

Service Manual

*
 DOLBY B NR

Amplifier/Cassette Player SU-CH40

Colour

(K) ... Black Type



SB-CH40

SU-CH40

SL-CH40

SB-CH40

Area

Suffix for Model No.	Area	Colour
(E)	Continental Europe	(K)
(EB)	Great Britain	
(EG)	F.R. Germany/Italy	

TAPE DECK : MECHANISM SERIES (AR300)

■ SPECIFICATIONS

■ AMPLIFIER SECTION

1 kHz continuous power output both channels driven	2 X 30 W (THD 1%, 6 Ω)
Total harmonic distortion half power at 1 kHz	0.05% (6 Ω)
Frequency response	
AUX	52 Hz — 20 kHz (−3 dB)
Input sensitivity	
AUX	250 mV
Input impedance	
AUX	22 kΩ
Graphic equalizer	±10 dB (100 Hz, 250 Hz, 1 kHz, 3.3 kHz, 12.5 kHz)

■ GENERAL

Power consumption	130 W
Power supply	AC 50 Hz, 230 — 240 V
Dimension (W x H x D)	270 x 184.4 x 361.4 mm
Weight	6.3 kg

Notes :

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

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

■ CASSETTE DECK SECTION

Track system	4 – track, 2 – channel
Heads	
Playback	Solid Permalloy Head (Rotary Head)
Record/Playback	Solid Permalloy Head (Rotary Head)
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias, 100 kHz
Erase system	AC erase, 100 kHz
Tape speed	4.8 cm/sec
Frequency response	
NORMAL	30 Hz—14 kHz (+3, −6 dB)
CrO ₂	30 Hz—15 kHz (+3, −6 dB)
S/N (CrO ₂ type tape)	
Dolby NR off	52 dB (A-WTD)
Dolby NR on	61 dB (CCIR)
Wow and Flutter	0.1% (WRMS)
Fast forward and rewind time	Approx. 110 seconds with C-60 cassette tape

System	Amplifier/ Cassette Deck	Tuner/ CD Player	Speaker
SC-CH40E	SD-CH40E		SB-CH40E (MADE IN PAES)
	SU-CH40E	SL-CH40E	
SC-CH40EB	SD-CH40EB		
	SU-CH40EB	SL-CH40E	
SC-CH40EG	SD-CH40EG		
	SU-CH40EG	SL-CH40EG	

Panasonic

Note :

< for Main circuit >

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
- Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
- * The parenthesized are the values of voltage generated during playing (Test disc 1 kHz, L + R, 0 dB), others are voltage values in stop mode.

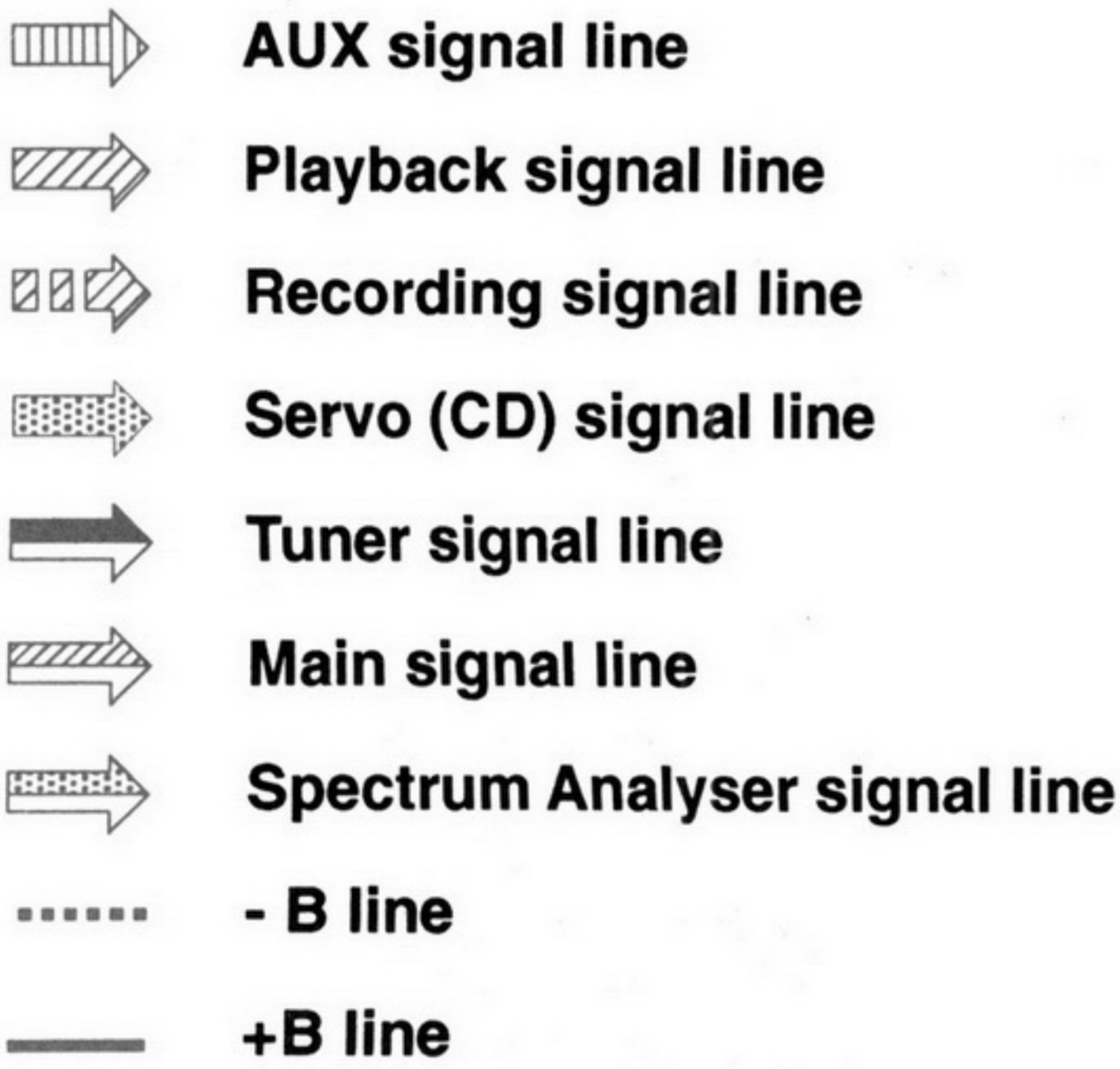
No mark Tape Playback

- Important safety notice :
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

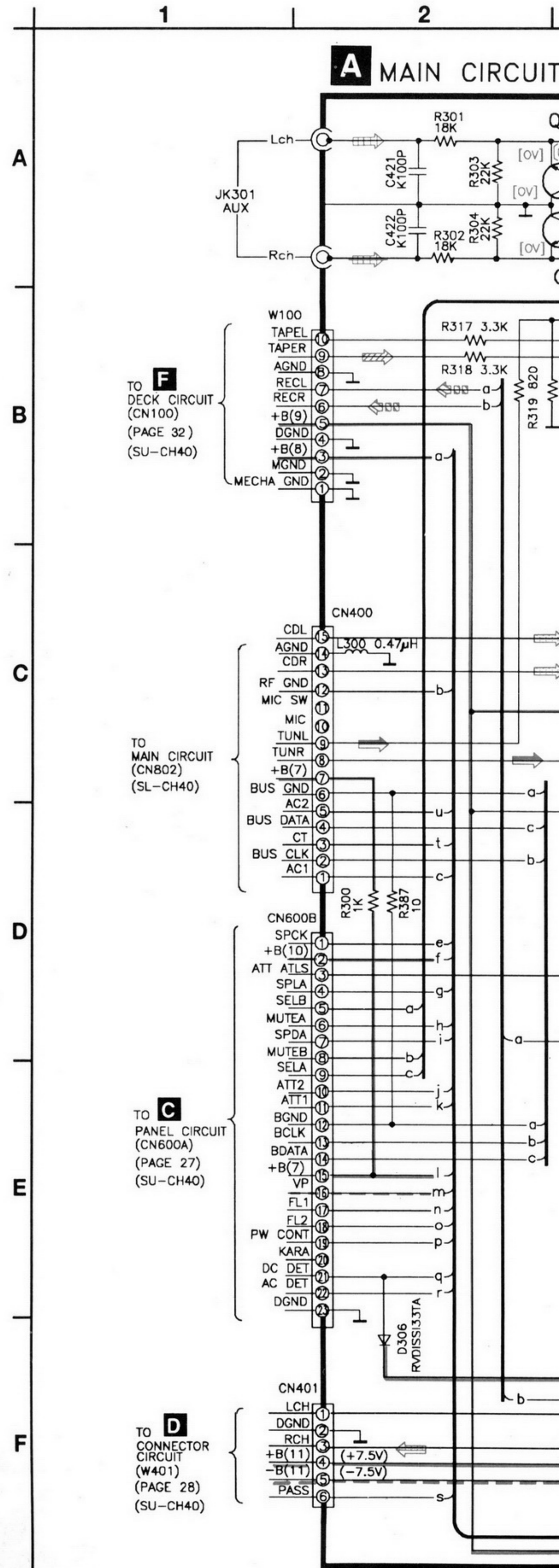
Caution !

