off.

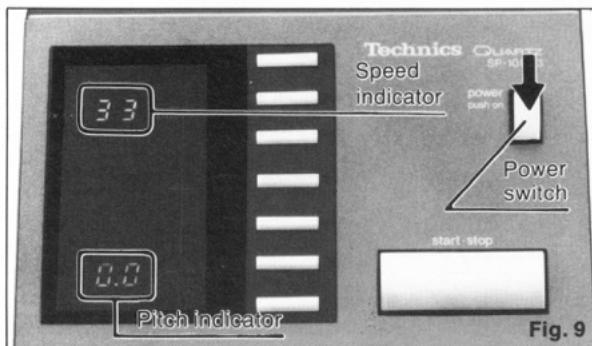


Fig. 9

2. Switch the speed to 45 rpm if you are going to play a 45 rpm record. (Fig. 10)

- The 45 rpm speed indicator will come on.
- If the 78 rpm selector is pressed, the 78 rpm speed indicator will come on. The 78 rpm setting on the SP-10MK3 is actually set at 78.26 rpm.
- Speed settings can also be made using the controls on the turntable unit.

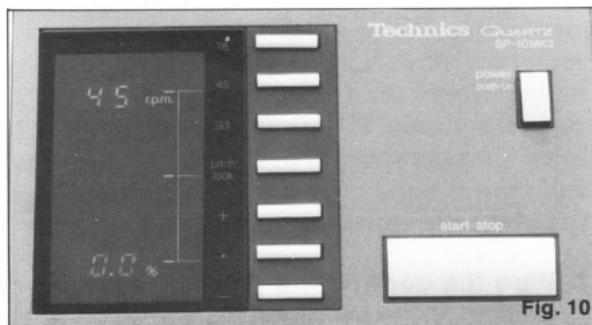


Fig. 10

3. Press the start•stop switch. (Fig. 11)

- The start•stop switch on the turntable can be pressed instead of the control unit switch; the effect is the same.
- The turntable platter will begin to rotate, reaching the set speed in under one second (0.25 seconds for 33-1/3 rpm).

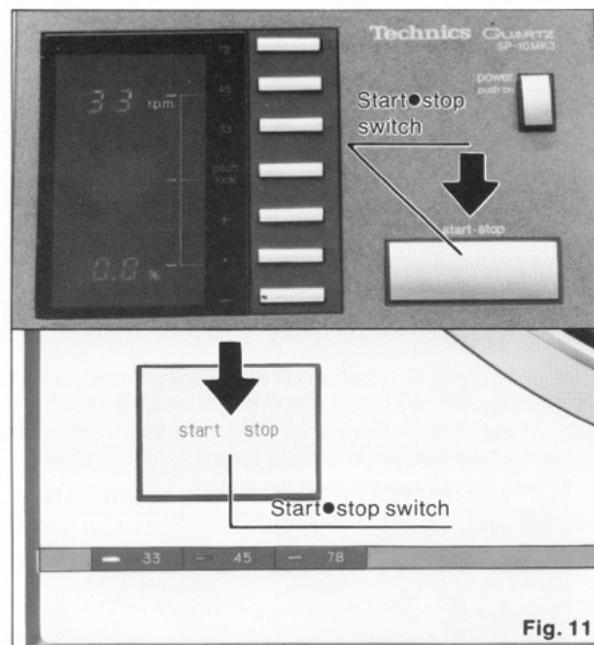


Fig. 11

4. Press the start•stop switch again to stop the turntable.

- The electronic and mechanical brakes will be activated and the turntable platter will stop rotating in an instant (0.3 seconds at 33-1/3 rpm).

■ About the pitch control function (Fig. 12)

The pitch control function includes a pitch lock key to lock in the present speed by deactivating the speed and pitch control keys. The "lock" indicator lights up to show when the pitch lock is on. This lock function is provided to prevent mistakenly changing the platter speed by inadvertently bumping one of the speed or pitch control keys while a record is being played. Note that the start•stop switch can be used whether the pitch lock is on or off.

