

Service Manual

CD Stereo System

SA-CH72

Colour

(K) Black Type

COMPACT
disc
 DIGITAL AUDIO

MASH*1
 multi-stage noise shaping

 *2 **DOLBY B NR**


Remote Control Transmitter

SB-CH72

SA-CH72

SB-CH72

TAPE SECTION : AR300 MECHANISM SERIES
CD SECTION : RAE01.13Z TRAVERSE DECK SERIES

Specifications

Amplifier Section

1 kHz continuous power output, both channels driven	2 x 35 W (THD 1%, 6Ω)
RMS	2 x 47 W (THD 10%, 6Ω)
Total harmonic distortion	
Half power at 1 kHz	0.07 % (6Ω)
Frequency response	
CD, AUX	45 Hz — 20 kHz (–3 dB)
Input sensitivity and impedance	
AUX	250 mV, 28 kΩ
Load impedance	6 Ω

FM Tuner Section

Frequency range	87.5 — 108.0 MHz
Sensitivity	23.3 dBf
Total harmonic distortion	
MONO	0.3%
STEREO	0.5%
S/N MONO	60 dB
Image rejection at 98 MHz	35 dB
Stereo separation at 1 kHz	35 dB
Antenna terminal(s)	75Ω (unbalanced)

AM Tuner Section

Frequency range	
MW	522 — 1611 kHz
LW	144 — 288 kHz
Sensitivity (for 500 mW)	
MW (at 999 kHz)	250 μV/m
LW (at 252 kHz)	500 μV/m

Notes :

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

*2

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.

Panasonic®

Area

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

System	Music Center	Speaker
SC-CH72 E	SA-CH72 E	SB-CH72 E (made in PAES)
SC-CH72 EB	SA-CH72 EB	
SC-CH72 EG	SA-CH72 EG	

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
Erasing system	AC erase 100 kHz
Tape speed	4.8 cm/s (1 7/8 ips)
Frequency response	
NORMAL	40 Hz — 14 kHz (+3 dB, –6 dB)
CrO ₂	40 Hz — 14 kHz (+3 dB, –6 dB)
S/N (CrO ₂ type)	
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

CD Changer Section

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source/wave length	Semiconductor laser/780 nm
Number of channels	Stereo
Frequency response	20 Hz — 20 kHz (+1, –2 dB)
S/N	
CD UNIT OUT	95 dB (JIS.A)
Wow and flutter	Below measurable limit
Digital filter	4 fs
D/A converter	MASH (1 bit DAC)

General

Power consumption	120 W
Power supply	AC 50 Hz, 230 V (E, EG) AC 50 Hz, 230 — 240 V (EB)
Dimensions (W x H x D)	270 x 345 x 327 mm
Weight	8.2 kg

*1 MASH is a trademark of NTT.

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■ Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

< for Operation (1) circuit , Operation (2) circuit and Panel circuit > (Page 42 ~ 43)

• S900	:	DOLBY switch	• S923	:	On/flat switch
• S901	:	Normal speed edit switch	• S924	:	Hall switch
• S902	:	High speed edit switch	• S925	:	Soft switch
• S903	:	Reverse play switch	• S926	:	Clear switch
• S904	:	REW switch	• S927	:	Heavy switch
• S905	:	Stop switch	• S928	:	V. Bass switch
• S906	:	FF switch	• S930	:	Power switch
• S907	:	FWD. play switch	• S931	:	Surround switch
• S908	:	Pause switch	• S932	:	Mute switch
• S909	:	Reverse mode switch	• S933	:	FM mode/BP switch
• S910	:	Deck 1/2 switch	• S934	:	AUX switch
• S911	:	Disc 3 switch	• S936	:	Tuning mode switch
• S912	:	Disc 2 switch	• S937	:	Memory/set switch
• S913	:	Disc 1 switch	• S938	:	Tuning Down switch
• S914	:	Easy record edit switch	• S939	:	Tuning Up switch
• S916	:	Random switch	• S941	:	AM switch
• S917	:	CD stop switch	• S942	:	FM switch
• S918	:	CD pause switch	• S943	:	Timer record switch
• S919	:	CD play switch	• S944	:	Timer play switch
• S920	:	FF/Skip switch	• S945	:	Clock/timer switch
• S921	:	REV/Skip switch	• VR900	:	Volume control
• S922	:	Open/close switch			

< for Servo circuit > (Page 44 - 45)

• S701	:	Reset switch
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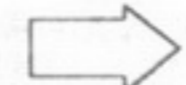
< for Deck circuit, Mechanism (Deck 1) circuit and Mechanism (Deck 2) circuit > (Page 52 - 54)

