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Service Manual

Player

SP-10MKII

(M), (MC)

■ SPECIFICATIONS

Type:	Direct-drive turntable
Turntable paltter:	Aluminum diecast, diameter 32 cm (12-19/32 inches), weight 2.9 kg (6.4 lbs.), moment of inertia 380kg. cm^2 (130 lbs. in^2)
Motor:	Brushless DC motor, electronic rectification, quartz-controlled phase-locked servo circuit
Platter speeds:	33-1/3, 45 and 78.3r.p.m.
Starting torque:	6 kg. cm (5.2 lbs. in)
Build-up time	0.25 sec. (25° rotation) to 33-1/3r.p.m.
Braking time:	0.3 sec. (30° rotation) from 33-1/3r.p.m. to standstill
Speed fiuctuation by load changes:	0% within 5 kg. cm (4.3 lbs. in)
Speed drift:	Within ± 0.002%
Wow & Flutter:	0.025% (JIS C5521) W.R.M.S. ±0.035% (DIN 45507), weighted, zero-to-peak
Rumble:	60 dB (IEC 179B) 50 dB (DIN 45539A) 70 dB (DIN 45539B)
Power Supply:	120V, AC 50 or 60 Hz
Power Consumption:	20 W
Dimensions:	Turntable Only 36.85 (W) x 10.25 (H) x 36.85 (D) cm (14-31/64 x 4-1/64 x 14-31/64 inches) Power Unit 110 (W) x 8.35 (H) x 37.0 (D) cm
Weight:	Turntable Only 9.5 kg (20.9 lbs.) Power Unit 3.8 kg

Specification are subject change without notice for further inprovement.

Technics
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■ PARTS IDENTIFICATION

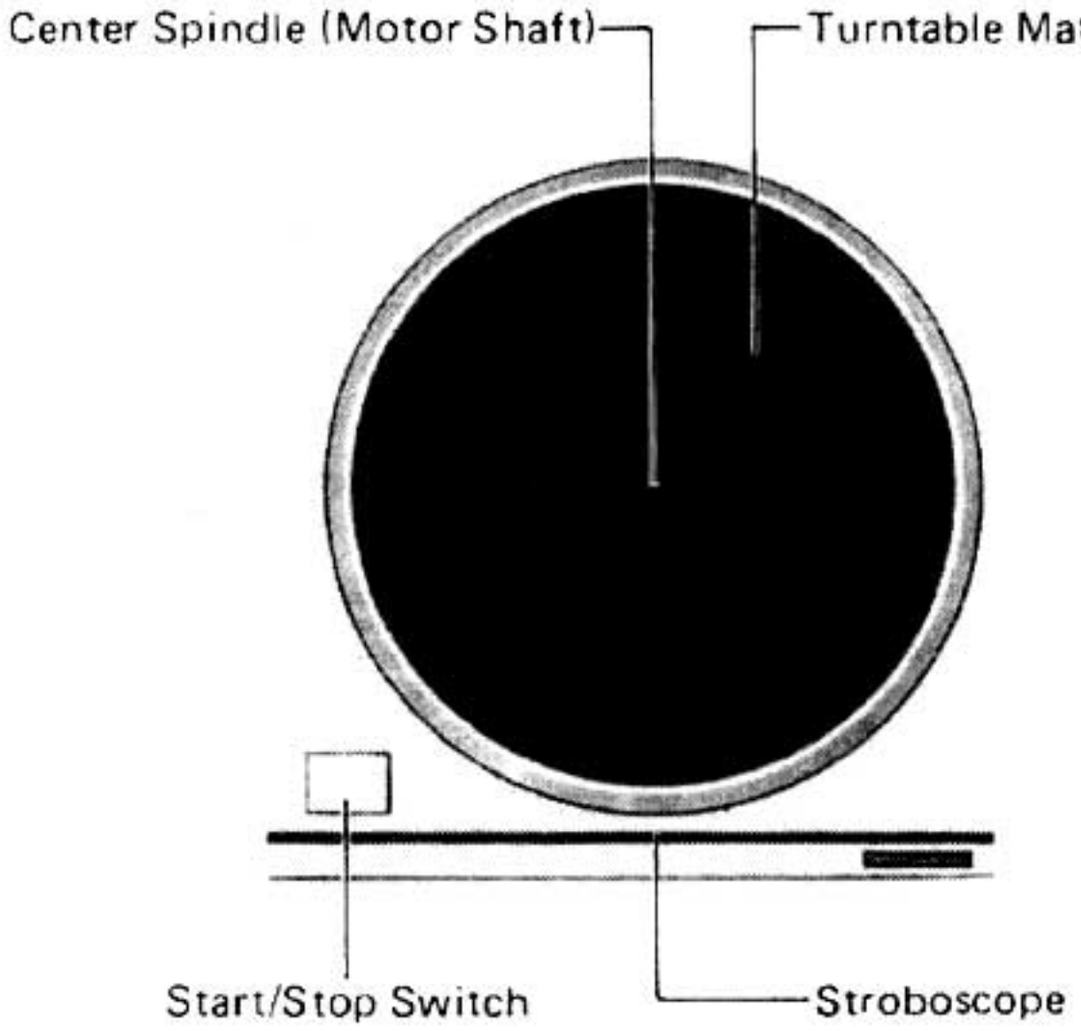


Fig. 1

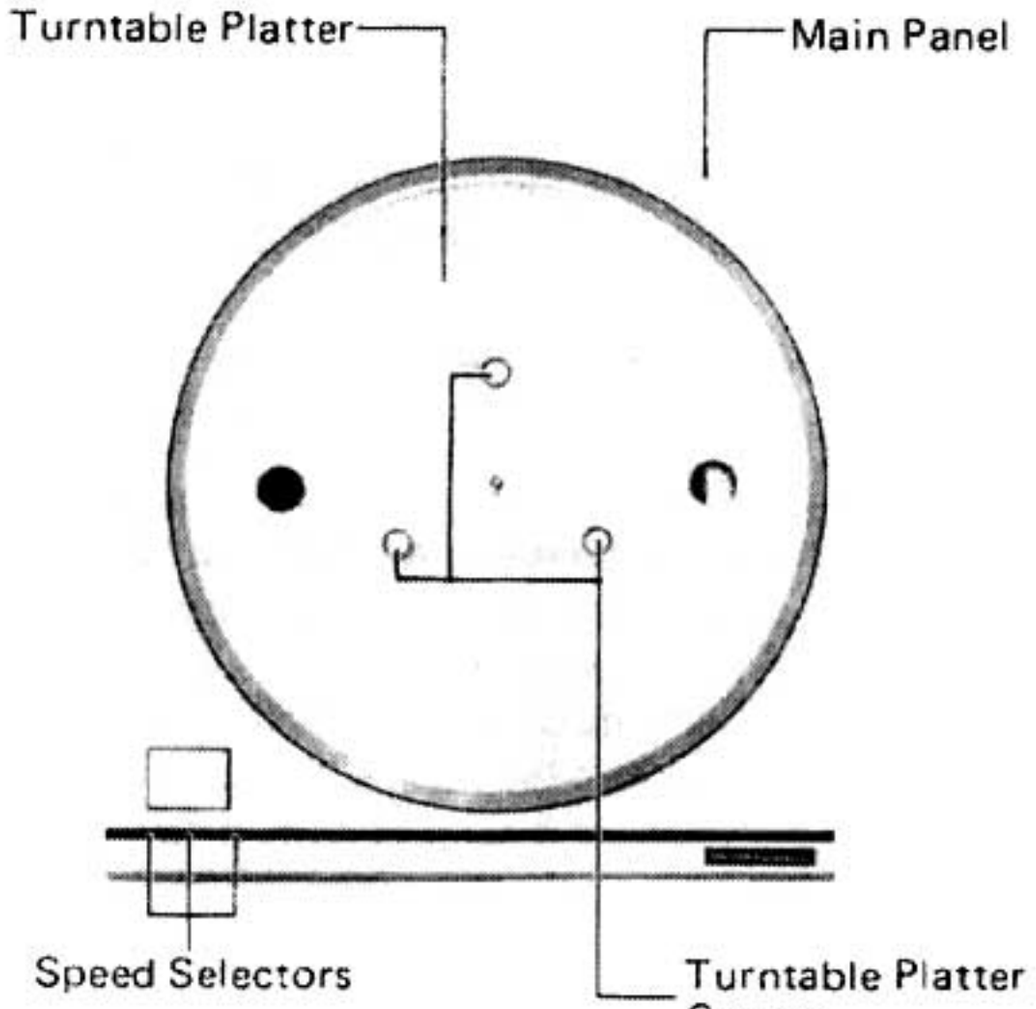


Fig. 2

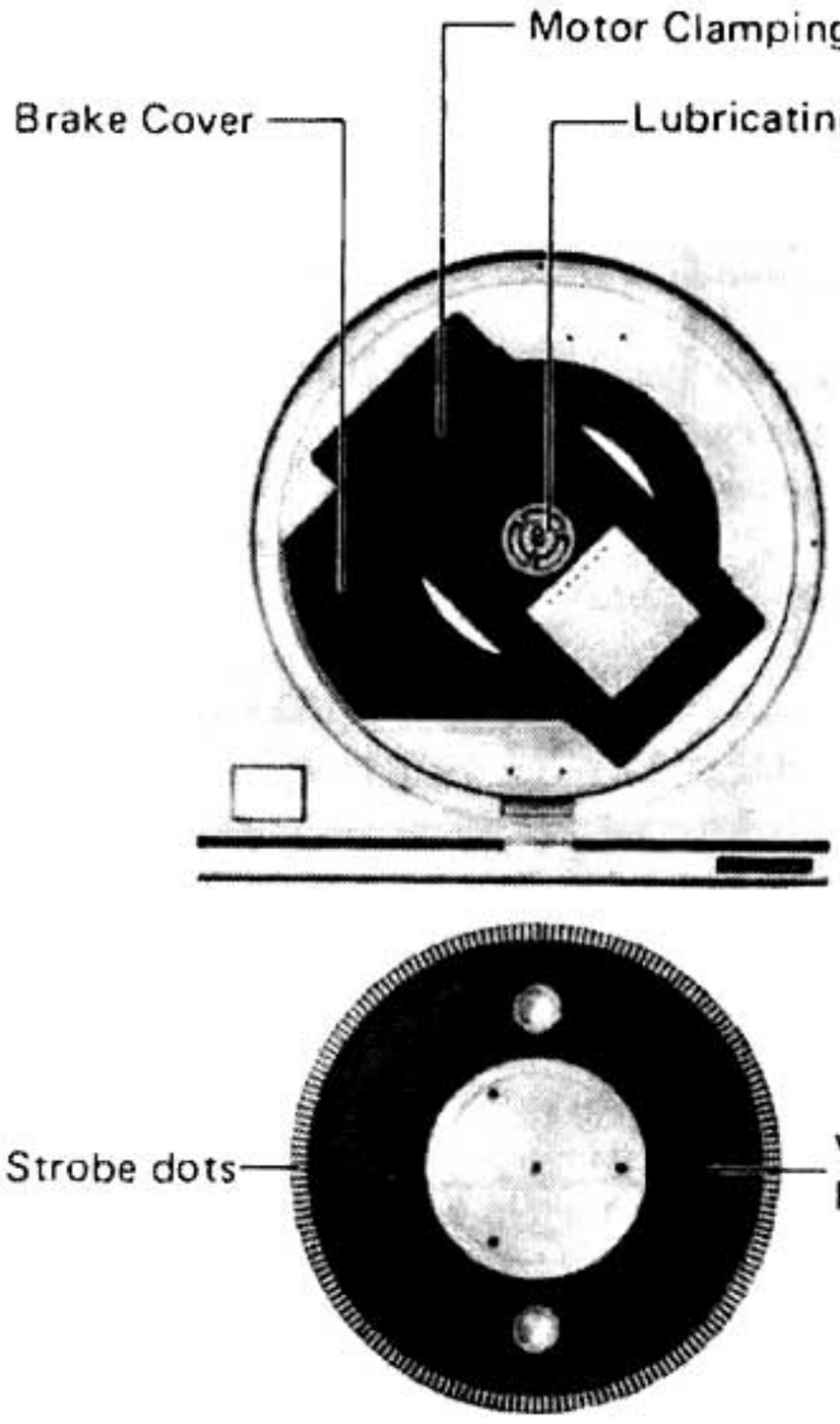


Fig. 3

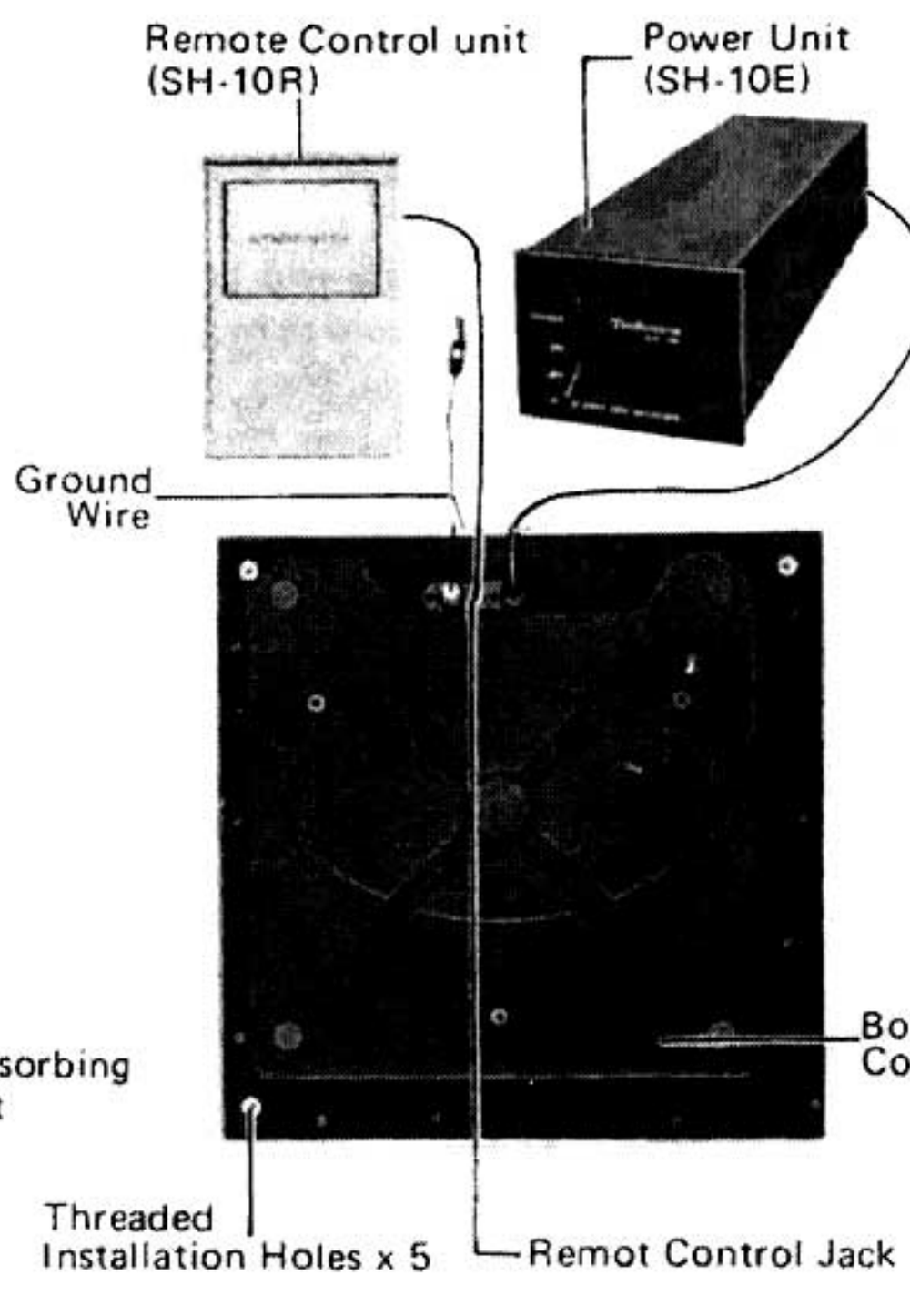


Fig. 4

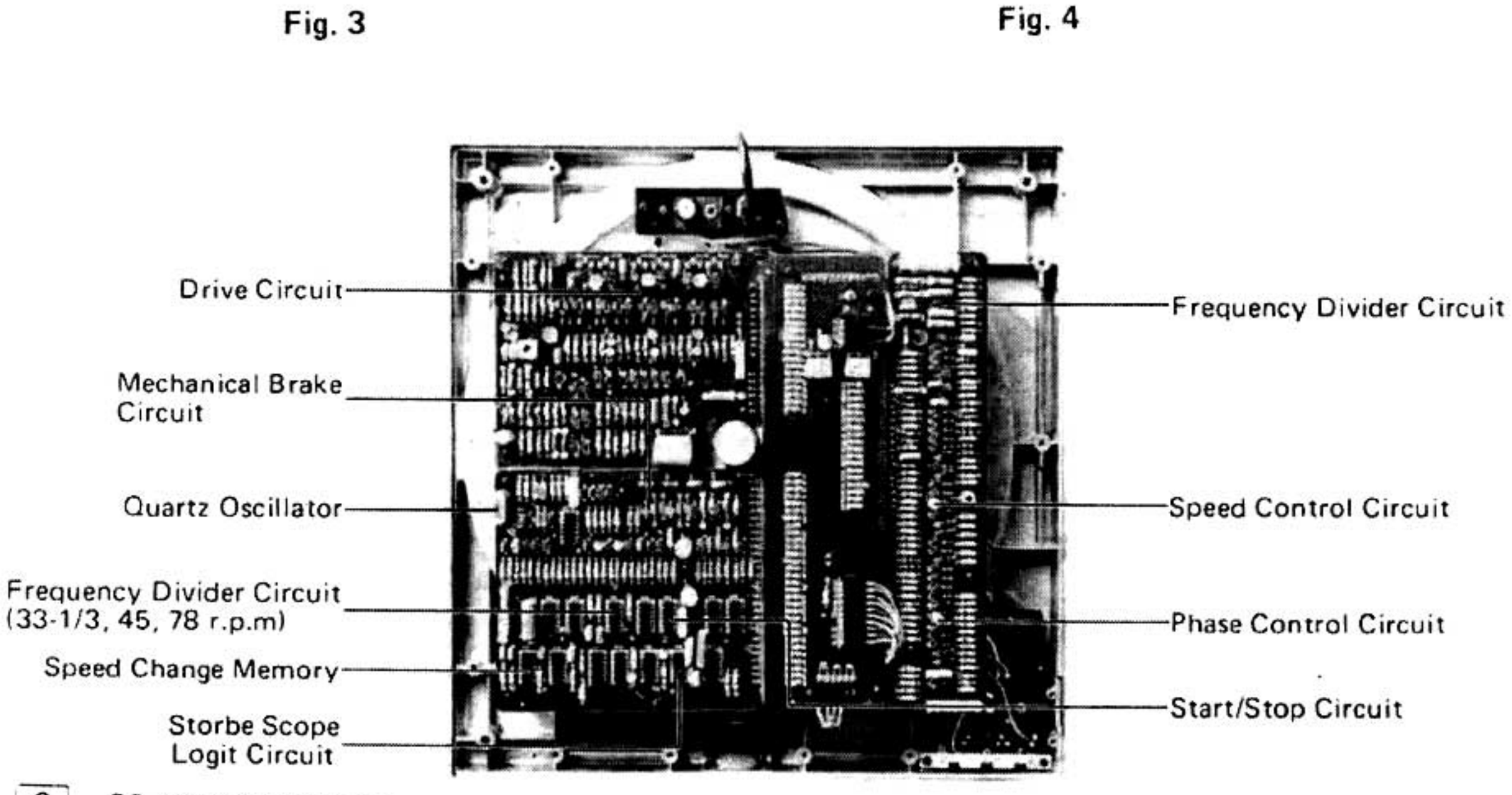


Fig. 5

■ ASSEMBLY AND SET-UP

1. Building a base or cabinet for this model

The starting torque of this model is 6Kg. cm. (5.2 1bs. in).
Thus the turntable platter which is heavy (2.9kg. 6.4 1bs.) and large (32cm. 12-19/32 inches) can be started and stopped quickly. For this reason we recommend that you use durable and heavy material. The thickness of the base should be 3cm. (1-11/64 inch) or more in order to bring out the best performance of model.

