

RE-501, SRE-555 SERVICE NOTES

SPECIFICATIONS

Input Level/Impedance

Balanced: +4dBm/30kΩ
 0dBm/47kΩ
 Unbalanced: -25dBm/220KΩ
 -50dBm/6.6KΩ

Output Level/Impedance

Balanced: +4dBm/600Ω
 0dBm/More than 5KΩ
 Unbalanced: -25dBm/More than 5KΩ
 -50dBm/More than 5KΩ

Switch

Input 2-Level Switch (0, -25, -50dBm)
 Output A-B Level Switch (0, -25, -50dBm)

SRE-555

Power Consumption: 24W

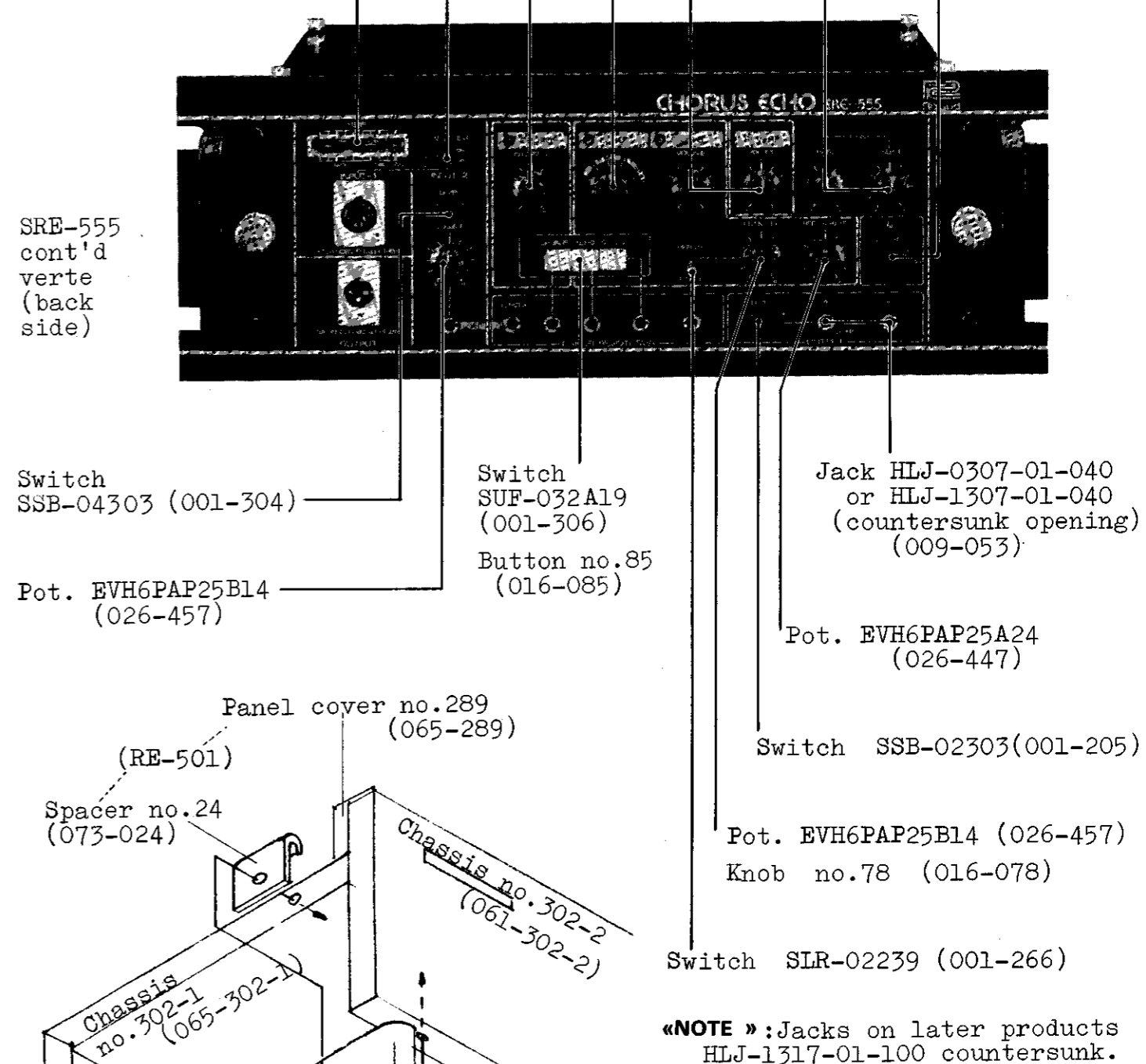
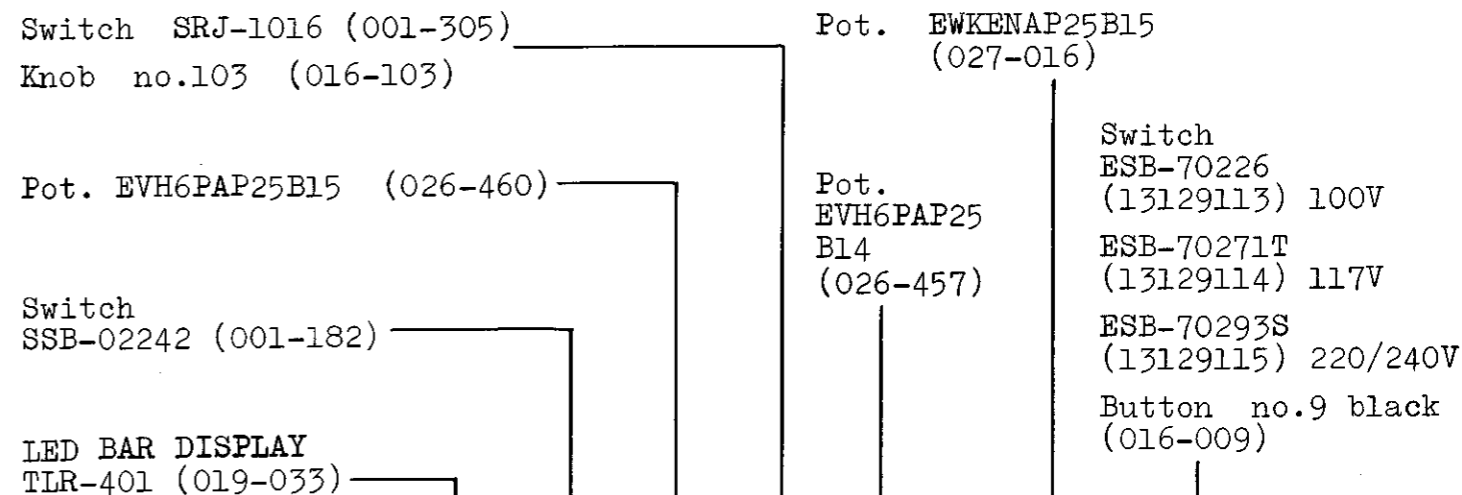
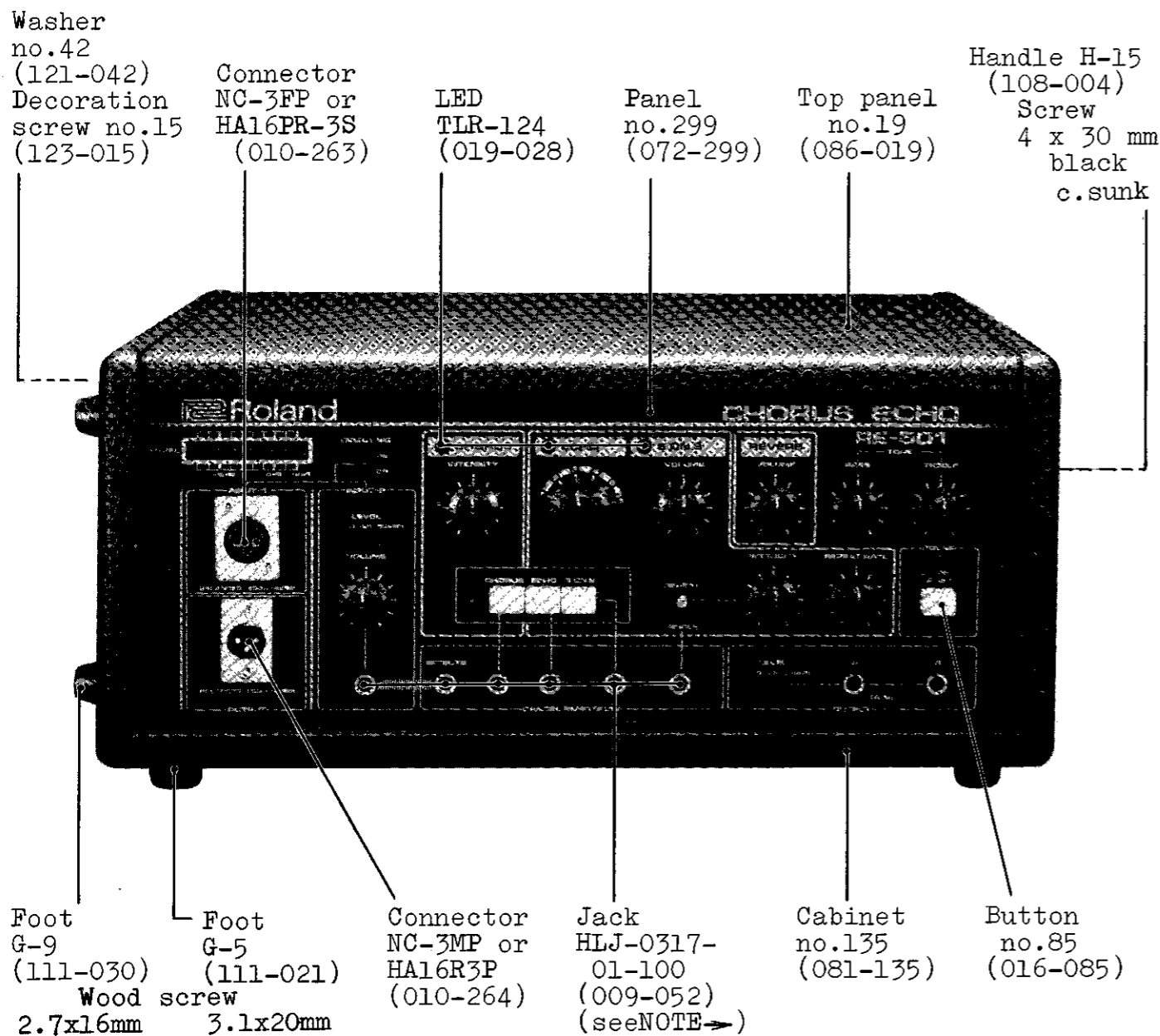
Dimension: 480(W) × 180(H) × 450~735(D)mm

Weight: 15.8kg

RE-501

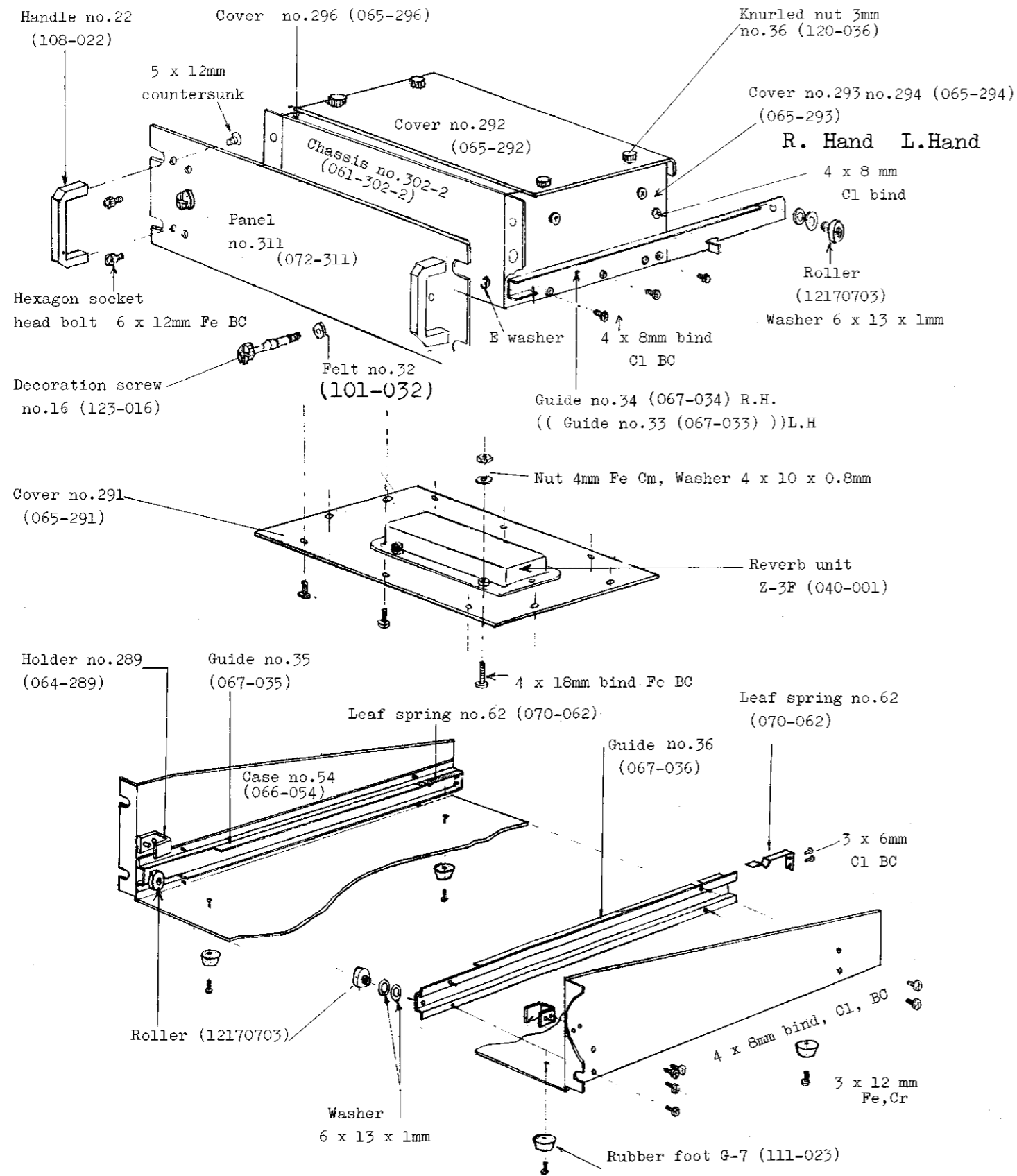
Power Consumption: 24W
Dimensions: 418(W) × 190(H) × 330(D)mm
Weight: 10.5Kg

CABINET DISASSEMBLY: Remove screws - two decorations on both sides; eight 4 x 25mm truss (6 bottom, 2 sides).