• S951	:	Deck 1 mode detect switch.	• VR101	:	Deck 1 Lch playback gain adjustment VR (Dolby).
• S952	:	Deck 1 tape detect switch.	• VR102	:	Deck 1 Rch playback gain adjustment VR (Dolby).
• S953	:	Deck 1 CrO ₂ detect switch.	• VR103	:	Deck 2 Lch playback gain adjustment VR (Dolby).
• S971	:	Deck 2 mode detect switch.	• VR104	:	Deck 2 Rch playback gain adjustment VR (Dolby).
• S972	:	Deck 2 tape detect switch.	• VR201	:	Deck 1 tape speed adjustment VR (Normal).
• S973	:	Deck 2 tab detect switch.	• VR202	:	Deck 2 tape speed adjustment VR (Normal).
• S974	:	Deck 2 tab detect switch.	• VR203	:	Deck 2 tape speed adjustment VR (High).
• S975	:	Deck 2 CrO ₂ detect switch.			

< for Loading Motor circuit, Photo Tr. circuit and Led circuit > (Page 56)

• S501	:	Up/down switch.
• S502	:	Full open switch.
• S503	:	Half open switch.

• Signal line


	:	+B line		:	Playback signal line		:	AM(MW/LW) signal line
	:	-B line		:	Record signal line		:	AM(MW/LW) OSC signal line
	:	FM/AM signal line		:	CD signal line		:	FM OSC signal line
	:	Main signal line		:	FM signal line		:	Aux signal line

• 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.

No mark : Playback << >>..... Tape Recording (()): CD ()..... AM(MW/LW) < >..... FM

• Importance safety notice:

Components identified by  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.

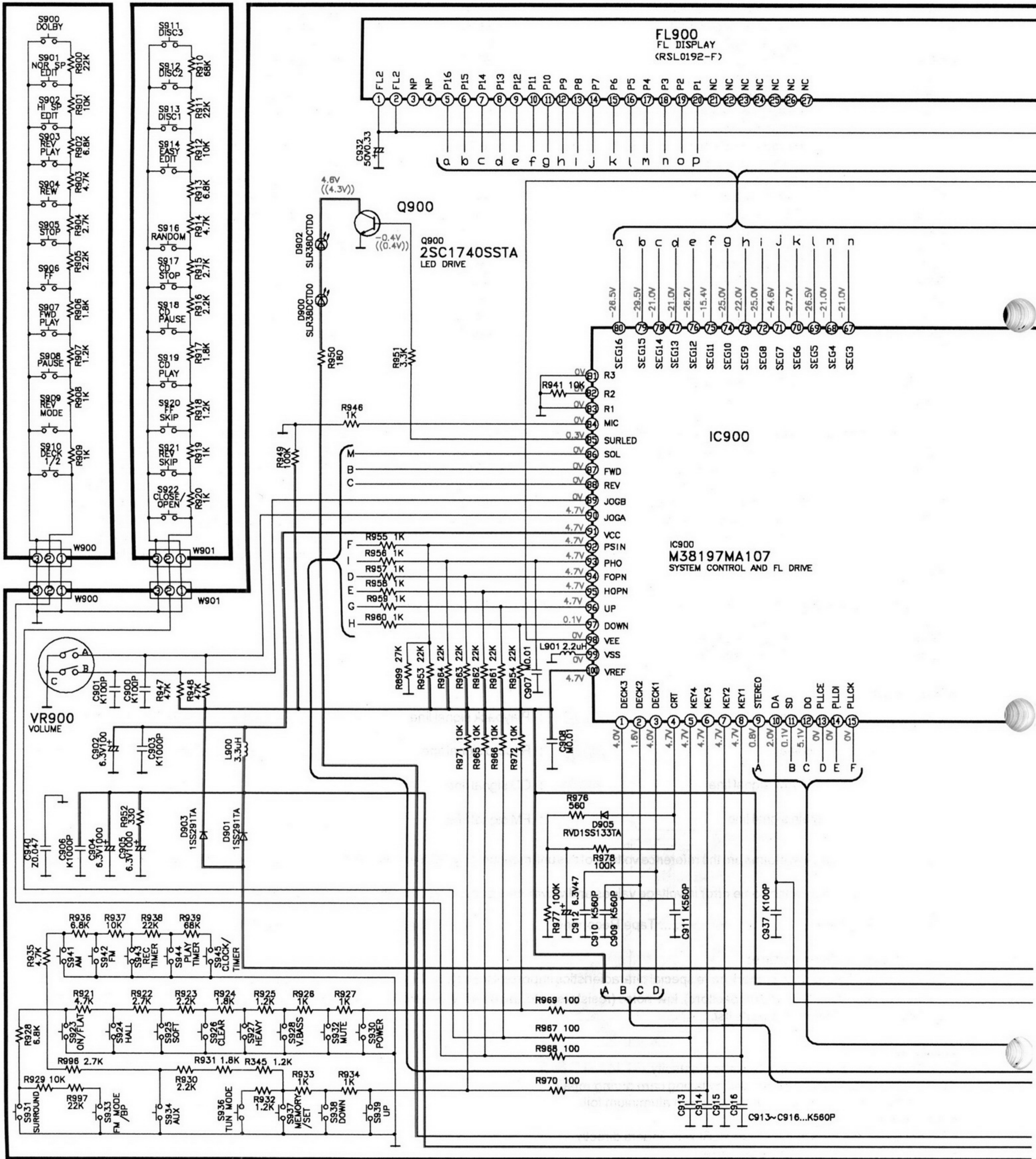
Caution !