Note. Use durable and stable insulators (legs) Fig. 6 shows an example of cabinet construction.

2. Drill and cutout the bace according to the installation diagram.

As paper has a tendency to stretch we suggest that you check the diagram before using it as a template. Also check dimensions for printing errors. Check the tone arm mounting position for proper alignment (follow the tonearm manufacturers specifications). Also make sure to allow sufficient clearance for power connector and output terminals of the tone arm.

3. Install the unit in the cabinet

Two kinds of screws are included in the carton. Use the proper length of screw according to the thickness of the cabinet which you use. When you install the unit in the cabinet place proteotive material, on top of the unit to protect the center spindle from external damage. A soft cloth placed on the panel surface will protect it from scratches.

4. Remove the motor clamping plate and screws (Fig. 8)

After installation of the unit in the cabinet remove the seven blue screws and motor clamping plate.

NOTE: To protect the very delicate and important parts of the motor (spindle, motorshaft etc.) from external damage during transportation protective fittings have been installed. Be sure to remove these fittings carefully and save them for future use in case you again need to transport the unit.

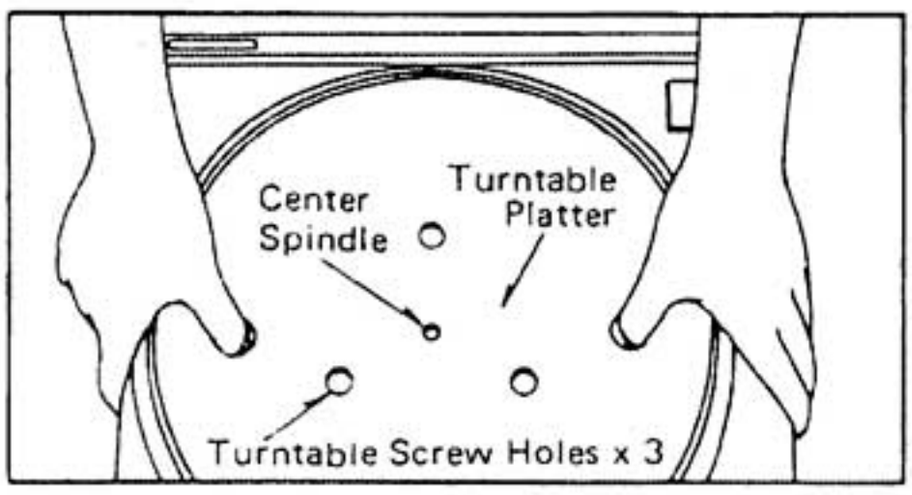


Fig. 9

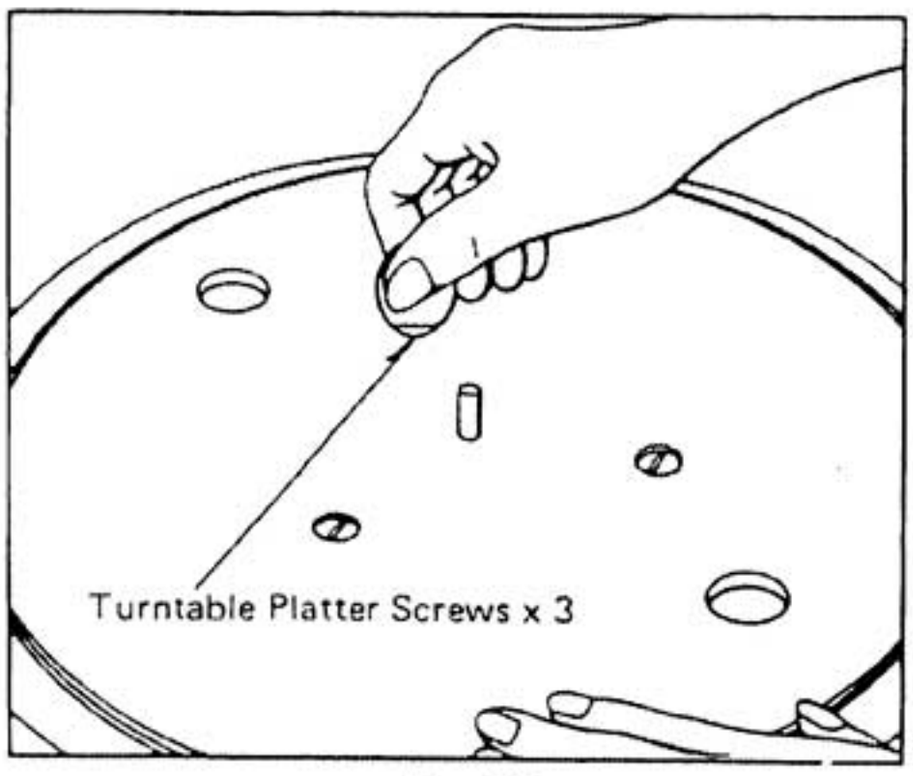


Fig. 10

NOTE: Dimensions are marked in millimeters. (25.4 mm are equal to inch.)

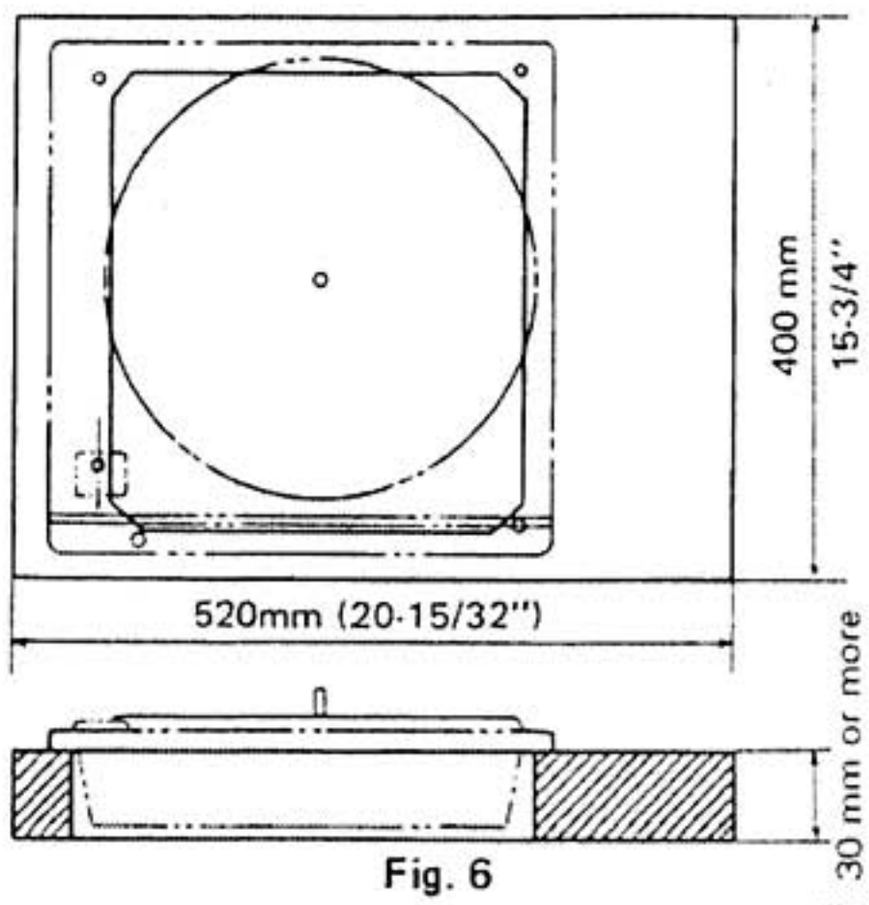


Fig. 6

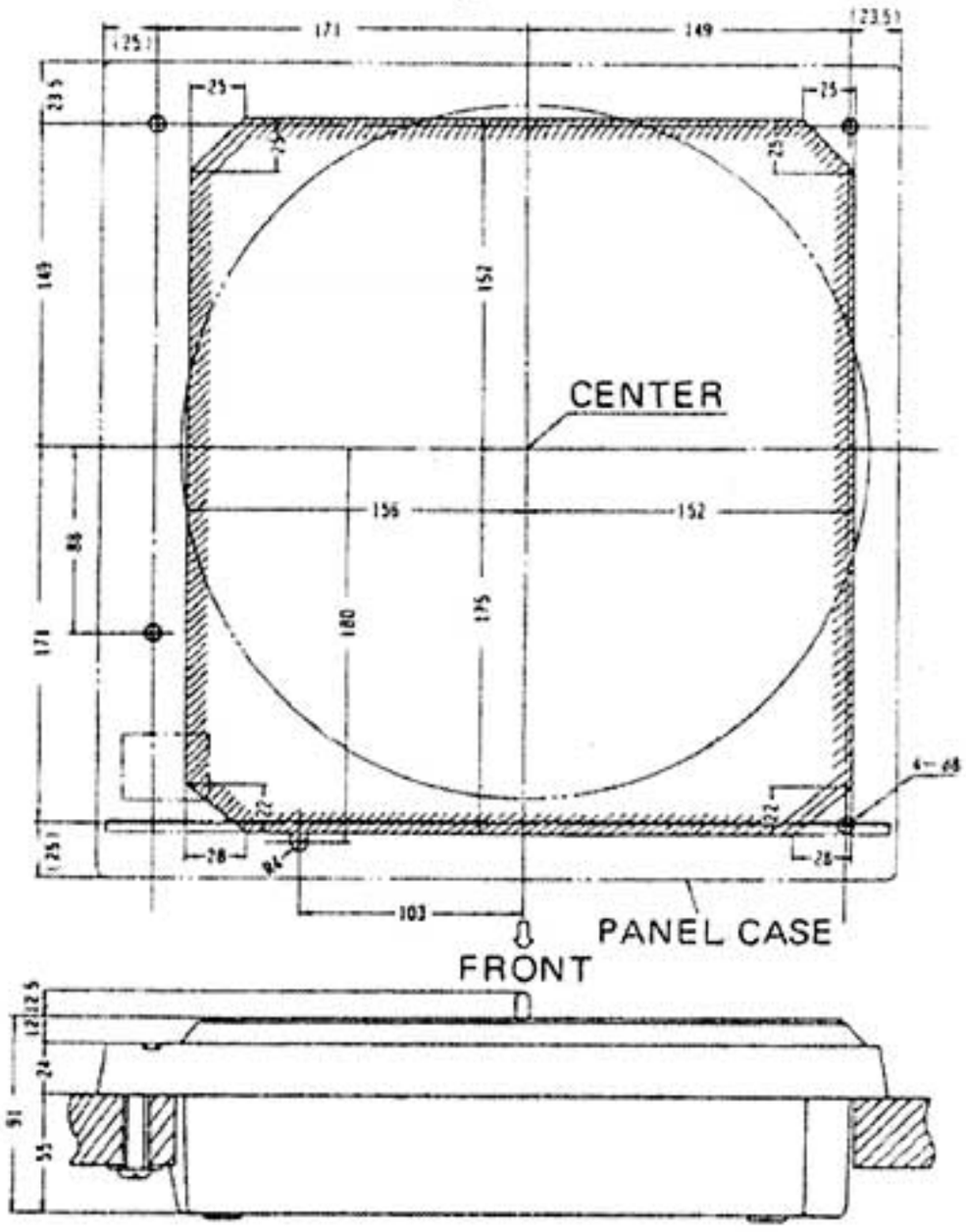


Fig. 7

5. Securing the turntable platter (Fig. 9 & 10)

Place the turntable platter on the spindle aligning holes in the platter with the rotor screw holes by eye.

Slightly lifting the turntable platter will make it easier to align the holes. Using the three screws supplied, firmly tighten the turntable platter and put the turntable mat on it.

NOTE: The turntable platter must be tightened at all three points. To assure proper operation.

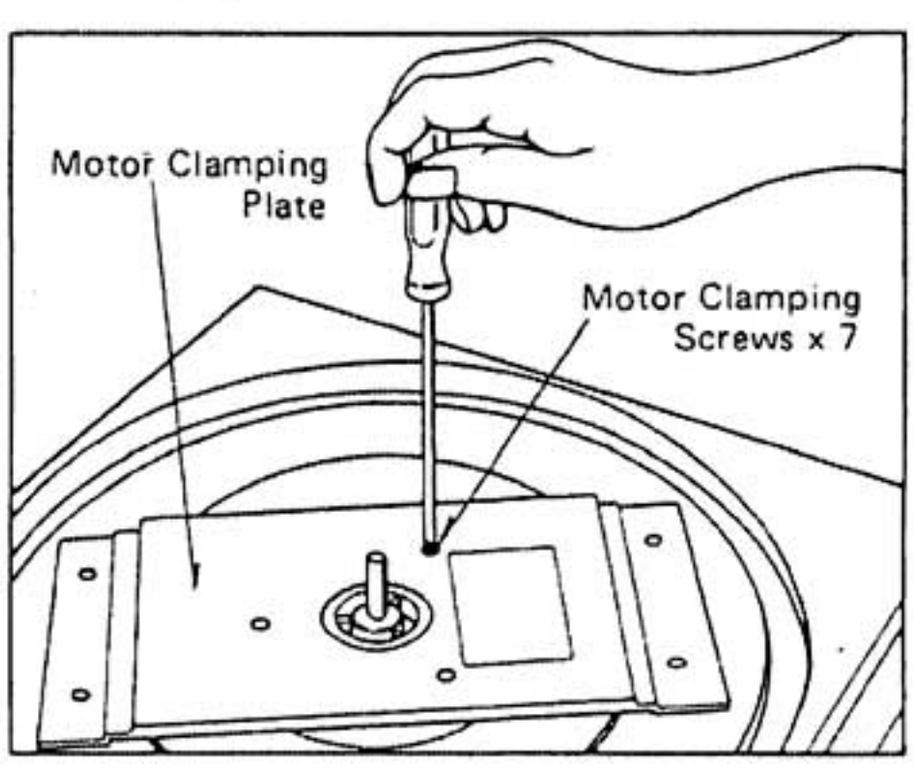


Fig. 8

■ OPERATION PRINCIPLES OF THE SP-10MKII

1. Quartz Generated Reference Signal

The quartz reference signal generator provides a reference signal which controls the action of the SP-10MKII. The oscillation of a quartz crystal is used. This oscillation is stable, highly accurate and not effected by temperature and other changes. The signal generated by the reference signal generator is split by the frequency divider into the appropriate frequency according to the speed selected.
The frequency divider is controlled by pushing the speed selector on the front panel of the unit. The selected speed information is stored in the speed change digital memory.

2. Stroboscopt Logic Circuit

The strobscope lights up the 190 stripes engraved on the platter rim. A neon lamp flashes according to instructive pulses from the stroboscope logic circuit. The circuit shapes digitally the signals from the frequency divider. This provides a sharp strobe image which is independent of external power source frequency.

3. Frequency Generator

A frequency generator is integrated with the platter drive motor. It is electromagnetic structure using a push-pull design cancels external induction. It converts accurately the platter rotation speed into a frequency. The output of the frequency generator is fed to the speed and the phase control circuits.

4. Phase Control Circuit

The phase control circuit detects a phase difference between a reference signal and a frequency generator signal and generates a control voltage. This circuit makes it possible to lock the rotation of the turntable platter to a reference signal. It improves considerably speed stability and speed control characteristics for load conditions when compared with the conventional direct-drive motor having only speed control as shown in Fig. 11 & 12.

5. Speed Control Circuit

The speed control circuit includes a sample-hold circuit, which converts the output of the frequency generator into an electrical voltage. This is the control voltage which maintains the platter rotation speed.

6. Drive Circuit

Two control signals are composed and applied to the drive circuit to maintain a forward motor-rotation. The drive circuit supplies fullwave drive current doubling current efficiency.
It supplies drive current in both directions for a symmetrical rotation in either a forward or reverse direction.
The drive circuit rotates the turntable platter with quick response and large starting torque.

7. Start/stop Circuit

When the unit is started by the switch on the front panel or by the remote control, the start/stop circuit activates the forward drive. When the unit is switched off, the start/stop circuit activates the reverse drive and the mechanical brake actuating-circuits to perform a quick stop action.

8. Mechanical Brake Actuating-Circuit

The mechanical brake actuating-circuit operates a solenoid plunger which pushes a brake shoe against the platter. Working in conjunction with the reverse drive current, the mechanical brake can bring the platter to a complete stop quickly and smoothly. A half-braking force is maintained after the platter has stopped making it easy to accomplish accurate cueing of a record.

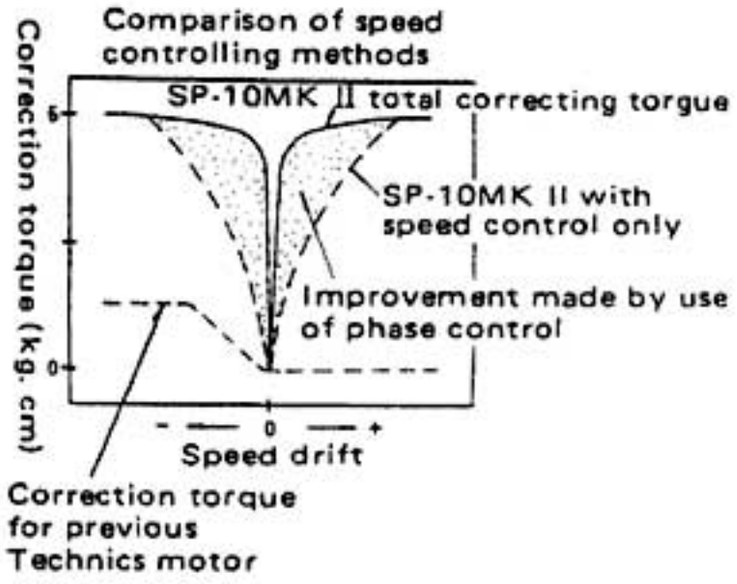


Fig. 11

Comparison of stability against load variations.

