

ECHO CHAMBER

RE-201/101

SERVICE NOTES

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SECOND EDITION July 30, 1978

All of the information contained in
the first edition and the supplement
is collected in this second edition.

 Roland

Oct. 1984 C-2
Printed in Japan Apr 1982 A-3

SPECIFICATIONS

	RE-201	RE-101
Supply Voltage	100/117/220/230/240V, 50/60Hz	
Power Consumption	16W	15W
Dimensions	415(W) x 275(D) x 185(H)mm 16.5(W) x 10.8(D) x 7.3(H)in	
Weight	9.5Kg, 2.1 lbs.	9.2Kg, 2.0 lbs.
Accessories	Connection Cord (2) Foot Switch (FS-1) Endless Tape (RT-1) Cleaner Vinyl Cover	
S/N Ratio	60dB - "A" weighted	

INPUT

	MIC	INSTRUMENT	FROM PA
Input Level	-50dBm(2.4mV)	-24dBm(44mV)	-24dBm(44mV)
Input Impedance	0.9Kohm	16Kohm	100Kohm

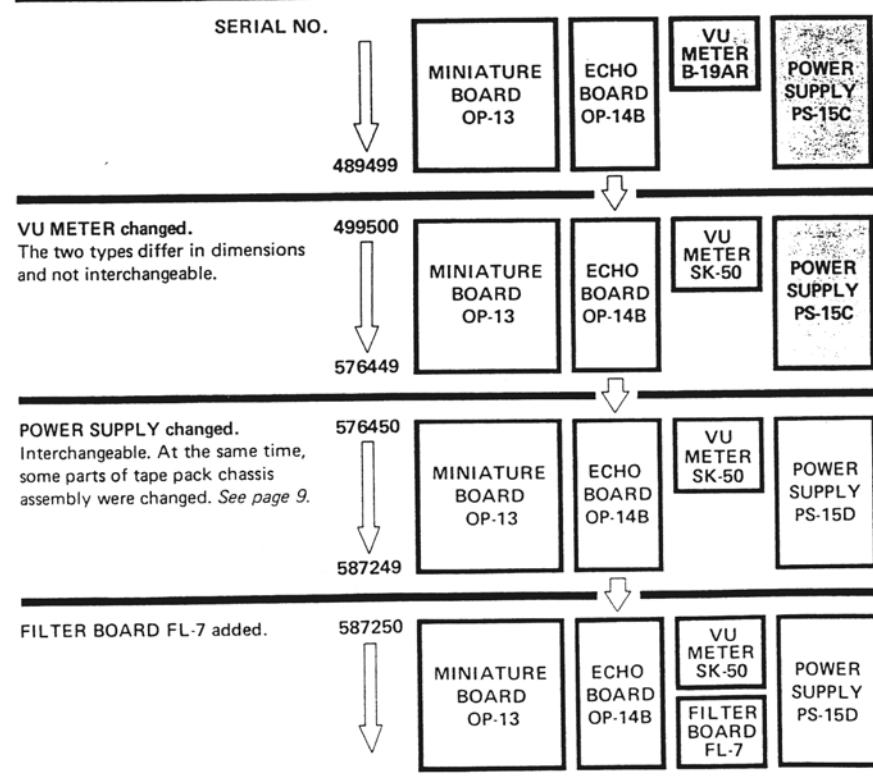
OUTPUT

	H	M	L
Output Level	-15dBm(140mV)	-23dBm(54mV)	-35dBm(14mV)
Output Impedance	1.4Kohm	1.5Kohm	0.5Kohm

RE-201

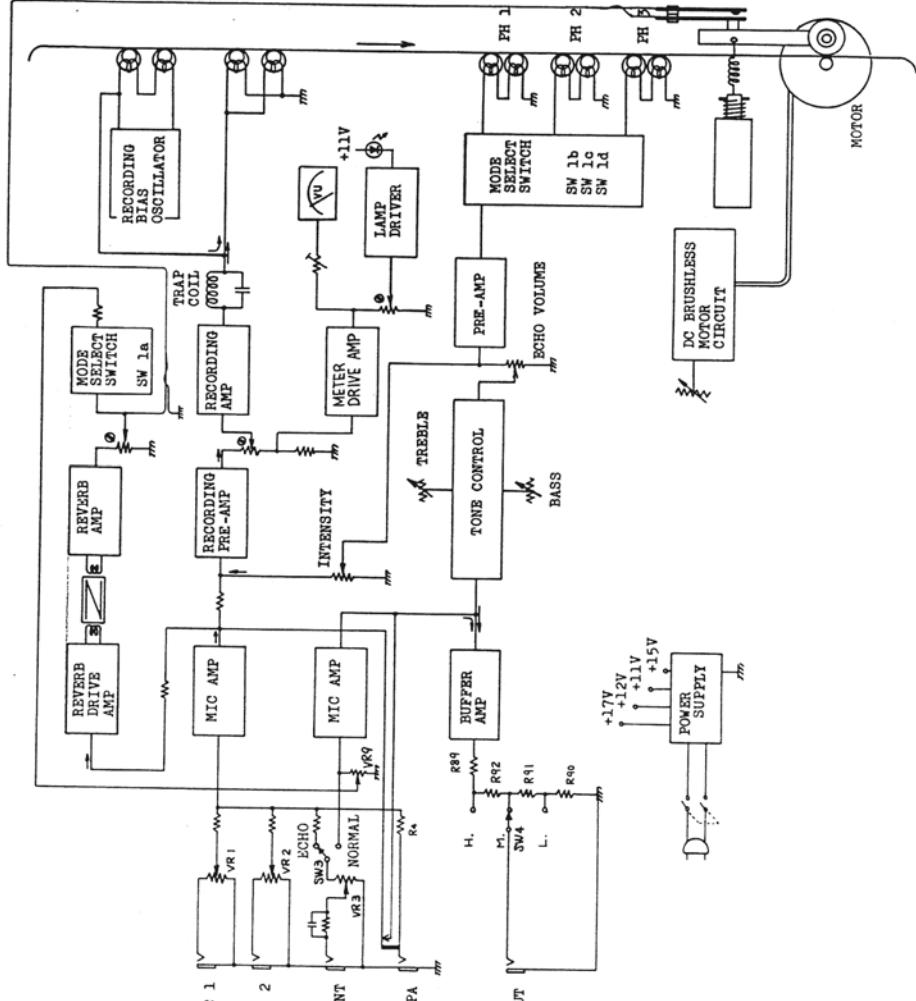
MOTOR

Initially — CDM-131019 (not available now)
Serial No. 331200 and higher — M-502E-B02
See page 8 for replacing CDM-131019 by M-502E-B02.



When ordering parts, never fail to declare:
(1) Model, (2) Serial No., (3) Parts No. and (4) Parts Designation and/or Rating.

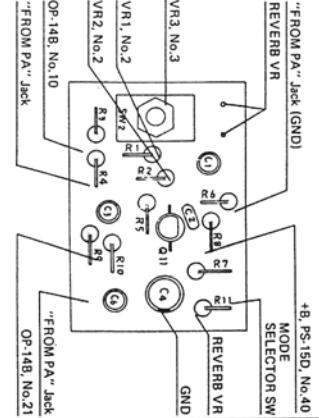
BLOCK DIAGRAM



MINIATURE BOARD OP-13 / ECHO BOARD OP-14B / FILTER BOARD FL-7

MINIATURE BOARD OP-13 (149-013)

ECHO BOARD OP-14B (149-014B)



MS-150 → 8A-1011 (Serial No. 598100 and higher)
SW2:

BA.1011 is more rigid.
Interchangeable by slightly
modifying the mounting hole.

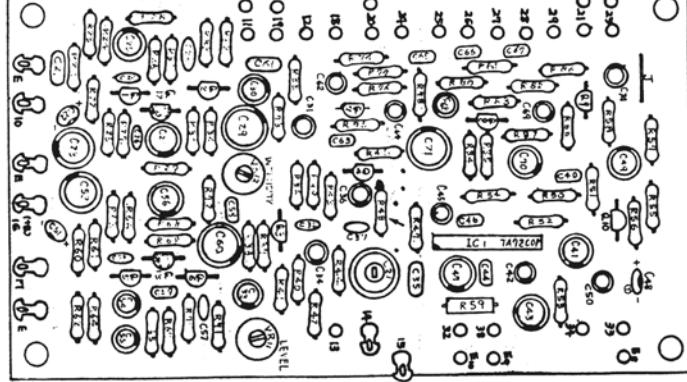
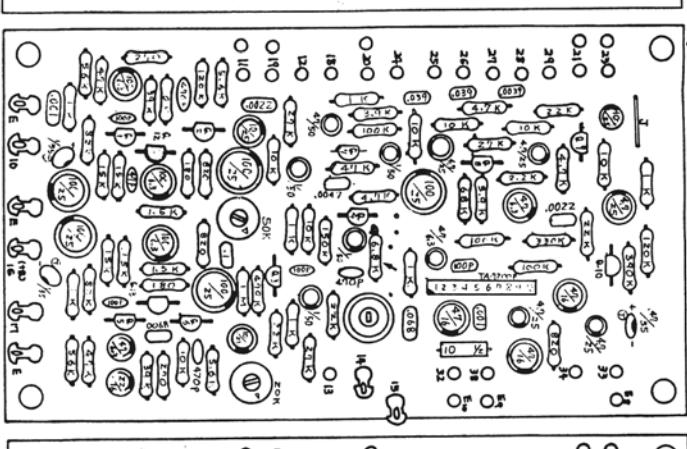
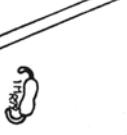
VIEWED FROM FOIL SIDE

