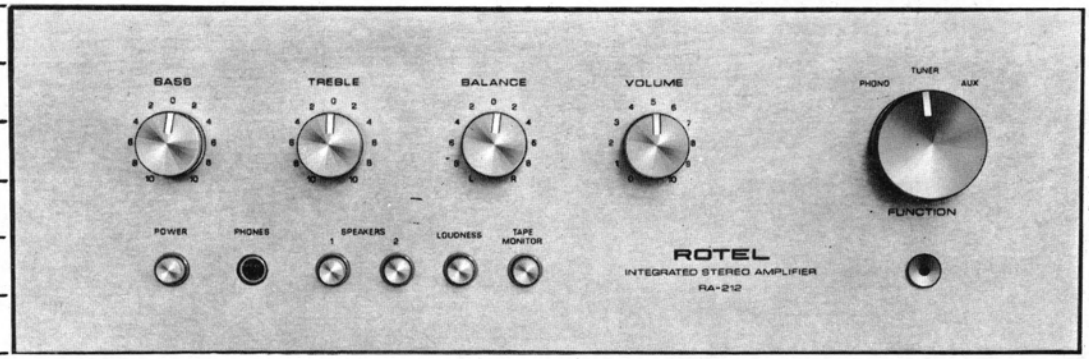
ROTEL®

RA-212

STEREO PRE/MAIN AMPLIFIER



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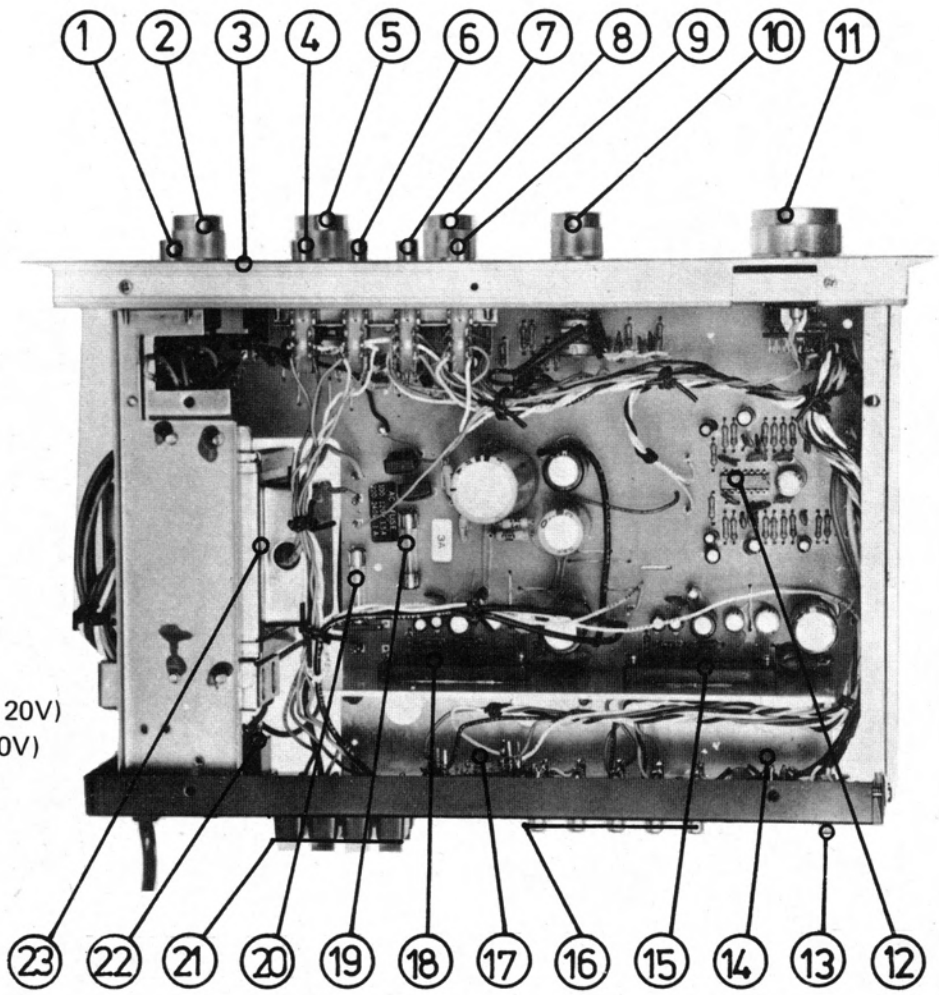
TECHNICAL MANUAL