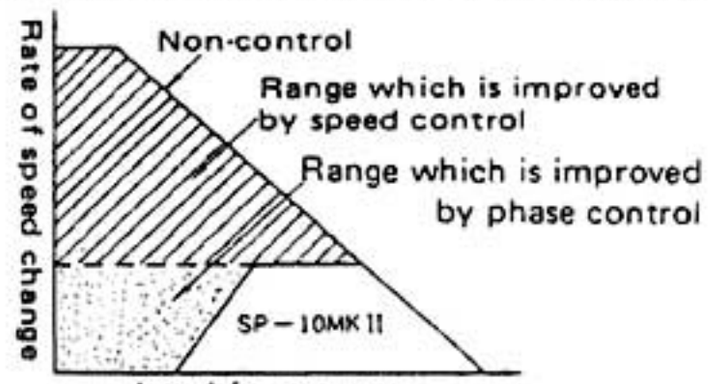


Fig. 12

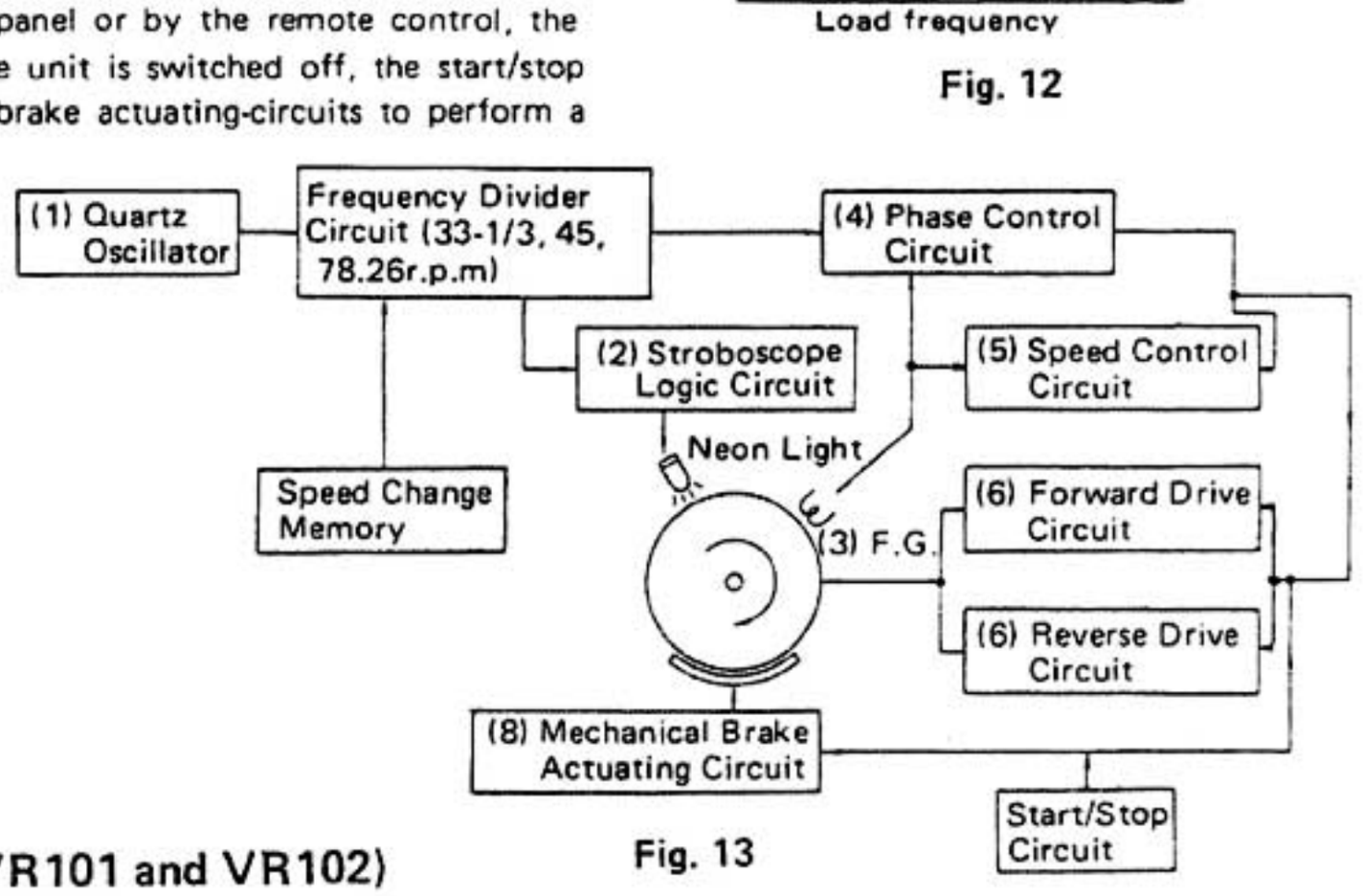


Fig. 13

■ THE PERIOD ADJUSTMENT METHOD (VR101 and VR102)

Note: If you repair the Control circuit board or the Drive Circuit board, you have to adjust VR101 and VR102.

1. Connect a dual-channel oscilloscope to points T and S on the circuit board.
   Point O is for the ground wire of the Control Circuit board.
2. Please refer to fig. 14 for the phase relation of the 2 waves for the adjustment of VR101 and VR102.
3. Please adjust in the order: 33-1/3r.p.m. 45r.p.m. 78r.p.m.

Speed Selector	Time	Adjustment Point
33-1/3 r.p.m.	6.3 ± 0.2ms	VR101
45 r.p.m.	4.7 ± 1.3ms	Confirm
78 r.p.m.	2.7 ± 0.1ms	VR102

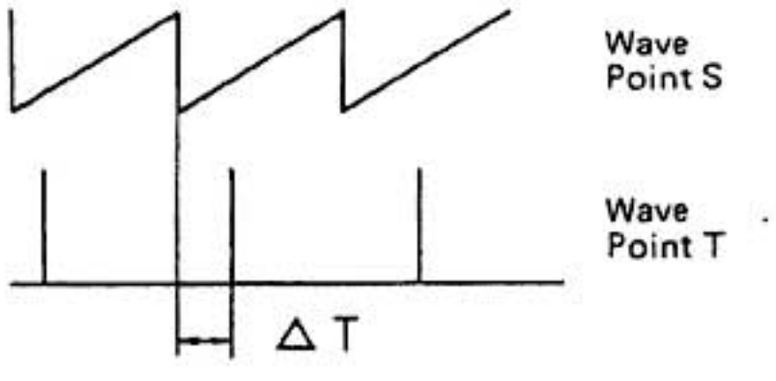


Fig. 14

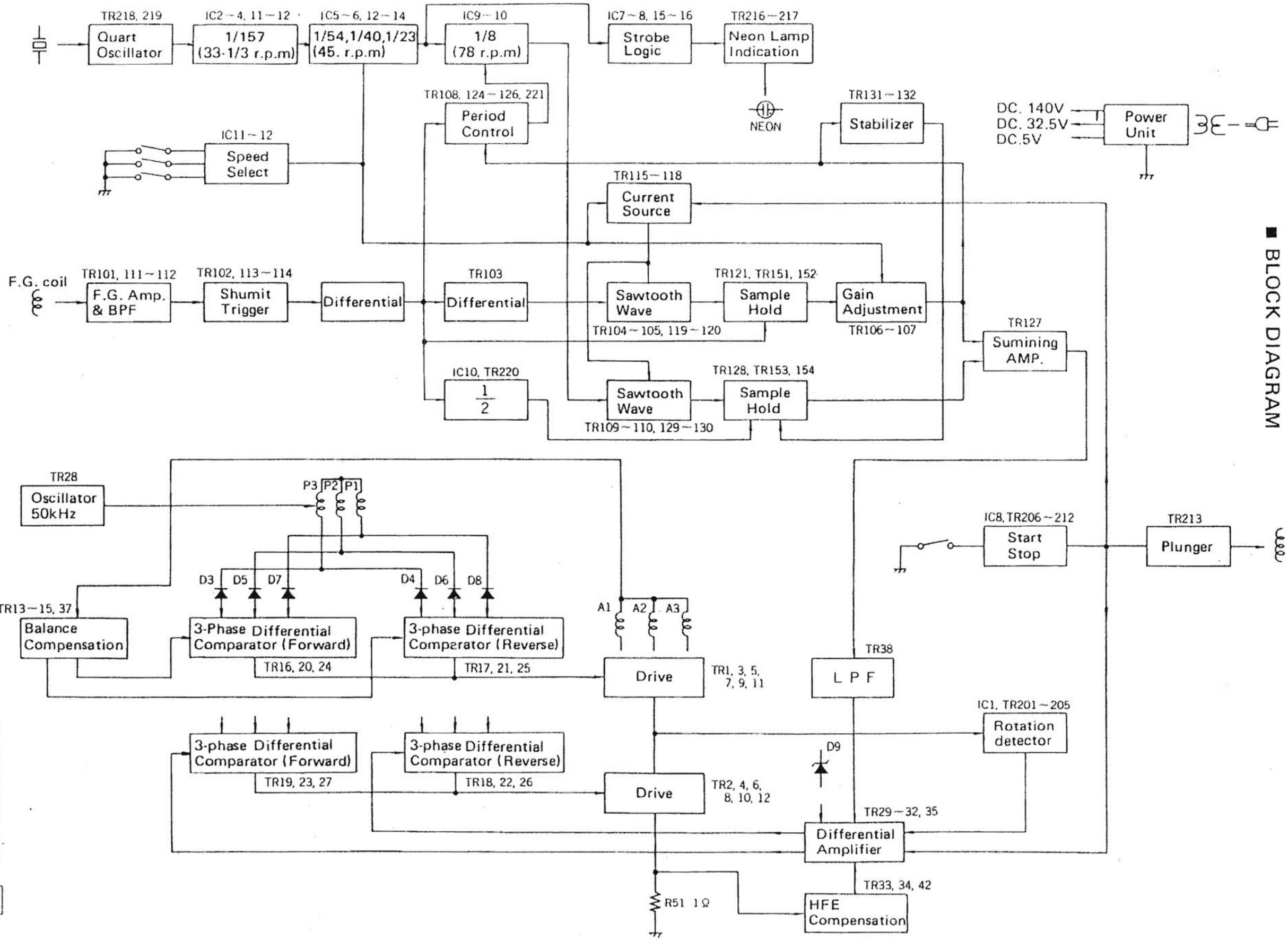

TR218, 219
Quart Oscillator
IC2~4, 11~12
1/157 (33-1/3 r.p.m)
IC5~6, 12~14
1/54,1/40,1/23 (45. r.p.m)
IC9~10
1/8 (78 r.p.m)
IC7~8, 15~16
Strobe Logic
TR216~217
Neon Lamp Indication
NEON
TR108, 124~126, 221
Period Control
TR131~132
Stabilizer
DC. 140V
DC. 32.5V
DC.5V
Power Unit
IC11~12
Speed Select
TR115~118
Current Source
F.G. coil
TR101, 111~112
F.G. Amp. & BPF
TR102, 113~114
Shumit Trigger
Differential
TR103
Differential
TR121, TR151, 152
Sawtooth Wave
Sample Hold
Gain Adjustment
TR104~105, 119~120
TR106~107
TR127
Sumining AMP.
IC10, TR220
1/2
TR128, TR153, 154
Sawtooth Wave
Sample Hold
TR109~110, 129~130
TR28
Oscillator 50kHz
P3 P2 P1
IC8, TR206~212
Start Stop
TR213
Plunger
D3 D5 D7 D4 D6 D8
A1 A2 A3
TR13~15, 37
Balance Compensation
3-Phase Differential Comparator (Forward)
3-phase Differential Comparator (Reverse)
TR16, 20, 24
TR17, 21, 25
Drive
TR1, 3, 5, 7, 9, 11
TR38
L P F
IC1, TR201~205
Rotation detector
3-phase Differential Comparator (Forward)
3-phase Differential Comparator (Reverse)
TR19, 23, 27
TR18, 22, 26
Drive
TR2, 4, 6, 8, 10, 12
D9
TR29~32, 35
Differential Amplifier
TR33, 34, 42
R51 1Ω
HFE Compensation

Fig. 15

Notes: (1) Be sure, when adjusting VR101 or VR102, to confirm synchronization at 3 speeds (33-1/3, 45 and 78 rpm).

(A) Switching on does not cause turntable to rotate
→ Check the Connecting board for voltage at points C1, C2, C4 (DC5V/32.5V/140V)
→ Voltage outputs are not DC5V/32.5V/140V at respective points
→ Check the power circuit board voltage at points C1, C2, C4 (DC5V/32.5V/140V)
- OK → • DC power socket (SFD8D4F) • Lead wires
- BAD → Primary of transformer (SH-10E)
- BAD → DC5V/32.5V constant-voltage output circuit (SH-10E)

Voltage outputs are not DC5V/32.5V at respective Points
- OK → Check voltage on TR208 ~ TR213
- BAD → Check voltage on I.C. 8 and TR206, 207 or start switch

Voltage output are DC5V/32.5V/140V at respective points
- Brake does not operate → Check the Logic circuit board for voltage on I.C.8 (⑫ ⑬)
- Brake operates → Check the Control circuit board for voltage at point E15
  - BAD → Check voltage on TR115 ~ TR118 and D101, 106, 107 (Control circuit board)
  - OK → Check the Logic circuit board voltage at point P3 (DC 0.7V)
    - BAD → Check voltage on I.C.1 and TR201 ~ TR204 (Logic circuit board) or TR39 ~ TR41 (Drive circuit board)
    - OK → Check the Drive circuit board wave form at point C2
      - BAD → Check voltage on TR28 and T1 (Drive circuit board)
      - OK → Check the Drive circuit board voltage at point A1 ~ A3 (DC 23V)
        - BAD → Check voltage on TR1 ~ TR12, TR16 ~ TR27 or D3 ~ D8 (Drive circuit board)
        - OK → Check the Drive circuit board voltage at point a2 (DC22V)
          - BAD → Check voltage and wave form on TR127, TR151 ~ TR154 (Control circuit board)
          - OK → Check voltage on TR29 ~ TR35, TR37, 38 and D9 ~ D11 (Drive circuit board)

(B) Selected speed (33-1/3 or 45 or 78r.p.m) does not cause turntable to rotate
→ Check the Logic circuit board voltage at points E8 ~ 10.

Speed	E8	E9	E10
33-1/3r.p.m	0.2V	0.2V	3.9V
45 r.p.m	0.2V	3.9V	0.2V
78 r.p.m	3.9V	0.2V	0.2V

- BAD → Check voltage on I.C. 11, 12 (Logic circuit board), or check Selector Switch
- OK → Check voltage on TR115 ~ TR118 or D101, 106, 107

(C) Turntable rotates abnormally (all speed)
→ Turntalbe rotates in wrong direction
→ Check the Connecting board voltage at point C2 (DC5V)
- OV → Check the power-circuit board voltage at point C2 (DC5V)
- Under DC5V → Check DC5V, Constant-voltage output circuit
- DC5V → Check the power circuit board voltage at point C4 (DC32.5V)
  - Over DC32.5V → Check DC32.5V constant-voltage output circuit
  - DC32.5V → Check the Control Circuit board wave form at point e13
    - BAD → Check the Control circuit board wave form at point P10 Ⓕ
      - OK → Check voltage and wave form at TR102, 103, 113, 114
      - BAD → Check voltage and wave form at TR101, 111, 112
    - OK → Check the Control Circuit board wave form at point P10 Ⓣ
      - BAD → Check voltage at TR108, 128, TR124 ~ 126 and TR220, IC10, 15 (Logic circuit board)
      - OK → Adjust, Control circuit board at point P10 Ⓢ and Ⓣ
        → Can't adjust, Period
        → Check the control circuit board voltage at point e15
        - BAD → Check voltage at TR115 ~ TR118, D101, 106, 107
        - OK → Check the Control circuit board voltage at point P10 Ⓖ (DC27V)

(D) Turntable rotates abnormally (33-1/3, 45, 78r.p.m)
→ Adjust control circuit board at point P10 Ⓢ and Ⓣ
→ Can't adjust, Period
→ Check the Control circuit board voltage at point e15
- BAD → Check voltage at TR115 ~ TR118, D101, 106,107
- OK → Check the Control circuit board voltage at Point P10 Ⓖ (DC27V)
  - BAD → Check voltage and wave from at TR104 ~ TR107, TR119 ~ TR121, TR151, 152
    - BAD → Check voltage and wave form at TR127, TR151 ~ TR154
    - OK → Check voltage at TR29 ~ TR35, TR37, 38
      → Check the Logic Circuit board wave form at Point P1
      - BAD → Check voltage at TR218, 219 or X1
      - OK → Check waveform at P2

Speed	T Hi (ms)
33-1/3	2.4
45	1.8
78 r.p.m	1.0

and I.C. 2 ~ I.C.6, I.C.11 ~ I.C.14

  - OK → Drive circuit board voltage at point A2
    - BAD → Check voltage and wave from at TR104 ~ TR107, TR119 ~ TR121, TR151, 152
      - BAD → Check voltage and wave form at TR127, TR151 ~ TR154
      - OK → Check voltage at TR29 ~ TR35, TR37, 38
        → Check the Logic Circuit board wave form at Point P1
        - BAD → Check voltage at TR218, 219 or X1
        - OK → Check waveform at P2

Speed	T Hi (ms)
33-1/3	2.4
45	1.8
78 r.p.m	1.0

and I.C. 2 ~ I.C.6, I.C.11 ~ I.C.14

    - OK → Check the Logic circuit board voltage at points E8 ~ 10.

