

Service Manual

Technics
SL-Q3/K
Service Manual

A



Turntable System

SL-Q3

(XA), (XAL), (XGE), (E),
(XG), (XGF), (XGB)

SL-Q3K

(E), (XG)

- The model SL-Q3(XA) is available in Asia, Latin America, Middle East and Africa only.
- The model SL-Q3(XAL) is available in Australia only.
- The model SL-Q3(XGE) is available in United Kingdom only.
- The models SL-Q3 (E) and SL-Q3K (E) are available in Scandinavia only.
- The models SL-Q3 (XG) and SL-Q3K (XG) are available in European only.
- The model SL-Q3(XGF) is available in France only.
- The model SL-Q3(XGB) is available in Belgium only.

SPECIFICATIONS (Specifications are subject to change without notice.)

General

Power supply: ~110-120/220-240V, 50 or 60 Hz
Power consumption: 7.5 W
Dimensions: 43.0 x 13.0 x 37.5 cm
 (16-59/64" x 5-7/64" x 14-49/64")
Weight: 7.1 kg (15.7 lb.)

Turntable section

Type: Automatic turntable
 Auto start
 Auto return
 Auto stop
 Repeat play
Drive method: Direct drive
Motor: Brushless DC motor
Turntable platter: Aluminum die-cast
 Diameter 31.2 cm (12-9/32 inches)
Turntable speeds: 33-1/3 rpm and 45 rpm
Starting torque: 1 kg-cm (0.87 lb-in)
Build-up characteristics: 0.9 s. from standstill to 33-1/3 rpm
Speed change due to load torque: 0% within 0.7 kg-cm (0.61 lb-in)
Speed drift: Within $\pm 0.002\%$
Wow and flutter: 0.012% WRMS*
 0.025% WRMS (JIS C5521)
 $\pm 0.035\%$ peak (IEC 98A Weighted)

* This rating refers to turntable assembly alone, excluding effects of record, cartridge or tonearm, but including platter. Measured by obtaining signal from built-in frequency generator of motor assembly.

Rumble: -56 dB (IEC 98A Unweighted)
 -78 dB (IEC 98A Weighted)

Tonearm section

Type: Universal tonearm
Effective length: 230 mm (9-1/16")
Overhang: 15 mm (19/32")
Friction: Less than 7 mg (lateral, vertical)
Effective mass: 12 g (without cartridge)
Tracking error angle: Within $2^\circ 32'$ at the outer groove of 30 cm (12") record
 Within $0^\circ 32'$ at the inner groove of 30 cm (12") record
Offset angle: 22°

Stylus pressure adjustment range: 0 - 2.5 g
Applicable cartridge weight range: 6 - 9.5 g
 13.5 - 17 g (including headshell)
 3 - 6.5 g
 10.5 - 14 g (including headshell)
Headshell weight: 7.5 g

Cartridge section

Model No. EPC-207C
Type: Moving magnet
Frequency response: 20 Hz to 25 kHz
 20 Hz to 15 kHz ± 2 dB
 3 mV at 1 kHz
 5 cm/s. zero to peak lateral velocity
 [8.5 mV at 1 kHz 10 cm/s. zero to peak 45° velocity (DIN 45500)]
 25 dB at 1 kHz
Channel balance: Within 2 dB at 1 kHz
Compliance (dynamic): 10×10^{-6} cm/dyne at 100 Hz
Stylus pressure: 1.75 $\pm$ 0.25 g (17.5 $\pm$ 2.5 mN)
Load impedance: 47 k Ω to 100 k Ω
Weight: 5.6 g (cartridge only)
Replacement stylus: EPS-207ED (Elliptical stylus)

TECHNISCHE DATEN (Änderungen der technischen Daten vorbehalten.)

Allgemeine Daten

Stromversorgung: ~110-120/220-240V, 50/60 Hz
Leistungsaufnahme: 7,5 W
Abmessungen (B x H x T): 43,0 x 13,0 x 37,5 cm
Gewicht: 7,1 kg

Plattenspieler

Type: Automatischer Plattenspieler
 Startautomatik
 Rückführautomatik
 Stopautomatik
 Wiederhol-Betrieb
Antrieb: Direktantrieb
Motor: Kollektorloser Gleichstrommotor
Plattenteller: Aluminium-Spritzguß
 Durchmesser 31,2 cm
 33-1/3 und 45 U/min
Plattenteller-Drehzahlen: 1 kg-cm
Anlaufdrehmoment: 0,9 s. vom Stillstand auf
Drehzahl-Hochlaufzeit: 33-1/3 U/min

Drehzahl-Abweichung aufgrund von Lastschwankungen: 0% innerhalb 0,7 kg-cm
Drehzahl-Abweichung: Innerhalb $\pm 0,002\%$
Gleichlaufschwankungen: 0,012% WRMS*
 0,025% WRMS (JIS C5521)
 $\pm 0,035\%$ Spitze (IEC 98A bewertet)

* Diese Nennleistung bezieht sich auf das Laufwerk-Bauteil allein ausschließlich Einflüsse von Schallplatte, Tonabnehmer oder Tonarm aber einschließlich Plattenteller Gemessen anhand von Signalen vom eingebauten Frequenzgenerator des Motorbauteils.

Rumpel-Geräuschspannungsabstand: -56 dB (IEC 98A unbewertet)
Rumpel-Fremdspannungsabstand: -78 dB (IEC 98A bewertet)

Tonarm

Typ: Universal Tonarm
Effektive Länge: 230 mm
Überhang: 15 mm
Lagerreibung: Weniger als 7mg (horizontal, vertikal)
Effektive Masse: 12 g (ohne Tonabnehmer)
Spurfehlwinkel: $2^\circ 32'$ bei der Einlauffrille einer 30 cm-Platte
 $0^\circ 32'$ bei der Auslauffrille einer 30 cm-Platte
 22°

Kröpfungswinkel: 0 - 2,5 g
Auflagekraft-Einstellbereich: 6 - 9,5 g
Zulässiger Tonabnehmer-Gewichtsbereich: 13,5 - 17 g (einschließlich Tonarmkopf)
 3 - 6,5 g
 10,5 - 14 g (einschließlich Tonarmkopf)
 7,5 g

(mit Zusatzgewicht)

Tonarmkopf-Gewicht:

Tonabnehmer

Modell-Nummer: EPC-207C
Typ: Magnetischer Tonabnehmer
Frequenzgang: 20 Hz bis 25 kHz
 20 Hz bis 15 kHz ± 2 dB
 3 mV bei 1 kHz
Ausgangsspannung: 5 cm/s. Null-zu-Spitze, lateral
 [8,5 mV bei 1 kHz 10 cm/s. Null-zu-Spitze, 45° (DIN 45500)]
 25 dB bei 1 kHz
Kanaltrennung: Innerhalb 2 dB bei 1 kHz
Kanalabweichung: 10×10^{-6} cm/dyn bei 100 Hz
Nachgiebigkeit (dynamisch): 1,75 $\pm$ 0,25 g (17,5 $\pm$ 2,5 mN)
Auflagekraft: 47 k Ω bis 100 k Ω
Impedanz: 5,6 g (ohne Tonarmkopf)
Gewicht: 5,6 g (ohne Tonarmkopf)
Ersatznadel: EPS-207ED (Elliptische Nadel)

SPECIFICATIONS (Les spécifications sont susceptibles d'être modifiées sans préavis.)

Généralités

Alimentation: ~110-120/220-240V, 50 ou 60 Hz
Consommation: 7,5 W
Dimensions: (L H P) 43,0 x 13,0 x 37,5 cm
Poids: 7,1 kg

Platine de lecture

Type: Platine automatique
 Démarrage automatique
 Retour automatique
 Arrêt automatique
 Audition répétée
Système d'entraînement: Entraînement direct
Moteur: Moteur C.C. sans balai
Plateau de lecture: Aluminium moulé sous pression
 Diamètre 31,2 cm
 33-1/3 et 45 t.p.m.
Vitesses de rotation: 1 kg-cm
Couple de démarrage: 0,9 s. de l'arrêt à 33-1/3 t.p.m.
Caractéristiques d'augmentation: 0% en deçà de 0,7 kg-cm
Variation de vitesse due au couple de charge: 0% en deçà de 0,7 kg-cm
Déviations du nombre de tours: En deçà de $\pm 0,002\%$
Plourage et scintillement: 0,012% WRMS*
 0,025% de valeur efficace (JIS C5521)
 $\pm 0,035\%$ de crête (IEC 98A Pondéré)

* Ce régime nominal se rapporte à l'ensemble du tournedisque seul excluant les effets du disque, de la cellule pickup ou du bras de lecture, mais comprenant le plateau. Mesuré par l'obtention d'un signal provenant du générateur de fréquences incorporé de l'ensemble du moteur.
Ronflement: -56 dB (IEC 98A Non pondéré)
 -78 dB (IEC 98A Pondéré)

Bras de lecture

Type: Bras de lecture universel
Longueur effective: 230 mm
Porte-à-faux: 15 mm
Frottement: Moins de 7 mg (latéral et vertical)
Masse réelle: 12 g (sans la cellule pick-up)
Angle d'erreur de piste: En deçà de $2^\circ 32'$ au sillon extérieur d'un disque de 30 cm
 En deçà de $0^\circ 32'$ au sillon intérieur d'un disque de 30 cm
 22°

Angle de décalage: 0 - 2,5 g
Plage de réglage de la pression d'appui: 6 - 9,5 g
Gamme du poids de la cellule pick-up utilisable: 13,5 - 17 g
 (y compris la coque porte-cellule)
(avec contreponds de la cellule): 3 - 6,5 g
 10,5 - 14 g
 (y compris la coque porte-cellule)
 7,5 g

Poids de la cellule:

Cellule pick-up

No. du modèle: EPC-207C
Type: Aimant mobile
Réponse en fréquence: 20 Hz à 25 kHz
 20 Hz à 15 kHz ± 2 dB
 3 mV à 1 kHz; 5 cm/s. zéro à vitesse latérale de crête
 (8,5 mV à 1 kHz 10 cm/s., zéro à vitesse 45° de crête [DIN 45500])
 25 dB à 1 kHz
Séparation de canal: En deçà de 2 dB à 1 kHz
Equilibrage des canaux: 10×10^{-6} cm/dyne à 100 Hz
Elasticité (dynamique): 1,75 $\pm$ 0,25 g (17,5 $\pm$ 2,5 mN)
Pression de la pointe de lecture: 47 k Ω to 100 k Ω
Impédance de charge: 5,6 grammes (cellule seule)
Poids: EPS-207ED
Pointe de lecture de remplacement: (Forme elliptique)

