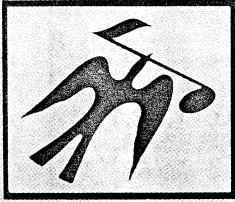


SERVICE MANUAL

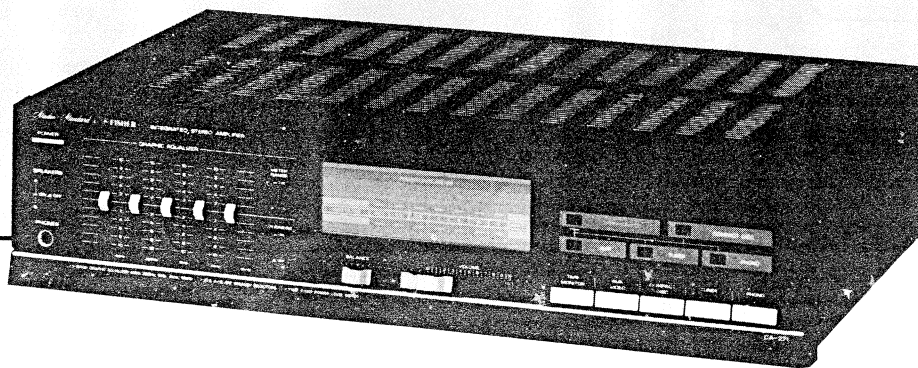


FISHER

CA-271

CA-1271

**Integrated
Stereo Amplifier
(EUROPE)**

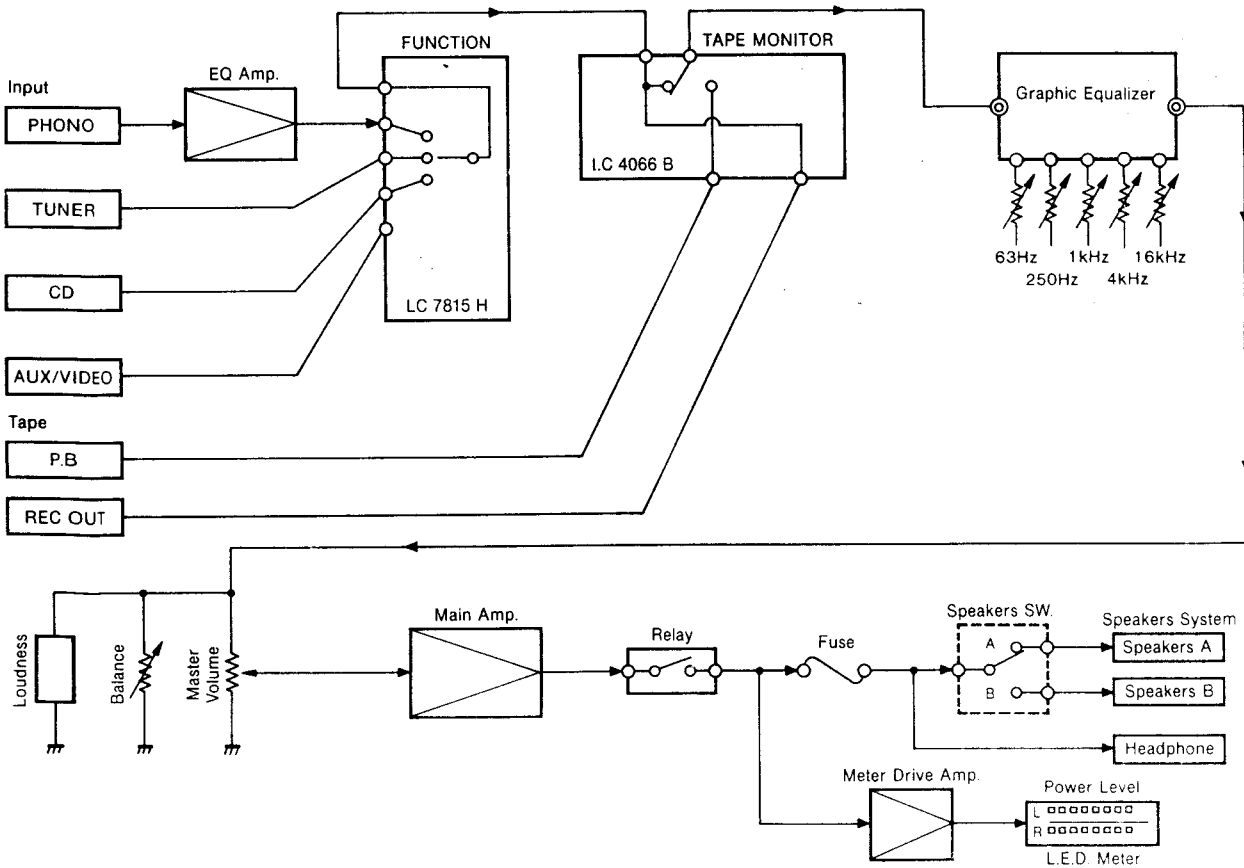


CA-271
132 287 40
CA-1271
132 287 44

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FUNCTIONAL BLOCK DIAGRAM

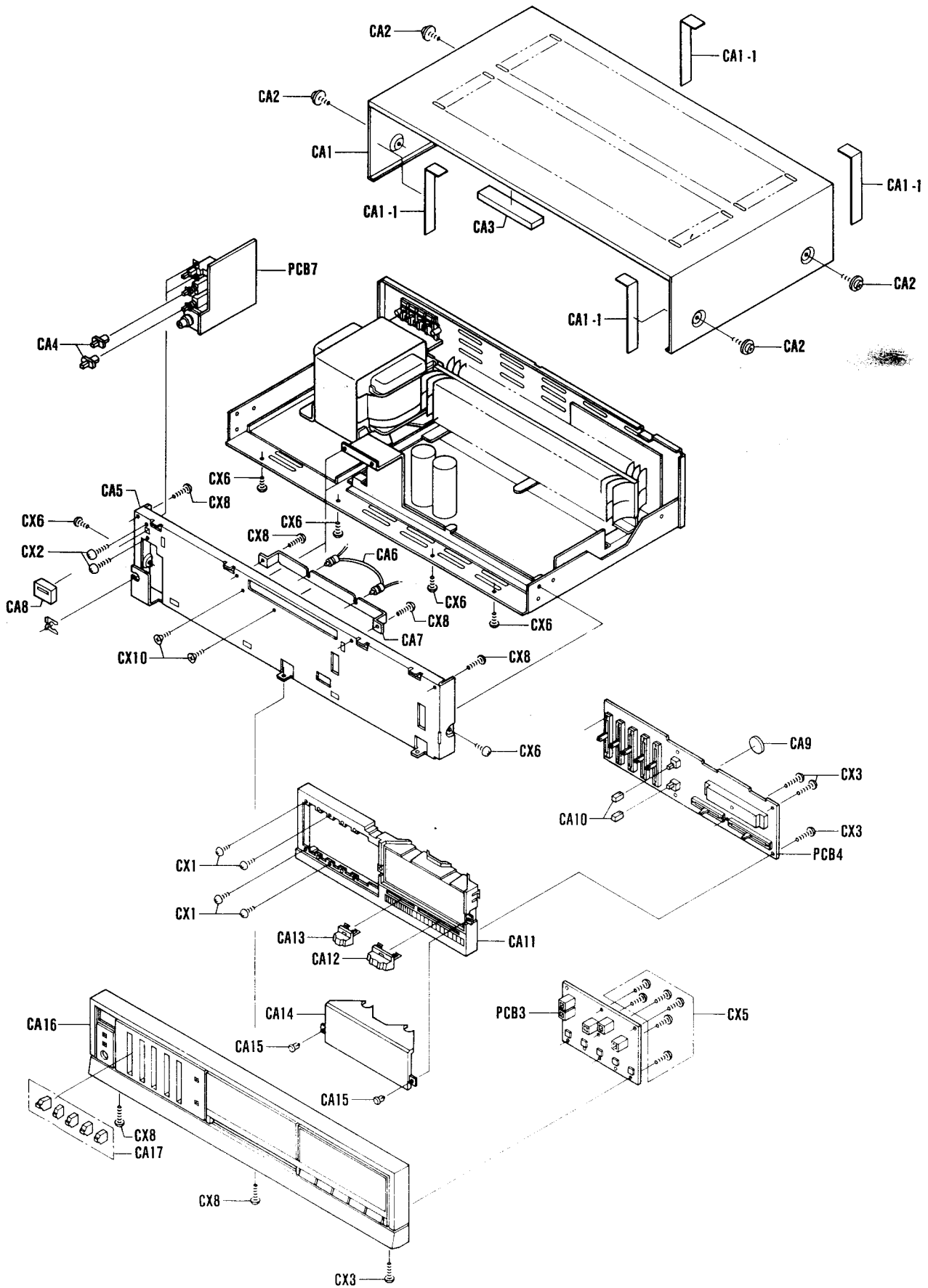


SPECIFICATIONS

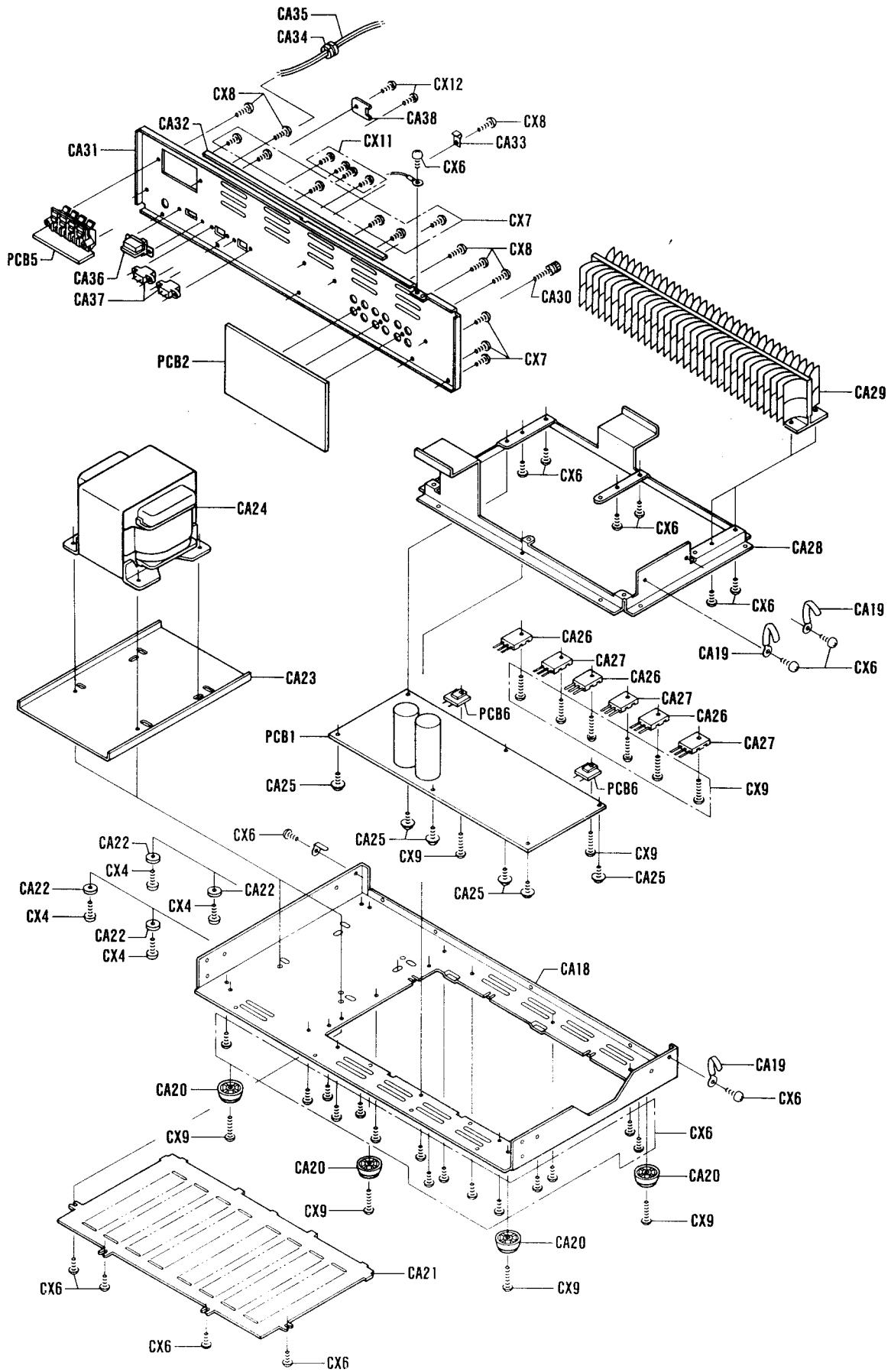
AMPLIFIER	CA-271/1271
POWER AMPLIFIER SECTION Minimum RMS sine wave power per channel within stated bandwidth at no more than stated distortion and with 8-ohm load	100 Watts
Power Bandwidth	20 Hz – 20 kHz
Total Harmonic Distortion	0.05 %
I.M. Distortion	0.05 %
Speaker Damping	> 20
PREAMPLIFIER SECTION Frequency Response	
Phono (RIAA)	±1 dB
Aux (20 Hz – 20 kHz)	±1 dB
Input Sensitivity and Impedance	
Phono	2.5 mV/50 kΩ
Tape Monitor	150 mV/50 kΩ
Tuner/Auxiliary	150 mV/50 kΩ
Phono Max. Input Capability	
Phono	125 mV
Graphic Equalizer	
63 Hz	±10 dB
250 Hz	±10 dB
1 kHz	±10 dB
4 kHz	±10 dB
16 kHz	±10 dB
Loudness Contour (100 Hz/10 kHz)	+8 dB/+4 dB
Hum & Noise (IHF Short Circuit, A Network)	
Phono	70 dB
Tape Monitor	90 dB
Tuner/Auxiliary	90 dB
GENERAL	
Power Requirements (50 Hz)	110 / 220 V AC
Power Consumption	480 Watts
Dimensions (W x D x H)	440 x 270 x 110 mm
Weight (approx.)	8.4 kg

Because its products are subject to continuous improvement, Fisher Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligation.

CABINET & CHASSIS EXPLODED VIEW (1)



CABINET & CHASSIS EXPLODED VIEW (2)



PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
PACKING PARTS LIST							
	3-9415-10300	Bag Polyethylene	1	CA27	4-2039-71971	Transistor, 2SC 3281 [Q114, Q214, Q506]	3
	131-6-2119-02090	Bag Polyethylene-Exp.	1	or	4-2039-72111	Transistor, 2SC 3280 [Q114, Q214, Q506]	3
	131-6-3069-16350	Patching Sheet	1	CA28	141-2-3129-05800	Sub Chassis	-
	131-6-9459-00300	Rubber Band	1	CA29	141-2-3689-14300	Plate Heat Sink	-
	141-6-1139-86226	Outer Cor Carton (CA-271)	1	CA30	131-2-4201-17800	Screw Ground	-
	141-6-1139-86230	Outer Cor Carton (CA-1271)	1	CA31	141-2-1219-34800	Panel Rear (CA-271)	-
	141-6-1469-00400	Pad Top	1	CA31	141-2-1219-34802	Panel Rear (CA-1271)	-
	141-6-1469-04000	Case Styrofoam (Left)	1	CA32	131-2-5205-15800	Cushion	-
	141-6-1469-04001	Case Styrofoam (Right)	1	CA33	141-2-3159-03300	Bracket Cover	-
ACCESSORIES PARTS LIST							
	131-6-2719-10801	Bag Fan	1	CA34	131-2-6111-14200	Bushing (Power Cord)	-
	131-6-4519-15700	Guarantee Certificate	1	CA35	△ 4-2432-00200	Power Cord	1
	131-6-4559-11200	Serial No. Sheet	1	CA36	△ 4-2312-01020	Switch Slide (AC Selector) [SW411]	1
	142-6-4119-32453	Explanatory Booklet (CA-271)	1	CA37	△ 4-2359-74032	2P Socket With/Nut	2
	142-6-4119-32501	Explanatory Booklet (CA-1271)	1	CA38	131-2-7104-00500	Plate Pad Switch	-
CABINET & CHASSIS PARTS LIST				P.C.B. ASSY PARTS LIST			
	4-2379-21520	Terminal Lug	2	PCB1	141-0-1939-09162	Main P.C.B. Assy	-
	141-6-4559-03300	Serial No. Sheet	1	PCB2	141-0-1939-09131	Input P.C.B. Assy	-
	131-2-7103-26100	Label	1	PCB3	141-0-1939-09140	Function P.C.B. Assy	-
