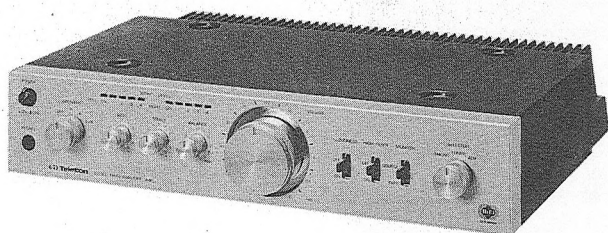


MODEL : A480s STEREO Hi-Fi AMPLIFIER

SERVICE MANUAL

SH 097/30



Germany : GENERAL CORPORATION JAPAN (Euro) GmbH
D-4000 Düsseldorf-Heerd, Werftstr. 20
Tel. 0211-50 47 021 Tlx. 8588366

Great Britain : TELETON Electro (U.K.) Co., Ltd.
Somerton Works, Prince Avenue,
Westcliff-on-Sea, Essex, SSO OHU
Tel. 0702 337681 Tlx. 99338

Netherlands : GENERAL CORPORATION JAPAN (NL) B.V.
Marconviweg 10, Vianen
Tel. 03 473-37 44 Tlx. 40 581

Distributor	: Switzerland	France
	Allelectric AG	TELECTRODIS S.A.
	Gartenstr. 12	21, rue Paul-Lafargue,
	5600 Lenzburg	94270 Le Kremlin-Bicêtre
	Tel. 064 51 6951	Tel. 6 77 69 34
	Tlx. 68 208	Tlx. 20 44 68

Specifications are subject to change without notice.

SPECIFICATION

ELECTRICAL PERFORMANCE

Output power at 1,000Hz, 0.7% THD. (8Ω) : 22 Watts.

Output Power at 40Hz-2,000Hz 0.7% 8Ω : 20 Watts.

Power Bandwidth (8Ω, 0.7%, -3dB) : 10W, 10Hz-30,000Hz

Maximum Input Signal (Input: 1,000Hz, output: 2 Watts, 0.7% THD.)

Tuner	: 4V
Phono (magnetic)	: 50mV
AUX	: 4V
Tape	: 4V

Frequency Response (Output: 2 Watts at 1,000Hz)

Tuner/AUX/Tape	: 40Hz-16,000Hz ±0.8 dB
Phono (equalizer: RIAA)	: 40Hz-16,000Hz ±1 dB

Tone Control Characteristics (Input : AUX)

Bass	: 100Hz	+8 dB
		-10 dB
Treble	: 10,000Hz	±10 dB

Loudness (Input: AUX 200mV, volume control: maximum gain minus 30 dB.)

100Hz	+10 dB
10,000Hz	+5 dB

High-cut filter

fc=4KHz -6 dB/oct.

Input Sensitivity & Input Impedance (Output: 20 Watts at 1,000Hz)

Tuner	: 200mV/100KΩ
AUX	: 200mV/100KΩ
Tape	: 200mV/100KΩ
Phono	: 3mV/47KΩ

Minimum Volume Hum & Noise : 0.5mV

Signal to Noise Ratio

(Output power: 50 m watts at 1,000Hz, unweighted)

Tuner	: 58 dB
AUX	: 58 dB
Tape	: 58 dB
Phono	: 58 dB

Channel Gain Difference

(Volume control shall be changed from max. position to -46 dB).