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■ PARTS IDENTIFICATION

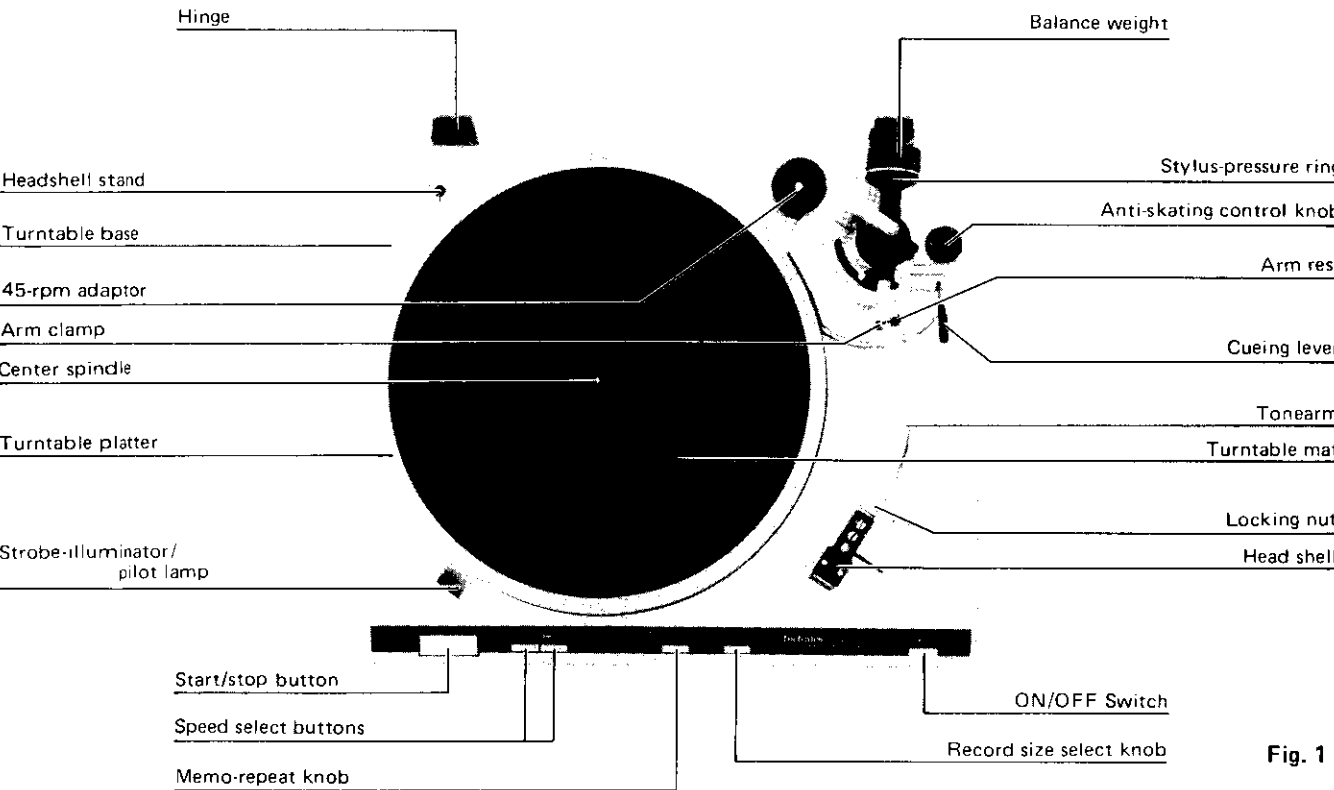


Fig. 1

■ FEATURES

- Front panel controls provide exceptional convenience
- Quartz-phase-locked direct drive plus full cycle F-G (Frequency Generator) and integral rotor-platter motor
- Precision aluminum diecast turntable base unique to Technics is used.
- "TNRC" base material provides an acoustic shield
**"TNRC" Technics Non-Resonance Compound
- Smooth braking is achieved with the fully electronic system, which also makes possible almost instantaneous speed change.
- Low-mass, low-friction gimbal suspension tone-arm
- Viscous-damped cueing
- Anti-skating control
- Hinged, detachable dust cover
- Auto-start, auto-stop, auto-return and programmable repeat play make the SL-Q3 a Pleasure to use.
Since everything is automatic, you don't need to touch the tonearm unless you want to move to a particular cut on the record.
The "memo-repeat" feature allows you to repeat a record up to six times, or indefinitely if you prefer, you can operate the SL-Q3 as a manual turntable, using the cueing control.

■ DISASSEMBLY PROCEDURE

How to remove bottom board

1. Remove head shell and turntable.
2. Secure arm with arm clamp.
3. Turn the set upside-down taking care not to damage dust cover.
4. Remove 4 setscrews ③. (See Fig. 2)

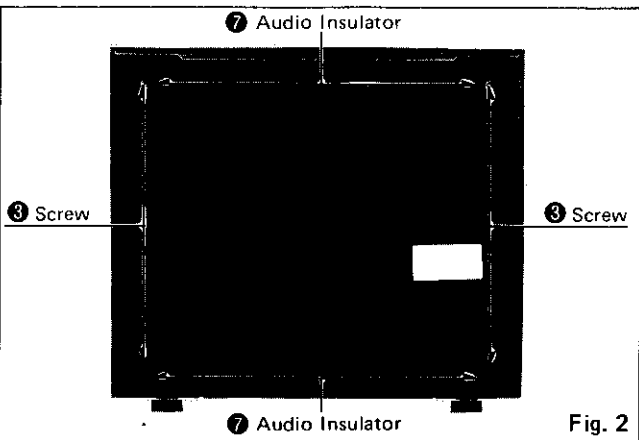


Fig. 2

How to remove stater frame ass'y and FG detector coil ass'y

1. Remove the bottom board.
2. Remove 7 setscrews ②, ④ of the drive P.C.B. and auto mechanism ass'y. (See Fig. 3)
3. Remove 3 setscrews ① of the stater frame cover, (See Fig. 4)
4. Remove soldering at each coil of the stater frame. (See Fig. 5)

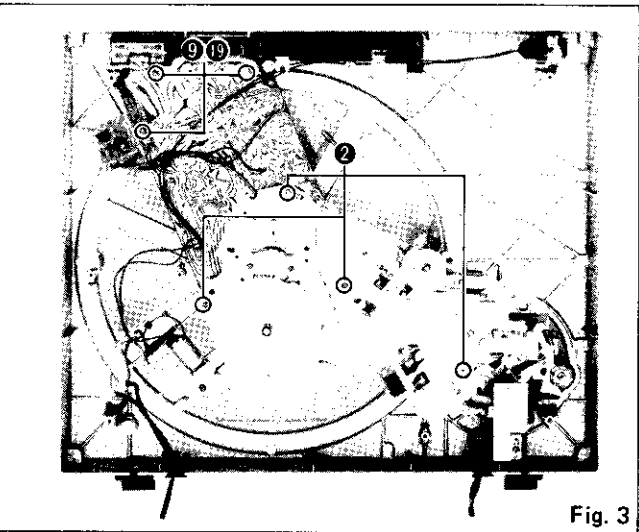


Fig. 3

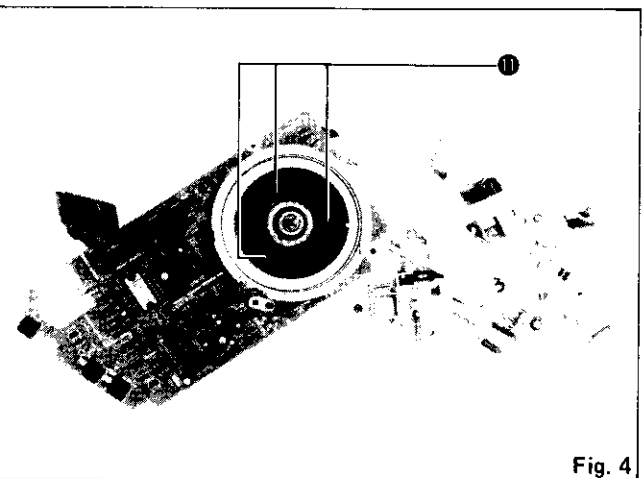


Fig. 4

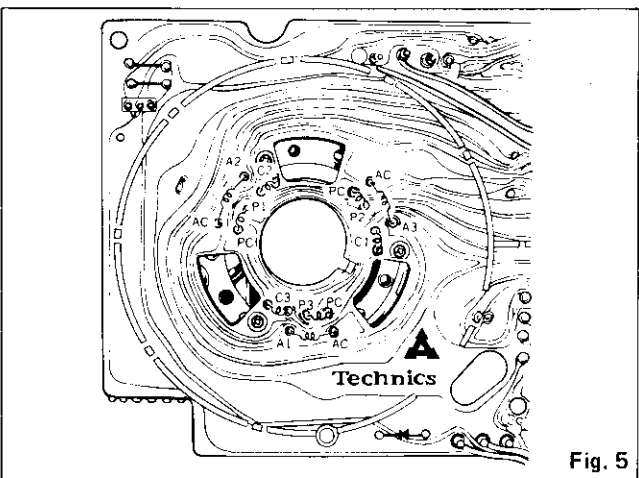
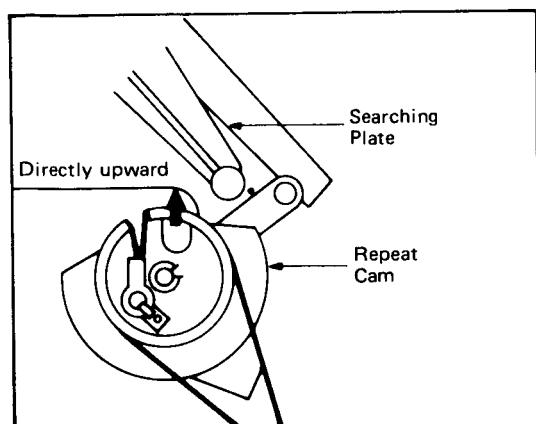


Fig. 5

Remarks:

For the disassembly of parts other than the above, refer to the parts arrangement and development diagrams provided in this manual.

■ DIAL DRIVE MECHANISM DIAGRAM



Set the cord according to following procedure.

1. Link the hook of the cord onto the projection of the cam.
2. Hold the spring-attached side of the cord with the right hand, and wind it around the repeat cam twice, and then set the cord in accordance with steps 1 – 4.
3. Adjust so that the repeat cam and searching plate are positioned as illustrated. Set the memo-repeat knob to the "0" position and secure it there.

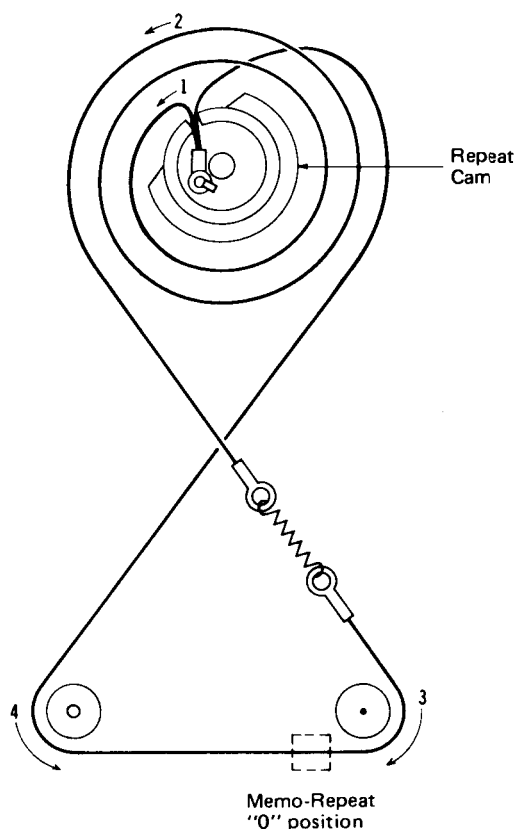


Fig. 6

Adjustment of overhang (See Fig. 7.)

1. Insert the headshell into the gauge.
2. Loosen the mounting screws and move the cartridge forward or backward until the stylus tip lines up with the edge of the gauge.
3. Tighten the mounting screws without moving the cartridge.

Note:

Your cartridge is now adjusted for lowest tracking error and minimum distortion.

This gauge is exclusively designed for this tonearm.

Lubrication (See Fig. 8.)

Apply 2 or 3 drops of oil once after every 2000 hours of operation.

The time interval is much longer than that for conventional type motors (200~500 hours).

Please purchase original oil. (Part number is SFWO 010.)