	131-6-4559-10900	Manufacturing No.	1	PCB4	141-0-1939-09150	Graphic Equalizer P.C.B. Assy	-
CA1	131-2-1410-33100	Cover	1	PCB5	141-0-1939-09172	Speaker Terminal P.C.B. Assy	-
CA1-1	131-2-3202-13400	Metal Reinf	4	PCB6	141-0-1939-09180	Transistor P.C.B. Assy	3
CA2	141-2-4219-38400	Screw, Bind Hd. Tapping-B Sems +M4.0x8	4	PCB7	141-0-1939-09192	Switch P.C.B. Assy	-
CA3	131-2-5205-33300	Cushion	1	SCREW PARTS LIST			
CA4	131-2-1601-69601	Knob (Speaker Selector)	2	CX1	101-3-1302-00311	Screw, Pan Hd. +M2.0x3	2
CA5	141-2-2149-24300	Panel Front	1	CX2	101-3-1303-00611	Screw, Pan Hd. +M3.0x6	1
CA6	4-6129-70660	Lamp	1	CX3	143-3-1302-60611	Screw, Pan Hd. Tapping-B, +M2.6x6	3
CA7	131-2-3310-18000	Metal Mount Lamp	1	CX4	143-3-1704-00811	Screw, Bind Hd. Tapping-B, +M4.0x8	2
CA8	131-2-1601-91600	Knob Power	1	CX5	143-3-1902-60611	Screw, Brazier Hd. Tapping-B, +M2.6x6	3
CA9	131-2-5205-33500	Cushion	1	CX6	143-3-1903-00611	Screw, Brazier Hd. Tapping-B, +M3.0x6	3
CA10	131-2-1601-91701	Knob Push	2	CX7	143-3-1903-00618	Screw, Brazier Hd. Tapping-B, +M3.0x6	3
CA11	141-0-3519-24400	Mount P.C.B. Assy	1	CX8	143-3-1903-00818	Screw, Brazier Hd. Tapping-B, +M3.0x8	3
	141-2-3519-74300	Mount P.C.B.	1	CX9	143-3-1903-01011	Screw, Brazier Hd. Tapping-B, +M3.0x10	1
	141-2-1449-65100	Screen LED	1	CX10	143-3-1203-00611	Screw, Flat Hd. Tapping-B, +M3.0x6	1
CA12	131-2-1601-91900	Knob Volume	1	CX11	101-3-1302-60618	Screw, Pan Hd., +M2.6x6	2
CA13	131-2-1601-92000	Knob Balance	1	CX12	101-3-1303-00618	Screw, Pan Hd., +M3.0x6	1
CA14	131-2-3608-16400	Filter	1	NOTES:			
CA15	131-2-4221-00600	Rivet	2	1. Parts order must contain Model Number, Part Number and Description.			
CA16	131-0-1016-44400	Panel Decorate Assy (CA-271)	1	2. Ordering quantity of screws and resistors must be multiple of 10 pcs.			
CA16	131-0-1016-44402	Panel Decorate Assy (CA-1271)	1	<div style="border: 1px solid black; padding: 5px;"> <p align="center">PRODUCT SAFETY NOTICE</p> <p>Each precaution in this manual should be followed during servicing. Components identified with the EC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ, use only the replacement parts designated for parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are adequately insulated from the supply circuit before returning the product to the customer.</p> </div>			
	131-2-1205-28800	Decorate Plate Dial	1				
	131-2-1601-91800	Knob Function	1				
	141-2-1129-15200	Cabinet Front	1				
	141-2-1449-61207	Plate Front (CA-271)	1				
	141-2-1449-61217	Plate Front (CA-1271)	1				
	141-2-1449-65000	Plate Decorate	1				
	141-2-2899-43500	Adhesive Film	2				
	141-2-2899-43600	Adhesive Film	2				
CA17	141-2-1659-35900	Knob Slide	5				
CA18	141-2-3119-25400	Chassis	1				
CA19	131-0-3016-10400	Cramp Wire Assy	3				
CA20	131-2-1801-14100	Leg	4				
CA21	141-2-1259-08100	Plate Bottom	1				
CA22	131-2-4203-84200	Washer, 4.2x12x1.0 Z	4				
CA23	131-2-3101-99900	Metal Mount Trans	1				
CA24	△ 4-2512-23021	Power Trans	1				
CA25	131-2-4201-25201	Screw, Brazier Hd. Tapping-B. Sems +M3.0x8	6				
CA26	4-2039-71961	Transistor, 2SA 1302 [Q115, Q215, Q505]	3				
or	4-2039-72121	Transistor, 2SA 1301 [Q115, Q215, Q505]	3				