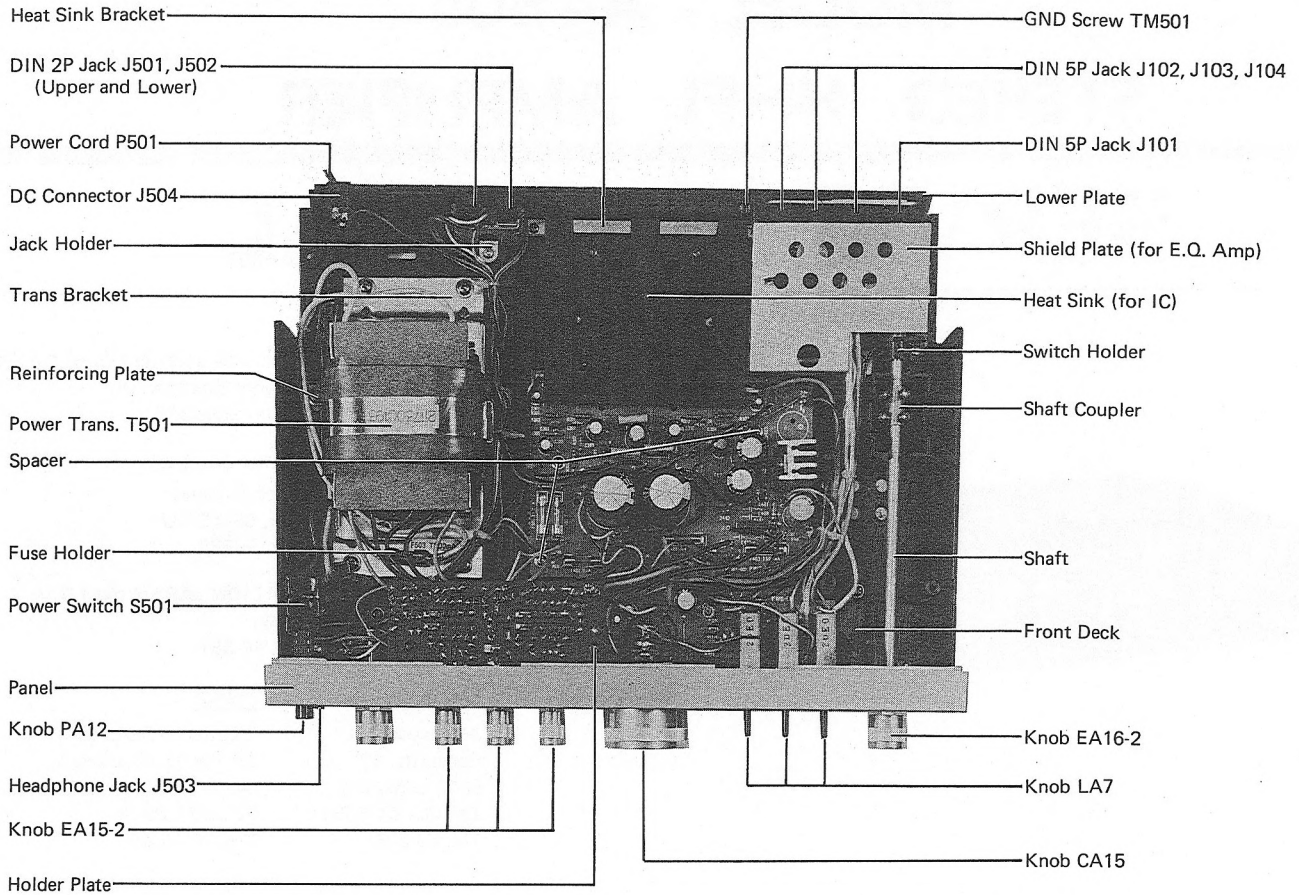
at 1,000Hz	2 dB max.
250Hz - 6,300Hz	4 dB max.

Tape Output Voltage and Output Impedance

(Input: AUX at 1,000Hz)

Output voltage (open)	: 30mV
Output impedance	: 88KΩ ±20%

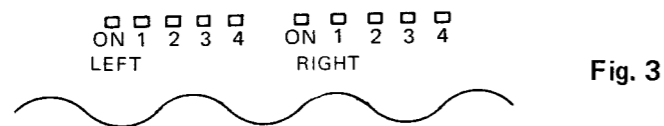
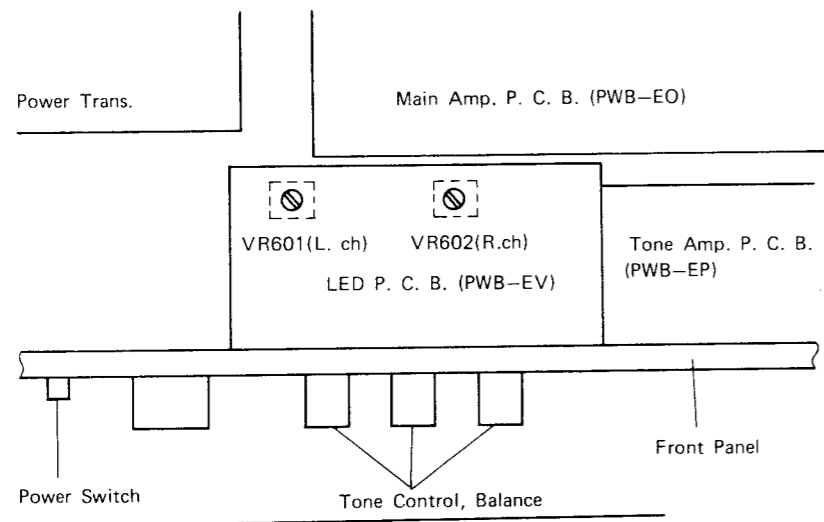
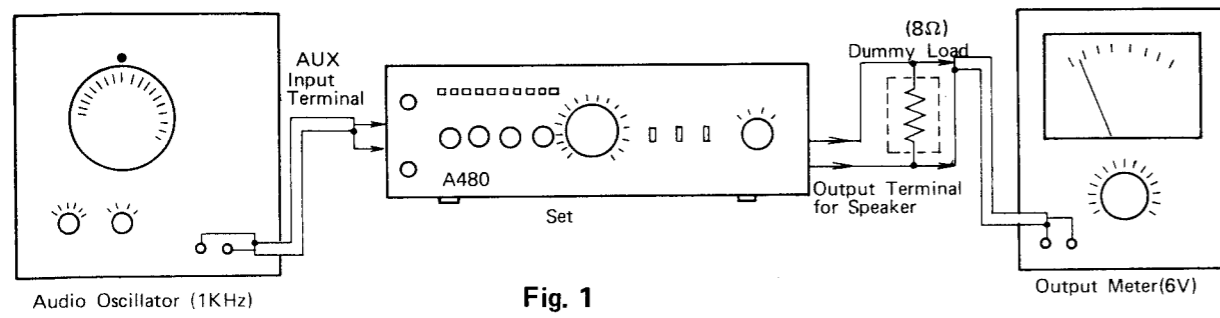
PARTS LOCATION