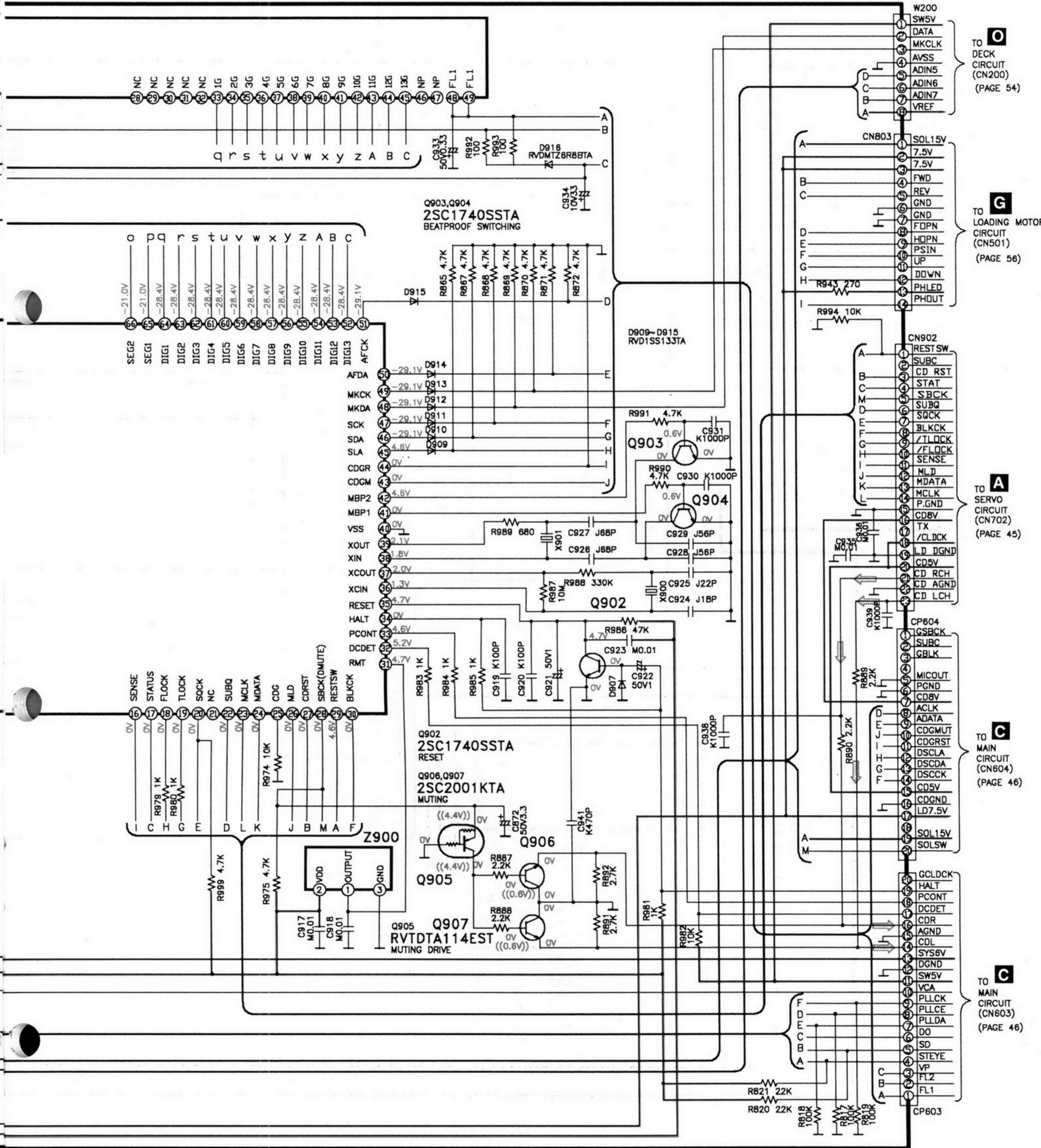
- IC, LSI and VLSI are sensitive to static electricity.
- Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminium foil.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.
- Put a conductive mat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

F
OPERATION
(1)
CIRCUIT

E
OPERATION
(2)
CIRCUIT

D PANEL CIRCUIT





O
TO DECK
CIRCUIT
(CN200)
(PAGE 54)