RECOMMENDED TEST EQUIPMENTS

The following test equipments are recommended to completely test and align the Amplifier:

- Line Voltage Isolation Transformer
- AC DC Multimeter
- Accurately Calibrated AC Voltmeter
- Oscilloscope (Flat to 100 kHz Minimum)
- Low-Distortion Audio Sine-Wave Generator
- Harmonic Distortion Analyzer
- Two (2) Load Resistors 8-ohms, 250 Watts (Minimum Rating)

HARMONIC DISTORTION TEST

CAUTION: Limit the following tests to no more than ten minutes each. Use 8-ohm resistors, with a minimum power rating of 250 watts when connecting a load across the SPEAKERS terminal.

CONTROL SETTINGS:

Unplug the AC power cord and set the front panel controls as follows:

- GRAPHIC EQUALIZER to center position.
- BALANCE control to center position.
- POWER switch to OFF
- SPEAKERS switch to OFF
- FUNCTION switch to AUX/VIDEO
- LOUDNESS switch to OFF
- VOLUME control to MINIMUM position
- LEFT CHANNEL DRIVEN

ONE CHANNEL DRIVEN:

- 1) Connect a low distortion audio generator to LEFT AUX IN jack. Set generator frequency to 1 kHz and output to minimum.
- 2) Connect an 8-ohm load resistor between SPEAKERS SYSTEM-A LEFT and COM terminals. Connect a Harmonic Distortion Analyzer and an AC VOLT METER in parallel across the 8-ohm load.
- 3) Connect the AC power cord and set SPEAKERS switch to ON position. Turn VOLUME control to MAX.
- 4) Increase generator output for 100 Watts RMS (28.2 volts across the 8-ohm load). Harmonic Distortion Analyzer should measure 0.05 % distortion or less.
- 5) Repeat steps 1 through 4 for RIGHT CHANNEL

BOTH CHANNELS DRIVEN

Connect 8-ohm load resistors across LEFT and RIGHT SPEAKERS SYSTEM-A terminals. Adjust generator output and "VOLUME" control for 100 watts at Left and Right Channels (28.2 volts across the 8-ohm loads). Harmonic Distortion Analyzer should measure 0.05 % distortion or less at each channel.

CAUTION: This precision high-fidelity instrument should be serviced only by qualified personnel, trained in the repair of transistor equipment and printed circuitry.

POWER AMPLIFIER ADJUSTMENT

BEFORE ADJUSTMENT

Unplug the AC power cord and set the front panel controls as follows:

- Power switch to the OFF position.
- Set the SPEAKERS switch to the OFF position.
- Turn the MASTER VOLUME control to the position marked 0 (minimum).
- IDLING CURRENT ADJUSTMENT VR101/VR201 (on the Main P.C.Board) setting to mechanical center position.
- Connect the AC power cord and Power switch to the ON position.

IDLING CURRENT ADJUSTMENT

This adjustment is very sensitive to changes in ambient temperature. Allow set to operate for 5 minutes before attempting this adjustment.

LEFT AMPLIFIER

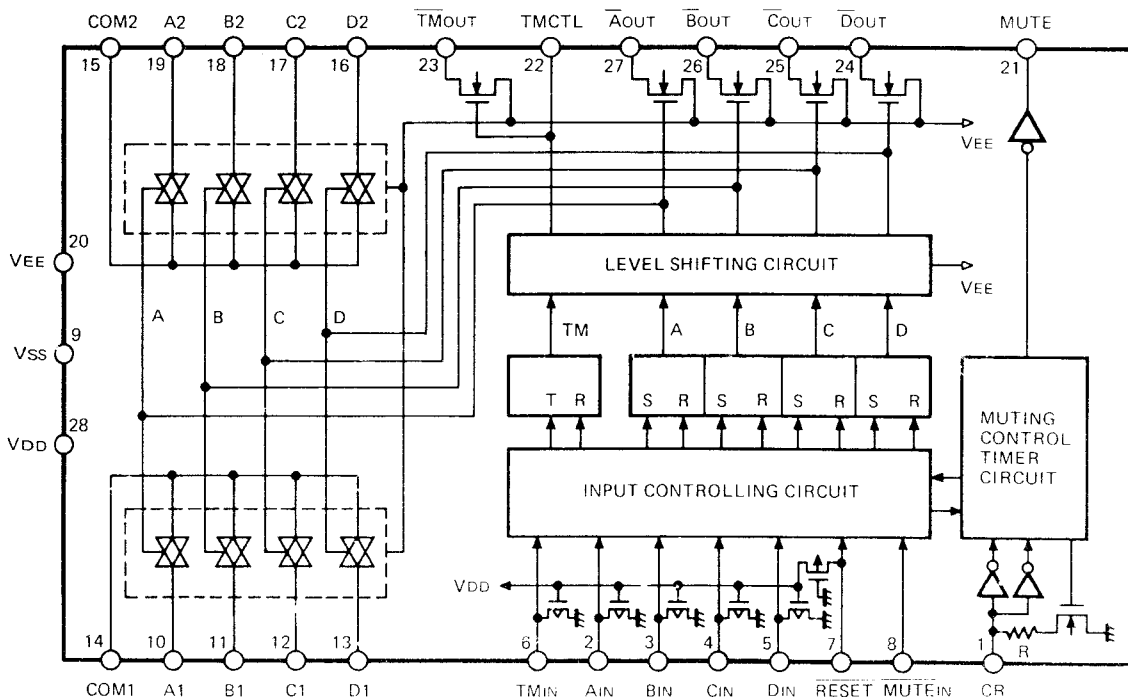
- 1) Connect the DC VTVM between Pins No.21 and No.22 on the Main P.C.Board.
- 2) Adjust the VR101 for an indication of 7mV on the DC VTVM.

RIGHT AMPLIFIER

- 1) Connect the DC VTVM between Pins No.23 and No.24 on the Main P.C.Board.
- 2) Adjust the VR201 for an indication of 7mV on the DC VTVM.

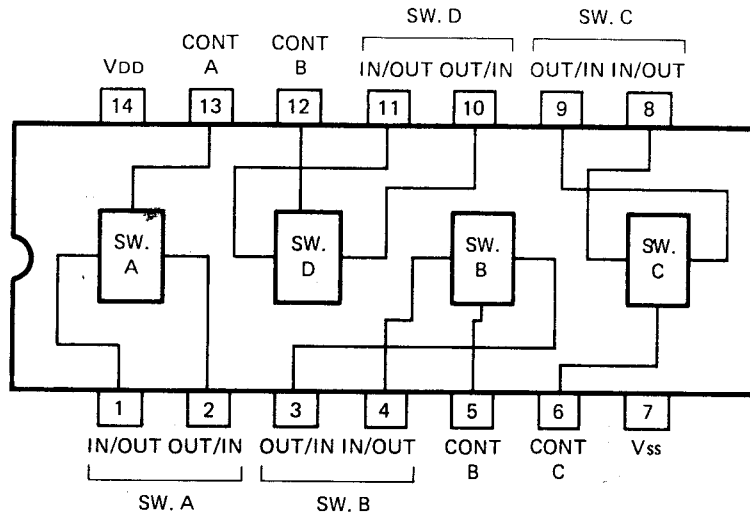
INTEGRATED CIRCUIT BLOCK DIAGRAM

FUNCTION ANALOG SWITCH IC LC 7815 H

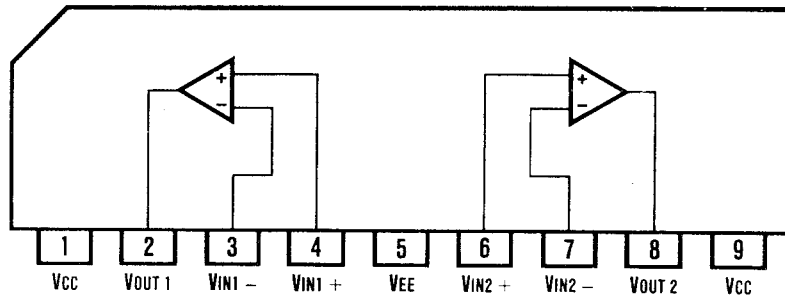


INTEGRATED CIRCUIT BLOCK DIAGRAM (Continued)

