

Quality Uncompromised

ROTEL®

Technical Manual

STEREO POWER AMPLIFIER RB-890

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Specifications

Continuous Power Output 160 watts* per channel, min.
 RMS both channels driven into
 8 ohms from 20 to 20,000 Hz
 with no more than 0.03% total
 harmonic distortion.

Power Output (BTL) 360 watts (mono) min. RMS
 driven into 8 ohms from 20 to
 20,000 Hz with no more than
 0.03% total harmonic distortion.

Total Harmonic Distortion No more than 0.03% (continuous
 (20 to 20,000 Hz) rated power output)
 No more than 0.03% (continuous
 1/2 rated power output)
 No more than 0.03% (1 watt per
 channel power output, 8 ohms)

Intermodulation Distortion No more than 0.03% (continuous
 (60 Hz : 7 kHz = 4 : 1) rated power output)
 No more than 0.03% (continuous
 1/2 rated power output)
 No more than 0.03% (1 watt per
 channel power output, 8 ohms)

Output : Speaker 4-16 ohms
 Damping Factor 380 (20 to 20,000 Hz, 8 ohms)
 Input Sensitivity/Impedance 1.0V/22 kohms
 Frequency Responce 15 to 130,000 Hz, +0 dB, -1 dB
 Signal-to-Noise Ratio
 (IHF, A network) 120 dB
 Power Requiement 120V/60 Hz, 220V/50 Hz,
 240V/50 Hz, or 120, 220,
 240V/50-60 Hz
 (depending on destinations)
 Power Consumption 800 watts
 Dimensions (overall) 430(W) × 109(H) × 349(D) mm
 16-15/16" × 4-7/32" × 13-3/4"
 Weight (net) 13 kg/28.7 lbs.

- Specifications and design subject to possible modification without notice.
- *Measured pursuant to the Federal Trade Commission's Trade Regulation Rule on Power Claims for Amplifiers (applicable to the U.S.A. only).

Serial No. Beginning

Parts List

Schematic Location	Computer No.	Description	Schematic Location	Computer No.	Description
TRANSISTORS, DIODES AND IC'S					
Q601	0322SA1016K-FG		Q636	0332SA1146-OY or 0332SB817-DE	Power Driver
Q602	0322SA1016K-FG		Q901	0322SC2362K-FG	
Q603	0322SA1016K-FG		D601	☆0341S1588	
Q604	0322SA1016K-FG		D602	☆0341S1588	
Q605	0322SA1016K-FG		D603	☆0341S1588	
Q606	0322SA1016K-FG		D604	☆0341S1588	
Q607	0332SA1208-RST		D605	0341S1588	
Q608	0332SA1208-RST		D606	0341S1588	
Q609	☆0332SC2910-RST		D607	0341S1588	
Q610	☆0332SC2910-RST		D608	0341S1588	
Q611	☆0322SC536K-FG		D609	034DS135C	
Q612	☆0322SC536K-FG		D610	034DS135C	
Q613	☆0332SC2910-RST		D611	034DS135C	
Q614	☆0332SC2910-RST		D612	034DS135C	
Q615	0322SD600K-EF		D901	0341S1588	
Q616	0322SD600K-EF		D902	0341S1588	
Q617	0332SC2344-DE	Driver	D903	034DS135C	
Q618	0332SC2344-DE	Driver	D001	034SEL1124R	Protection Ind.
Q619	0332SA1011-DE	Driver	D002	034SEL1124R	Power Ind.
Q620	0332SA1011-DE	Driver	D003	034KBPC10-04	Rectifier
Q621	0332SC2706-OY or 0332SD1047-DE	Power Driver	D004	034KBPC10-04	Rectifier
Q622	0332SC2706-OY or 0332SD1047-DE	Power Driver	VARIABLE RESISTORS		
Q623	0332SC2706-OY or 0332SD1047-DE	Power Driver	VR601	051SF687A-2K	Bias Adj.
Q624	0332SC2706-OY or 0332SD1047-DE	Power Driver	VR602	051SF687A-2K	Bias Adj.
Q625	0332SC2706-OY or 0332SD1047-DE	Power Driver	OTHERS		
Q626	0332SC2706-OY or 0332SD1047-DE	Power Driver	TH602	034TD5C350D	Temperature Compensator
Q627	0332SC2706-OY or 0332SD1047-DE	Power Driver	CO01	041C-4315A01	Capacitors : 80V 15000µF
Q628	0332SC2706-OY or 0332SD1047-DE	Power Driver	C002	041C-4315A01	Capacitors : 80V 15000µF
Q629	0332SA1146-OY or 0332SB817-DE	Power Driver	C003	041C-4315A01	Capacitors : 80V 15000µF
Q630	0332SA1146-OY or 0332SB817-DE	Power Driver	C004	041C-4315A01	Capacitors : 80V 15000µF
Q631	0332SA1146-OY or 0332SB817-DE	Power Driver	C005	044NSK135	Safety Capacitors (STD)
Q632	0332SA1146-OY or 0332SB817-DE	Power Driver		044PME265MA447	Safety Capacitors (Europe)
Q633	0332SA1146-OY or 0332SB817-DE	Power Driver		044NSK132	Safety Capacitors (Hydro)
Q634	0332SA1146-OY or 0332SB817-DE	Power Driver	T001	022T-1011G01	Power Transformer
Q635	0332SA1146-OY or 0332SB817-DE	Power Driver	S001	061C-4176A02	Power Sw : ESB997 TV-8
			RY901	063ORZ-SS224L	Protection Relay
				☆0674TR-2267	Speaker Terminal
				0194TR-2274	Foot
				011PC4-01A00	Front panel
				0143TUV-6#3	Upper Cover
				066C-4225A04	2P Pin Jack
				0673TR2045#3	Speaker Terminal (RED)
				0673TR2045#4	Speaker Terminal (BLACK)
			☆MARK USED BEFOR SERIAL NO. <u>125749</u>		