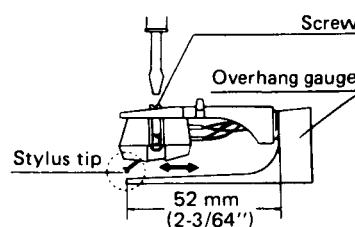


Fig. 7

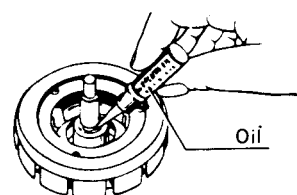


Fig. 8

■ PARTS ARRANGEMENT DIAGRAM

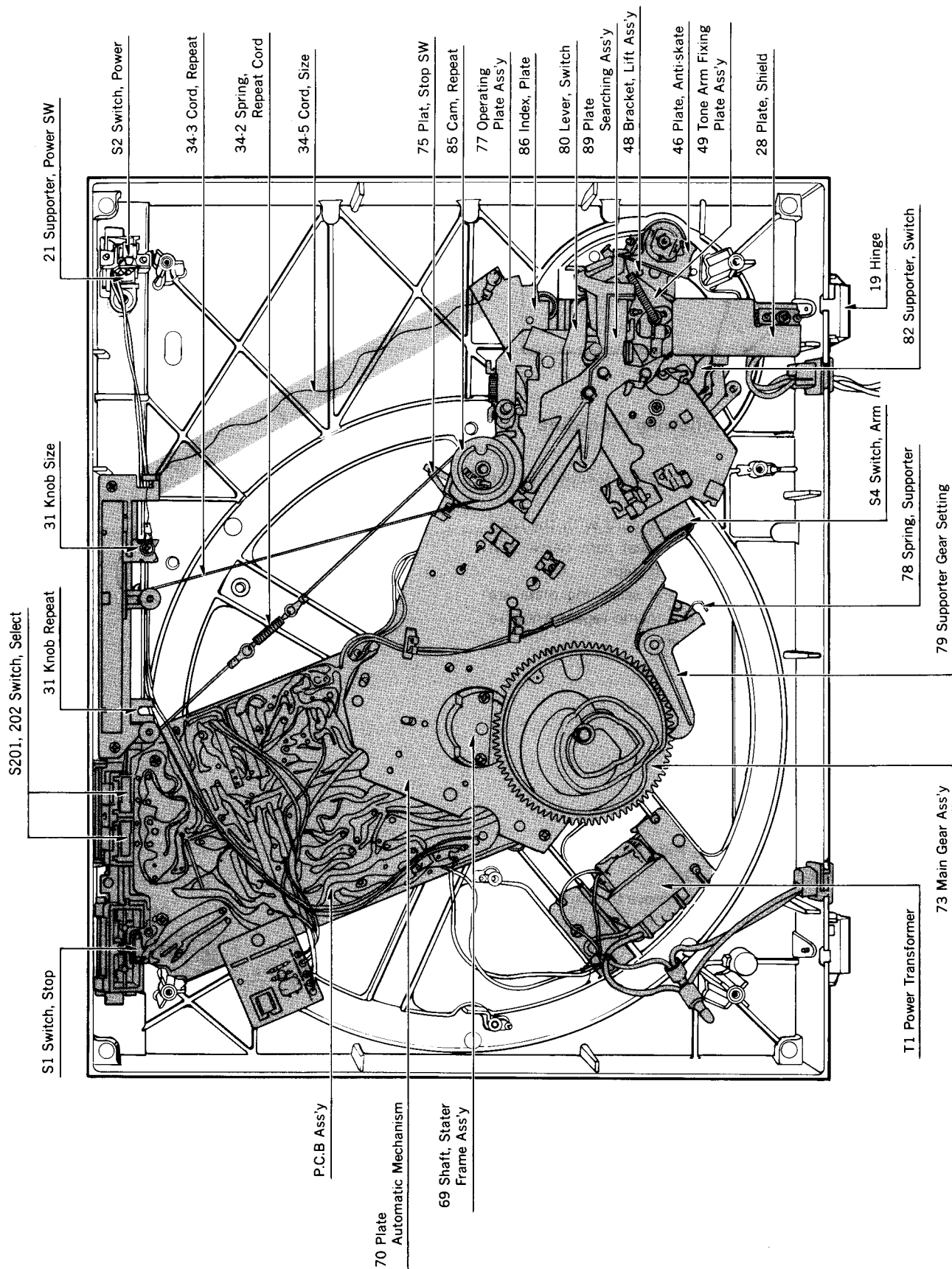


Fig. 9

■ HOW TO OPERATE

● Manual play of record

1. Place a record on the turntable mat.
2. Set the on/off switch to the "on" position (▲). (See Fig. 10.)

Both the LED at the speed select button 33 (33-1/3 rpm) and the strobe-illuminator should be illuminated.

Note:

Since the unit has been designed to select 33-1/3 rpm automatically each time you push the on/off switch to "on", push the 45 rpm speed select button if you play a 45-rpm record. (See Fig. 11)

3. Remove the stylus protector, if your cartridge has a detachable one.
4. Release the arm clamp.
5. Set the cueing lever to the up position. (See Fig. 12.)
6. Move the tonearm over the desired groove.

The turntable platter will start to rotate.

7. Set the cueing lever to the down position. (See Fig. 13.)

The tonearm will descend slowly onto the record and play will begin.

If the unit is not to be used for some time set the on/off switch to the "off" position.

Attach the stylus protector, if you have one, to guard the stylus tip from damage.

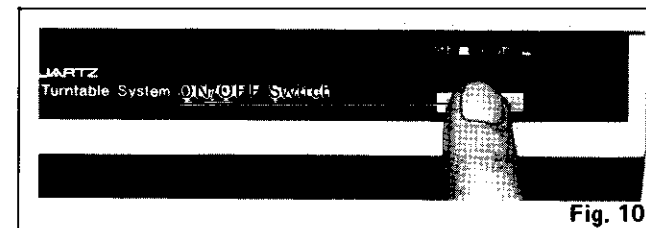


Fig. 10



Fig. 11



Fig. 12



Fig. 13

● Automatic play

1. Set the speed select button in the same manner as in manual play and release the arm clamp.
2. Set the record size select knob to the diameter of the record (7" [17 cm], 10" [25 cm], or 12" [30 cm]) you wish to play. (See Fig. 14.)

3. Push the start/stop button. (See Fig. 15.)

Note:

The tonearm will move automatically over the lead-in groove and descend slowly onto the record (auto-start). Play will begin.

4. When play has finished, the tonearm will automatically return to the arm rest (auto-return).

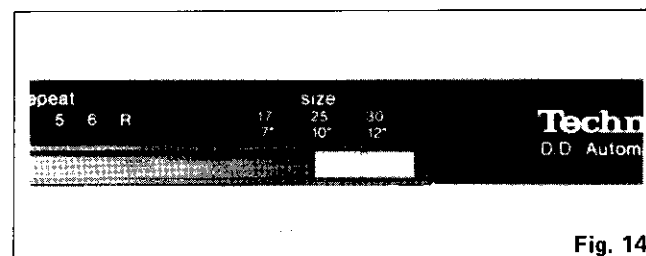


Fig. 14

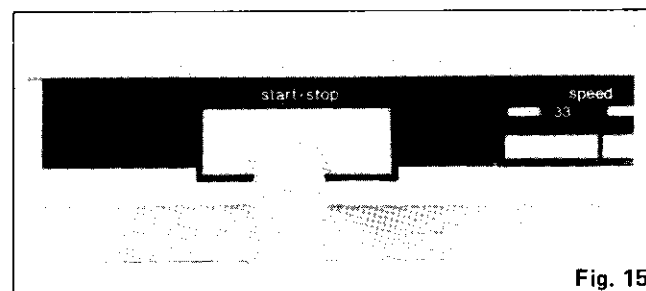


Fig. 15

● Repeat play of a record

1. Set the "memo-repeat" knob to the desired number of times you wish to play.

"R" position enables you to repeat play continuously. (See Fig. 16.)

Note:

The "memo-repeat" Knob may be set to a desired number, except during automatic start or automatic return cycle.

If you start play manually while the "memo-repeat" knob is set to a number, there will be an additional repeat play.

2. Start play in the same way as for automatic play.

● How to stop play

Push the start/stop button.

The tonearm automatically returns to the arm rest, and the turntable stops rotating.

Note:

Before you operate the start/stop button, make sure that the "memo-repeat" knob is set at the "0" position.

If this knob is set at any position other than "0", the repeat play is continued by the number of times indicated, even if you push the start/stop button.

● How to suspend play

Set the cueing lever to the "up" position.

The stylus tip of the cartridge will be lifted from the record.

● When you play a 45-rpm record with a large center hole

Place the 45-rpm adaptor on the center spindle. Set the speed select button to the "45" position.

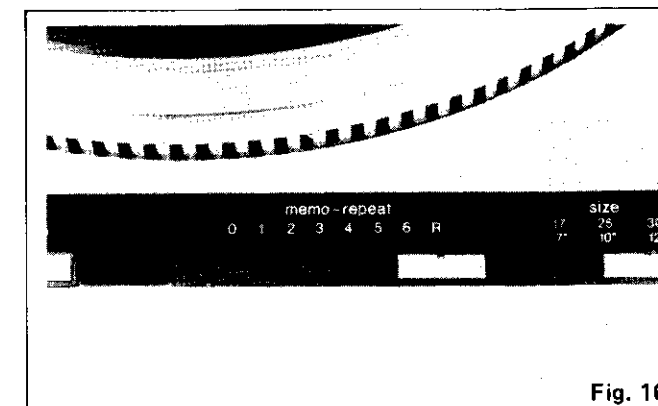


Fig. 16

NOTE:

■ ADJUSTMENTS

Adjustment of arm-lift height (See Figs. 17 and 18.)

The arm-lift height (distance between the stylus tip and record surface when cueing lever is at the up position) has been adjusted at the factory before shipment to approximately 5 to 10 mm.

For using different cartridges available on the market or when further adjustments are particularly necessary, make adjustment as follows:

1. Move the tonearm toward the center spindle.
Attach the stylus protector, if available, to guard the stylus tip from damage.
2. Turn the adjustment screw clockwise or counter-clockwise, while pushing the arm lift down.

Clockwise rotation

—distance between the record and stylus tip is reduced.

Counterclockwise rotation

—distance between the record and stylus tip is increased.

Note:

As the adjusting screw has a hexagonal head, be sure to make the adjustment while depressing the arm lift, or the screw will not move freely.

Also be sure that the hexagonal head retracts correctly into the arm lift when the latter is released.

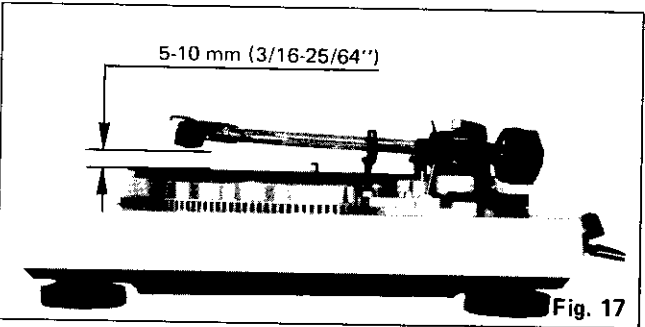


Fig. 17

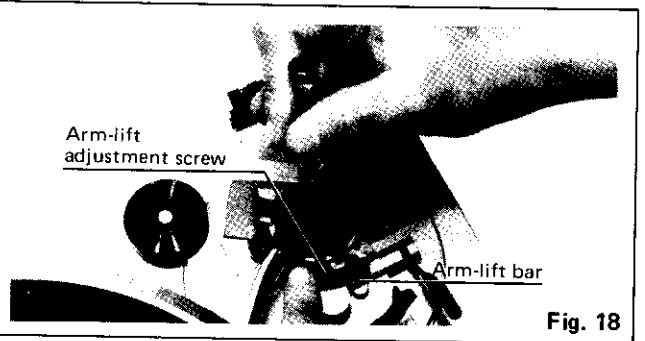


Fig. 18

Adjustment for automatic start position (See Fig. 19.)

(Remove the rubber cap.)

In cases where the stylus tip sets down outside of the record —**Rotate clockwise.**

In cases where the stylus tip sets down too far in the recorded groove —**rotate counterclockwise.**

Adjustment for automatic return position (See Fig. 19.)

(Remove the turntable mat.)

In cases where the tonearm tends to return before the playing has finished. —**rotate clockwise.**

—**rotate counterclockwise.**

In cases where the tonearm fails to return after the last-groove of the record has been played. —**rotate counterclockwise.**

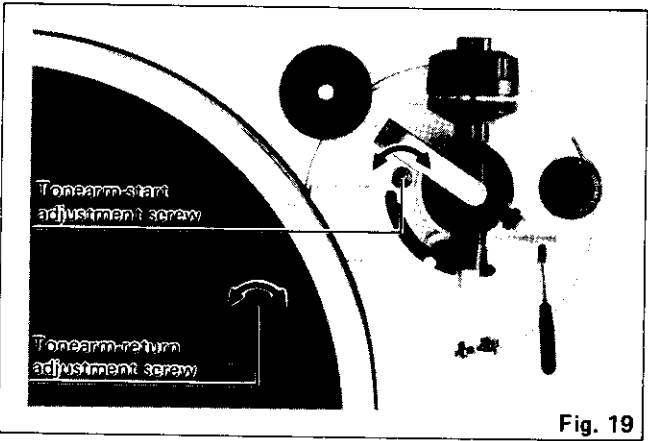


Fig. 19

■ REFERENCE VOLTAGE AND WAVEFORM AT EACH IC PIN AND TEST POINT

IC201 AN6680

	START	STOP
①	2.5V	2.5V
②		
③		

④		
⑤		
⑥	3.5V	3.5V

IC201 AN6680

	START	STOP
⑦		
⑧	0V	0V
⑫	0V	0V

	START	STOP
⑬		0.2V
⑭		
⑮		8V
⑯	5.2V	
⑰	5.2V	5.2V

⑨	10.2V	10.2V
⑩	9.0V	9.0V
⑪		

	START	STOP
⑱		2.4V
⑲	7V	0V
⑳	0.4V	6.2V
㉑	1.8V	0.2V
㉒	3V	3.2V
㉓		3.2V

IC101 AN6675

	START	STOP
①		0.2V
②		0.2V
④		0V
⑨		0V
⑩		2.5V
⑫		2.5V
⑮		2.5V
⑱		
㉑		
㉒		
㉓		

	START	STOP
③	0V	0V
⑦	0V	0V
⑬	0V	0V
④	2.8V	0.2V
⑤	5.2V	5V
⑧	5.2V	5V
⑥	5.2V	6.8V
⑰	6.8V	6.8V
⑲	12V	12V
㉑	12V	12V
㉒	12V	12V
㉓	2V	0.2V

■ JUSTIERUNGEN

Justierung der Tonarmlifthöhe (Vgl. Abb. 25 und 26.)

Die Tonarmlifthöhe, d.h. der Abstand zwischen Nadelspitze und Schallplattenoberfläche bei angehobenem Lift-Hebel, ist werkseitig auf 5 – 10 mm eingestellt worden.