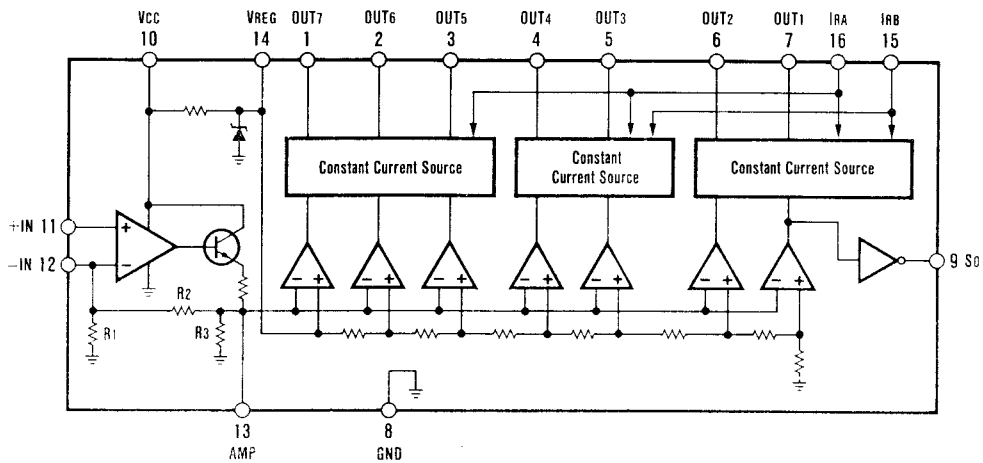
TAPE INPUT ANALOG SWITCH IC LC 4066 B



PHONO / GRAPHIC EQUALIZER AMP IC LA 6458 S



LED METER DRIVE AMP IC IR 2E19



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
MAIN P.C.B. ASSY				C311	CC4-7-3151-ZG00C	Ceramic	0.047μF 150V +80.-20%
PCB1	141-0-1939-09162	Main P.C.B. Assy	1	C312	CC4-7-3151-ZG00C	Ceramic	0.047μF 150V +80.-20%
	4-2262-22070	Main P.C.B.	1	C313	4-2239-72190	Electrolytic	4700μF 40V ±20%
	4-2329-70330	Relay	1	C314	4-2239-72190	Electrolytic	4700μF 40V ±20%
	△ 4-2342-00340	Fuse F5.0A	2	C315	CD1-0-7250-0001V	Electrolytic	100μF 25V
	△ 4-2349-20580	Fuse T3.15A	2	C316	CD1-0-7250-0001V	Electrolytic	100μF 25V
	△ 4-2349-21570	Fuse T6.3A	2	C317	CD1-0-6250-0001V	Electrolytic	10μF 25V
	4-2352-00200	Fuse Holder	12	C318	CD1-0-6250-0001V	Electrolytic	10μF 25V
L101	4-2552-00650	AF Coil	1	C328	CD2-2-5500-0001V	Electrolytic	2.2μF 50V
L201	4-2552-00650	AF Coil	1	C408	CD2-2-763A-0001V	Electrolytic	220μF 6.3V
VR101	4-2222-01450	Potentiometer B-200Ω	1	C503	CC1-2-1500-JD00R	Ceramic	120pF 50V ±5%
VR201	4-2222-01450	Potentiometer B-200Ω	1	C504	CC1-2-1500-JD00R	Ceramic	120pF 50V ±5%
D	4-2369-73130	Connector 3P	1	C505	CC2-2-1500-KD00C	Ceramic	220pF 50V ±10%
E	4-2369-73410	Connector 7P	1	C506	CC2-2-1500-KD00C	Ceramic	220pF 50V ±10%
	111-2-6220-11100	Wire Wrap Terminal	15	SEMICONDUCTORS			
	131-2-6201-29800	Heat Sink (For Q301,Q302)	2	D101	205-5-9040-44210	Diode, DS 442	1
	131-2-7103-50801	Label Fuse	1	D102	205-5-9040-44210	Diode, DS 442	1
CAPACITORS				D201	205-5-9040-44210	Diode, DS 442	1
C140	CD4-7-5250-0001V	Electrolytic	4.7μF 25V	D202	205-5-9040-44210	Diode, DS 442	1
C141	CC2-2-1500-KE00R	Ceramic	220pF 50V ±10%	D301	212-5-5990-03020	Stack Diode, 30 DC 1S	1
C142	CC1-0-1500-KD00C	Ceramic	100pF 50V ±10%	D302	212-5-5990-03010	Stack Diode, 30 DC 1RS	1
C143	CC1-0-1500-KD00C	Ceramic	100pF 50V ±10%	D303	202-5-3210-18011	Zener Diode, GZA 18 X	1
C144	CC8-0-A500-DD00C	Ceramic	8pF 50V ±0.5%	D304	4-2029-73840	Diode, 30D 2	1
C145	CC8-0-A500-DD00C	Ceramic	8pF 50V ±0.5%	D305	4-2029-73840	Diode, 30D 2	1
C146	CC2-2-1500-KE00R	Ceramic	220pF 50V ±10%	D306	4-2029-73840	Diode, 30D 2	1
C147	CM1-0-4500-J00TV	Mylar	0.1μF 50V ±5%	D307	4-2029-73840	Diode, 30D 2	1
C148	CD4-7-6101-0001V	Electrolytic	47μF 100V	D308	202-5-3210-18011	Zener Diode, GZA 18 X	1
C149	4-2239-71190	Capacitor	27pF 500V ±10%	D309	202-5-3210-18011	Zener Diode, GZA 18 X	1
C150	4-2239-72020	Ceramic	3pF 500V ±0.5pF	D310	202-5-3210-05112	Zener Diode, GZA 5.1 Y	1
C151	CD2-2-763A-0001V	Electrolytic	220μF 6.3V	D313	202-5-0220-01010	Diode, DSF 10 C	1
C152	4-2239-72120	Ceramic	220pF 500V ±10%	or	4-2029-73870	Diode, 11E 2	1
C153	CD1-0-5500-0001V	Electrolytic	1μF 50V	D410	205-5-9040-44210	Diode, DS 442	1
C154	4-2239-71120	Capacitor	18pF 500V ±10%	D411	202-5-0220-01010	Diode, DSF 10 C	1
C155	4-2239-72120	Ceramic	220pF 500V ±10%	or	4-2029-73870	Diode, 11E 2	1
C156	CD4-7-6101-0001V	Electrolytic	47μF 100V	D501	202-5-9600-44610	Diode, DS 446	1
C157	CM3-9-3500-K00SV	Mylar	0.039μF 50V ±10%	D502	202-5-9600-44610	Diode, DS 446	1
C240	CD4-7-5250-0001V	Electrolytic	4.7μF 25V	D503	202-5-9600-44610	Diode, DS 446	1
C241	CC2-2-1500-KE00R	Ceramic	220pF 50V ±10%	D504	202-5-9600-44610	Diode, DS 446	1
C242	CC1-0-1500-KD00C	Ceramic	100pF 50V ±10%	D505	4-2029-73840	Diode, 30D 2	1
C243	CC1-0-1500-KD00C	Ceramic	100pF 50V ±10%	D506	4-2029-73840	Diode, 30D 2	1
C244	CC8-0-A500-DD00C	Ceramic	8pF 50V ±0.5%	Q106	203-5-4921-01270	Transistor, 2SD 1012	1
C245	CC8-0-A500-DD00C	Ceramic	8pF 50V ±0.5%	or	203-5-4570-73470	Transistor, 2SD 734	1
C246	CC2-2-1500-KE00R	Ceramic	220pF 50V ±10%	Q107	203-5-5393-06560	Transistor, 2SC 3065	1
C247	CM1-0-4500-J00TV	Mylar	0.1μF 50V ±5%	Q108	203-5-5613-06470	Transistor, 2SC 3064	1
C248	CD4-7-6101-0001V	Electrolytic	47μF 100V	Q109	203-5-6931-20985	Transistor, 2SA 1209	1
C249	4-2239-71190	Capacitor	27pF 500V ±10%	Q110	203-5-5632-91185	Transistor, 2SC 2911	1
C250	4-2239-72020	Ceramic	3pF 500V ±0.5pF	Q111	203-5-5143-11782	Transistor, 2SC 3117	1
C251	CD2-2-763A-0001V	Electrolytic	220μF 6.3V	or	203-5-8122-34450	Transistor, 2SC 2344	1
C252	4-2239-72120	Ceramic	220pF 500V ±10%	Q112	203-5-4711-24982	Transistor, 2SA 1249	1
C253	CD1-0-5500-0001V	Electrolytic	1μF 50V	or	203-5-8631-01150	Transistor, 2SA 1011	1
C254	4-2239-71120	Capacitor	18pF 500V ±10%	Q206	203-5-4921-01270	Transistor, 2SD 1012	1
C255	4-2239-72120	Ceramic	220pF 500V ±10%	or	203-5-4570-73470	Transistor, 2SD 734	1
C256	CD4-7-6101-0001V	Electrolytic	47μF 100V	Q207	203-5-5393-06560	Transistor, 2SC 3065	1
C257	CM3-9-3500-K00SV	Mylar	0.039μF 50V ±10%	Q208	203-5-5613-06470	Transistor, 2SC 3064	1
C302	CC4-7-3151-ZG00C	Ceramic	0.047μF 150V +80.-20%	Q209	203-5-6931-20985	Transistor, 2SA 1209	1
C303	CC4-7-3151-ZG00C	Ceramic	0.047μF 150V +80.-20%	Q210	203-5-5632-91185	Transistor, 2SC 2911	1
C304	CC4-7-3151-ZG00C	Ceramic	0.047μF 150V +80.-20%	Q211	203-5-5143-11782	Transistor, 2SC 3117	1
C305	CC4-7-3151-ZG00C	Ceramic	0.047μF 150V +80.-20%	or	203-5-8122-34450	Transistor, 2SC 2344	1
C306	4-2239-72180	Electrolytic	6800μF 72V ±20%	Q212	203-5-4711-24982	Transistor, 2SA 1249	1
C307	4-2239-72180	Electrolytic	6800μF 72V ±20%	Q301	203-5-7330-61261	Transistor, 2SD 612	1
C308	CD1-0-6250-0001V	Electrolytic	10μF 25V	Q302	203-5-7320-63261	Transistor, 2SB 632	1
C309	CC4-7-3151-ZG00C	Ceramic	0.047μF 150V +80.-20%	Q401	203-5-7230-60870	Transistor, 2SA 608	1
C310	CC4-7-3151-ZG00C	Ceramic	0.047μF 150V +80.-20%	or	4-2039-72212	Transistor, 2SA 1115	1