"FROM PA" Jack OP-14B, No.21
OP-14B, No.10

1

100

2 2 2



Tr1-10 2SC-1000 GR

卷之三

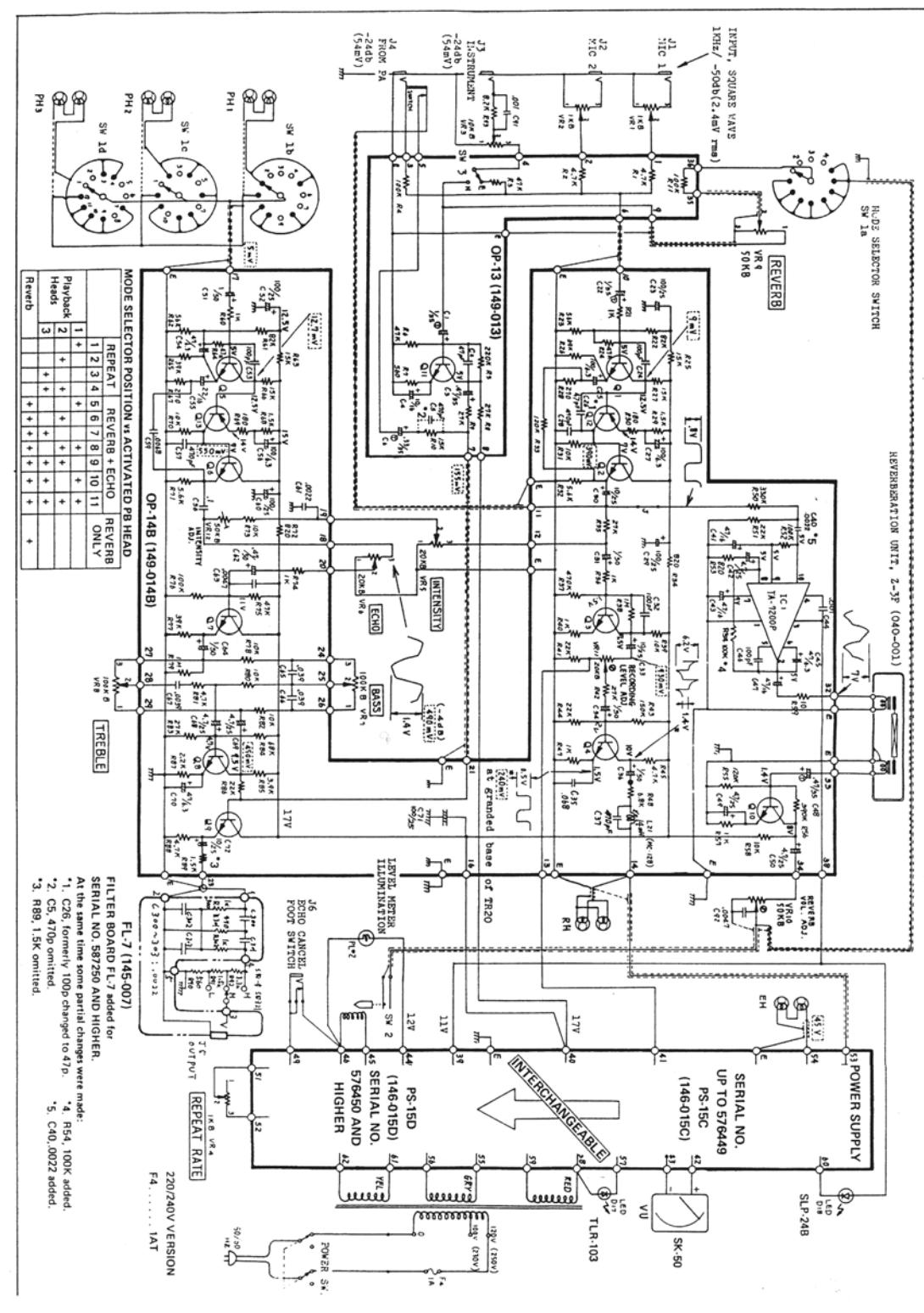
-○+ Tantalum Capacitor

FILTER BOARD FL-7 (145-007)

For Serial No. 587250 and higher

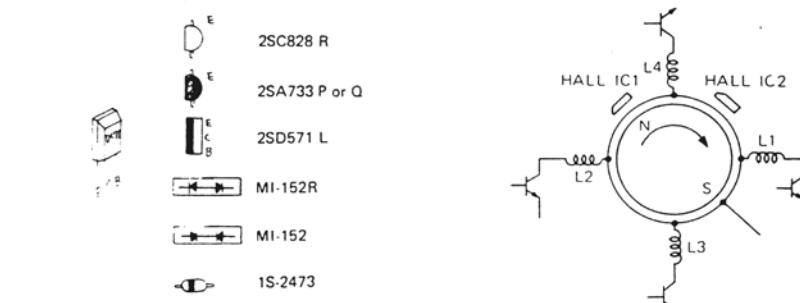
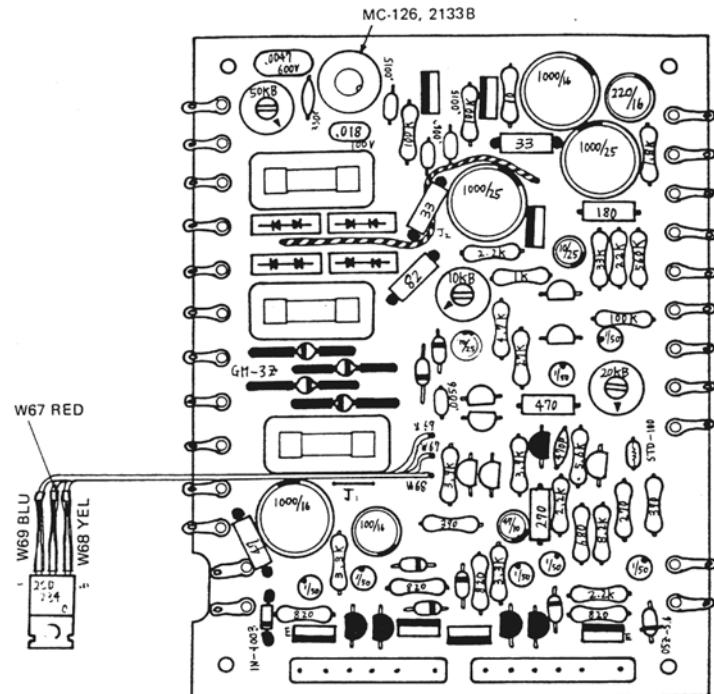
10.23