IC, LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

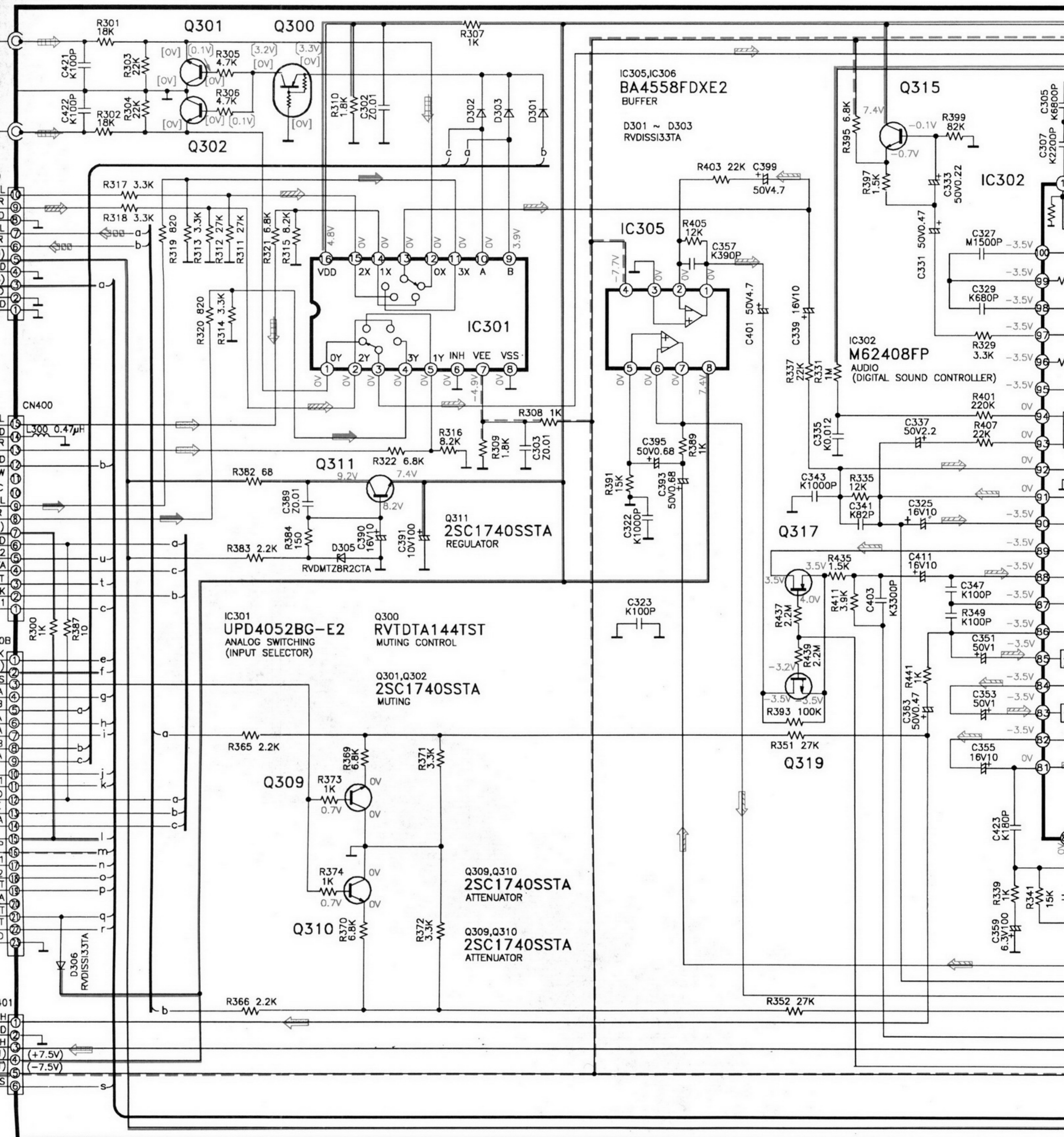
- Cover the parts boxes made of plastics with aluminium foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the pins of IC or LSI with fingers directly.