Speed	E8	E9	E10
33-1/3r.p.m	0.2V	0.2V	3.9V
45 r.p.m	0.2V	3.9V	0.2V
78 r.p.m	3.9V	0.2V	0.2V

      → Check the Logic Circuit board for wave form at point P2
      - BAD → Check voltage on I.C. 11, 12 (Logic circuit board) or Check Speed Selectro Switch
      - OK → Check wave form at Point P2

Speed	T Hi (ms)
33-1/3r.p.m	2.4
45 r.p.m	1.8
78 r.p.m	1.0

and I.C.2 ~ I.C. 6, I.C.11 ~ I.C. 14

(E) Wow. Flutter
→ Check the Drive circuit board wave form on TR16, 17, 20, 21, 24, 25 (base)
- BAD → Check TR16 ~ TR27 D3 ~ D8
- OK → Check wave form on TR7 ~ TR12
  → Check the Connecting board wave form at point A1 ~ A3
  - BAD → Check TR1 ~ TR6
  - OK → Check voltage on TR29 ~ TR35, TR37, 42
    → Check voltage on TR13 ~ TR15, TR36
    - OK → MOTOR
    - OK → Check the Connecting board wave form at Point C2 (50 kHz)
      - OK → MOTOR
      - BAD → Check TR28 or Adjust T1

(F) Mechanical brake does not work
→ Check the Logic circuit board voltage on TR213 (collector)
- BAD → Check, TR213 or plunger or Diode (1S1887)
- Brake mechanism

(G) Electronic brake does not work (Change speed selector from 78r.p.m to 33r.p.m (or 45r.p.m and check the amount of time it takes before speed stabilises)
→ Check the Drive circuit board voltage on TR15, 36, 37
→ OK → Check the Drive circuit board voltage on TR17, 18, 21, 22, 25, 26
→ OK → Check the Connecting board voltage at point b1 (only stop)
→ Check the Logic circuit board on TR210

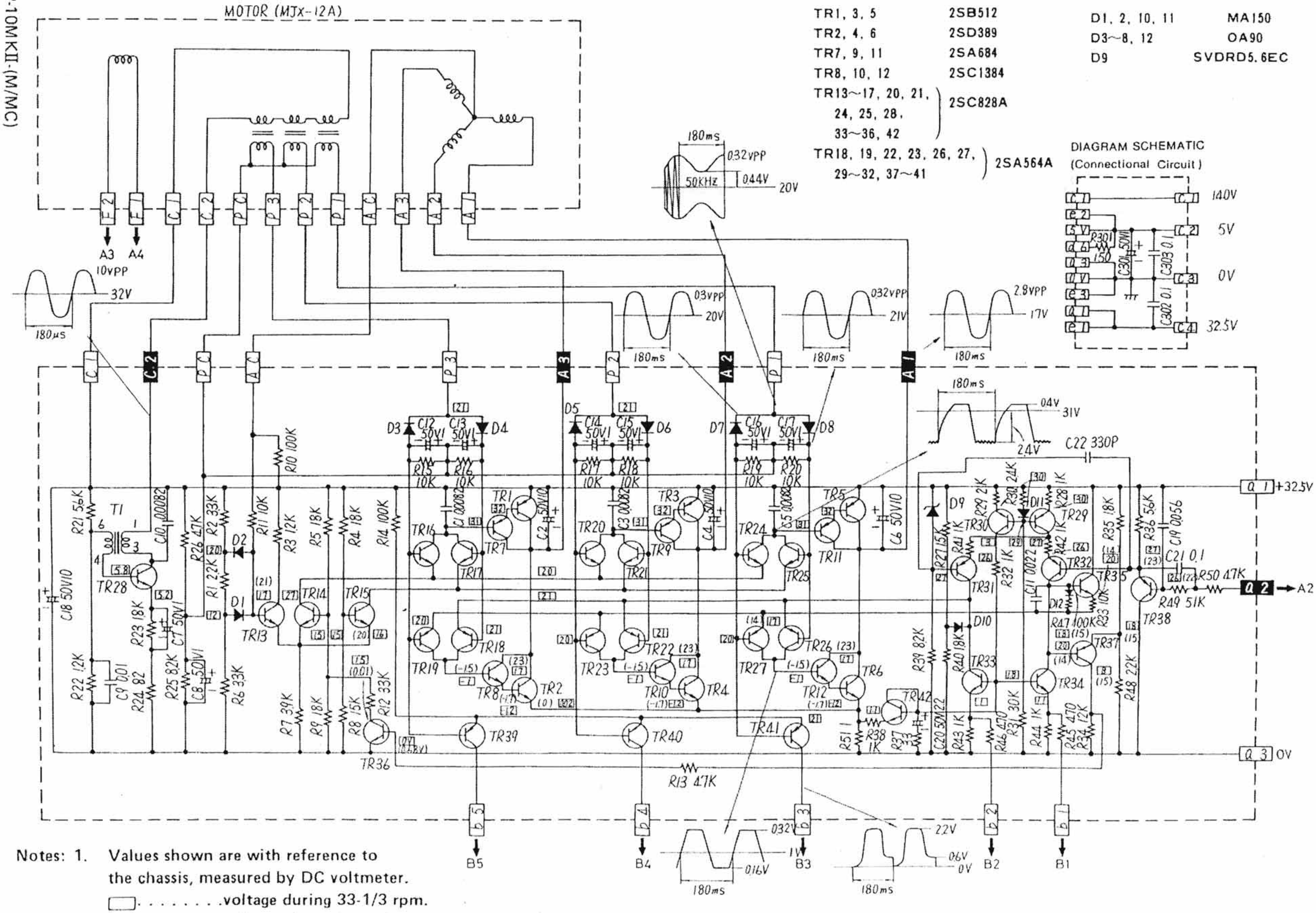
(H) Neon lamp not illuminating or dim
→ Check the connecting board voltage at point C1 (DC 140V)
- BAD → Power Unit (SH-10E)
- OF → Check the Logic circuit board wave form on I.C. 15 ① and ④
  - OK → Check, I.C. 7, 8, 16
  - BAD → Check the Connecting board wave form at point N1 and N2
    - BAD → Check, I.C. 15 and TR217, 216
    - NEON

(I) If the turntable is stopped manually and it does not resume turning when the hand is removed.
→ Check the Drive circuit board voltage at points A1 ~ A3 (23V)
→ Check the Drive circuit board voltage on TR1 ~ TR12, TR16 ~ TR27, or D3 ~ D8.

(J) Turntable torque characteristics are bad
→ Check the Control circuit board wave form at points Ⓢ and Ⓣ
- OK → MOTOR
- BAD → Adjust at Ⓢ and Ⓣ
  → Can't adjust, Period
  → Check, VR101, VR102

(K) When actuating, Turntable speed is slow
→ Check the Drive circuit board voltage on TR29, 30, TR33 ~ TR35
→ OK → MOTOR

Schematic Diagram (Drive Circuit) ..... Model SP-10MKII-(M/MC)



Notes: 1. Values shown are with reference to the chassis, measured by DC voltmeter.
□. . . . . .voltage during 33-1/3 rpm.
( ). . . . . .voltage when stopped.
Waveforms are during 33-1/3 rpm.

This schematic diagram maybe modified at any time with the development of new technology.

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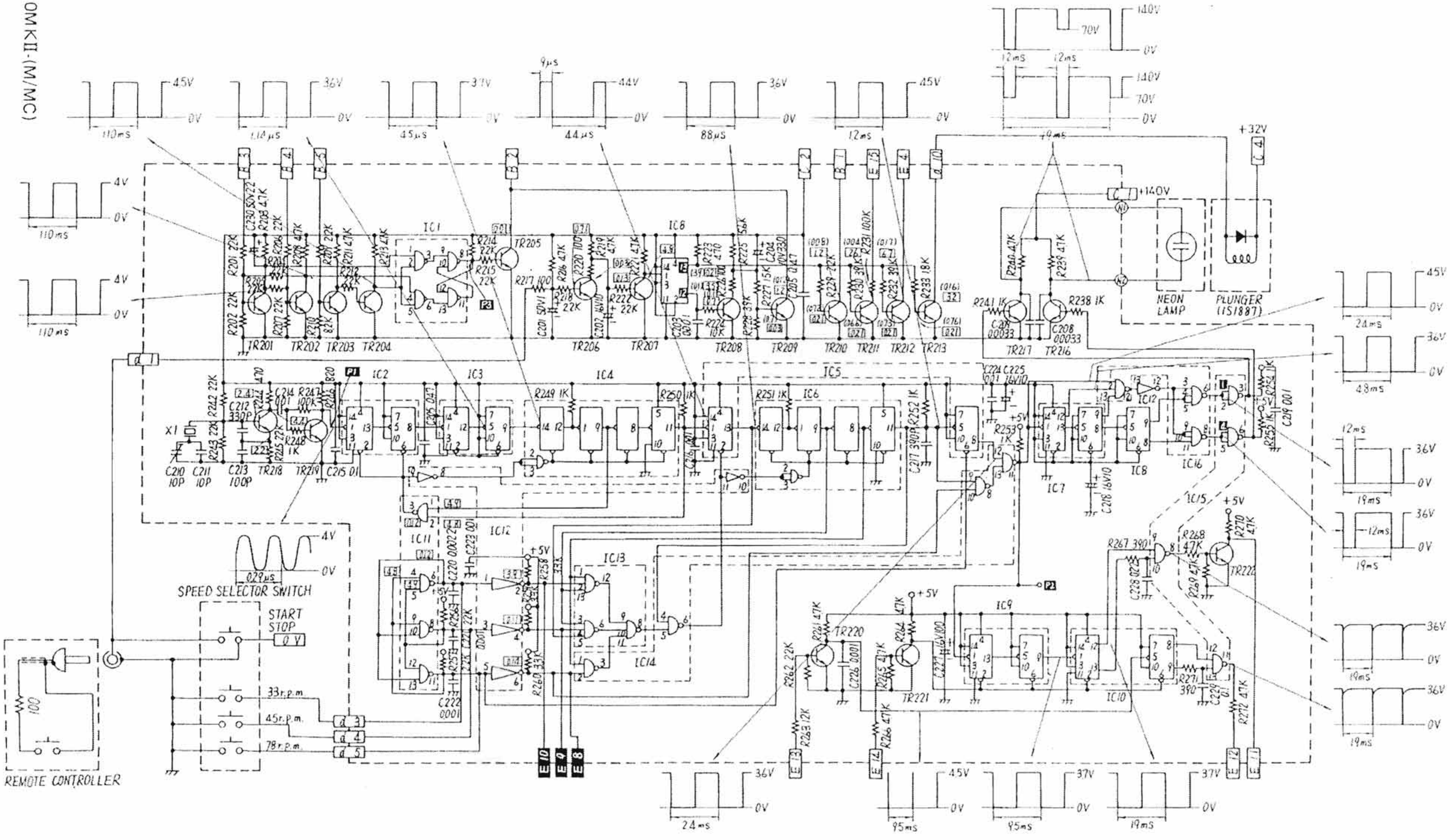
Schematic Diagram (Logic Circuit) ..... Model SP-10MKII-(M/MC)

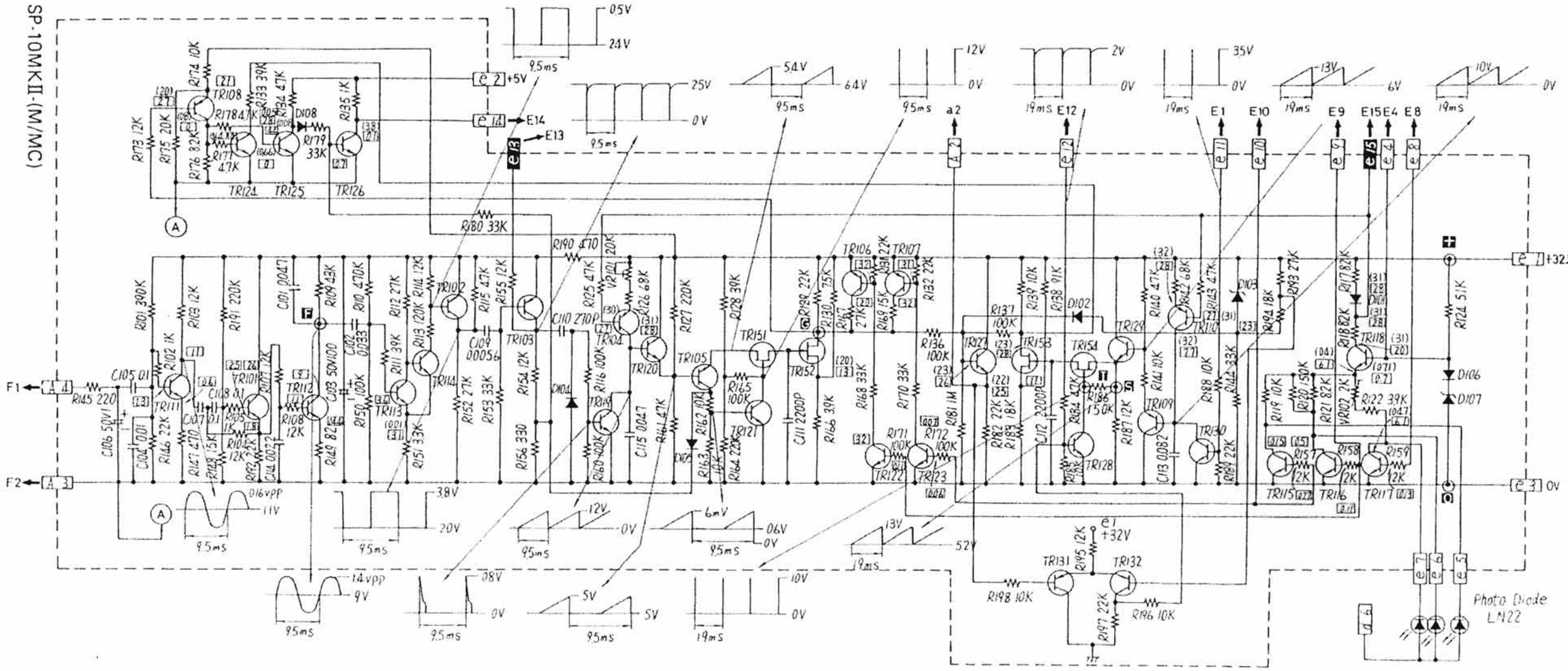


Notes: 1. Values shown are with reference to the chassis, measured by DC voltmeter.
□. . . . . .voltage during 33-1/3 rpm.
( ). . . . . .voltage when stopped.
Waveforms are during 33-1/3 rpm.

IC1	SVIM53200P	TR201~212 } 218~222 }	2SC828A
IC2, 3, 5, 7, 8, 9	SVIM53273P		
IC4, 6	SVIM53293P	TR213	2SC1384
IC11	SVIM5946P	TR216, 217	2SC1573
IC12	SVIM53204P		
IC13, 16	SVIM53210P		
IC14, 15	SVIM53200P		

This schematic diagram maybe mddified at any time with the development of new technology.

Schematic Diagram (Control Circuit) ..... Model SP-10MKII-(M/MC)



Notes: 1. Values shown are with reference to the chassis, measured by DC voltmeter.

□ . . . . . .voltage during 33-1/3 rpm.

( ) . . . . . .voltage when stopped.

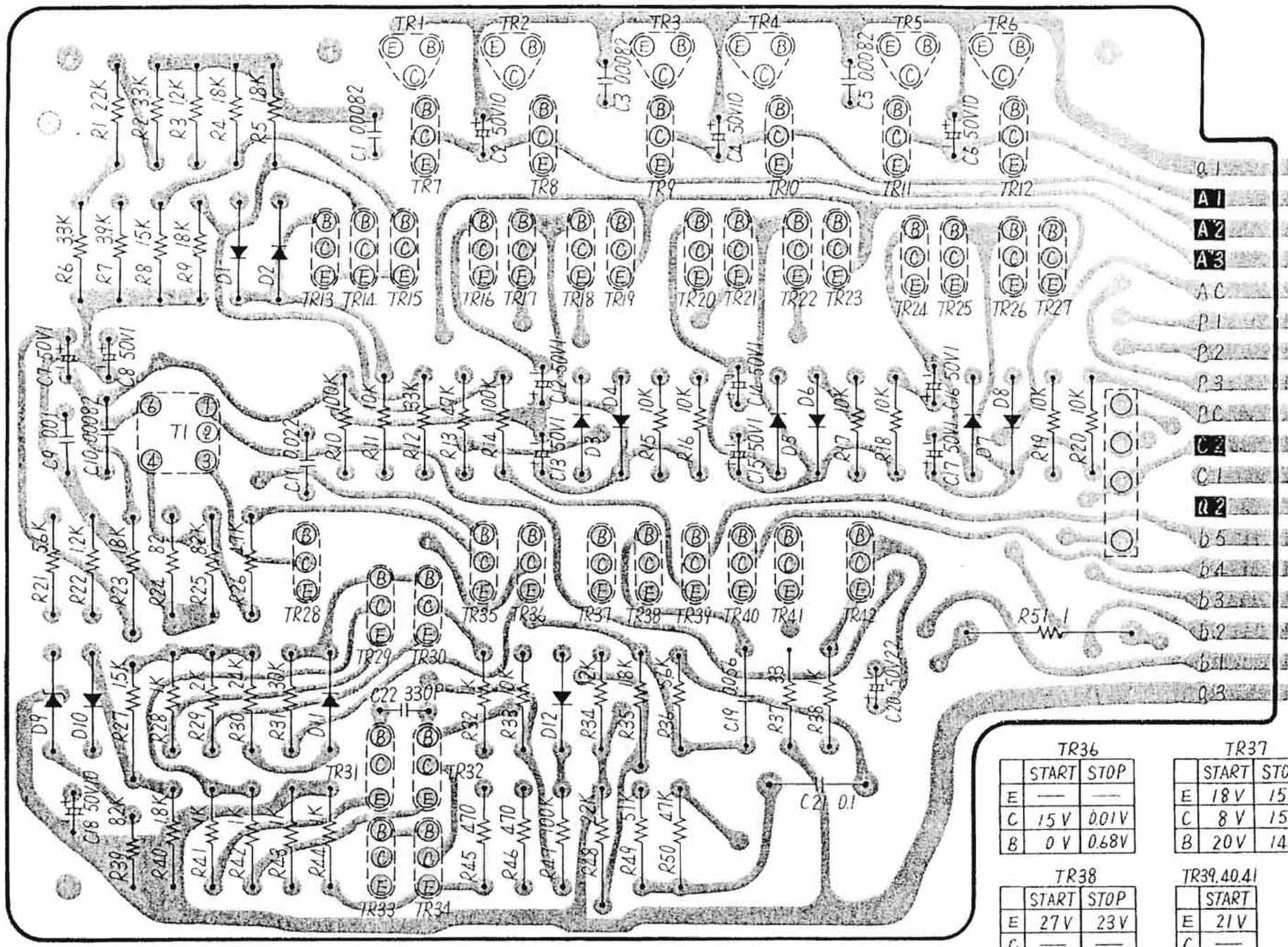
Waveforms are during 33-1/3 rpm.

TR102~110, 131, 132	2SA564A
TR101, 111~130	2SC828A
TR151~154	2SK30A
D101, 102, 104, 105, 106, 108	MA150
D103	SVDRD9.1EBS
D107	SVDRD5.6ECS

This schematic diagram maybe modified at any time with the development of new technology.

Printed circuit board pattern seen from below.