WARNING: FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER RECOMMENDED PARTS. THESE PARTS ARE IDENTIFIED BY (⚠) ON THE SCHEMATIC DIAGRAM.

The manufacturer's warranty and liabilities will be void if any unauthorized modifications, alterations or additions are made. For replacement purposes, use the same type or specified type of wire and cable, ensuring that the positioning of the wires is followed (especially for power supply circuits). Use of alternative wiring or positioning could result in damage to the set or in a shock or fire hazard.

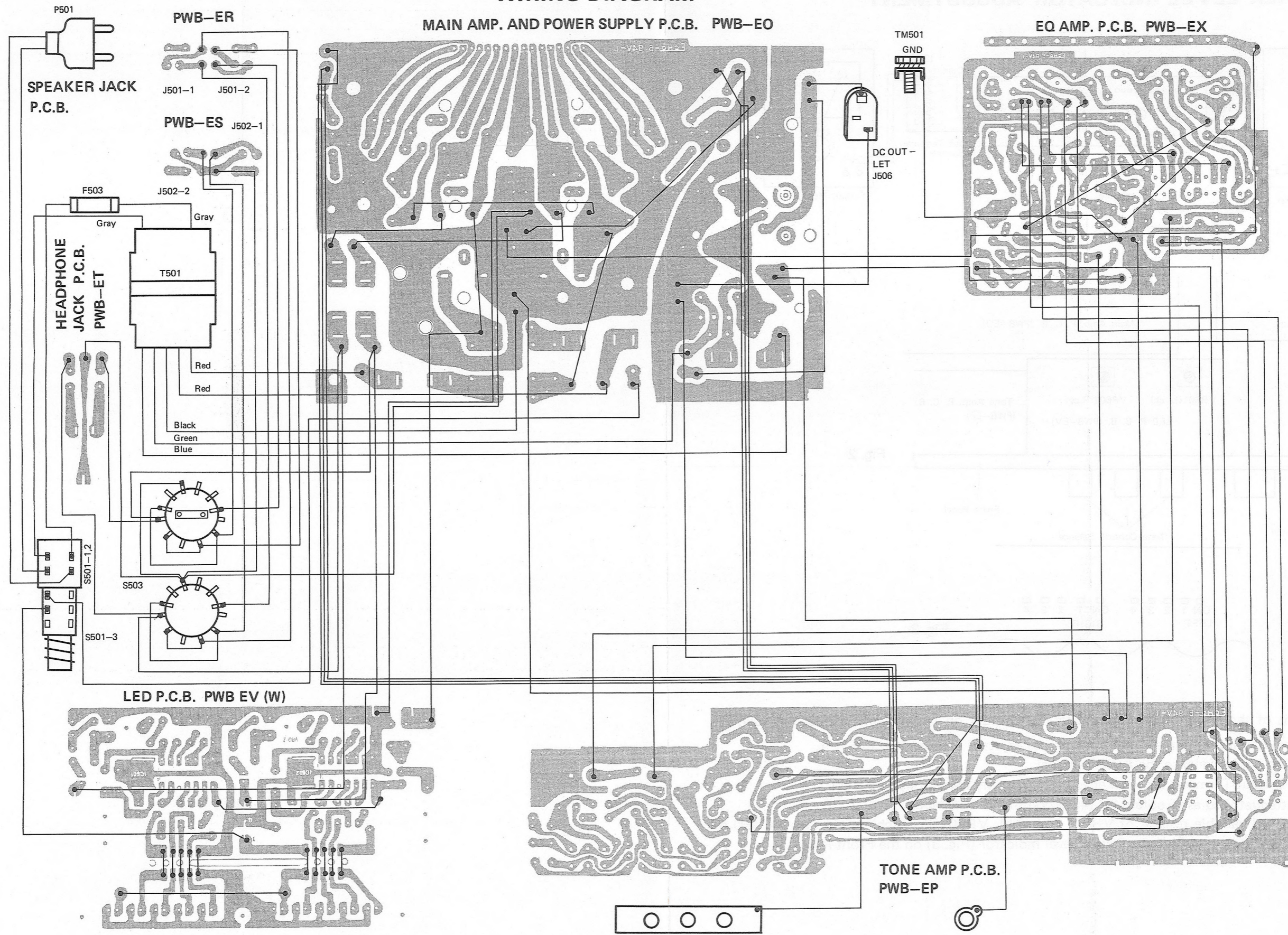
POWER LEVEL INDICATOR ADJUSTMENT



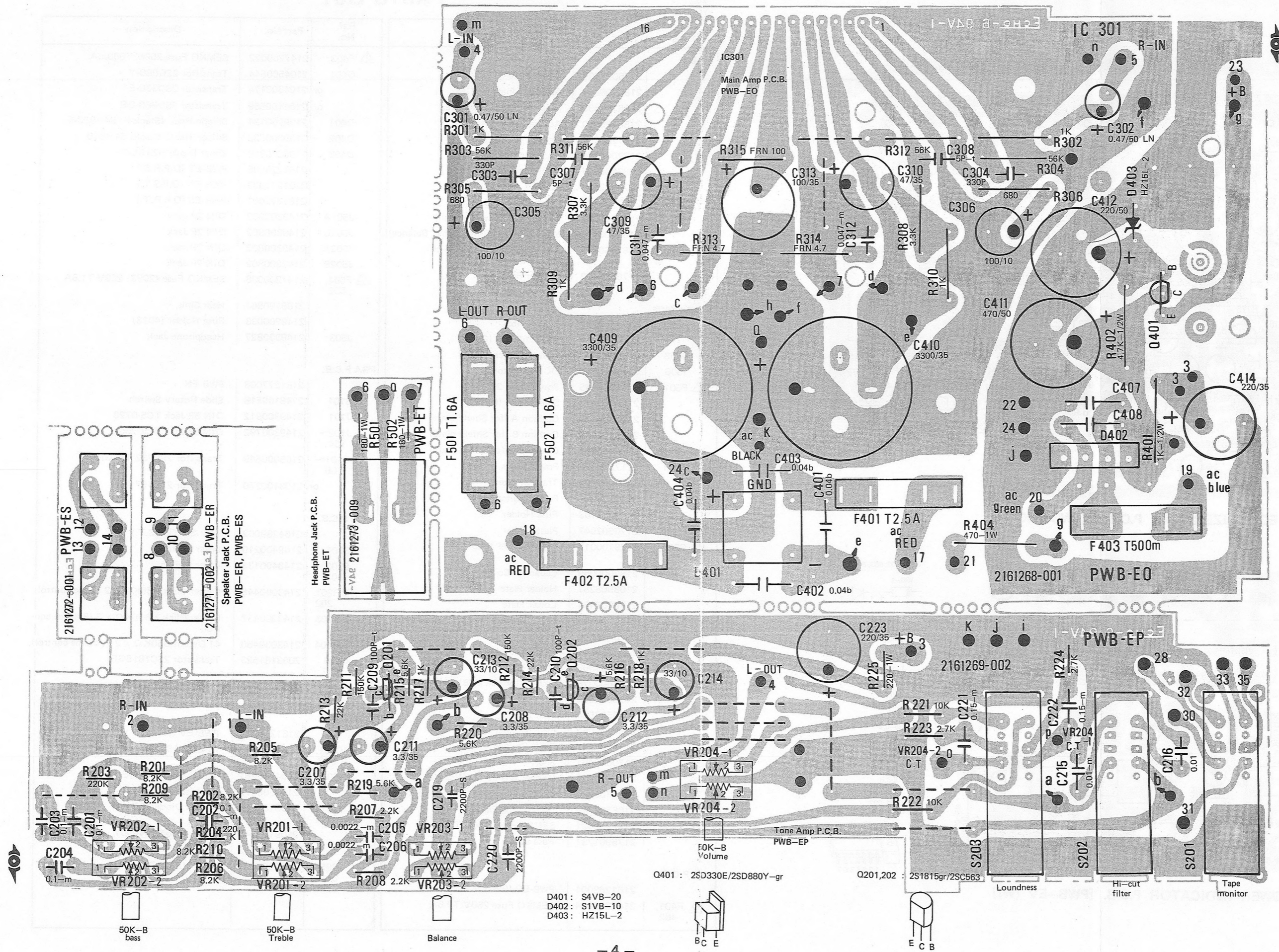
Level adjustment of the Power Indicator (indication by LED on Front Panel) is made as follows:

1. Connect the measuring equipment and the set to be adjusted as illustrated in Fig. 1.
2. Apply an 1KHz audio signal to the AUX Terminal.
3. Connect the Output Terminal for speaker to an 8Ω dummy load surely.
4. Adjust the attenuator so as to obtain 6V (4.5W) on the Output Meter.
5. Adjust semi-fixed variable resistor of VR601 (for Lch), VR602 (for Rch) to light up the LED of the "4" position while watching the Power Level Indicator (Fig. 3) on the Front Panel.

WIRING DIAGRAM



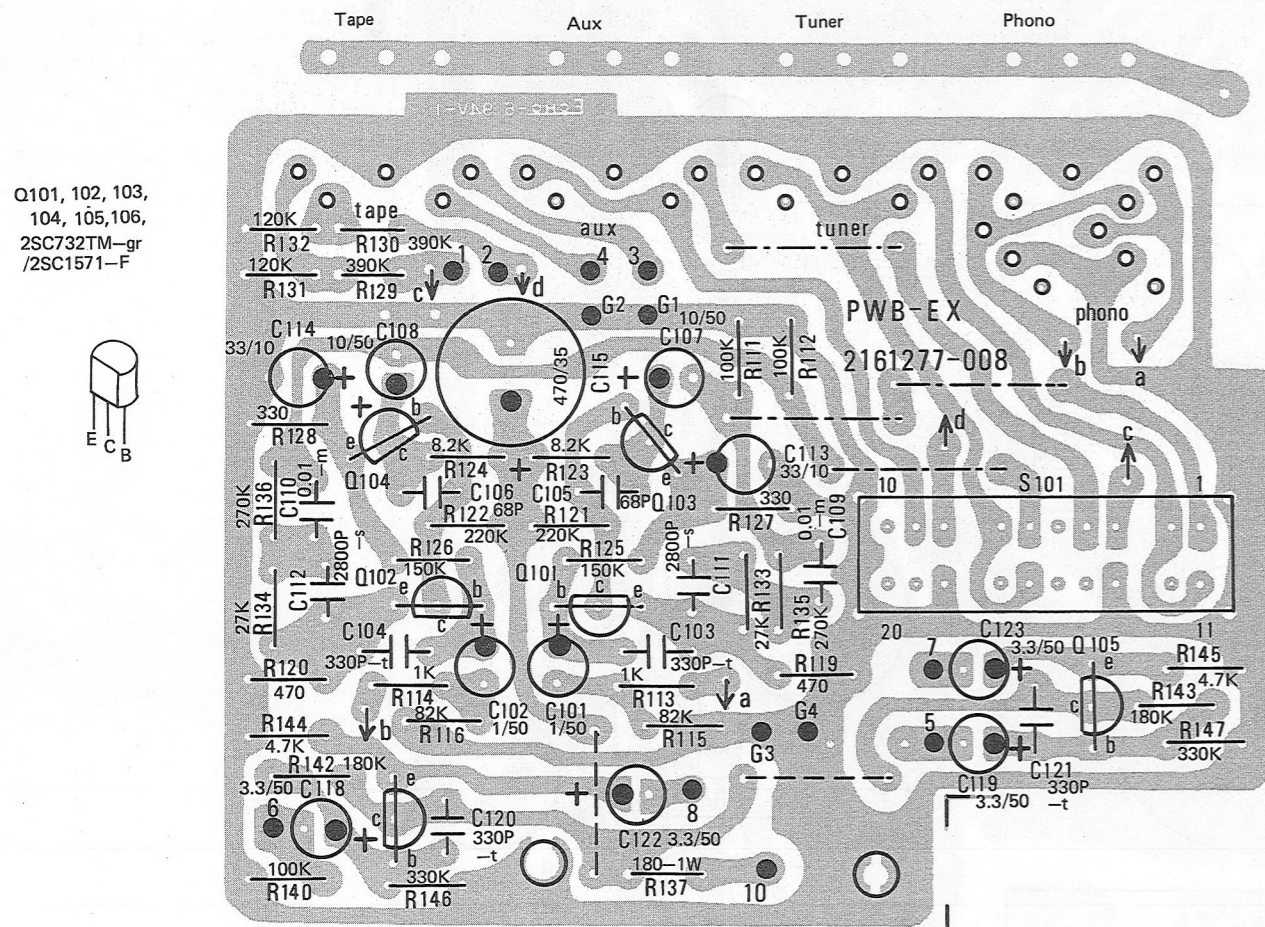
MAIN AMP. P. C. BOARD