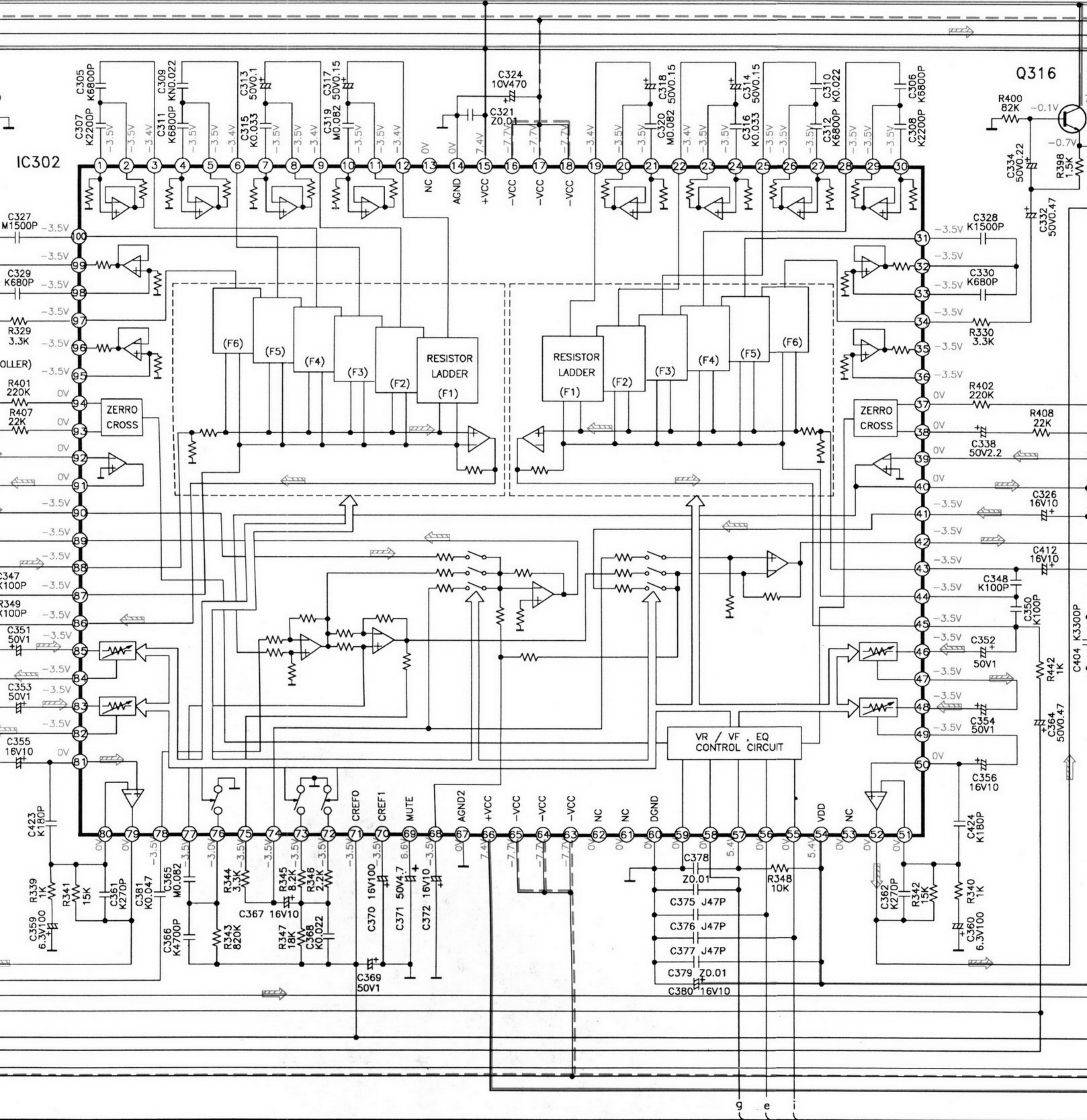


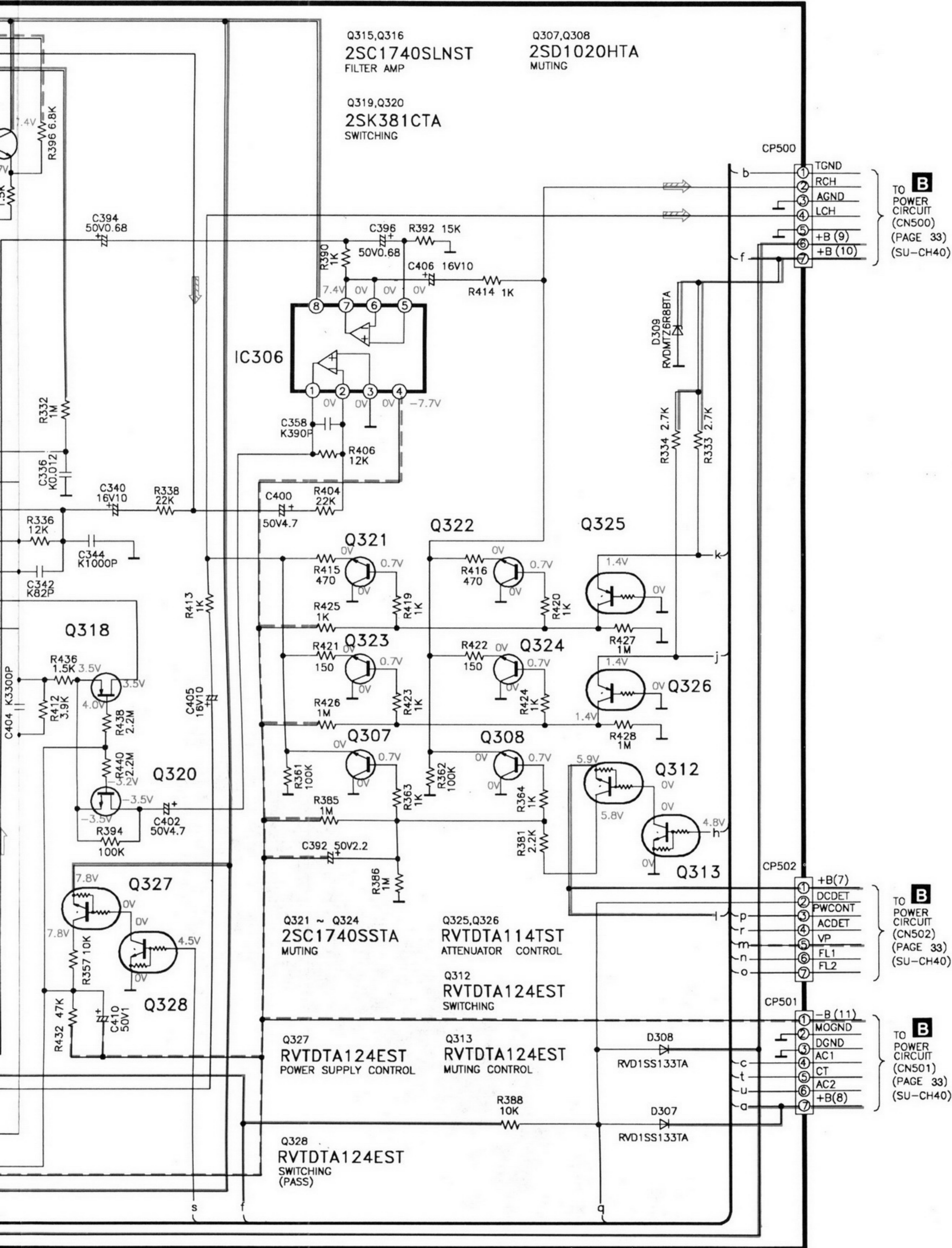
■ SCHEMATIC DIAGRAM (Parts list)



A MAIN CIRCUIT







■ SCHEMATIC DIAGRAM

Note :

< for Panel circuit >

- | | |
|--------------------------------|----------------------------|
| •S601 : EDIT normal switch | •S613 : POWER switch |
| •S602 : EDIT high switch | •S614 : V BASS switch |
| •S603 : DECK 1/2 select switch | •S615 : DOWN switch |
| •S604 : REC pause switch | •S616 : UP switch |
| •S605 : TPS REV switch | •S617 : REC timer switch |
| •S606 : REV play switch | •S618 : PLAY timer switch |
| •S607 : FWD play switch | •S619 : CLOCK/TIMER switch |
| •S608 : TPS FWD switch | •S620 : SET switch |
| •S609 : STOP switch | •S621 : EQ ON/FLAT switch |
| •S610 : REV mode switch | •S622 : EQ switch |
| •S611 : DOLBY switch | •S623 : SPACE mode switch |
| •S612 : COUNT reset switch | •S624 : DISPLAY switch |

•VR601 : Main volume control VR

General

•DC voltages measurement are taken with electronic voltmeter.
The negative terminal of the battery provides negative meter connection point.

No markTape Playback

•Important safety notice:

Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Caution !

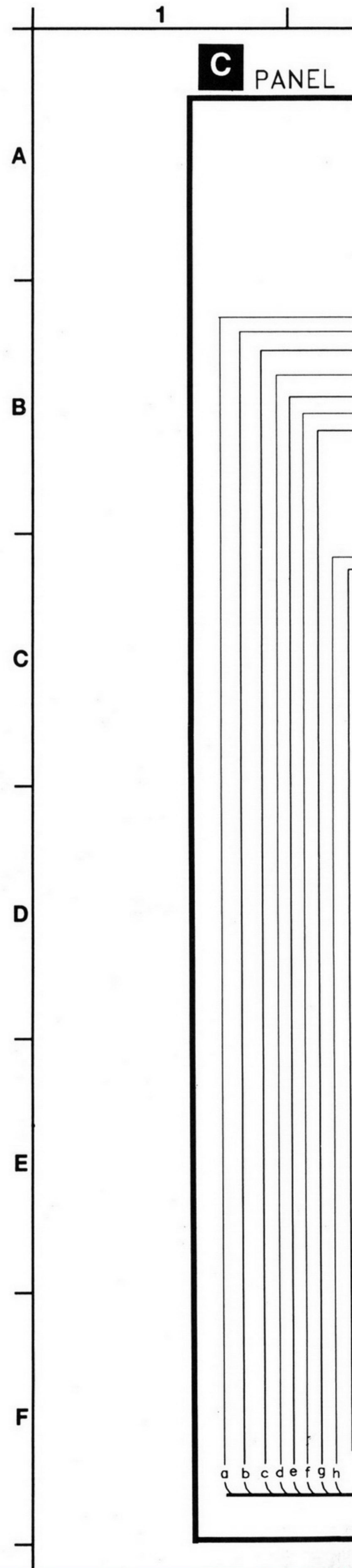
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
*Cover the parts boxes made of plastics with aluminum foil.
*Ground the soldering iron.
*Put a conductive mat on the work table.
*Do not touch the pins of IC or LSI with fingers directly.