CHASSIS LAYOUT

1. S7, Power Switch
2. Bass Control
3. Headphone Jack
4. S5, Speaker 1 Switch
5. Treble Control
6. S6, Speaker 2 Switch
7. S4, Loudness Switch
8. Balance Control
9. S3, Tape Monitor Switch
10. Volume Control
11. S2, Funtion Selector
12. IC401, Phono Amp. IC
13. S1, Phono Input Selector
14. Phono Input Jack
15. IC601, Power Amp. IC, L-ch.
16. Input and Tape Monitor Out Terminal
17. Tape Monitor Jack
18. IC602, Power Amp. IC, R-ch.
19. F601, DC Fuse 3A
20. F901, AC Fuse, 1.5A (line 100V or 120V)
    AC Fuse, 1A (line 220V or 240V)
21. Speakers Terminal
22. AC Outlet 1 and 2
23. T001, Power Transformer



PRECAUTIONS

1. Always disconnect the chassis from the power line when soldering. Turning the power switch is not enough. Power line leakage passing through the heating element may destroy IC's.

2. Never attempt to do any work on the IC amplifiers without first disconnecting the AC line and waiting until the power supply filter capacitor have discharged.

3. Before changing to a new Power Amp. IC due to defects, check whether the capacitor on its circuit is shorted out or not and whether the output circuit (including speaker system) is shorted out or not.

4. When mounting a replacement power Amp. IC, be sure that the bottom of the flange and the surface of the heat sink are free of foreign matter, for they may cause IC failure.

5. Silicon grease must be applied between the IC and the heat sink for better heat conduction.

TROUBLE SHOOTING

I. Unit Inoperative

A. Pilot lamp does not illuminate – check AC fuse
1. If AC fuse is blown
   a. Rectifier D901, D902, may be shorted, or
   b. Capacitor C903 may be shorted, or
   c. Primary or Secondary winding of transformer may be shorted.
2. If AC fuse is normal – check voltage between (+) and (–) terminals on C903.
   a. If no voltage across –
      1) Primary or econdary winding of transformer may be broken, or
      2) Power switch may be faulty.

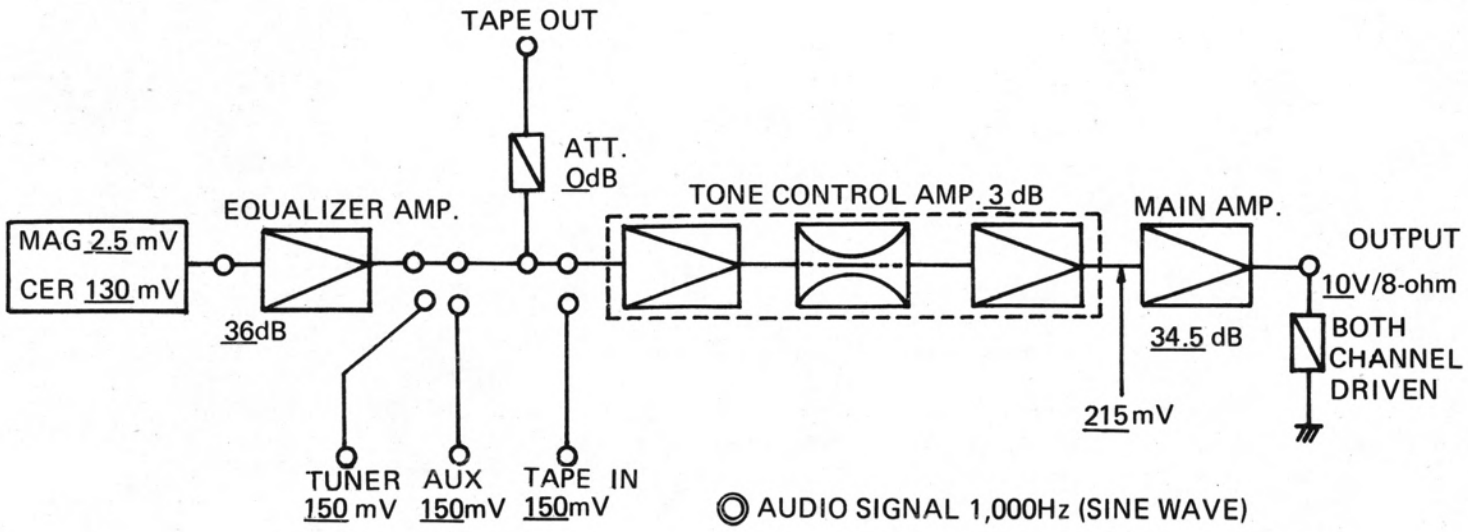
B. Pilot lamp illuminates – check DC fuse
1. If DC fuse is blown –
   a. IC 601 or 602 may be faulty, or
   b. Output circuit (including speakers system) may be shorted.