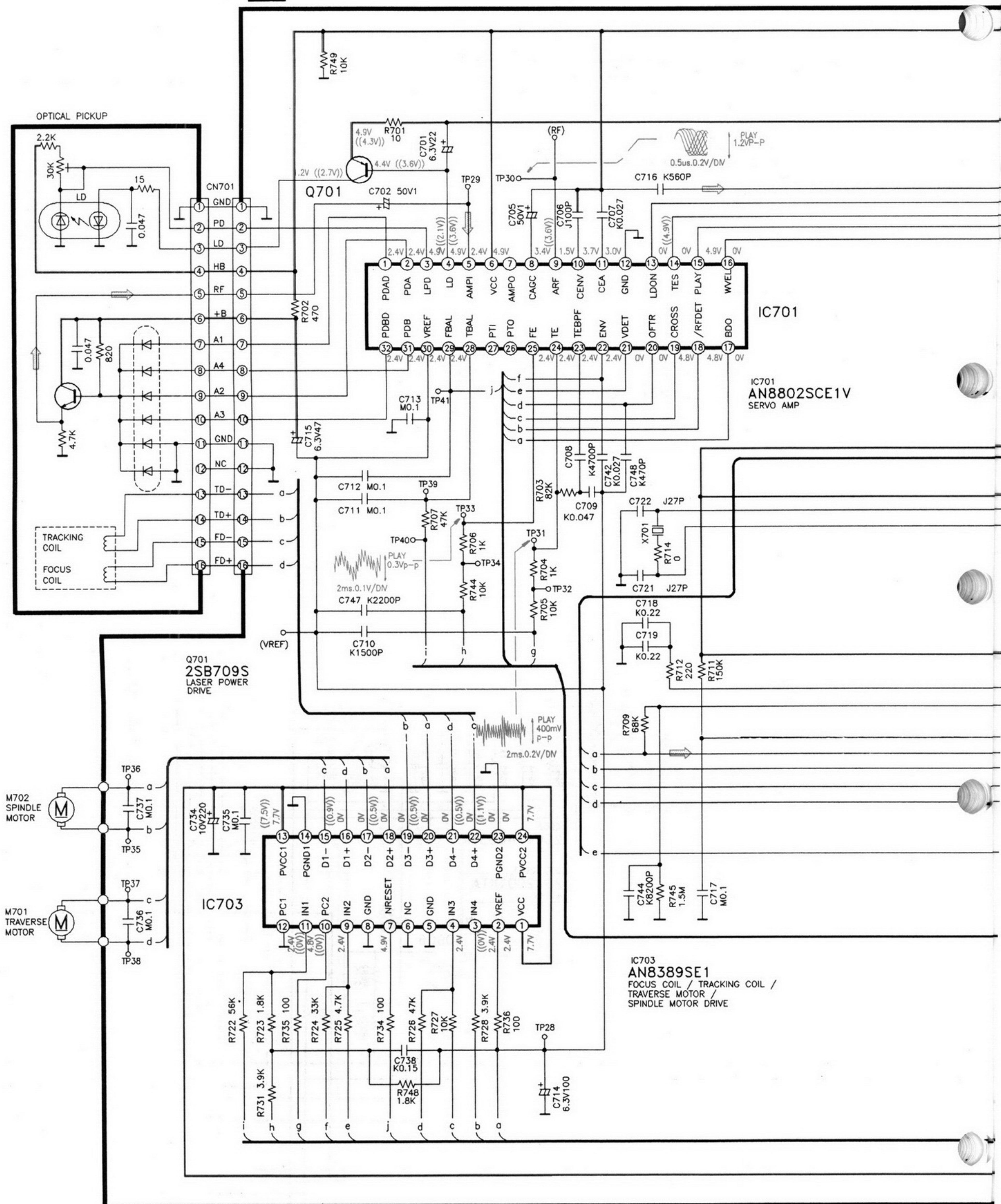
G
TO LOADING MOTOR
CIRCUIT
(CN501)
(PAGE 56)