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

————— : +B Line

- - - - - : -B Line

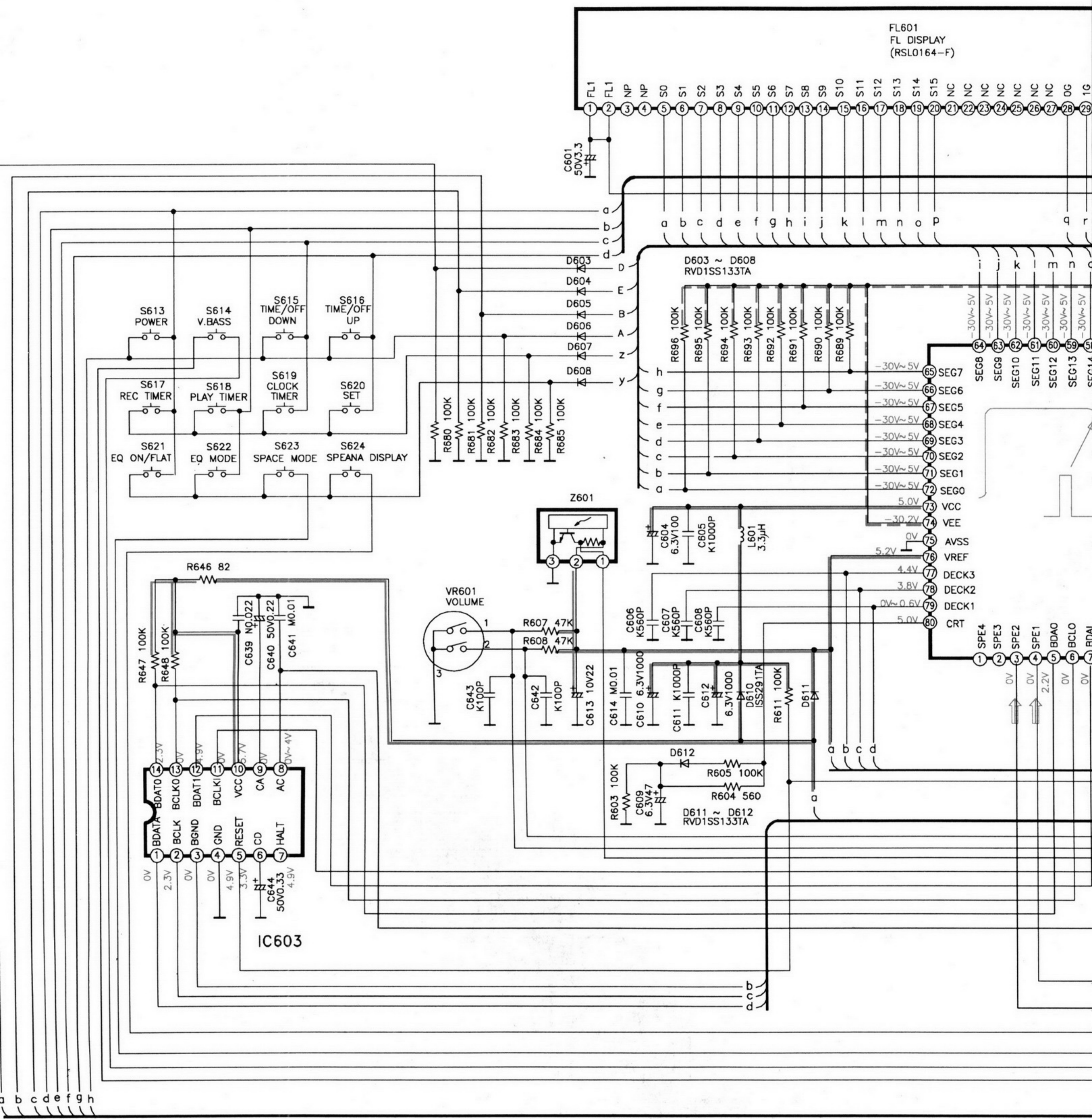
➡ : Spectrum Analyser signal line

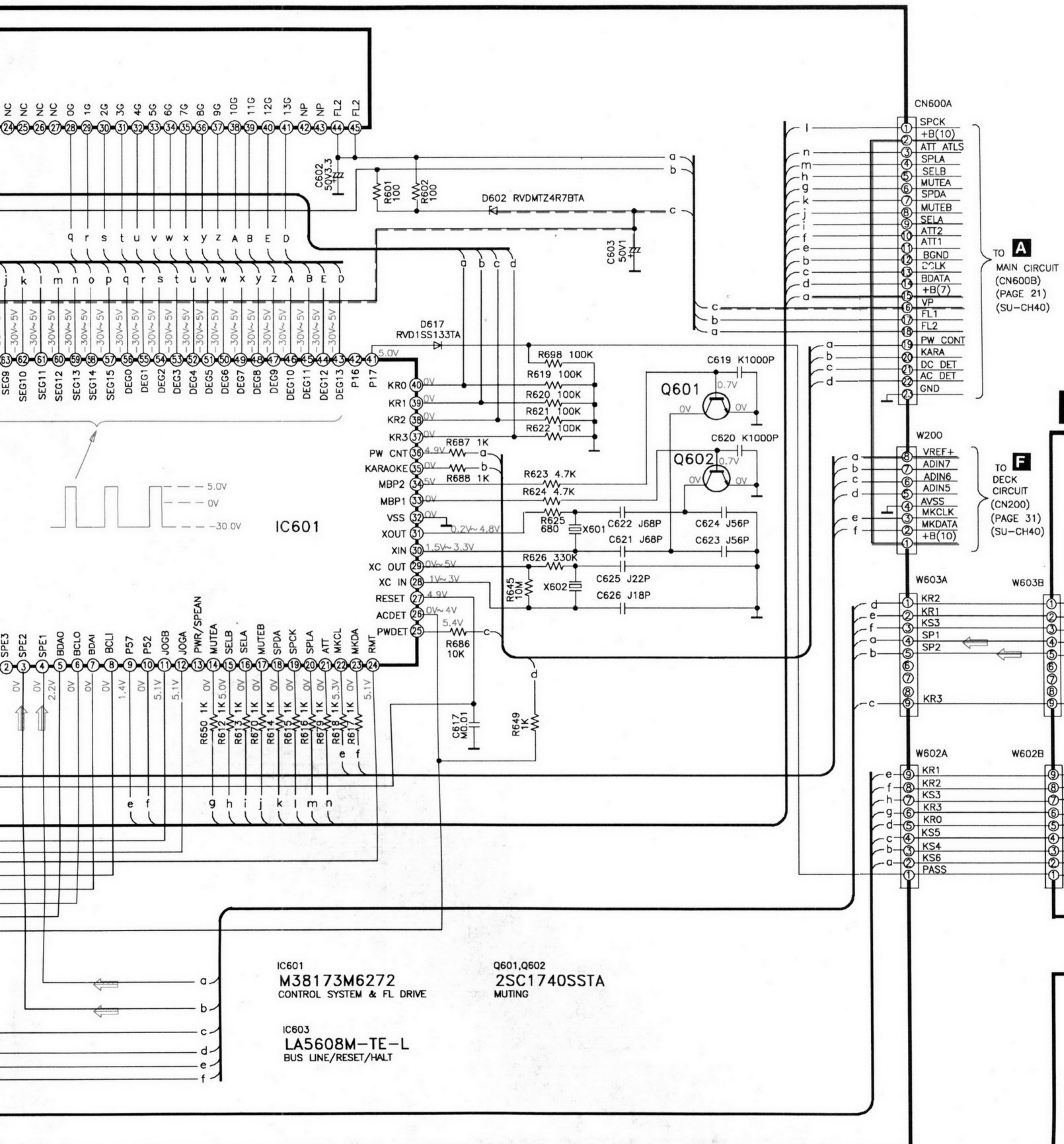


C DIAGRAM

2 3 4 5 6

PANEL CIRCUIT



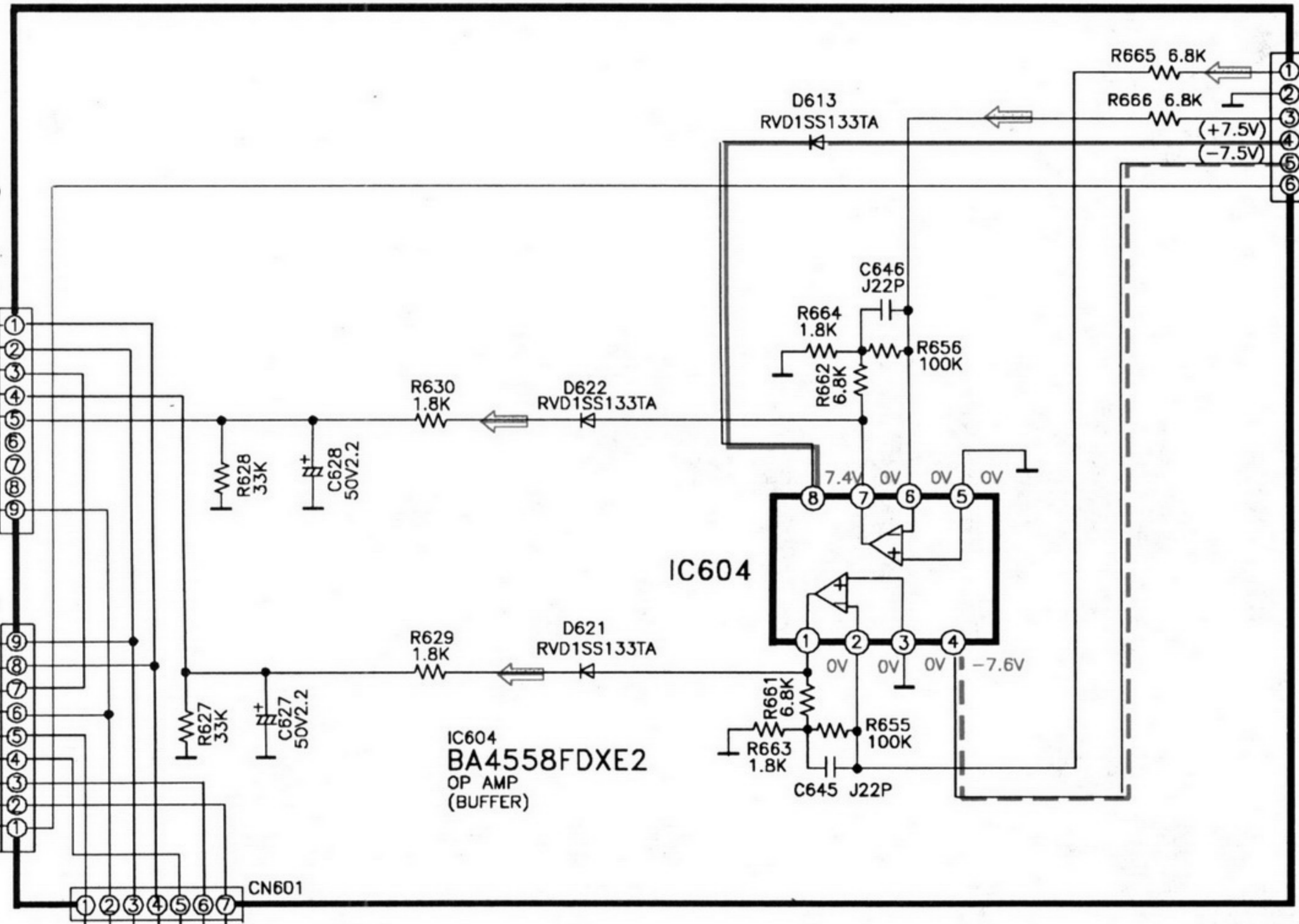


TO **A**
 MAIN CIRCUIT
 (CN600B)
 (PAGE 21)
 (SU-CH40)

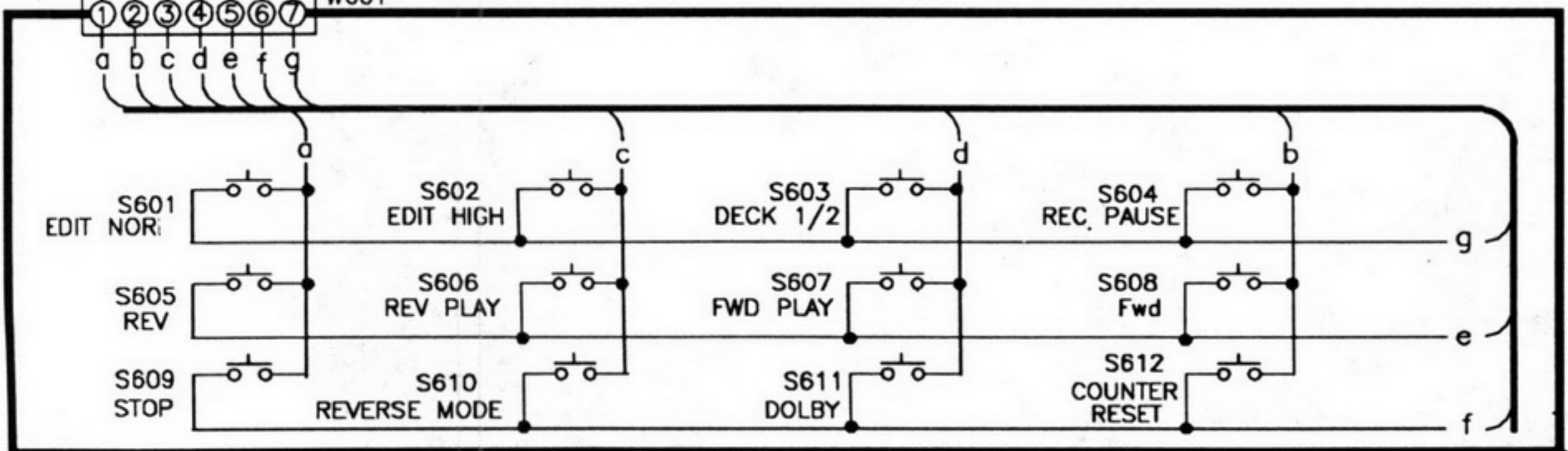
D CONNECTOR CIRCUIT

TO **F**
 DECK
 CIRCUIT
 (CN200)
 (PAGE 31)
 (SU-CH40)

TO **A**
 MAIN
 CIRCUIT
 (CN401)
 (PAGE 21)
 (SU-CH40)



E OPERATION CIRCUIT



Note :**< for Deck circuit >**

- S951 : Deck 1 mode detect switch.
- S952 : Deck 1 tape detect switch.
- S953 : Deck 1 tape select switch.
- S971 : Deck 2 mode detect switch.
- S972 : Deck 2 tape detect switch.
- S973 : Deck 2 tape tab switch (REV).
- S974 : Deck 2 tape tab switch (FWD).
- S975 : Deck 2 tape select switch (CrO₂).