II. Hum and/or Noise

A. Hum and/or noise produced with Volume Control set at Minimum.
1. Transistor Q501 or Q502 may be faulty, or
2. Capacitor C505 or C509 (C506 or C510 for right channel) may be faulty.
3. Resistor R509 or R513 (R510 or R514 for right channel) may be faulty.

B. Hum and/or noise produced only in PHONO –
1. IC401 may be faulty, or
2. Capacitor C401 or C419 (C402 or C420 for right channel) may be faulty.
3. Resistor R409 (R410 for right channel) may be faulty.

GAIN DIAGRAM



PREPAIR PARTS LIST

Symbol	Parts No.	Description
TRANSISTORS, IC'S AND DIODES.		
Q501	301201156	2SC1222, Pre Amp.
Q502	301201156	2SC1222, Pre Amp.
IC401	303452160	LA-3133, Phono Amp.
IC601	303452147	STK-015, Power Amp.
IC602	303452147	STK-015, Power Amp.
D901	300919005	1S1850, Rectifier
D902	300919006	1S1850R, Rectifier
VARIABLE RESISTORS		
VR501	515121120	250KW, Balance Control
VR502	525121129	100KB$_1$x2, Volume Control
VR503	525101127	50KAx2, Treble Control
VR504	525101127	50KAx2, Bass Control
OTHERS		
S1	613000022	Switch, Phono Input Selector
S2	601011268	Switch, Function Selector
S3	614040810	Switch, Tape Monitor
S4	1 Set	Loudness
S5	1 Set	Speaker 1
S6	1 Set	Speaker 2
S7	614010107	Switch, Power Supply
F901	341220015	Fuse, 1.5A (line 100V or 120V)
	341220010	Fuse, 1A (line 220V or 240V)
F601	341220030	Fuse, 3A, DC Circuit Protector
PL001	351140005	Lamp, 14V 50mA, Pilot
T001	205001395	Transformer, Power Supply (Multi-voltage Type)
	204001395	Transformer, Power Supply (line 100 or 120V)
	206001395	Transformer, Power Supply (line 220V or 240V)
	141610275	Pre/Main Amp. Circuit Assembly (without Heat Sink and Power Amp. IC's)