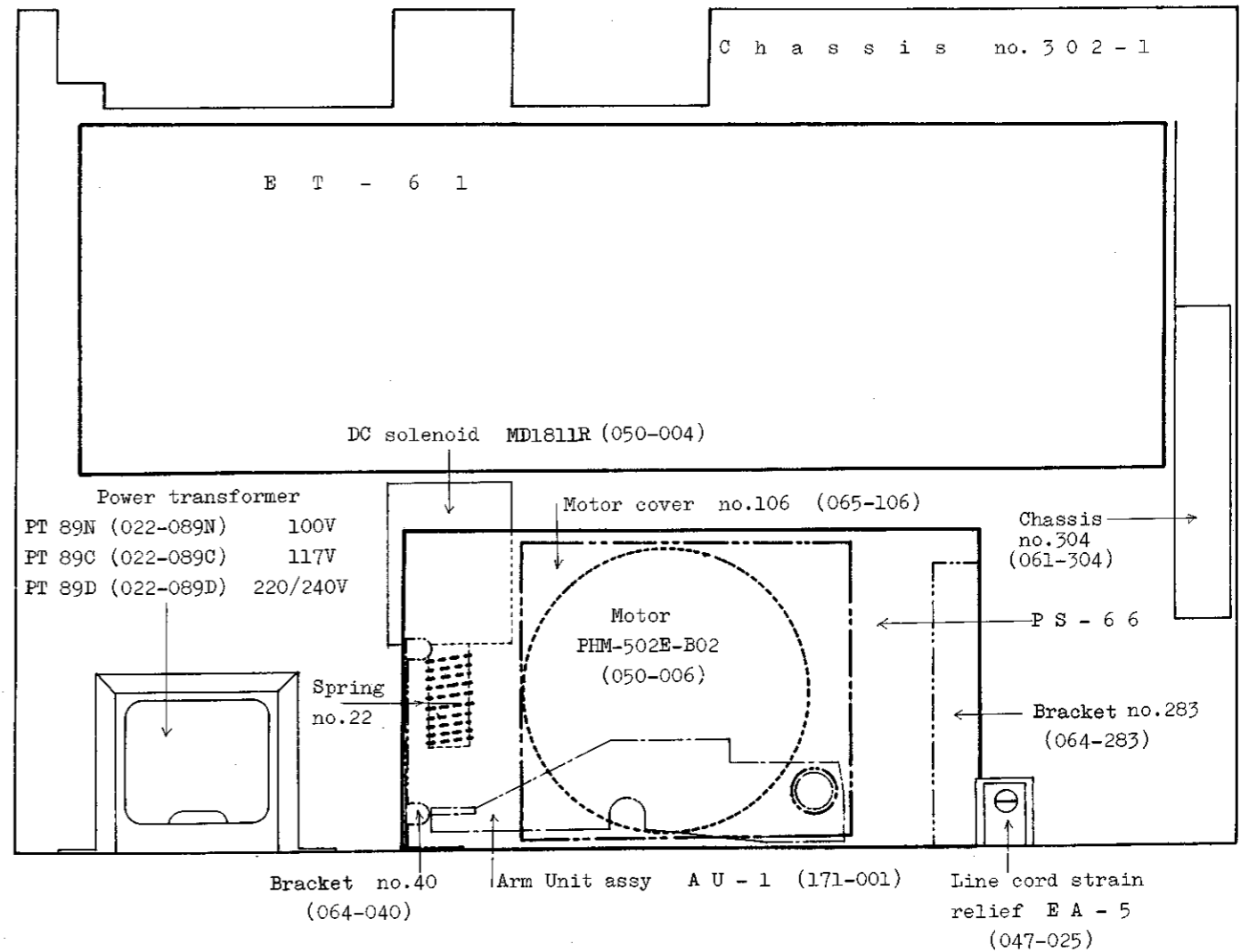
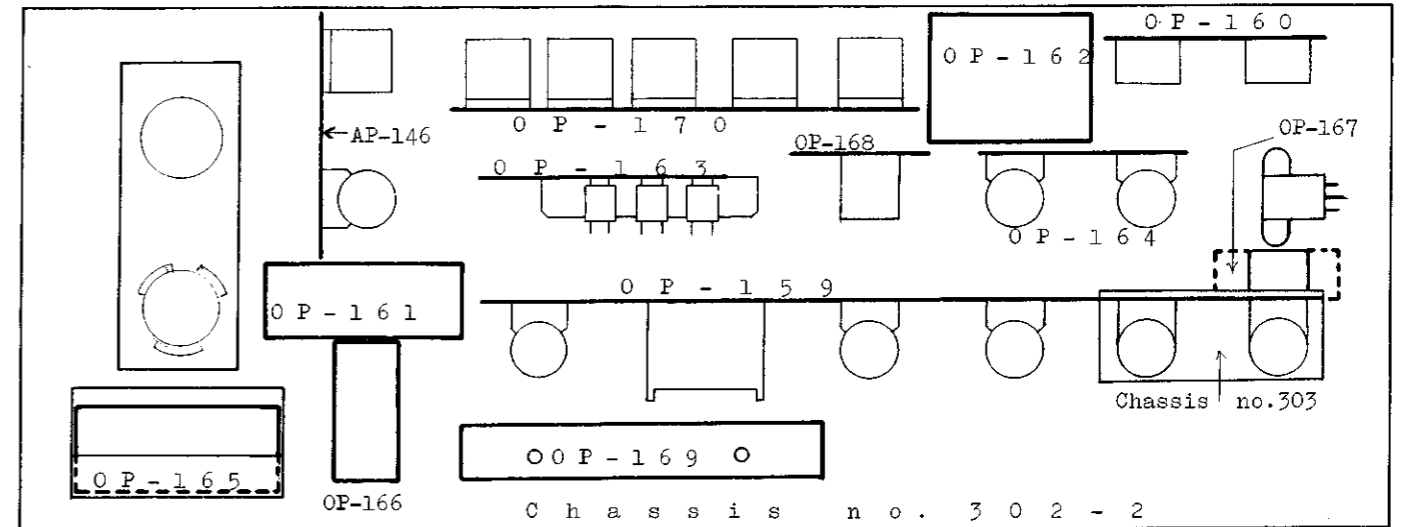


«NOTE »: Jacks on later products HLJ-1317-01-100 countersunk.

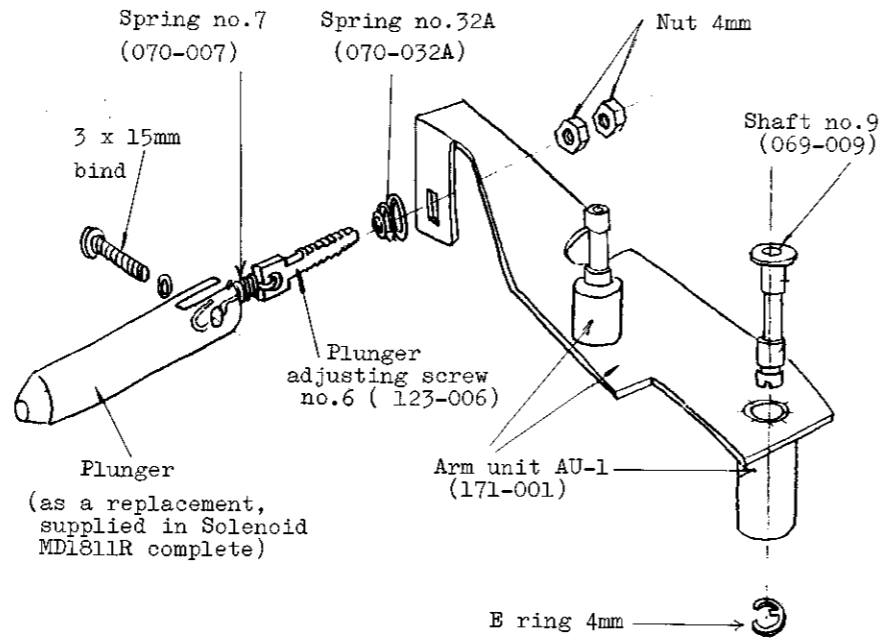
SRE-555 PARTS BREAK DOWN



RE-501, SRE-555 CHASSIS-ASSEMBLY ILLUSTRATION



ARM UNIT



NOTE: The following list indicates the parts compatible but have different finishes. Of these, used mainly for RE501/SRB555 are chrome ones.

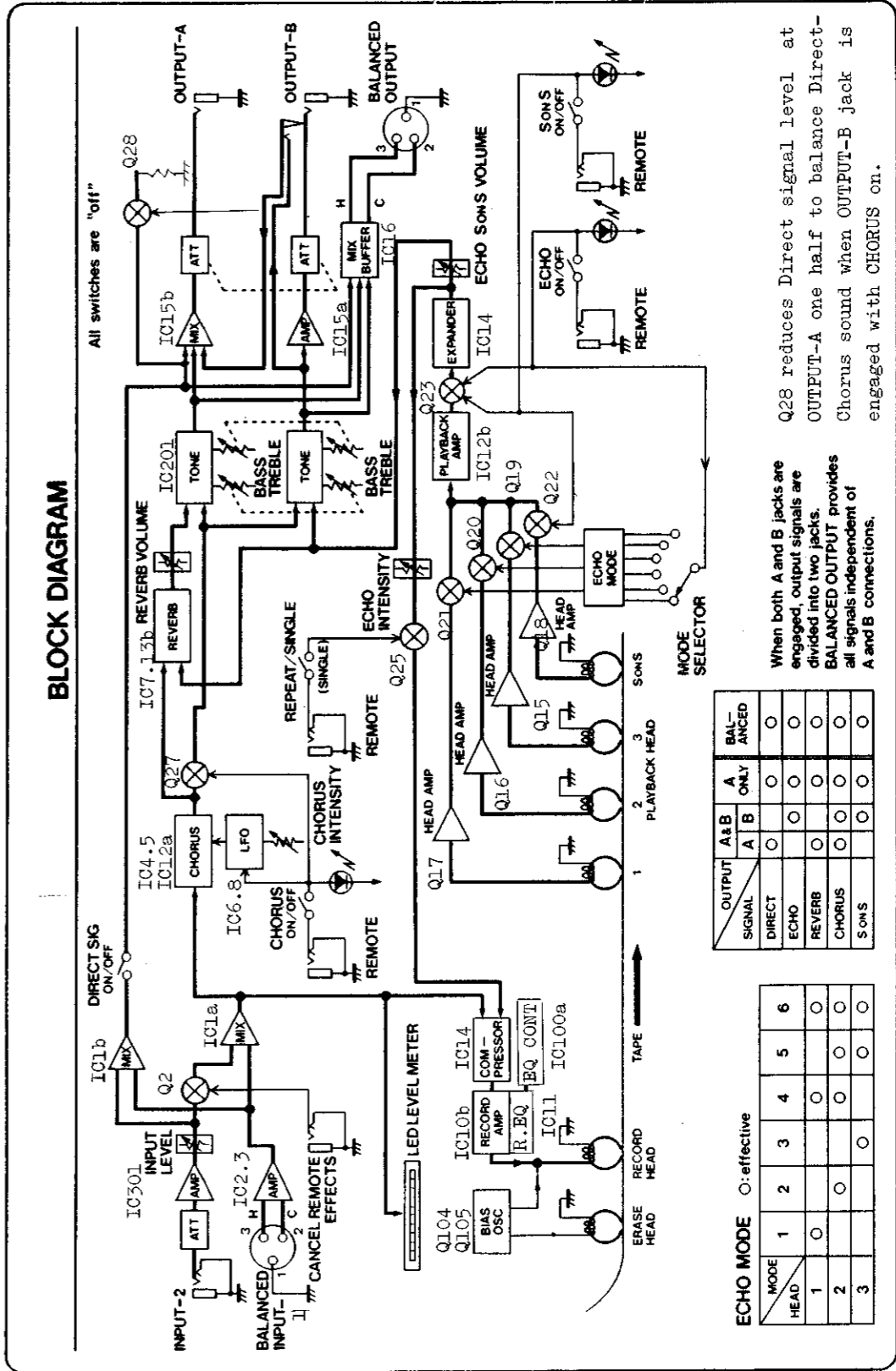
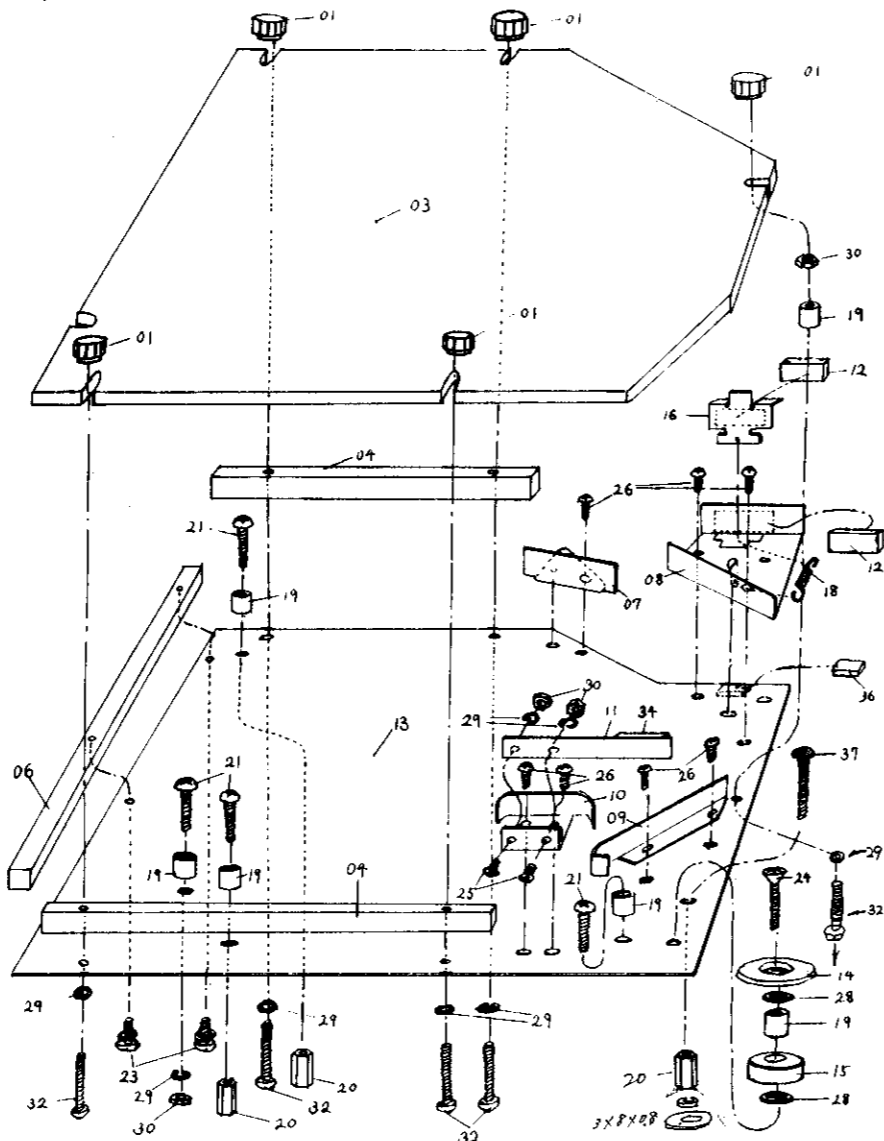
Table with columns: Name, Finish (black, chrome), and part numbers (no.13, no.7, no.14, no.8, no.15, no.9, no.16, no.10, no.28, no.11).