Wenn Sie einen anderen Tonabnehmertyp verwenden, oder, wenn weitere Justierungen unbedingt nötig sind, nehmen Sie die Justierungen auf folgende Weise vor:

1. Schwenken Sie den Tonarm gegen die Plattentellerachse.

Setzen Sie den Nadelschutz auf, damit die Nadelspitze vor Beschädigung geschützt wird.

2. Drehen Sie die Justierschraube im Uhrzeiger- oder Gegenuhrzeigersinn, während Sie die Tonarmliftführung nach unten drücken.

Drehung im Uhrzeigersinn

—Der Abstand wird kleiner

Drehung im Gegenuhrzeigersinn

—Der Abstand wird größer

Anmerkung:

Da die Justierschraube einen Sechskantkopf hat, muß die Tonarmliftführung während des Justierens unbedingt gedrückt gehalten werden, damit sich die Schraube leicht drehen läßt.

■ REGLAGES

Mise au point de la hauteur de l'élévateur du bras (Voir Fig.s 25 et 26.)

La hauteur de l'élévateur du bras (distance entre l'extrémité de la pointe de lecture et la surface du disque, lorsque le levier de pose et de relevage du bras est à la position vers le haut) a été réglée en usine avant son départ sur approximativement 5 à 10 mm.

Pour l'utilisation des diverses cellules pick-up disponibles sur le marché ou lorsque des mises au point ultérieures sont particulièrement nécessaires, faire les réglages d'après ce qui suit:

1. Déplacer le bras de lecture vers le pivot central.
Fixer le capot protecteur de la pointe de lecture, s'il en existe un, pour protéger l'extrémité de la pointe d'une éventuelle détérioration.

2. Tourner la vis de réglage dans le sens des aiguilles d'une montre ou dans le sens inverse, tout en abaissant l'élévateur du bras.

Rotation dans le sens des aiguilles d'une montre.

—La distance entre la surface du disque et l'extrémité de la pointe de lecture diminue.

Rotation dans le sens contraire des aiguilles d'une montre.

—La distance entre la surface du disque et l'extrémité de la pointe de lecture augmente.

Justierung des Tonarmaufsetzpunktes der Automatik (Vgl. Abb. 27.)

(Die Gummikappe abnehmen)

Falls der Aufsetzpunkt außerhalb der Platte liegt.

—Im Uhrzeigersinn drehen.

Falls der Aufsetzpunkt im Wiedergabeteil der Schallplatte liegt.

—Im Gegenuhrzeigersinn drehen.

Justierung des Abschaltpunktes der Automatik (Vgl. Abb. 27.)

(Die Plattentellerauflage abnehmen.)

Falls der Tonarm zu früh zurückkehrt.

—Im Uhrzeigersinn drehen.

Falls der Tonarm nach Erreichen der Auslaufrille nicht zurückkehrt.

—Im Gegenuhrzeigersinn drehen.

Nota:

Comme la vis de réglage possède une tête hexagonale, s'assurer d'effectuer la mise au point tout en abaissant l'élévateur du bras, sinon la vis ne bougera pas librement.

Mise au point pour une position de marche automatique. (Voir Fig. 27.)

(Retirer le capuchon en caoutchouc.)

Dans le cas où la tête de la pointe de lecture s'abaisse en dehors du disque.

—Déplacer dans le sens des aiguilles d'une montre.

Dans le cas où la tête de la pointe de lecture s'abaisse trop loin du sillon enregistré.

—Déplacer dans le sens contraire des aiguilles d'une montre.

Mise au point pour une position de retour automatique (Voir Fig. 27.)

(Retirer le tapis du plateau de lecture.)

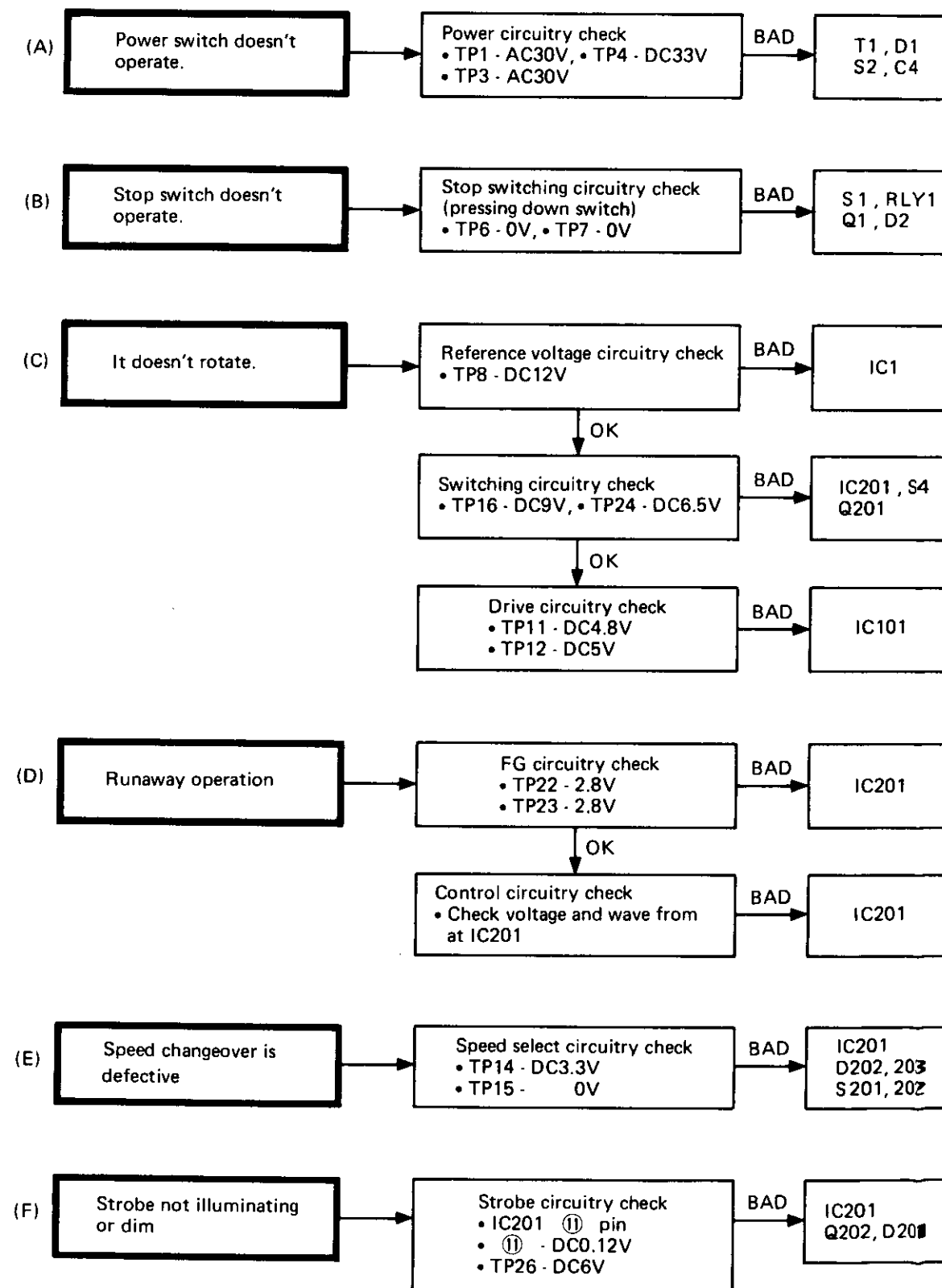
Dans le cas où le bras de lecture tend à revenir avant que l'audition ne soit terminée.

—Déplacer dans le sens des aiguilles d'une montre.

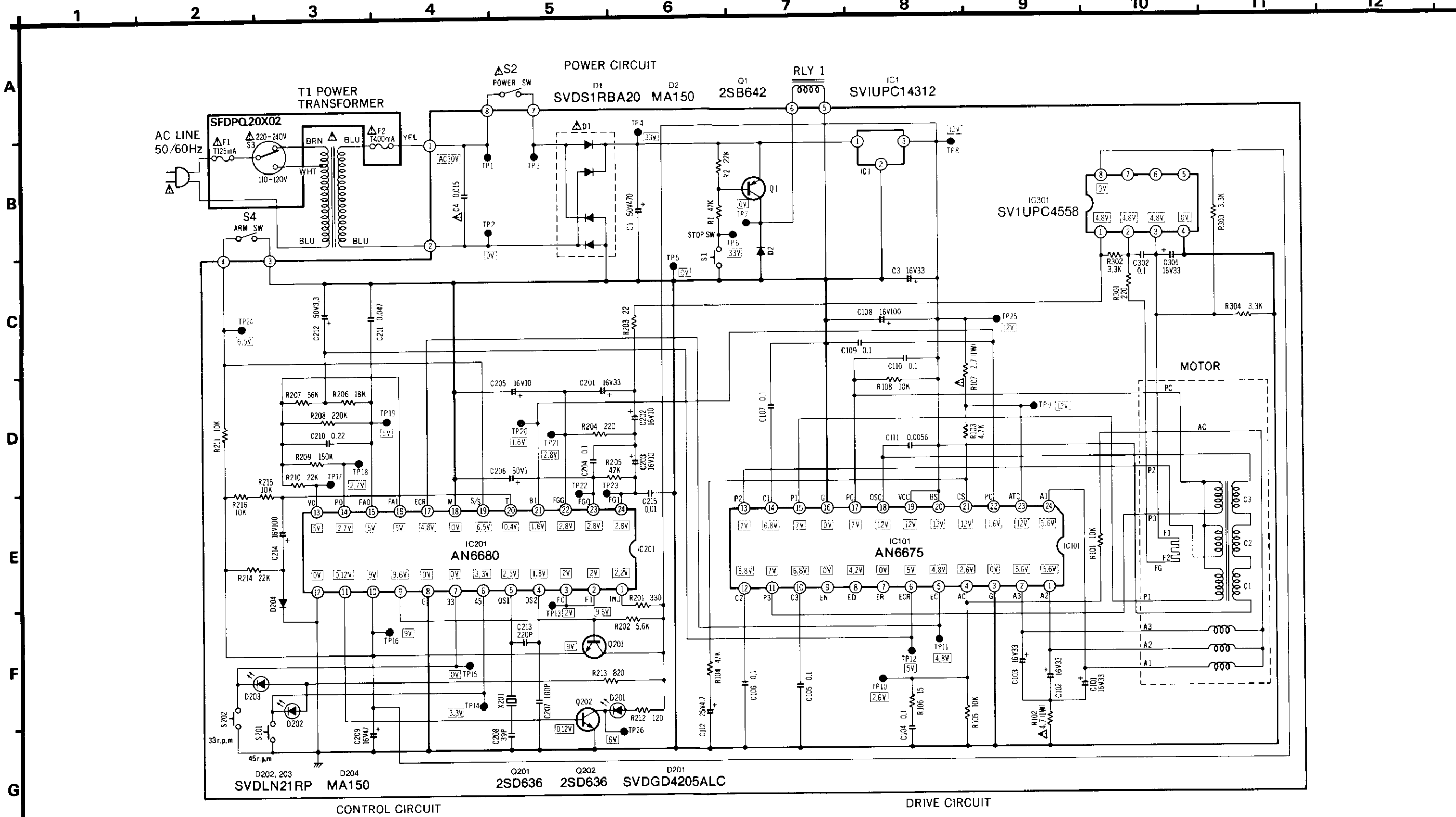
Dans le cas où le bras de lecture ne peut revenir en arrière après que le dernier sillon du disque ait été joué.

—Déplacer dans le sens contraire des aiguilles d'une montre.

■ TROUBLE SHOOTING



Schematic Diagram (This schematic diagram may be at any time with the development of new technology.)



- Notes:
1. S1 : Stop switch in "OFF" position.
 2. S2 : Power switch in "OFF" position.
 3. S3 : Power selector switch in "220~240V" position.
 4. S4 : Arm switch in "OFF" position.
 5. S201 : Speed select switch (45 r.p.m.) in "OFF" position.
S202 : Speed select switch (33 r.p.m.) in "OFF" position.
 6. The voltage values are those measured on DC Voltmeter at 33-1/3 r.p.m.
For the voltage and waveform at each IC pin, refer to page.
 7. To represent transistors, Q is used instead of TR. (Ex. TR1→Q1)

Service Manual

Turntable System

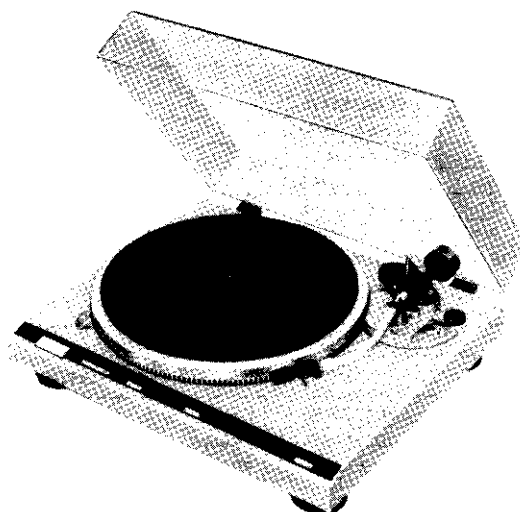
SL-Q3

[ES], [XFE]

SL-Q3K

[FEE]

Supplement



Areas

- * [ES] is available in European Military.
- * [XFE] is available in far East PX.
- * [FEE] is available in European Audio Club.