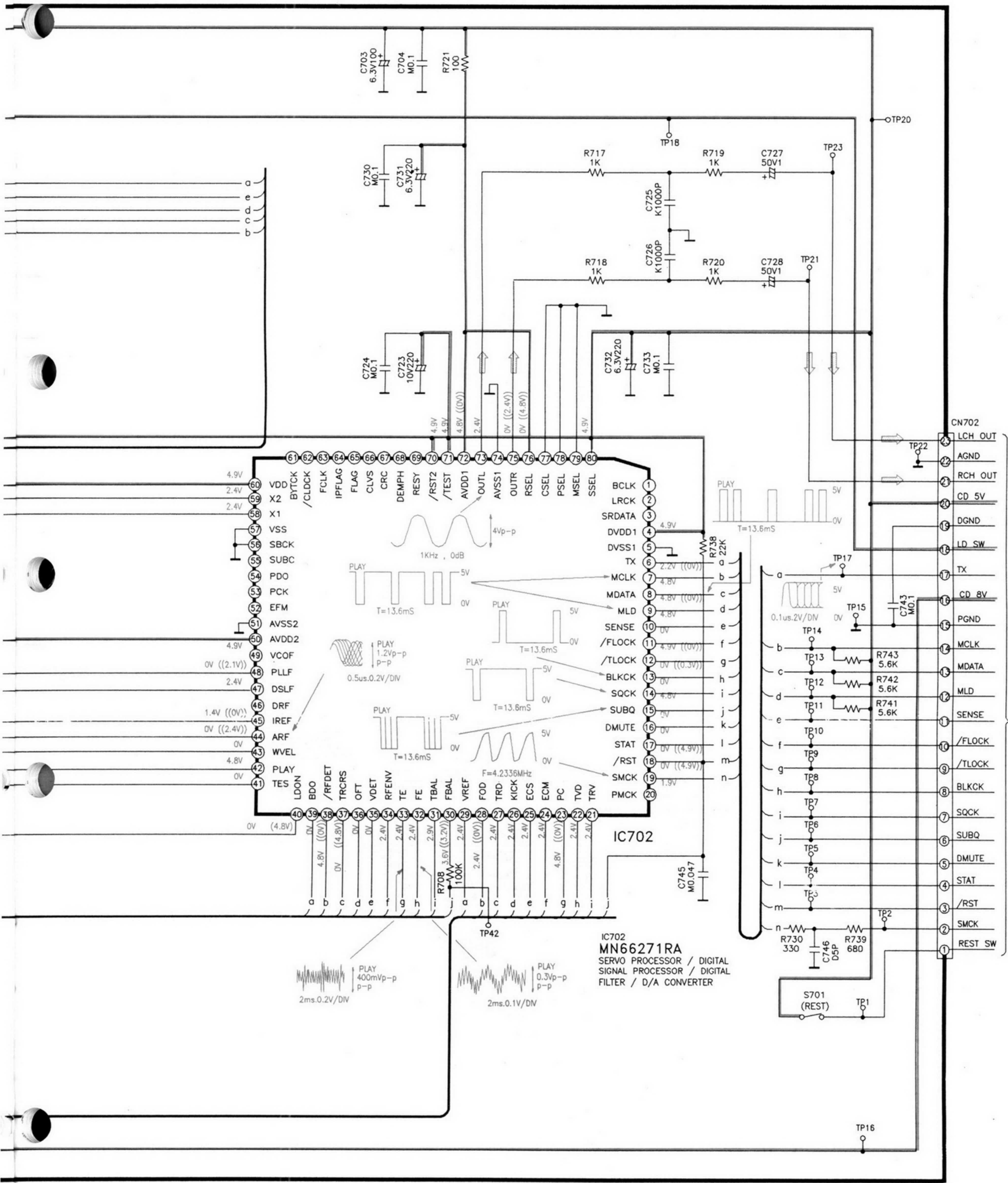
A
TO SERVO
CIRCUIT
(CN702)
(PAGE 45)

C
TO MAIN
CIRCUIT
(CN604)
(PAGE 46)

C
TO MAIN
CIRCUIT
(CN603)
(PAGE 46)