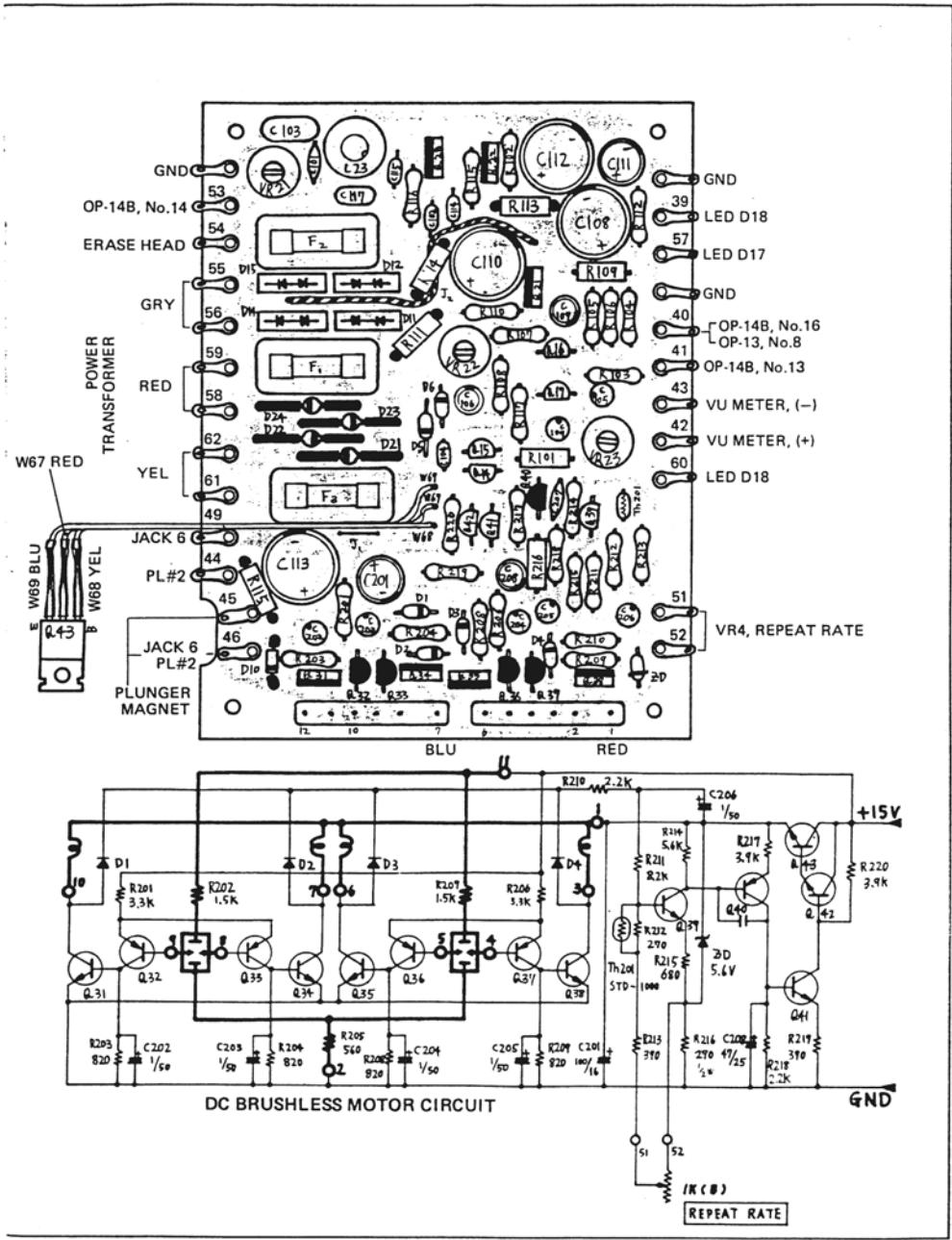
OP-16/OP-14B/FL-7 / CIRCUIT DIAGRAM



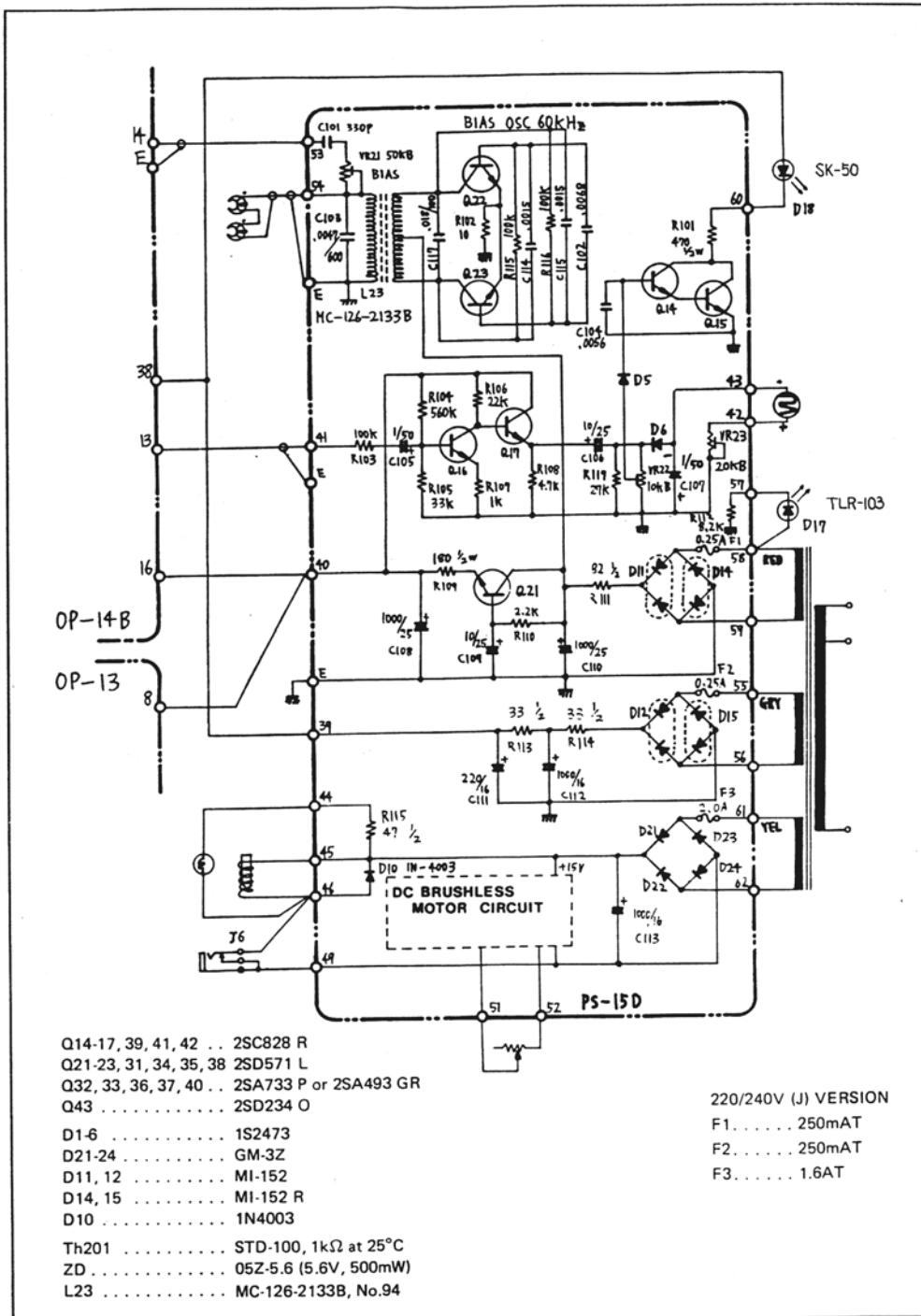
POWER SUPPLY PS-15D (SERIAL NO.576450 AND HIGHER)

POWER SUPPLY PS-15D (146-015D)

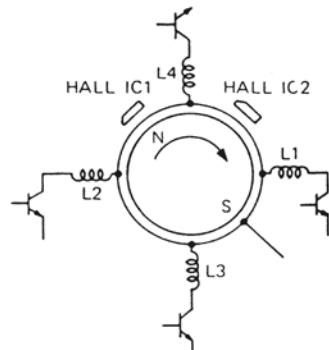
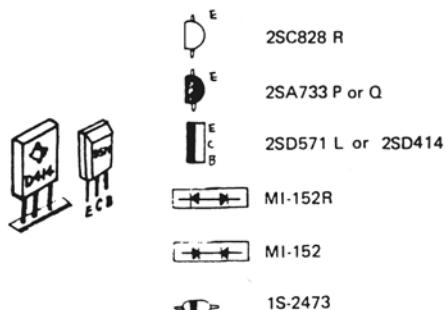
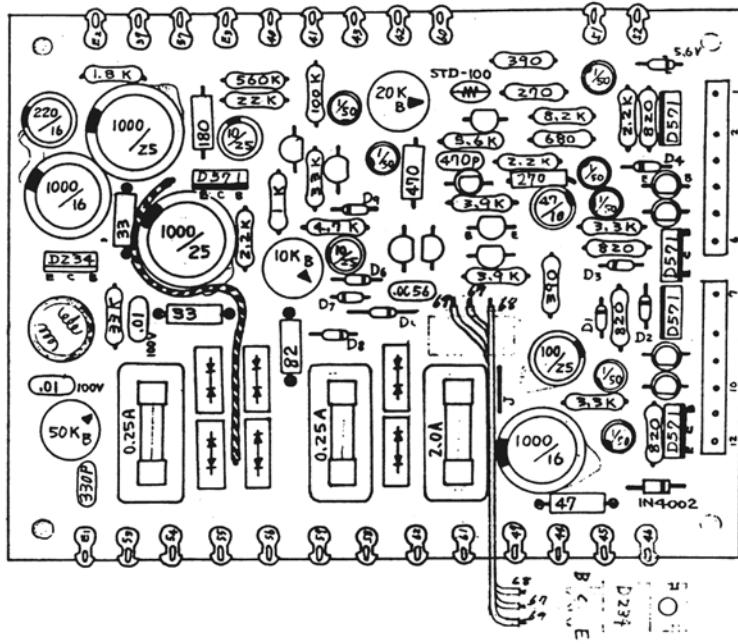