The circuit has been partially changed for the purpose of improvement. Accordingly, the Supplement Service Manual is issued, containing the schematic diagram, printed circuit board wiring view, and electrical parts list for after-change use.

- Notes:**
- * This supplement service manual includes on the changes of the **SL-Q3/SL-Q3K** service manual (ORDER NO. SD7906-1578 and ORDER NO. SD7906-1579).
 - * This supplement service manual should be filed with the service manual for model **SL-Q3/SL-Q3K** (ORDER NO. SD7906-1578 and ORDER NO. SD7906-1579).
 - * When servicing model **SL-Q3/SL-Q3K** this supplement service manual should be used together.

Technics

Panasonic Tokyo
Matsushita Electric Industrial Co., Ltd.
1-2, 1-chome, Shibakoen, Minato-ku, Tokyo 105 Japan

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

CHANGES

■ REPLACEMENT PARTS LIST...Electrical Parts

Notes: 1. Part number are indicated on most mechanical parts.

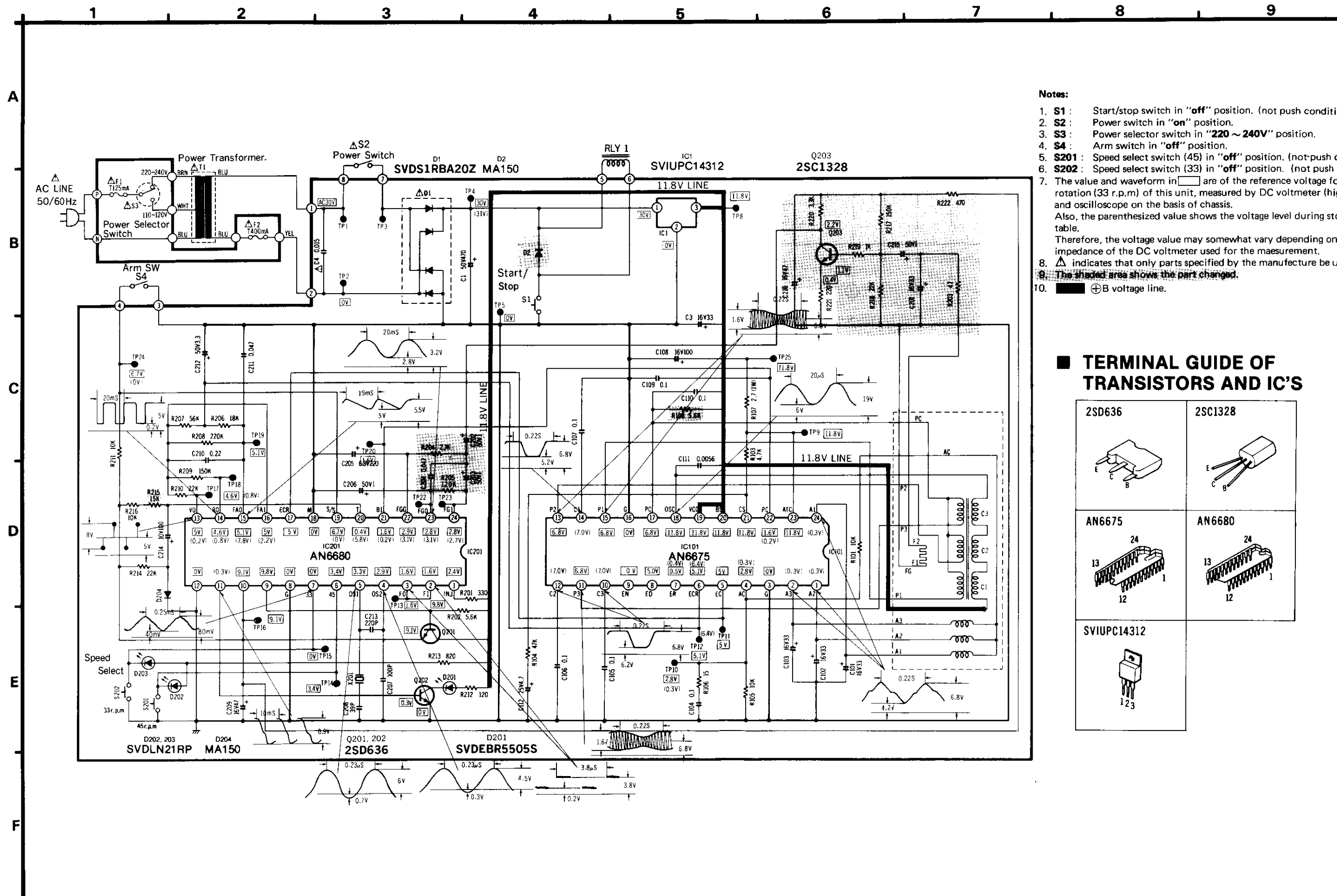
Please use this part number for parts orders.

2. ▲ indicates that only parts specified by the manufacture be used for safety.

Ref. No.	Change of Part No.		Part Name & Description
	SL-Q3 (OLD)	➡ SL-Q3 (NEW)	
INTEGRATED CIRCUITS			
IC1		SVIUPC14312	Integrated Circuit (Reference Voltage)
IC101		AN6675	Integrated Circuit (Drive)
IC201		AN6680	Integrated Circuit (Control)
IC301		SVIUPC4558C	Deletion
TRANSISTORS			
Q1		2SB642	Deletion
Q201, 202		2SD636	Transistor
Q203		Addition	2SC1328-T Transistor
DIODES			
D1	▲	SVDS1RBA20	SVDS1RBA20Z Rectifier
D2, 204		MA150	MA162A Diode
D201		SVDGD4205ALC	SVDEBR5505S Light Emitting Diode
D202, 203		SVDLN21RP	LN21RP Light Emitting Diode
TRANSFORMER			
T1	▲	SLT41D27E	SLT41D27F Power Transformer
CRYSTAL			
X201		SVQU306115	Crystal 4.19328MHz Oscillator
SWITCHES			
S1		EVQP5R04K	Switch, Stop
S2	▲	EBS6237	Switch, Power
S3	▲	SFDSHXW13312	Switch, Power Selector
S4		SFDSA74403	Switch, Arm
S201, 202		EVQP5R04K	Switch, Speed Select
RELAY			
RLY1		SFDZQ20-03A	Plunger
FUSE			
F1	▲	XBA2C012TR0	Fuse, T120mA
F2	▲	XBA2C04TR0	Fuse, T400mA
CAPACITORS			
C1		ECEB1HS471	Electrolytic, 470μF, 50V
C3		ECEA1CS330	Electrolytic, 33μF, 16V
C4	▲	ECQM1H153KZ	Polyester, 0.015μF, 50V, ± 10%
C101~103		ECEA1CS330	Electrolytic, 33μF, 16V
C104~107		ECQM1H104KZ	Polyester, 0.1μF, 50V, ± 10%
C108		ECEA1ES101	Electrolytic, 100μF, 25V
C109, 110		ECQM1H104KZ	Polyester, 0.1μF, 50V, ± 10%
C111		ECQM1H562KZ	Polyester, 0.0056μF, 50V, ± 10%
C112		ECEA25Z4R7	Electrolytic, 4.7μF, 25V
C201		ECEA1CS330	Electrolytic, 33μF, 16V
C202, 203		ECEA1HS100	ECEA50Z1 Electrolytic, 1μF, 50V
C204		ECQM1H104KZ	ECQM1H473KZ Polyester, 0.047μF, 50V, ± 10%

Ref. No.	Change of Part No.		Part Name & Description
	SL-Q3 (OLD)	SL-Q3 (NEW)	
C205	ECEA1AS221		Electrolytic, 220μF, 10V
C206	ECEA50Z1		Electrolytic, 1μF, 50V
C207	ECCD1H101K		Ceramic, 100pF, 50V, ± 10%
C208	ECCD1H390K		Ceramic, 39pF, 50V, ± 10%
C209	ECEA1ES470		Electrolytic, 47μF, 25V
C210	ECQM1H224KZ		Polyester, 0.22μF, 50V, ± 10%
C211	ECQM1H473KZ		Polyester, 0.047μF, 50V, ± 10%
C212	ECEA50Z3R3		Electrolytic, 3.3μF, 50V
C213	ECCD1H221K		Ceramic, 220pF, 50V, ± 10%
C214	ECEA1ES101	ECEA1AS101	Electrolytic, 100μF, 10V
C215	ECQM1H103KZ	ECEA50Z1	Electrolytic, 1μF, 50V
C216	Addition	ECEA1ES470	Electrolytic, 47μF, 25V
C301	ECEA1CS330	Deletion	
C302	ECQM1H104KZ	Deletion	
RESISTORS			
R1	ERD25TJ473	Deletion	
R2	ERD25TJ223	Deletion	
R101	ERD25TJ103	ERD25FJ103	Carbon, 10kΩ, 1/4W, ± 5%
R102	ERX1ANJ4R7	Deletion	
R103	ERD25TJ472	ERD25FJ472	Carbon, 4.7kΩ, 1/4W, ± 5%
R104	ERD25TJ473		Carbon, 47kΩ, 1/4W, ± 5%
R105	ERD25TJ103	ERD25FJ103	Carbon, 10kΩ, 1/4W, ± 5%
R106	ERD25TJ150	ERD25FJ150	Carbon, 15Ω, 1/4W, ± 5%
R107	ERX1ANJ2R7		Metallic, 2.7Ω, 1W, ± 5%
R108	ERD25TJ103	ERD25FJ562	Carbon, 5.6kΩ, 1/4W, ± 5%
R201	ERD25TJ331	ERD25FJ331	Carbon, 330Ω, 1/4W, ± 5%
R202	ERD25TJ562	ERD25FJ562	Carbon, 5.6kΩ, 1/4W, ± 5%
R203	ERD25TJ220	ERD25FJ470	Carbon, 47Ω, 1/4W, ± 5%
R204	ERD25TJ221	ERD25FJ272	Carbon, 2.7kΩ, 1/4W, ± 5%
R205	ERD25TJ822	ERD25TJ124	Carbon, 120kΩ, 1/4W, ± 5%
R206	ERD25TJ183		Carbon, 18kΩ, 1/4W, ± 5%
R207	ERD25TJ563		Carbon, 56kΩ, 1/4W, ± 5%
R208	ERD25TJ224		Carbon, 220kΩ, 1/4W, ± 5%
R209	ERD25TJ154		Carbon, 150kΩ, 1/4W, ± 5%
R210	ERD25TJ223		Carbon, 22kΩ, 1/4W, ± 5%
R211	ERD25TJ103	ERD25FJ103	Carbon, 10kΩ, 1/4W, ± 5%
R212	ERD25TJ121	ERD25FJ121	Carbon, 120Ω, 1/4W, ± 5%
R213	ERD25TJ821	ERD25FJ821	Carbon, 820Ω, 1/4W, ± 5%
R214	ERD25TJ223		Carbon, 22kΩ, 1/4W, ± 5%
R215	ERD25TJ103	ERD25TJ153	Carbon, 15kΩ, 1/4W, ± 5%
R216	ERD25TJ103	ERD25FJ103	Carbon, 10kΩ, 1/4W, ± 5%
R217	Addition	ERD25TJ154	Carbon, 150kΩ, 1/4W, ± 5%
R218	Addition	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%
R219	Addition	ERD25FJ102	Carbon, 1kΩ, 1/4W, ± 5%
R220	Addition	ERD25FJ332	Carbon, 3.3kΩ, 1/4W, ± 5%
R221	Addition	ERD25FJ221	Carbon, 220Ω, 1/4W, ± 5%
R222	Addition	ERD25FJ471	Carbon, 470Ω, 1/4W, ± 5%
R301	ERD25TJ221	Deletion	
R302~304	ERD25TJ332	Deletion	

■ SCHEMATIC DIAGRAM (This schematic diagram may be modified at any time with the development of new technology.)



Notes:

1. **S1** : Start/stop switch in "off" position. (not push condition)
2. **S2** : Power switch in "on" position.
3. **S3** : Power selector switch in "220 ~ 240V" position.
4. **S4** : Arm switch in "off" position.
5. **S201** : Speed select switch (45) in "off" position. (not-push condition)
6. **S202** : Speed select switch (33) in "off" position. (not push condition)
7. The value and waveform in are of the reference voltage for the turntable rotation (33 r.p.m) of this unit, measured by DC voltmeter (high impedance) and oscilloscope on the basis of chassis.
Also, the parenthesized value shows the voltage level during stop of the turntable.
Therefore, the voltage value may somewhat vary depending on the internal impedance of the DC voltmeter used for the measurement.
8. **Δ** indicates that only parts specified by the manufacture be used for safety.
9. The shaded area shows the part changed.
10. ⊕ B voltage line.