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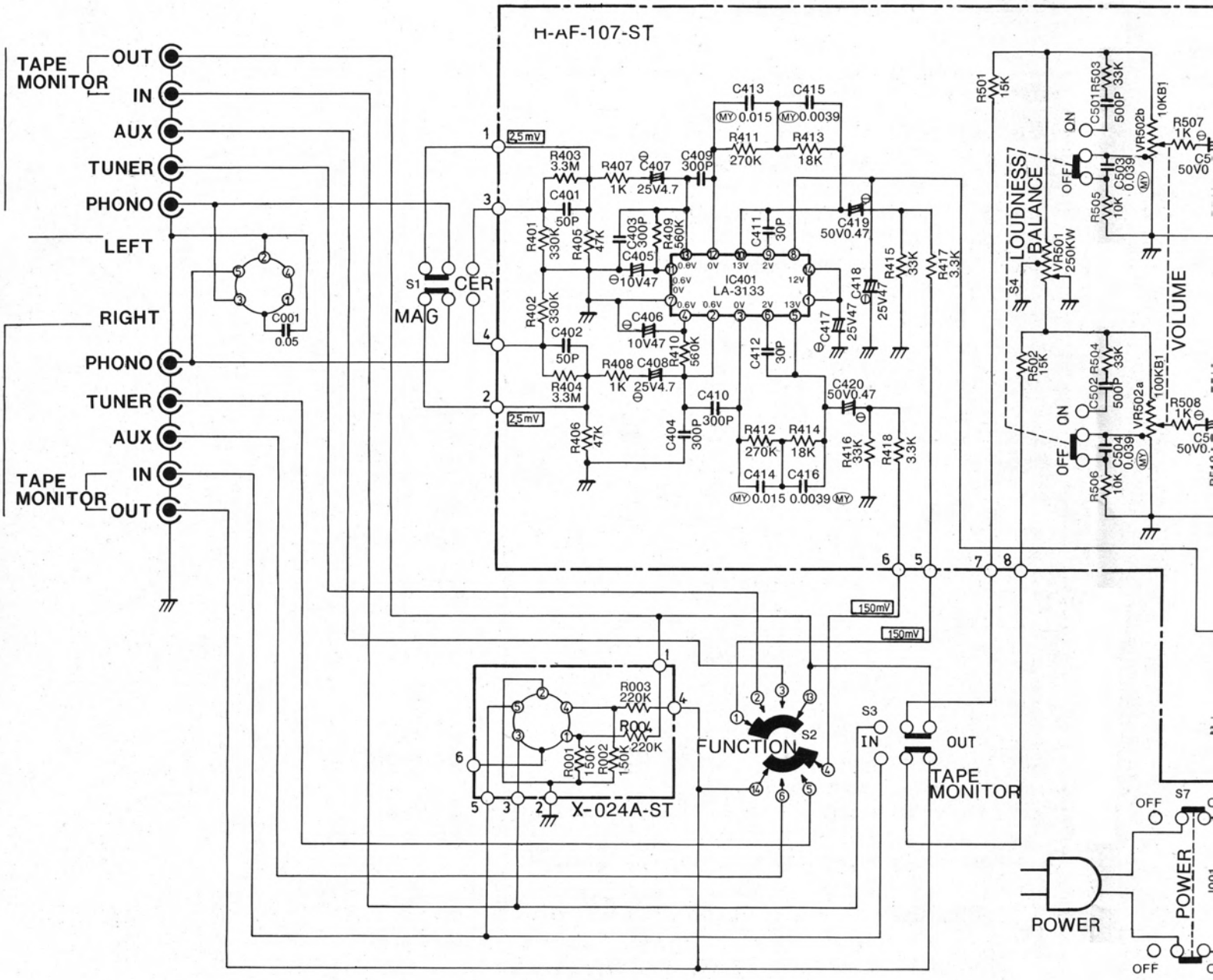
SCHEMATIC DIAGRAM



ITEM	SCHEMATIC LOCATION(LAST)
EQUALIZER AMP.	R418
	C420
TONE CONTROL AMP.	R526
	C518
MAIN AMP.	R608
	C618
POWER SUPPLY	R904
	C903
CHASSIS	R006
	C001

RESISTORS

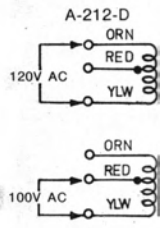
5%TOLERANCE UNLESS OTHERWISE NOTED
K···KILO OHM
M···MEGA OHM
▼···COMPOSITION RESISTORS 1/2WATT
NON MARK···LOW NOISE TYPE CARBON RESISTORS 1/4WATT