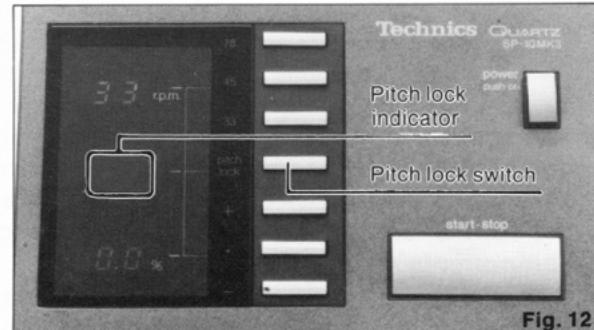


Fig. 12

Adjusting the pitch

The control unit uses the same quartz synthesizer speed control system as that used in the Technics SL-1300MK2 Series turntables, the first quartz synthesizer turntables ever made. The quartz lock system allows platter speed to be altered in steps of 0.1% by up to $\pm 9.9\%$. The current pitch setting is clearly shown by a digital LED display. When the pitch control is used, the strobe indicator on the turntable changes from green to orange and the strobe lines show whether the speed is being increased or decreased. Before using the pitch control function, always check to be sure the pitch lock is off ("lock" indicator is not lit).

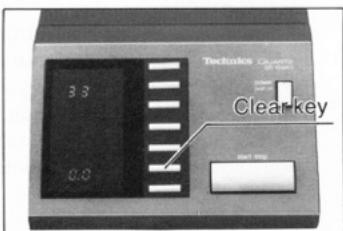
- Pitch can be altered in steps of 0.1%, less than the smallest difference that the human ear can discern. This is useful for changing the length of a selection on a record to match a precise time requirement.



- The pitch control function can also be used to alter the pitch of a record to match a musical instrument and make it easier to make sheet music from a record. Increasing the speed by +5.9% has the effect of raising the pitch by a half tone (sharp) and a speed decrease of -5.6% lowers the pitch by a half tone (flat).



- Press the clear key to instantly return to the rated speed.



The cent scale

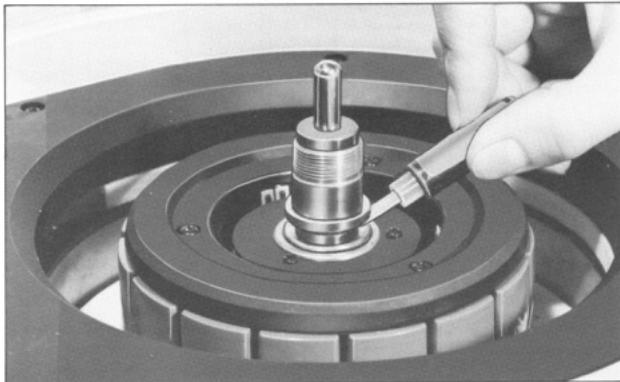
The cent scale expresses the intervals between tones on the musical scale. A half tone is 100 cents and an octave is 1200 cents. The table on the right shows the cent readings for each percentage speed change for those who prefer to use this scale.