Circuit Board Wiring View (Drive Circuit) ..... Model SP-10MKII-(M/MC)



TR1.3.5

	START
E	—
C	17V
B	32V

TR7.9.11

	START
E	32V
C	17V
B	31V

TR2.4.6

	START	STOP
E	0.02V	0V
C	17V	23V
B	-1.2V	-1.7V

TR8.10.12

	START	STOP
E	-1.2V	-1.7V
C	17V	23V
B	-1V	-1.5V

TR13

	START
E	16V
C	27V
B	17V

TR14

	START
E	16V
C	20V
B	15V

TR15

	START
E	16V
C	21V
B	15V

TR16.20

	START
E	20V
C	31V
B	20V

TR17.21

	START
E	21V
C	31V
B	21V

TR24

	START
E	20V
C	31V
B	20V

TR18.22

	START	STOP
E	17V	14V
C	-1V	-1.5V
B	21V	—

TR19.23

	START	STOP
E	17V	14V
C	-1V	-1.5V
B	20V	—

TR25

	START
E	21V
C	31V
B	—

TR28

	START
E	5.2V
C	—
B	5.8V

TR26

	START	STOP
E	17V	14V
C	-1V	1.5V
B	—	—

TR27

	START	STOP
E	17V	14V
C	-1V	-1.5V
B	20V	—

TR29

	START
E	30V
C	27V
B	29V

TR30

	START
E	30V
C	3V
B	29V

TR31

	START
E	26V
C	17V
B	27V

TR33

	START
E	1V
C	17V
B	1.8V

TR32

	START	STOP
E	26V	—
C	20V	14V
B	27V	23V

TR36

	START	STOP
E	—	—
C	15V	0.01V
B	0V	0.68V

TR37

	START	STOP
E	18V	15V
C	8V	15V
B	20V	14V

TR34

	START
E	1.1V
C	20V
B	1.8V

TR42

	START
E	1.1V
C	1.8V
B	1.8V

TR38

	START	STOP
E	27V	23V
C	—	—
B	26V	22V

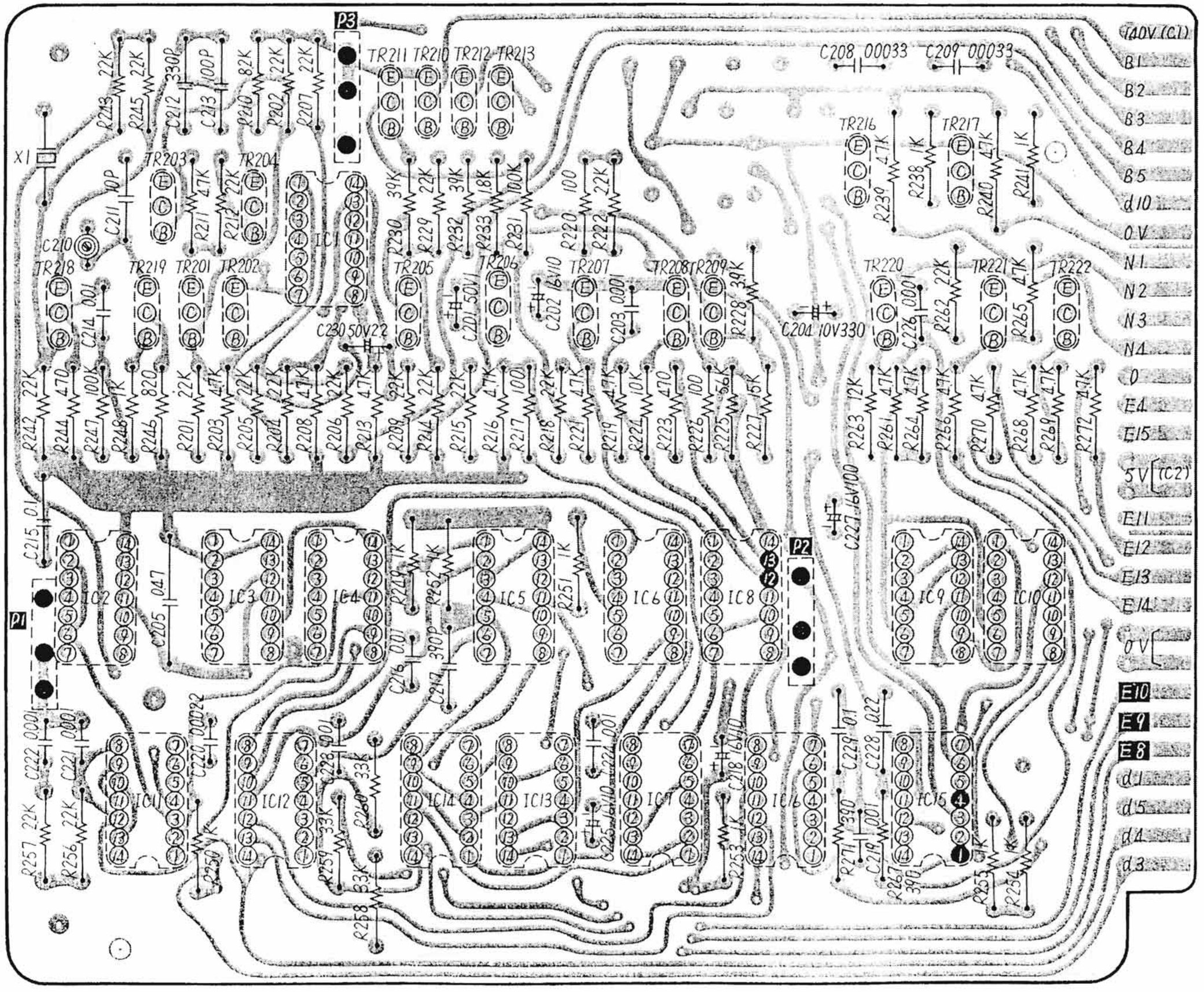
TR39.40.41

	START
E	21V
C	—
B	20V

TR35

	START	STOP
E	20V	14V
C	—	—
B	18V	15V

Circuit Board Wiring View (Logic Circuit) ..... Model SP-10MKII-(M/MC)



TR205

	START
E	—
C	0.01V
B	—

TR206

	START
E	—
C	0.03V
B	0.71V

IC12

	START
2	3.9V
4	0.1V
6	0.14V

TR207

	START
E	—
C	4.8V
B	0.13V

IC8

	START	STOP
12	3.5V	0.1V
13	0.21V	3.9V

TR209

	START	STOP
E	—	—
C	1.2V	0.12V
B	0.03V	0.7V

TR210

	START	STOP
E	—	—
C	1.2V	0.08V
B	0.21V	0.72V

TR211

	START	STOP
E	—	—
C	26V	0.04V
B	0.21V	0.66V

IC11

	START
1	4.9V
2	4.8V
3	0.12V
4	4.8V
5	4.9V
6	0.12V

TR212

	START	STOP
E	—	—
C	6.7V	0.17V
B	0.21V	0.73V

TR218

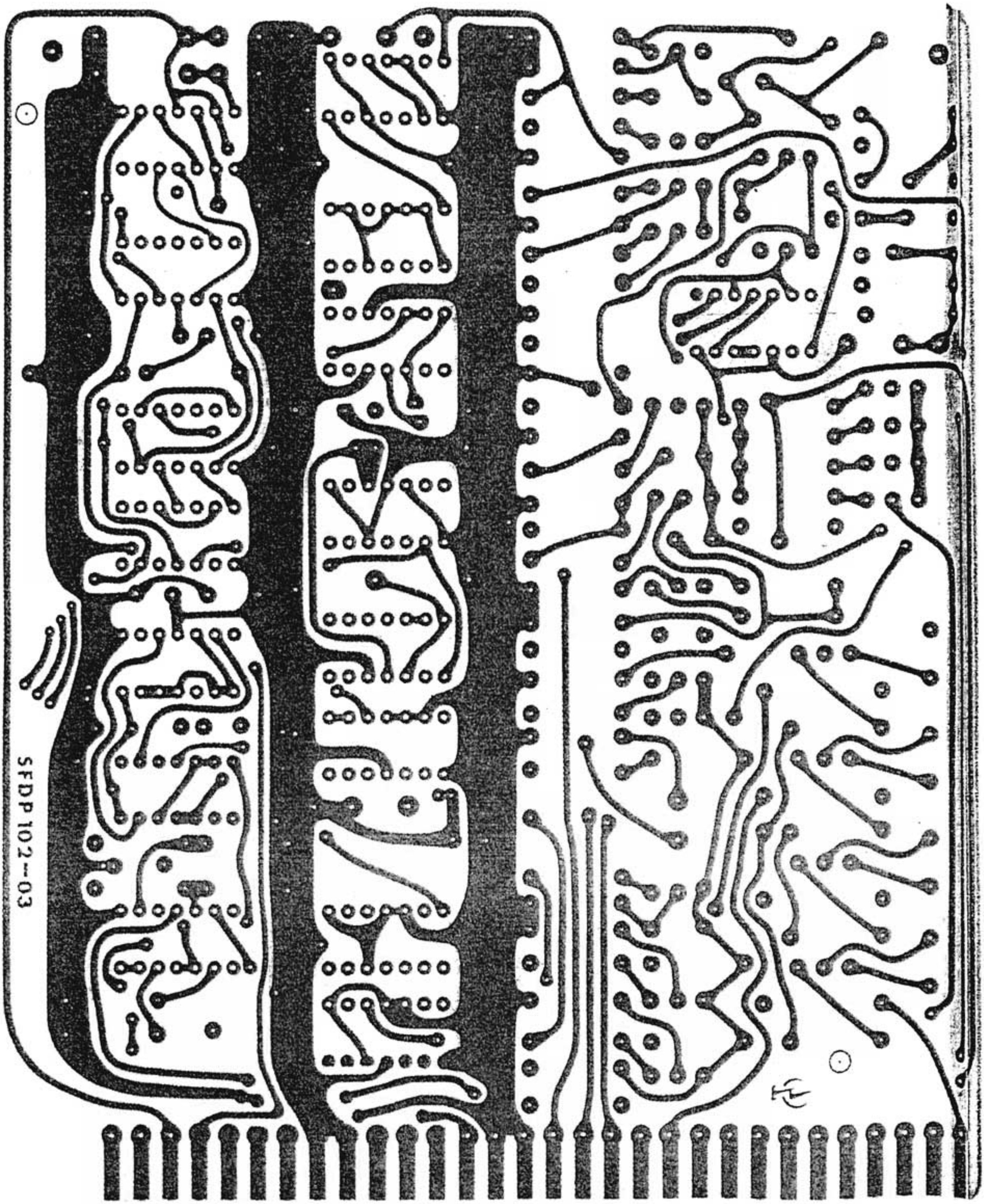
	START
E	2.2V
C	4.4V
B	2.4V

TR213

	START	STOP
E	—	—
C	32V	0.16V
B	0.21V	0.76V

Circuit Board Wiring View (Logic Circuit)

..... Model SP-10MKII-(M/MC)



Circuit Board Wiring View (Control Circuit) ..... Model SP-10MKII-(M/MC)

TR111	START
E	0.6 V
C	1 V
B	1.3 V

TR101	START
E	1.8 V
C	26 V
B	25 V

TR115	START
E	—
C	0.15 V
B	0.77 V

TR116	START
E	—
C	0.5 V
B	0.11 V

TR117	START	STOP
E	—	—
C	6.1 V	0.47 V
B	0.13 V	—

TR118	START	STOP
E	6.1 V	0.41 V
C	2.0 V	3.1 V
B	0.7 V	0.71 V

TR151	START	STOP
D	—	—
S	1.3 V	2.0 V
G	—	—

TR122	START
E	—
C	3.2 V
B	0.11 V

TR123	START
E	—
C	0.07 V
B	0.06 V

TR108	START	STOP
E	2.1 V	—
C	0 V	0.8 V
B	2.7 V	2.0 V

TR124	START	STOP
E	—	—
C	2.8 V	0.05 V
B	0 V	0.64 V

TR125	START	STOP
E	—	—
C	4.4 V	0.08 V
B	0 V	0.66 V

TR112	START
E	0.44 V
C	9 V
B	1.1 V

TR113	START	STOP
E	3.1 V	0.01 V
C	—	—
B	3.6 V	—

TR106	START
E	—
C	2.0 V
B	3.2 V

TR107	START
E	—
C	3.2 V
B	3.1 V

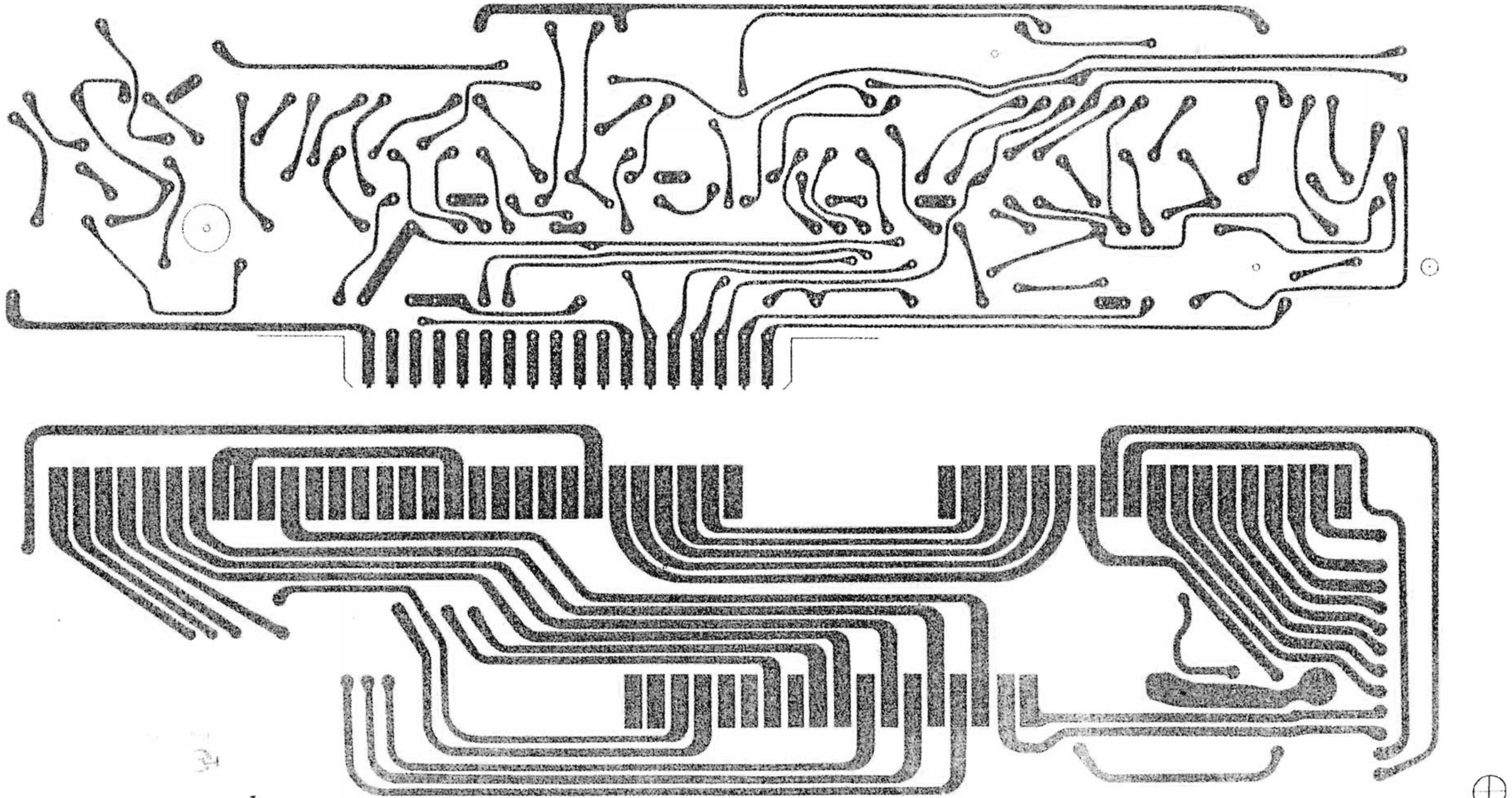
TR126	START	STOP
E	—	—
C	0.1 V	3.8 V
B	0.7 V	—

TR127	START	STOP
E	2.5 V	2.2 V
C	—	—
B	2.6 V	2.3 V

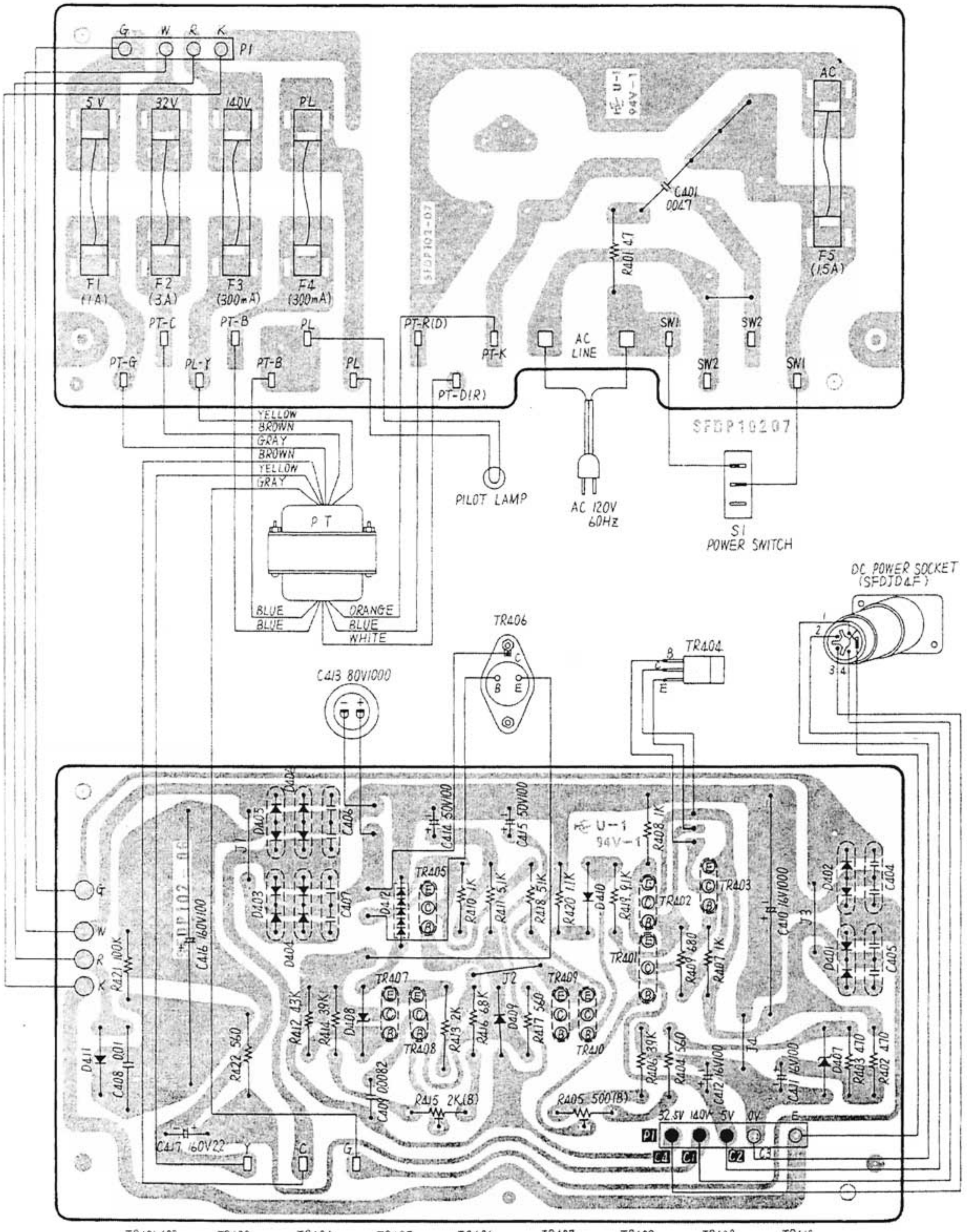
TR153	START	STOP
E	2.8 V	2.3 V
C	1.1 V	—
B	—	—

TR110	START	STOP
E	2.8 V	3.2 V
C	7.7 V	3.2 V
B	2.7 V	3.1 V

Circuit Board Wiring View (Connectional Circuit) ..... Model SP-10MKII-(M/MC)



Circuit Board Wiring View ..... Power Unit [SH-10E-(M/MC)]