TAPE PACK

Build Up Parts List

Build Up Parts List table with columns: NO., PART NO., and DESCRIPTION. Lists 37 parts including Face nut, Top cover, Frame, Leaf spring, Tape chassis, Roller cover, Bearing, Plate, Spring, Collar, Sleeve nut, Screws, Washers, Nuts, Felt, Cushion, and a Screw.

Exploded Illustration



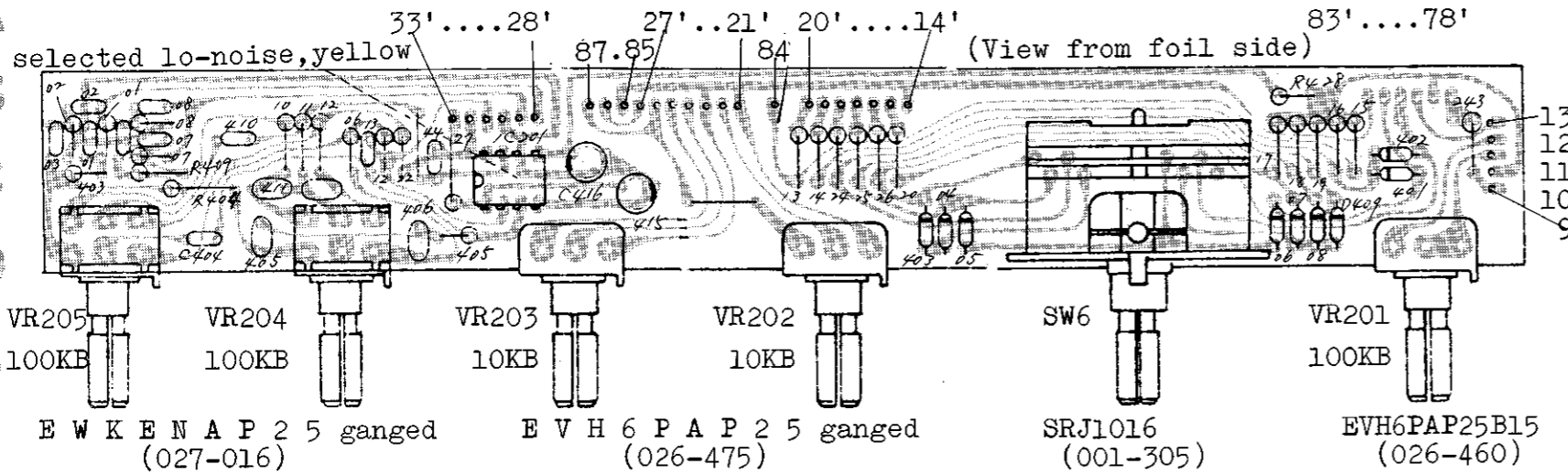
When both A and B jacks are engaged, output signals are divided into two jacks. BALANCED OUTPUT provides all signals independent of A and B connections.

Table for MODE SELECTOR with columns: SIGNAL, OUTPUT A, B, A & B, BALANCED, and rows: DIRECT, ECHO, REVERB, CHORUS, SONS.

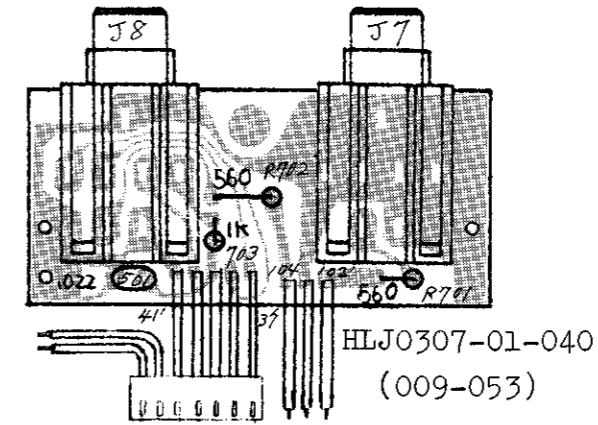
Table for ECHO MODE with columns: HEAD, MODE, and rows: 1, 2, 3.

Q28 reduces Direct signal level at OUTPUT-A one half to balance Direct-Chorus sound when OUTPUT-B jack is engaged with CHORUS on.

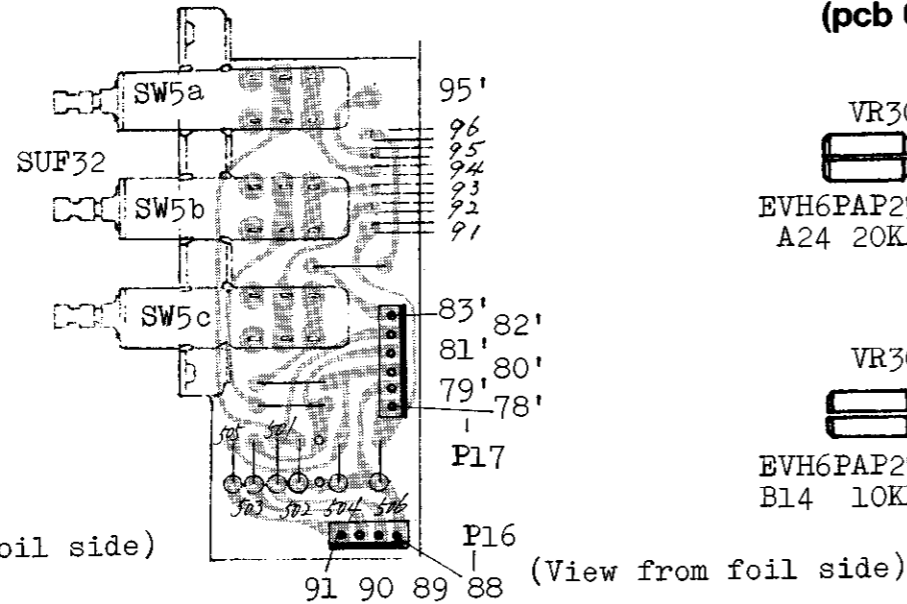
OP-159A(149-159A) (pcb 052-570A)



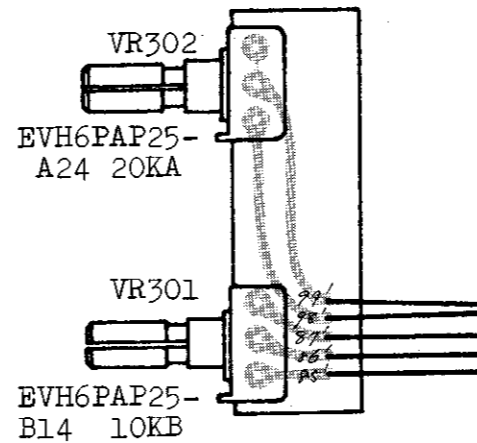
OP-160B(149-160B) (pcb 052-578B)



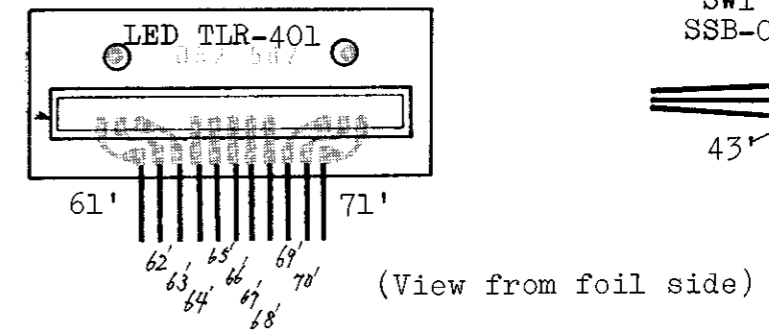
OP-163A(149-163A) (pcb 052-576A)



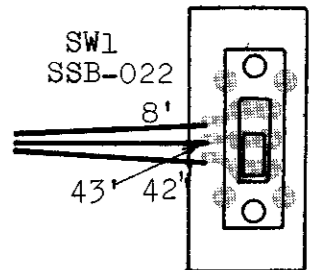
OP-164(149-164) (pcb 052-571)



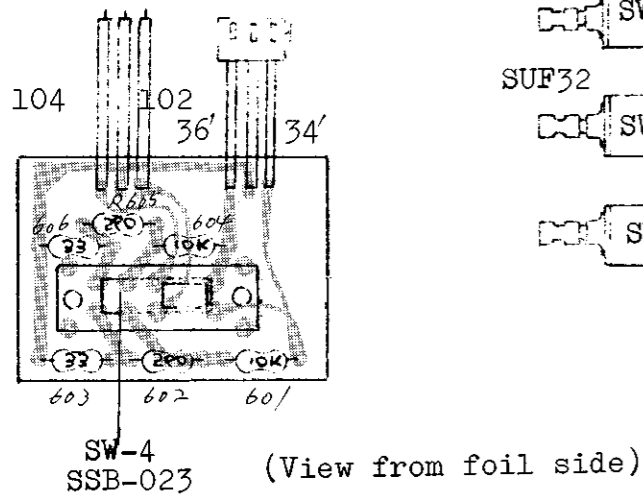
OP-165(149-165) (pcb 052-582)



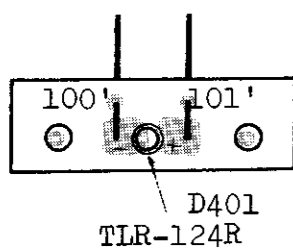
OP-166(149-166) (pcb 052-574)



OP-162A(149-162A) (pcb 052-577A)

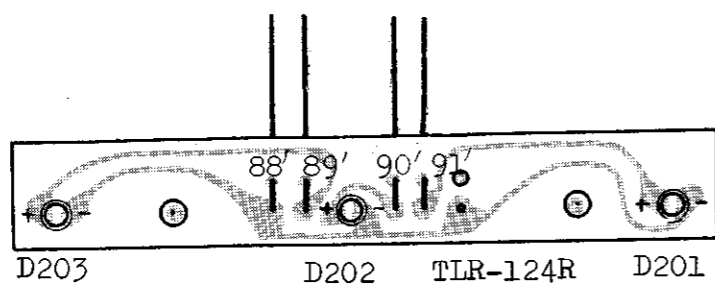


OP-167(149-167) (pcb 052-580)



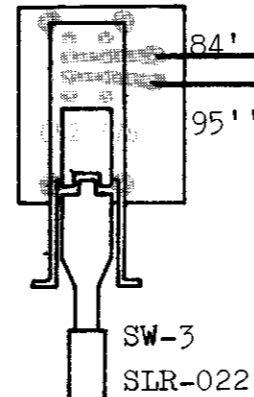
(View from foil side)

OP-169A(149-169A) (pcb 052-581A)