Percent-cents conversion table

Percent (%)	Cents	Frequency ratio	Percent (%)	Cents	Frequency ratio
+0.1	+1.73	1.001	-0.1	-1.73	0.999
+0.2	+3.46	1.002	-0.2	-3.47	0.998
+0.3	+5.19	1.003	-0.3	-5.20	0.997
+0.4	+6.91	1.004	-0.4	-6.94	0.996
+0.5	+8.63	1.005	-0.5	-8.68	0.995
+0.6	+10.36	1.006	-0.6	-10.42	0.994
+0.7	+12.08	1.007	-0.7	-12.16	0.993
+0.8	+13.79	1.008	-0.8	-13.91	0.992
+0.9	+15.51	1.009	-0.9	-15.65	0.991
+1.0	+17.23	1.010	-1.0	-17.40	0.990
+1.1	+18.94	1.011	-1.1	-19.15	0.989
+1.2	+20.65	1.012	-1.2	-20.90	0.988
+1.3	+22.36	1.013	-1.3	-22.65	0.987
+1.4	+24.07	1.014	-1.4	-24.41	0.986
+1.5	+25.78	1.015	-1.5	-26.17	0.985
+1.6	+27.48	1.016	-1.6	-27.92	0.984
+1.7	+29.18	1.017	-1.7	-29.68	0.983
+1.8	+30.89	1.018	-1.8	-31.45	0.982
+1.9	+32.58	1.019	-1.9	-33.21	0.981
+2.0	+34.28	1.020	-2.0	-34.98	0.980
+2.1	+35.98	1.021	-2.1	-36.74	0.979
+2.2	+37.67	1.022	-2.2	-38.51	0.978
+2.3	+39.37	1.023	-2.3	-40.28	0.977
+2.4	+41.06	1.024	-2.4	-42.06	0.976
+2.5	+42.75	1.025	-2.5	-43.83	0.975
+2.6	+44.44	1.026	-2.6	-45.61	0.974
+2.7	+46.12	1.027	-2.7	-47.39	0.973
+2.8	+47.81	1.028	-2.8	-49.17	0.972
+2.9	+49.49	1.029	-2.9	-50.95	0.971
+3.0	+51.17	1.030	-3.0	-52.73	0.970
+3.1	+52.85	1.031	-3.1	-54.52	0.969
+3.2	+54.53	1.032	-3.2	-56.31	0.968
+3.3	+56.21	1.033	-3.3	-58.09	0.967
+3.4	+57.88	1.034	-3.4	-59.89	0.966
+3.5	+59.56	1.035	-3.5	-61.68	0.965
+3.6	+61.23	1.036	-3.6	-63.47	0.964
+3.7	+62.90	1.037	-3.7	-65.27	0.963
+3.8	+64.57	1.038	-3.8	-67.07	0.962
+3.9	+66.23	1.039	-3.9	-68.87	0.961
+4.0	+67.90	1.040	-4.0	-70.67	0.960
+4.1	+69.56	1.041	-4.1	-72.48	0.959
+4.2	+71.23	1.042	-4.2	-74.28	0.958
+4.3	+72.89	1.043	-4.3	-76.09	0.957
+4.4	+74.55	1.044	-4.4	-77.90	0.956
+4.5	+76.20	1.045	-4.5	-79.71	0.955
+4.6	+77.86	1.046	-4.6	-81.53	0.954
+4.7	+79.51	1.047	-4.7	-83.34	0.953
+4.8	+81.17	1.048	-4.8	-85.16	0.952
+4.9	+82.82	1.049	-4.9	-86.98	0.951
+5.0	+84.47	1.050	-5.0	-88.80	0.950
+5.1	+86.12	1.051	-5.1	-90.62	0.949
+5.2	+87.76	1.052	-5.2	-92.45	0.948
+5.3	+89.41	1.053	-5.3	-94.28	0.947
+5.4	+91.05	1.054	-5.4	-96.11	0.946
+5.5	+92.69	1.055	-5.5	-97.94	0.945
+5.6	+94.33	1.056	-5.6	(b) -99.77	0.944
+5.7	+95.97	1.057	-5.7	-101.60	0.943
+5.8	+97.61	1.058	-5.8	-103.44	0.942
+5.9	#+99.24	1.059	-5.9	-105.28	0.941
+6.0	+100.88	1.060	-6.0	-107.12	0.940
+6.1	+102.51	1.061	-6.1	-108.96	0.939
+6.2	+104.14	1.062	-6.2	-110.81	0.938
+6.3	+105.77	1.063	-6.3	-112.65	0.937
+6.4	+107.40	1.064	-6.4	-114.50	0.936
+6.5	+109.02	1.065	-6.5	-116.35	0.935
+6.6	+110.65	1.066	-6.6	-118.21	0.934
+6.7	+112.27	1.067	-6.7	-120.06	0.933
+6.8	+113.89	1.068	-6.8	-121.92	0.932
+6.9	+115.51	1.069	-6.9	-123.78	0.931
+7.0	+117.13	1.070	-7.0	-125.64	0.930
+7.1	+118.75	1.071	-7.1	-127.50	0.929
+7.2	+120.37	1.072	-7.2	-129.36	0.928
+7.3	+121.98	1.073	-7.3	-131.23	0.927
+7.4	+123.59	1.074	-7.4	-133.10	0.926
+7.5	+125.20	1.075	-7.5	-134.97	0.925
+7.6	+126.81	1.076	-7.6	-136.84	0.924
+7.7	+128.42	1.077	-7.7	-138.72	0.923
+7.8	+130.03	1.078	-7.8	-140.59	0.922
+7.9	+131.63	1.079	-7.9	-142.47	0.921
+8.0	+133.24	1.080	-8.0	-144.35	0.920
+8.1	+134.84	1.081	-8.1	-146.24	0.919
+8.2	+136.44	1.082	-8.2	-148.12	0.918
+8.3	+138.04	1.083	-8.3	-150.01	0.917
+8.4	+139.64	1.084	-8.4	-151.90	0.916
+8.5	+141.23	1.085	-8.5	-153.79	0.915
+8.6	+142.83	1.086	-8.6	-155.68	0.914
+8.7	+144.42	1.087	-8.7	-157.58	0.913
+8.8	+146.01	1.088	-8.8	-159.47	0.912
+8.9	+147.60	1.089	-8.9	-161.37	0.911
+9.0	+149.19	1.090	-9.0	-163.27	0.910
+9.1	+150.78	1.091	-9.1	-165.18	0.909
+9.2	+152.37	1.092	-9.2	-167.08	0.908
+9.3	+153.95	1.093	-9.3	-168.99	0.907
+9.4	+155.54	1.094	-9.4	-170.90	0.906
+9.5	+157.12	1.095	-9.5	-172.81	0.905
+9.6	+158.70	1.096	-9.6	-174.73	0.904
+9.7	+160.28	1.097	-9.7	-176.64	0.903
+9.8	+161.85	1.098	-9.8	-178.56	0.902
+9.9	+163.43	1.099	-9.9	-180.48	0.901