TR401.402	START
E	43V
C	11V
B	5V

TR403	START
E	11V
C	57V
B	11V

TR404	START
E	5V
C	11V
B	57V

TR405	START
E	33V
C	51V
B	34V

TR406	START
E	325V
C	48V
B	33V

TR407	START
E	18V
C	325V
B	19V

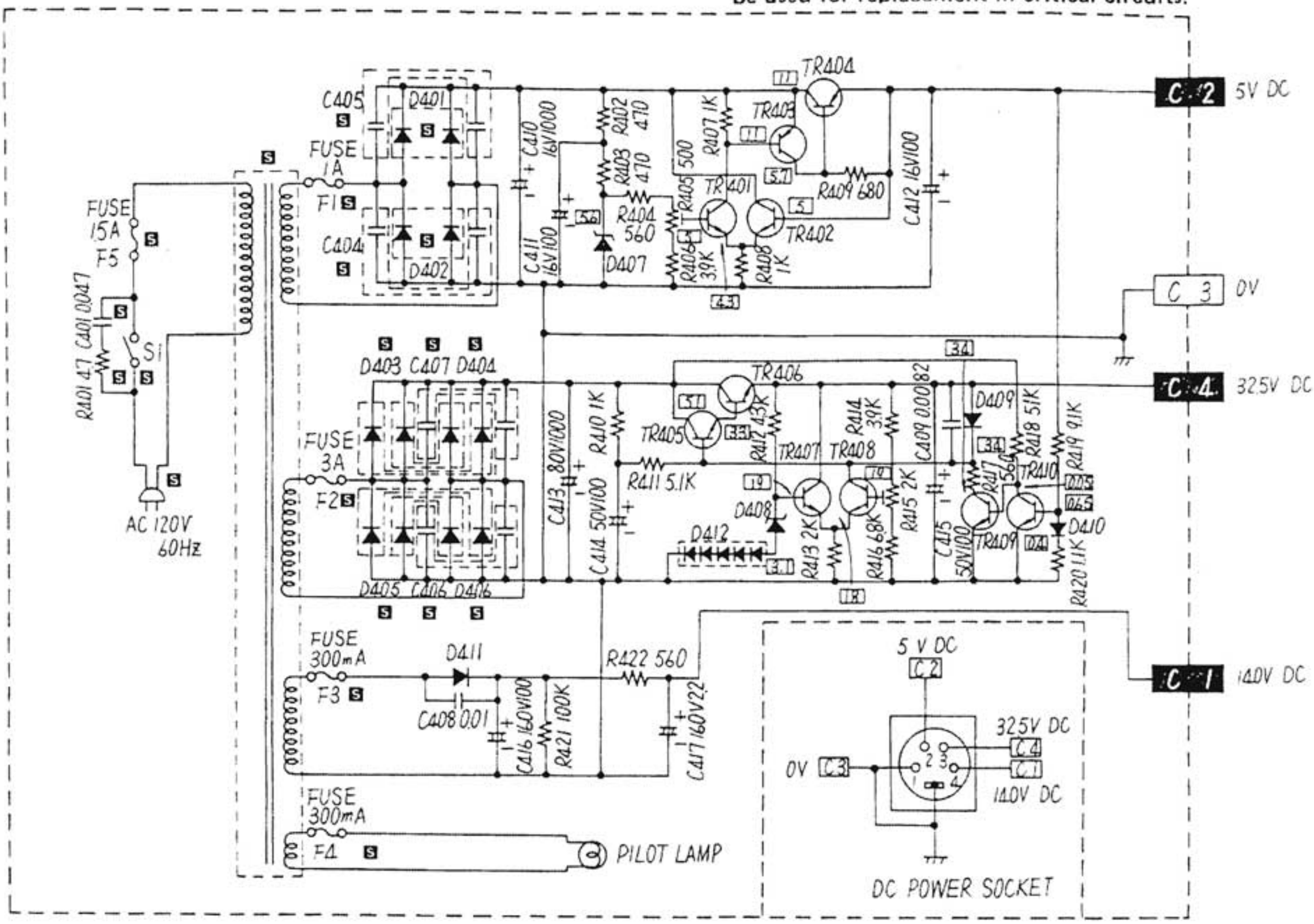
TR408	START
E	18V
C	34V
B	19V

TR409	START
E	3.1V
C	34V
B	005V

TR410	START
E	3.1V
C	005V
B	0.65V

Schematic Diagram ..... Power Unit [SH-10E-(M/MC)]

Notes: **S** indicates that only parts specified by the manufacture be used for replacement in critical circuits.



■ PACKING PARTS

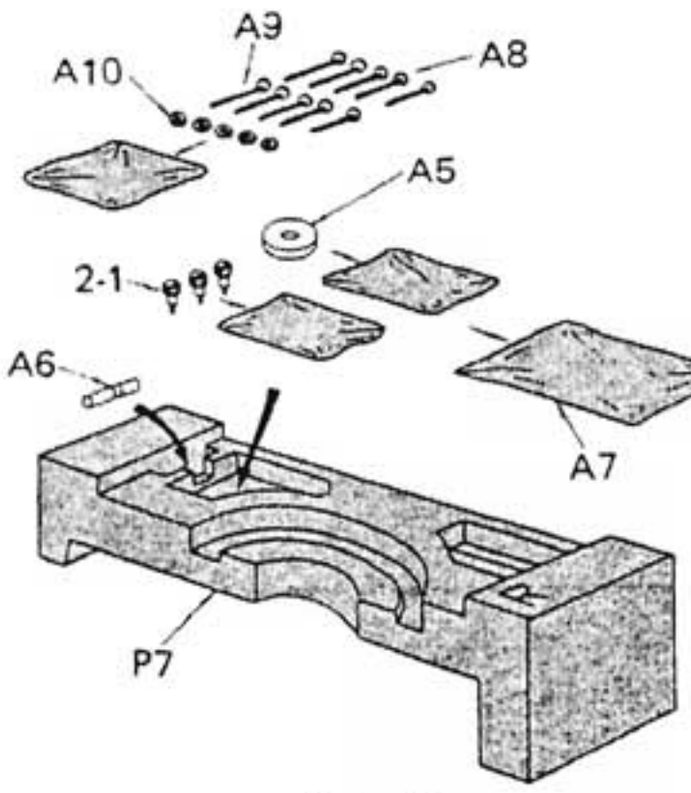


Fig. 16

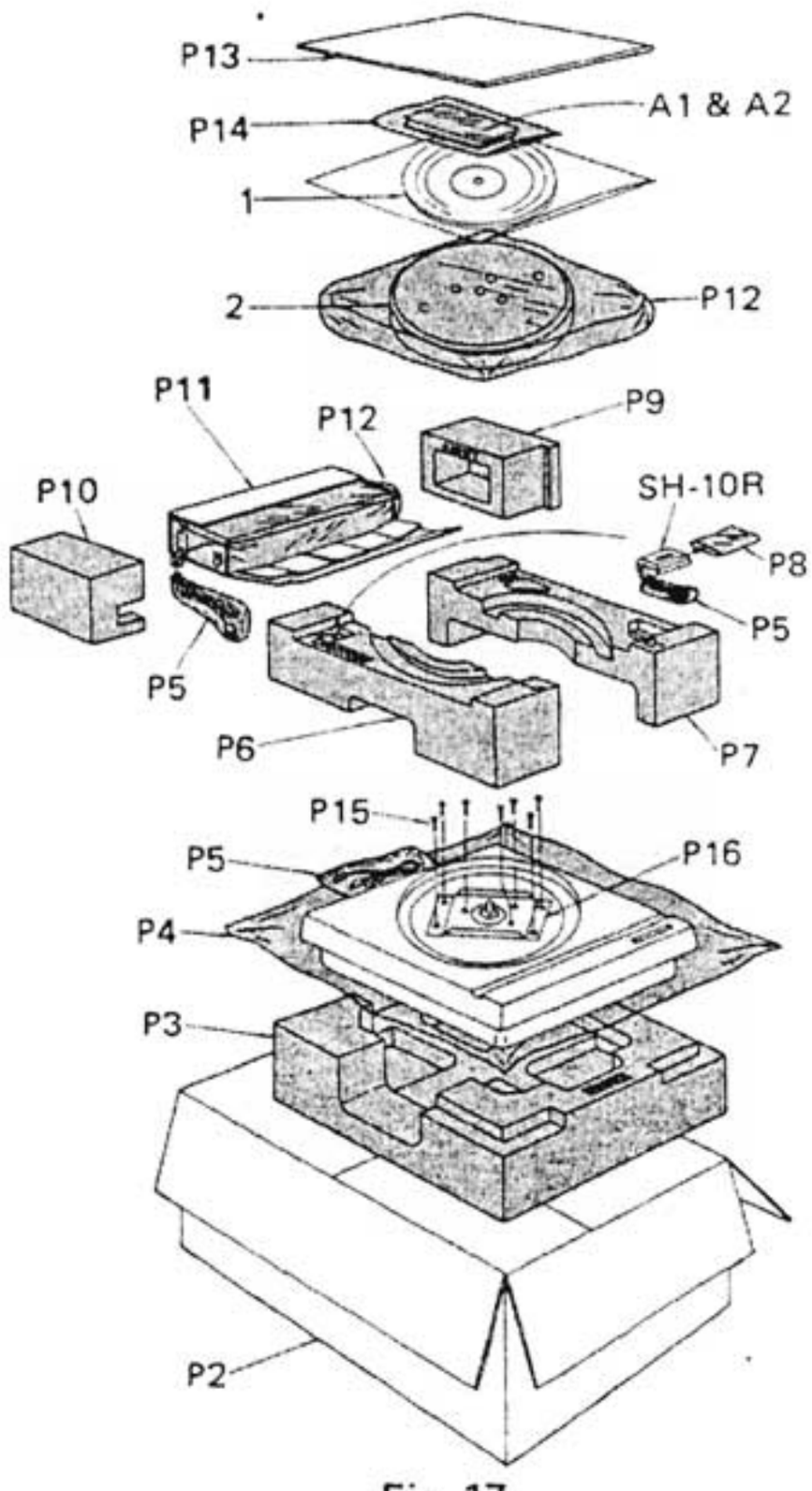


Fig. 17

Exploded View of Turntable ..... Model SP-10MKII-(M/MC)

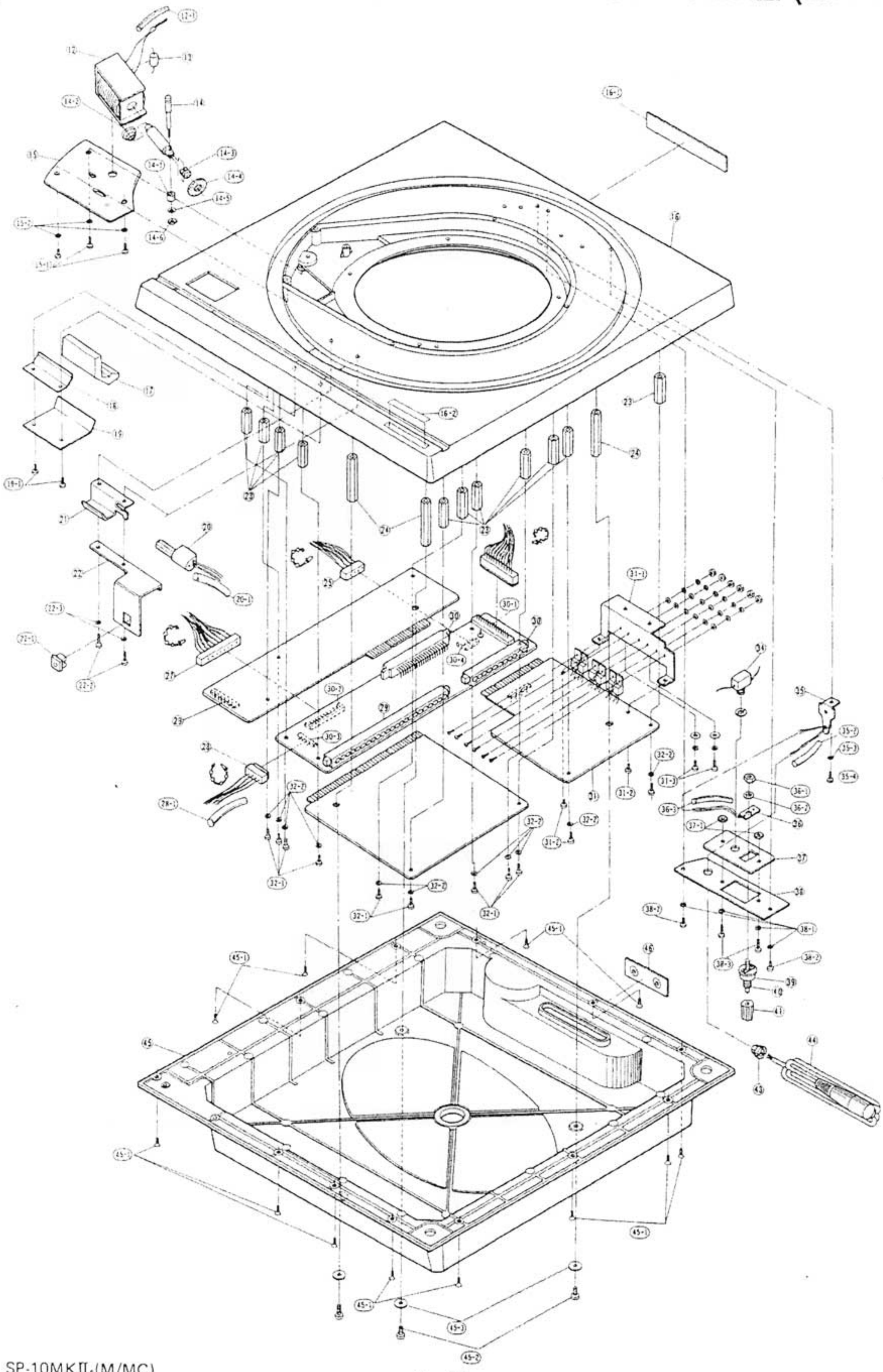


Fig. 18

Exploded View of Turntable ..... Model SP-10MKII-(M/MC))

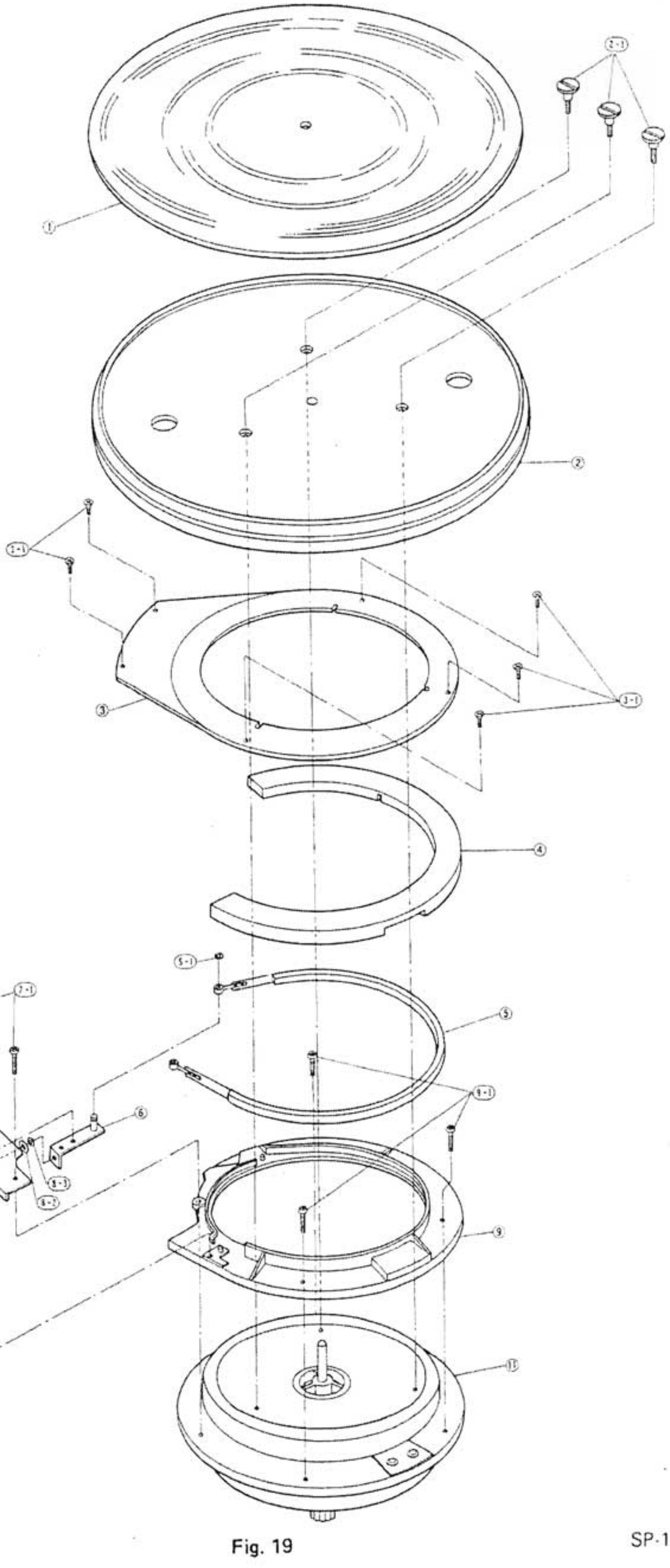


Fig. 19

Exploded View of Power Unit ..... Model SH-10E-(M/MC)