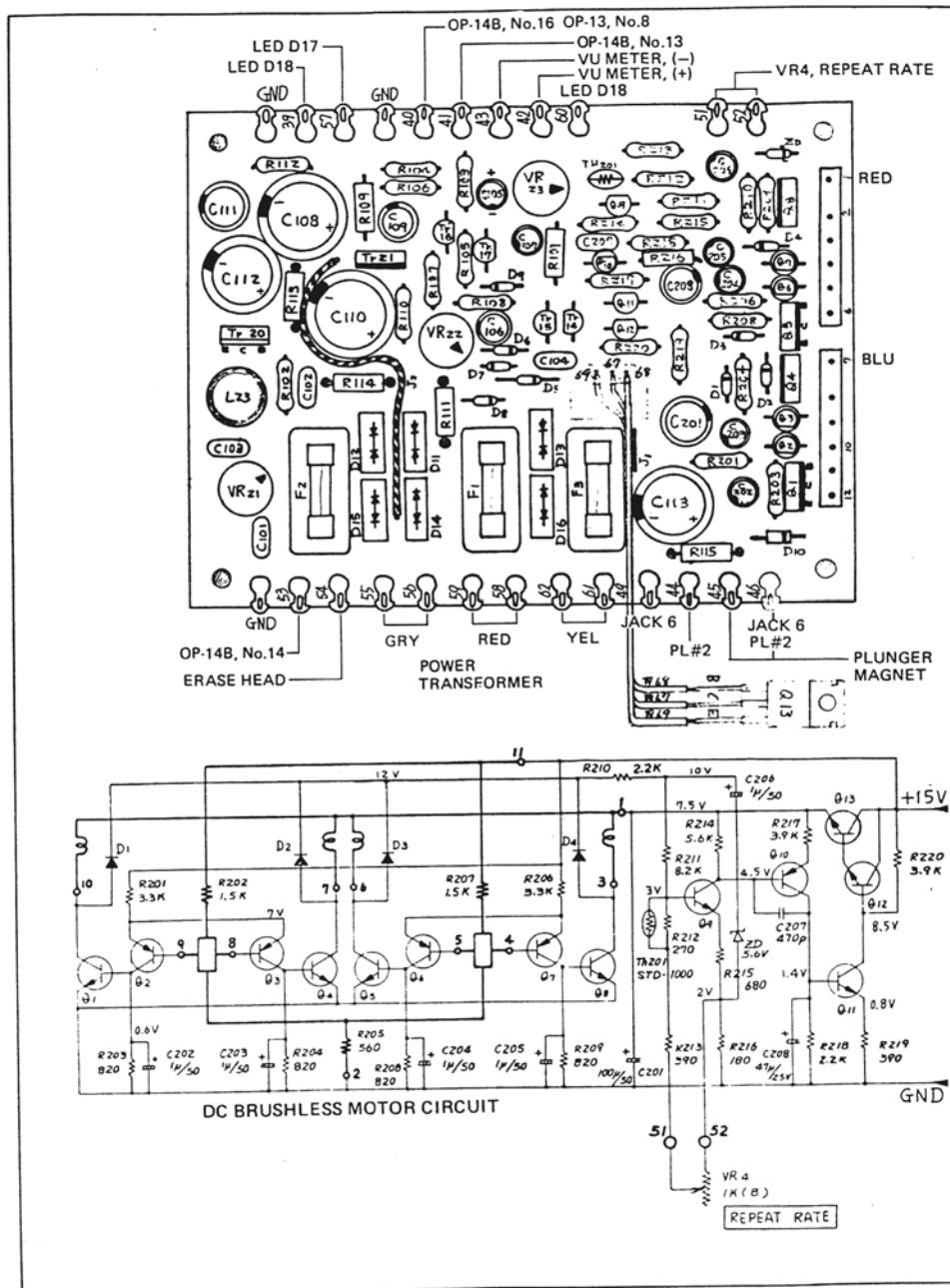


Roland



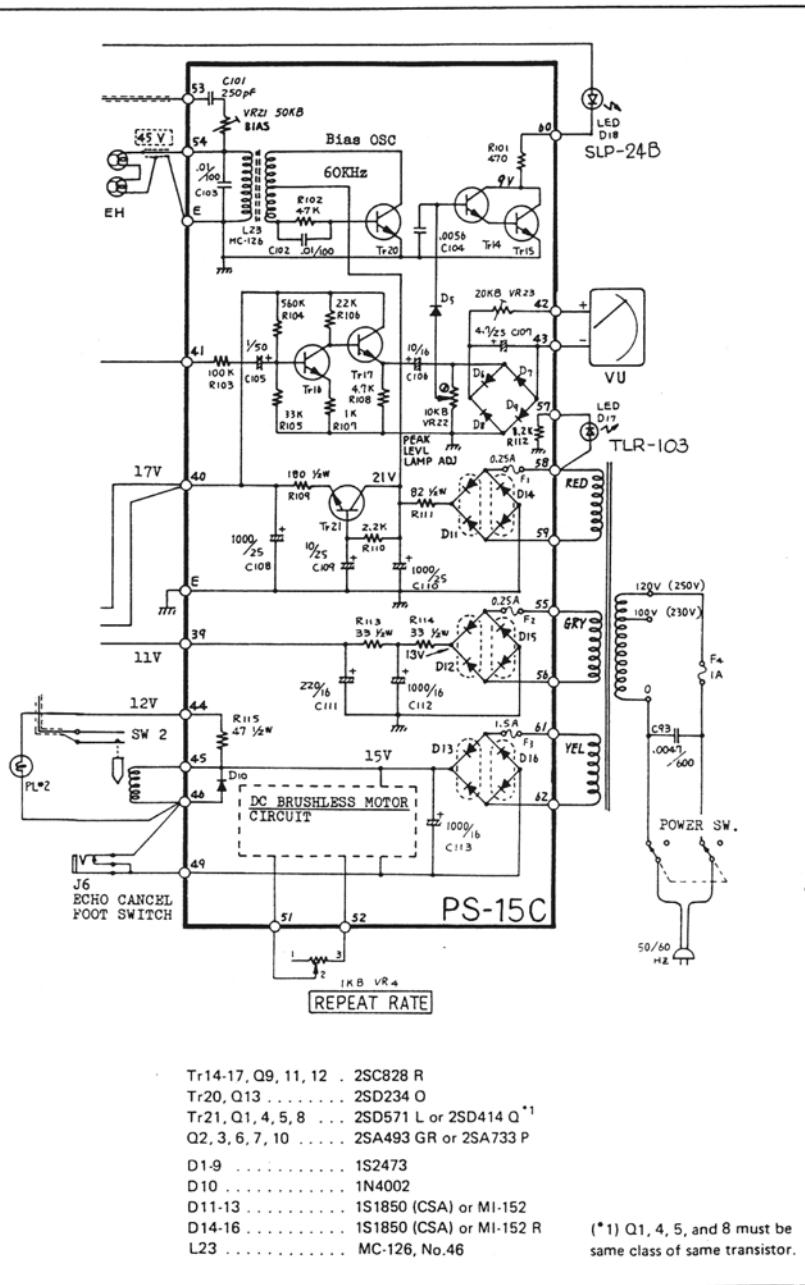
POWER SUPPLY PS-15C (146-015C)





Roland

POWER SUPPLY PS-15C (SERIAL NO. UP TO 576449)



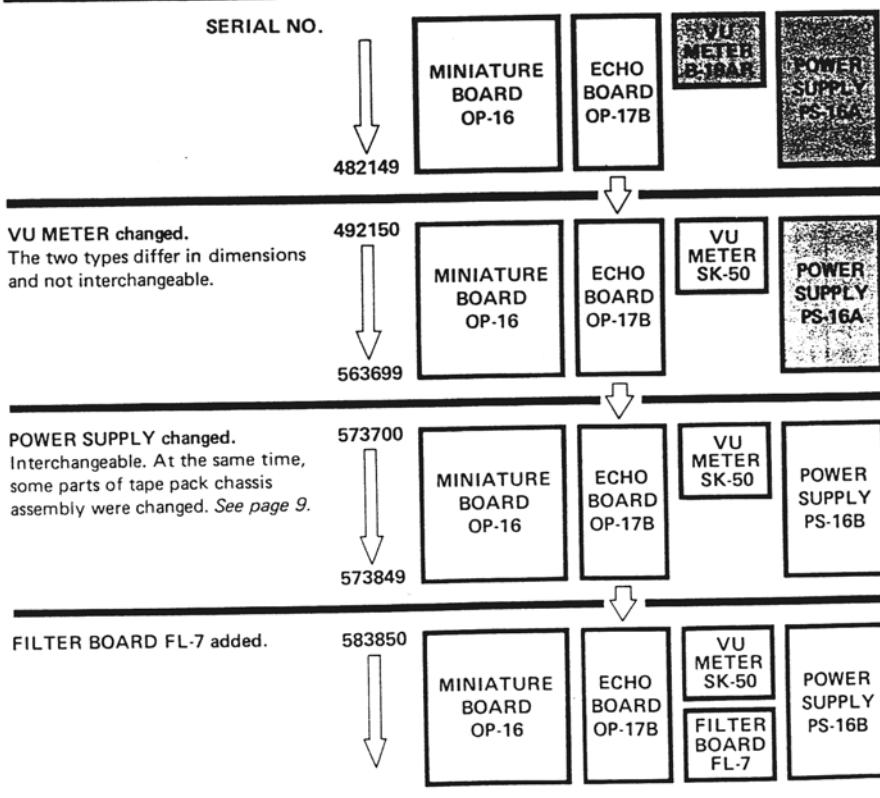
RE-101

MOTOR

Initially — CDM-131019 (not available now)

Serial No. 330300 and higher— M-502E-B02

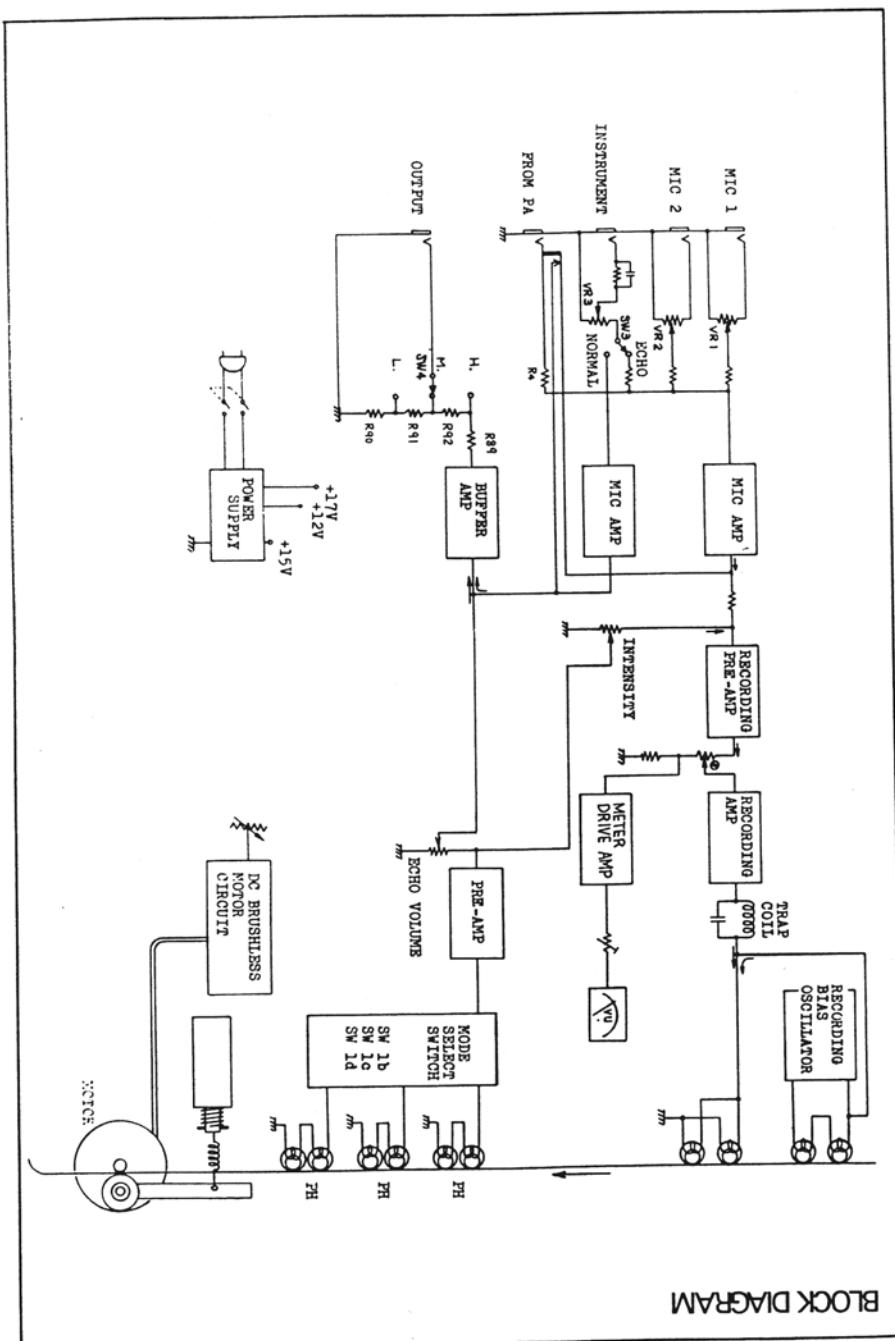
See page 8 for replacing CDM-131019 by M-502E-B02.