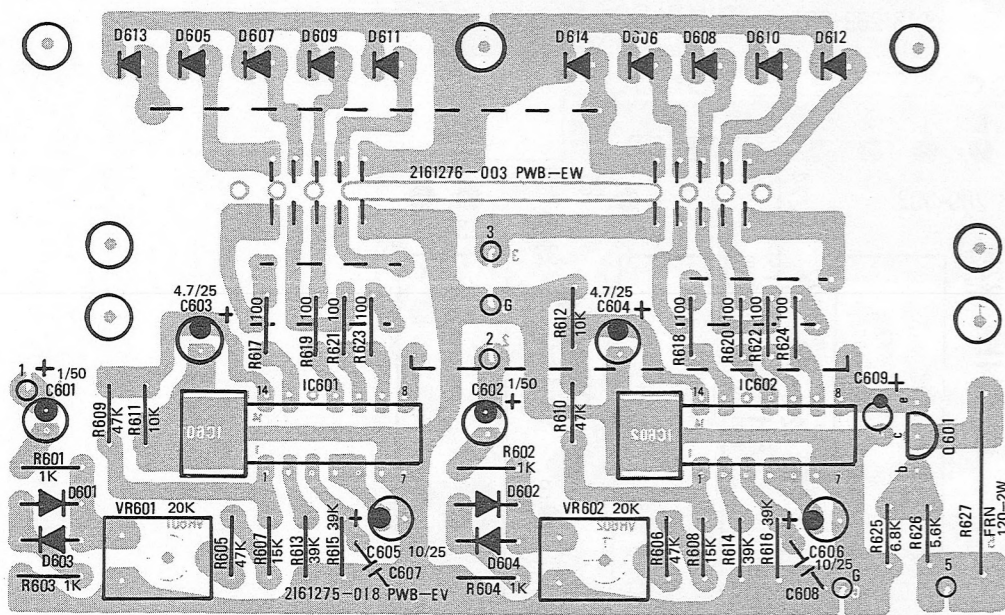
- D401 : S4VB-20
- D402 : S1VB-10
- D403 : HZ15L-2

Equalizer Amp./Power Indicator P.C. Board

PARTS LIST



EQUALIZER AMP. P.C.B. [PWB-EX]

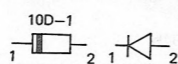


POWER INDICATOR P.C.B. [PWB-EV (W)]

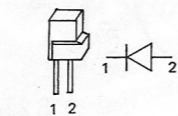
Q101, 102, 103,
104, 105, 106,
2SC732TM-gr
/2SC1571-F



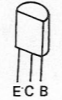
D601, 602, 603, 604.



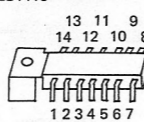
D605, 606, 607, 608, 609,
610, 611, 612, 613, 614.
SLB26-GG