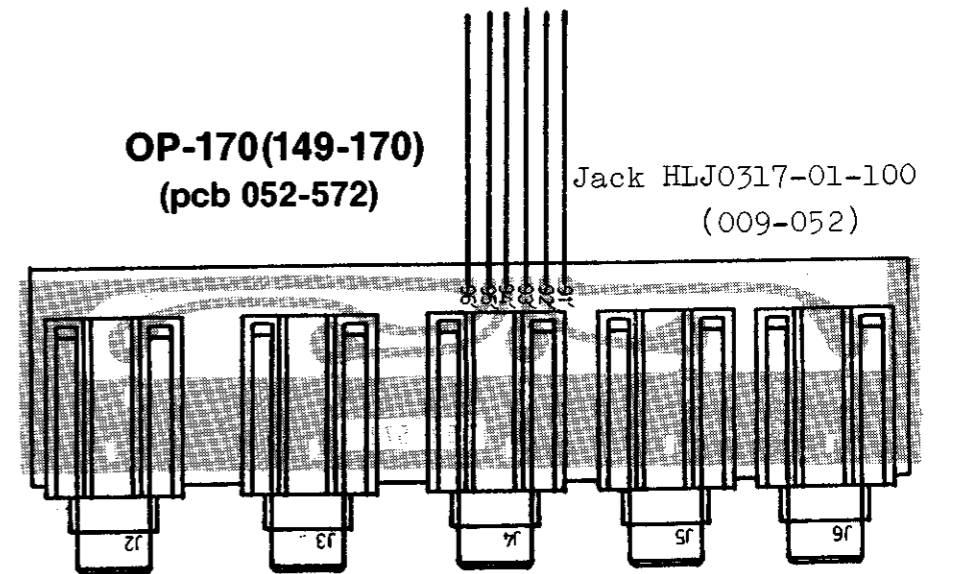


(View from foil side)

OP-168(149-168) (pcb 052-579)

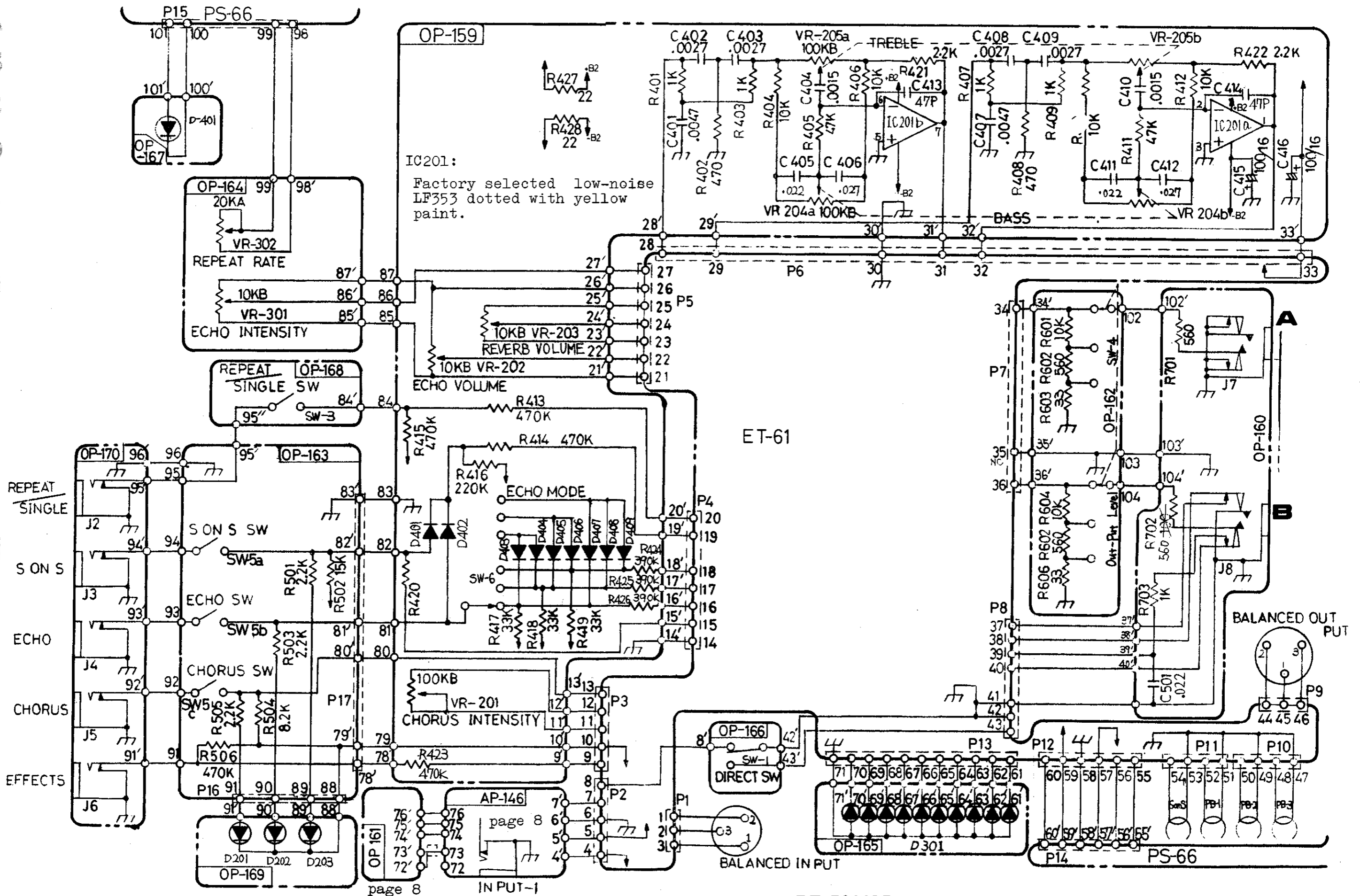


OP-170(149-170) (pcb 052-572)



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

A
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RE-501/SRE-555 MAIN CIRCUIT DIAGRAM







1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

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ET-61B
(151-061B)
(pcb 052-567B)

S/N up to
RE501: 951549
SRE555: 950599

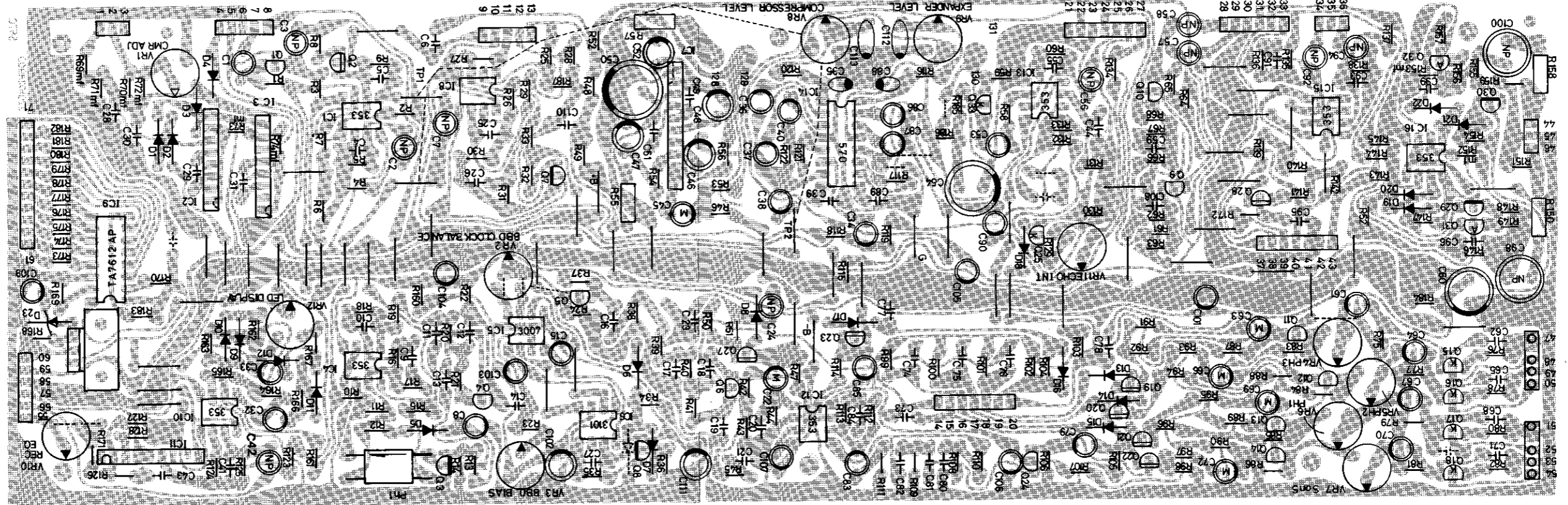
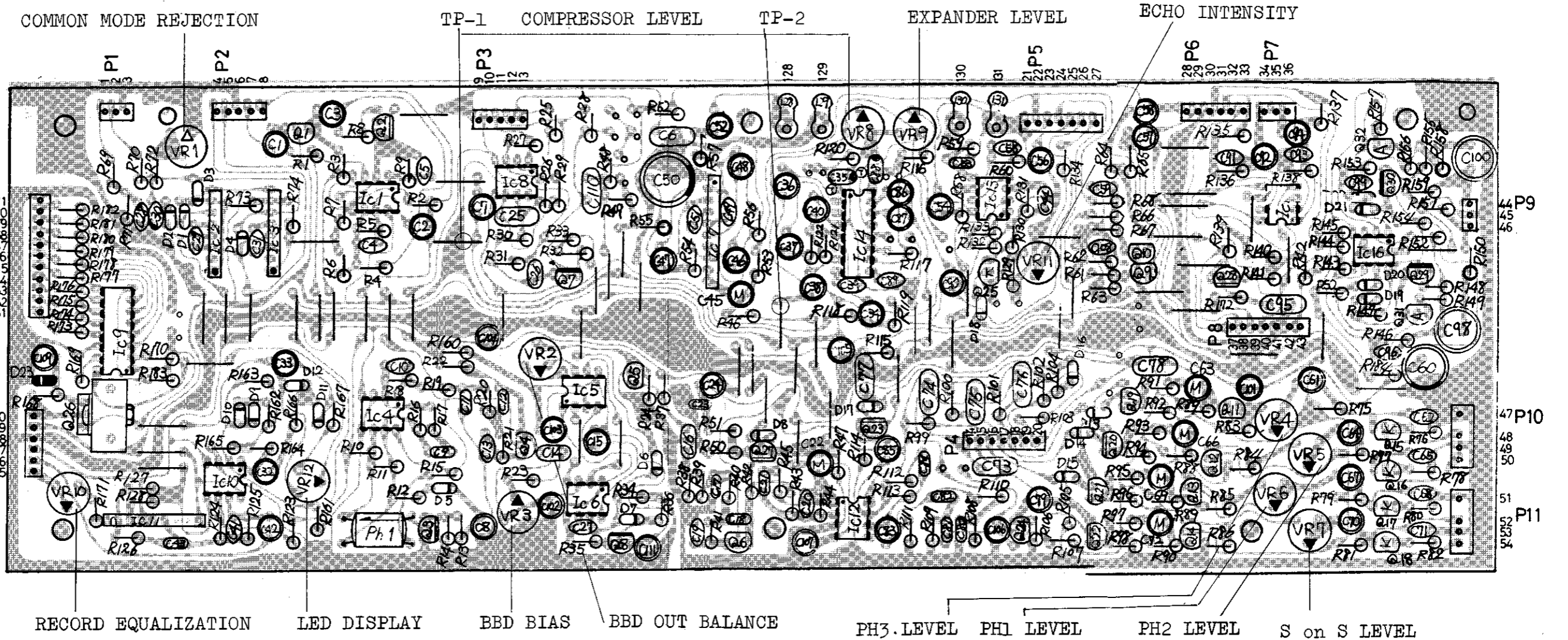
Use ET-61C
for replacement

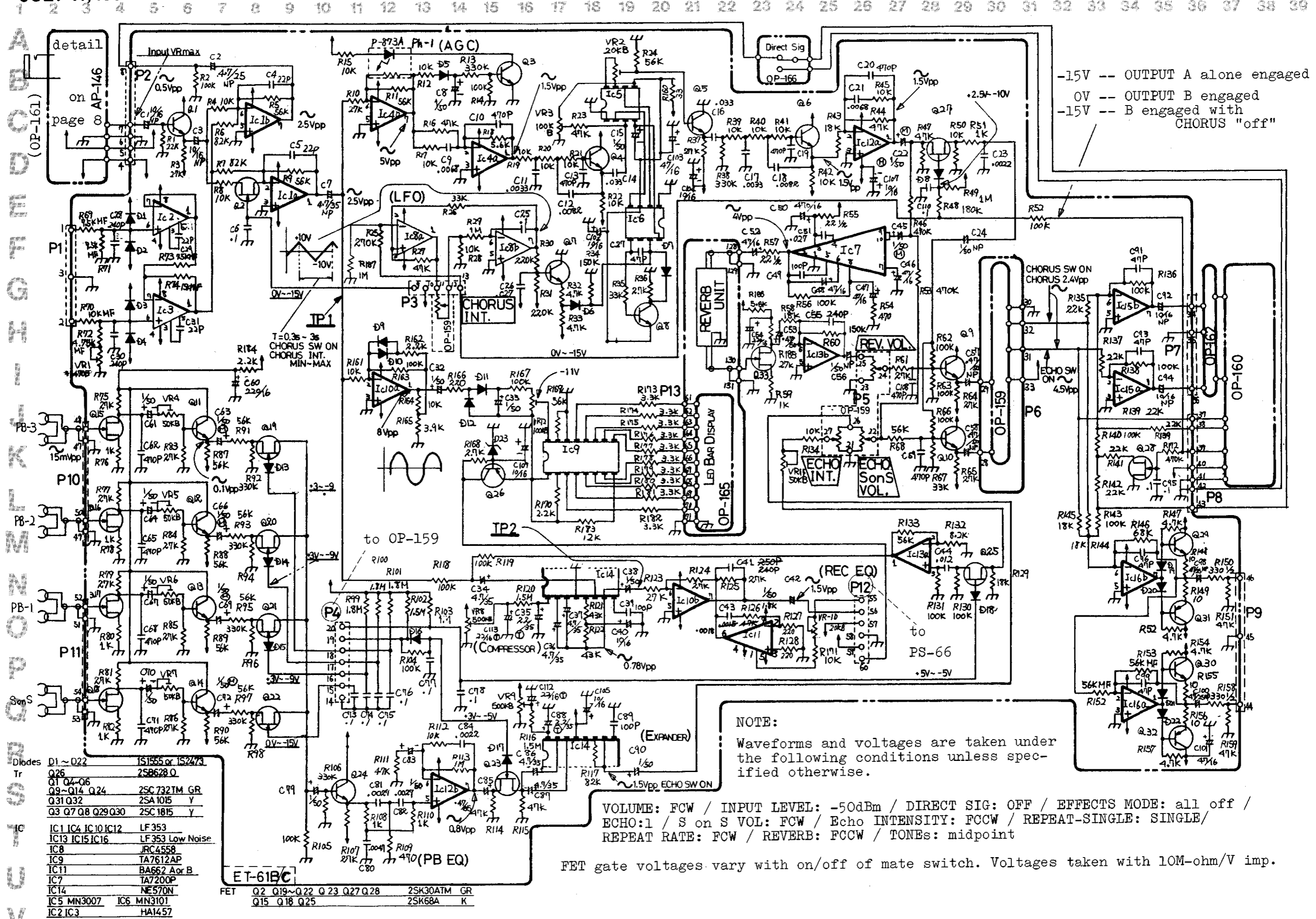
-  2SC732TM-GR
-  2SC1815-Y
-  2SK30ATM-GR
-  2SK68A-K
-  2SA1015-Y
-  1S1588

