

# Service Manual

Stereo Integrated Amplifier

Amplifier  
**SU-V620**

**Colour**

(K) : Black

**Areas**

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Britain	
(EG)	Germany and Italy	
(GC)	Asia, Latin America, Middle East and Africa	
(GN)	Oceania	

**SPECIFICATIONS**  
**SCHEMATIC DIAGRAMS**  
**WIRING CONNECTION DIAGRAM**  
**BLOCK DIAGRAM**  
**FUNCTION OF IC TERMINALS**  
**REPLACEMENT PARTS LIST**  
**CABINET PARTS LOCATION**  
**PACKAGING**

# Technics

## Specifications (DIN 45 500)

<b>20 Hz – 20 kHz continuous power output</b>	
both channels driven	2 × 70 W (8 Ω)
<b>1 kHz continuous power output</b>	
both channels driven (THD: 1%)	2 × 80 W (8 Ω) 2 × 100 W (4 Ω)
<b>63 Hz – 12.5 kHz continuous power output</b>	
both channels driven (THD: 1%)	2 × 75 W (8 Ω) 2 × 95 W (4 Ω)
<b>Total harmonic distortion</b>	
rated power at 20 Hz – 20 kHz	0.1% (8 Ω)
<b>Intermodulation distortion (50 Hz: 7 kHz = 4:1, SMPTE)</b>	
rated power	0.1% (8 Ω)
<b>Residual hum and noise</b>	1 mV
<b>Damping factor</b>	100 (8 Ω) 50 (4 Ω)
<b>Headphones output level/impedance</b>	540 mV/47 Ω (Ø 6.3)
<b>Load impedance</b>	
A or B	4 Ω – 16 Ω
A and B	8 Ω – 16 Ω
<b>Input sensitivity/impedance</b>	
PHONO MM	2.5 mV/47 kΩ
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	150 mV/22 kΩ
<b>Phono maximum input voltage (1 kHz, RMS)</b>	
MM	150 mV (IHF '66)
<b>S/N (rated power, 4 Ω)</b>	
PHONO MM	76 dB (77 dB, IHF '66)
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	92 dB (95 dB, IHF '66)
<b>S/N at – 26 dB power (4 Ω)</b>	
PHONO MM	67 dB
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	70 dB

<b>S/N at 50 mW (4 Ω)</b>	
PHONO MM	63 dB
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	63 dB
<b>Frequency response</b>	
PHONO MM	RIAA standard curve ± 1 dB (30 Hz – 15 kHz)
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	3 Hz – 60 kHz (+0, – 3 dB) +0 dB, – 0.3 dB (20 Hz – 20 kHz)
<b>Tone controls</b>	
BASS	50 Hz, +10 dB to – 10 dB
TREBLE	20 kHz, +10 dB to – 10 dB
<b>Output voltage</b>	
TAPE 1, TAPE 2/DCC REC OUT	150 mV
Channel balance (AUX 250 Hz – 6.3 kHz)	± 1 dB
Channel separation (AUX 1 kHz)	50 dB

### ■ GENERAL

<b>Power consumption</b>	190 W
<b>Power supply</b>	
For (E) and (EG) areas	50 Hz/60 Hz AC, 230 V
For (EB), (GN) areas	50 Hz/60 Hz AC, 230 V – 240 V
For (GC) area only	50 Hz/60 Hz AC, 110 V – 127 V / 220 V – 240 V
<b>Dimensions (W × H × D)</b>	430 × 125 × 310 mm
<b>Weight</b>	6.8 kg

### Notes:

- Design and specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

### ⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

## ■ Schematic Diagram

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<b>A</b> OPERATION CIRCUIT .....	15
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<b>F</b> POWER SUPPLY CIRCUIT .....	19, 20
<b>G</b> POWER TRANSFORMER CIRCUIT .....	19, 20
<b>H</b> AC IN CIRCUIT [for (GC) area only] .....	20

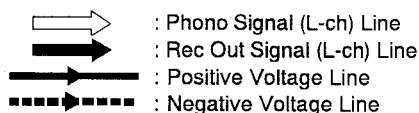
● This schematic diagram may be modified at any time with the development of new technology.

### Notes:

- S401 : TONE control switch (ON/DEFEAT)
- S701 : Voltage adjustment switch in "220V-240V" position [for (GC) area only]
- S801 : Input selector switch (PHONO)
- S802 : Input selector switch (TUNER)
- S803 : Input selector switch (CD)
- S804 : Input selector switch (AUX)
- S805 : Input selector switch (TAPE 2/DCC)
- S806 : TAPE 1 MONITOR switch
- S807 : Power "STANDBY  $\phi$  /ON" switch (POWER, STANDBY  $\phi$  /ON)
- S808 : Speaker select switch (SPEAKER A)
- S809 : Speaker select switch (SPEAKER B)
- VR471 : Tone control (BASS)
- VR472 : Tone control (TREBLE)
- VR501 : Volume control (VOLUME)
- VR502 : Balance control (BALANCE)

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.  
No mark: Power ON

- Voltage and signal line



- Important safety notice:

Components identified by  $\triangle$  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- **Caution!**