Q601
2SD438-d/e

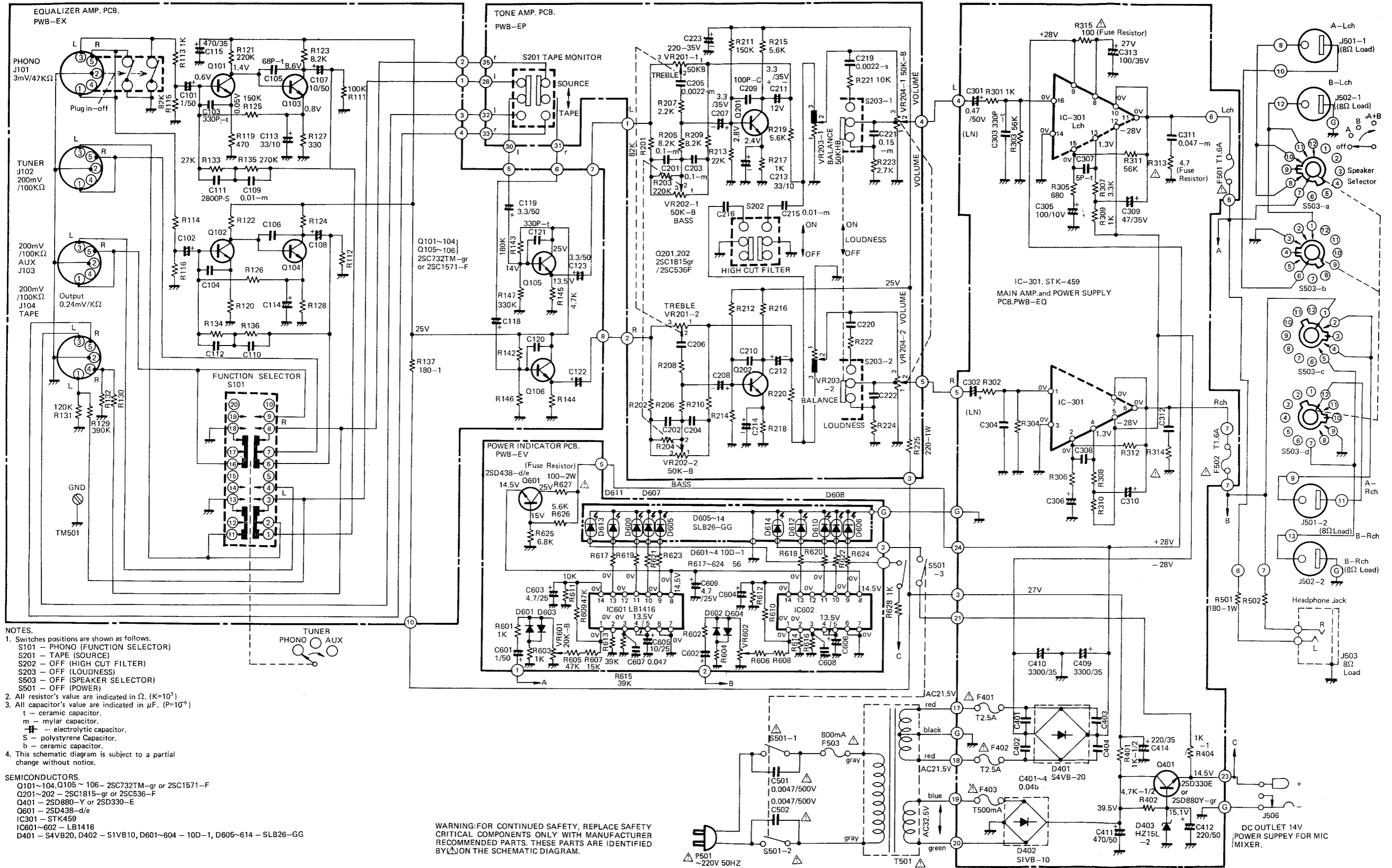


IC601, 602.
LB1416



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
Cabinet			△ F403	2147200022	SEMKO Fuse 250V T500mA
	2176001505	Upper Plate	Q401	2104500544	Transistor 2SD880-Y
	2186100364	Adiabatic Plate (P.T.)	or	2104500174	Transistor 2SD330-E
	2186100392	Adiabatic Plate (Stabilizer)	or	2104500559	Transistor 2SD880-GR
	2186100420	Adiabatic Plate (IC)	D401	2109200124	Silicon Rect. (Stack-F) S4VB20-F
	2171201256	Decoration Plate	D402	2109200222	Silicon Rect. (Stack) S1VB10
	2187000398	Knob CA15 (Volume)	D403	2108200319	Zener Diode HZ15L-2
	2186100387	Shield Plate (for Tuner)		2161273009	PWB-ET (O.P.R.S.)
	2176002458	Panel		2161271002	PWB-ER (O.P.S.T.)
	2187100488	Knob EA16-2 (Selector)		2161272001	PWB-ES (O.P.R.T.)
	2187300305	Knob PA12 (Power switch)	J501A	2149300802	DIN 2P Jack
	2187100476	Knob EA15-2 (Bass, Treble, Balance)	J501B	2149300802	DIN 2P Jack
	2187600151	Knob LA7 (Loudness, Hi-cut, Tape monitor)	J502A	2149300802	DIN 2P Jack
	2176301400	Rubber Foot	J502B	2149300802	DIN 2P Jack
			△ F501, 502	2147200036	SEMKO Fuse (2093) 250V T1.6A
Chassis Parts				2168100961	Heat Sink
IC301	2102400232	IC STK-459		2149200033	Fuse Holder (4013)
	2168101040	Heat sink (for IC)	J503	2149300827	Headphone Jack
S503	2148000023	Rotary Switch (1089)	PRA P.C.B.		
J506	2149300810	DC Connector		2161277008	PWB-EX
△ P501	2195000065	Power Cord 2P	S101	2148100518	Slide Rotary Switch
	2186100413	Shield Plate (for EQ)	J101	2149300912	DIN 5P Jack TCS-0720
	2176301439	Cushion A (for Shield plate)	J102~104	2149300792	DIN 5P Jack TCS-700
	2176301442	Cushion B (for Shield plate)	Q101~106	2103000649	Transistor 2SC732 TM-GR
	2176300343	Cushion C (for Shield plate)	or	2103100370	Transistor 2SC1571F
△ T501	2117300225	Power Trans.	Tone P.C.B.		
	2168507887	Trans Bracket		2161269002	PWB-EP (O.R.S.T.)
△ S501	2148200396	Power Switch	S201	2148400210	Lever Switch
	2149200103	Fuse Holder	S202~203	2148400133	Lever Switch