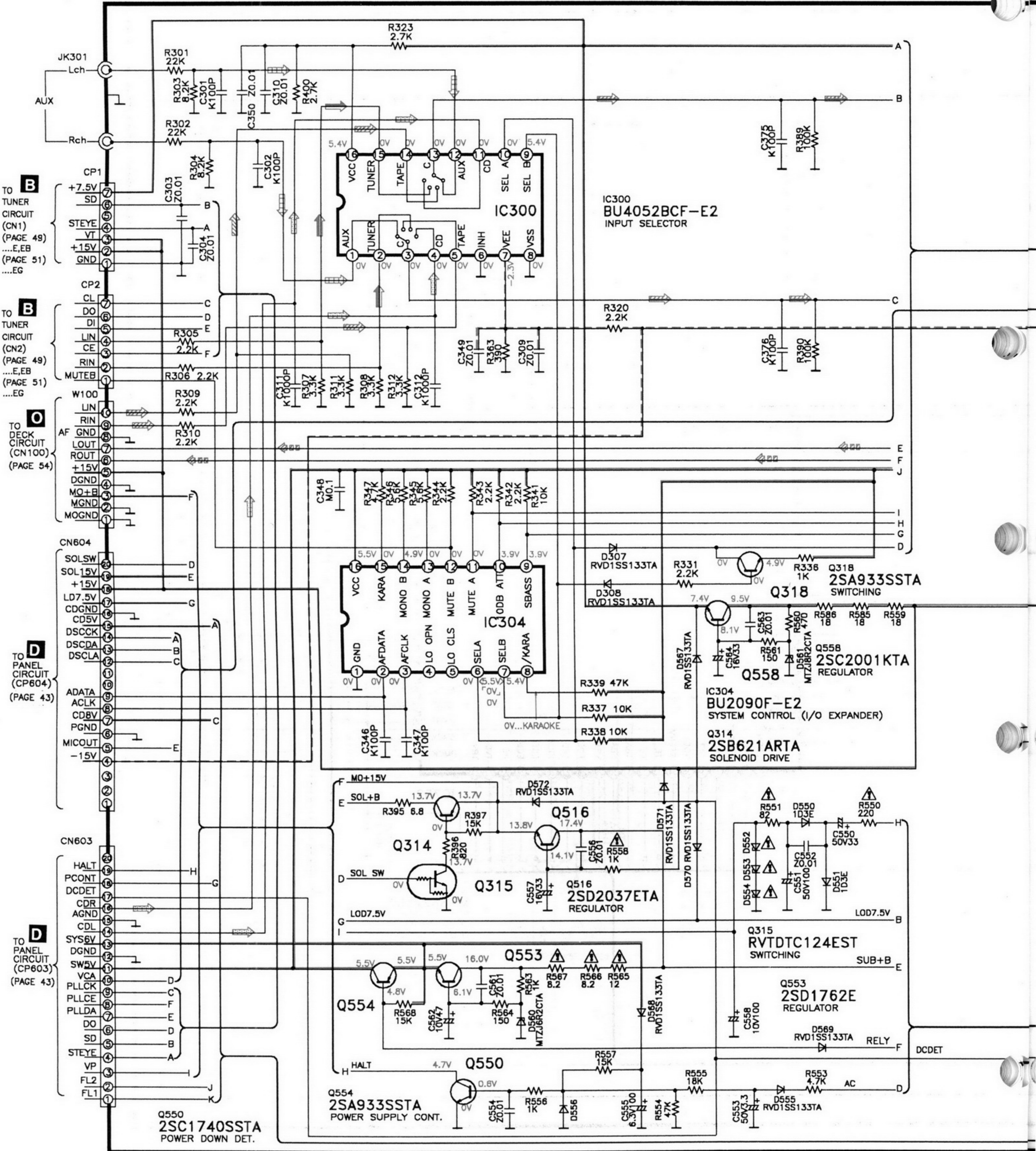
A SERVO CIRCUIT

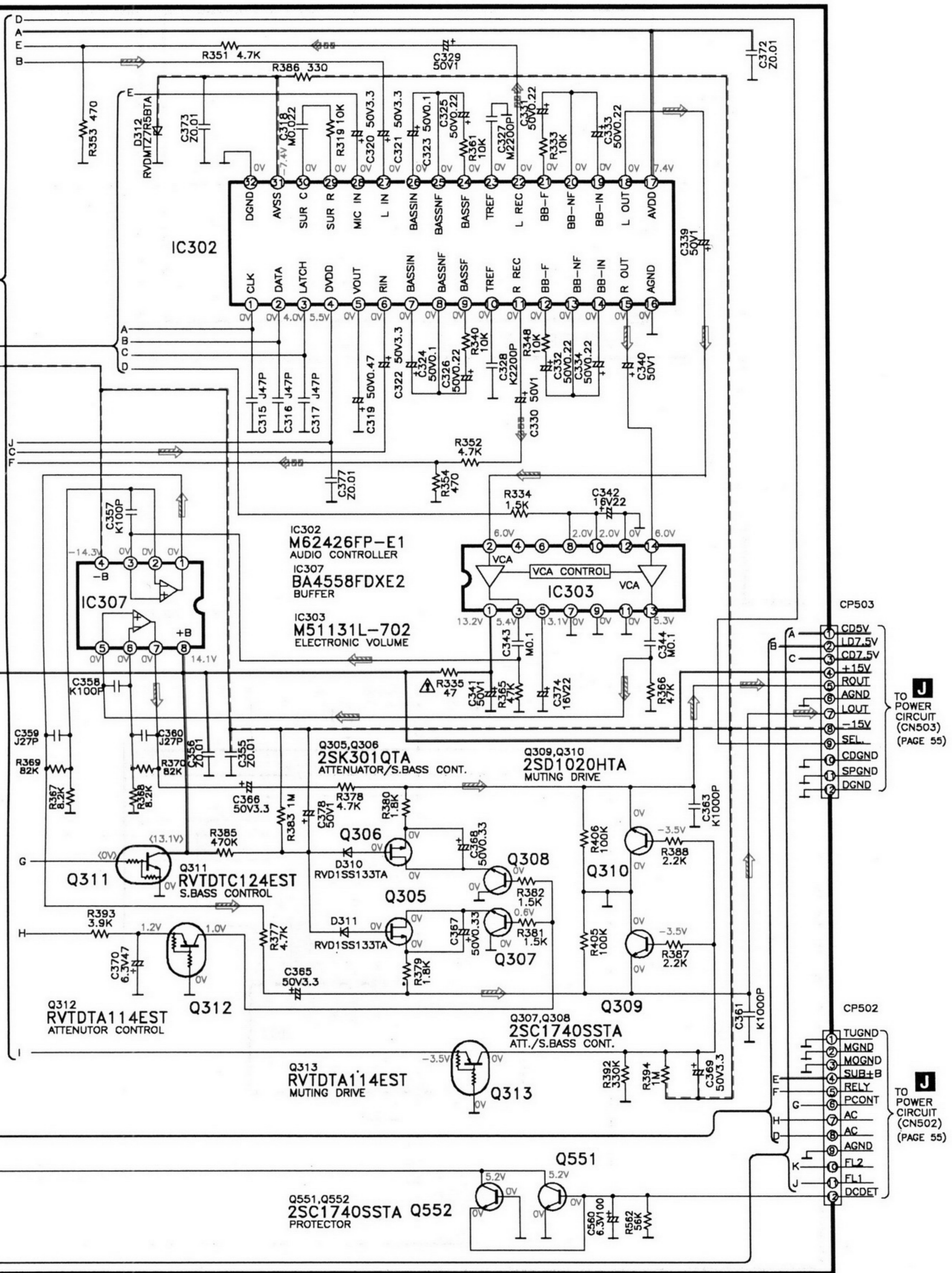




TO **D** PANEL CIRCUIT (CN902) (PAGE 43)