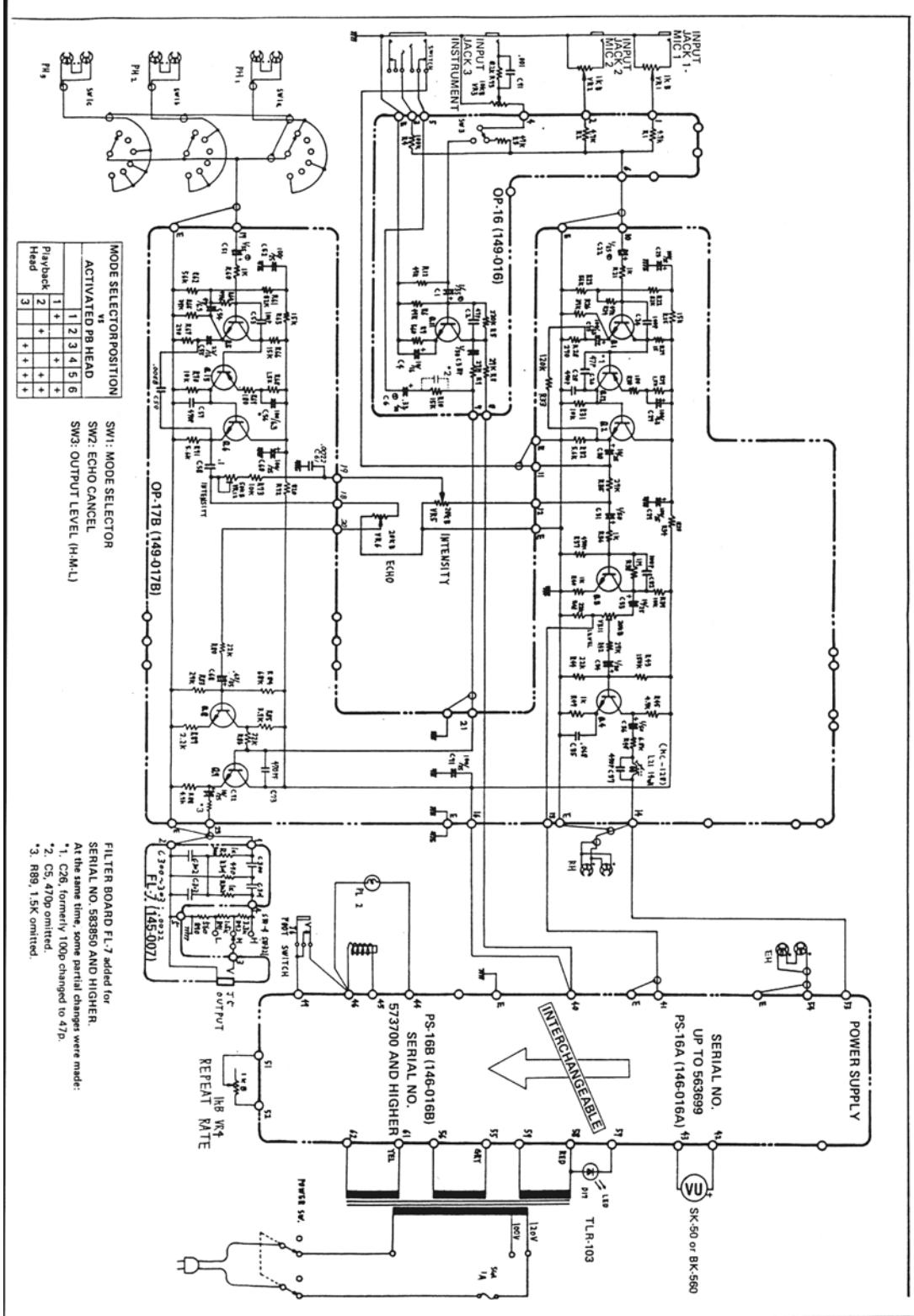
Roland

When ordering parts, never fail to declare:

(1) Model, (2) Serial No., (3) Parts No. and (4) Parts Designation and/or Rating.



OP-16/OP-17B/FL-7 / CIRCUIT DIAGR

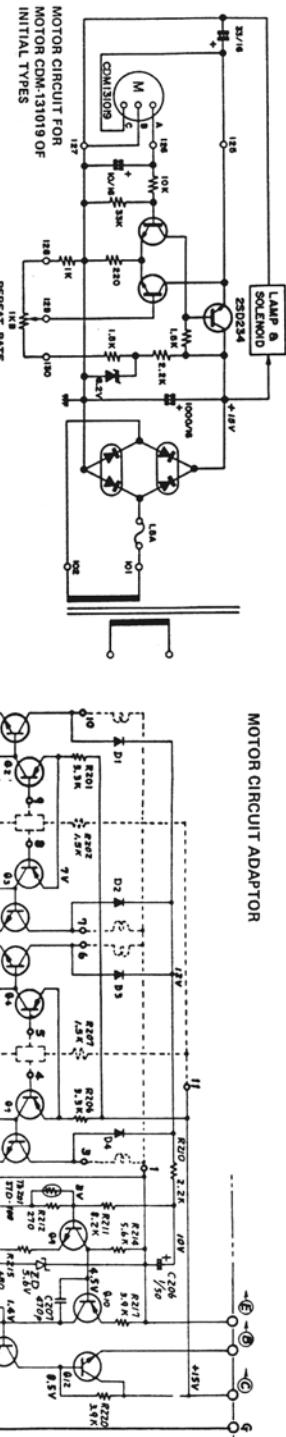


MOTOR REPLACEMENT

TO REPLACE MOTOR CDM-131019 BY M-502E-B02

Motor CDM-131019 that was initially used is no more available. If it is necessary to replace the motor, use M-502E-B02. Mount it by use of an adaptor as shown in the photo below and by adding a motor circuit adaptor as shown on the left.

MOTOR CIRCUIT ADAPTOR

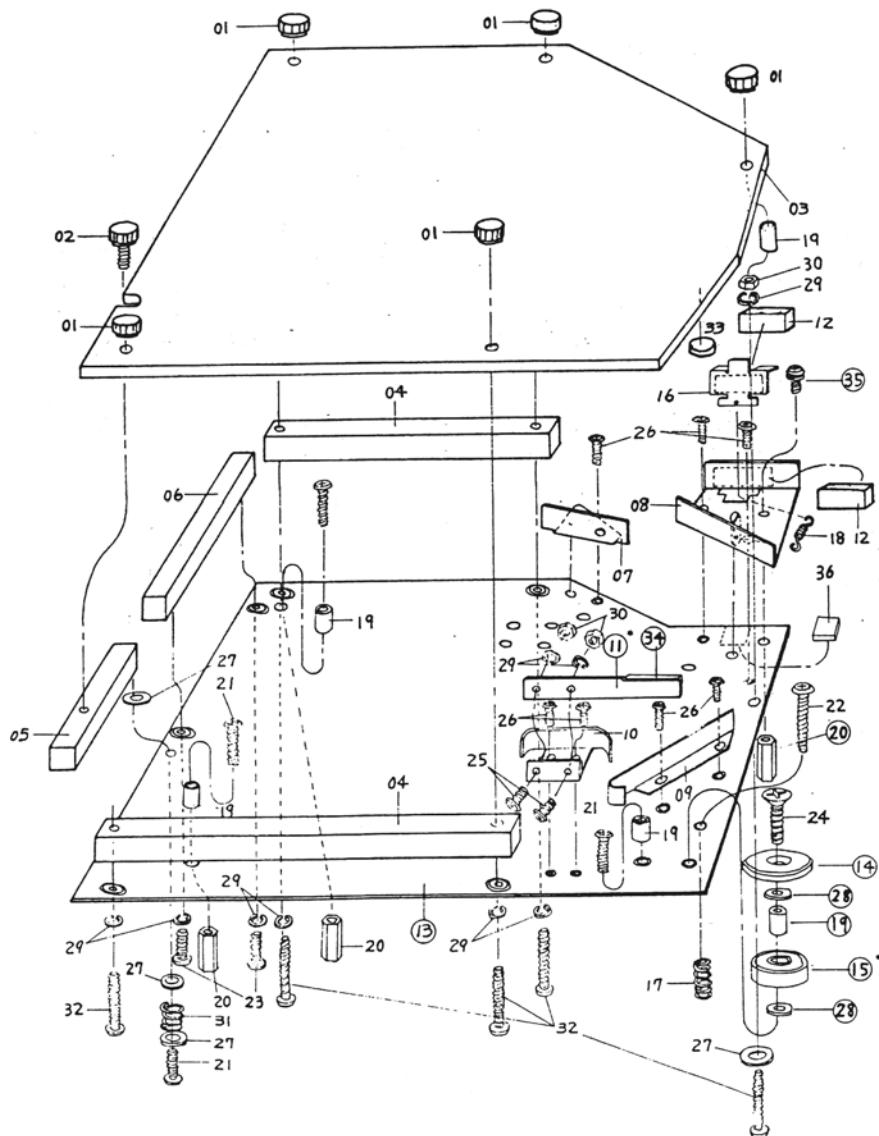


CONNECT FROM POINTS ENCIRCLED
TO CORRESPONDING TERMINALS
OF MOTOR CIRCUIT ADAPTOR.



TAPE PACK CHASSIS ASSEMBLY

This drawing shows tape pack chassis assembly for SERIAL NO. 573700 AND HIGHER.
For SERIAL NO. UP TO 563699, parts encircled slightly differ.
They can be interchangeable except for (11) and (15) that should be replaced as a set.