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

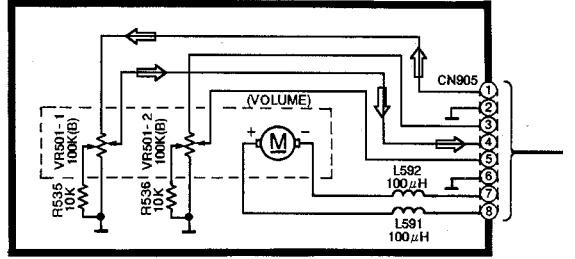
Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

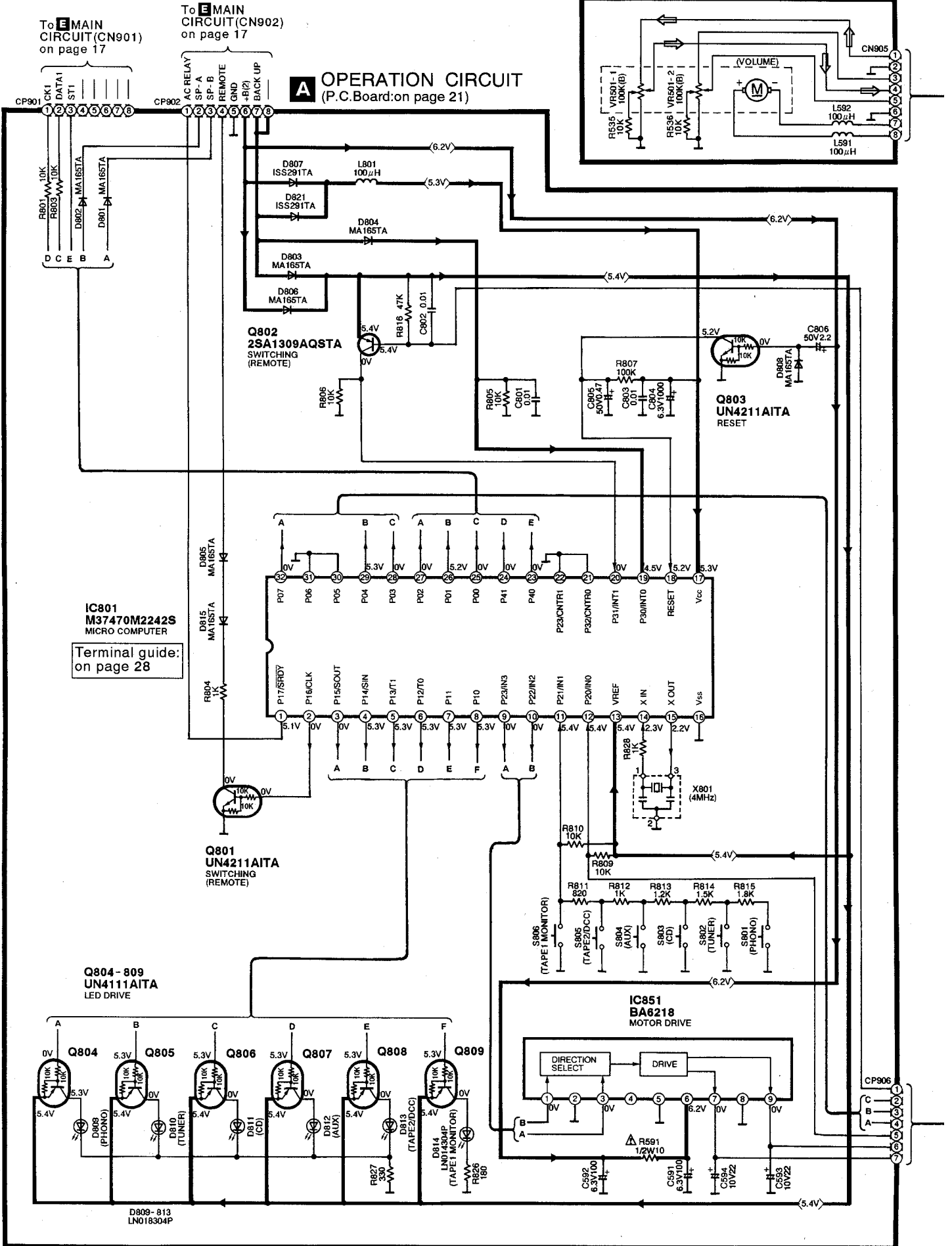
Put a conductive mat on the work table.

Do not touch the legs of IC or LSI with the fingers directly.

