

TT2200/2020



**marantz**<sup>®</sup>

model TT 2200 / TT2020

*Turntable*

Version	Destination
N	Europe (220V 50 Hz)
T	England (240V 50 Hz)
A	Australia (240V 50 Hz)
C/U	North America (120V 60 Hz)
E	General (110/220V 50/60 Hz)
AE	General (110/220V 50/60 Hz)

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## (1) ADJUSTMENTS

### 1. Tools required for adjustment

- (1) Phillips-head screwdrivers (for M3 and M4)
- (2) Slotted-head screwdrivers (medium and small sizes)

### Caution for adjustments

- (1) Plug off the AC power supply cord.
- (2) Return the tonearm to tonearm rest and fix the tonearm to the tonearm rest with the lock-lever.
- (3) Remove the turntable platter and mat.
- (4) Set the cueing knob to the ▽ position.

### 2. Turntable platter height and level

- (a) Install the turntable in a servicing jig and remove the turntable mat and platter, if installed. Place the turntable upside down to remove bottom cover (Fig. 1).
- (b) Remove with a Phillips-head screwdriver the eight screws which hold the bottom base. (Fig. 2)
- (c) Re-set the unit for normal use on the table.
- (d) Remove the transit screws (red). (Fig. 3)
- (e) Replace the turntable platter, mat and install a record. Move the turntable shaft by your hand vertically and horizontally to make sure that the sub-chassis is suspended from the cabinet.
- (f) Measure from the surface of the cabinet to the height of the installed record. This dimension should be within 20.5–22.0 mm (0.807–0.870 in.). Adjust the sub-chassis suspension screws to acquire this distance. Refer to Fig. 5.

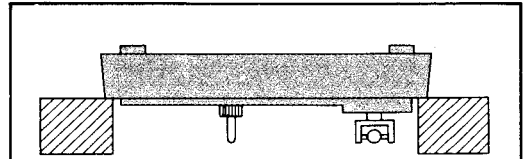


Fig. 1

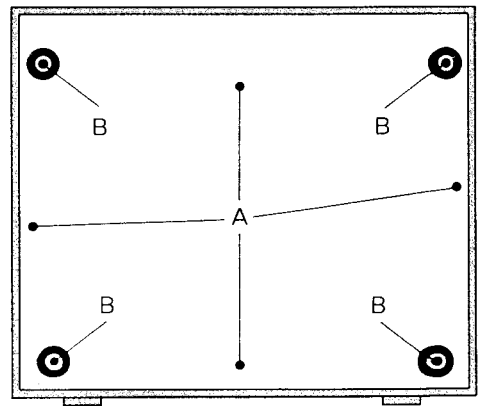


Fig. 2

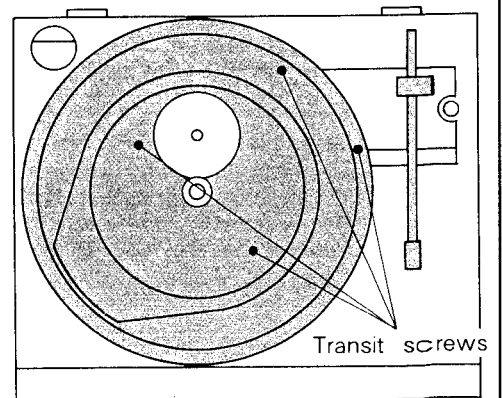


Fig. 3

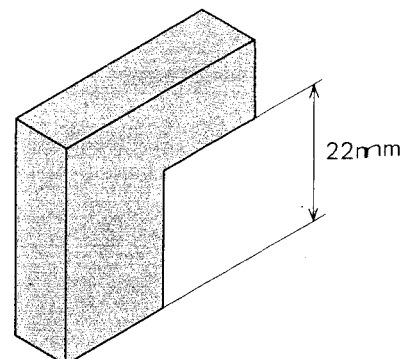


Fig. 4

### 3. Stylus clearance adjustment

- (a) Set the cueing knob to  $\nabla$  position and move the tonearm over the record surface (Fig. 6). The clearance between the stylus point and the record should measure between 6–10 mm (0.24–0.39 in.). This dimension is set by screw A (Fig. 6).
- (b) Move the tonearm to the end of the record and slowly rotate the turntable platter until the tonearm starts returning. Stop the platter rotation when the tonearm is in the approximate position as above. Again measure the distance between the stylus point and the record surface. This measurement should be approximately the same clearance 6–10 mm (0.24–0.39 in.). If the height needs to be adjusted, adjust screw B (Fig. 6).

### 4. Auto-return ratchet adjustment

- (a) Adjust the gap between the turntable gear hook (Fig. 7) and the ratchet trigger for 0.3–0.4 mm (0.012–0.015 in.) by turning the adjusting pin.

### 5. Auto-return adjustments

- (a) Set the cueing knob to the  $\nabla$  position.
- (b) Move the tonearm to the end of the record disc so that the end of the program is just occurring. Rotate the adjusting screw so that the ratchet trigger does not engage the turntable gear hook until complete record ends (Fig. 8).
- (c) After this adjustment, check that the tonearm returns at the end of the completed program on the disc. We recommend to use a test record comparable to stock No. RG-800 for this check.

### 6. Micro-switch adjustment

- (a) Adjust the distance between the micro-switch and the tonearm fixing plate for the distance specified in Fig. 9. Note that two different types of micro-switches are used in this model and that each type requires a different gap.
- (b) Rotate the drive gear through its complete cycle to make sure that the micro-switch is functioning properly by the movement of the return plate assy.

### 7. Speed adjustment

- (c) Set the cueing knob to the  $\nabla$  position and move the tonearm over the turntable platter. The turntable platter should be rotating. Adjust the variable resistors (Fig. 10) so that the strobe index on the platter edge stops and holds completely still. The speed should be checked and adjusted for both modes (33 and 45 rpm).