Adjustment

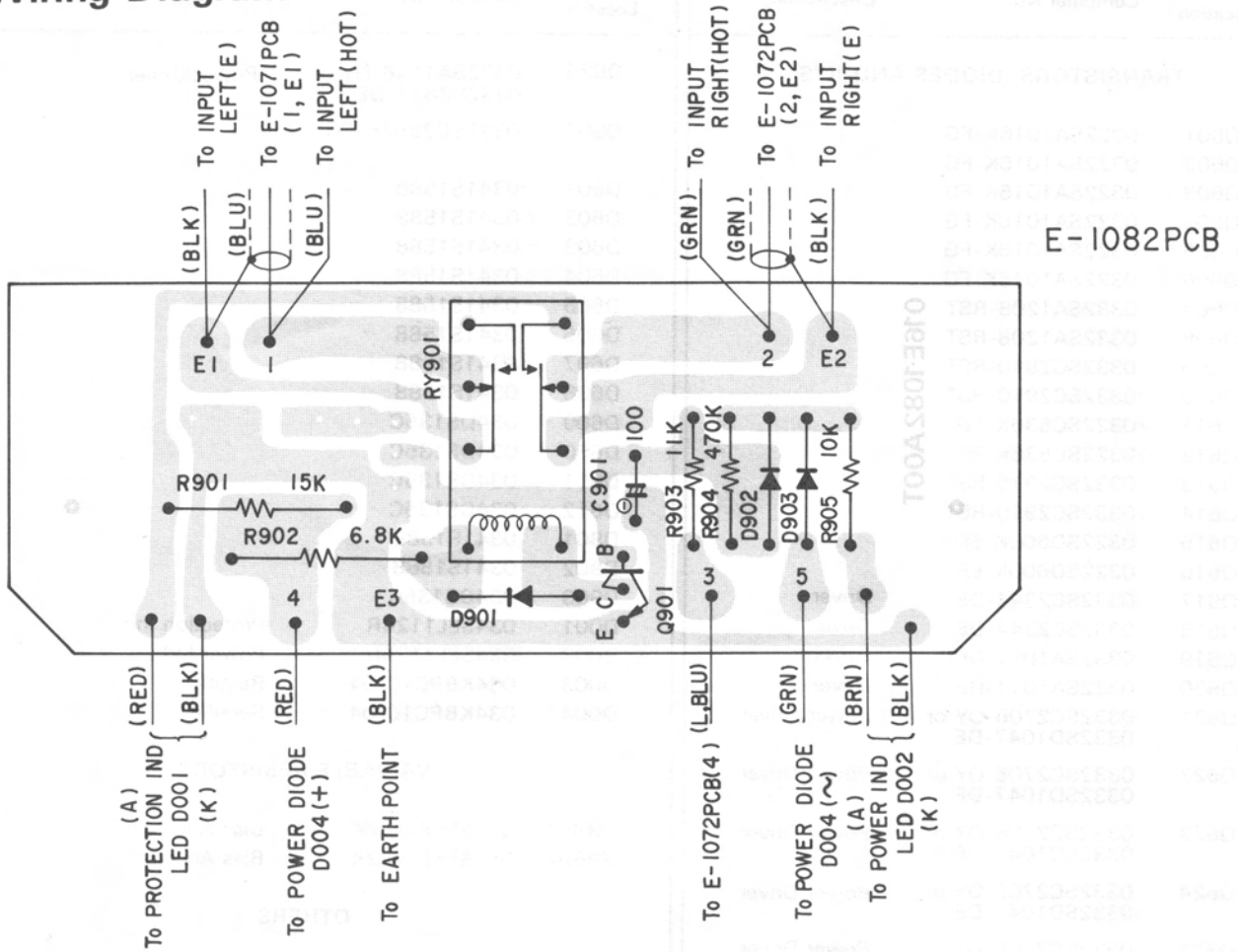
Power Amplifier Bias Adjustment

Instruments : DC milli-voltmeter

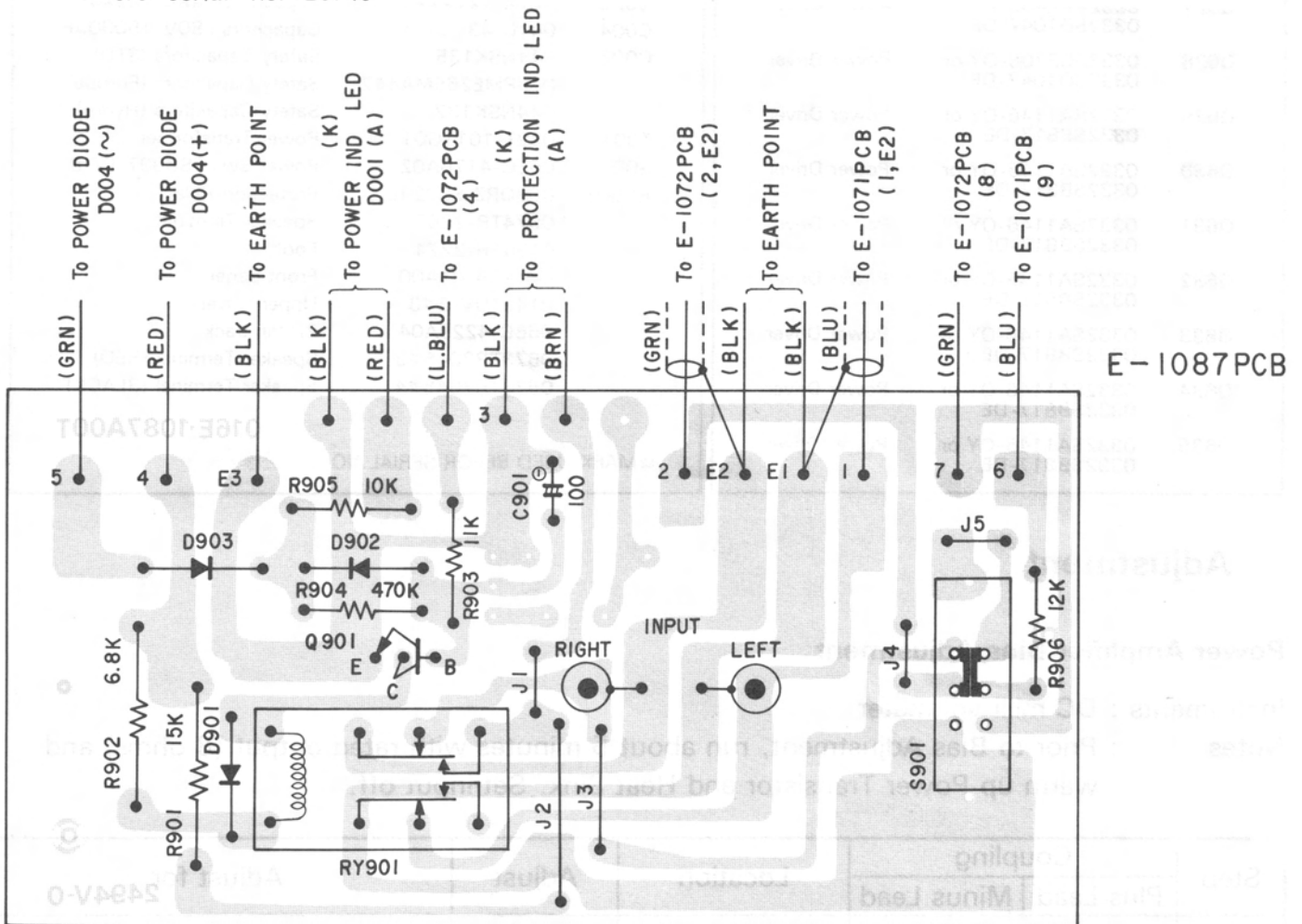
Notes : Prior to Bias Adjustment, run about 5 minutes with rated output (8 ohms) and warm up Power Transistor and Heat Sink. Set input off.