**B** VOLUME CIRCUIT  
(P.C. Board: on page 23)



**A** OPERATION CIRCUIT  
(P.C. Board: on page 21)



To **E** MAIN CIRCUIT (CN901) on page 17

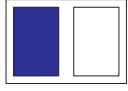
To **E** MAIN CIRCUIT (CN902) on page 17

IC801  
M37470M2242S  
MICRO COMPUTER

Terminal guide:  
on page 28

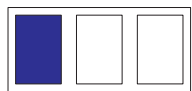
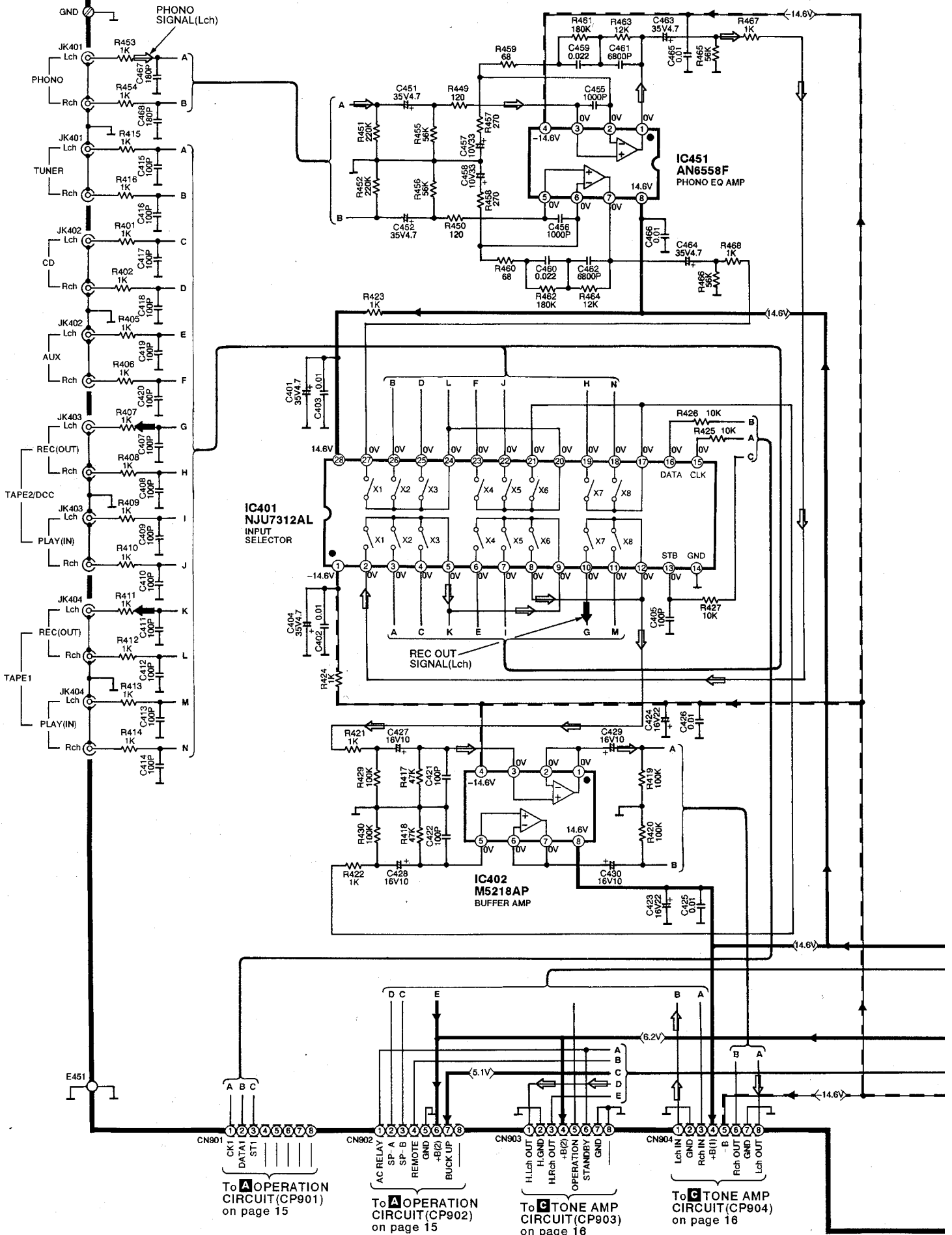
Q804 - 809  
UN4111AITA  
LED DRIVE