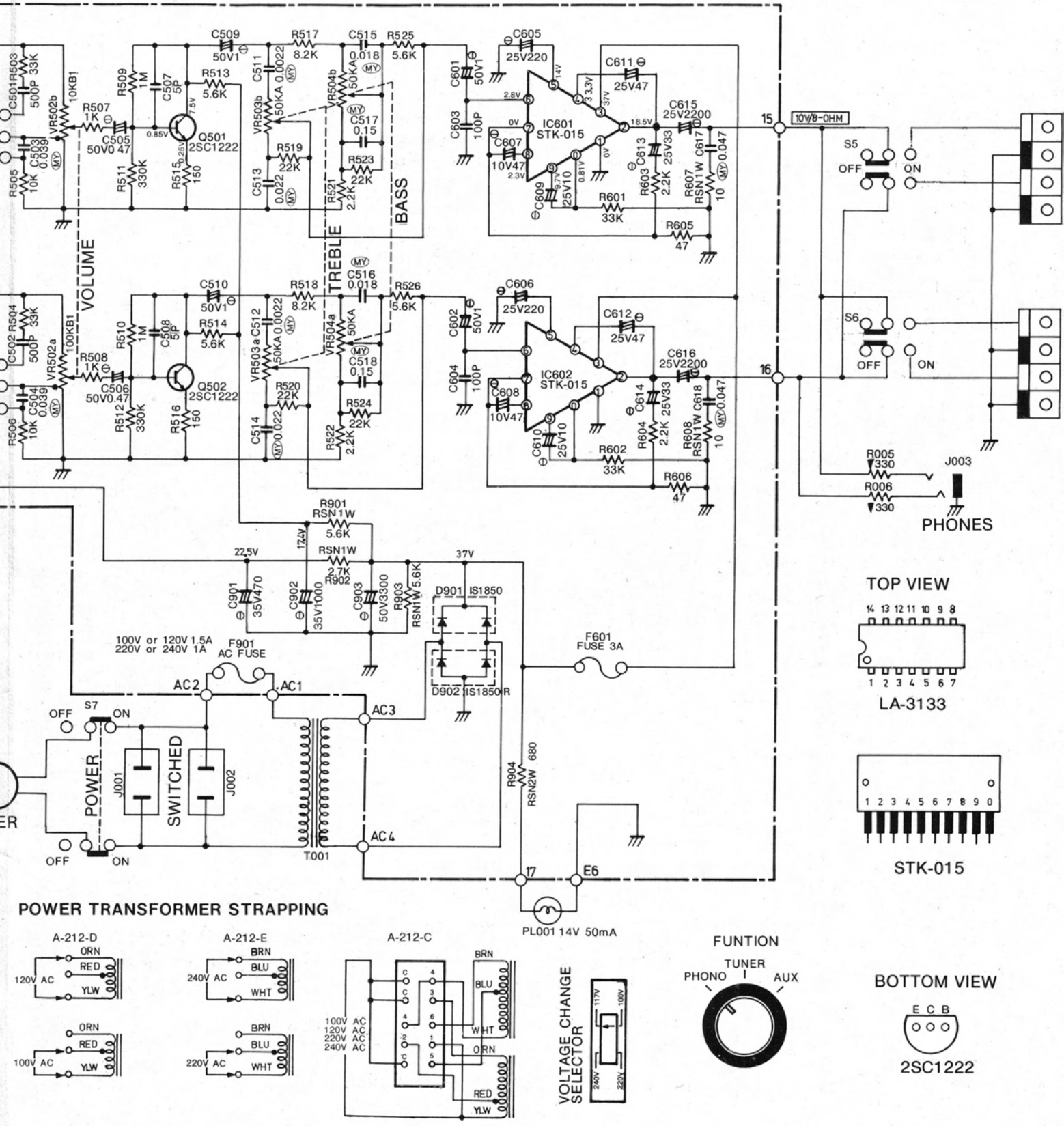
CAPACITORS

(MY)···MYLAR FILM CAPACITORS
⫫···ELECTROLYTIC CAPACITORS
NON MARK···CERAMIC CAPACITORS

- UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPREESED IN MFD.
- VOLTAGE READING MAY VARY±20%
- ▭ INDICATES 1KHz SIGNAL LEVELS FROM PHONO INPUT: 2.5mv TO PA.OUTPUT: 10V ACROSS 8-OHM LOAD