Lubrication

The spindle has been lubricated at the factory before shipment. You should add two or three drops of oil as shown after about every 2000 hours of use. Only the oil included with this turntable should be used.



- To oil the spindle, remove the platter lock ring and lift off the platter using the mounting handles.

Notes and maintenance

- There are magnets underneath the turntable platter on the inside.**
Be careful that dirt and iron particles do not stick to the magnets. Also, do not place the platter in a high place from which it could fall or in a position in which the magnets could be damaged.
- Remove the turntable platter only when absolutely necessary.**
If you must lift the platter off the spindle, be sure to unplug the power cord beforehand.
- Do not touch the turntable platter or motor screws and bolts.**
- The warranty for this turntable is no longer valid if the motor screws and bolts are loosened.**
- From time to time, wipe off the control unit and turntable section with a soft, dry cloth.**
- Do not try to clean the turntable unit or front panel of the control unit with alcohol, benzene, thinner or other solvents as this could remove the finish and even the lettering.**
- If an insecticide spray comes in contact with the front panel, the panel may be stained.**
- If an oily substance is spilled on the control unit or turntable section, clean it off with a cloth dampened in a weak soap solution.**
Wring out the cloth well before wiping the control unit or turntable. Dry immediately afterward with a soft, dry cloth. Be sure to unplug the power cord before wiping the unit with a damp cloth.

Suggestions for safety

Before using this unit, be sure to read applicable items of the operating instructions and these safety suggestions carefully; and afterwards keep them handy for future reference. Take special care to follow the warnings indicated on the unit itself as well as in the operating instructions.

- Avoid places where there is water or humidity.**
Do not use this unit near a bathtub, washbasin, swimming pool, or the like. Damp basements should also be avoided.
- Don't allow water or any foreign object to get inside this unit.**
Don't place small metal objects or anything containing liquid on or near the unit.
- Avoid placement of the unit where it will be exposed to the direct rays of the sun, or where ventilation is inadequate.**
Don't place this unit in a bookcase or between cabinets, unless proper ventilation is provided, or where curtains or furniture may obstruct the ventilation holes.
- Place this unit away from heat-emitting appliances.**
Never place this unit on or near a radiator, heat register, stove, or any other heat-emitting equipment. (Including Amplifiers).
- Placement**
Place the unit on a stable, vibration-free, level shelf or stand.
- Use of a cart or stand.**
When deciding on a cart or stand, be sure to use only with the cart or stand recommended by the manufacturer.
- Wall or ceiling installation.**
If the unit is to be mounted on a wall or ceiling, be sure to do so only as recommended by the manufacturer.
- Check the voltage rating of this unit before connecting the unit to a power supply.**
Be sure to connect the unit only to the type of power supply indicated in the operating instructions, or as indicated on the unit itself.
- Care of the power cord and plug.**
Take care that the cord is not bent sharply (especially near its connection to the unit or near the plug), that nothing is placed on it, and that it is not pinched, or crushed. Never take hold of the plug or cord if your hand is wet, and always be sure to grasp the plug body when connecting or disconnecting it.
- If the unit will not be used for a long period of time:**
Be sure to disconnect the power cord.
- Maintenance**
Refer to the operating instructions for details.
- Never attempt repairs yourself:**
 - If the power cord or plug is damaged.
 - If a foreign object or liquid falls into the unit.
 - If the unit is exposed to rain.
 - If the unit does not function normally, or if operation shows an unusual change.
 - If the unit has been dropped and the cabinet or chassis is damaged . . . etc.