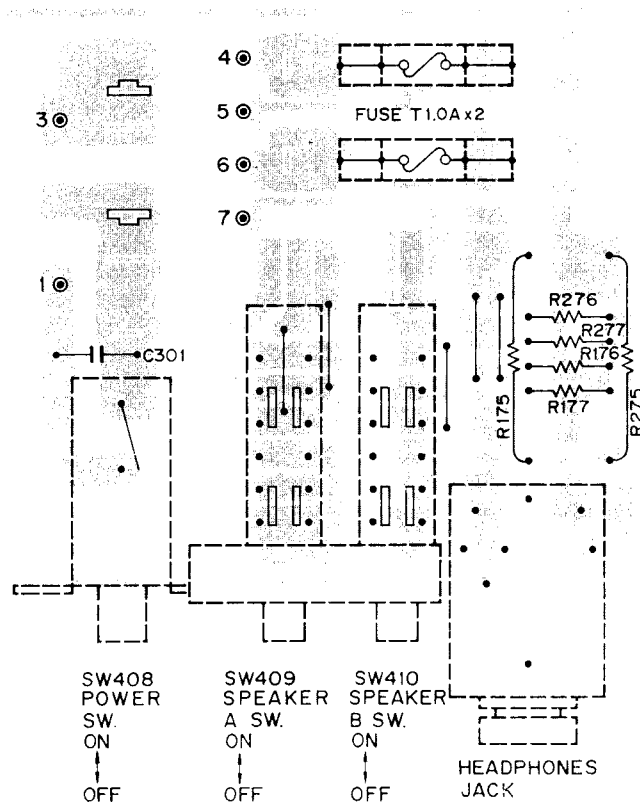
P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty				
C325	CD1-0-6250-0001V	Electrolytic	10μF 25V	1	FUNCTION P.C.B. ASSY						
C326	CD2-2-5500-0001V	Electrolytic	2.2μF 50V	1	PCB3	141-0-1939-09140	Function P.C.B. Assy				
C401	CD1-0-8160-0001V	Electrolytic	1000μF 16V	1		4-2262-22050	Function P.C.B.				
C402	CD1-0-4500-0001V	Electrolytic	0.1μF 50V	1		141-2-2419-33000	Reflector				
C409	CC4-7-3500-ZG00C	Ceramic	0.047μF 50V +80-.20%	1	SW401	4-2312-05300	Keyboard Switch 6mm (Phono)				
SEMICONDUCTORS					SW402	4-2312-05300	Keyboard Switch 6mm (Tuner)				
D401	202-5-3160-00110	Diode, GMA 01		1	SW403	4-2312-05300	Keyboard Switch 6mm (Compact Disc)				
D402	202-5-3160-00110	Diode, GMA 01		1	SW404	4-2312-05300	Keyboard Switch 6mm (AUX/Video)				
D403	202-5-3160-00110	Diode, GMA 01		1	SW405	4-2312-05300	Keyboard Switch 6mm (Tape Monitor)				
D404	202-5-3160-00110	Diode, GMA 01		1	B	4-2359-77807	Connector 5P Assy				
IC401	4-2069-74450	IC, M 5218 L-R		1	C	4-2359-77808	Connector 6P Assy				
IC402	206-5-8897-81520	IC, LC 7815 H		1	CAPACITORS						
IC403	206-5-8144-06610	IC, LC 4066 BH		1	C403	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
RESISTORS					C404	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
R101	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	C405	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
R102	RD1-0-4161-JH000	Carbon	100kΩ 1/6W ±5%	1	C406	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
R103	RD1-0-4161-JH000	Carbon	100kΩ 1/6W ±5%	1	C407	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
R104	RD3-3-1161-JH000	Carbon	330Ω 1/6W ±5%	1	SEMICONDUCTORS						
R105	RD2-2-4161-JH000	Carbon	220kΩ 1/6W ±5%	1	D311	202-5-3210-10011	Zener Diode, GZA 10 X				1
R106	RD1-5-3161-JH000	Carbon	15kΩ 1/6W ±5%	1	D312	202-5-3210-10011	Zener Diode, GZA 10 X				1
R107	RD1-0-4161-JH000	Carbon	100kΩ 1/6W ±5%	1	D405	4-2029-73860	L.E.D., SEL 1413 E (Phono)				1
R108	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	D406	4-2029-73860	L.E.D., SEL 1413 E (Tuner)				1
R109	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	D407	4-2029-73860	L.E.D., SEL 1413 E (Compact Disc)				1
R110	RD1-8-4161-JH000	Carbon	180kΩ 1/6W ±5%	1	D408	4-2029-73860	L.E.D., SEL 1413 E (AUX/Video)				1
R111	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	D409	4-2029-73850	L.E.D., SEL 1213 C (Tape Monitor)				1
R112	RD1-8-4161-JH000	Carbon	180kΩ 1/6W ±5%	1	RESISTORS						
R113	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	R322	RD5-6-1251-JM000	Carbon	560Ω	1/4W	±5%	1
R114	RD1-8-4161-JH000	Carbon	180kΩ 1/6W ±5%	1	R323	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R115	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	R324	RD1-0-3251-JM000	Carbon	10kΩ	1/4W	±5%	1
R116	RD1-8-4161-JH000	Carbon	180kΩ 1/6W ±5%	1	GRAPHIC EQUALIZER P.C.B. ASSY						
R117	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	PCB4	141-0-1939-09150	Graphic Equalizer P.C.B. Assy				1
R118	RD8-2-3161-JH000	Carbon	82kΩ 1/6W ±5%	1		4-2262-22060	Graphic Equalizer P.C.B.				1
R201	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	SW406	4-2319-77780	Switch Push 1 Key (Meter Range)				1
R202	RD1-0-4161-JH000	Carbon	100kΩ 1/6W ±5%	1	SW407	4-2319-77780	Switch Push 1 Key (Loudness)				1
R203	RD1-0-4161-JH000	Carbon	100kΩ 1/6W ±5%	1	VR401	4-2229-75600	Slide Volume (W-250kΩx2, 63Hz)				1
R204	RD3-3-1161-JH000	Carbon	330Ω 1/6W ±5%	1	VR402	4-2229-75600	Slide Volume (W-250kΩx2, 250Hz)				1
R205	RD2-2-4161-JH000	Carbon	220kΩ 1/6W ±5%	1	VR403	4-2229-75600	Slide Volume (W-250kΩx2, 1kHz)				1
R206	RD1-5-3161-JH000	Carbon	15kΩ 1/6W ±5%	1	VR404	4-2229-75600	Slide Volume (W-250kΩx2, 4kHz)				1
R207	RD1-0-4161-JH000	Carbon	100kΩ 1/6W ±5%	1	VR405	4-2229-75600	Slide Volume (W-250kΩx2, 16kHz)				1
R208	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	VR406	4-2229-75590	Slide Volume (W-200kΩ, Balance)				1
R209	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	VR407	4-2229-75610	Slide Volume (A-100kΩx2, Volume)				1
R210	RD1-8-4161-JH000	Carbon	180kΩ 1/6W ±5%	1		141-2-2419-33100	Mount LED				1
R211	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1		141-2-3769-17800	Spacer LED				1
R212	RD1-8-4161-JH000	Carbon	180kΩ 1/6W ±5%	1	A	4-2359-77809	Connector 6P Assy				1
R213	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	D	131-0-4006-31418	Cord Assy				1
R214	RD1-8-4161-JH000	Carbon	180kΩ 1/6W ±5%	1	E	131-0-4006-31423	Cord Assy				1
R215	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	CAPACITORS						
R216	RD1-8-4161-JH000	Carbon	180kΩ 1/6W ±5%	1	C121	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
R217	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1	C122	CC1-0-1500-KE01R	Ceramic	100pF	50V	±10%	1
R218	RD8-2-3161-JH000	Carbon	82kΩ 1/6W ±5%	1	C123	CC6-8-0500-KD00C	Ceramic	68pF	50V	±10%	1
R315	RD1-0-2251-JM000	Carbon	1kΩ 1/4W ±5%	1	C124	CC1-0-0500-DD00C	Ceramic	10pF	50V	±0.5%	1
R316	RD1-0-2251-JM000	Carbon	1kΩ 1/4W ±5%	1	C125	CD1-0-6160-0002V	Electrolytic	10μF	16V		1
R317	RD2-2-1251-JM000	Carbon	220Ω 1/4W ±5%	1	C126	CD4-7-5250-0002V	Electrolytic	4.7μF	25V		1
R318	RD2-7-1251-JM000	Carbon	270Ω 1/4W ±5%	1	C127	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
R319	RD2-7-2161-JH000	Carbon	2.7kΩ 1/6W ±5%	1	C128	CD2-2-5500-0002V	Electrolytic	2.2μF	50V		1
R320	RD2-2-4161-JH000	Carbon	220kΩ 1/6W ±5%	1	C129	CD3-3-4500-0002V	Electrolytic	0.33μF	50V		1
R321	RD1-0-3161-JH000	Carbon	10kΩ 1/6W ±5%	1	C130	CM8-2-3500-J00TV	Mylar	0.082μF	50V	±5%	1
R401	RD4-7-2251-JM000	Carbon	4.7kΩ 1/4W ±5%	1	C131	CM2-2-3500-J00BV	Mylar	0.022μF	50V	±5%	1
R402	RD1-0-3161-JH000	Carbon	10kΩ 1/6W ±5%	1							
R403	RD1-0-2161-JH000	Carbon	1kΩ 1/6W ±5%	1							
R404	RD5-6-3161-JH000	Carbon	56kΩ 1/6W ±5%	1							