C MAIN CIRCUIT

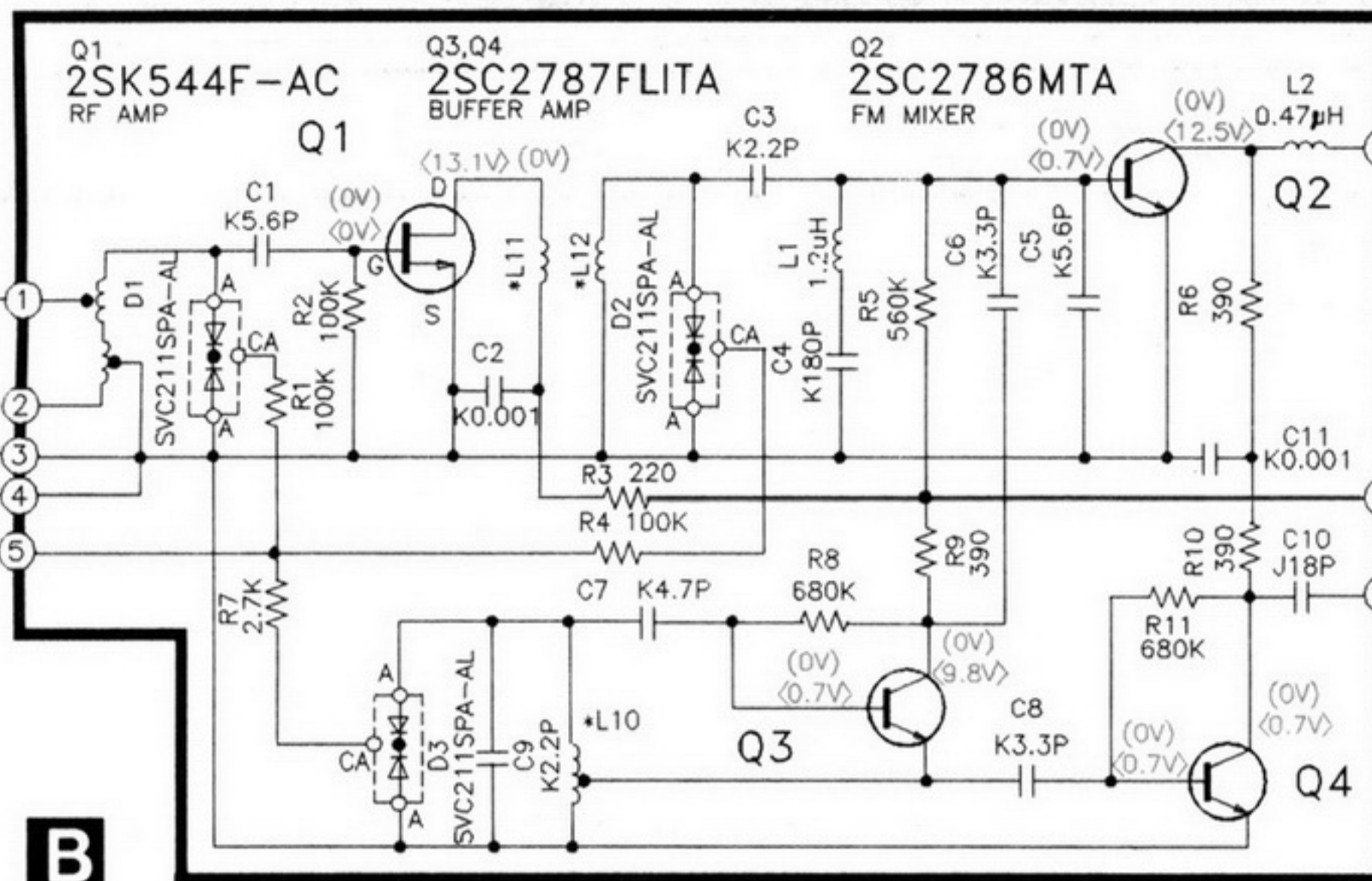