IC13,15,16
selected
low noise,
yellow dot

ET-61C
(151-061C)
(pcb 052-267C)

Serial Number
with:
RE501: 961550
SRE555: 960600





-15V -- OUTPUT A alone engaged
 0V -- OUTPUT B engaged
 -15V -- B engaged with CHORUS "off"

NOTE:
 Waveforms and voltages are taken under the following conditions unless specified otherwise.

VOLUME: FCW / INPUT LEVEL: -50dBm / DIRECT SIG: OFF / EFFECTS MODE: all off /
 ECHO: 1 / S on S VOL: FCW / Echo INTENSITY: FCCW / REPEAT-SINGLE: SINGLE /
 REPEAT RATE: FCW / REVERB: FCCW / TONES: midpoint

FET gate voltages vary with on/off of mate switch. Voltages taken with 10M-ohm/V imp.

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V

detail
 on AP-146
 page 8
 (OP-161)

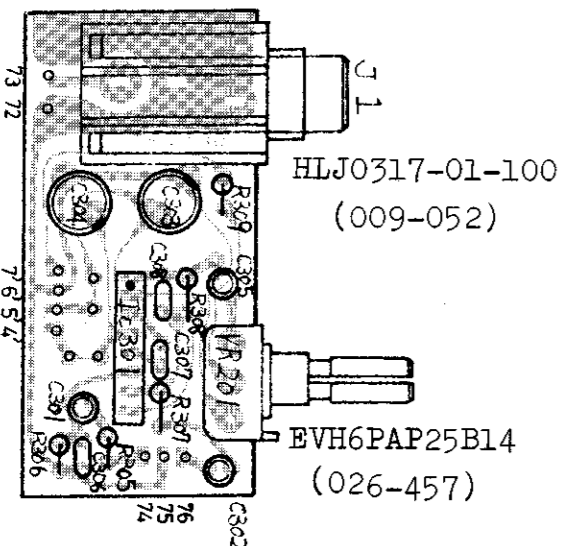
Diodes	D1 ~ D22	1S1555 or 1S2473
Tr	Q26	2SB628 O
	Q1 Q4-Q6	2SC732TM GR
	Q9-Q14 Q24	2SA1015 Y
	Q3 Q7 Q8 Q29 Q30	2SC1815 Y
IC1 IC4 IC10 IC12		LF353
IC13 IC15 IC16		LF353 Low Noise
IC8		JRC4558
IC9		TA7612AP
IC11		BA662 A or B
IC7		TA7200P
IC14		NE570N
IC5 MN3007	IC6 MN3101	
IC2 IC3		HA1457

FET	Q2 Q19-Q22 Q23 Q27 Q28	2SK30ATM GR
	Q15 Q18 Q25	2SK68A K

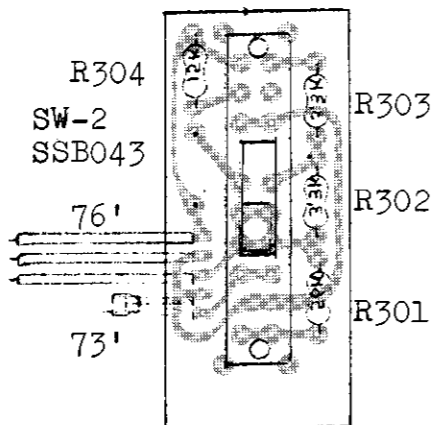
AP-146B(141-146B)
(pcb 052-573B)

OP-161B(149-161B)
(pcb 052-575B)

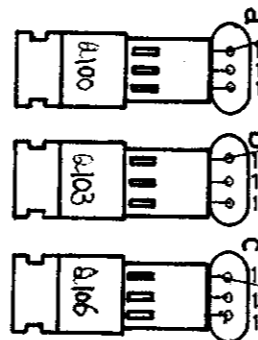
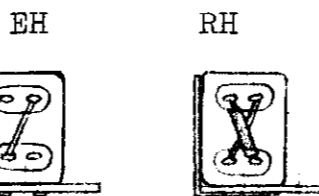
PS-66(146-066) (pcb 052-569)



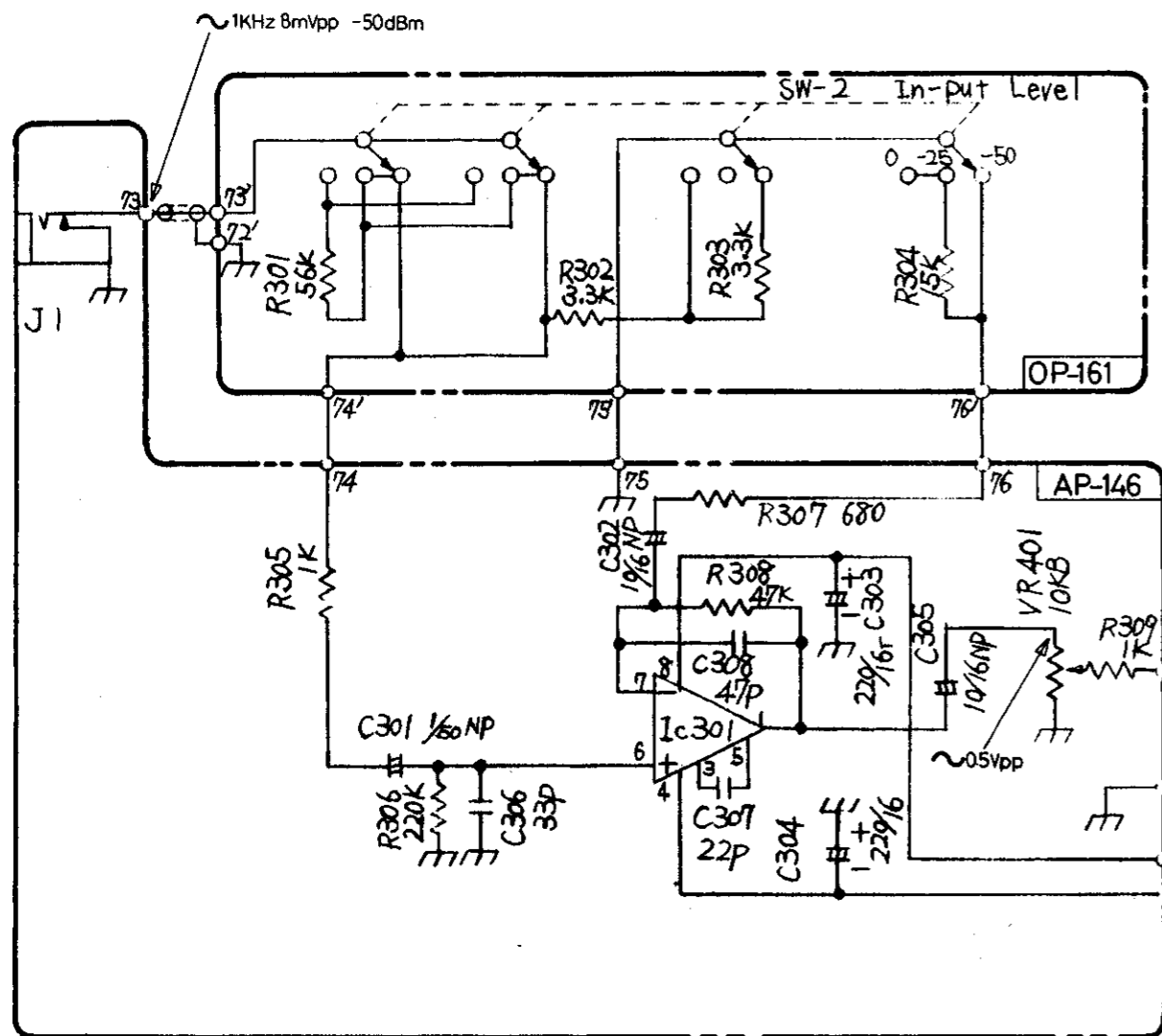
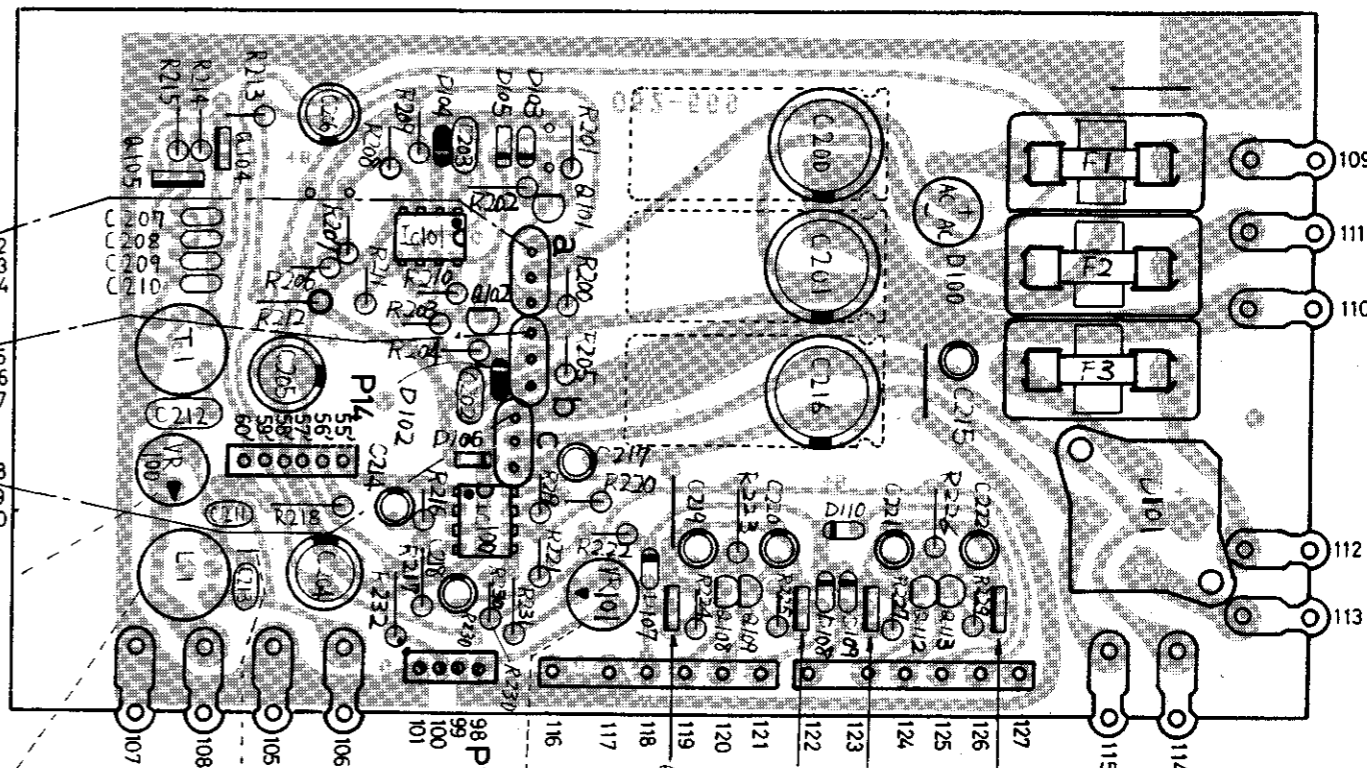
(View from foil side)



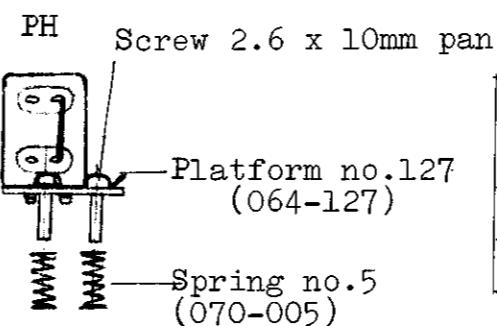
HEAD PIN WIRING



REC. BIAS ADJ.