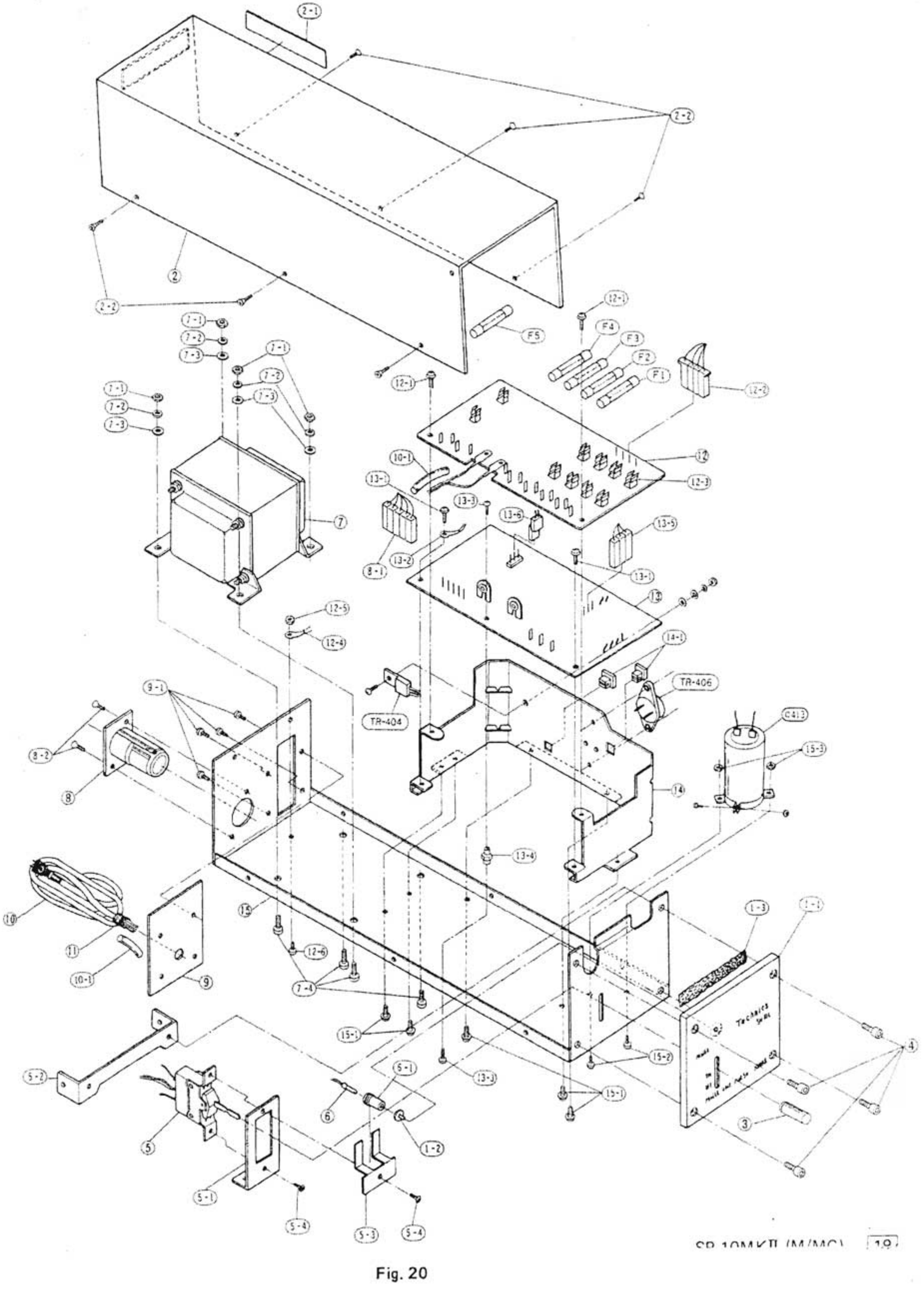
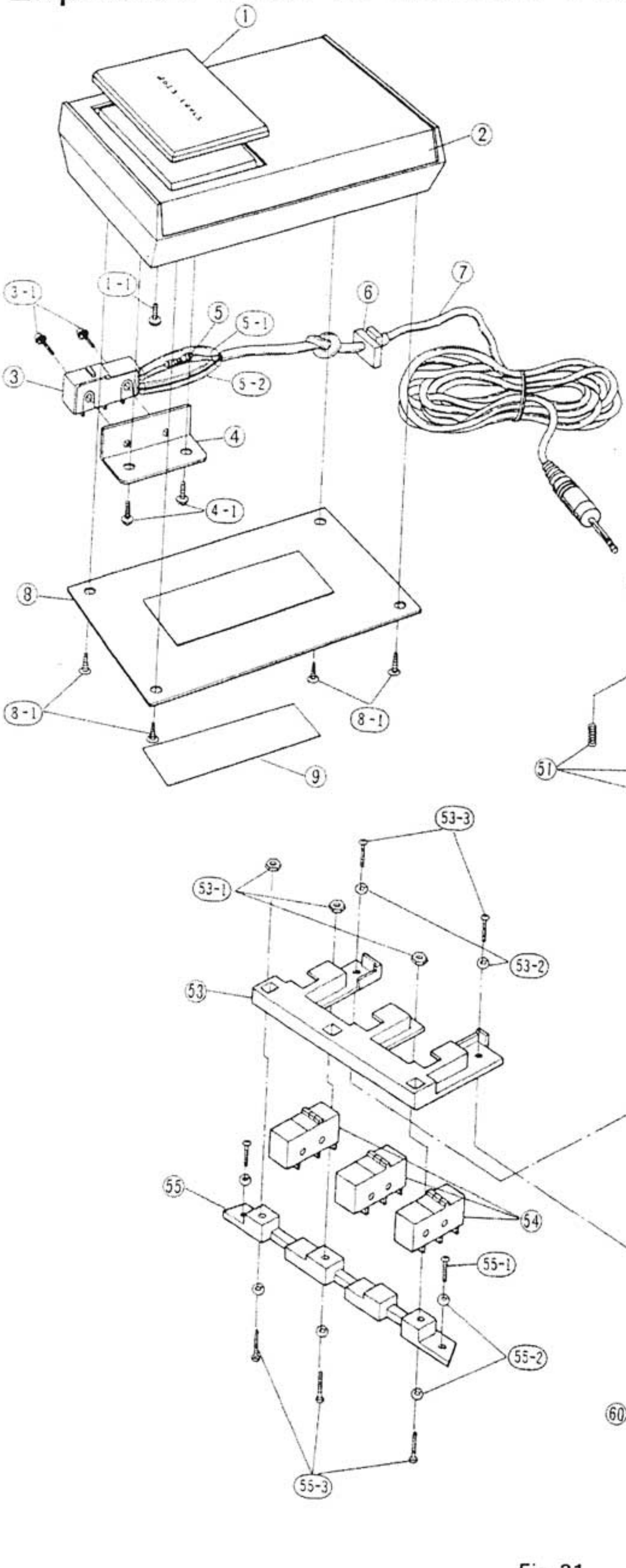


Fig. 20

Exploded View of Remote Control .....

Model SH-10R-(M/MC)



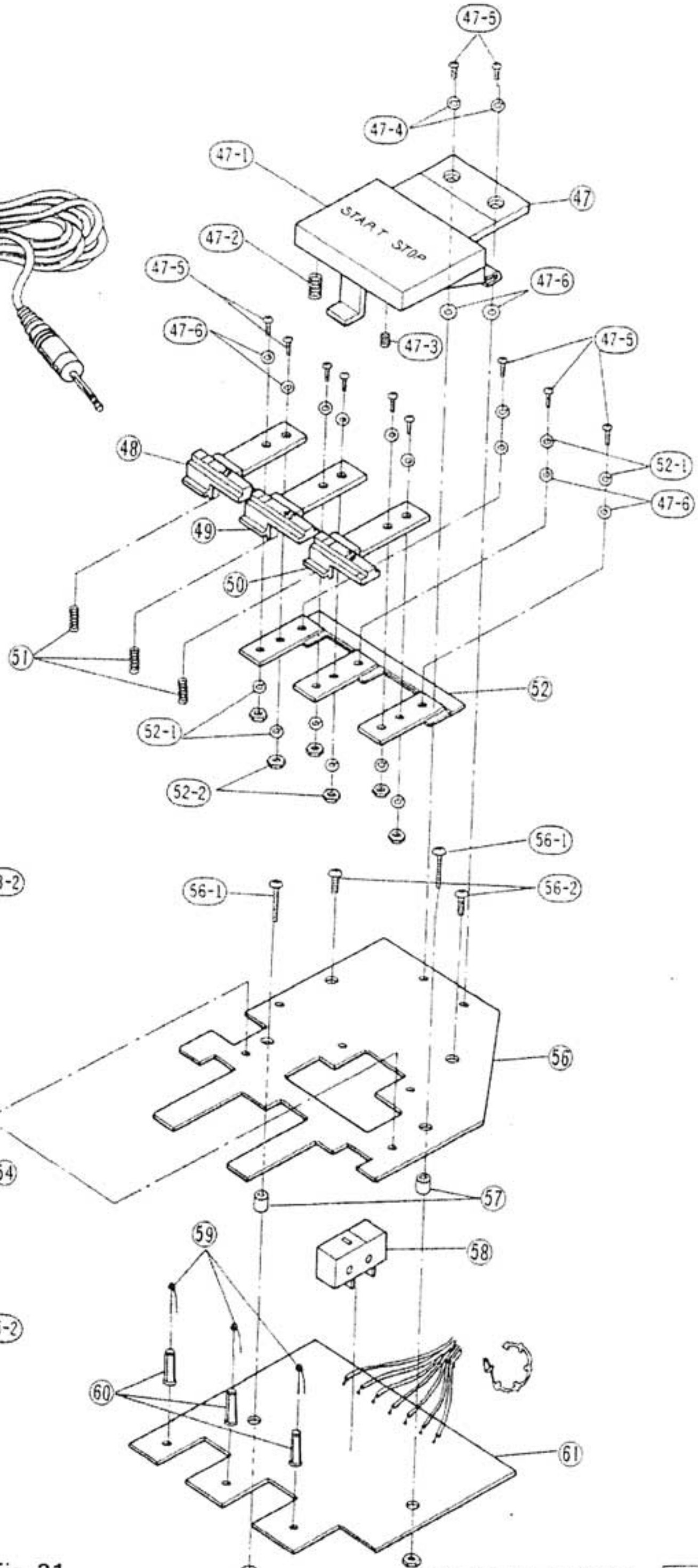


Fig. 21

REPLACEMENT PARTS LIST

NOTES: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.
2. SAFETY Indicates, for safety reasons, that only parts specified in service manual be used for replacement.

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
DRIVE CIRCUIT BOARD					
Transistors					
TR1, 3, 5	2SB512-P	Transistors	3		
TR2, 4, 6	2SD390A-Q	Transistors	3		
TR7, 9, 11	2SA752-Q	Transistors	3		
TR8, 10, 12	2SC1384A-Q	Transistors	3		
TR13~ 17, 20, 21, 24, 25, 28 33~ 36, 42	2SC1328-T	Transistors	15		
TR18, 19, 22, 23, 27, 29~ 32, 37~ 41	2SA666AI-R	Transistors	15		
Diodes					
D1, 2, 10, 11	MA150	Diodes	4		
D3~ 8, 12	OA90	Diodes	7		
D9	SVDRD5.6ECS	Diode	1		
Transformer					
T1	ELM10S123	Oscillator	1		
Resistors					
R28, 38, 43, 44	ER050CKF1001	1KΩ 1/2W ± 1% Metallic	4		
R29	ER050CKF2001	2KΩ 1/2W ± 1% Metallic	1		
R51	ERX2ANJ1R0	1Ω 2W ± 5% Metallic	1		
R37	ERD12FJ3R3	3.3Ω 1/2W ± 5% Carbon	1		
R24	ERD12FJ820	82Ω 1/2W ± 5% Carbon	1		
R3, 22	ERD12FJ122	1.2KΩ 1/2W ± 5% Carbon	2		
R27	ERD50TJ152	1.5KΩ 1/2W ± 5% Carbon	1		
R23, 35, 40	ERD50TJ182	1.8KΩ 1/2W ± 5% Carbon	3		
R48	ERD50TJ222	2.2KΩ 1/2W ± 5% Carbon	1		
R1	ERD25TJ222	2.2KΩ 1/4W ± 5% Carbon	1		
R30	ERD25TJ242	2.4KΩ 1/4W ± 5% Carbon	1		
R2, 6	ERD25TJ332	3.3KΩ 1/4W ± 5% Carbon	2		
R7	ERD25TJ392	3.9KΩ 1/4W ± 5% Carbon	1		
R26	ERD25TJ472	4.7KΩ 1/4W ± 5% Carbon	1		
R21, 36	ERD25TJ562	5.6KΩ 1/4W ± 5% Carbon	2		
R45, 46	ERD25TJ471	470Ω 1/4W ± 5% Carbon	2		
R32, 41, 42	ERD25TJ102	1KΩ 1/4W ± 5% Carbon	3		
R25, 39	ERD25TJ822	8.2KΩ 1/4W ± 5% Carbon	2		
R11, 15, 16, 17 18, 19, 20, 33	ERD25TJ103	10KΩ 1/4W ± 5% Carbon	8		
R34	ERD25TJ123	12KΩ 1/4W ± 5% Carbon	1		
R8	ERD25TJ153	15KΩ 1/4W ± 5% Carbon	1		
R4, 5, 9	ERD25TJ183	18KΩ 1/4W ± 5% Carbon	3		
R31	ERD25TJ303	30KΩ 1/4W ± 5% Carbon	1		
R12	ERD25TJ333	33KΩ 1/4W ± 5% Carbon	1		
R13, 50	ERD25TJ473	47KΩ 1/4W ± 5% Carbon	2		
R49	ERD25TJ513	51KΩ 1/4W ± 5% Carbon	1		
R10, 14, 47	ERD25TJ104	100KΩ 1/4W ± 5% Carbon	3		
Capacitors					
C22	ECQS1331K	330pF 125WV ±10% Styrol	1		
C1, 3, 5, 10	ECQM05822KZ	0.0082pF 50WV ±10% Polyester	4		
C9	ECQM05103KZ	0.01μF 50WV ±10% Polyester	1		
C11	ECQM05223KZ	0.022μF 50WV ±10% Polyester	1		
C19	ECQM05563KZ	0.056μF 50WV ±10% Polyester	1		
C21	ECQM05104KZ	0.1μF 50WV ±10% Polyester	1		
C7, 8, 12, 13, 14 15, 16, 17	ECEA50V1	1μF 50WV Electrolytic	8		
C20	ECEA50V2R2	2.2μF 50WV Electrolytic	1		
C2, 4, 6, 18	ECEA50V10	10μF 50WV Electrolytic	4		
LOGIC CIRCUIT BOARD					
Intergrated Circuits					
IC1, 14, 15	SVIM53200P	Intergrated Circuit	1		
IC2, 3, 5, 7, 8, 9, 10	SVIM53273P	Intergrated Circuit	7		
IC4, 6	SVIM53293P	Intergrated Circuit	2		
IC11	SVIM5946P	Intergrated Circuit	1		
IC12	SVIM53204P	Intergrated Circuit	1		
IC13, 16	SVIM53210P	Intergrated Circuit	2		
Transistors					
TR201~ 212 218~ 222	2SC1328-T	Transistors	17		
TR213	2SC1384A-Q	Transistor	1		
TR216, 217	2SC1573-Q	Transistors	2		
Resistors					
R210, 220, 226	ERD25TJ101	100Ω 1/4W ± 5% Carbon	3		
R267, 271	ERD25TJ391	390Ω 1/4W ± 5% Carbon	2		
R223, 244	ERD25TJ471	470Ω 1/4W ± 5% Carbon	2		
R246	ERD25TJ821	820Ω 1/4W ± 5% Carbon	1		
R238, 241, 248 249, 250, 251 252, 253, 254, 255	ERD25TJ102	1KΩ 1/4W ± 5% Carbon	10		
TR233	ERD25TJ182	1.8KΩ 1/4W ± 5% Carbon	1		
TR214, 218, 222	ERD25TJ222	2.2KΩ 1/4W ± 5% Carbon	7		
TR246, 256, 257, 262					
TR258, 259, 260	ERD25TJ332	3.3KΩ 1/4W ± 5% Carbon	3		
TR228	ERD25TJ392	3.9KΩ 1/4W ± 5% Carbon	1		
TR203, 208, 211, 213, 216, 219, 221, 261, 264, 265, 266, 268, 269, 270, 272	ERD25TJ472	4.7KΩ 1/4W ± 5% Carbon	15		
TR225	ERD25TJ562	5.6KΩ 1/4W ± 5% Carbon	1		
TR210	ERD25TJ822	8.2KΩ 1/4W ± 5% Carbon	1		
TR224	ERD25TJ103	10KΩ 1/4W ± 5% Carbon	1		
TR263	ERD25TJ123	12KΩ 1/4W ± 5% Carbon	1		
TR227	ERD25TJ153	15KΩ 1/4W ± 5% Carbon	1		
TR201, 202, 204 ~ 207, 209, 212, 215, 229, 242, 243	ERD25TJ223	22KΩ 1/4W ± 5% Carbon	12		
TR230, 232	ERD25TJ393	39KΩ 1/4W ± 5% Carbon	2		
TR231, 247	ERD25TJ104	100KΩ 1/4W ± 5% Carbon	2		
TR239, 240	ERG1ANJ472	4.7KΩ 1W ± 5% Metallic	2		
Capacitors					
C203, 221, 222, 226	ECQM05102KZ	0.001μF 50WV ±10% Polyester	4		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
C220	ECQM05222KZ	0.0022μF 50WV ±10% Polyester	1		
C214, 216, 219, 223, 224	ECQM05103KZ	0.01μF 50WV ±10% Polyester	5		
C215, 229	ECQM05104KZ	0.1μF 50WV ±10% Polyester	2		
C228	ECQM05224KZ	0.22μF 50WV ±10% Polyester	1		
C205	ECQM05474KZ	0.47μF 50WV ±10% Polyester	1		
C208, 209	ECQM2332KZ	0.0033μF 50WV ±10% Polyester	2		
C211	ECQS5100K	10pF 50WV ±10% Styrol	1		
C213	ECQS1101K	100pF 125WV ±10% Styrol	1		
C212	ECQS1331K	330pF 125WV ±10% Styrol	1		
C217	ECQS1391K	390pF 125WV ±10% Styrol	1		
C201	**ECEA50V1**	1pF 50WV Electrolytic	1		
C230	**ECEA50V2R2**	2.2μF 50WV Electrolytic	1		
C202, 218, 225,	**ECEA16V10**	10μF 16WV Electrolytic	3		
C227	**ECEA16V100**	100μF 16WV Electrolytic	1		
C204	**ECEA10V330V**	330μF 10WV Electrolytic	1		
Variable Capacitor					
C210	ECV1ZW10X53	10pF Ceramic trimer	1		
Crystal					
XI	TSS616-1K	3.5796MH Oscillater	1		
CONTROL CIRCUIT BOARD					
Transistors					
TR101, 113~130	**2SC1328-T**	Transistors	18		
TR102~108, 110, 131, 132,	**2SA666AI-R**	Transistors	10		
TR109	**2SA666AI-R**	Transistor	1		
TR111, 112, 120.	**2SC1328-T**	Transistors	3		
TR151~154	2SK30A-Y	Transistors	4		
Diodes					
D101, 102, 104, 105, 106, 108	MA150	Diodes	6		
D103	SVDRD9.1EBS	Diode	1		
D107	SVDRD5.6ECS	Diode	1		
Resistors					
R121	ERO25CKD8201	8.2KΩ 1/4W ± 5% Metallic	1		
R119	ERO25CKD1002	10KΩ 1/4W ± 5% Metallic	1		
R174	ERO25CKF1002	10KΩ 1/4W ± 1% Metallic	1		
R175	ERO25CKF2002	20KΩ 1/4W ± 1% Metallic	1		
R149	**ERD12FJ820**	82 Ω 1/2W ± 5% Carbon	1		
R145	**ERD12FJ221**	220Ω 1/2W ± 5% Carbon	1		
R156	**ERD12FJ331**	330Ω 1/2W ± 5% Carbon	1		
R147	**ERD12FJ471**	470Ω 1/2W ± 5% Carbon	1		
R192	**ERD25TJ222**	2.2KΩ 1/2W ± 5% Carbon	1		
R144	**ERD25TJ332**	3.3KΩ 1/4W ± 5% Carbon	1		
R122, 166	**ERD25TJ392**	3.9KΩ 1/4W ± 5% Carbon	2		
R115	**ERD25TJ472**	4.7KΩ 1/4W ± 5% Carbon	1		
R124	**ERD25TJ512**	5.1KΩ 1/4W ± 5% Carbon	1		
R130	**ERD25TJ752**	7.5KΩ 1/4W ± 5% Carbon	1		
R190	**ERD25TJ471**	470Ω 1/4W ± 5% Carbon	1		
R102, 105, 135	**ERD25TJ102**	1KΩ 1/4W ± 5% Carbon	3		
R131, 132	**ERD25TJ222**	2.2KΩ 1/4W ± 5% Carbon	2		
R151	**ERD25TJ332**	3.3KΩ 1/4W ± 5% Carbon	1		
R134, 177, 178, 184	**ERD25TJ472**	4.7KΩ 1/4W ± 5% Carbon	4		
R117, 118, 176	**ERD25TJ822**	8.2KΩ 1/4W ± 5% Carbon	3		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
R139, 141, 162, 163, 185, 188, 196, 198	**ERD25TJ103**	10KΩ 1/4W ± 5% Carbon	8		
R103, 104, 107, 108, 114, 154, 155, 157, 158, 159, 173, 187, 195	**ERD25TJ123**	12KΩ 1/4W ± 5% Carbon	13		
R148, 169	**ERD25TJ153**	15KΩ 1/4W ± 5% Carbon	2		
R183, 194	**ERD25TJ183**	18KΩ 1/4W ± 5% Carbon	2		
R129, 146, 182, 189, 197	**ERD25TJ223**	22KΩ 1/4W ± 5% Carbon	5		
R112, 152, 167, 193	**ERD25TJ273**	27KΩ 1/4W ± 5% Carbon	4		
R153, 168, 170, 179, 180	**ERD25TJ333**	33KΩ 1/4W ± 5% Carbon	5		
R111, 128, 133	**ERD25TJ393**	39KΩ 1/4W ± 5% Carbon	3		
R125, 140, 143, 161	**ERD25TJ473**	47KΩ 1/4W ± 5% Carbon	4		
R126, 142	**ERD25TJ683**	68KΩ 1/4W ± 5% Carbon	2		
R109	**ERD25TJ432**	4.3KΩ 1/4W ± 5% Carbon	1		
R138	**ERD25TJ913**	91KΩ 1/4W ± 5% Carbon	1		
R116, 136, 137, 150, 160, 165, 171, 172	**ERD25TJ104**	100KΩ 1/4W ± 5% Carbon	8		
R113	**ERD25TJ124**	120KΩ 1/4W ± 5% Carbon	1		
R120, 186	**ERD25TJ154**	150KΩ 1/4W ± 5% Carbon	2		
R127, 164, 191	**ERD25TJ224**	220KΩ 1/4W ± 5% Carbon	3		
R101	**ERD25TJ394**	390KΩ 1/4W ± 5% Carbon	1		
R110	**ERD25TJ474**	470KΩ 1/4W ± 5% Carbon	1		
R181	**ERD25TJ105**	1MΩ 1/4W ± 5% Carbon	1		
Variable Resistor					
VR101	**EVSPIAA00E24**	20KΩ	1		
VR102	**EVSPIAA00E23**	2KΩ	1		
Capacitor					
C110	ECQS1271K	270pF 125W ±10% Styrol	1		
C111, 112	ECQS1222KZ	2200pF 125W ±10% Styrol	2		
C109	ECQM05562KZ	0.0056μF 50W ±10% Polyester	1		
C104	ECQM05103KZ	0.01μF 50W ±10% Polyester	1		
C114	ECQM05223KZ	0.022μF 50W ±10% Polyester	1		
C102	ECQM05333KZ	0.033μF 50W ±10% Polyester	1		
C101, 115	ECQM05473KZ	0.047μF 50W ±10% Polyester	2		
C113	ECQM05823KZ	0.082μF 50W ±10% Polyester	1		
C105, 107, 108	ECQM05104KZ	0.1μF 50W ±10% Polyester	3		
C106	**ECEA50V1**	1μF 50W Electrolytic	1		
C103	**ECEB63V100**	100μF 50W Electrolytic	1		
CONNECTIONAL BOARD					
R301	**EBD25TJ151**	150Ω 1/4W ± 5% Carbon	1		
C301	**ECEA50V10**	10μF 50W Electrolytic	1		
C302, 303	ECQM05104KZ	0.1μF 50W ±10% Polyester	2		
CABINET AND CHASSIS PARTS					
1	SFTG102M01	Turntable mat	1		
2	SFTE102-01E	Turntable	1		
2-1	SFXJ102-08E	Screw, Turntable	3		
3	SFUP102-06	Cover, Brake	1		
3-1	XSS3+8FZS	Screw, Cover	5		
4	SFTG102-03	Rubber, Brakecover	1		