Unplug the power cord and consult with a qualified technician (or the dealer from whom the unit was purchased or the nearest servicenter).
- Repairs**
Except for adjustments explained in the operating instructions, do not attempt any repairs yourself. Be sure to request service from a qualified technician (or your dealer or nearest servicenter).

Features

1. Enormous 16 kg•cm starting torque

The motor is based on the design principles used in the highly accurate Technics SP-02 motor that drives record lathes used by many world-famous record companies. Starting torque is an incredibly high 16 kg•cm, over two and a half times more than in the Technics SP-10MK2. The high starting torque means the 10 kg. turntable platter reaches the rated speed of 33-1/3 rpm in a quarter of a second. This high power level also has the advantage of eliminating fluctuations in platter speed caused by load torques up to 10 kg•cm.

2. Massive 10 kg platter

The platter is a two-layer construction of die-cast aluminum and a copper alloy, giving it extra mass. The platter weighs 10 kg. (22 lbs.), enough to block out virtually all external vibrations. Its moment of inertia is an almost unheard of 1.1 ton•cm². To support this platter, the heavy duty spindle and bearing are made of specially hardened materials for long-lasting durability.

3. Quartz synthesizer control permits 597 discrete pitch control settings

The SP-10MK3 employs a quartz synthesizer system similar to that used in the popular SL-1300MK2 series turntables. This speed control system makes it possible to raise or lower platter speed by up to $\pm 9.9\%$ in quartz-controlled steps of 0.1%. With the three rated speeds (33, 45 and 78), this gives a total of 597 different speed settings. The strobe indicator lights green to show when the platter is rotating at one of the rated speeds. When the pitch is altered, the strobe indicator changes to orange and the strobe lines clearly show the progress of pitch adjustments.