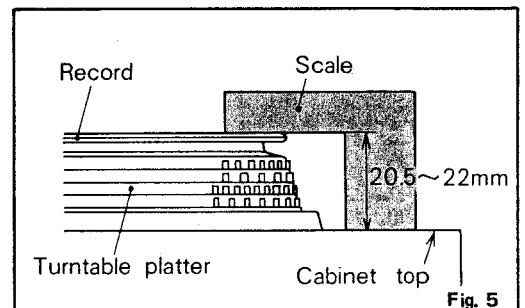


Fig. 5

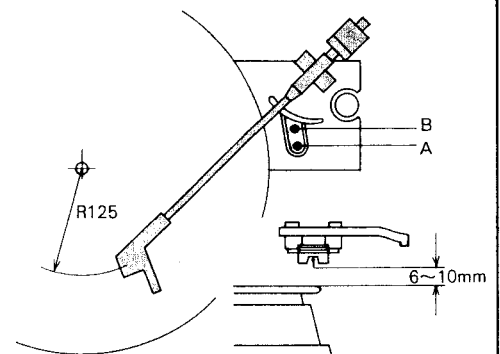


Fig. 6

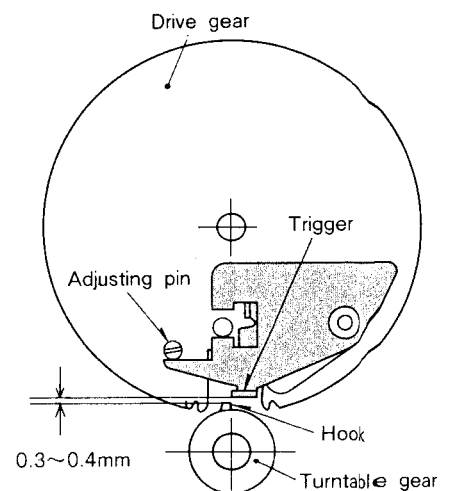


Fig. 7

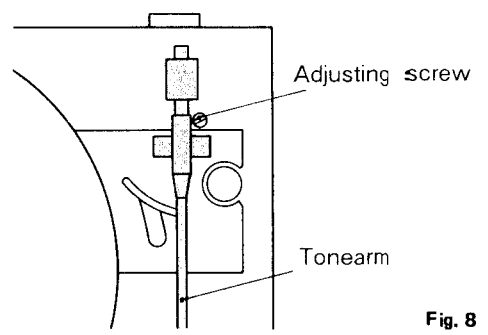
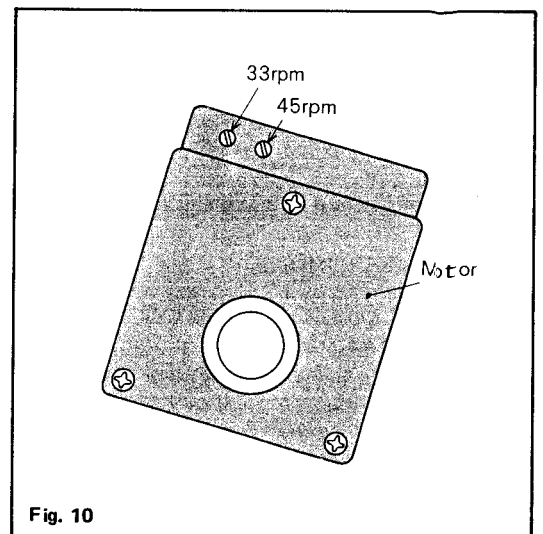
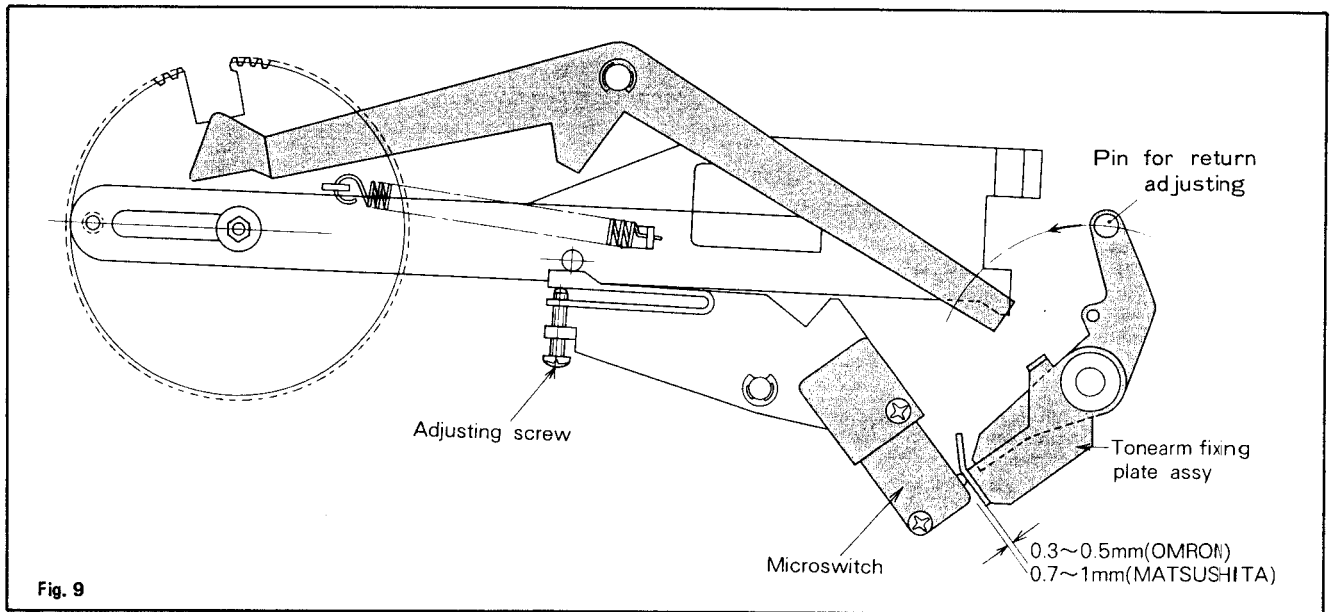


Fig. 8



## (2) TROUBLESHOOTING

1. The turntable platter will not rotate even though tonearm is above the record.

Check to see that the voltage is supplied between (3) and (4) terminals in Power supply printed circuit board when tonearm is moved above the record.

- [No: Power supply cord is defective.
- [Yes: Check to see that the voltage is supplied between (31) and (32) terminals in Power supply printed circuit board.
  - [No: Power transformer is defective.
  - [Yes: Check to see that the voltage is supplied between (25) and (30) terminals in Power supply printed circuit board.
    - [No: The rectification circuit is defective.
    - [Yes: Motor is defective.

2. The tonearm returns to tonearm rest upon placing on the record.  
Check to see that the gap between turntable gear and ratchet is adequate referring to Adjustment 4.

- [No: Adjust the gap.
- [Yes: Check to see that return arm moves to the original position when tonearm is moved from the center of the turntable to tonearm rest by hand.
  - [No: Return arm is not correctly mounted.
  - [Yes: Tonearm fixing plate assy. is not correctly mounted, or drive gear assy. is not laterally mounted.