Step	Coupling		Location	Adjust	Adjust for
	Plus Lead	Minus Lead			
1	TP1	TP3	016E-1071 PCB	VR601	DC milli-voltmeter reads 4.4 mV
2	TP2	TP4	016E-1072 PCB	VR602	

Wiring Diagram

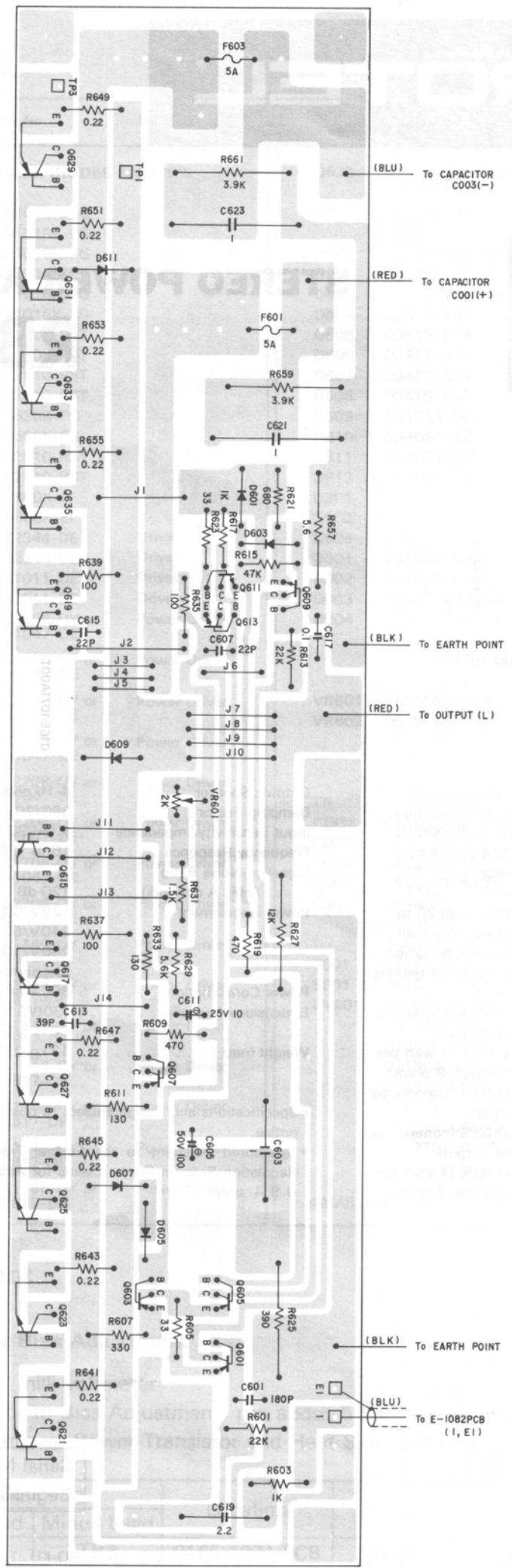


Before Serial No.125749