POWER TRA





TOP VIEW

LA-3133

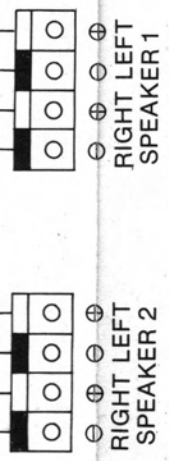
STK-015

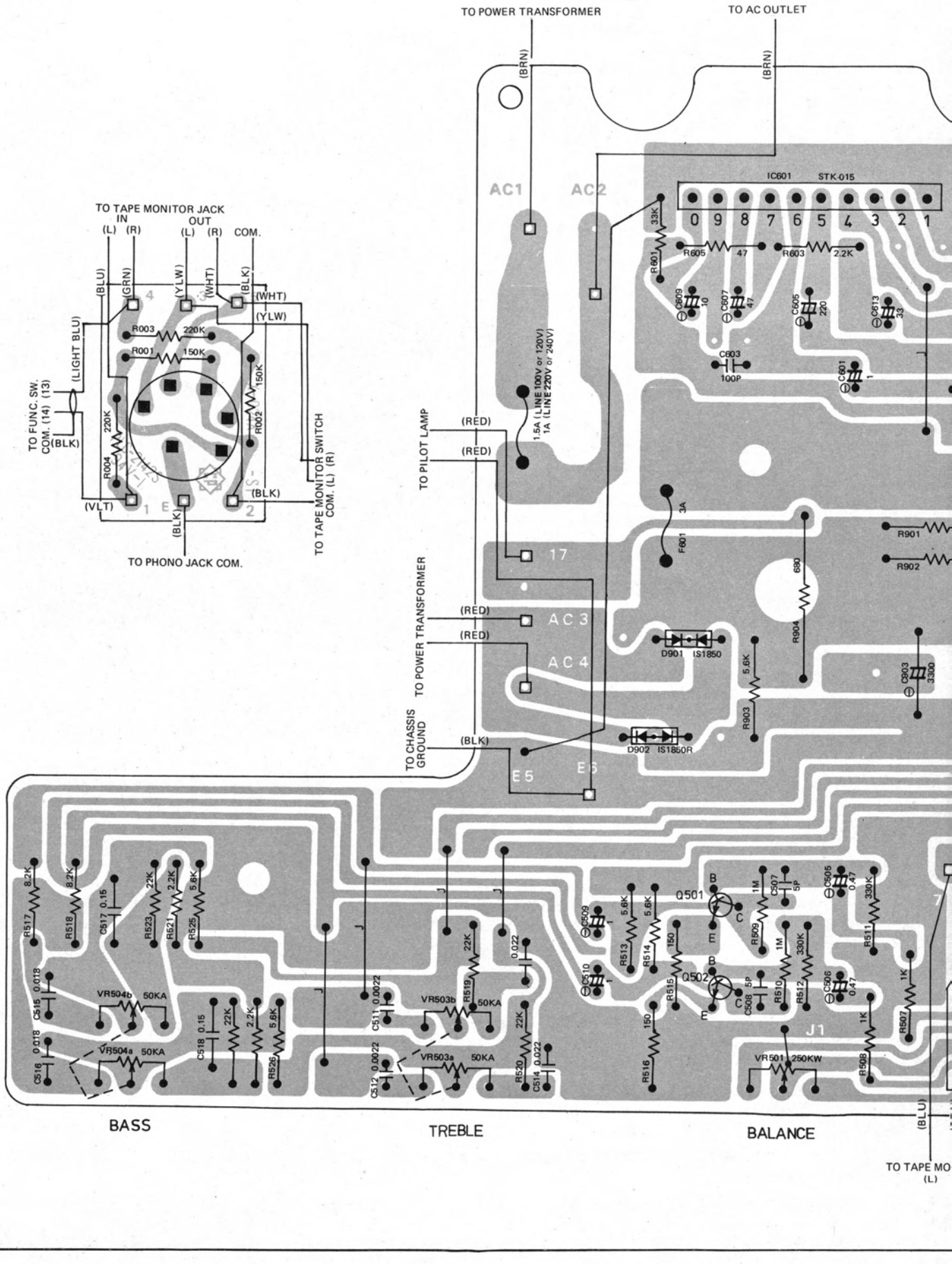