3. The tonearm will not automatically return.  
Check to see that the gap between turntable gear and ratchet is adequate referring to Adjustment 4.

- [No: Adjust the gap.
- [Yes: Check to see that tonearm returns when tonearm is moved to the most inner position of turntable.
  - [No: The tonearm fixing plate assy. is not correctly mounted.
  - [Yes: Adjust return position referring to Adjustment 5.

4. The turntable platter will not stop rotating.  
Check to see that the knob of microswitch is sufficiently pushed by tonearm fixing plate assy. when tonearm returns to tonearm rest.

- [No: Tonearm fixing plate assy. is not correctly mounted.
- [Yes: Check to see that the gap between tonearm fixing plate assy. and microswitch is adequate referring to Adjustment 6.
  - [No: Adjust the gap.
  - [Yes: Microswitch is defective.

5. The strobe light will not turn on.  
Check to see that supplied voltage between (7) and (14) terminals is adequate when tonearm moves above the record.

- [Yes: Neon lamp is defective.
- [No: Resistor for voltage adjustment is defective.

6. No sound from the speaker.  
Remove headshell. Touch the upper two terminals (L+ and R+) at the end of tonearm with a metallic screwdriver and listen for the speaker to produce a humming noise. (Fig. 11)

- [Yes: Cartridge or headshell lead-wires is defective.
- [No: Perform continuity test between tonearm end and output shielded cord on dead channel. (Fig. 12)
  - [Yes: ⊕ and ⊖ cables are not isolated.
  - [No: Plug of output shielded cord or terminal is wrong connected. Perform continuity test of input terminal of amplifier (receiver)

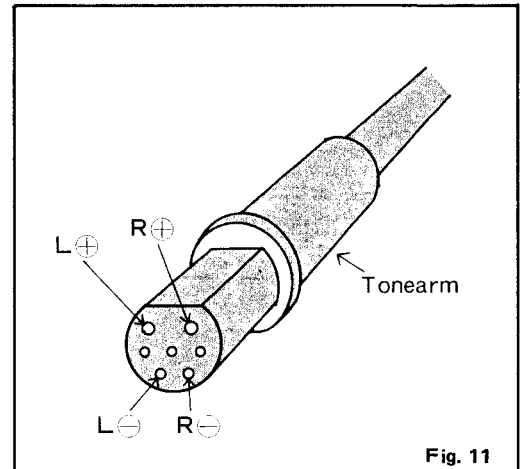


Fig. 11

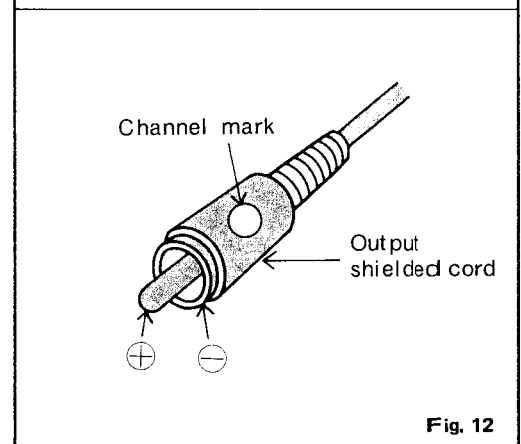
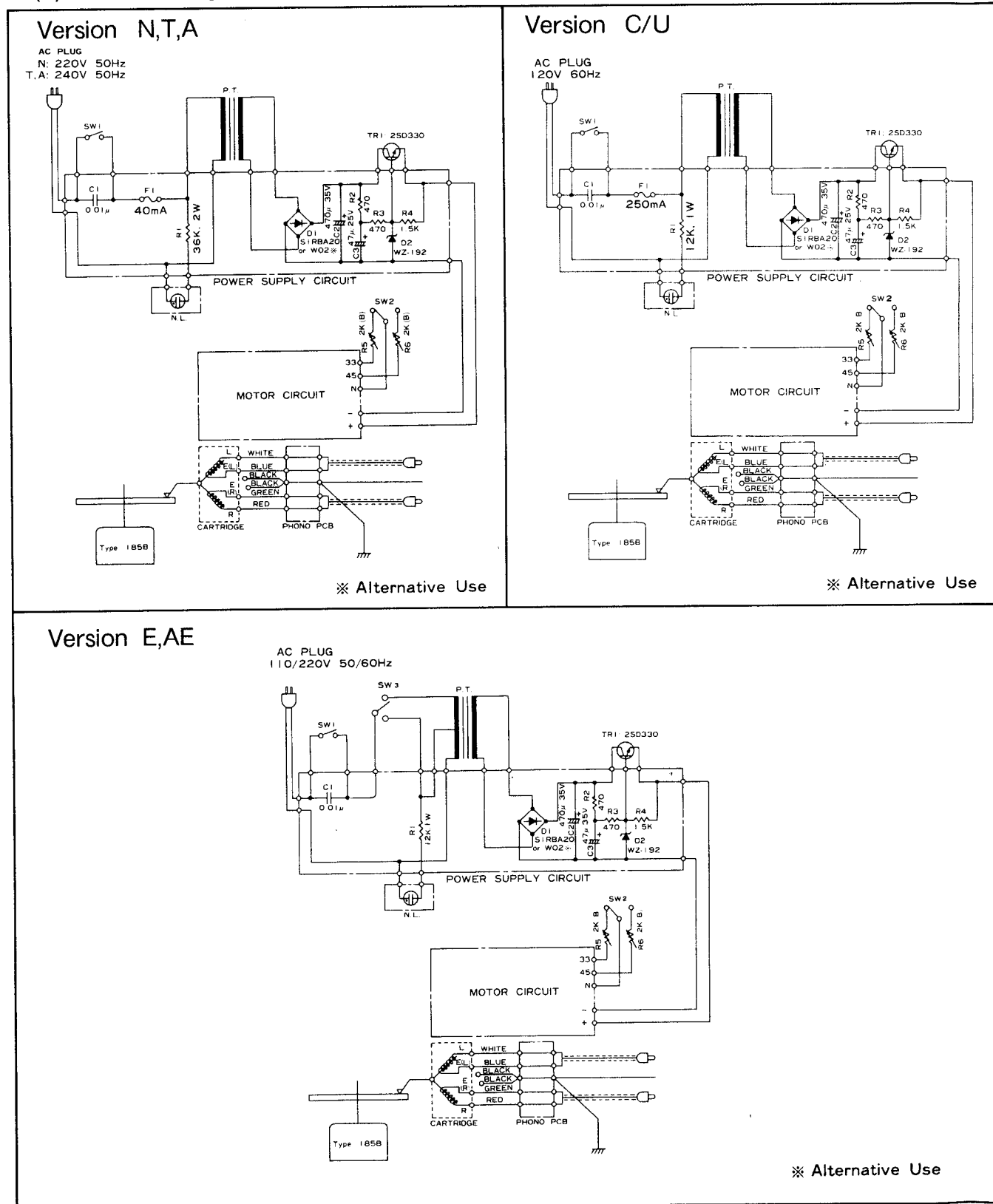