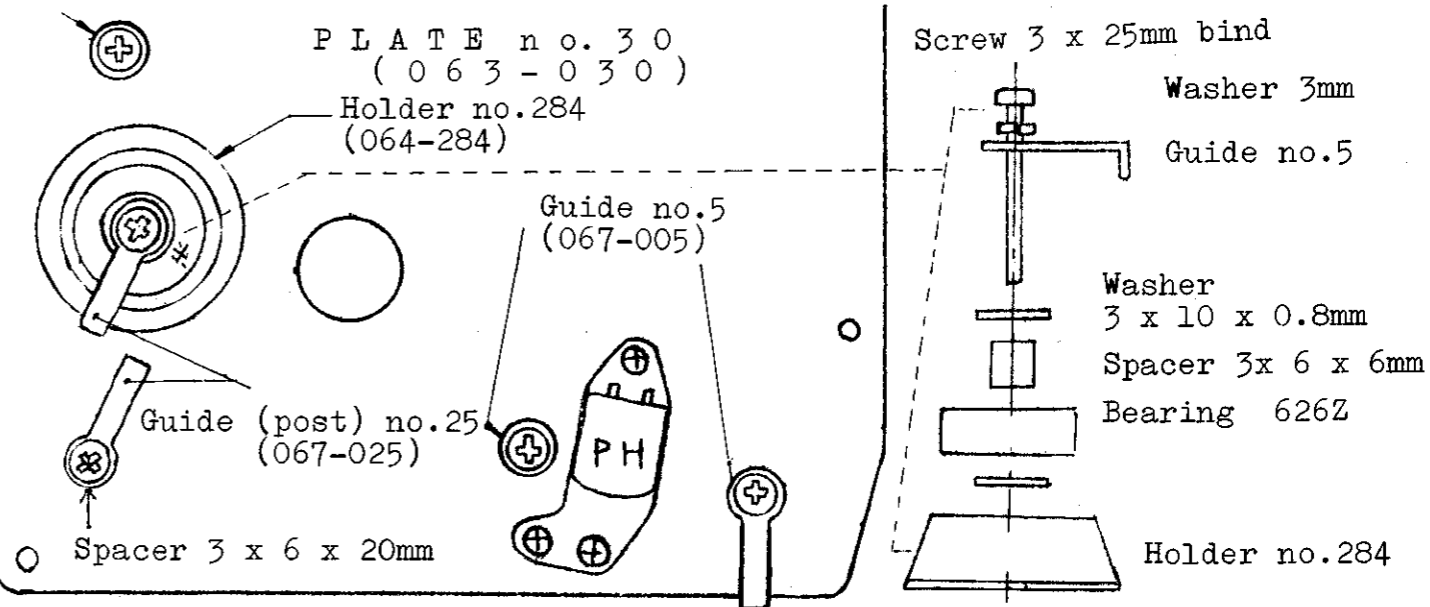


BIAS TRAP TP-3 MOTOR SPEED ADJ CHECK POINTS (collectors)



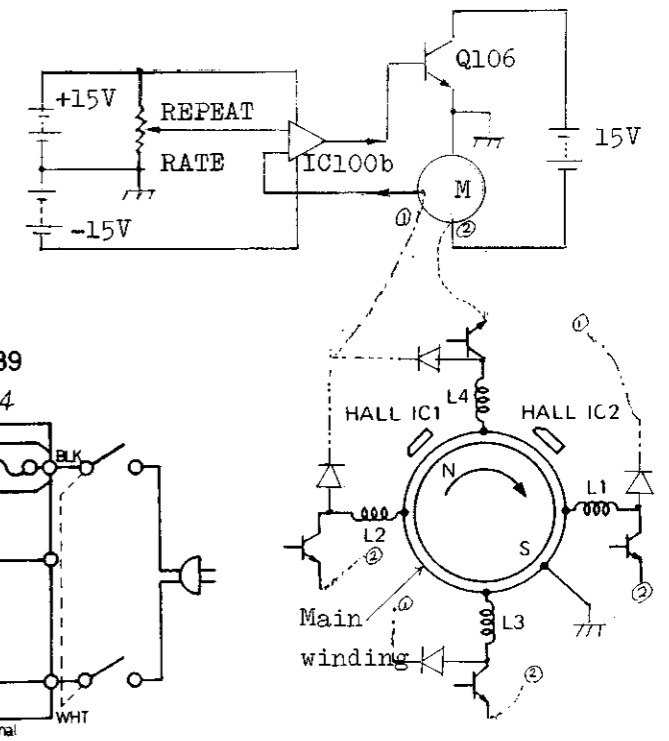
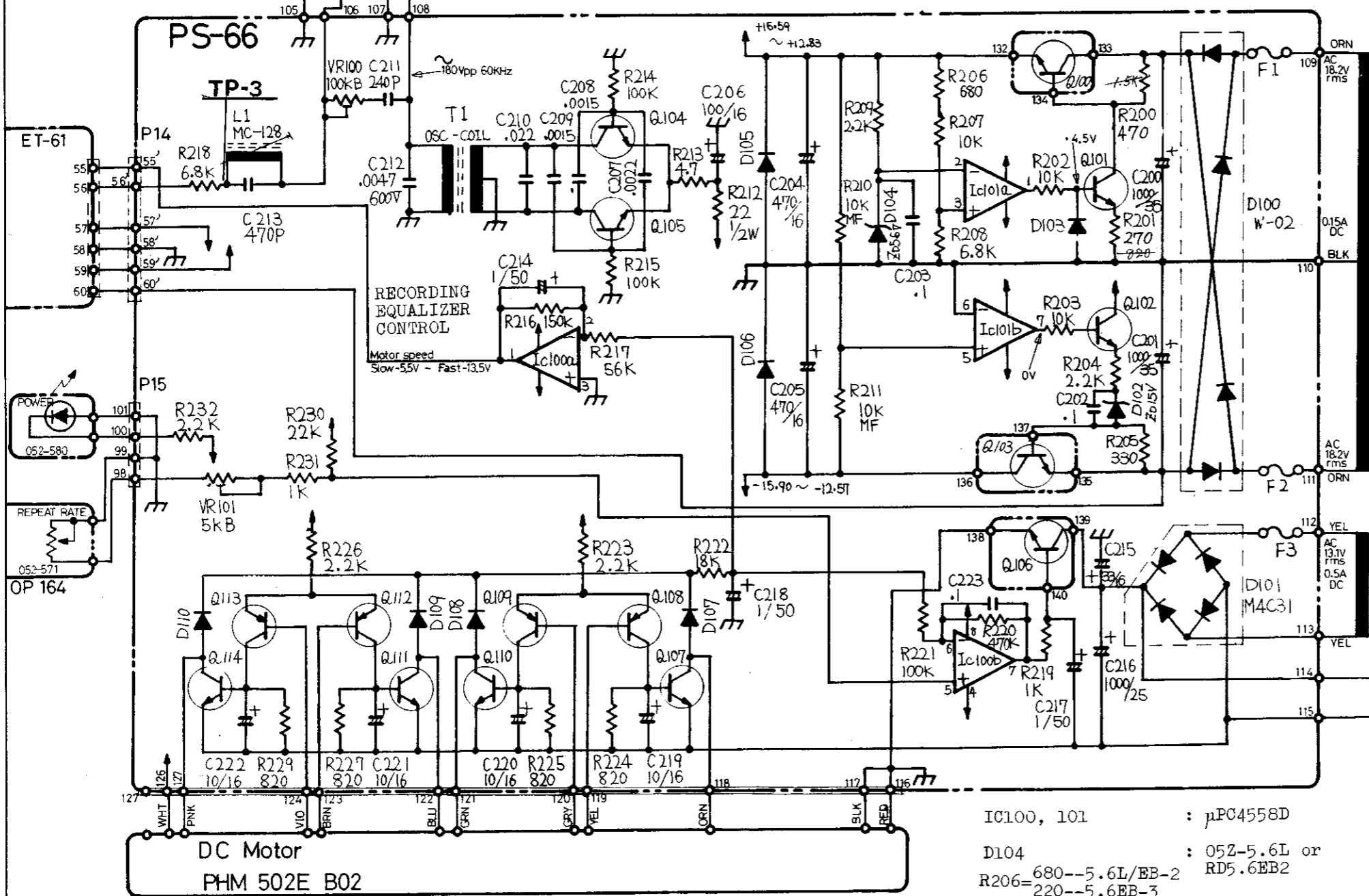
FUSE RATING

	100/117V	220/240V
F1	SGA 1.0A (008-026)	CEE T400mA (008-062)
F2	SGA 1.0A (008-026)	CEE T400mA (008-062)
F3	SGA 2.0A (008-028)	CEE T1.6A (008-069)



D105, 106 : 1SR-35-200 R. HEAD E. HEAD
 D107-110 : 1S1555 or 1S2473
 Q108, 109, 112, 113 : 2SA733- P or Q
 Q101, 102 : 2SC1815-GR
 Q103, 106, 100 : 2SD880-Y
 Q104-105, 107, 110, 111 : 2SD571-L
 114 : 2SD571-L

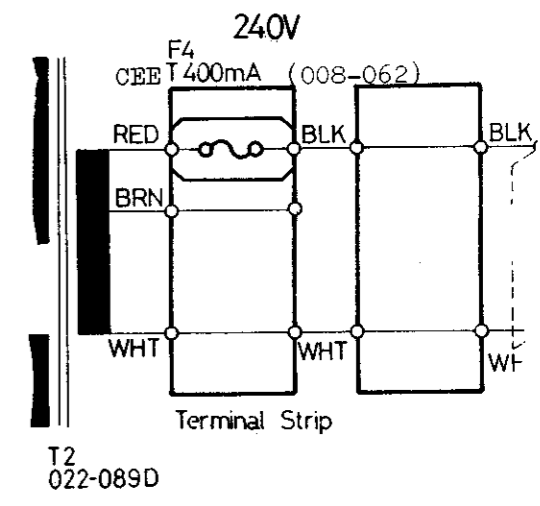
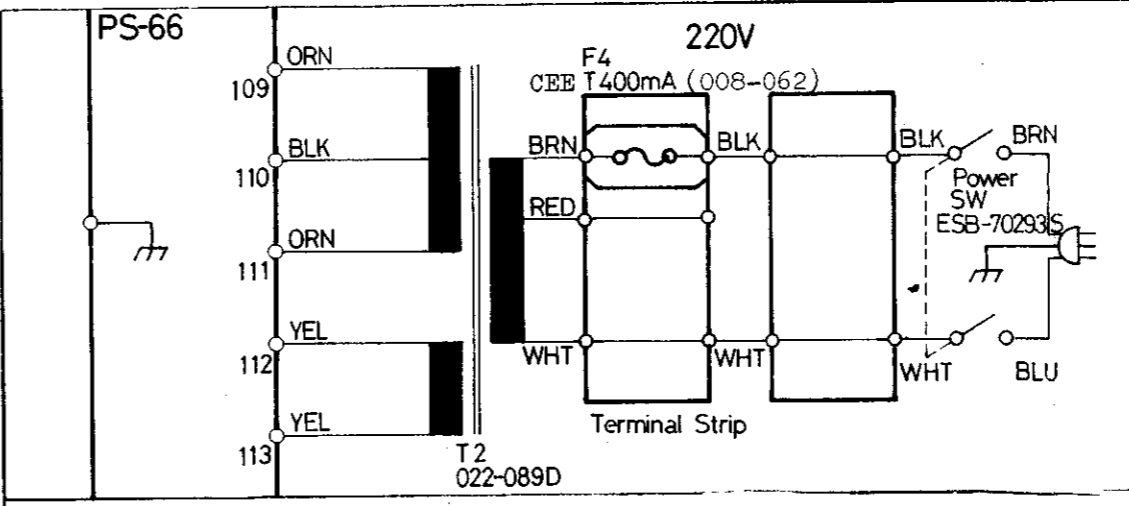
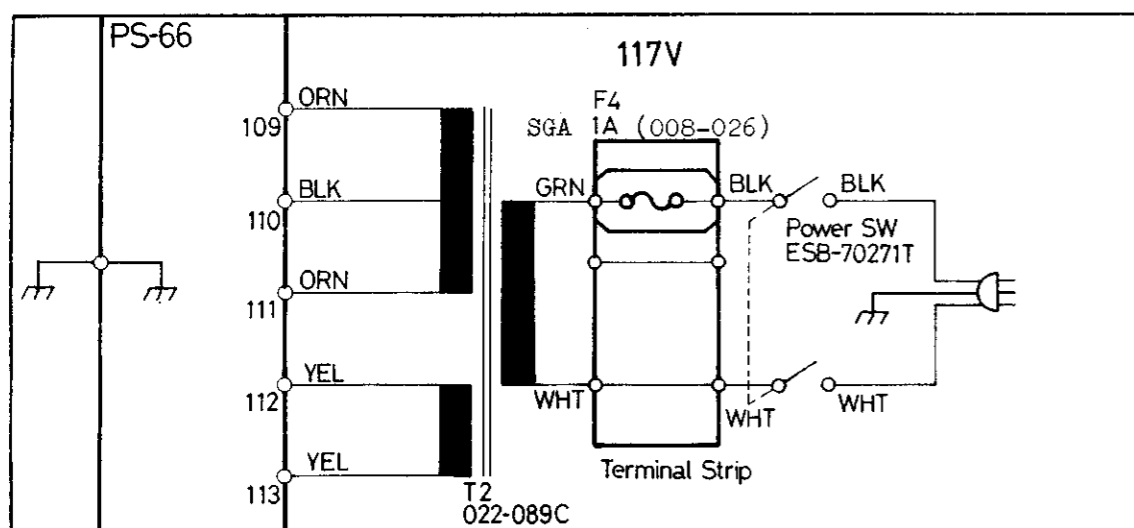
MOTOR SPEED CONTROL



HALL IC MOTOR operates from separate two DC sources.