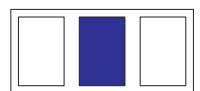
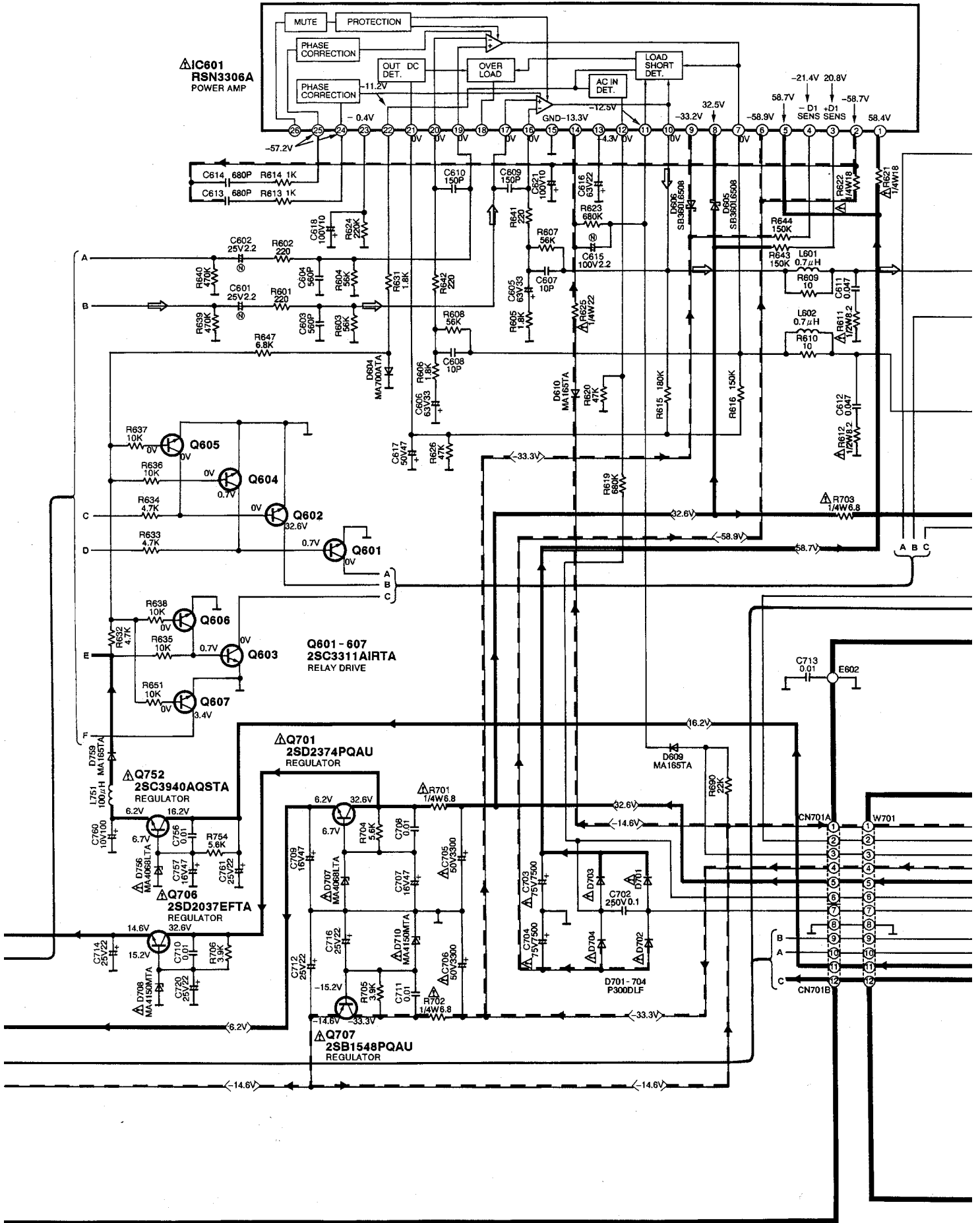
D809 - 813  
LN018304P