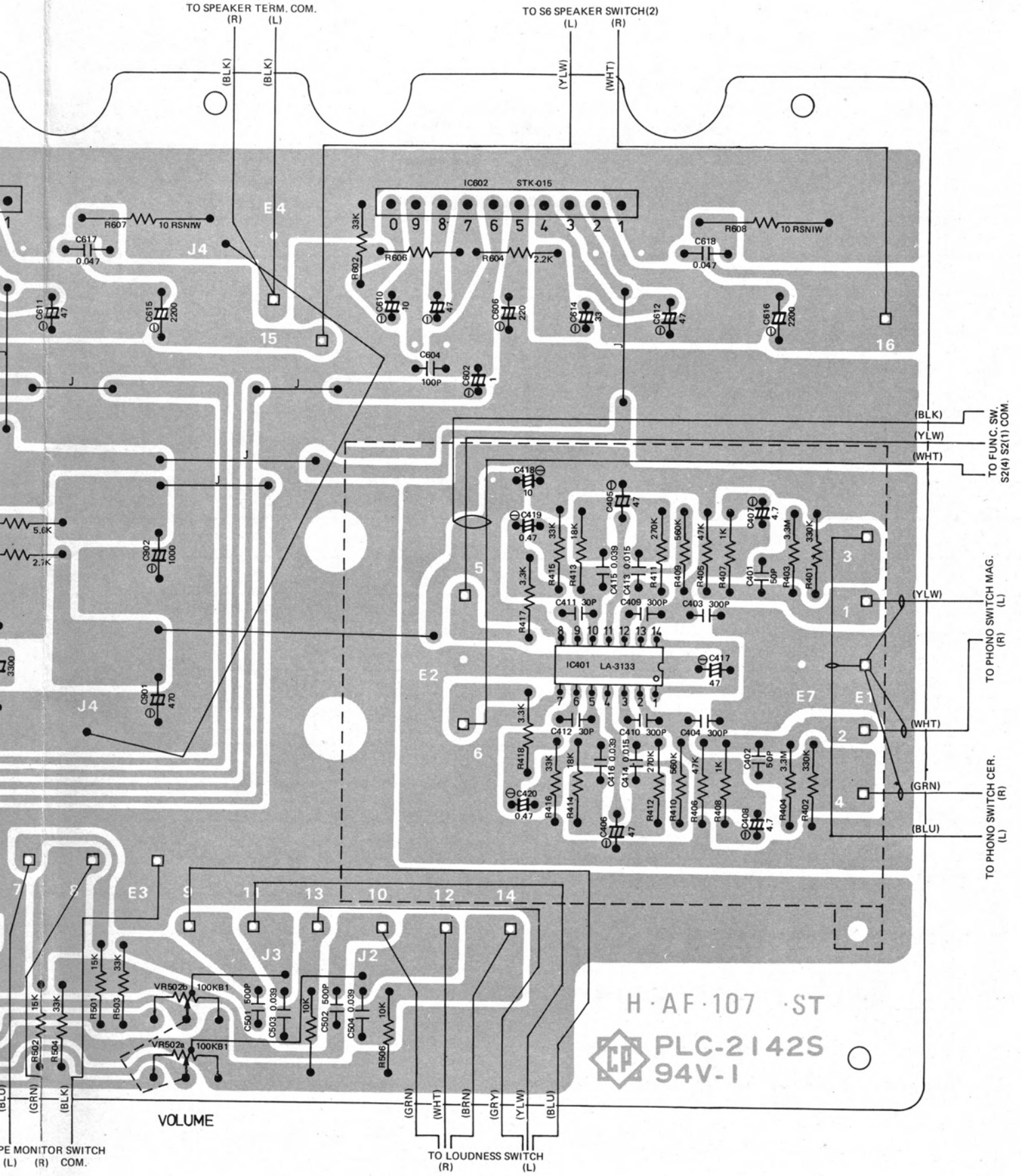
POWER TRANSFORMER STRAPPING

BOTTOM VIEW

2SC1222

PRE/MAIN AMP. & POWER SUPPLY CI





CIRCUIT BOARD DIAGRAM