Switching transistors (Q107, 110, 111, 114), when excited by hall ICs, fire alternately through each L the main winding. Back e.m.f. of L is rectified through D (D107-110), smoothed and is fed to pin 6 of IC100b. IC100b compares back e.m.f. with reference voltage (from REPEAT RATE CONTROL) and the consequent output of IC100b varies Q106 base bias to control the current flowing into the main winding.

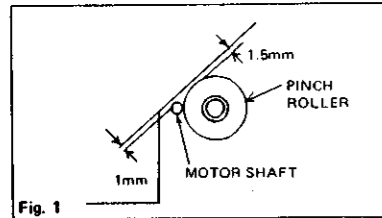
IC100, 101 : μ PC4558D
 D104 : 05Z-5.6L or 680--5.6L/BB-2 RD5.6EB2
 R206=220--5.6EB-3



ADJUSTMENT AND CHECKING
1. MECHANICAL ADJUSTMENT

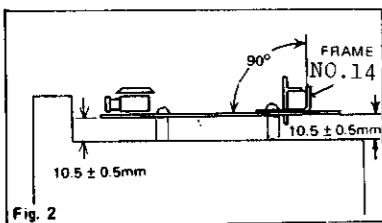
1-1. TAPE CHASSIS POSITION

Position tape chassis 1mm off motor shaft and secure it by tightening two screws at rear.



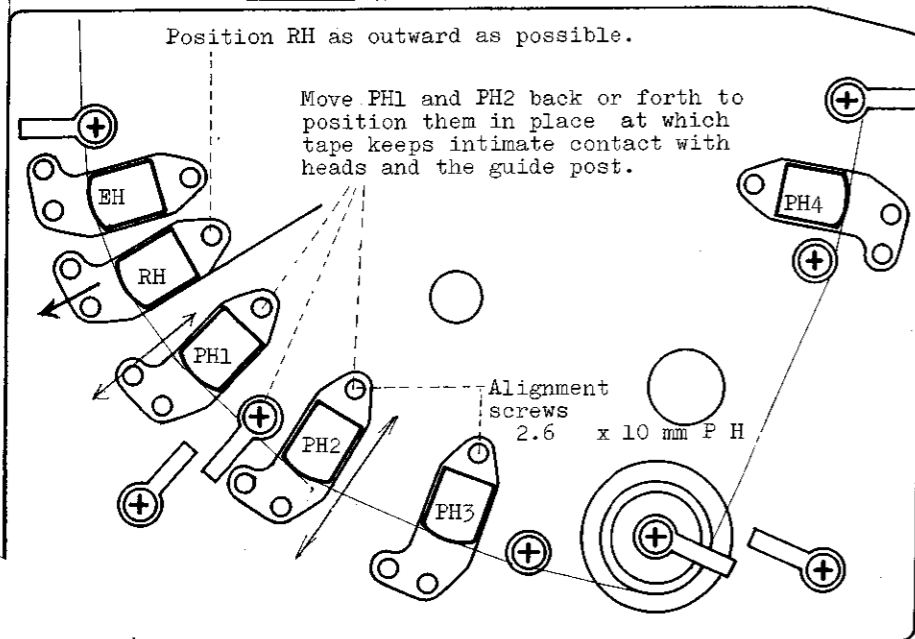
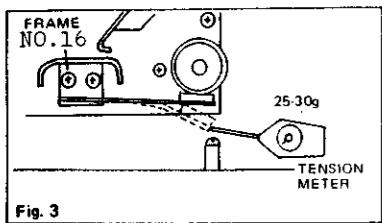
1-2. TAPE CHASSIS HEIGHT

Position chassis 10.5 ± 0.5 mm above main chassis.



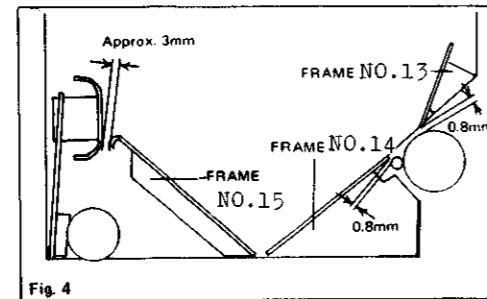
1-3. LEAF SPRING PRESSURE

Position frame no.16 to have spring contact with bearing at 25-30g.



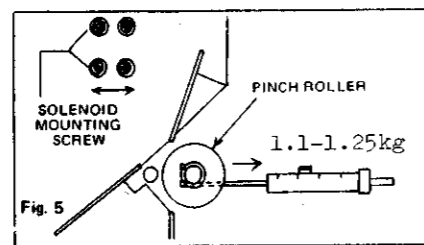
1-4. FRAMES 13,14 & 15 POSITIONS

While engaging pinch roller with motor shaft, position and fix frames as indicated below.



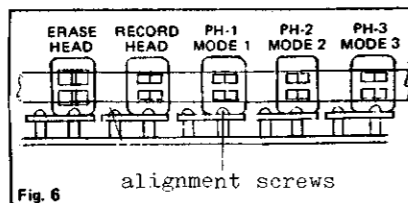
1-5. PINCH ROLLER PRESSURE

Position solenoid for 1.1-1.25kg pinch roller pressure.



1-6. HEADS ALIGNMENT

Position each head gap perpendicular to and center on the passing tape by turning alignment screws.

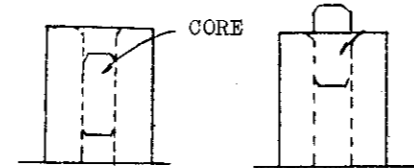


2. ELECTRICAL ADJUSTMENT

2-1. BIAS LEAKAGE TRAP

- PS-66 -

CONTROL PANEL		INPUT	REPEAT
POTENTIOMETER NO.	CHECK POINT	VOLUME	SINGLE SWITCH
TRAP COIL	TP 3	MIN	SINGLE



FUNDAMENTAL 2nd HARMONIC

Set VR100 at its midpoint. Connect VTVM or scope to TP-3.

a) Turn L1 core, with appropriate tool, for minimum reading (should not be more than 1V rms).

Continuous turning will dip the meter reading twice -- at fundamental and at 2nd harmonic. Tune L1 to fundamental.

2-2. MOTOR SPEED

- PS-66 -

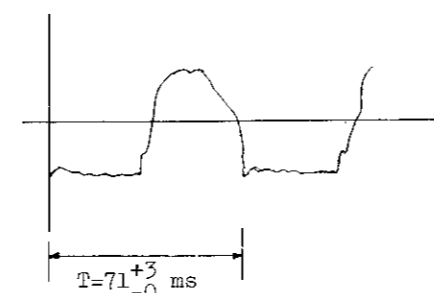
CONTROL PANEL		REPEAT
POTENTIOMETER NO.	CHECK POINT	RATE
VR101	Q107 Q110 Q111 Q114 COLLECTOR	MIN

Scope (DC couple, negative slope, normal) : one of the check points.

a) Set VR101 for the T shown in the figure below.

Time base should be triggered at the lowest negative peaks.

T should not be longer than 23ms with REPEAT RATE set at FCW position when the machine is operating on the rated line voltage.



2-3. LED BAR DISPLAY

- ET-61 -

CONTROL PANEL		INPUT	INPUT
POTENTIOMETER NO.	CHECK POINT	VOLUME	LEVEL SWITCH
VR12	LED BAR DISPLAY	MAX	0dB

Input signal: 1kHz, sine wave, +2dBm, into INPUT-2 jack.

a) Turn VR12 FCW; then reverse it slowly until BAR displays +2dB.

b) Make sure that LEDs read -12dB under the following settings:

INPUT SIGNAL	INPUT LEVEL SWITCH
INPUT-1	-8dBm
INPUT-2	-12dBm
	-37dBm
	-62dBm
	0dB
	-25dB
	-50dBm

2-4. COMMON MODE REJECTION

CONTROL PANEL		INPUT	INPUT	DIRECT
POTENTIOMETER NO.	CHECK POINT	VOLUME	LEVEL SWITCH	SIGNAL SWITCH
VR 1	OUTPUT A	MIN	-	ON

EFFECT MODE SWITCH	ECHO SENS	REVERB VOLUME	CHORUS	ECHO SENS	TONE BASS	TREBLE	OUTPUT LEVEL SWITCH
OFF	OFF	MIN	OFF	MIN	MIN	MIN	0dBm

Input signal: 1kHz, sine wave, +4dBm into INPUT-1 jack with its pins 2 and 3 joined. Oscilloscope: OUTPUT-A.

a) Adjust VR1 for minimum 1kHz signal output.

2-5. COMPRESSOR LEVEL

CONTROL PANEL		INPUT	INPUT	REPEAT
POTENTIOMETER NO.	CHECK POINT	VOLUME	LEVEL SWITCH	SINGLE SWITCH
VR8	TP 1 TP 2	MAX	0dB	SINGLE

Input signal: 1kHz, sine wave, INPUT-2.

a) Set audio generator for -40 ± 0.1 dBm reading on millivoltmeter at TP-1.

b) Adjust VR8 for -34.5dBm reading at TP-2.

Distributed meter lead capacitance should be less than 100pF.

2-6. HEAD ALIGNMENT

The following adjustments must be done only after completion of MECHANICAL ADJUSTMENTS.

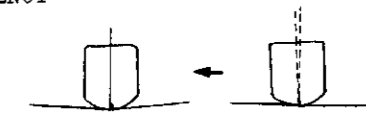
CONTROL PANEL		INPUT	INPUT	DIRECT	EFFECT MODE SWITCH
POTENTIOMETER NO.	CHECK POINT	VOLUME	LEVEL SWITCH	SIGNAL SWITCH	CHORUS ECHO SENS
	OUTPUT A	MAX	-	OFF	OFF

ECHO SENS VOLUME	ECHO SENS INTENSITY	REPEAT RATE	REVERB VOLUME	TONE BASS	TREBLE	OUTPUT LEVEL SWITCH	REPEAT SINGLE SWITCH
MAX	-	CENTER	MIN	CENTER	CENTER	-	SINGLE

2-6-1. Fine Alignment

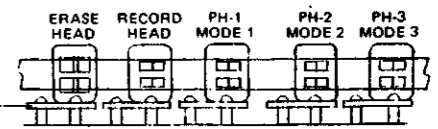
Take visual head examination for misalignment referring to the figures below. Readjust as necessary.

(a) TANGENCY



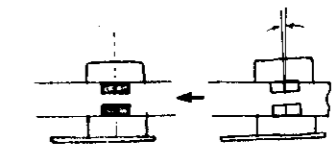
The faces of the head cores must be simultaneously tangent to the same degree with the tape.

(b) HEIGHT



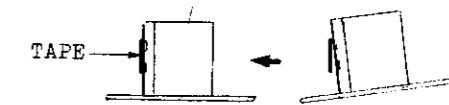
Every gap-width dimension is centered on the same track location.

(c) AZIMUTH



Width dimension of the head gap is a precise 90-degree angle to the tape edge.

(d) TILT



The tape must contact with head surface precisely in parallel.

2-6-2. Playback heads

Input signal: 1kHz, square, for 0dB LED display. Panel controls setting: as shown at the left.

a) With ECHO MODE selected to corresponding head, adjust playback head for the following:

- (1) Waveform slope is straightened.
- (2) Leading edge is as perpendicular to base line as possible or has shortest rise time.



b) Readjusting TANGENCY described in(a) of 2-6-1 at this step may prove effective to obtain waveform stability.

Output level differences among playback heads are to be compensated for in later section.

2-7. EXPANDER

CONTROL PANEL		INPUT VOLUME	INPUT LEVEL SWITCH	DIRECT SIGNAL SWITCH	EFFECT MODE SWITCH		
POTENTIOMETER NO.	CHECK POINT				CHORUS	ECHO	S on S
VR6 VR9 VR100	OUTPUT A	MAX	—	OFF	OFF	ON	OFF

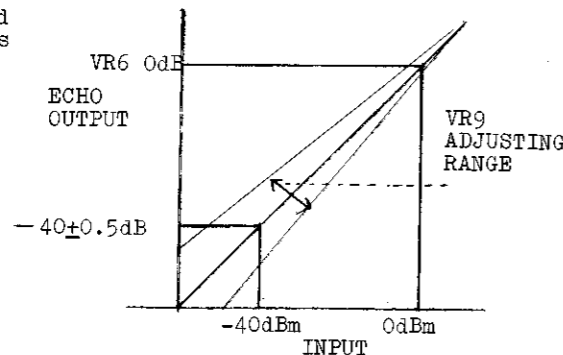
ECHO S on S VOLUME	ECHO S on S INTENSITY	REPEAT RATE	REVERB VOLUME	TONE		OUTPUT LEVEL SWITCH	REPEAT SINGLE SWITCH
				BASS	TREBLE		
MAX	—	—	MIN	CENTER	CENTER	0dBm	SINGLE

Input signal: 1kHz, sine wave for 0dB reading on LED bar. ECHO MODE: 1

- a) Set VR100 on PS-66 for maximum meter reading at OUTPUT A.
- b) Set VR6 for 0dBm+3dBm reading on the meter.
- c) Decrease audio generator output by 40dBm.
- d) Adjust VR9 so that the meter reads 40±0.5dB lower than that at step b.

As can be seen from the figure below, VR9, when turned, will deviate input-output curve at point which preadjusted by VR6. d) Repeat steps b-d for specified results.

This input-output curve has pronounced effect on smoothness of level decrease ratio of multiple echo sounds and residual noise. The curve should be as linear as possible.