TAPE PACK CHASSIS ASSEMBLY

NO.	PARTS NO.	PARTS NAME AND DESCRIPTION
01	120-036	Nut, Decoration, M3
02	123-004	Screw, Decoration, M3
03	092-004	Top cover No.4, pack (acrylic)
04	079-004	Frame No.4
05	079-005	Frame No.5
06	079-006	Frame No.6
07	079-007	Frame No.7
08	079-008	Frame No.8
09	079-009	Frame No.9
10	079-010	Frame No.10
(1)	070-033	Leaf spring No.33
12	101-017	Felt No.17
(13)	061-063A	Chassis No.63A
(14)	065-113	Cover, Bearing
(15)	113-004	Bearing
16	063-011	Plate No.11
17	070-017	Spring No.17, Support for chassis
18	070-018	Spring No.18
(19)	*	Collar (plastic), M3 x 6mm
(20)	120-001	Sleeve Nut No.1, 10mm
21	*	Screw, B.H. M3 x 12mm, Nickel
22	*	Screw, B.H. M3 x 15mm, Chrome
23	*	Screw, B.H. M3 x 6mm,
24	*	Screw, O.H. M3 x 15mm, Nickel
25	*	Screw, B.H. M3 x 6mm,
26	*	Screw, T.H. M2.6 x 4mm, Nickel
27	*	Plain washer M3 x 8 x 0.5mm
(28)	121-035	Plain washer No.35, M3 x 8 x 0.3mm Phosphor bronze
29	*	Spring washer M3
30	*	Nut, Hex M3
31	070-005	Spring No.5
32	*	Screw, B.H. M3 x 18mm
33	101-008	Felt Chip No.8
(34)	101-026	Felt No.26
(35)	*	Screw, SEMS M3 x 8mm, Chrome (wire spring washer)
36	107-004	Cushion No.4

NOTE: *(15) is slightly smaller in height than older (15). When replacing (15), replace (11), too.

 Roland

ADJUSTMENT AND CHECKING

1. MECHANICAL ADJUSTMENT

1-1. TAPE CHASSIS POSITION

Adjust the tape chassis position so that the clearance from the motor shaft is 1mm. See Fig.1. Secure it by tightening 2 screws at the rear section of the chassis.

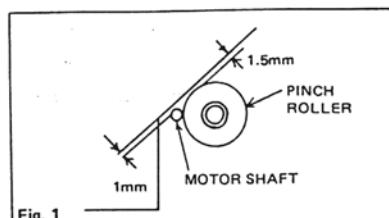


Fig. 1

1-2. TAPE CHASSIS HEIGHT (TEMPORARY)

Adjust the tape chassis height so that it is 10.5 ± 0.5 mm above the main chassis. See Fig.2. (Make sure that Frame No.8 is not deformed)

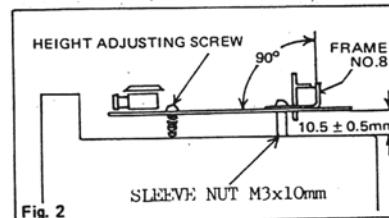


Fig. 2

1-3. LEAF SPRING PRESSURE

Adjust position of Frame No.10 so that the tension to separate the leaf spring from the bearing roller is 25-30g. See Fig.3.

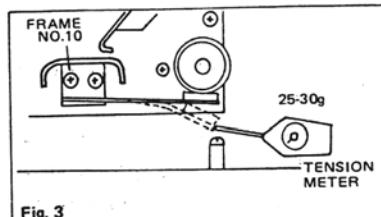


Fig. 3

1-4. POSITION OF FRAMES NOS.7, 8, AND 9

Secure the frames as illustrated in Fig.4.

CAUTION: Make adjustment of position of Frames Nos. 7 and 8 accurately with the pinch roller in contact with the motor shaft.

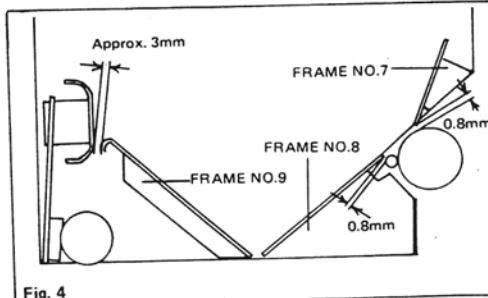


Fig. 4

1-5. PINCH ROLLER PRESSURE

Plug in the power cord and turn switch on. Adjust the solenoid position so that the tension to separate the pinch roller from the motor shaft is 1.0-1.4kg, using a spring balance. See Fig.5.

CAUTION: Make sure that pinch roller surface is perfectly parallel with the motor shaft.

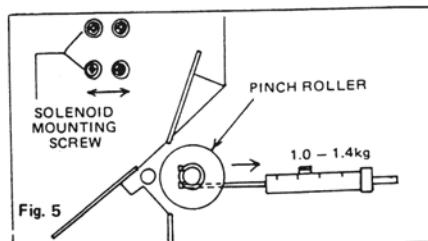
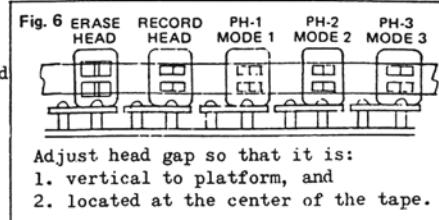


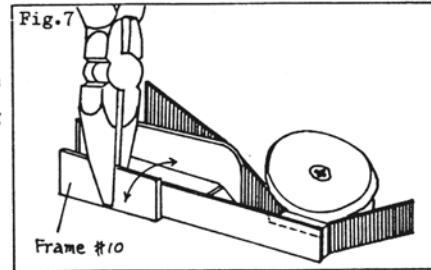
Fig. 5

1-6. TAPE PACK HEIGHT (FINAL)

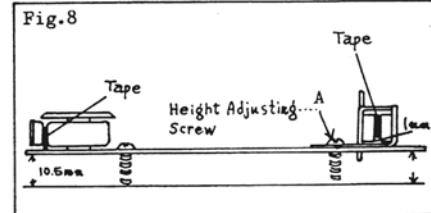
- a) Thread the tape and run it.
- b) Consulting Fig.6, visually adjust the head alignment. (This alignment must be made first, otherwise tape cannot run stably.)



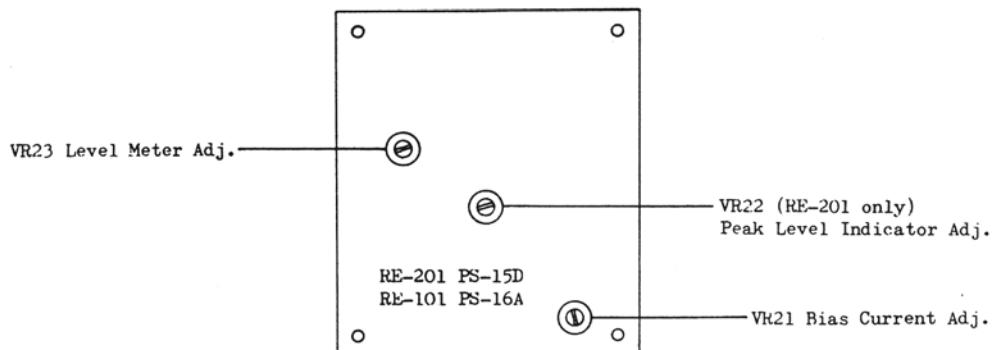
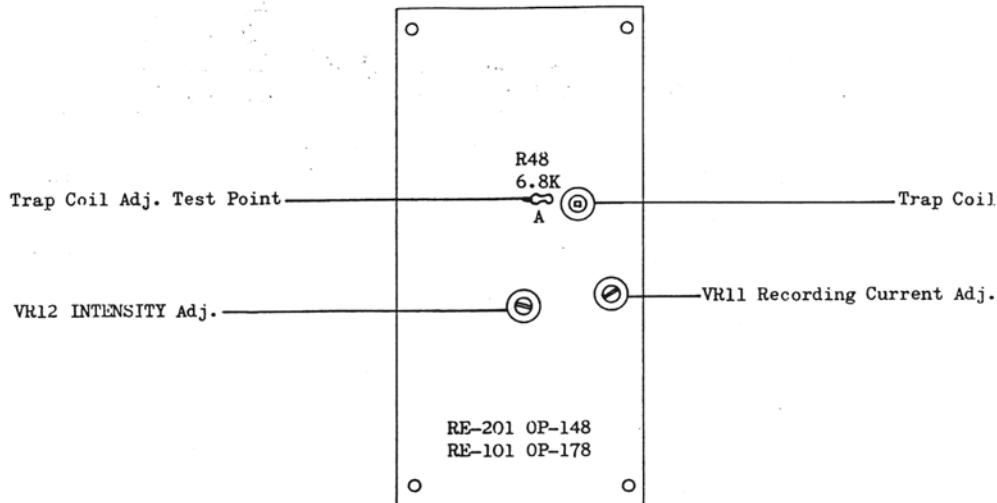
- c) For products without cutting on Leaf Spring;
Adjust Frame No.10 so that the tape passes right below the flange edge of the bearing roller.



- d) For products with Spring around Height Adjust Screw A:
Make sure that the tape travels with its lower edge $1+0.2\text{mm}$ above Frame No.8, measured at the pinch roller side.
The Frame No.8 height is adjusted by Height Adjusting Screw "A".
After adjustment of step 1-2, there would be no need of turning the screw so much.
If it happens that due to adjustment of this step, the height of tape chassis largely deviates from 10.5mm , there might be another problem to be solved.

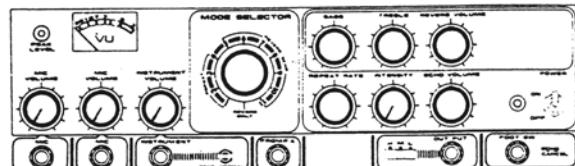


2. ELECTRICAL ADJUSTMENT



2-1. TRAP COIL

Adjust Trap Coil (L21) so that bias leakage at Point "A" (R48, 6.8Kohms) is below 2.5Vrms. If the voltage cannot be lowered than the level, replace C37 (470p) with a new one.