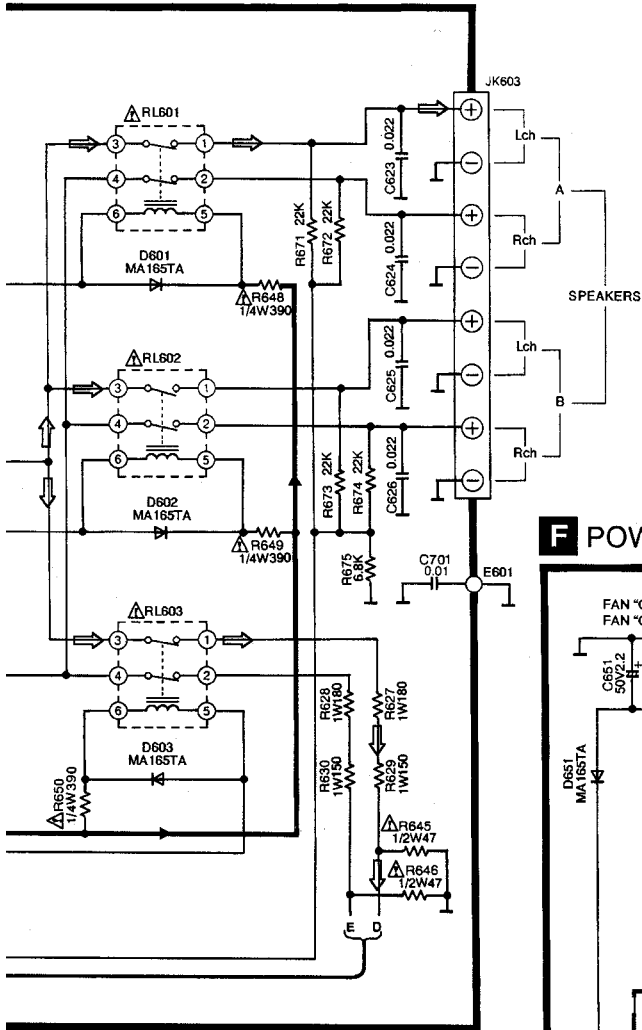


**E** MAIN CIRCUIT (P.C.Board: on pages 22,23)

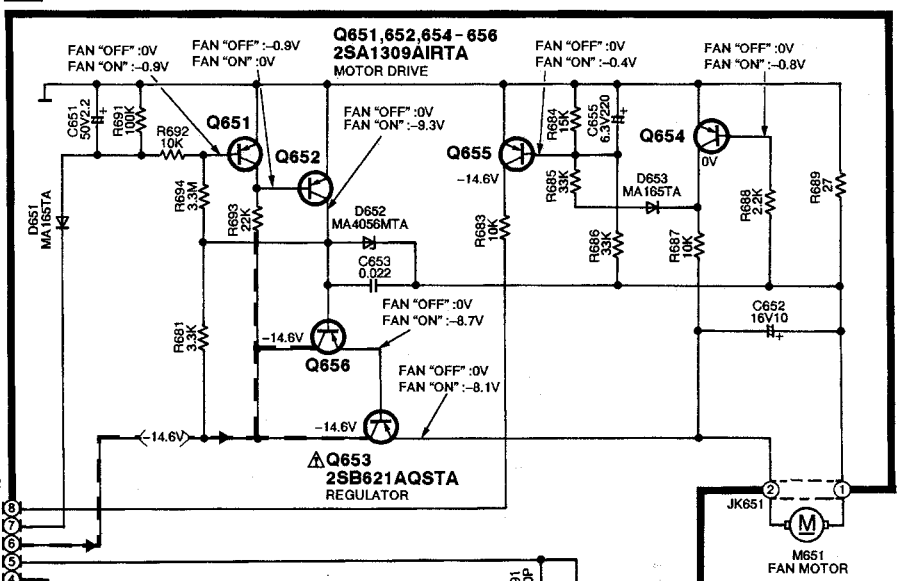




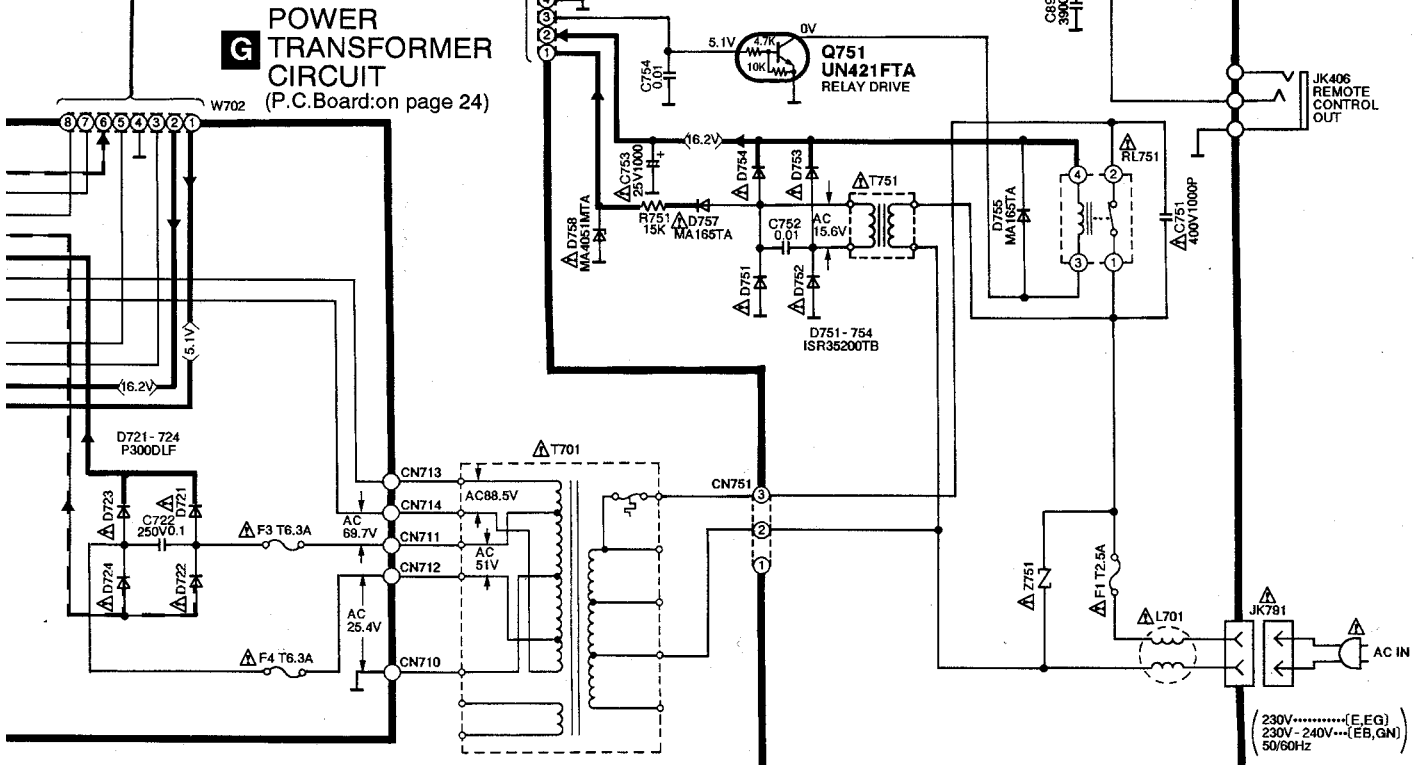
**E MAIN CIRCUIT** (P.C.Board: on pages 22,23)



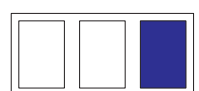
**F POWER SUPPLY CIRCUIT** (P.C.Board: on page 24)