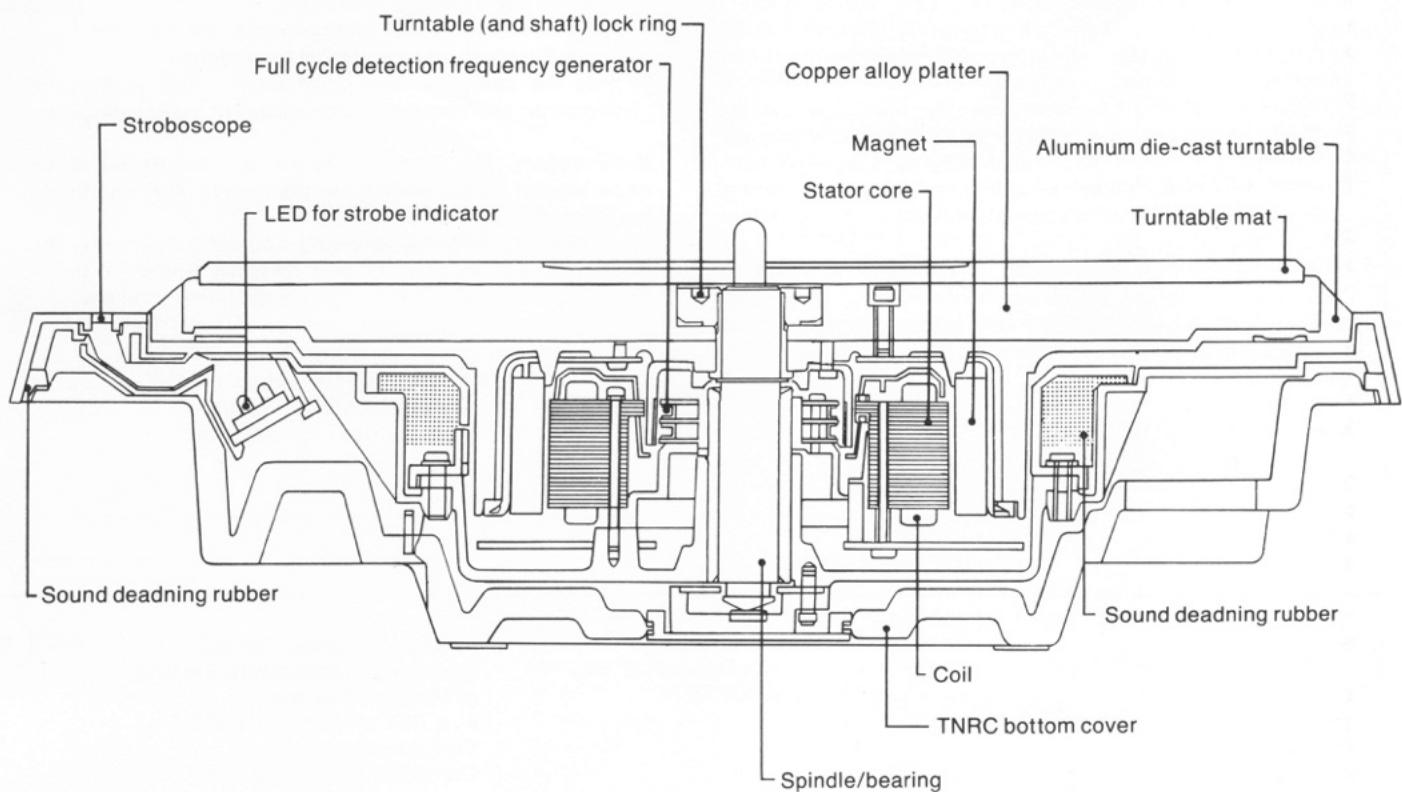
4. Separate control unit for remote operation

The power supply section and all turntable controls are in a separate control unit. Start, stop, speed selection and pitch control settings can be remote controlled from this unit.

5. Start-up time of only 0.25 seconds (33-1/3 rpm)

The powerful motor drives the platter to the speed you have set in a fraction of a second. Electronic and mechanical brakes are used to stop the platter in an instant.

Cross-section diagram



Specifications

■ General

Power supply: 120 V, AC 60 Hz
Power consumption: 35.5 W
Dimensions (H×W×D): (Turntable unit) 11.3×36.9×36.9 cm
4-7/16×14-17/32×14-17/32 inches
(Control unit) 9.6×16.6×41 cm
3-3/4×6-17/32×16-1/8 inches
Weight: 18 kg (40 lb) (Turntable unit)
6 kg (13 lb) (Control unit)

■ Turntable section

Type: Direct drive turntable with quartz synthesizer pitch control
Turntable platter: Copper alloy and die-cast aluminum diameter 32 cm (12-19/32"), weight 10 kg (22 lb)
Moment of inertia: 1.1 ton•cm² (1,100 kg•cm²)
Motor: Quartz-phase-locked, ultra-low speed, brushless DC motor

Turntable speeds: 33-1/3, 45 and 78.26 rpm
Turntable speed fine adjustment: Quartz locked, pitch adjustable in 0.1% steps up to ±9.9%
Starting torque: 16 kg•cm
Start-up time: 0.25 s. (33-1/3 rpm)
Braking time: 0.3 s. (33-1/3 rpm)
Speed fluctuation due to load torque: 0% within 10 kg•cm
Speed drift: Within ±0.001%
Wow and flutter: 0.015% WRMS (JIS C5521)
±0.021% weighted zero to peak (DIN 45500, IEC 98A weighted)
(System tested: SP-10MK3+ SH-10B5+EPA-250+ EPC-100CMK3)
Rumble: -92 dB DIN B (IEC 98A weighted)
-60 dB DIN A (IEC 98A unweighted)

Specifications subject to change without notice.

Note:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate the computer with respect to the receiver
- move the computer away from the receiver
- plug the computer into a different outlet so that the computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the

US Government Printing Office,
Washington, D.C., 20402,
Stock No. 004-000-00345-4.

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