2-2. HEAD ALIGNMENT

Before attempting the following electrical adjustment, make sure that mechanical head alignment is perfected.

(a) Run the tape and adjust Record and Playback Heads with alignment screws so that their gaps are completely perpendicular to the edge of the running tape, and that all heads' gap-width dimensions are centered on the tape path.

(b) While monitoring an individual waveform on a scope, adjust alignment screws to obtain maximum output at high frequencies.

The ideal is for all playback heads' output to be equal in levels. Difference in the levels should be minimized by reducing the output of head with higher output. To reduce the output level, center off slightly the playback head's gap from the track.

When doing so, be careful not to cause ill affect on the high frequency response by tilting or azimuth error.

2-3. RECORDING BIAS/CURRENT

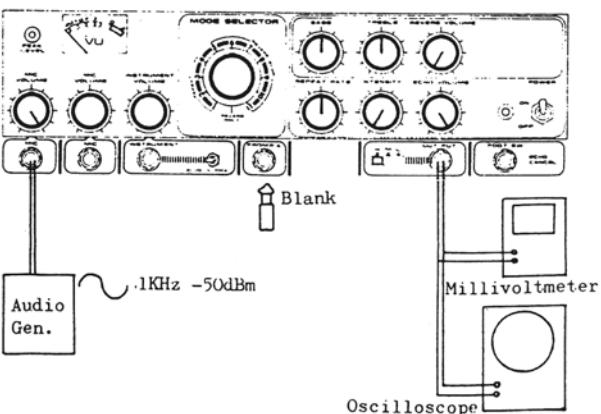
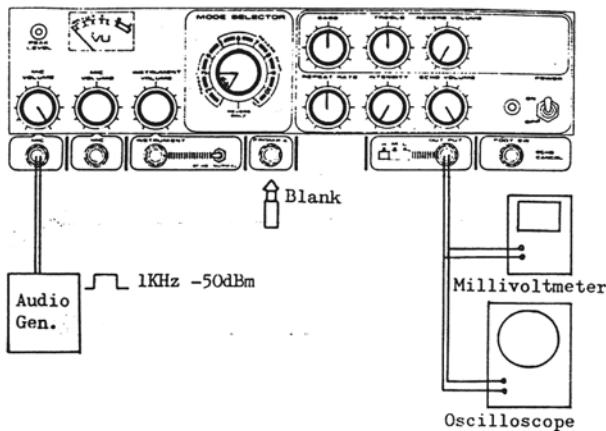
Feed sine wave signal, -50dB to input.

(a) Recording Bias

Adjust VR21 for maximum output.

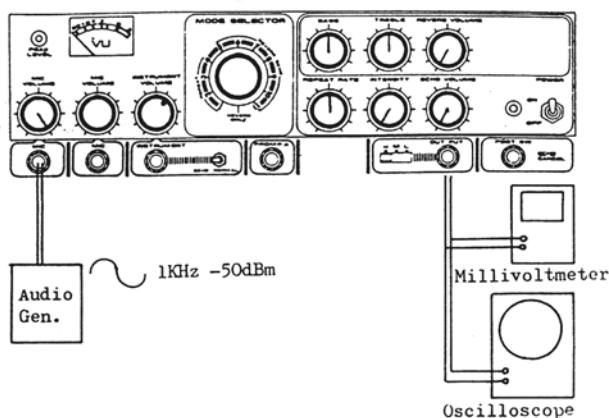
(b) Recording Current

Adjust VR11 for -12dBm output.



2-4. DIRECT OUTPUT CHECKING

Remove the Blank Plug from FROM PA jack. Turn Echo Volume fully counterclockwise. Make sure that direct signal output is $-15\text{dB} \pm 1\text{dBm}$.



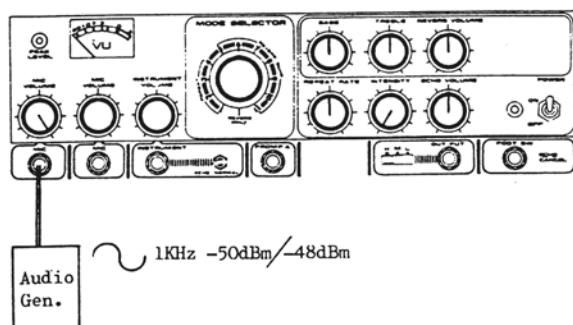
2-5. PEAK LEVEL/ LEVEL METER

a) PEAK LEVEL (RE-201 only)

Adjust VR22 so that LED lights dimly at -50dB input signal and goes off completely at -48dB input.

b) LEVEL METER

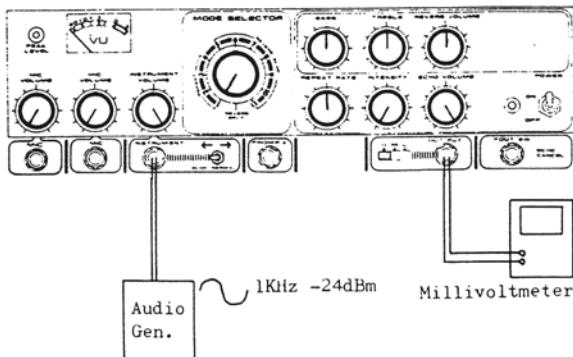
Adjust VR23 for 0dB reading on Level Meter at -50dB input.



2-6. INSTRUMENT INPUT jack

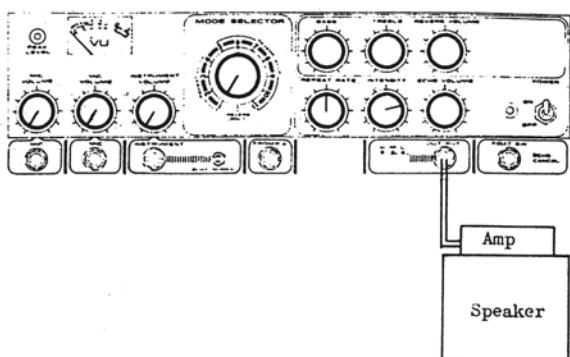
Feed 1KHz, -24dBm sine wave to INSTRUMENT Input jack. Check to see that the outputs are as shown below.

SELECTOR	OUTPUT
ECHO	-15dBm
NORMAL	-12.5dBm



2-7. INTENSITY

Adjust VR12 so that multiple repetition of noises occurs with Intensity Control as shown.