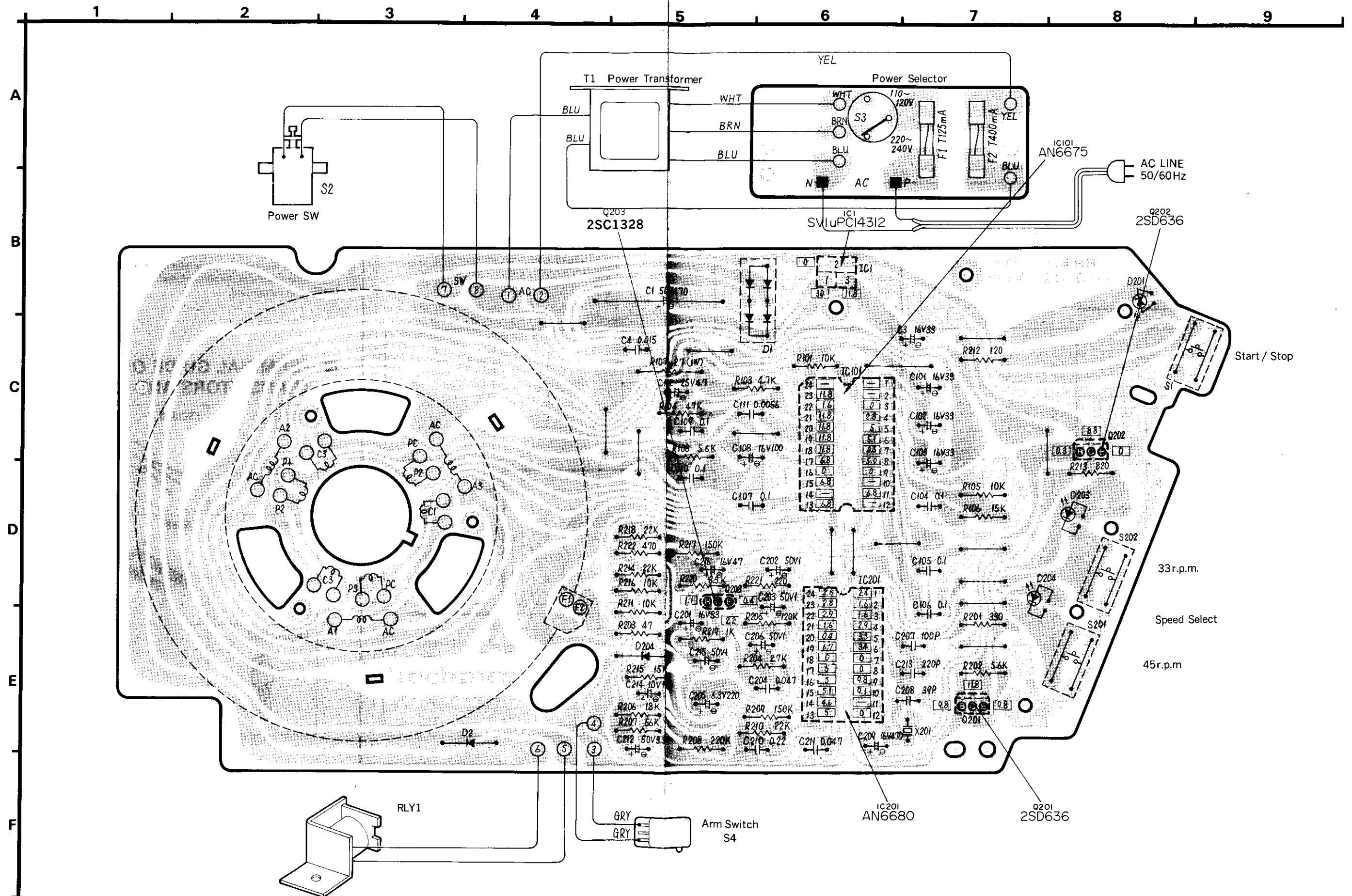
■ TERMINAL GUIDE OF TRANSISTORS AND IC'S

2SD636 	2SC1328
AN6675 	AN6680
SVIUPC14312 	

SL-Q3/K SL-Q3/K

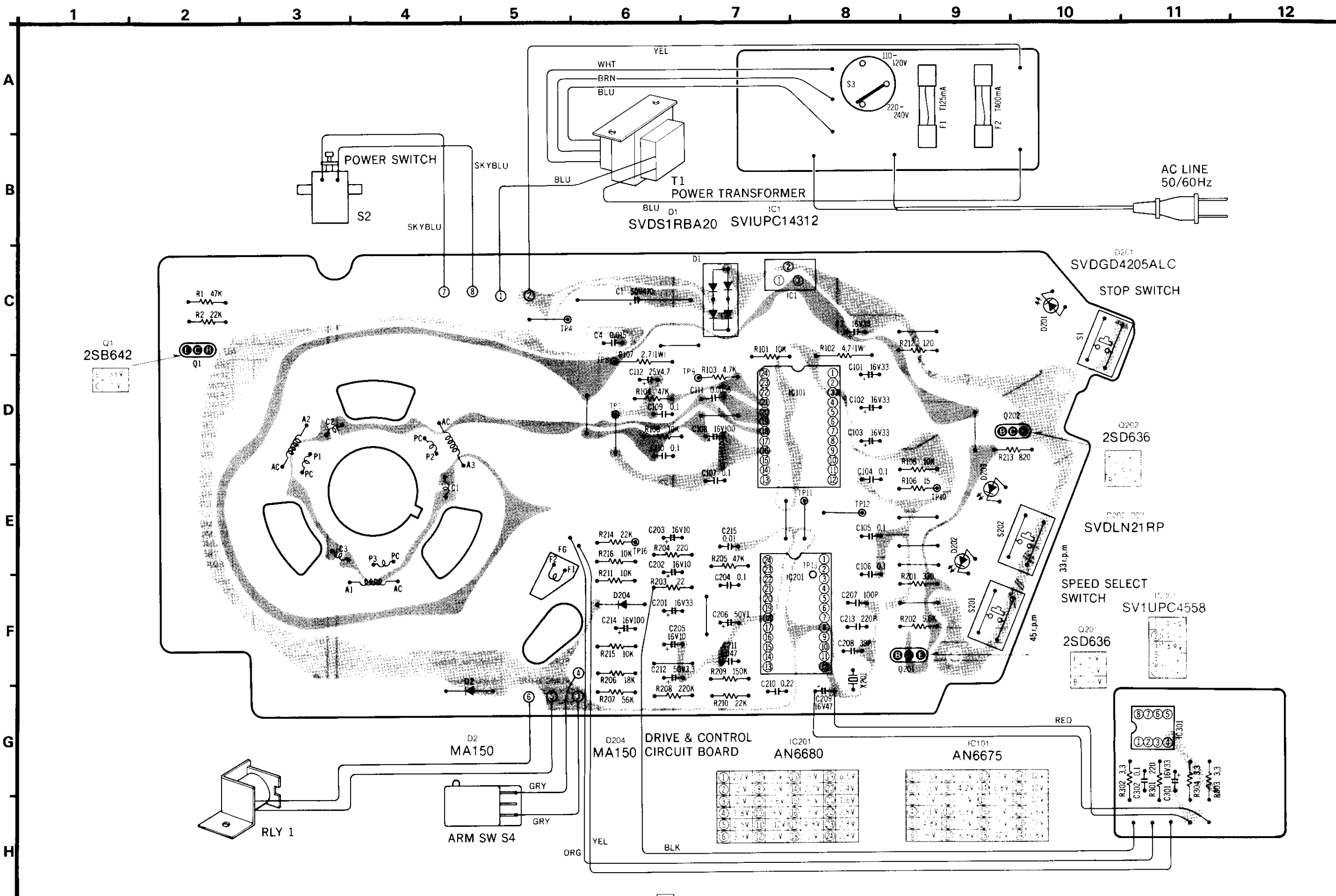
■ PRINTED CIRCUIT BOARD WIRING VIEW

Ground (Earth) Lines



Printed Circuit Board

⊕ B Line
Earth (Ground) Lines

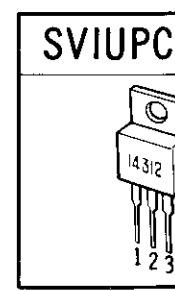


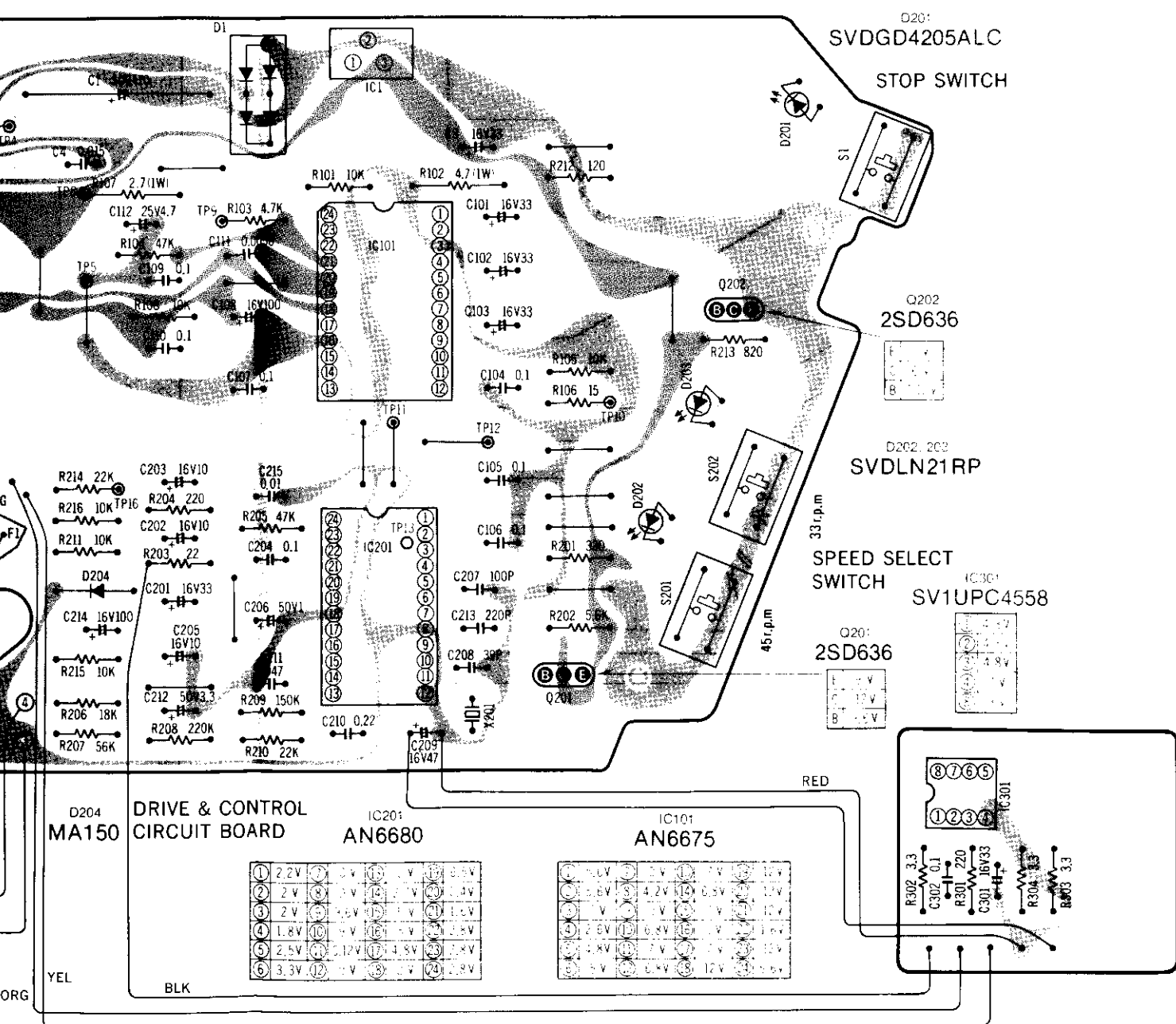
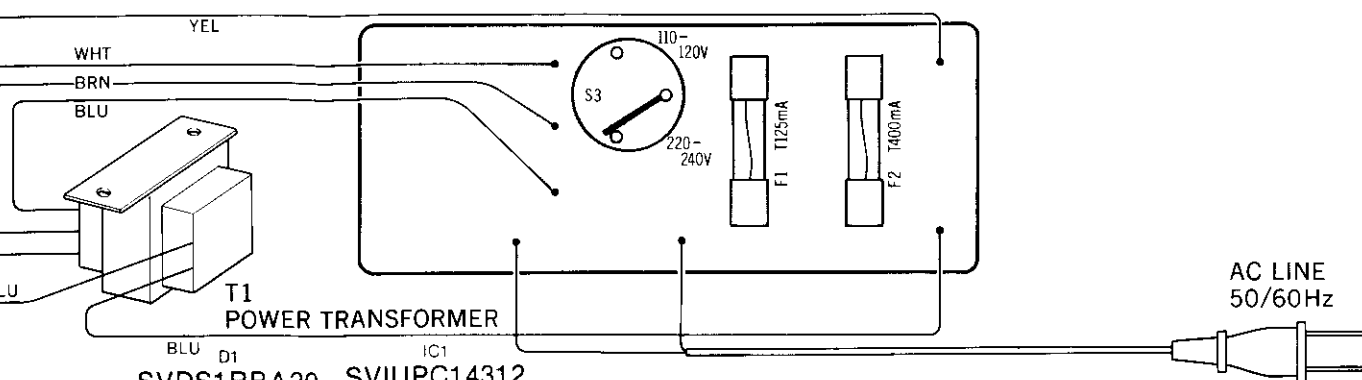
REPLACEMENT