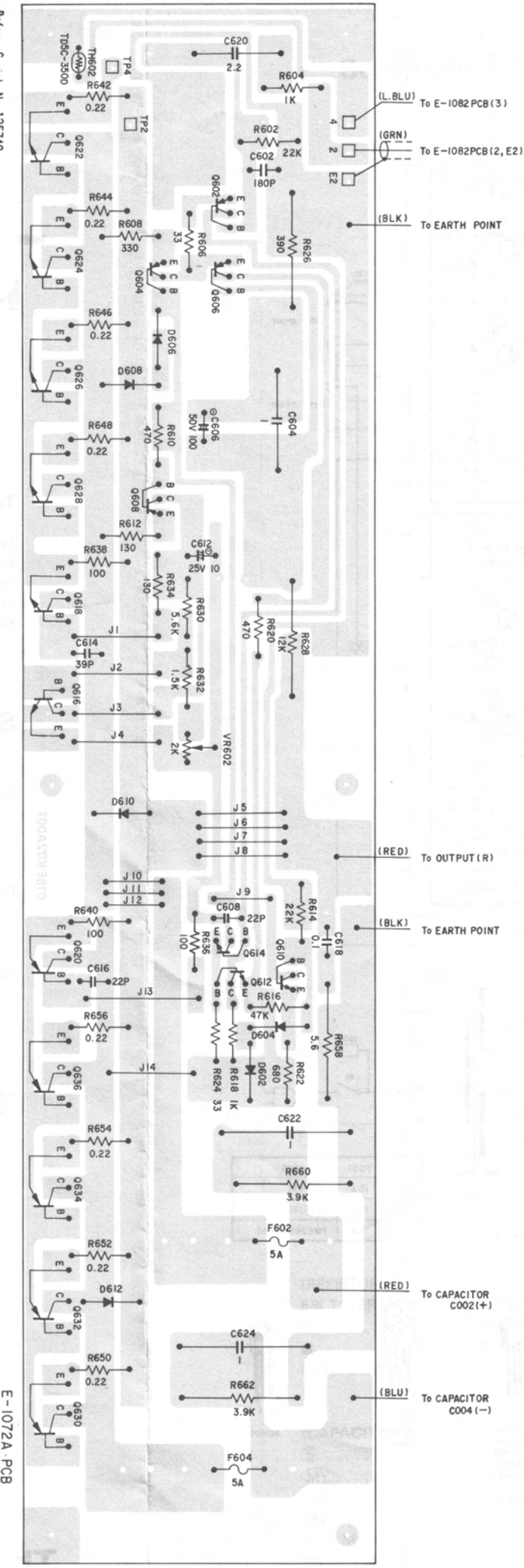
After Serial No.126300

Before Serial No. 125749



E-1071A PCB

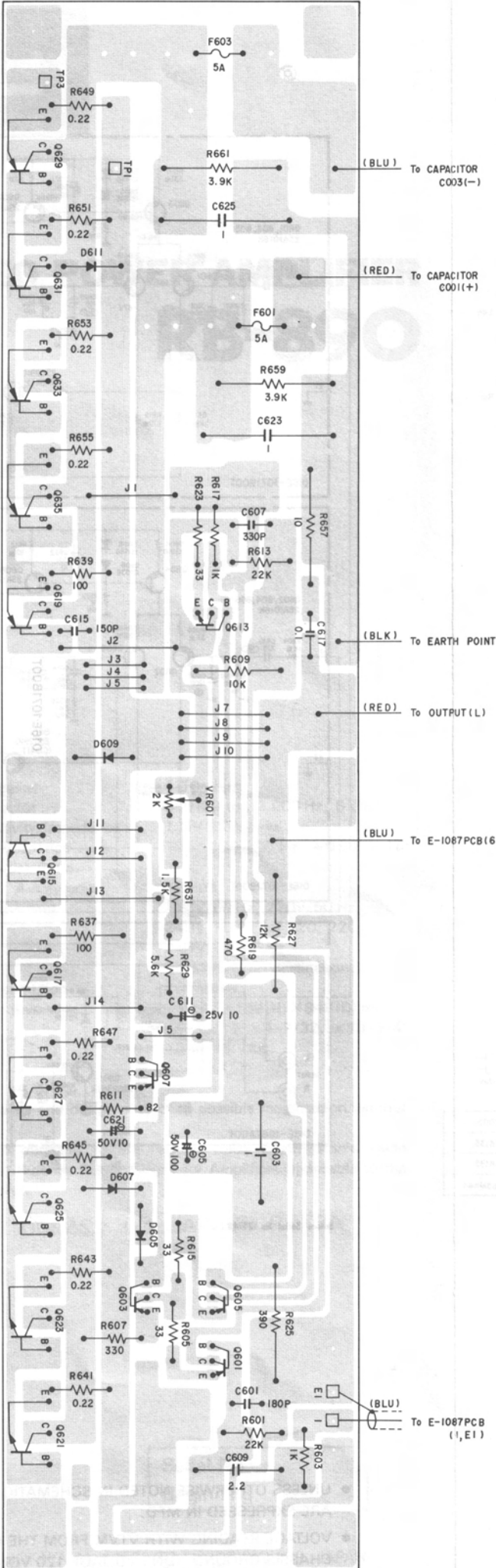
Before Serial No. 125749



E-1072A PCB

After Serial No.128300

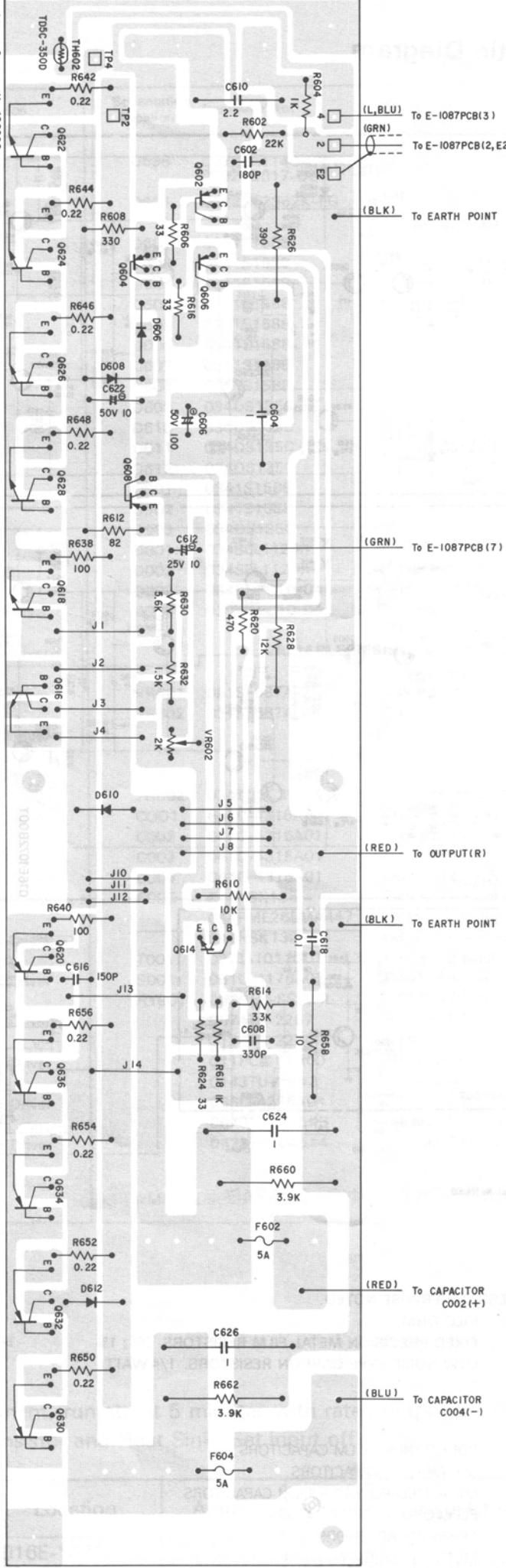
E-1071B PCB



- (BLU) To CAPACITOR C003(-)
- (RED) To CAPACITOR C001(+)
- (BLK) To EARTH POINT
- (RED) To OUTPUT (L)
- (BLU) To E-1087PCB(6)
- (BLK) To EARTH POINT
- (RED) To OUTPUT (R)
- (BLK) To EARTH POINT
- (RED) To CAPACITOR C002(+)
- (BLU) To CAPACITOR C004(-)
- (BLU) To E-1087PCB (1,E1)