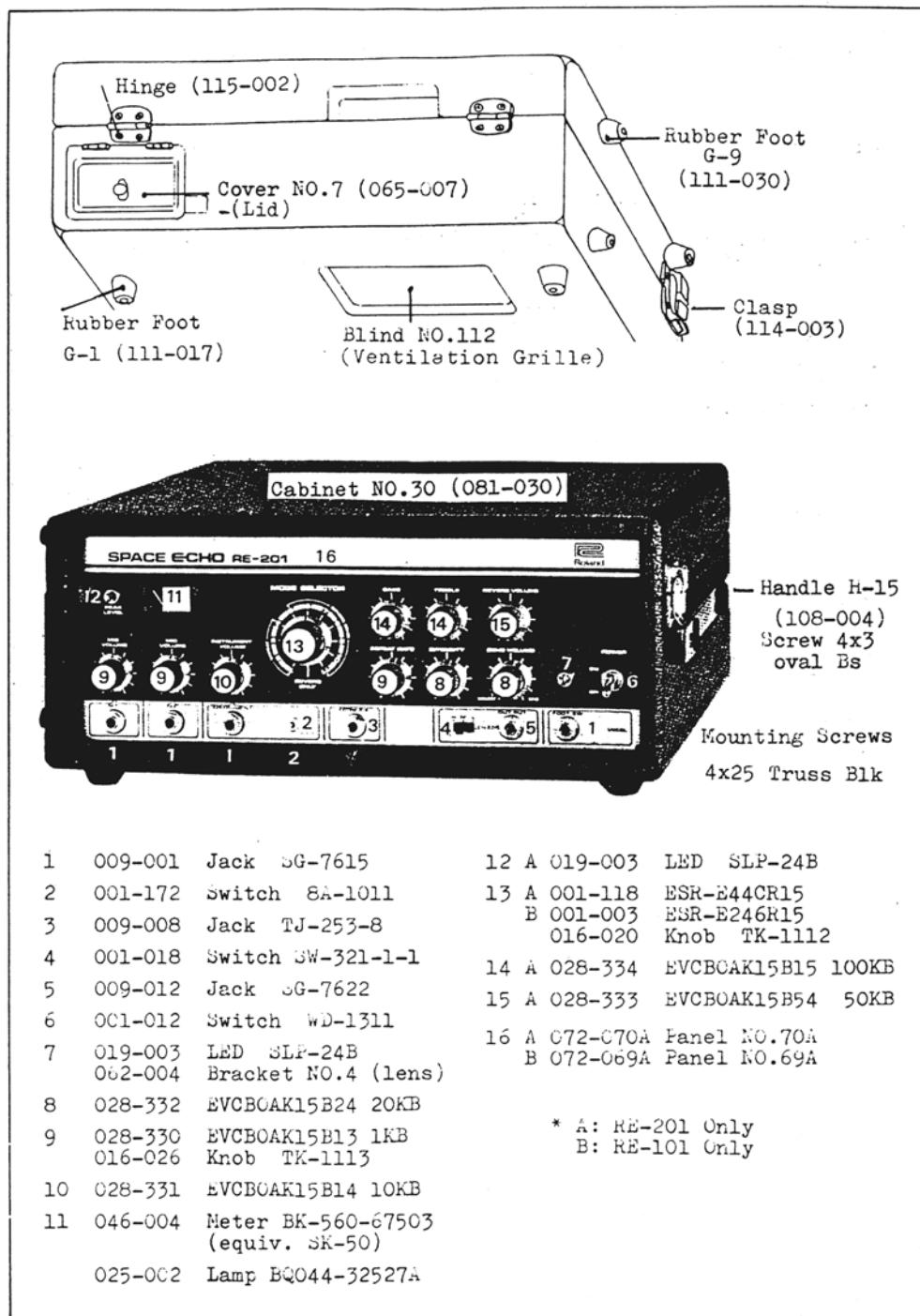
Other Reference Data

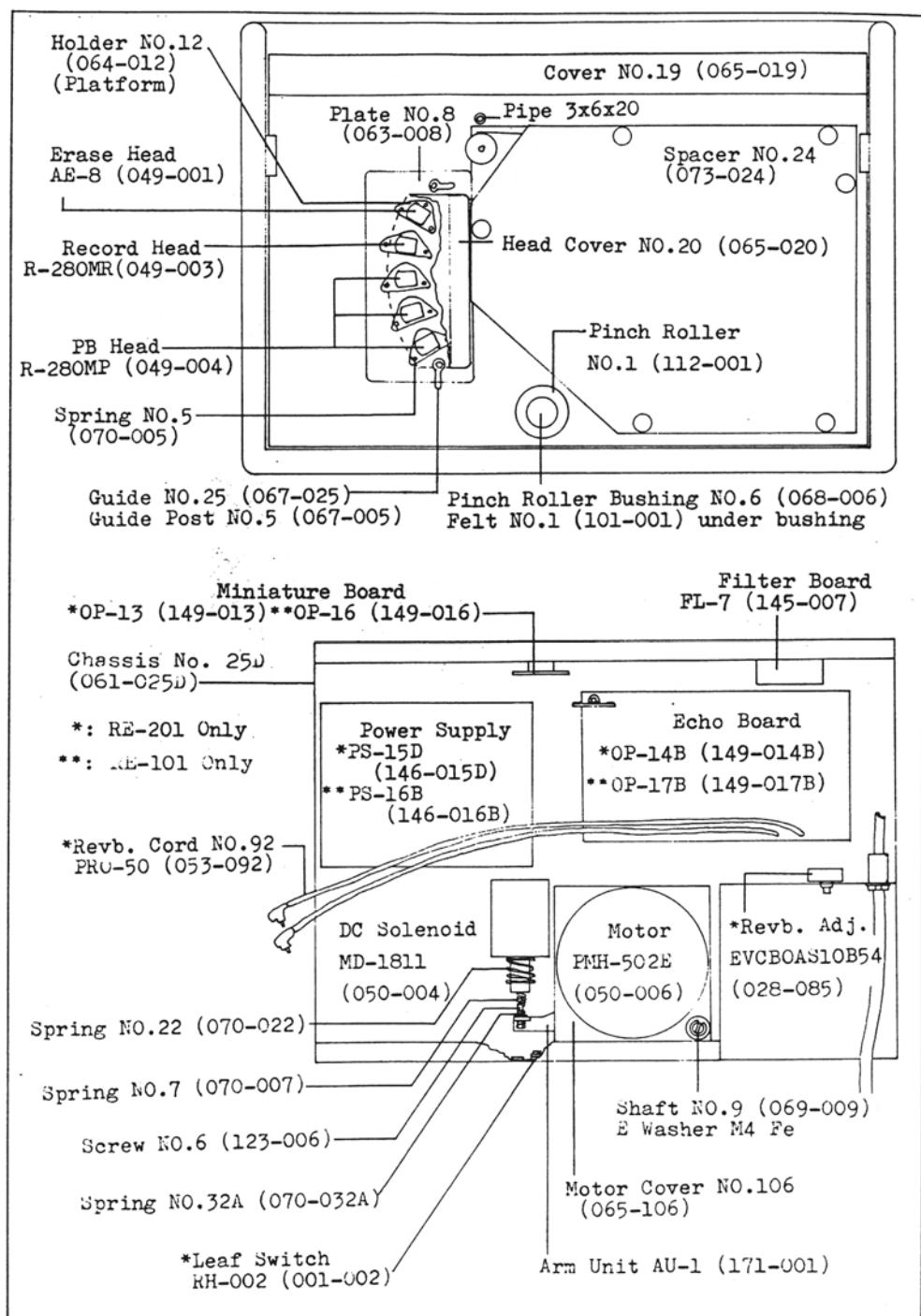
Bias Voltage 50 - 60Vrms across Erase Head.

Tape Speed 12cm - 40cm/sec (approx)

Tone Control: Treble... $\pm 10\text{dB}$ at 5KHz

Bass $\pm 10\text{dB}$ at 100Hz





PART NO.	PART AND DESCRIPTION	PART NO.	PART AND DESCRIPTION
RE-101 Only		171-001	Arm Unit Assy AU-1
072-069A	Panel No.69A	069-009	Shaft No.9, AU-1 Mounting
001-003	Rotary Switch ESR-E246R15	050-004	DC Solenoid, Magnet & Plunger
PCB Assy		070-007	Spring No.7, Plunger
149-017B	OP-17B Echo Board (052-098B)	070-022	Spring No.22, Solenoid
149-016	OP-16 Miniature Board (052-100)	070-032A	Spring No.32A
146-016B	PS-16B Power Supply Board (052-099E)	123-006	Screw No.6, Plunger Adj.
RE-201 Only		016-026	Knob TK-1113
072-070A	Panel No.70A	016-020	Knob TK-1112
001-118	Rotary Switch ESR-E44CR15	062-004	Bracket No.4, Lens, LED
028-333	EVCBOAK15B54 50KB Reverb Vol.	068-001	Pad No.1 (inside Bracket)
038-334	Potentiometer EVCBOAK15B15	121-007	Spring Nut No.7, M8p, Bracket No.4
100KB Bass Treble			
028-085	Potentiometer EVCBOAS10B54		
50KB Reverb Adj.			
020-028	IC TA-7200P	009-001	Switches
040-001	Reverb Unit Z-3F	001-012	WD-1311 Power
PCB Assy		001-102	8A-1011 Miniature Toggle
149-014B	OP-14B Echo Board (052-098E)	001-018	SW-321-1-1 Slide
149-013	OP-13 Miniature Board (052-100)	009-008	Jack SG-7615
146-015D	PS-15D Power Supply Board (052-099E)	009-012	Jack TJ-253-8, From PA
001-002	Leaf Switch RH-002	046-004	SG Jack SG-7622, Output
RE-101 and RE-201 include the following.		025-002	VU Meter BK-560-67503, Equiv. SK-50
081-030A	Cabinet (Upper & Lower)	022-094	Lamp BQ044 (14V 80mA)
108-104	Carrying Handle H-15	022-045	Coil MC-126-2133B, OSC
065-007	Cover No.7 (Lid Cord Compartment)	022-068AC	Coil MC-128 Trap
114-003	Clasp	022-067AD	Power Transformer No.68AC, 100/117V
115-002	Hinge	012-003	Power Transformer No.67AD, 220/240V
111-017	Rubber Foot G-1 (Large)	012-018	Fuse Holder TF-758, SEC.
111-030	Rubber Foot G-9 (Small)	042-032	Fuse Holder X-N1153, Prim. 220/240V
065-112	Blind No.112, Ventilation Grille	047-025	Terminal TT-501 D-1, 2p, 220/240V
131-023	Vinyl Cover No.23		Line Cord Strain Relief EA-5
130-048	Carton No.48		Transistors
061-025D	Chassis No.25D, Main	017-251	2SD234-0
065-019	Cover No.19, Front	017-008	2SC828-R
073-024	Spacer No.24, Side	017-003	2SC1000-GR
064-012	Holder H-12 (Platform)	017-072	2SD571-L
063-008	Plate No.8, Head Mounting	017-024	2SA733-P
065-020	Head Cover No.20		Diodes
067-025	Guide No.25	018-035	05Z-5.6 (5.6V 1/2W), Zener
067-005	Guide Post No.5	018-014	1S-2473
049-003	Record Head R-280MR	018-018	IN-4003
049-004	Playback Head R-280MP	018-062	MI-152
049-001	Erase Head AE-28	018-063	MI-152R
112-001	Pinch Roller	019-003	SLP-24B LED
068-006	Cover No.6, Pinch Roller	018-036	SDT-100 1K ohm at 25° Centigrade,
101-001	Felt No.1, Under Cover No.6	008-023	Thermistor
050-006	Motor PHM-502E-B02	008-028	Fuse
120-037	Nut No.37, Motor Mounting	008-041	SGA-0.25A, Sec.
065-106	Cover No.106, Motor	008-060	SGA-2A, Sec.
		008-069	MGP-1A, Pigtail, Pri.
		008-066	CEE 250mAT, Sec.
		145-007	CEE 1.6AT, Sec.
			CEE 1AT, Sec.
			FL-7 PCB Assy, Filter Board (052-226)

PART NO.	PART AND DESCRIPTION
028-330	Potentiometer EVCBOAK15B13 1KB, Mic, Re.rate, Inte
028-332	EVCBOAK15B24 20KB Echo Vol.
028-331	EVCBOAK15B14 10KB Inst.
028-004	EVTR4AAB14 10KB Trimmer.
028-005	EVTR4AAB24 20KB
028-006	EVTR4AAB54 50KB
	Optional
057-004	Cleaner Set.
057-006	Tape KT-1L (4.5m)
053-013	Connection Cord L1-10

PARTS ORDERING INFORMATION

Name of part number of some of the parts is changed from those printed on previously issued parts list. When ordering replacement parts, be sure to follow the description on the present issue.

When ordering parts, be sure to include the following information:

1. Model and Serial Number
2. Part Number
3. A Description of the Part

This parts list includes all standard stock replacement parts. No attempt has been made to include every nut, bolt and screw. If the necessity for a non-listed part arises, please write describing the parts location and function as well as model and serial number of the unit.