P.C. BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R274	RD3-3-2161-JH000	Carbon	3.3k Ω 1/6W \pm 5%	1			
R313	RD5-6-A161-JH000	Carbon	5.6 Ω 1/6W \pm 5%	1			
R314	RD5-6-A161-JH000	Carbon	5.6 Ω 1/6W \pm 5%	1			
SPEAKER TERMINAL P.C.B. ASSY							
PCB5	141-0-1939-09172	Speaker Terminal P.C.B. Assy	1	S408	Δ 4-2319-76340	Switch Push Power (Power)	1
	4-2262-22080	Speaker Terminal P.C.B.	1	S409	4-2319-77340	Switch Push 1 Key (Speaker A)	1
	4-2372-01160	Speaker 8P Terminal (Speaker)	1	S410	4-2319-77340	Switch Push 1 Key (Speaker B)	1
	111-2-6220-11100	Wire Wrap Terminal	6		4-2352-00970	Headphone Jack 3P (Headphones)	1
CAPACITORS							
C507	CC4-7-1500-KE00C	Ceramic	470pF 50V \pm 10%	1			
C508	CC4-7-1500-KE00C	Ceramic	470pF 50V \pm 10%	1			
C509	CC4-7-1500-KE00C	Ceramic	470pF 50V \pm 10%	1			
C510	CC4-7-1500-KE00C	Ceramic	470pF 50V \pm 10%	1			
TRANSISTOR P.C.B. ASSY							
PCB6	141-0-1939-09180	Transistor P.C.B. Assy	2				
	4-2262-22090	Transistor P.C.B.	1				
SEMICONDUCTORS							
D412	205-5-9040-44210	Diode, DS 442	1				
Q403	4-2039-72100	Transistor, 2SD 947	1				
				C301	Δ 4-2239-70970	Capacitor	0.01 μ F 400V \pm 100-0%
SWITCH P.C.B. ASSY							
PCB7	141-0-1939-09192	Switch P.C.B. Assy	1				
	4-2262-22100	Switch P.C.B.	1				
	Δ 4-2349-20380	Fuse T1.0A	2				
	4-2352-00200	Fuse Holder	4				
	131-2-7103-40400	Label 1.0AT 4x13	1				
	Δ 4-2319-76340	Switch Push Power (Power)	1				
	4-2319-77340	Switch Push 1 Key (Speaker A)	1				
	4-2319-77340	Switch Push 1 Key (Speaker B)	1				
	4-2352-00970	Headphone Jack 3P (Headphones)	1				
	111-2-6220-11100	Wire Wrap Terminal	6				
	131-2-6114-00200	Cover Safety	1				
	4-2372-00830	EC Terminal 1P	2				
	4-2439-72192	Wire 6 Parallel	1				
	4-2439-72193	Wire 2 Parallel	1				
CAPACITOR							
				C301	Δ 4-2239-70970	Capacitor	0.01 μ F 400V \pm 100-0%
RESISTORS							
				R175	RH5-6-1202-JZ000	Metal	560 Ω 2W \pm 5%
				R176	RD2-2-1251-JM000	Carbon	220 Ω 1/4W \pm 5%
				R177	RD2-7-1251-JM000	Carbon	270 Ω 1/4W \pm 5%
				R275	RH5-6-1202-JZ000	Metal	560 Ω 2W \pm 5%
				R276	RD2-2-1251-JM000	Carbon	220 Ω 1/4W \pm 5%
				R277	RD2-7-1251-JM000	Carbon	270 Ω 1/4W \pm 5%

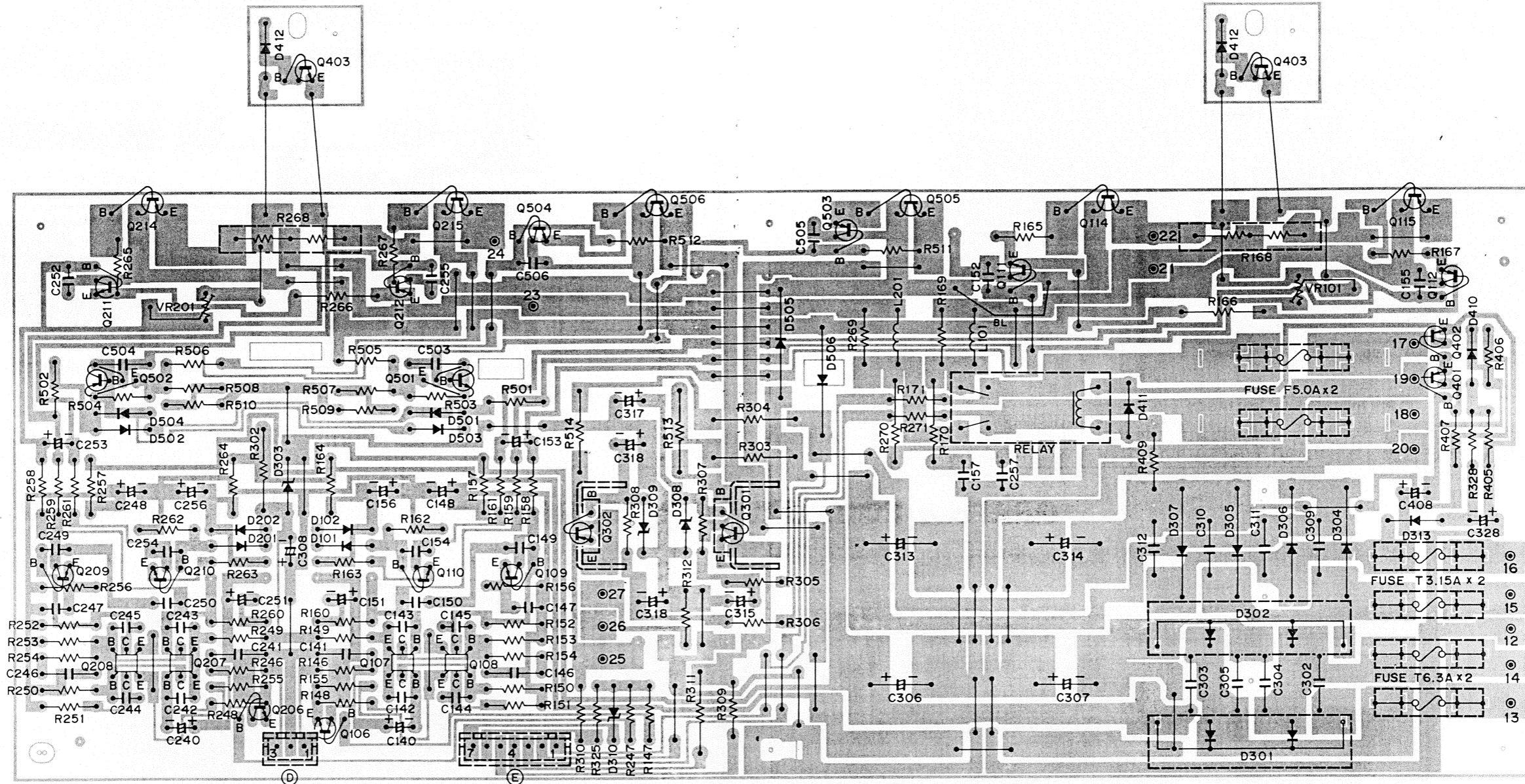
SWITCH P.C. BOARD (BOTTOM VIEW)



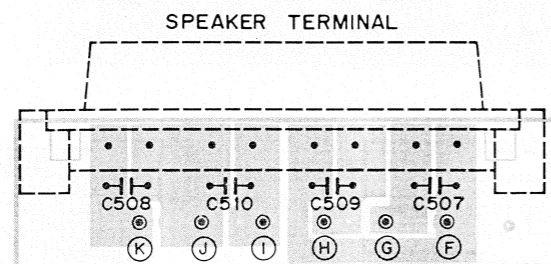
MAIN PRINTED CIRCUIT BOARD (BOTTOM VIEW)