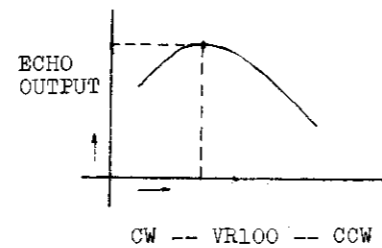
2-8. RECORDING BIAS

CONTROL PANEL		INPUT VOLUME	INPUT LEVEL SWITCH	DIRECT SIGNAL SWITCH	EFFECT MODE SWITCH		
POTENTIOMETER NO.	CHECK POINT				CHORUS	ECHO	S on S
VR100	OUTPUT A	MAX	0dB	OFF	OFF	ON	OFF

ECHO S on S VOLUME	ECHO S on S INTENSITY	REPEAT RATE	REVERB VOLUME	TONE		OUTPUT LEVEL SWITCH	REPEAT SINGLE SWITCH
				BASS	TREBLE		
MAX	—	CENTER	MIN	CENTER	CENTER	—	SINGLE

Input signal: 1kHz, sine wave, 0dBm to INPUT-2.

- a) Turn VR100 FCCW. Reversing it gradually, find the point which furnishes the highest output.
- b) Set VR100 for ±1dB of the peak value.



2-9. PLAYBACK EQUALIZER

CONTROL PANEL		INPUT VOLUME	INPUT LEVEL SWITCH	DIRECT SIGNAL SWITCH	EFFECT MODE SWITCH		
POTENTIOMETER NO.	CHECK POINT				CHORUS	ECHO	S on S
VR6 VR10	OUTPUT A	MAX	0dB	OFF	OFF	ON	OFF

EFFECT MODE SWITCH	ECHO S on S VOLUME	ECHO S on S INTENSITY
CHORUS	ECHO	S on S
OFF	ON	OFF
MAX	—	—

REPEAT RATE	REVERB VOLUME	TONE		OUTPUT LEVEL SWITCH	REPEAT SINGLE SWITCH
		BASS	TREBLE		
CENTER	MIN	CENTER	CENTER	0dBm	SINGLE

Input signal: 1kHz, sine wave, 0dBm to INPUT-2 jack.

ECHO MODE: 1

- a) Adjust VR6 for 0dBm reading at OUTPUT A.
- b) Reset audio generator for 10kHz, 0dBm.
- c) Set VR10 for -15dBm +1.5dBm -3dBm reading at OUTPUT A.

If VR10 fails to produce this output, readjust VR100 together with VR10 at 10kHz.

2-10. PLAYBACK HEAD SENSITIVITY

CONTROL PANEL		INPUT VOLUME	INPUT LEVEL SWITCH	DIRECT SIGNAL SWITCH	EFFECT MODE SWITCH		
POTENTIOMETER NO.	CHECK POINT				CHORUS	ECHO	S on S
VR4 VR5 VR6 VR7	OUTPUT A	MAX	0dB	OFF	OFF	ON	OFF

ECHO S on S VOLUME	ECHO S on S INTENSITY	REPEAT RATE	REVERB VOLUME	TONE		OUTPUT LEVEL SWITCH	REPEAT SINGLE SWITCH
				BASS	TREBLE		
MAX	—	MAX	MIN	CENTER	CENTER	0dBm	SINGLE

Input signal: 1kHz, sine wave, 0dBm into INPUT 2 jack.

To obtain equal echo outputs in sound level,

- a) adjust each trimmer potentiometer for 0dBm +0.5dB -0dBm reading at OUTPUT A jack.

ECHO MODE	TRIMMER POT
1	VR4
2	VR5
3	VR6
S on S	VR7

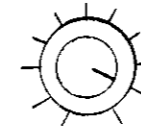
2-11. ECHO INTENSITY

CONTROL PANEL		INPUT VOLUME	INPUT LEVEL SWITCH	DIRECT SIGNAL SWITCH	EFFECT MODE SWITCH		
POTENTIOMETER NO.	CHECK POINT				CHORUS	ECHO	S on S
VR11	OUTPUT A	MAX	0dB	OFF	OFF	ON	OFF

ECHO S on S VOLUME	ECHO S on S INTENSITY	REPEAT RATE	REVERB VOLUME	TONE		OUTPUT LEVEL SWITCH	REPEAT SINGLE SWITCH
				BASS	TREBLE		
MAX	—	MAX	MIN	—	—	—	REPEAT

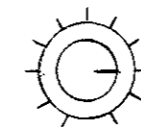
Input signal: 1kHz, sine wave, 0dBm into INPUT 2 jack.

- a) Rotate ECHO/S on S knob to 10th point from FCCW.



- b) Feed the signal for a short period (0.5-2s). Adjust VR11 for finite echo repetition or oscillation.

- c) Reverse the knob to 9th point. Echo sound should die away gradually.



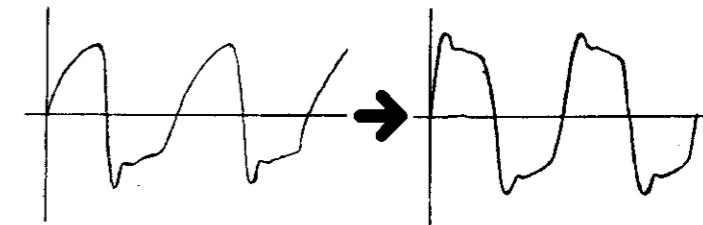
2-12. BBD BIAS (CHORUS)

CONTROL PANEL		INPUT VOLUME	INPUT LEVEL SWITCH	DIRECT SIGNAL SWITCH	CHORUS		EFFECT MODE SWITCH
POTENTIOMETER NO.	CHECK POINT				INTENSITY	CHORUS	
VR2 VR3	OUTPUT A	MAX	-25dBm	OFF	MIN	—	—

EFFECT MODE SWITCH	REVERB VOLUME	TONE		OUTPUT LEVEL SWITCH	REPEAT SINGLE SWITCH
CHORUS	ECHO	BASS	TREBLE		
ON	OFF	MIN	CENTER	CENTER	—

Input signal: 1kHz, rectangular, 0.3Vp-p into INPUT 2 jack.

- a) Rotate VR2 to its midpoint.
- b) Set VR3 for chorus output waveform symmetrical to the base line of scope.

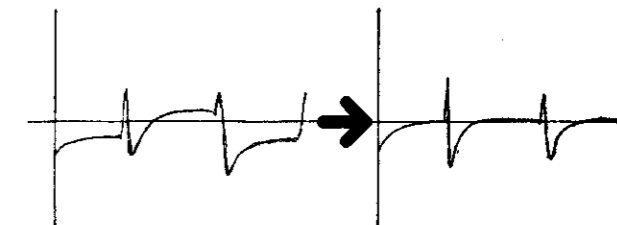


2-13. CLOCK COMPONENT REDUCTION

CONTROL PANEL		INPUT VOLUME	INPUT LEVEL SWITCH	DIRECT SIGNAL SWITCH	CHORUS INTENSITY	EFFECT MODE SWITCH
POTENTIOMETER NO.	CHECK POINT					
VR2 VR3	0.5 BASE	MIN	—	—	—	OFF

Scope's distributed lead capacitance should not be more than 47pF.

- a) Adjust VR2 for minimum discrepancy in amplitude between clock pulses on the base line.
- b) Adjustments 2-12 and 2-13 are inter-related. Repeat both adjustments for the best result.



PARTS LIST

CABINET. PANEL

RE501

081-135 Cabinet no.135
 086-019 Cabinet (upper) no.19
 108-004 Handle H-15
 111-030 Rubber foot G-9
 111-021 Rubber foot G-5
 115-002 Hinge no.2
 072-299 Panel (front) no.299
 065-289 Panel cover no.289
 grey, back of front panel
 073-024 Spacer no.24
 chassis-cabinet, side

SRE555

072-311 Panel (front) no.311
 065-292 Cover (top panel) no.292
 065-294 Cover (left hand) no.294
 065-293 Cover (right hand) no.293
 065-291 Cover (bottom) no.291
 065-296 Cover no.296
 back of front panel
 108-022 Handle no.22
 067-034 Guide no.34 right hand
 067-033 Guide no.33 left hand
 067-035 Guide no.35 rail L.hand
 067-036 Guide no.36 rail R.hand
 066-054 Case no.54 outer
 064-289 Holder no.289
 070-062 Leaf spring no.62
 12170703 Roller no.12170703
 111-023 Rubber foot G-7
 123-016 Decoration screw no.16
 *ref.p-2 for detail

SWITCH. KNOB

Switch
 13129113 ESB70226 power 100V
 13129114 ESB70271T power 117V
 13129115 ESB70293S power 220/240V
 001-305 SRJ-1016 rotary
 001-266 SLR-02239 lever
 001-304 SSB-04303 slide INPUT
 001-205 SSB-02303 slide OUTPUT
 001-182 SSB-02242 slide DIRECT
 001-306 SUF-32A19 push

Knob

016-103 No.103 rotary switch
 016-078 No.78 pots.
 016-085 Button no.85 white
 016-009 Button no.9 blk(SRE555)

SEMICONDUCTOR

Transistor

017-139 2SD880-Y
 017-077 2SB628-R
 017-258 2SD571-L
 017-103 2SC732TM-GR
 017-024 2SA733- P or Q
 017-106 2SC1815- GR or Y
 017-116 2SA1015-Y
 017-081 2SK68A-K FET
 017-014 2SK30ATM-GR FET

Diode

018-014 1S2473
 018-082 W-02
 018-093 M4C31
 018-101 1SR-35-200
 15019654 RD16EB-2 zener
 15019525 RD5.6B-2 zener
 or 05Z5.6L
 (RD5.6B-3 can be a replacement
 with the resistor value changed,
 see PS-66 circuit diagram.)

019-028 TLR-124 red LED
 019-033 TLR-401 10-segment LED BAR
 019-011 P873A red or white
 photocoupler

IC

020-028 TA-7200P
 020-208 LF353N
 020-071 JRC- or μ PC- 4558D
 020-160 BA-662- A or B
 020-213 MN3007 BBD
 020-224 MN3101 BBD driver
 020-226 TA7612AP LED BAR driver
 020-098 NE570N compander
 020-080 HA1457 pre amp
 020-208S LF353N selected,yellow

POTENTIOMETER

026-457 EVH6PAP25B14
 026-460 EVH6PAP25B15
 027-016 EWKENAP25B15 dual, ganged
 026-447 EVH6PAP25A24
 028-003 EVTR4AA 5K trimmer
 028-004 EVTR4AA 10K trimmer
 028-005 EVTR4AA 20K trimmer
 028-006 EVTR4AA 50K trimmer
 028-007 EVTR4AA 100K trimmer
 13299547 CR19R 220 trimmer
 030-487 CR19R 470 trimmer

SOCKET. CONNECTOR

009-052 HLJ1317-01-100
 or HLJ0317-01-100
 009-053 HLJ1317-01-040
 or HLJ0317-01-040
 *Type 1317 countersunk
 opening, used on later
 products.
 010-263 NC-3FP or HA16PR-3S
 female
 010-264 NC-3MP or HA16R3P
 male

PRINTED CIRCUIT BOARD

141-146B AP-146B (pcb 052-573B)
 146-066 PS-66 (pcb 052-569)
 149-159A OP-159A (pcb 052-570A)
 149-160B OP-160B (pcb 052-578B)
 149-161B OP-161B (pcb 052-575B)
 149-162A OP-162A (pcb 052-577A)
 149-163A OP-163A (pcb 052-576A)
 149-164 OP-164 (pcb 052-571)
 149-165 OP-165 (pcb 052-582)
 149-166 OP-166 (pcb 052-574)
 149-167 OP-167 (pcb 052-580)
 149-168 OP-168 (pcb 052-579)
 149-169A OP-169A (pcb 052-581A)
 149-170 OP-170 (pcb 052-572)
 151-061C ET-61C (pcb 052-567C)
 * direct replacement for
 ET-61 A/B

TRANSFORMER. COIL

022-095 Osc coil MC126-2141
 022-045 Trap coil MC-128
 022-089N Transformer PT89N 100V
 022-089C PT89C 117V
 022-089D PT89D 220/240V

FUSE. FUSE HOLDER

008-026 SGA 1.0A F1,2,4 100/117V
 008-028 SGA 2.0A F3 100/117V
 008-062 CEE T400mA F1,2,4 220/240V
 008-069 CEE T1.6A F3 220/240V
 012-003 Clip TF-758 sec.
 012-018 Clip X-N1153 prim.

SOME PARTS DESIGNATED
 IN NEW NUMBERINGS

HEAD. DRIVINGS

049-003 Record head R-280MR
 049-004 Playback head R-280MP
 049-001 Erase head AE-28
 065-118 Shield no.118 R.Head
 064-127 Platform no.127
 070-005 Spring no.5 alignment
 063-030 Plate no.30 platform mount
 065-286 Cover no.286 above heads
 067-005 Tape guide no.5 (post)
 067-025 Guide no.25 L shape
 112-001 Pinch roller no.1
 068-006 Cover no.6 pinch roller
 101-001 Shaft no.1 pinch roller
 064-284 Holder no.284
 (guide bearing base)
 113-004 Bearing 626ZZC2
 (guide bearing)
 * See page 8 for detail.
 050-006 Motor PHM-502E-B02
 065-106 Cover no.106 motor
 120-037 Nut no.37 motor mount

*PARTS ON TAPE CHASSIS PAGE 3

Arm. Solenoid

171-001 Arm unit assy AU-1
 069-009 Shaft no.9 AU-1 mount
 050-004 DC solenoid MD1811R
 070-032A Spring no.32A
 070-007 Spring no.7
 070-022 Spring no.22
 123-006 Screw no.6 plunger adjust
 * detail ref. pp.2-3.

040-001 Reverb unit Z-3F

064-040 Bracket no.40 PS-66 mount
 064-283 Bracket no.283 PS-66 mount

064-033 PCB holder LCB-4N
 (rocker rivet)

CHASSIS

061-302-1 No.302-1 main
 061-302-2 No.302-2 front
 061-303 No.303 pot(tone) shield
 061-304 No.304 head amp shield