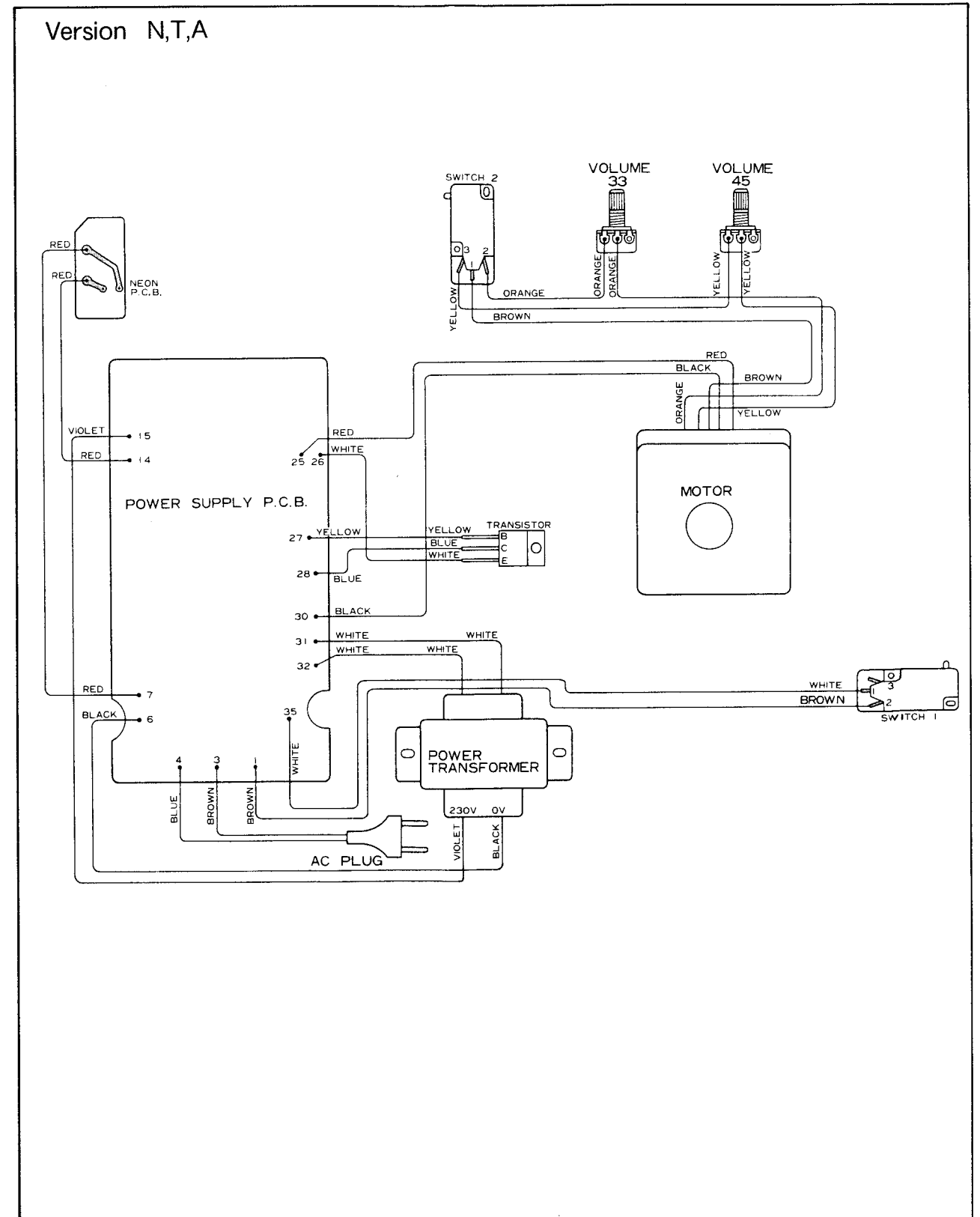
Fig. 12

### (3) DIAGRAMS

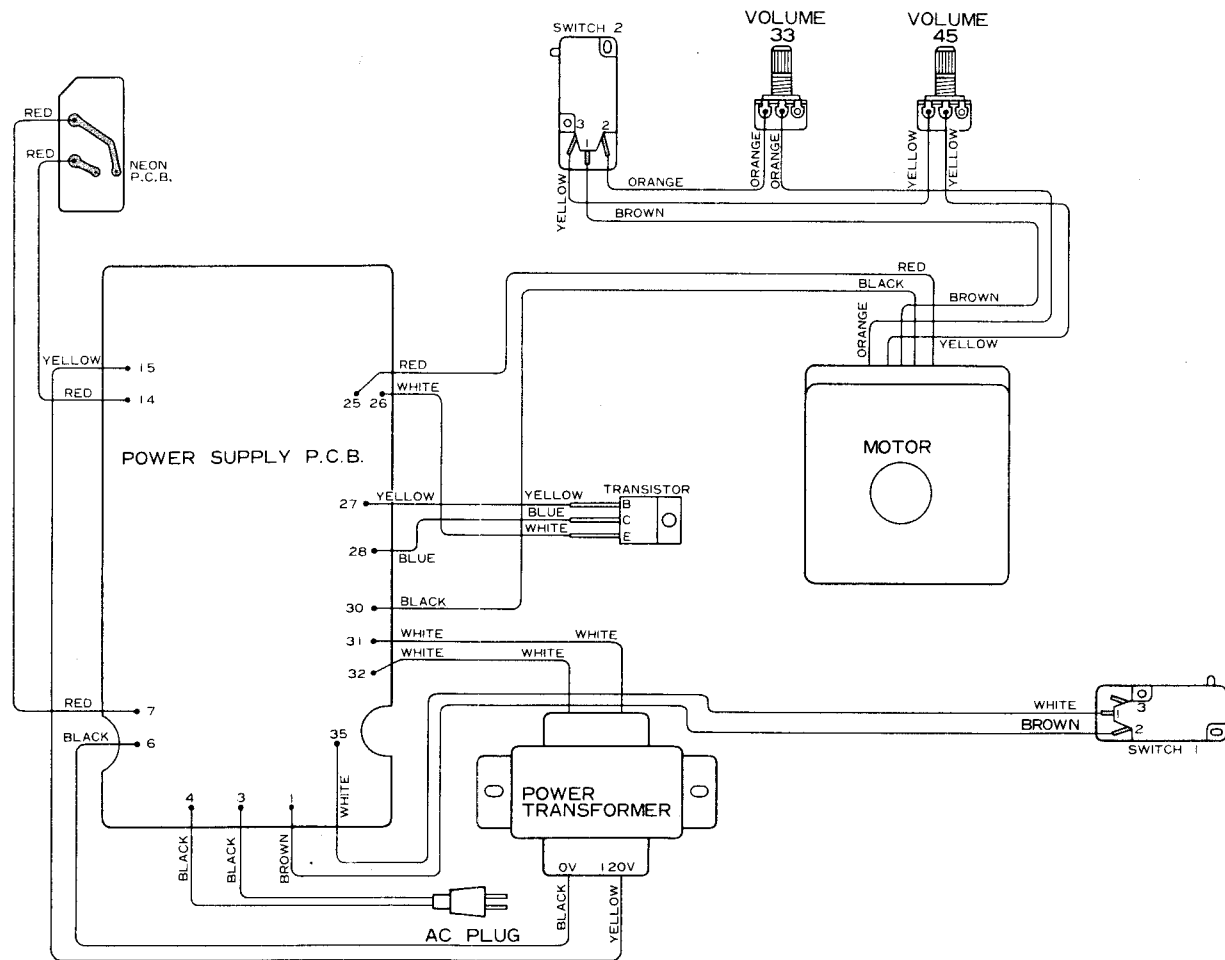
#### (3-1) Circuit Diagrams



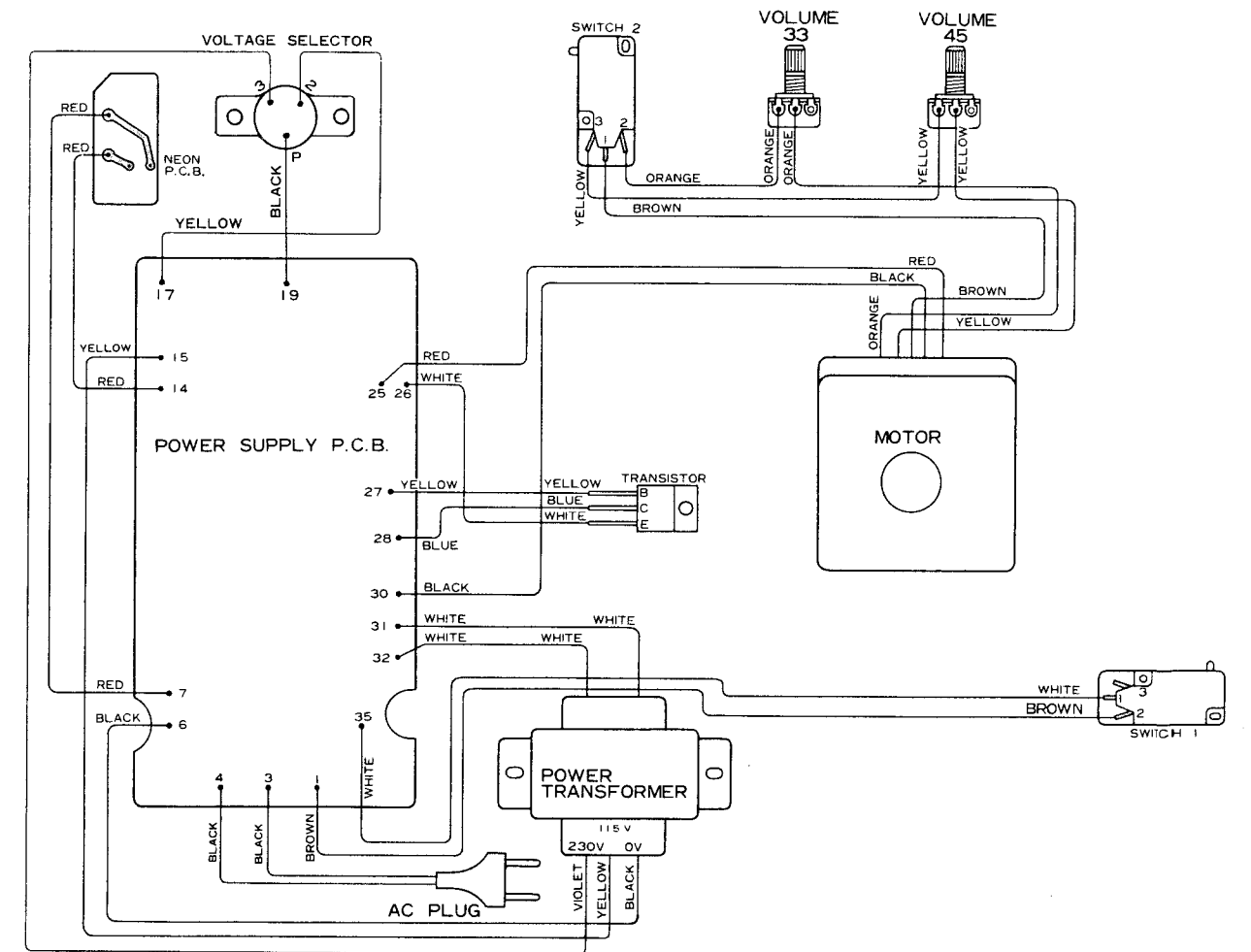