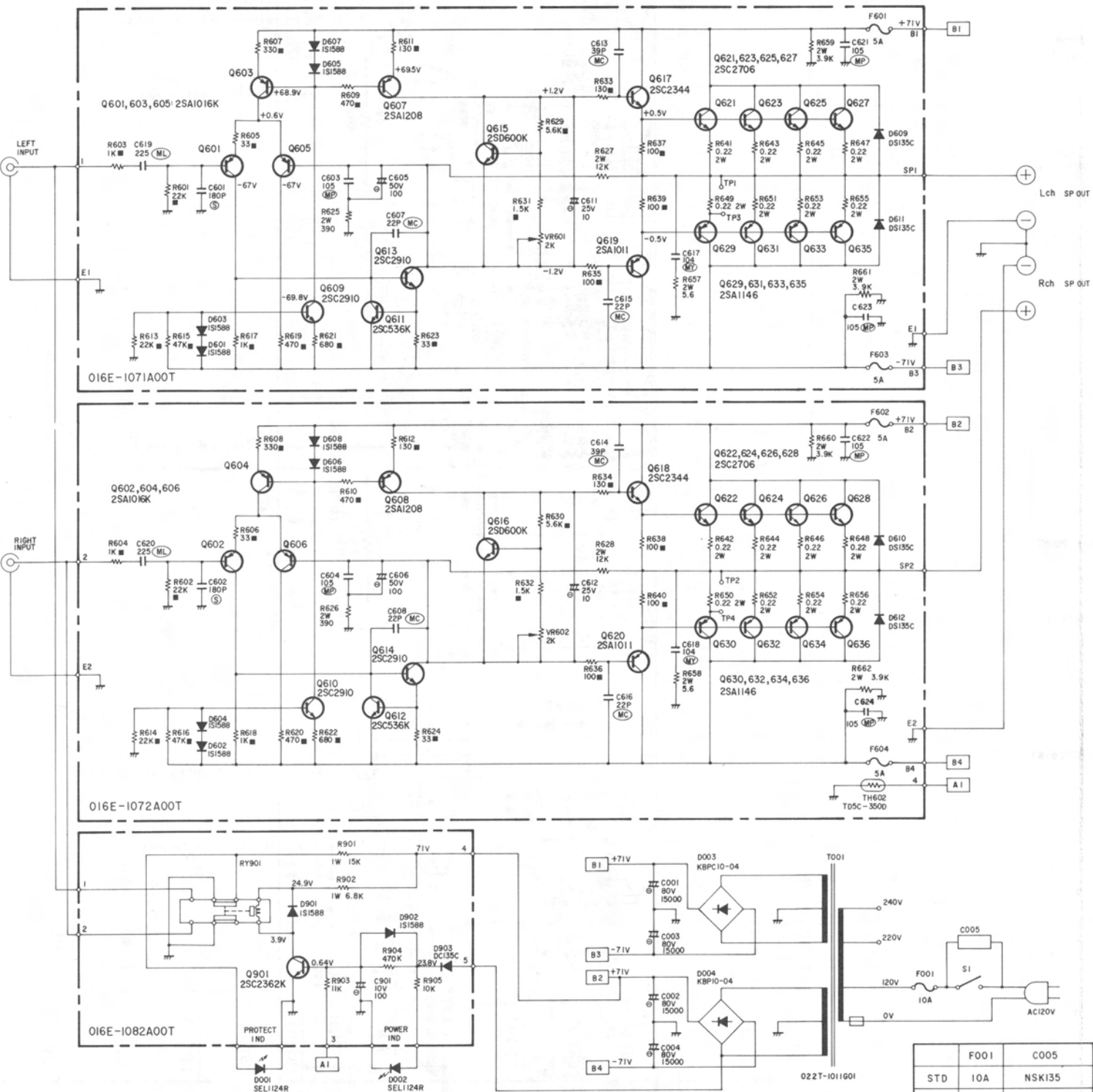
After Serial No.128300

E-1072B PCB



- (L,BLU) To E-1087PCB(3)
- (GRN) To E-1087PCB(2,E2)
- (BLK) To EARTH POINT
- (GRN) To E-1087PCB(7)
- (RED) To OUTPUT (R)
- (BLK) To EARTH POINT
- (RED) To CAPACITOR C002(+)
- (BLU) To CAPACITOR C004(-)

Schematic Diagram



BEFORE SERIAL NO 125749

(RESISTORS)

5% TOLERANCE UNLESS OTHERWISE NOTED.

K KILO OHM

■ FIXED PRECISION METAL FILM RESISTORS. (F) : 1%

NON MARK LOW NOISE TYPE CARBON RESISTORS. 1/4 WATT

(CAPACITORS)

Ⓢ POLYSTYRENE FILM CAPACITORS.

Ⓜ MYLAR FILM CAPACITORS.

ⓂⓅ METALIZED POLYESTER FILM CAPACITORS.