**G POWER TRANSFORMER CIRCUIT** (P.C.Board: on page 24)

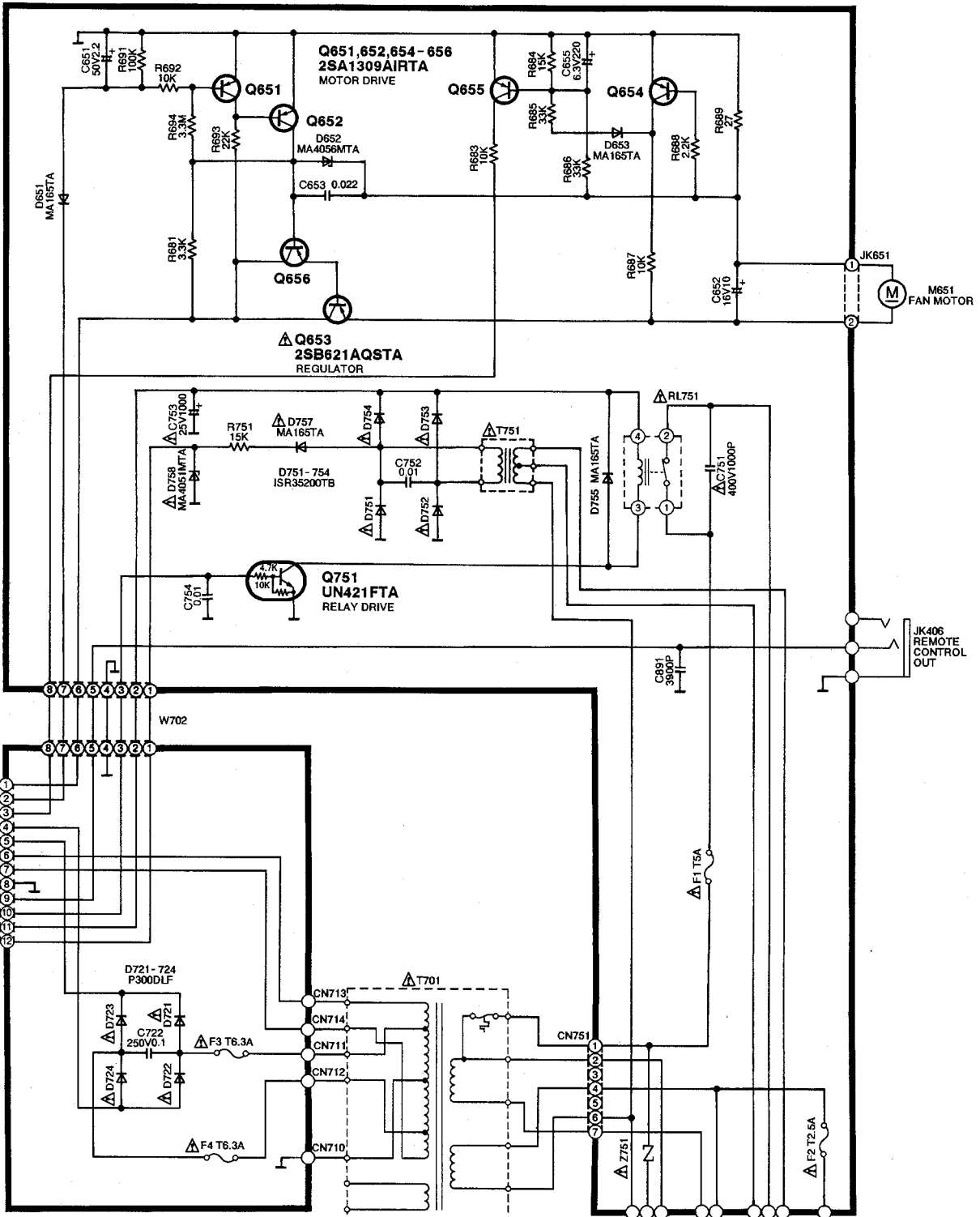


(230V.....)(E,EG)  
 230V - 240V...(E,B,GN)  
 50/60Hz

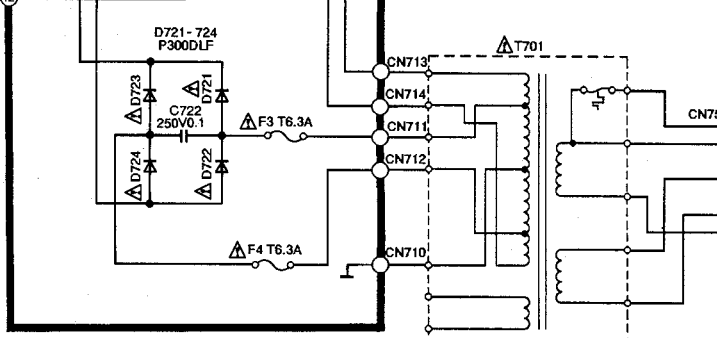




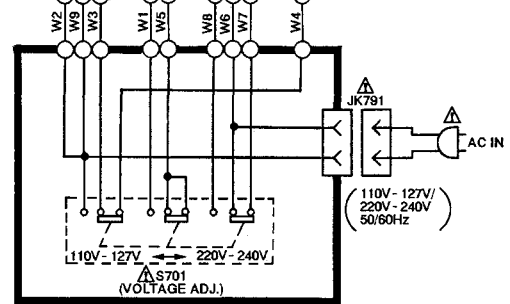
**F** POWER SUPPLY CIRCUIT



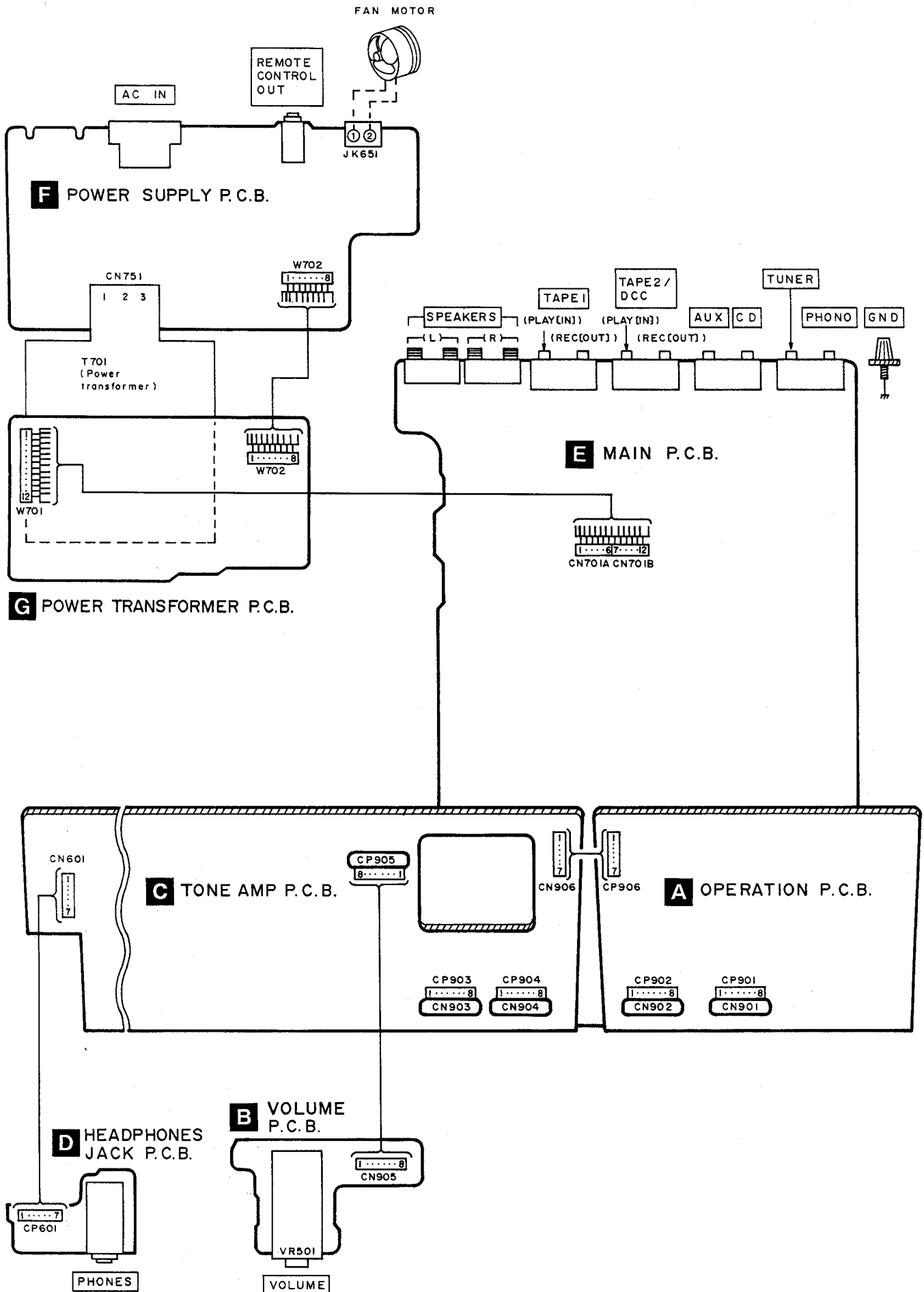
**G** POWER TRANSFORMER CIRCUIT



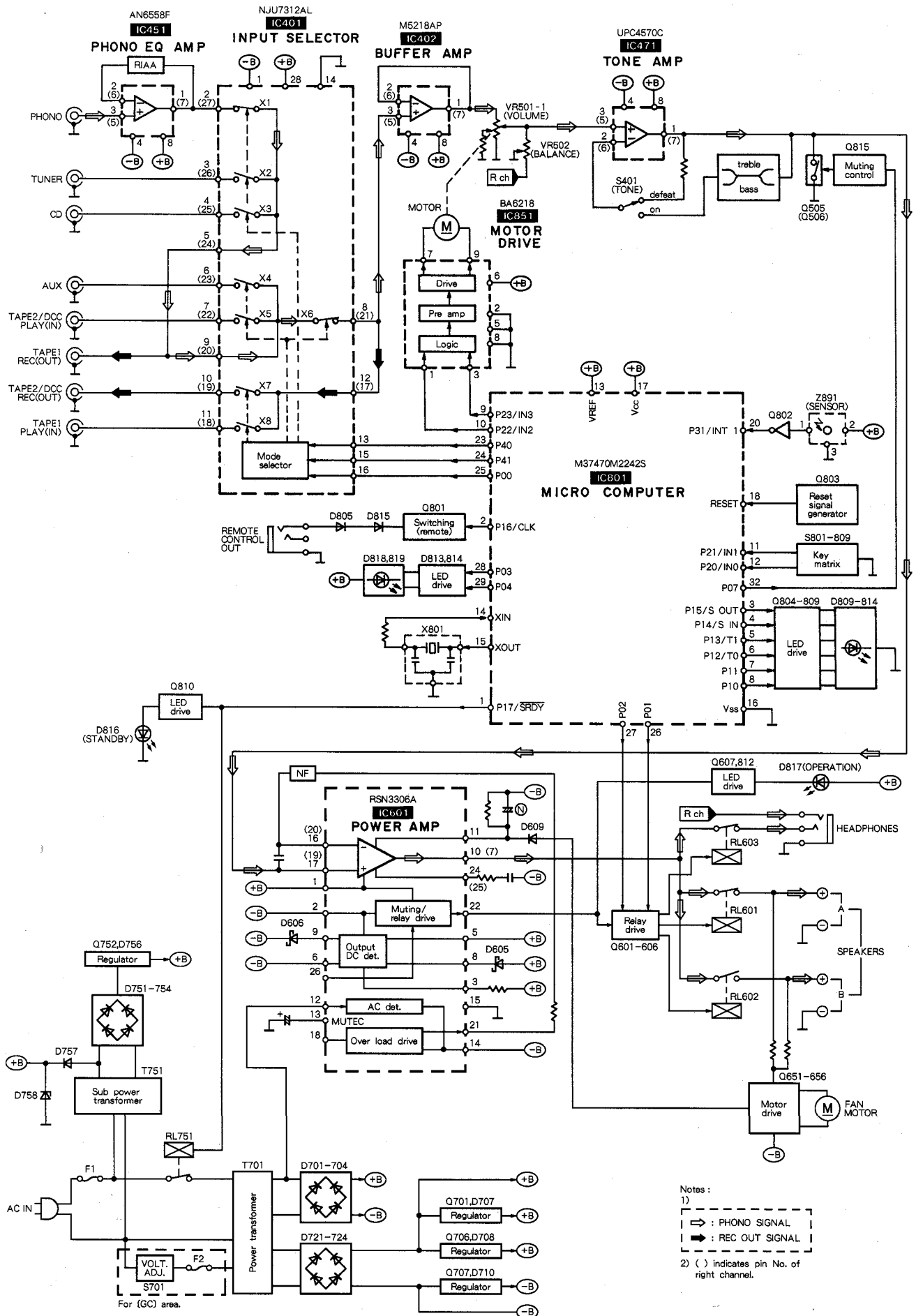
**H** AC IN CIRCUIT



# Wiring Connection Diagram



# Block Diagram



Notes:  
 1)  
 ⇨ : PHONO SIGNAL  
 ⇨ : REC OUT SIGNAL  
 2) ( ) indicates pin No. of right channel.

## ■ Function of IC Terminals

### ● IC801 (M37470M2242S)

Pin No.	Terminal Name	I/O	Function
1	P17/SRDY	O	Relay (Power SW) drive and LED (STANDBY) drive signal output.