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
5	SFUP102-09A	Brake, Band	1	
5-1	XUC3FT	Circlip, Brake band	1	
6	SFUP102-05E	Plate, Brake	1	
6-1	XYN3+C8FZS	Screw, Plate	1	
6-2	SFXW120-01	Washer, Plate	1	
7	SFUP102-07	Plate, Adjustment	1	
7-1	XYN3+C6FZS	Screw, Plate	2	
8	SFXJ102-02	Screw, Adjustment	1	
8-1	SFXW303-1	Washer	1	
8-2	SFPEW12002	Washer	1	
8-3	XUC4FT	Washer	1	
9	SFUM102-01	Brake Hausing	1	
9-1	XYN4+15FZS	Screw	3	
10	SFUP102-15	Plate, Brake Adjustment	1	
10-1	XTV3+8BFZ	Screw, Adjustment Plate	1	
10-2	SFXW120-01	Washer, Adjustment Plate	1	
11	SFMZ102-01E	Motor Ass'y	1	
12	SFDZSD1AC10	Plunger	1	
12-1	SFEB3UT	Tube	1	
13	SVD1S1887	Diode	1	
14	SFXJ102-03	Lever, Plunger	1	
14-1	SFXO102-01	Spacer, Plunger	1	
14-2	SFQA102-01	Spring, Brake	1	
14-3	SFGH102-01	Rubber, Plunger	1	
14-4	SFGH102-02	Rubber, Washer	1	
14-5	XWA3BER	Washer	1	
14-6	XNG3HS	Nut	1	
15	SFUP102-12	Mounting Plate, Plunger	1	
15-1	XYN3+C5FZS	Screw, Mounting Plate	3	
15-2	SFXW120-01	Washer, Mounting Plate	3	
16	SFAC102-01	Panel case	1	
16-1	SFNN102M01	Name Plate	1	
16-2	SFKB102M01	Badge	1	
17	SFUM102-02	Neon lamp base, A	1	
18	SFUP102-01	Neon lamp base, B	1	
19	SFUP102-02	Neon lamp base, C	1	
19-1	XYN3+C6FZS	Screw, Neon lamp base	2	
20	SFDNNL78WM	Neon lamp	1	
20-1	SFEB3UT	Tube	1	
21	SFUP102-08	Holder, Neon lamp	1	
22	SFUP102-17	Holder, P. C. B	1	
22-1	SFEZ196	Spacer, P. C. B	1	
22-2	XYN3+C8FZS	Screw	2	
22-3	XWA3BFR	Washer	2	
23	SFXT102-05	Spacer, P. C. B	11	
24	SFXT102-04	Spacer, Bottom Case	3	
25	SFDJ12804S	Connector, 4P	1	
27	SFDJ12810S	Connector, 10P	1	
28	SFDJ12804S	Connector, 4P	1	
28-1	SFEB2AF	Tube	1	
29	SFDJSI4225	Connector	1	
30	SFDJSI4223	Connector	2	
30-1	SFDJ12812P	Connector, 12P	1	
30-2	SFDJ12910P	Connector, 10P	1	
30-3	SFDJ12906P	Connector, 6P	1	
30-4	SFDJ12904P	Connector, 4P	1	
31-1	SFUP102-11	Plate, Heat sink	1	
31-2	XYN3+C6FZS	Screw	4	
31-3	XSN3+6FUS	Screw	2	
32-1	XYN3+C6FZS	Screw	9	
32-2	XWA3BFR	Washer	13	
34	RJJ10C	Jack	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
35	SFER1E	Mounting, Ground wire	1	
35-2	SFEB3UT	Tube	1	
35-3	XWC3BFY	Washer	1	
35-4	XYN3+C6FZS	Screw	1	
36	SJT719	Mounting Plate	1	
36-1	XNG4HS	Nut	1	
36-2	XWA4BFR	Washer	1	
36-3	SFEB3UT	Tube	1	
37	SFUZ102-05	Mounting Plate, Socket	1	
37-1	XNG3HS	Nut	2	
38	SFUP102-03	Mounting Plate, Cord	1	
38-1	XWC3BFY	Washer	4	
38-2	XYN3+C8FZS	Screw	2	
38-3	XYN3+C6FZS	Screw	2	
39	SGE103	Terminal	1	
40	SNE281-1S	Terminal screw	1	
41	SNE273-1	Knob	1	
43	SFSR5N4	Bushing, cord	1	
44	SFDJ102-01E	Plug	1	
45	SFAU102-01	Bottom case	1	
45-1	XSS3+8FZS	Screw	12	
45-2	XYN3+C8FZS	Screw	2	
45-3	SFXW120-01	Washer	2	
45-4	SFGK102-01	Rubber cap	1	
45-5	SFUZ102-03	Felt	4	
46	SFNG102-02	Label Remort	1	
47	SFKT102-01	Plate, start stop switch	1	
47-1	SFKK102-01	Ornament, start stop switch	1	
47-2	SFQA102-03	Spring, start stop switch	1	
47-3	SFXJ102-06	Adjustment screw, start stop switch	1	
47-4	XWA2BFR	Washer	2	
47-5	XSN2+6	Screw	11	
47-6	XWE2C4BN	Washer	11	
48	SFKT102-02E	Plate, select 33	1	
49	SFKT102-03E	Plate, select 45	1	
50	SFKT102-04E	Plate, select 78	1	
51	SFQA102-02	Spring, select	3	
52	SFUM102-05	Mounting Plate, Switch	1	
52-1	XWA2BFR	Washer	3	
52-2	XNG2HBW	Nut	6	
53	SFUM102-06	Switch cover	1	
53-1	XNG2HBW	Nut	3	
53-2	XWA2BFR	Washer	2	
53-3	XSN2+6	Screw	2	
54	SFDSSSL1C	Micro switch	3	
55	SFUM102-07	Switch cover	1	
55-1	XSN2+6	Screw	2	
55-2	XWA2BFR	Washer	5	
55-3	XSN2+10FU	Screw	3	
56	SFUP102-04	Mounting Plate, select switch	1	
56-1	XYN3+C10F	Screw	2	
56-2	XYN3+C6FZS	Screw	2	
57	SYXO102-02	Spacer	2	
58	SFDSSSL1C	Micro switch	1	
59	LN22	Light Emitting Diode	3	
60	SFUM102-04	Holder, Diode	3	
61	SFDP102-05	Plate ass'y	1	
62	SFUP102-18	Plate	3	
POWER UNIT (Model SH-10E-(M/MC))				
Transistors				
TR401, 402, 407, 408, 409, 410	2SC1328-T	Transistors	6	

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
TR403	2SC666A1-R	Transistor	1		
TR405	2SD389A-Q	Transistor	1		
TR406	2SD334	Transistor	1		
TR404	2SD389A-Q	Transistor	1		
		Diodes			
D401, 403, 404,	RVD10DC2	Diodes	3		SAFETY
D402, 405, 406	RVD10DC2R	Diodes	3		SAFETY
D407	SVDRD5.6ECS	Diode	1		SAFETY
D408	SVDRD16E8	Diode	1		
D409	MA150	Diode	1		
D410	OA90	Diode	1		
D411	SVD1S1887	Diode	1		
D412	SVDSV05	Diode	1		
		Variable Resistor			
R405	EVLSOAA00B52	500Ω	1		
R415	EVLSOAA00B23	2KΩ	1		
		Fuse			
F1	XBA1F10NU100	1A	1		SAFETY
F2	XBA1F30NU100	3A	1		SAFETY
F3, 4	XBA1F03NU100	300mA	2		SAFETY
F5	XBA1F15NU100	1.5A	1		SAFETY
		Resistors			
R401	ERD50TJ4R7	4.7Ω 1/2W ± 5% Carbon	1		SAFETY
R402, 403	ERD25TJ471	470Ω 1/4W ± 5% Carbon	1		
R404	ERD25TJ561	560Ω 1/4W ± 5% Carbon	1		
R406	ERD25TJ392	3.9KΩ 1/4W ± 5% Carbon	1		
R407, 408	ERD25TJ102	1KΩ 1/4W ± 5% Carbon	2		
R409	ERD25TJ681	680Ω 1/4W ± 5% Carbon	1		
R410	ERD12FJ102	1KΩ 1/2W ± 5% Carbon	1		
R411	ERD25TJ512	5.1KΩ 1/4W ± 5% Carbon	1		
R412	ERD25TJ432	4.3KΩ 1/4W ± 5% Carbon	1		
R413	ERD50TJ202	2KΩ 1/2W ± 5% Carbon	1		
R414	ERD25TJ392	3.9KΩ 1/4W ± 5% Carbon	1		
R416	ERD25TJ682	6.8KΩ 1/4W ± 5% Carbon	1		
R417, R422	ERD25TJ561	560Ω 1/4W ± 5% Carbon	1		
R418	ERD25TJ513	51KΩ 1/4W ± 5% Carbon	1		
R419	ERD25TJ912	9.1KΩ 1/4W ± 5% Carbon	1		
R420	ERD25TJ112	1.1KΩ 1/4W ± 5% Carbon	1		
R421	ERD25TJ104	100KΩ 1/4W ± 5% Carbon	1		
		Capacitors			
C401	ECQU1A473MD	0.047μF 125AC ±20% Polyester	1		SP-10MKII-(M)
C401	ECQU1A473MC	0.047μF 125AC ±20% Polyester	1		SP-10MKII-(MC)
C404, 405, 406, 407	RXAF102P22HD	0.01μF×2 500WV ±100% Ceramic	4		SAFETY
C408	ECQM6103MZ	0.01μF 600WV ±20% Polyester	1		
C409	ECQM05822KZ	0.0082μF 50WV ±10% Polyester	1		
C410	ECEB16V1000V	1000μF 16WV Electrolytic	1		
C411, 412	ECEA16V100V	100μF 16WV Electrolytic	2		
C413	ECEM80R1000X	1000μF 80WV Electrolytic	1		SAFETY
C414, 415	ECEA63V100V	100μF 50WV Electrolytic	2		
C416	ECEB160V100V	100μF 160WV Electrolytic	1		
C417	ECEA160V22V	22μF 160WV Electrolytic	1		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
		CABINET AND CHASSIS PARTS			
1-1	SFKK10EM01A	Panel ass'y, Front	1		
1-2	SGLA9	Lamp Indicate	1		
1-3	SFUZ10E01	Felt	1		
2	SFUP10E02E	Case	1		
2-1	SFNN10EM01	Name Plate	1		
2-2	XST3+6FZS	Screw	10		
3	SBLA4-3	Knob, Power switch	1		
4	XVE3A8FZS	Screw	4		
5	SSLA37S	Power switch	1		SAFETY
5-1	SFUP10E03	Mounting Plate, Power switch	1		
5-2	SFUP10E09	Mounting Plate, Panel	1		
5-3	SFUP10E04	Holder, Lamp	1		
5-4	XYN3+C6FZS	Screw	2		
6	XAM37T150	Lamp	1		
6-1	SMZA6091	Rubber, Lamp	1		
7	ETP76BL1A	Power Transformer	1		SAFETY
7-1	XNG4HS	Nut	4		
7-2	XWA4BFR	Washer	4		
7-3	XWA4G10FU	Washer	4		
7-4	XST4+8FZS	Screw	4		
8	SFDJ-D4F	Socket, DC	1		
8-1	SJS5505	Connector, 5P	1		
8-2	XSS3+10FNS	Screw	2		
9	SFUP10E-05	Mounting Plate, AC Cord	1		
9-1	XST3+6FZS	Screw	4		
10	RJA10A	AC cord	1		SAFETY
10-1	SFEB6UT	Tube	1		
11	SFHK040L	Bushing, cord	1		
12	SFDP102-07	P. C. B. Fuse	1		
12-1	XTW3+10HFZ	Screw	2		
12-2	SJS5405	Connector, 4P	1		
12-3	RJF107-2	Holder, Fuse	10		
12-4	SFER1C	Terminal	1		
12-5	XNG3HS	Nut	1		
12-6	XST3+6FZS	Screw	1		
13	SFDP102-06	Power P. C. B	1		
13-1	XTW3+10HFZ	Screw	2		
13-2	SHE36	Clamper, wire	1		
13-3	XST3+6FZS	Screw	2		
13-4	SFXO10E01	Spacer	1		
13-5	SJS5307	Connector, 3P	1		
13-6	SFDJS3PSHF	Connector, 3P	1		
14	SFUP10E08	Mounting Plate	1		
14-1	SFEZ196	Sporting, P. C. B	2		
15	SFUZ102-03	Case, Bottom	1		
15-1	XTW3+10HFZ	Screw	4		
15-2	XST3+6FZS	Screw	2		
15-3	XNG3HS	Nut, Capasitor	2		
		REMOTE CONTROL (Model SH-10R-(M/MC)			
1	SFKK102-01	Ornament Plate, Start Stop	1		
1-1	SFXJ102-06	Screw	1		
2	SFUM10R01E	Cace	1		
3	SFDSSSL1C	Micro switch	1		
3-1	XTN2+10	Screw	2		
4	SFUP10R02	Mounting Plate, Micro switch	1		
4-1	XTN2+6B	Screw	2		
5	ERD25TJ101	100Ω 1/8W ± 5% Carbon	1		
5-1	SFEB3UT	Tube	1		
5-2	SFEB2UT	Tube	1		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
6	SFGP10R01	Rubber, Bushing	1		
7	SFEZ10R01	Cord, Jack	1		
8	SFUP10R01	Bottom cover	1		
8-1	XTS3+8BFZ	Screw	4		
9	SFNN10RM01	Name Plate	1		
		ACCESSORY PARTS			
A1	SFNU102M01	Operating instructions	1		SP-10MKII-(M)
A1	SFNU102C01	Operating instructions	1		SP-10MKII-(MC)
A5	SFWE010	45 Adaptor	1		
A6	SFWO010	Oil	1		
A7	SFYF09B15	Polyethlene Bag	1		
A8	XSN5+35S	Screw A	5		
A9	XSN5+43S	Screw B	5		
A10	SFXW650-2	Washer	5		
		PACKING MATERIALS			
P2	SFHP102M01	Inside packing case	1		SP-10MKII-(M)
P2	SFHP102C01	Inside packing case	1		SP-10MKII-(MC)
P3	SFHH102-06	Bottom Pad	1		
P4	SFYC70A100	Polyethlene sheet	1		
P5	SFYF08A23	Polyethlene Bag	3		
P6	SFHH102-04	Side Pad (L)	1		
P7	SFHH102-05	Side Pad (R)	1		
P8	SFYF15A20	Polyethlene Bag	1		
P9	SFHH102-07	Side Pad, Power unit	1		
P10	SFHH102-08	Side Pad, Power unit	1		
P11	SFHD102-06	Case, Power unit	1		
P12	SFYF45A50	Polyethlene Bag	2		
P13	SFHD102-05	Top Pad, Turntable	1		
P14	SFYF27A39	Polyethlene Bag	1		
P15	XYN3+C6BS	Screw, Clumper	7		
P16	SFUP102M14E	Mounting Plate, Motor	1		