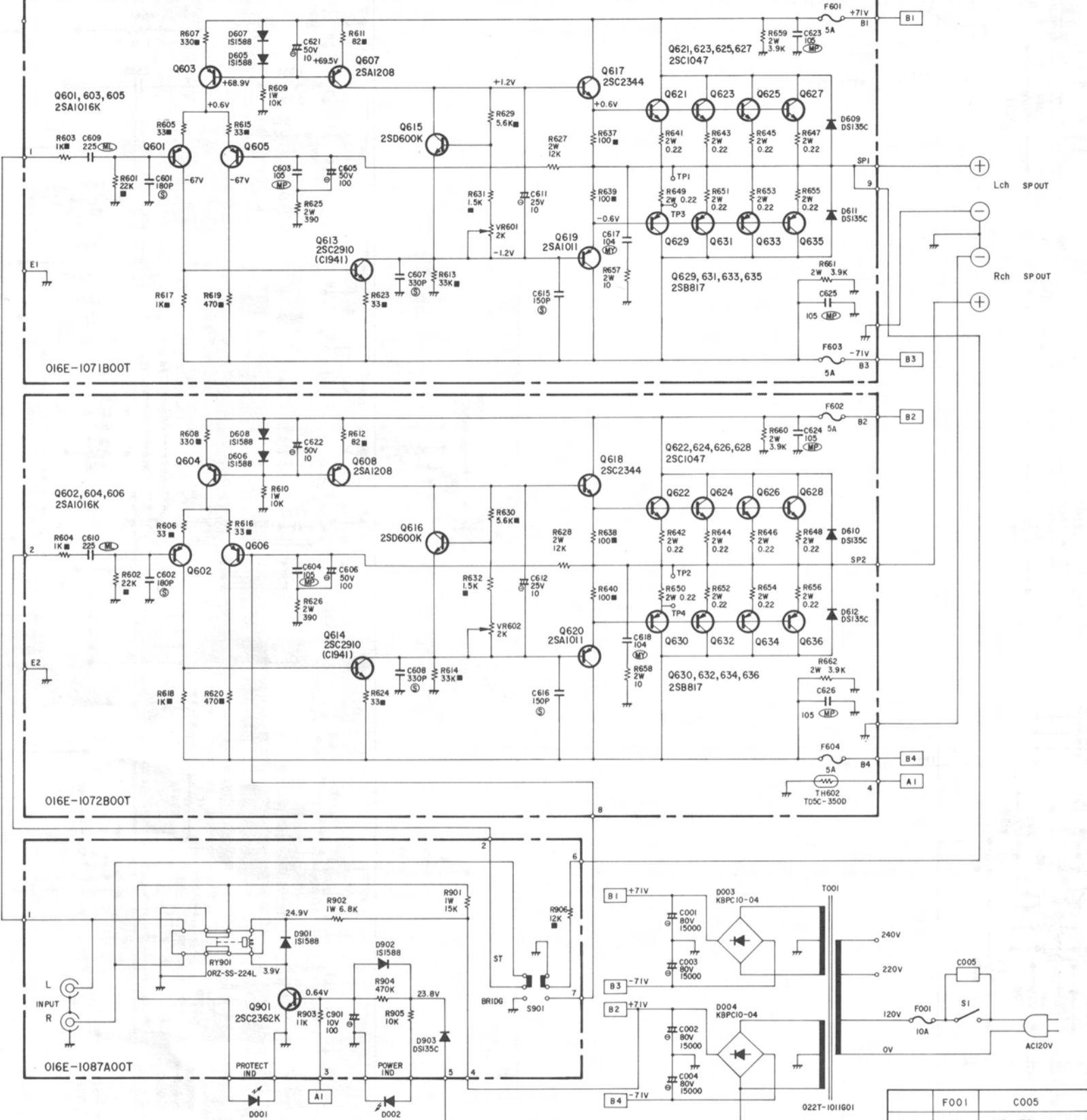
—|— ELECTROLYTIC CAPACITORS.

NON MARK CERAMIC CAPACITORS.

ⓂⓁ METAL LAYER CAPACITORS

ⓂⓂ MICA CAPACITORS

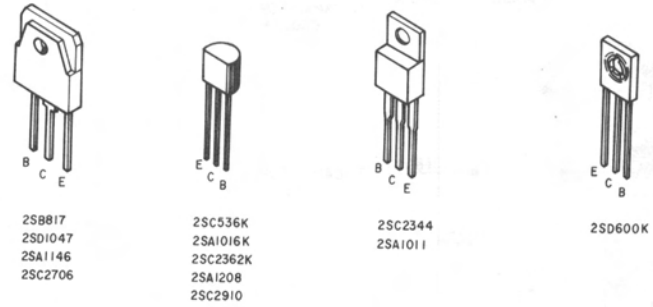
RB-890



AFTER SERIAL NO 126300

- UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPRESSED IN MFD.
- VOLTAGE READING WITH VTVM FROM THE POINT SHOWN TO THE CHASSIS GROUND. (LINE VOLTAGE 120 VOLTS)
- VOLTAGE READING MAY ±20%

	F001	C005
STD	10A	NSK I35
HYDRO	10A	NSK I32
CEE	5A	PME265 MA447



RB - 880