#### (3-2) Wiring Diagrams



Version C/U

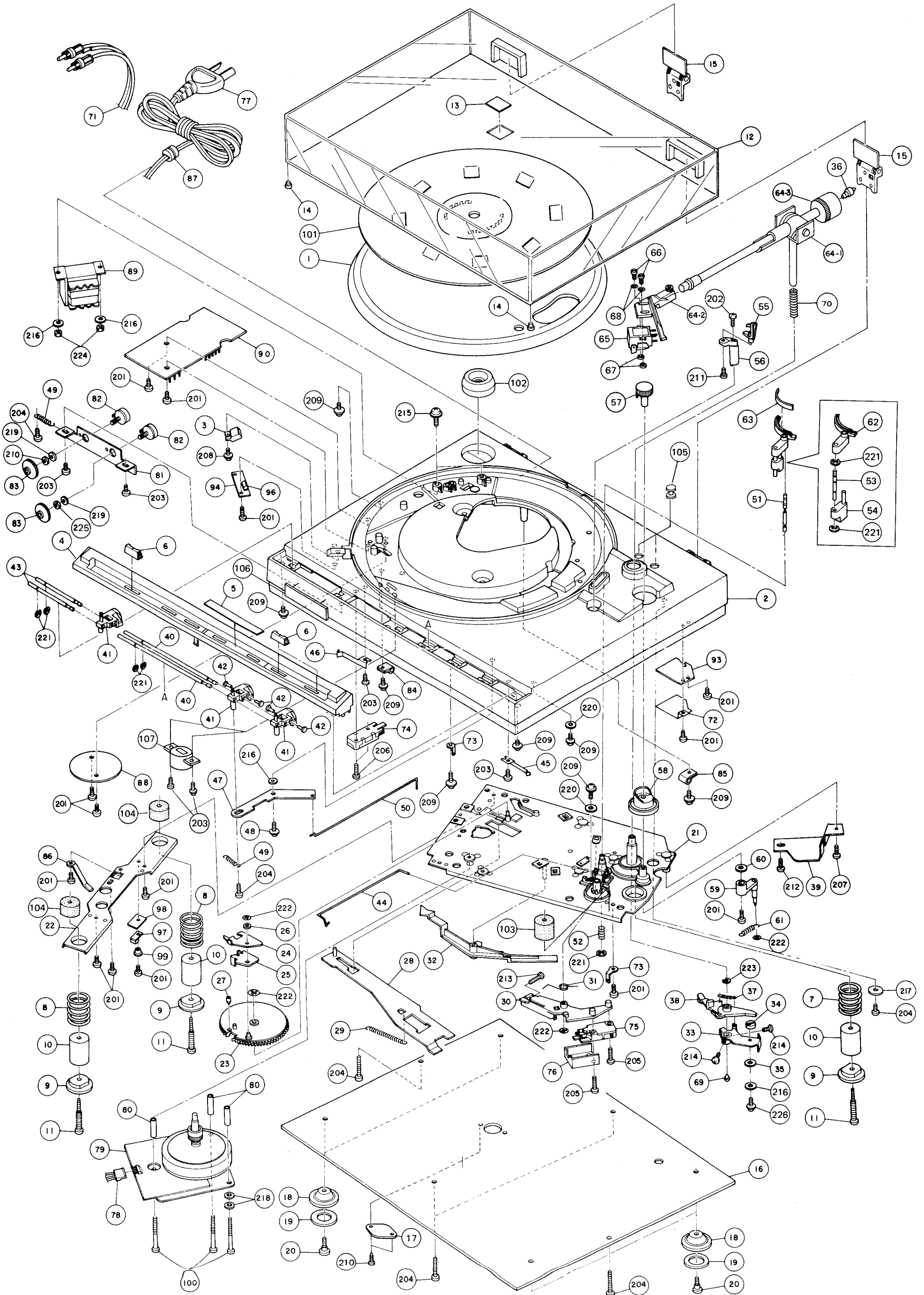


Version E,AE





(4)EXPLODED VIEW



(5) PARTS LIST

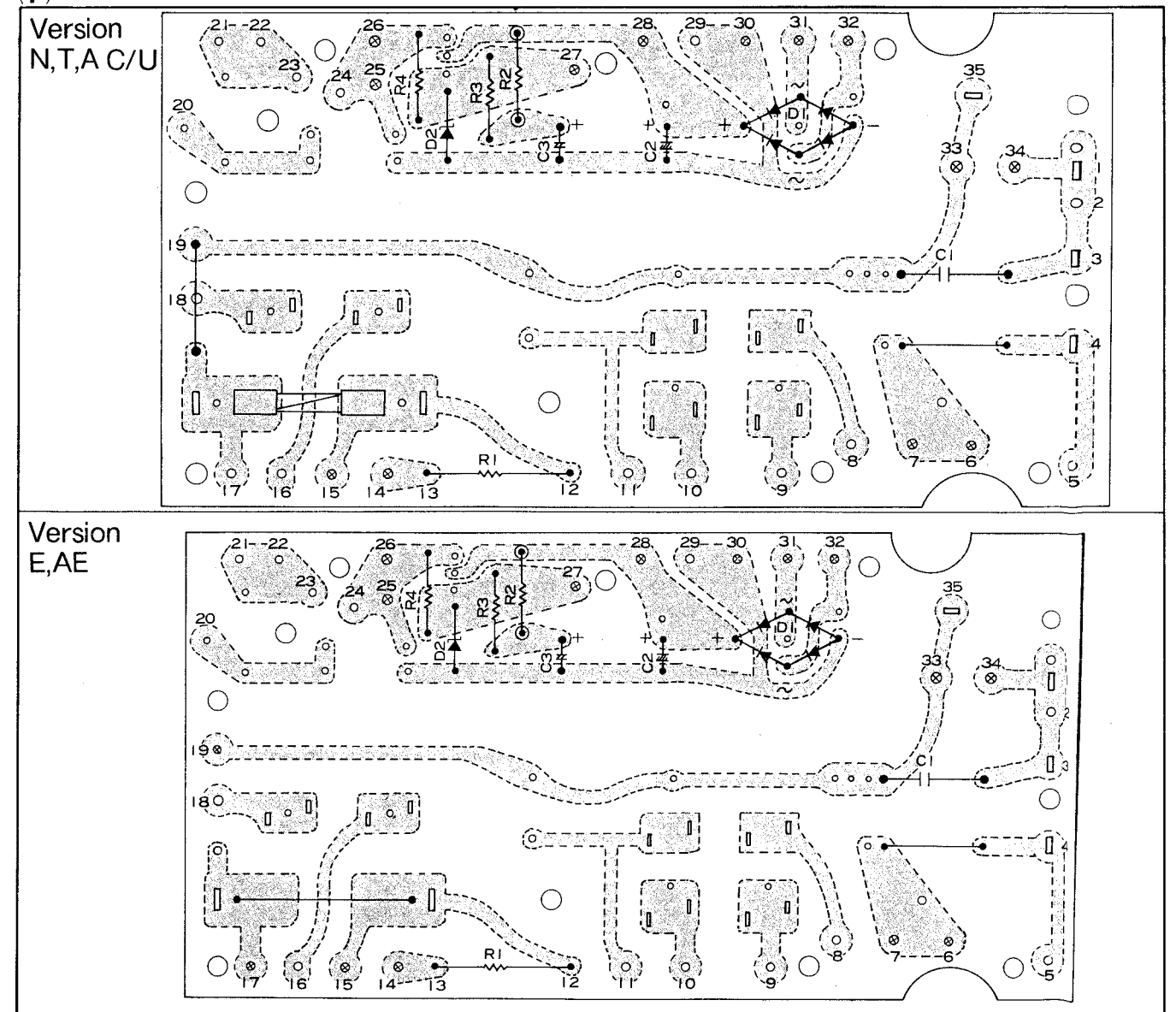
Version	Destination
N	Europe (220V 50 Hz)
T	England (240V 50 Hz)
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C/U	North America (120V 60 Hz)
E	General (120/220V 50/60 Hz)
AE	General (120/220V 50/60 Hz)