	2176602047	Plastic Foot	VR201, 202	2143000445	Center Click B50KΩ x 2 (Tone control)
△ C501, 502	2129100017	Capacitor MP 0.0047μF	VR203	2143000432	Center Click HB50KΩ x 2 (Balance control)
	2182000059	Capacitor Cover	VR204	2143000450	41 Detent B50KΩ x 2 (Volume control)
	2168508287	Holder Plate	Q201, 202	2003181523	Transistor 2SC1815GR
	2176002464	Lower Plate	or	2103000043	Transistor 2SC536F
TM501	2149100192	GND Screw	LED P.C.B.		
	2176001600	F. Deck		2161275018	PWB-EV (W)
	2168507541	Heat Sink Bracket	IC601, 602	2102000017	IC LB1416
	2168101008	Shield Plate	Q601	2104500261	Transistor 2SD438E
	2176602276	Spacer (for MA PCB)	or	2104500272	Transistor 2SD438F
	2176602005	SW Holder	D601~604	2109100008	Silicon Diode 10D-1
	2168507524	Jack Holder	or	2109100040	Silicon Diode IN4001
	2182400062	Cord Stopper SR-4P-4	or	2161276003	PWB-EW (V)
	2170600455	Shaft Coupler	D605~614	2111300255	LED SLB-26GG
	2170600461	Shaft			
	2176301425	Rubber Cushion B (12φ x 8)			
	2176300007	Rubber Cushion (775) 5 x 15 x 5			
	2168507786	Reinforcing Plate			
△ F503	2147200121	SEMKO Fuse 250V T800mA			
	2175901731	Fuse Label			
MA P.C.B.					
	2161268001	PWB-EO (P.R.S.T.)			
△ F401, 402	2147200114	SEMKO Fuse 250V T2.5A			

CIRCUIT DIAGRAM



NOTES.

- Switches positions are shown as follows.
S101 - PHONO (FUNCTION SELECTOR)
S201 - TAPE (SOURCE)
S202 - OFF (HIGH CUT FILTER)
S203 - OFF (LOUDNESS)
S503 - OFF (SPEAKER SELECTOR)
S501 - OFF (POWER)
- All resistor's value are indicated in Ω . ($K=10^3$)
- All capacitor's value are indicated in μF . ($P=10^{-6}$)
t - ceramic capacitor.
m - mylar capacitor.
H - electrolytic capacitor.
S - polystyrene Capacitor.
b - ceramic capacitor.
- This schematic diagram is subject to a partial change without notice.

SEMICONDUCTORS.
Q101~104, Q105~106 - 2SC732TM-gr or 2SC1571-F
Q201~202 - 2SC1815-gr or 2SC536-F
Q401 - 2SD880-Y or 2SD330-E
Q601 - 2SD438-d/e
IC301 - STK459
IC601~602 - LB1416
D401 - S4VB20, D402 - S1VB10, D601~604 - 10D-1, D605~614 - SLB26-GG

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