- VR101 : Deck 1 Lch playback gain adjustment VR (Dolby).
- VR102 : Deck 1 Rch playback gain adjustment VR (Dolby).
- VR103 : Deck 2 Lch playback gain adjustment VR (Dolby).
- VR104 : Deck 2 Rch playback gain adjustment VR (Dolby).
- VR201 : Deck 1 tape speed adjustment VR (Normal).
- VR202 : Deck 2 tape speed adjustment VR (Normal).
- VR203 : Deck 2 tape speed adjustment VR (High).

General

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
- Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
 - * The parenthesized are the values of voltage generated during playing (Test disc 1 kHz, L + R, 0 dB), others are voltage values in stop mode.

(())CD << >>Tape Recording No markTape Playback

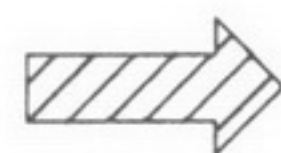
- Important safety notice :
Components identified by \triangle mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Caution !

IC, LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the pins of IC or LSI with fingers directly.



: Playback signal line



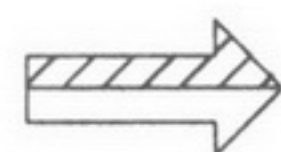
: Recording signal line



: +B line

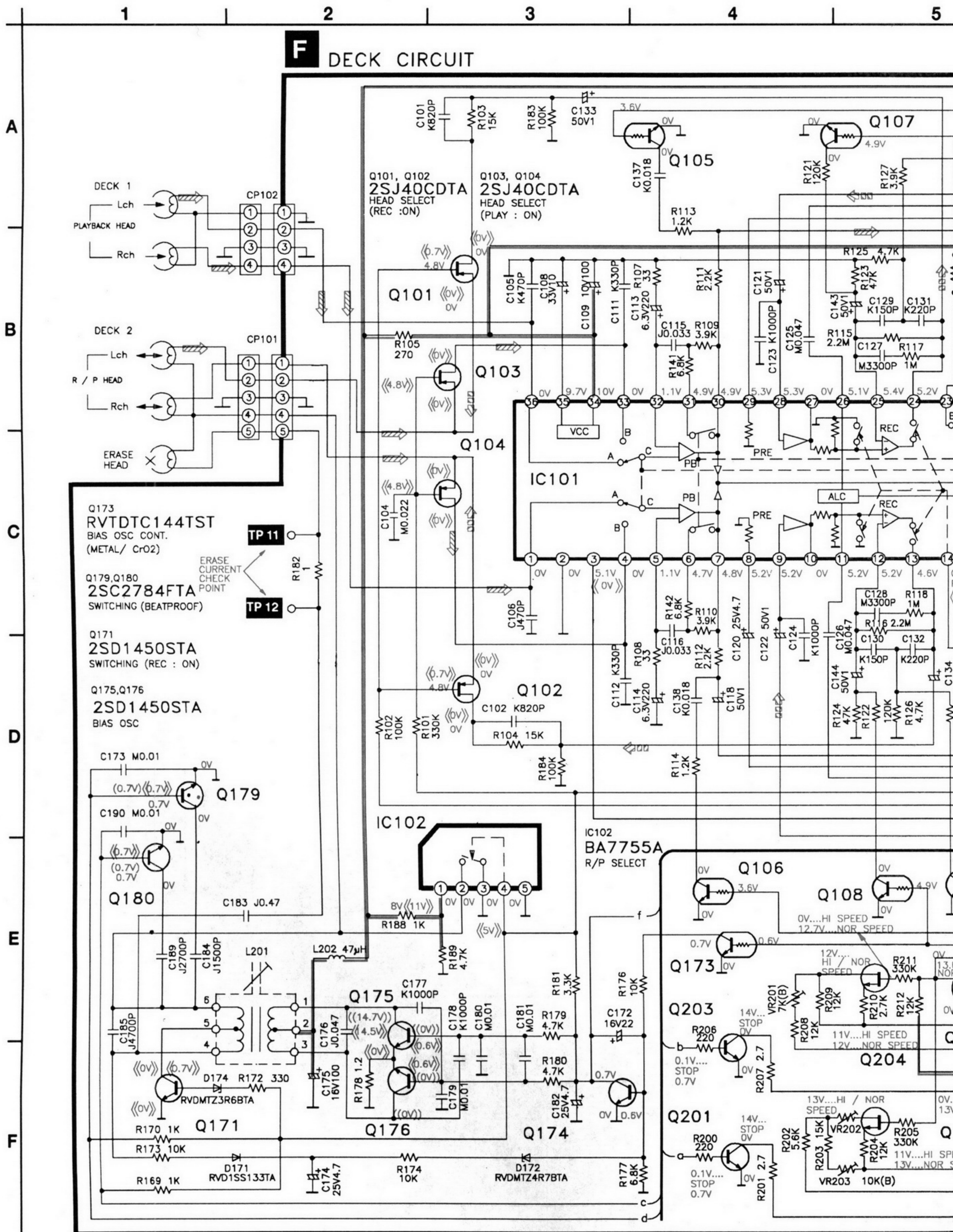


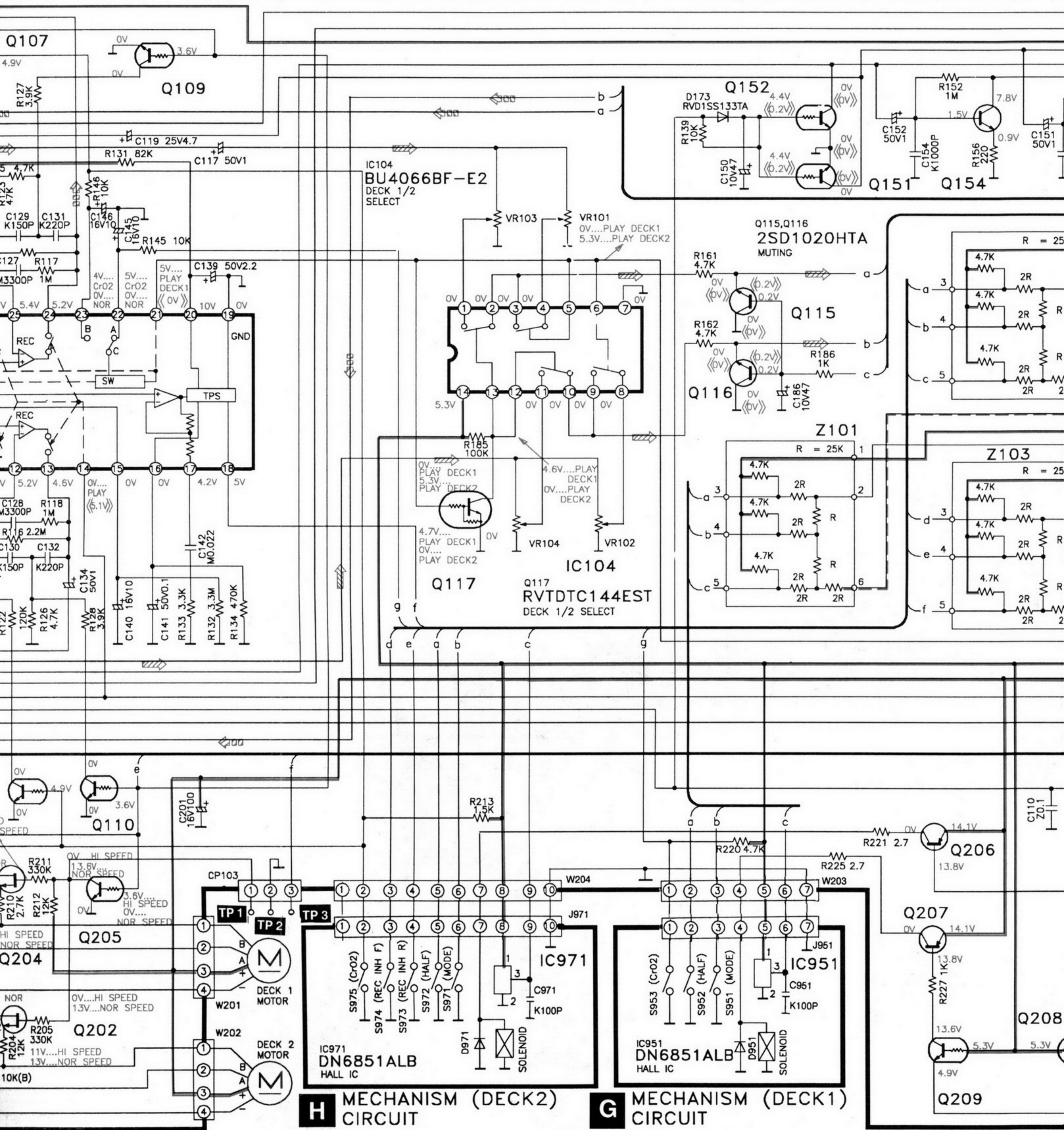
: -B line



: Main signal line

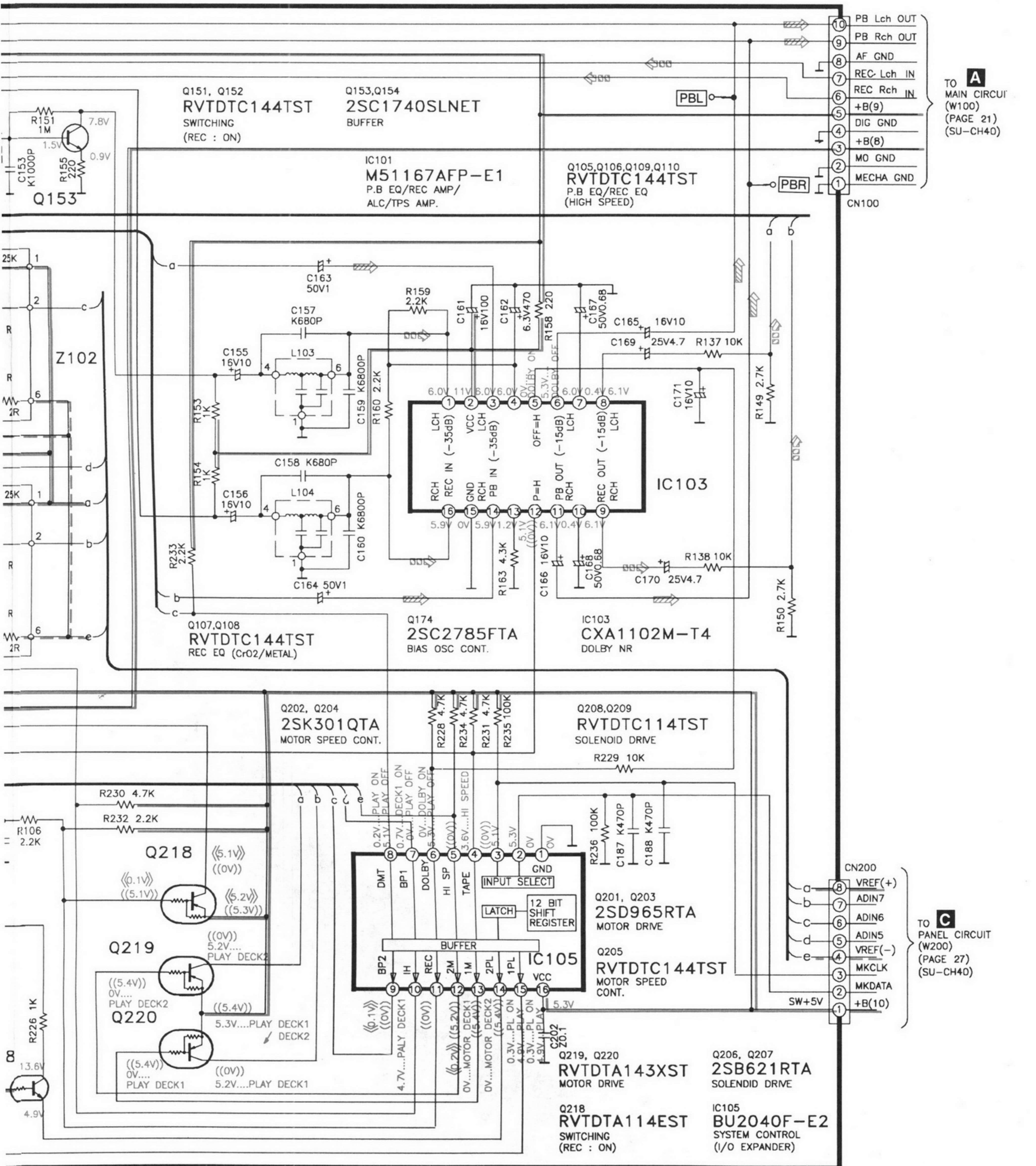
SCHEMATIC DIAGRAM





H MECHANISM (DECK2) CIRCUIT

G MECHANISM (DECK1) CIRCUIT

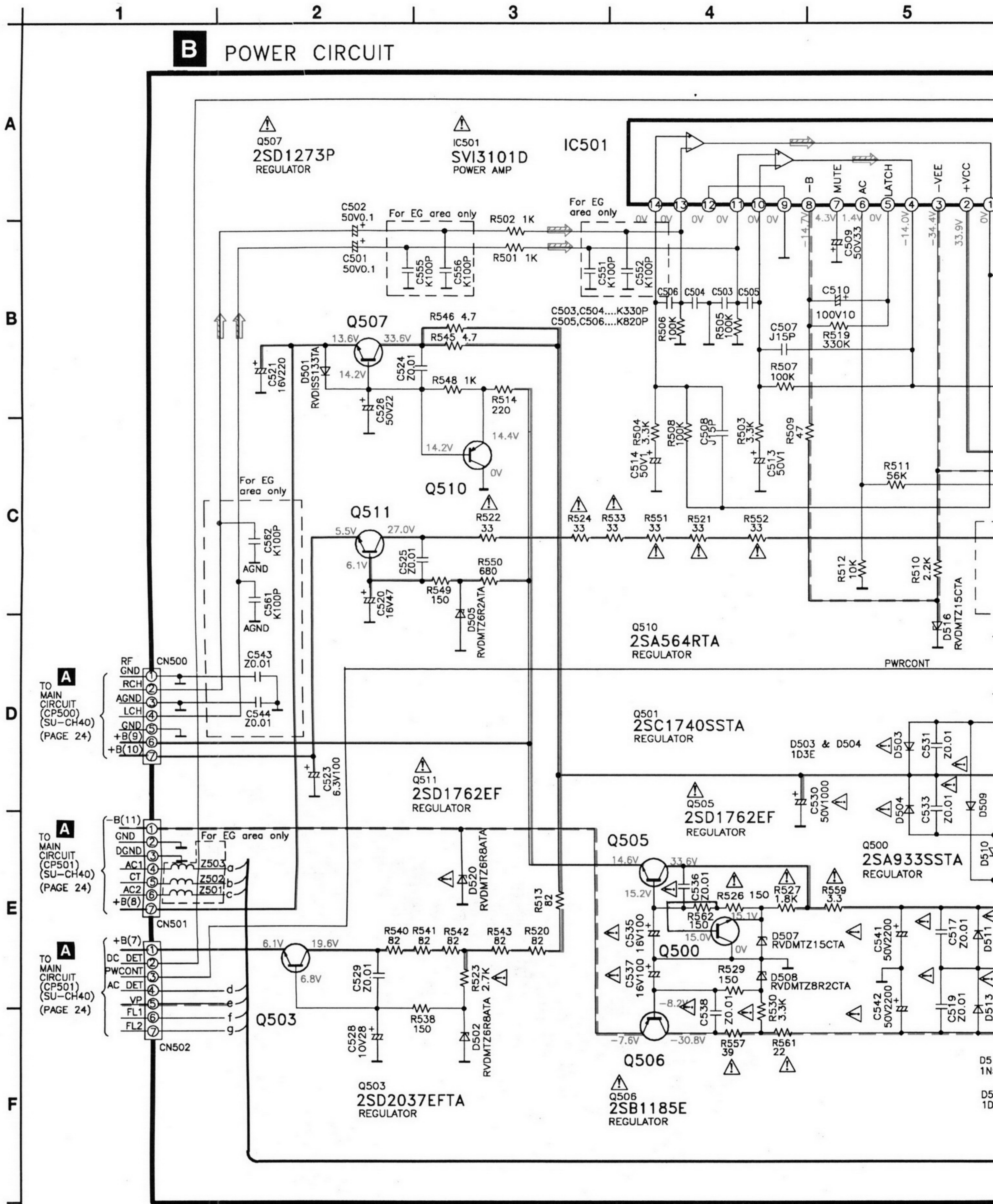


A
TO MAIN CIRCUIT
(W100)
(PAGE 21)
(SU-CH40)