Ref. No.	Parts No.	Description	Version	Ref. No.	Parts No.	Description	Version
1	2045101CEC	Turntable platter		70	4819100CEC	Spacer	
2	1004822CEC	Cabinet	N.E.T.A.	71	3132403CEC	Output shielded cord	N.E.T.A.AE
2	1004831CEC	Cabinet	C/U. AE.	71	3165200CEC	Output shielded cord	C/U.
3	4796701CEC	Strobe filter		72	4780500CEC	Shield cover	
4	2096301CEC	Control plate		73	4237921520	Terminal lug	
5	4835201CEC	Plate		74	4231921995	Microswitch	N.T.A.
6	4834500CEC	Knob		74	4231921993	Microswitch	E. C/U. AE.
7	4799600CEC	Float spring		75	4231921994	Microswitch	N.T.A.
8	2510214000	Float spring		75	4231921991	Microswitch	E. C/U. AE.
9	2210611300	Holder		76	2140110300	Cover	
10	2520512900	Cushion		77	4771100CEC	AC power supply cord	E. AE.
11	2420121800	Screw		77	4243200071	AC power supply cord	N.
12	2090801CEC	Dust cover		77	3136803CEC	AC power supply cord	T.
13	4835600CEC	Dust cover logo		77	4771001CEC	AC power supply cord	A.
14	4420500CEC	Dust cover cushion		77	4756200CEC	AC power supply cord	C/U.
15	4786900CEC	Hinge		78	4821900CEC	Cord assy.	
16	3148600CEC	Bottom base		79	2093402CEC	Motor assy.	
17	4433600CEC	Blind	N.T.A.	80	4712107CEC	Spacer	
18	4783700CEC	Insulator	N.E.T.A.AE	81	4770600CEC	Variable resistor mounting plate	
18	4783701CEC	Insulator	C/U.	82	3147700CEC	Variable resistor	
19	4783800CEC	Felt		83	4342902CEC	Pitch control knob	
20	4797400CEC	Screw		84	2360812405	Cord stopper 2N	
21	2094800CEC	Subchassis		85	2360812404	Nylon clamp 3N	
22	3138100CEC	Spring mounting plate		86	0301610400	Clamp wire assy.	
23	2411011100	Drive gear		87	4442100CEC	Strain relief	N.T.A.
24	2412212000	Ratchet		87	2611121300	Bushing	E.C/U.AE.
25	2412211800	Ratchet		88	4351701CEC	Blind	
26	2410700400	Ratchet collar		89	3162600CEC	Power transformer	N.T.A.
27	2410918300	Pin		89	3162800CEC	Power transformer	E. AE.
28	3154100CEC	Return plate assy.		89	3162500CEC	Power transformer	C/U.
29	2510129500	Spring		90	3150601CEC	Power PCB assy.	N.T.A.
30	2410821000	Plate		90	3166000CEC	Power PCB assy.	E. AE.
31	4825200CEC	Spring		90	3144900CEC	Power PCB assy.	C/U.
32	4695900CEC	Return arm		91	3140300CEC	Power PCB	
33	4818500CEC	Tonearm fixing plate assy.		R1	XB363ACEC	OMF resistor 36 Kohm 2W	N.T.A.
34	4799400CEC	Cam		R1	XB1123ACEC	OMF resistor 12 Kohm 1W	E.C/U.AE.
35	2420317501	Wave washer		R2	DPJ471ACEC	Carbon resistor 470 ohm 1/4W	
36	4784900CEC	Subweight	C/U. AE.	R3	DPJ471ACEC	Carbon resistor 470 ohm 1/4W	
37	2510120500	Spring		R4	DPJ152ACEC	Carbon resistor 1.5 Kohm 1/4W	
38	2412018300	Lever		D1	W020000CEC	Bridge diode	
39	4818400CEC	Tonearm thrust mounting		D2	WZ19200CEC	Zener diode	
40	4805700CEC	Slide guide		C1	4807800CEC	Condenser	N.T.A.
41	3135000CEC	Slide lever		C1	HRM103ACEC	Condenser	N.T.A.
42	4798700CEC	Cushion		C1	FRM103CCEC	Condenser	N.T.A.
43	4777900CEC	Slide guide B		C1	4356200CEC	Condenser	E. AE.
44	4778000CEC	Link (L)		C1	4795000CEC	Condenser	C/U.
45	4798600CEC	Spring		C2	VRE477ACEC	Electrolytic condenser 470µF 35V	
46	4784300CEC	Spring		C3	ERE476ACEC	Electrolytic condenser 47µF 25V	N.T.A.C/U.
47	4807400CEC	Lever		C3	VRE476ACEC	Electrolytic condenser 47µF 35V	
48	4783500CEC	Screw		92	3061817CEC	Fuse	E. AE.
49	4792500CEC	Spring		92	4234921280	Fuse	N.T.A.
50	4818900CEC	Spring		93	4780600CEC	Shield PCB	C/U.
51	4772100CEC	Lift bar		94	0400102950	Neon lamp PCB assy.	
52	2510124700	Spring		95	4226204360	Neon lamp PCB	
53	4772200CEC	Adjusting screw		96	4612920795	Neon lamp	
54	4772000CEC	Actuator		97	5857033040	Transistor 2SD 330D	
55	4534400CEC	Tonearm rest assy.		97	5857033050	Transistor 2SD 330E	
56	4771800CEC	Rest arm		98	4497500CEC	Insulation sheet	
57	4805201CEC	Antiskating knob		99	4639600CEC	Bushing	
58	4774300CEC	Point		100	4845500CEC	Tapping screw 4 x 35	N.E.T.A.AE
59	4772300CEC	Antiskating lever		101	2096400CEC	Turntable platter mat	C/U.
60	4774400CEC	Washer		101	2096401CEC	Turntable platter mat	
61	4788700CEC	Antiskating spring		102	4310000CEC	45 rpm adapter	
62	3133800CEC	Tonearm support		103	4446400CEC	Cushion	
63	4402701CEC	Tonearm support rubber		104	4446401CEC	Cushion	
64	3163801CEC	Tonearm assy.	N.E.T.A.AE	105	2290411001	Pad	C/U.
64	3163800CEC	Tonearm assy.	C/U.	106	4835900CEC	Cabinet badge	N.E.T.A.AE
64-1		Tonearm	N.E.T.A.AE	107	3166100CEC	Voltage selector	E. AE.
64-1	3163802CEC	Tonearm	C/U.	108	4690500CEC	Plug conversion	E. AE.
64-2	4834601CEC	Headshell	N.E.T.A.AE				
64-2	4834600CEC	Headshell	C/U.				
64-3	4733100CEC	Counterweight					
65	4837400CEC	Cartridge	N.E.T.A.				
66	2420111313	Cartridge mounting screw	N.E.T.A.				
67	4321300CEC	Cartridge mounting nut					
68	4321400CEC	Cartridge mounting washer					
69	2411710600	Bearing					