2	P16/CLK	O	Remote control signal output.
3	P15/SOUT	O	LED (PHONO) drive signal output.
4	P14/SIN	O	LED (TUNER) drive signal output.
5	P13/TI	O	LED (CD) drive signal output.
6	P12/TO	O	LED (AUX) drive signal output.
7	P11	O	LED (TAPE 2/DCC) drive signal output.
8	P10	O	LED (TAPE 1 MONITOR) drive signal output.
9	P23/IN3	O	Motor (volume control) drive signal output.
10	P22/IN2	O	
11	P21/IN1	I	Input select switch signal input.
12	P20/IN0	I	Switch (POWER, SPEAKER A/B) signal input.
13	VREF	I	Reference voltage input.
14	XIN	I	Oscillator signal I/O terminal. (4 MHz)
15	XOUT	O	
16	VSS	—	GND terminal.

Pin No.	Terminal Name	I/O	Function
17	VCC	I	Power supply (+5V).
18	RESET	I	System reset signal input.
19	P30/INTO	I	Back-up detect signal input.
20	P31/INTI	I	Remote control receive signal input.
21	P32/CNRO	—	No used. Connected to GND.
22	P33/CNRI	—	No used. Connected to GND.
23	P40	O	Strobe signal input for Input Selector IC (IC401).
24	P41	O	Clock signal input for Input Selector IC (IC401).
25	P00	O	Data signal input for Input Selector IC (IC401).
26	P01	O	SPEAKER A select signal output.
27	P02	O	SPEAKER B select signal output.
28	P03	O	LED (SPEAKER A) drive signal output.
29	P04	O	LED (SPEAKER B) drive signal output.
30	P05	—	No used. Connected to GND.
31	P06	—	No used. Connected to GND.
32	P07	O	Audio muting control signal output.

# Cabinet Parts Location