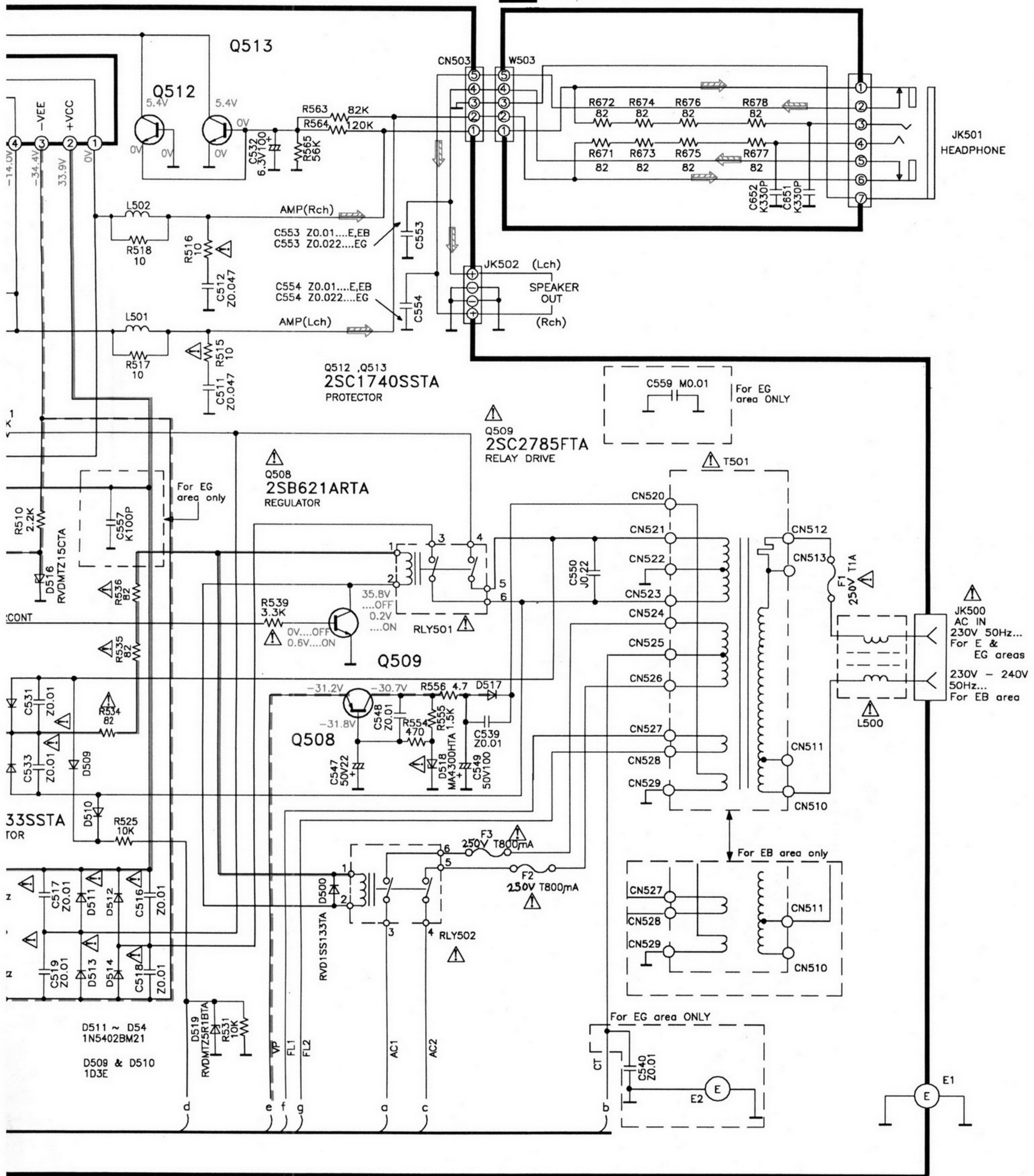
C
TO PANEL CIRCUIT
(W200)
(PAGE 27)
(SU-CH40)

SCHEMATIC DIAGRAM

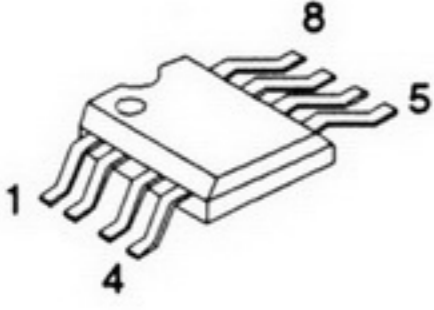
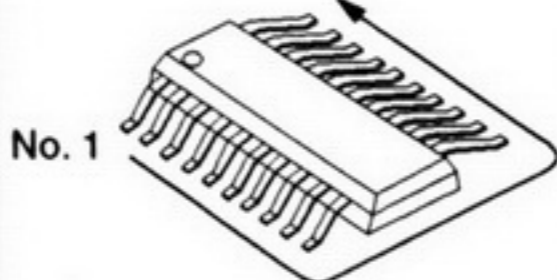
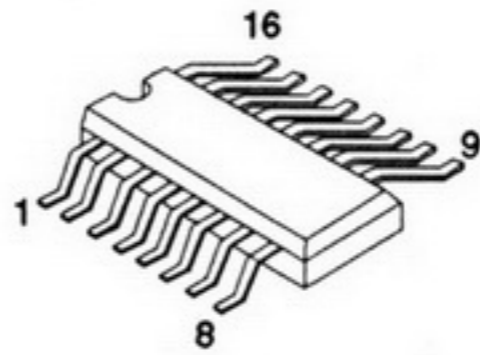
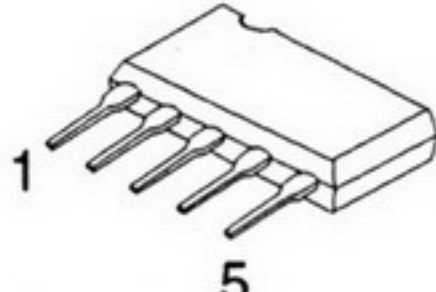
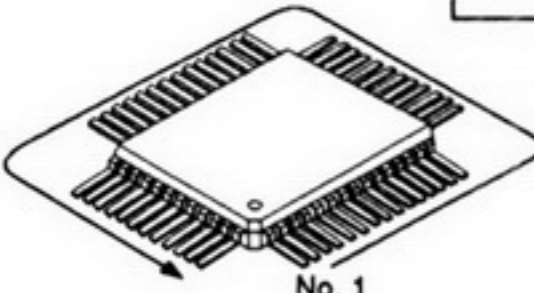
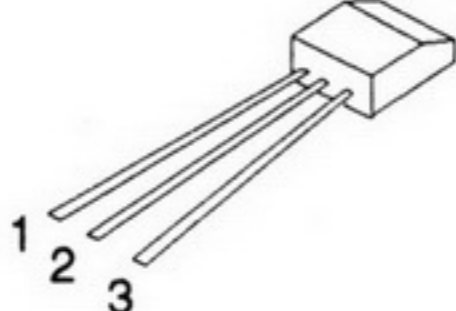
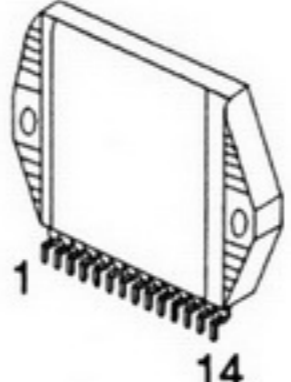
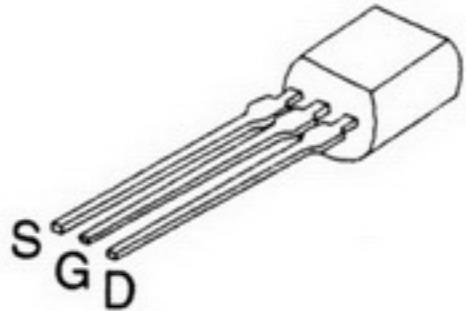
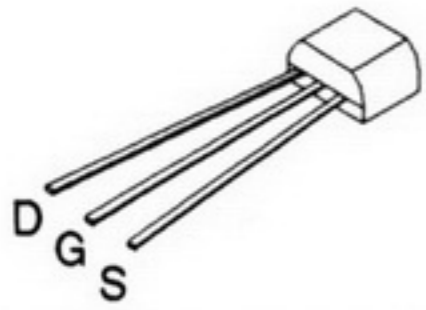
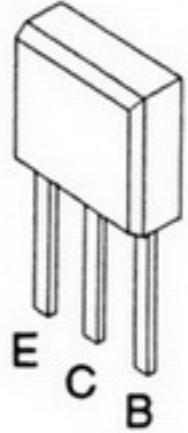
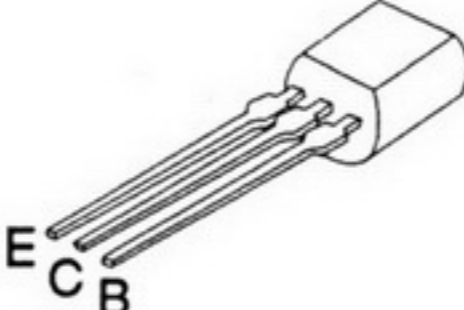
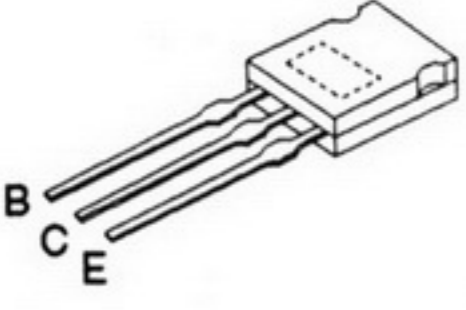
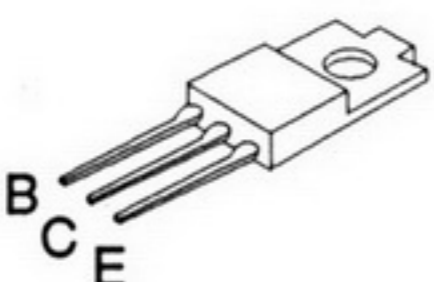
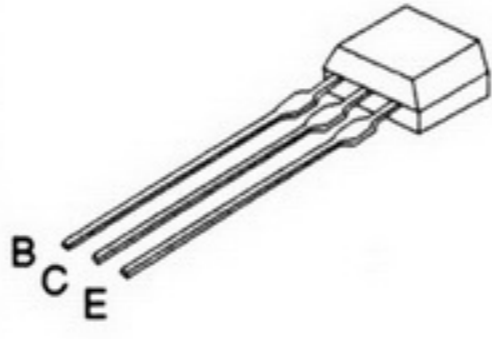
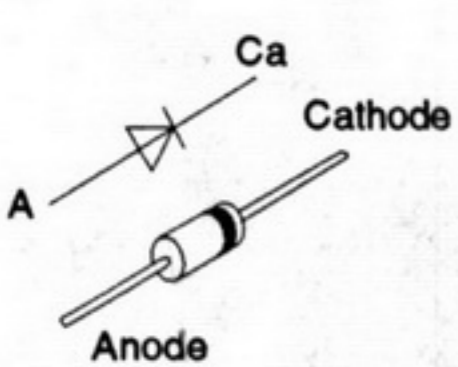
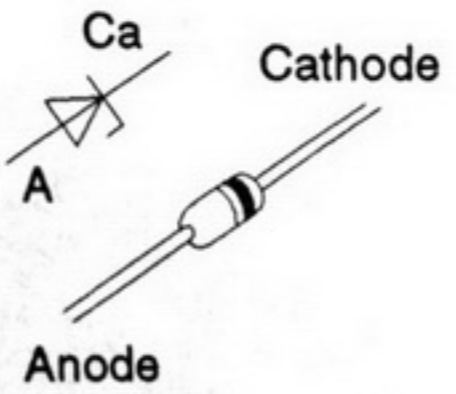
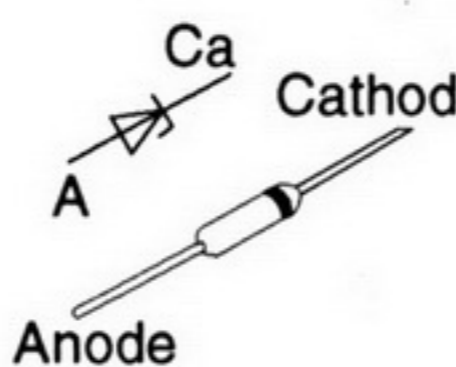
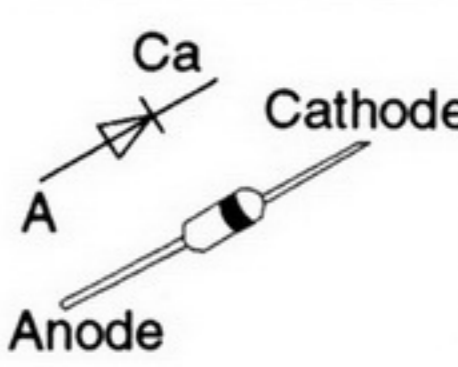
B POWER CIRCUIT