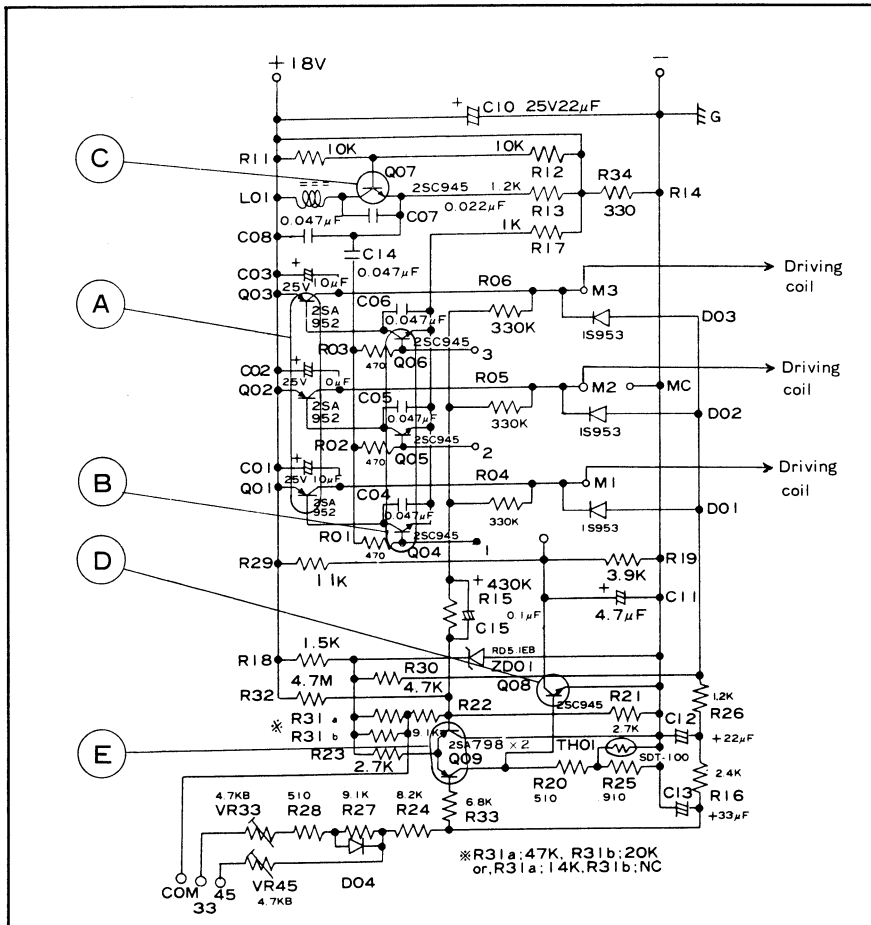
(6) SCREWS, WASHERS AND NUTS

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
201	2012200CEC	⊗ Brazier head taptite screw B φ3x8	212	2122200CEC	⊗ Pan head taptite screw B φ3x35
202	2022200CEC	⊗ Brazier head taptite screw B (Bronze) φ3x8	213	2132200CEC	⊗ Pan head taptite screw C φ3x14
203	2032200CEC	⊗ Brazier head taptite screw B φ3x10	214	2142200CEC	⊗ Pan head screw M3x6
204	2042200CEC	⊗ Brazier head taptite screw B φ3x12	215	2152200CEC	⊗ Pan head Sems screw with plain washer M3x20
205	2052200CEC	⊗ Brazier head taptite screw B φ3x16	216	2162200CEC	Plain washer 3φx10φx1t
206	2062200CEC	⊗ Brazier head taptite screw B φ3x20	217	2172200CEC	Plain washer 3φx16φx1t
207	2072200CEC	⊗ Brazier head taptite screw B φ3x25	218	2182200CEC	Plain washer 4φx10φx1.6t
208	2082200CEC	⊗ Brazier head taptite screw B φ3x8 with plain washer	219	2192200CEC	Plain washer 7φx12φx0.5t
209	2092200CEC	⊗ Brazier head taptite screw B φ3x10 with plain washer	220	2202200CEC	Nylon washer 3φx12φx1t
210	2102200CEC	⊗ Brazier head tapping screw (class 1) φ3x6	221	2212200CEC	E type washer 2φ
211	2112200CEC	⊗ Pan head taptite screw B (Bronze) φ2.6x6	222	2222200CEC	Stop ring CSTW-3
			223	2232200CEC	Stop ring CSTW-5
			224	2242200CEC	Hexagon nut M3
			225	2252200CEC	Hexagon nut M7
			226	2262200CEC	⊗ Pan head screw M3x4

(7) POWER SUPPLY PRINTED CIRCUIT BOARD



# (8)SERVO CONTROLLER CIRCUIT DIAGRAM



	Tr No.	Base Voltage	Collector Voltage	Wave form Base	Wave form Collector
(A)	Q01~03	18V DC	2.8V 1.2VAC		
(B)	Q04~06	2Vp-pAC	0.2Vp-pAC		
(C)	Q07	1.6Vp-pAC	17Vp-pAC		
(D)	Q08	0.7V DC	2.5V DC		
(E)	Q09a b	0.5V DC //	0V, E1VDC 0.65V DC		



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