TRANSISTOR P. C. B. ASS'Y
1410-1939-09180

TRANSISTOR P. C. B. ASS'Y
1410-1939-09180

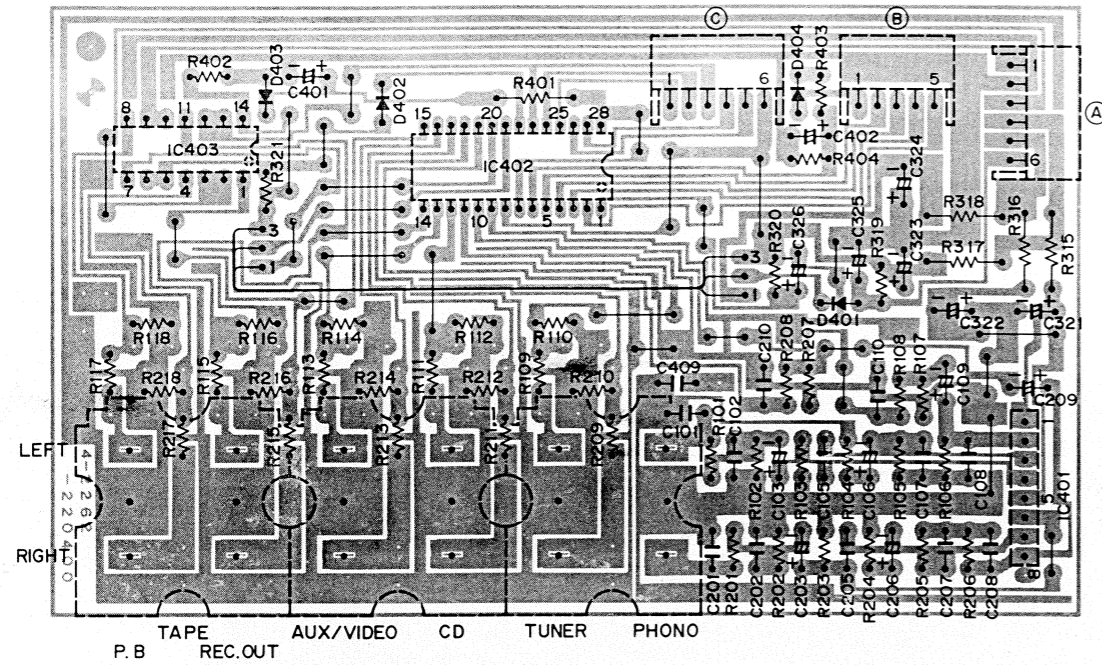


SP TERMINAL P.C. BOARD (BOTTOM VIEW)

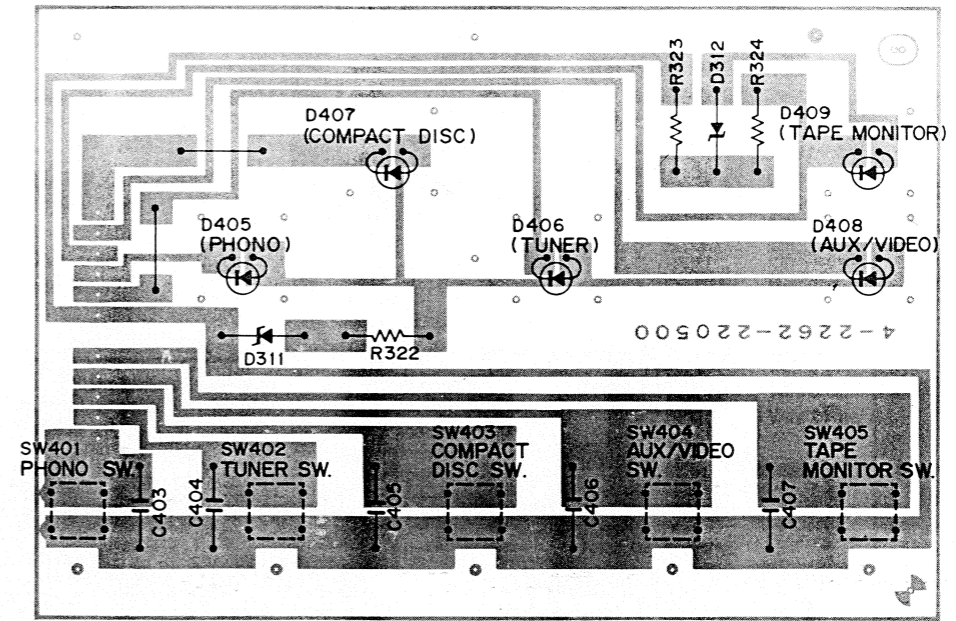


TRANSISTOR DC VOLTAGES									
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E
Q106,206	2SD1012	-2.8V	0V	0V	Q302	2SB632	-18.0V	-26.0V	-17.4V
Q107,207	2SC3065	-0.2V	34.0V	-0.8V	Q401	2SA608	-1.4V	-0.8V	-0.8V
Q108,208	2SC3064	34.0V	60.5V	33.3V	Q402	2SA608	-0.8V	0.1V	0V
Q109,209	2SA1209	60.8V	1.5V	61.0V	Q501	2SC2603	24.6V	64.1V	25.9V
Q110,210	2SC2911	-60.5V	-1.5V	-61.0V	Q502	2SA1115	-24.6V	-63.9V	-25.8V
Q111,211	2SC3117	1.1V	61.5V	-1.1V	Q503	2SB631	64.3V	31.8V	64.0V
Q112,212	2SA1249	-0.6V	-61.5V	-1.1V	Q504	2SD600	-64.2V	-31.8V	-63.9V
Q114,214	2SC3281	0.6V	61.5V	0V	Q505	2SA1302	64.0V	31.8V	64.0V
Q115,215	2SA1302	-0.6V	-61.5V	0V	Q506	2SC3281	-63.9V	-31.8V	-64.3V
Q301	2SD612	18.4V	28.2V	17.8V					

INPUT P.C. BOARD (BOTTOM VIEW)

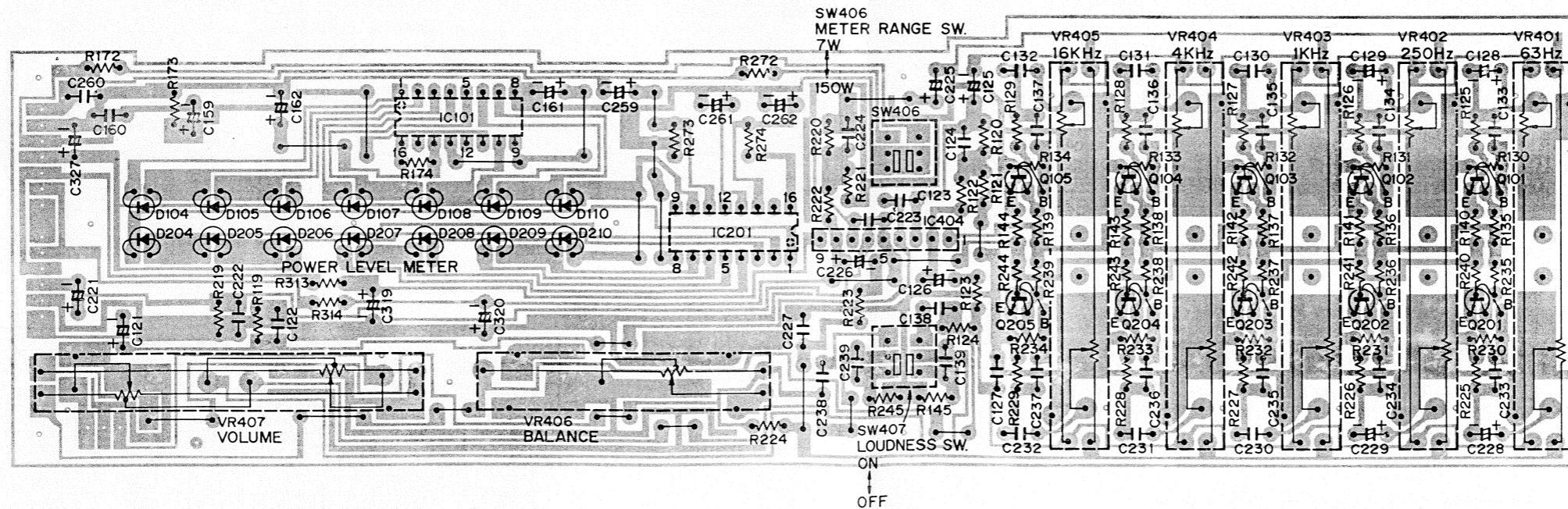


FUNCTION P.C. BOARD (BOTTOM VIEW)



		IC PIN NUMBERS DC VOLTAGES													
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC401	M5218L	11.8V	0V	0V	0V	-11.6V	0V	0V	0V						
IC403	LC4066	0V	0V	0V	0V	-9.1V	-9.1V	-11.0V	0V	0V	0V	0V	11.5V	11.5V	11.5V