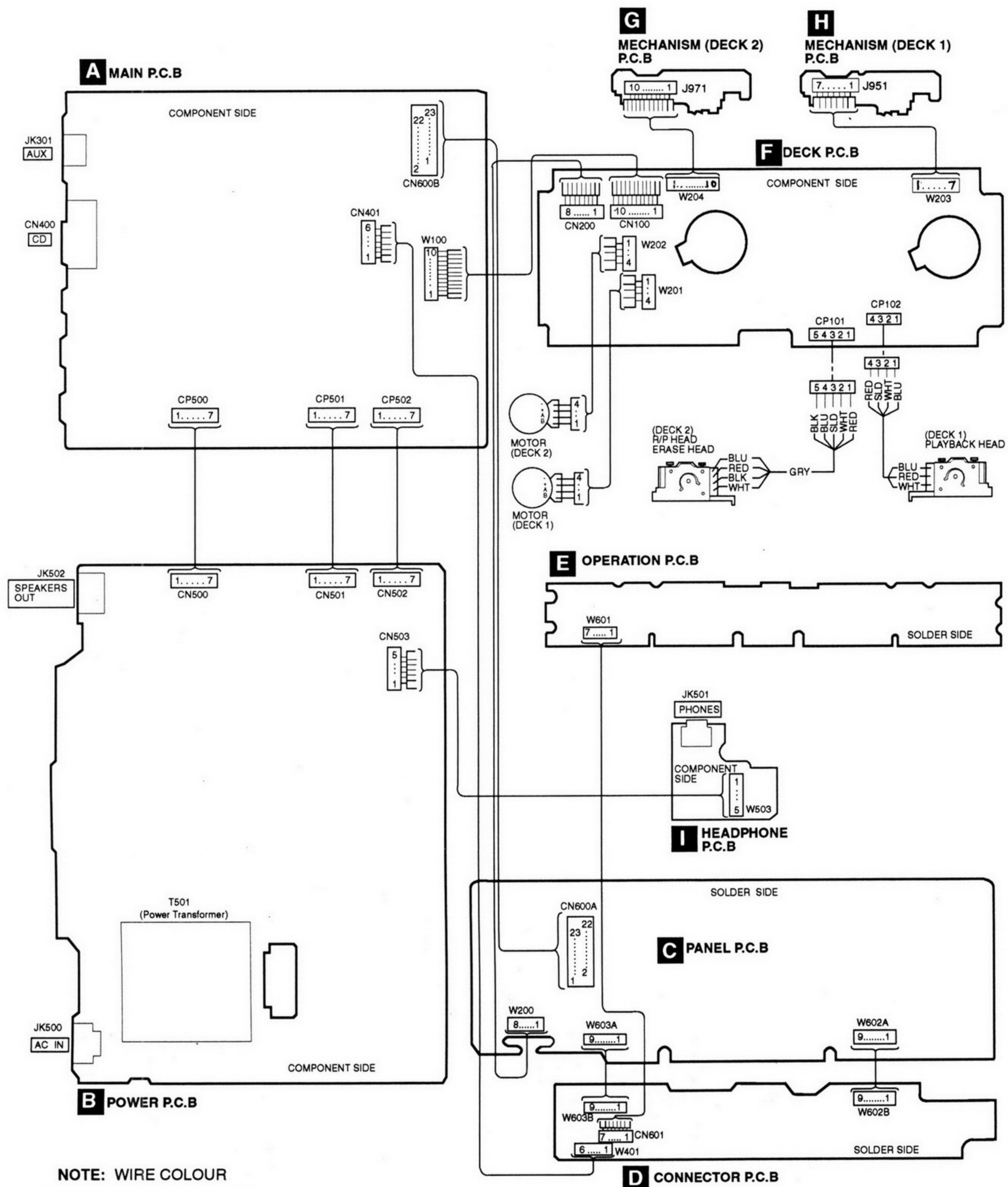
HEADPHONE CIRCUIT



■ TERMINAL GUIDE OF ICs, TRANSISTORS AND DIODES

<p>BA4558FDXE2</p> 	<table border="1" data-bbox="897 411 1188 616"> <tr> <td>BU2040F-E2</td> <td>16Pin</td> </tr> <tr> <td>CXA1102M-T4</td> <td>16Pin</td> </tr> <tr> <td>M51167BFP-E1</td> <td>36Pin</td> </tr> <tr> <td>LA5608-TE-L</td> <td>14Pin</td> </tr> </table> 	BU2040F-E2	16Pin	CXA1102M-T4	16Pin	M51167BFP-E1	36Pin	LA5608-TE-L	14Pin	<p>UPD4052BG-E2</p> 	<p>BA7755A</p> 
BU2040F-E2	16Pin										
CXA1102M-T4	16Pin										
M51167BFP-E1	36Pin										
LA5608-TE-L	14Pin										
<table border="1" data-bbox="548 688 886 788"> <tr> <td>M38173M6272</td> <td>80Pin</td> </tr> <tr> <td>M62408FP</td> <td>100Pin</td> </tr> </table> 	M38173M6272	80Pin	M62408FP	100Pin	<p>DN6851ALB</p> 	<p>SVI3101D</p> 	<p>2SK301QTA</p> 				
M38173M6272	80Pin										
M62408FP	100Pin										
<p>2SJ40CDTA 2SJ40CTA 2SK381CTA</p> 	 <p>2SC2784FTA 2SD1450STA 2SC2785FTA 2SA933SSTA 2SD1020HTA</p>	 <p>2SB621RTA 2SD965RTA 2SA564RTA 2SB621ARTA</p>									
<p>2SD2037EFTA</p> 	<p>2SB1185E 2SD1762EF 2SD1273P</p> 		<p>RVTDTA114EST RVTDTA124EST RVTDTA143XST RVTDTA144TST RVTDTA114TST RVTDTA124EST RVTDTA144TST RVTDTA114TST</p> <p>RVTDTC144EST 2SC1740SLNET 2SC1740SLNST 2SC1740SSTA</p>								
<p>1D3E 1N5402BM21</p> 	<p>MA4300HTA</p> 	<p>RVDMT4R7BTA</p> 	<p>RVDMTZ3R6BTA RVDMTZ8R2CTA RVDMTZ15CTA RVDMTZ10BTA RVDMTZ6R8ATA RVDMTZ6R8BTA RVDMTZ5R1BTA RVDMTZ6R2ATA</p>	<p>1SS291TA RVD1SS133TA</p> 							

WIRING CONNECTION DIAGRAM



NOTE: WIRE COLOUR

BLK	.....	Black
BLU	.....	Blue
GRY	.....	Gray
RED	.....	Red
SLD	.....	Shield Wire
WHT	.....	White