- Notes:
1. Part number
 2. Δ indicates
 3. SL-Q3(XA)
SL-Q3(XGE)
SL-Q3(XG)
SL-Q3(XGE)
SL-Q3(XC)

Ref. No.		
IC1		SV
IC101		A
IC201		A
IC301		SV
Q1		2S
Q201, 202		2S
D1		SV
D2, 204		M
D201		SV
D202, 203		LI
T1		SV
X201		SV
S1		SV
S2		SV
S3		SV
S4		SV
S201, 202		SV
RLY1		SV
F1		SV
F2		SV
R1		SV
R2		SV
R101		SV
R102		SV
R103		SV
R104		SV

TERMINAL





■ REPLACEMENT PARTS LIST (Electrical)

- Notes:**
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
 2.  indicates that only parts specified by the manufacture be used for safety.
 3.

SL-Q3{XA}	→ [XA]	SL-Q3{XAL}	→ [XAL]
SL-Q3{XGE}	→ [XGE]	SL-Q3{E}	→ [E]
SL-Q3{XG}	→ [XG]	SL-Q3{XGF}	→ [XGF]
SL-Q3{XGB}	→ [XGB]	SL-Q3K{E}	→ [KE]
SL-Q3K{XG}	→ [KXG]		

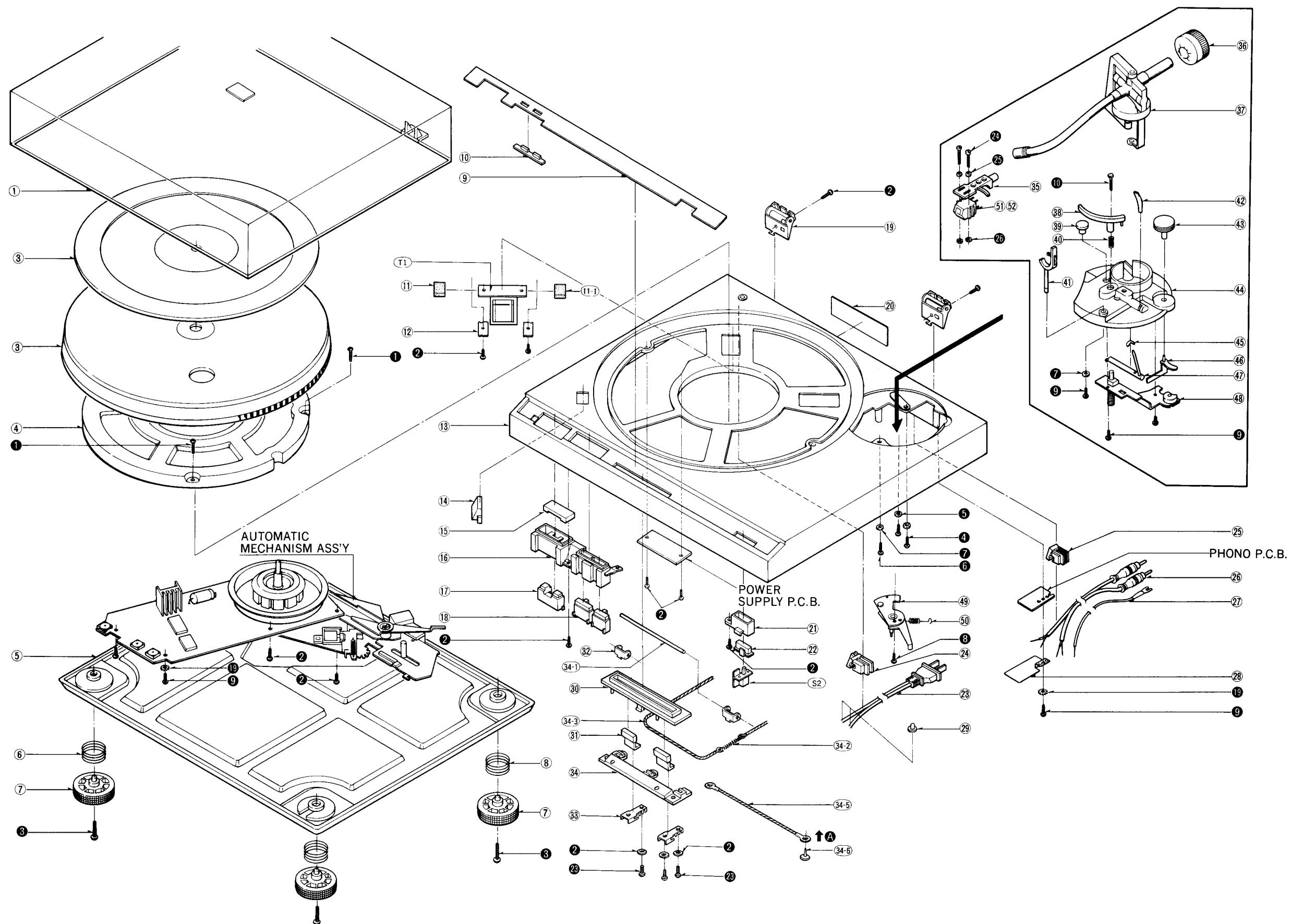
Ref. No.		Part No.	Part Name & Description
INTEGRATED CIRCUITS			
IC1 IC101 IC201 IC301		SVIUPC14312 AN6675 AN6680 SVIUPC4558C	Integrated Circuit (Reference Voltage) Integrated Circuit (Drive) Integrated Circuit (Control) Integrated Circuit (Control)
TRANSISTORS			
Q1 Q201, 202		2SB642 2SD636	Transistor Transistor
DIODES			
D1 D2, 204 D201 D202, 203	Δ	SVDS1RBA20 MA150 SVDGD4205ALC LN21RP	Rectifier Diode Light Emitting Diode Light Emitting Diode
TRANSFORMER			
T1	Δ	SLT41D27E	Power Transformer
CRYSTAL			
X201		SVQU306115	Crystal, 4. 19328MHz Oscillator
SWITCHES			
S1 S2 S3 S4 S201, 202	Δ	EVQP5R04K ESB6237 SFDSHXW13312 SFDSA4H74403 EVQP5R04K	Switch, Stop Switch, Power Switch, Power Selector Switch, Arm Switch, Select
RELAY			
RLY1		SFDZQ20-01A	Relay
FUSE			
F1 F2	Δ	XBA2C012TRO XBA2C04TRO	Fuse, T125 mA Fuse, T400 mA
RESISTORS			
R1 R2 R101 R102 R103 R104	Δ	ERD25TJ473 ERD25TJ223 ERD25TJ103 ERX1ANJ4R7 ERD25TJ472 ERD25TJ473	Carbon, 47kΩ, 1/4W, ± 5% Carbon, 22kΩ, 1/4W, ± 5% Carbon, 10kΩ, 1/4W, ± 5% Metallic, 4.7Ω, 1W, ± 5% Carbon, 4.7kΩ, 1/4W, ± 5% Carbon, 47kΩ, 1/4W, ± 5%

Ref. No.		Part No.	Part Name & Description
R105 R106 R107 R108 R201 R202 R203 R204 R205 R206 R207 R208 R209 R210	Δ	ERD25TJ103 ERD25TJ150 ERX1ANJ2R7 ERD25TJ103 ERD25TJ331 ERD25TJ562 ERD25TJ220 ERD25TJ221 ERD25TJ822 ERD25TJ183 ERD25TJ563 ERD25TJ224 ERD25TJ154 ERD25TJ223	Carbon, 10kΩ, 1/4W, ± 5% Carbon, 15Ω, 1/4W, ± 5% Metallic, 2.7Ω, 1W, ± 5% Carbon, 10kΩ, 1/4W, ± 5% Carbon, 330Ω, 1/4W, ± 5% Carbon, 5.6kΩ, 1/4W, ± 5% Carbon, 22Ω, 1/4W, ± 5% Carbon, 220Ω, 1/4W, ± 5% Carbon, 8.2kΩ, 1/4W, ± 5% Carbon, 18kΩ, 1/4W, ± 5% Carbon, 56kΩ, 1/4W, ± 5% Carbon, 220kΩ, 1/4W, ± 5% Carbon, 150kΩ, 1/4W, ± 5% Carbon, 22kΩ, 1/4W, ± 5%
R211 R212 R213 R214 R215, 216 R301 R302, 303, 304		ERD25TJ103 ERD25TJ121 ERD25TJ821 ERD25TJ223 ERD25TJ103 ERD25TJ221 ERD25TJ332	Carbon, 10kΩ, 1/4W, ± 5% Carbon, 120Ω, 1/4W, ± 5% Carbon, 820Ω, 1/4W, ± 5% Carbon, 22kΩ, 1/4W, ± 5% Carbon, 10kΩ, 1/4W, ± 5% Carbon, 220Ω, 1/4W, ± 5% Carbon, 3.3kΩ, 1/4W, ± 5%
CAPACITORS			
C1 C3 C4 C101, 102, 103 C104, 105 C106, 107 C108 C109, 110 C111 C112 C201	Δ	ECEB1HS471 ECEA1CS330 ECQM1H153KZ ECEA1CS330 ECQM1H104KZ ECEA1ES101 ECQM1H104KZ ECQM1H562KZ ECEA25Z4R7 ECEA1CS330	Electrolytic, 470μF, 50V Electrolytic, 33μF, 16V Polyester, 0.015μF, 50V, ±10% Electrolytic, 33μF, 16V Polyester, 0.1μF, 50V, ±10% Electrolytic, 100μF, 25V Polyester, 0.1μF, 50V, ±10% Polyester, 0.0056μF, 50V, ±10% Electrolytic, 4.7μF, 25V Electrolytic, 33μF, 16V
C202, 203 C204 C205 C206 C207 C208 C209 C210 C211 C212		ECEA1HS100 ECQM1H104KZ ECEA1AS221 ECEA50Z1 ECCD1H101K ECCD1H390K ECEA1ES470 ECQM1H224KZ ECQM1H473KZ ECEA50Z3R3	Electrolytic, 10μF, 25V Polyester, 0.1μF, 50V, ±10% Electrolytic, 220μF, 25V Electrolytic, 1μF, 50V Ceramic, 100pF, 50V, ±10% Ceramic, 39pF, 50V, ±10% Electrolytic, 47μF, 25V Polyester, 0.22μF, 50V, ±10% Polyester, 0.047μF, 50V, ±10% Electrolytic, 3.3μF, 50V
C213 C214 C215 C301 C302		ECCD1H221K ECEA1ES101 ECQM1H103KZ ECEA1CS330 ECQM1H104KZ	Ceramic, 220pF, 50V, ±10% Electrolytic, 100μF, 25V Polyester, 0.01μF, 50V, ±10% Electrolytic, 33μF, 16V Polyester, 0.1μF, 50V, ±10%

■ TERMINAL GUIDE OF TRANSISTOR AND IC

SVIUPC14312	AN6675	AN6680	SVIAUPC4558C
			

EXPLODED VIEWS (CABINET and CHASSIS)



■ REPLACEMENT PARTS LIST (Mechanical)