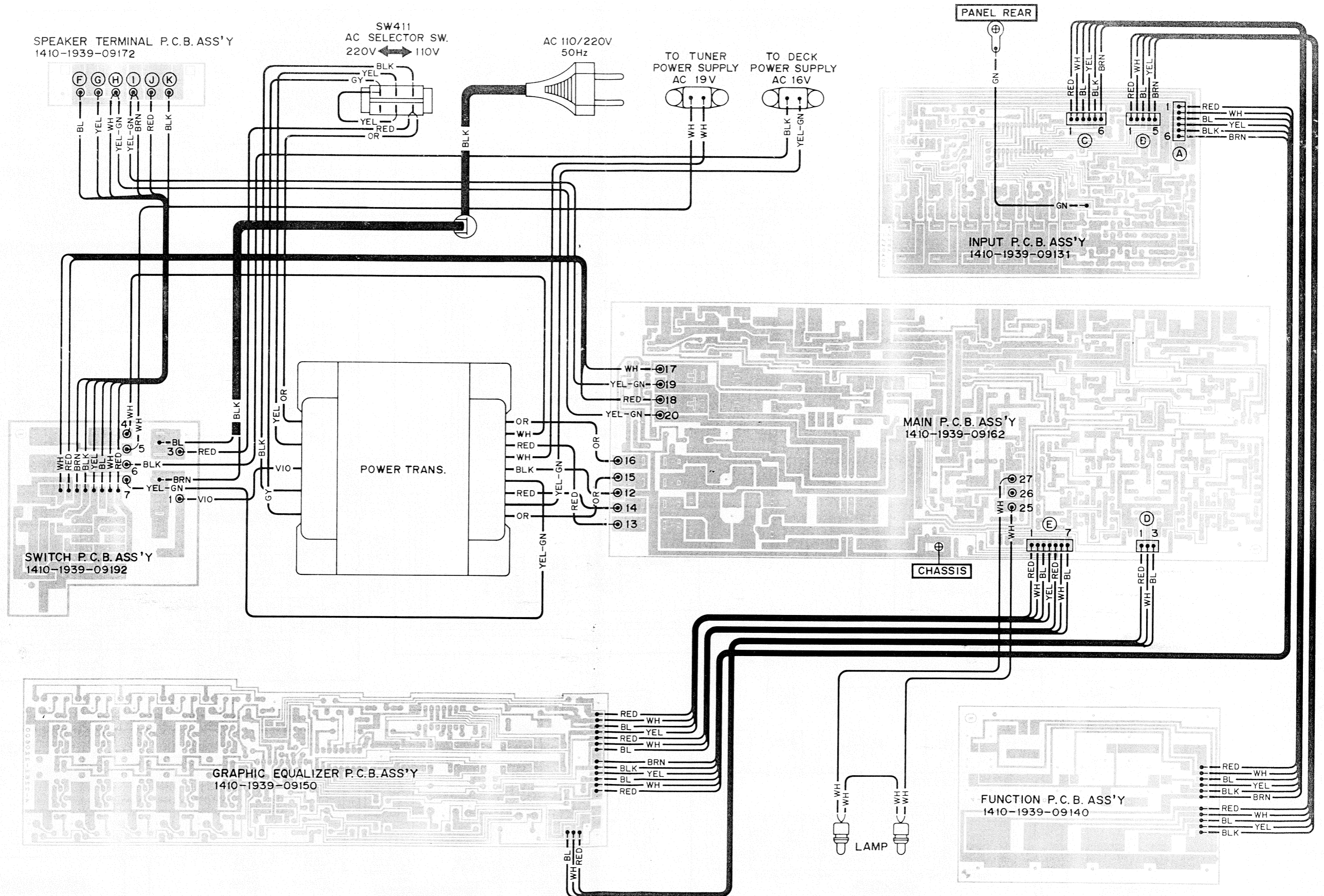
GRAPHIC EQUALIZER P.C. BOARD (BOTTOM VIEW)



		IC PIN NUMBERS DC VOLTAGES															
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC101,102	IR2E19	12.4V	13.9V	15.4V	13.9V	15.4V	13.9V	15.4V	0V	0.3V	16.9V	0V	0V	0V	2.7V	0V	0.9V
IC404	LA6458	15.9V	0V	0V	0V	-15.8V	0V	0V	0V	15.9V							

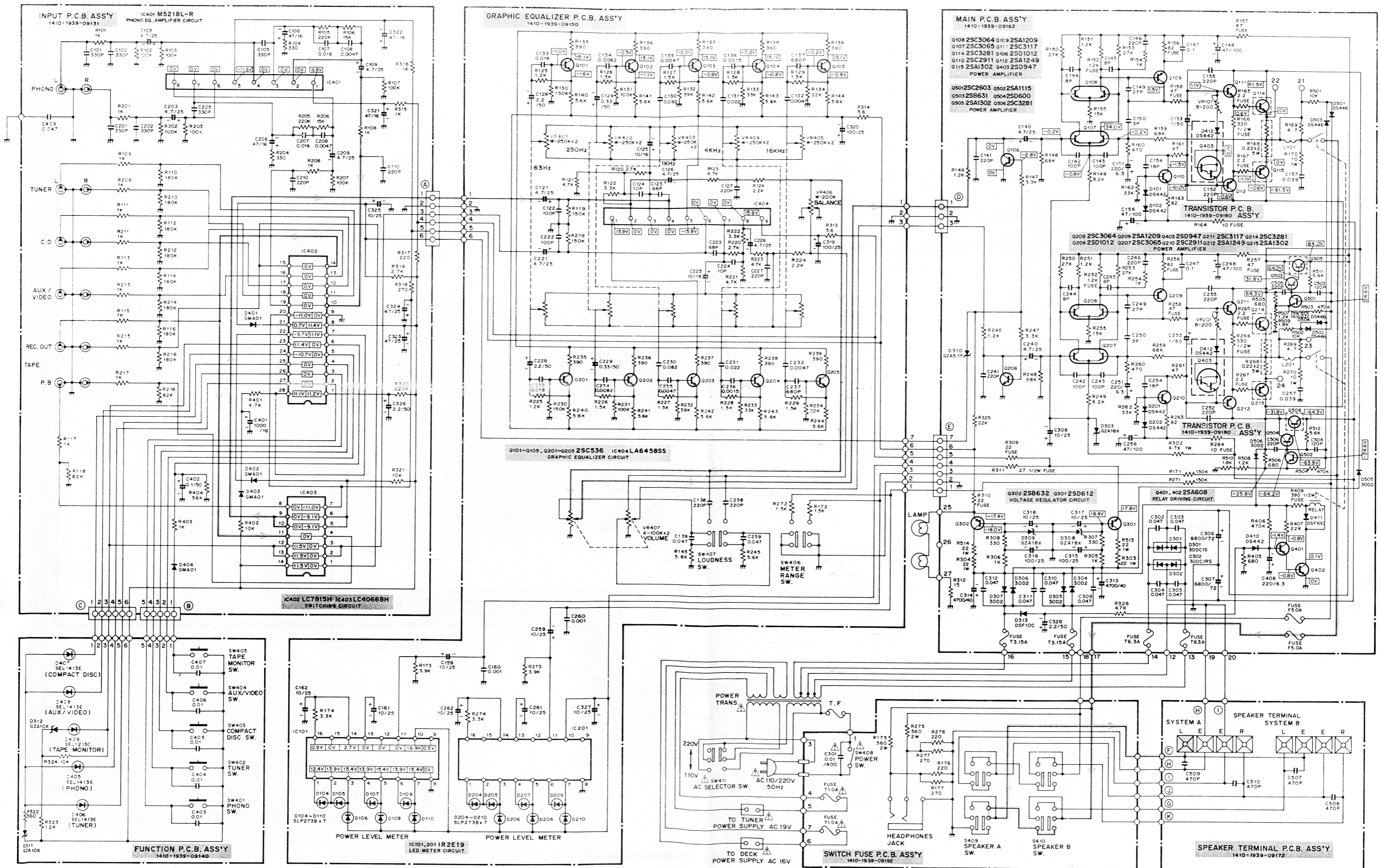
		TRANSISTOR DC VOLTAGES		
SYMBOL No.	DEVICE	B	C	E
Q101,201	2SC536	-1.0V	15.1V	-1.6V
Q102,202	2SC536	-0.5V	15.1V	-1.1V
Q103,203	2SC536	-0.3V	15.1V	-0.9V
Q104,204	2SC536	-0.2V	15.1V	-0.8V
Q105,205	2SC536	-0.2V	15.1V	-0.8V

POINT TO POINT WIRING DIAGRAM



No.	Name	Position	No.	Name	Position
SW401	PHONO Switch	OFF	SW407	LOUDNESS Switch	OFF
SW402	TUNER Switch	OFF	SW408	POWER Switch	OFF
SW403	COMPACT DISC Switch	OFF	SW409	SPEAKER A Switch	OFF
SW404	AUX/VIDEO Switch	OFF	SW410	SPEAKER B Switch	OFF
SW405	TAPE MONITOR Switch	OFF	SW411	AC SELECTOR Switch	220V
SW406	METER RANGE Switch	150W			

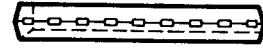
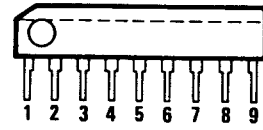
SCHEMATIC DIAGRAM



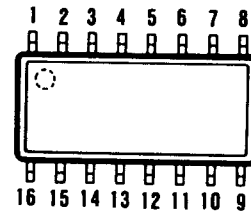
SEMICONDUCTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SC536 2SA608 2SA1115 2SC2603		
2SA1209 2SA1249 2SC2911 2SC3117 2SB631 2SB632 2SD600 2SD612		
2SA1302 2SC3281		
2SD1012		
2SC3064 2SC3065		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

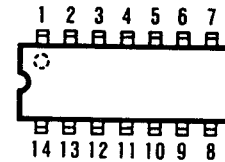
LA6458S FRONT / BOTTOM VIEWS



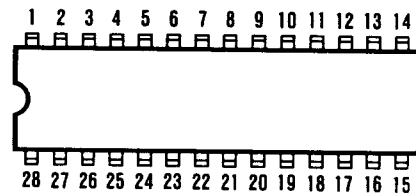
IR2E19 BOTTOM VIEW





LC4066B BOTTOM VIEW



LC7815 BOTTOM VIEW



PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

NOTES:

- All resistors values are indicated in "ohm" ($K=10^3$, $M=10^6$).
- All capacitors values are indicated in " μF " ($P=10^{-12}$).
- All voltages indicated on the schematics are measured under the following conditions.
 - Use a V.T.V.M.
 - All voltages $\pm 10\%$ with respect to chassis ground
 - No signals at input terminals
 - AC input at 220 volts 50 Hz
- This is a basic schematic diagram.

Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any changes or modifications without notice.