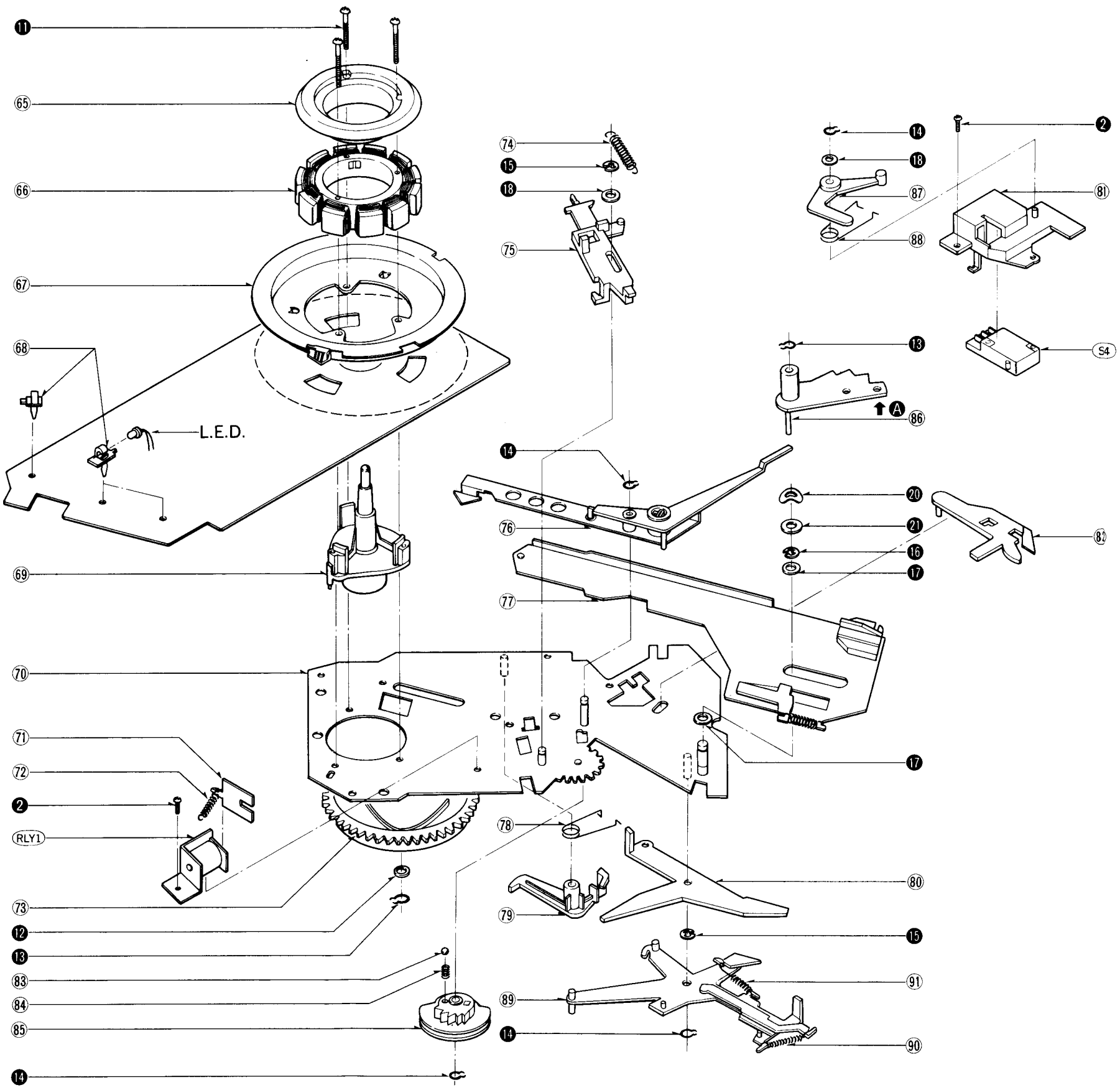
- Notes:**
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
 2. **△** indicates that only parts specified by the manufacture be used for safety.
 3. SL-Q3(XA) → [XA], SL-Q3(XAL) → [XAL]
 SL-Q3(XGE) → [XGE], SL-Q3(E) → [E]
 SL-Q3(XG) → [XG], SL-Q3(XGF) → [XGF]
 SL-Q3(XGB) → [XGB], SL-Q3K(E) → [KE]
 SL-Q3K(XG) → [KXG]

Ref. No.	Part No.	Part Name & Description
CABINET and CHASSIS PARTS		
1	SFADQ20-01E	Dust Cover
2	SFTG320-01	Turntable Mat
3 [XA, XAL, XGE, E, XG, XGF, XGB]	SFTEQ20-01A	Turntable
3 [KE, KXG]	SFTEQ20P01A	Turntable
4	SFUMQ20-06	Cover, Turntable
5	SFAUQ20-01	Bottom Board
6	SFQC200-02	Spring, Audio Insulator (Front)
7	SFQAQ20-01E	Audio Insulator
8	SFQC320-01	Spring, Audio Insulator (Rear)
9	SFKKQ30-01	Panel
10	SFKKQ20-02	Supporter, Pitch Control
11	SFGCQ20-01	Cushion, Power Transformer (A)
11-1	SFGCQ20X01	Cushion, Power Transformer (B)
12	SFUPQ20-01	Supporter, Power Transformer
13 [XA, XAL, XGE, E, XG, XGF, XGB]	SFACQ30-01	Cabinet (Silver)
13 [KE, KXG]	SFACQ30P01	Cabinet (Black)
14	SFUMQ20-05	Cover, Neon
15	SFKTQ20-01	Knob, Stop SW
16	SFUMQ20-01	Supporter, Stop SW & Pitch Control
17	SFKTQ20-04	Supporter, Stop SW
18	SFKTQ20-02	Knob, Pitch Control
19	SFATQ20-01A	Hinge
20 [XA, XG, KXG, XGF, XGB]	SFNNQ30X01	Name Plate
20 [XAL, XGE]	SFNNQ30G01	Name Plate
20 [E, KE]	SFNNQ30S01	Name Plate
21	SFUMQ20-02	Supporter, Power SW
22	SFKTQ20-03	Knob, Power SW
23 [XA, E, KE, XG, KXG, XGF, XGB]	△ RJA23ZC-K	AC Cord
23 [XAL]	△ QFC1208M	AC Cord
23 [XGE]	△ RJA45ZC-K	AC Cord
24 [XA, XGE, E, KE, XG, KXG, XGF, XGB]	SFUMQ20-04	Clamper, AC Cord
24 [XAL]	SFUMQ20-03	Clamper, AC Cord
25	SFUMQ20-04	Clamper, Phono Cord
26	SFDH212-01	Phono Cord
27	SFEL028-01E	Ground Wire
28	SFUPQ20-07	Plate, Shield
30	SFUMQ30-01	Spacer, Repeat Knob
31	SFKTQ30-01	Knob, Repeat & Size
32	SFUPQ30-03	Supporter, Repeat Knob
33	SFUPQ30-04	Supporter, Repeat
34	SFUMQ30-02E	Bracket, Repeat Knob Spacer
34-1	SFXJQ30-02	Rod, Bracket
34-2	SFQHQ30-12	Spring, Repeat Cord
34-3	SFUZQ30-02E	Cord, Repeat
34-4	SFQPQ30-01	Spacer, Size Cord
34-5	SFUZQ30-01E	Cord, Size
34-6	SFUZQ30-04	Spacer, Size Cord
TONE ARM and ARM BASE		
35	SFPCC31001K	Head Shell
36	SFPWG51101K	Balance Weight
37 [XA, XAL, XGE, E, XG, XGF, XGB]	SFPAM51101K	Tone Arm (Silver)
37 [KE, KXG]	SFPAM51102K	Tone Arm (Black)
38	SFPRT51001K	Lift Ass'y
39 [XA, XAL, XGE, E, XG, XGF, XGB]	SFGK132-01	Cap, Rubber (Silver)

Ref. No.	Part No.	Part Name & Description
39 [KE, KXG]	SFGK133S01	Cap, Rubber (Black)
40	SFQA829-03	Spring, Lift Ass'y
41	SFKU212-01E	Arm Rest
42	SFPAB13202	Knob, Arm Lift
43	SFPJK13101	Knob, Anti skate Force Control
44 [XA, XAL, XGE, E, XG, XGF, XGB]	SFKPQ20-01	Arm Base (Silver)
44 [KE, KXG]	SFKPQ20P01	Arm Base (Black)
45	SFPGM13204	Supporter, Arm Lift
46	SFXJQ20-03E	Plate, Anti-skate Force Control
47	SFPJL00101K	Lever, Cueing
48	SFUPQ20-02A	Bracket, Lift Ass'y
49	SFUPQ20-03A	Tone Arm Fixing Plate Ass'y
50	SFSP00101	Spring, Anti skate Force Control
51 [except XGE, XGF]	EPC207CK	Cartridge
52 [except XGE, XGF]	EPS207ED	Stylus
AUTOMATIC MECHANISM ASS'Y		
65	SFMGQ20-01	Cover, Stater Frame Ass'y
66	SFMG520-31A	Stater Frame
67	SFMZQ20-06E	FG Detector Coil Ass'y
68	SFUMQ20-09	Spacer, LED
69	SFMZQ20-01A	Shaft, State Frame Ass'y
70	SFUKQ30-11E	Plate, Automatic Mechanism
71	SFUPQ20-11	Supporter, Relay
72	SFQHQ20-11	Spring, Supporter
73	SFUG190-22E	Main Gear Ass'y
74	SFQHQ20-12	Spring, Stop SW Plate
75	SFUMQ30-14E	Plate, Stop SW
76	SFUCQ20-11E	Actuating Plate Ass'y
77	SFUBQ30-11A	Operating Plate Ass'y
78	SFQS222-11	Spring, Supporter
79	SFUM222-11	Supporter, Gear Setting
80	SFUMQ20-17	Lever, Switch
81	SFUMQ30-18	Cover, Switch
82	SFUMQ30-01E	Supporter, Switch
83	SFYB5-32	Ball, Repeat Cam
84	SFQA130-11	Spring, Repeat Cam
85	SFUMQ30-13	Cam, Repeat
86	SFUMQ30-12	Index Plate
87	SFUMQ20-19	Plate, Brake
88	SFQSQ20-13	Spring, Brake Plate
89	SFUMQ30-11E	Plate, Searching Ass'y
90	SFQHQ30-13	Spring, Searching Plate
91	SFQHQ30-14	Spring, Searching Plate
SCREWS, WASHERS and CIRCLIPS		
①	XTV3+8BFZ	Screw
②	XTV3+8BFN	Screw
③	SFXGQ20-01	Screw
④	XSN3+12S	Screw
⑤	XWA3B	Washer
⑥	XTS3+10BFZ	Screw
⑦	XWG3FZ	Washer
⑧	SFPEV13204	Screw
⑨	XTV3+10BFN	Screw
⑩	SFXG829-1	Screw
⑪	SFXGQ20-02	Screw
⑫	SFXW890B01	Washer
⑬	XUB6FY	Circlip
⑭	XUB4FY	Circlip
⑮	XUC3FT	Circlip
⑯	XUC5FT	Circlip
⑰	SFXW130-13	Washer
⑱	XWE4A10BW	Washer
⑲	XVE3+EJ10	Screw
㉑	SFPEW13005	Washer

Ref. No.	Part No.	Part Name & Description
②	SFXW230-11	Washer
③	XSN3+8S	Screw
④	XSN3+6S	Screw
⑤ [except XGE, XGF]	SFCZV8801	Screw
⑥ [except XGE, XGF]	SFPEW9601	Washer
⑦ [except XGE, XGF]	SFPEN3302	Nut
ACCESSORIES		
A1 [XA, XAL, XG, KXG, XGF, XGB]	SFNUQ30X01	Instruction Book
A1 [XGE]	SFNUQ30G01	Instruction Book
A1 [E, KE]	SFNUQ30S01	Instruction Book
A2	SFWE212-01	Adaptor, 45 r.p.m.
A3 [XGE, XGF] only	SFPEN3302	Nut, Cartridge
A4 [XGE, XGF] only	SFPEW9601	Washer, Head Shell
A5 [XGE, XGF] only	SFCZV8801	Screw, Cartridge
A6 [XGE, XGF] only	SFPEV9801	Screw, Cartridge
A7 [XGE, XGF] only	SFYF05A06	Polyethylene Bag
A8 [XGE, XGF] only	SFKO135-01	Overhang Gauge
A9	SFPZB3501	Shell Weight
A10	SFYF05A06	Polyethylene Bag
A11 [XA] only	SFDK119118	2-PIN Plug
PACKINGS		
P1 [XA, XAL, XGE, E, XG, XGB]	SFHPQ30M01	Carton
P1 [KE, KXG]	SFHPQ30K01	Carton
P1 [XGF]	SFHPQ30C01	Carton
P2	SFHHD20-01	Pad, Front
P3	SFHHD20-02	Pad, Rear
P4	SFHD230-01	Pad, Top
P5	SFHDD20-02	Pad, Turntable
P6	SFYH60X60	Polyethylene Cover, Turntable Unit
P7	SFHZD20-01	Polyethylene Cover, Dust Cover
P8	SFYH40X45	Polyethylene Cover, Turntable

EXPLODED VIEWS (AUTOMATIC MECHANISM ASS'Y)



■ BLOCK DIAGRAM