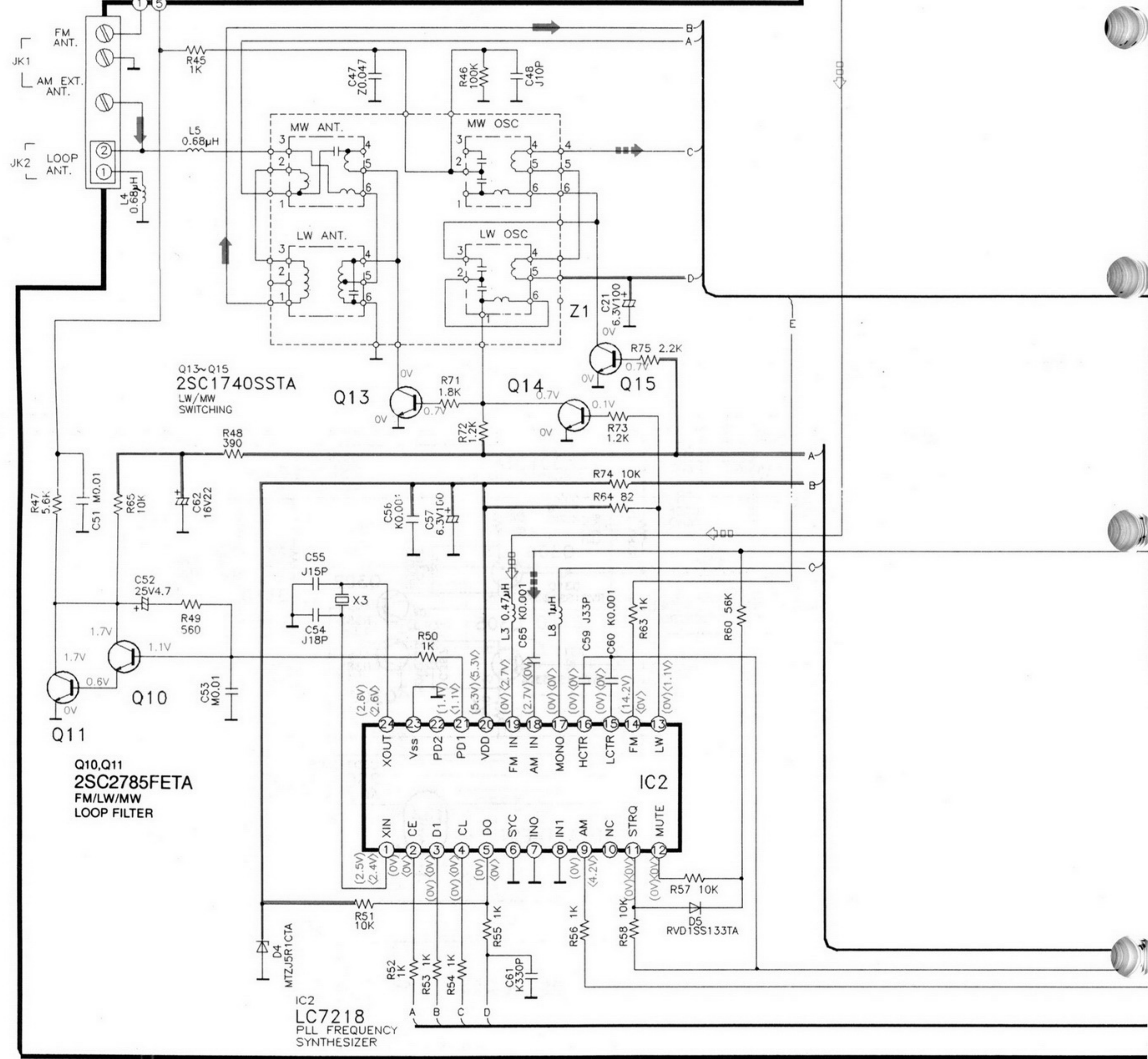
TO POWER CIRCUIT (CN503) (PAGE 55)

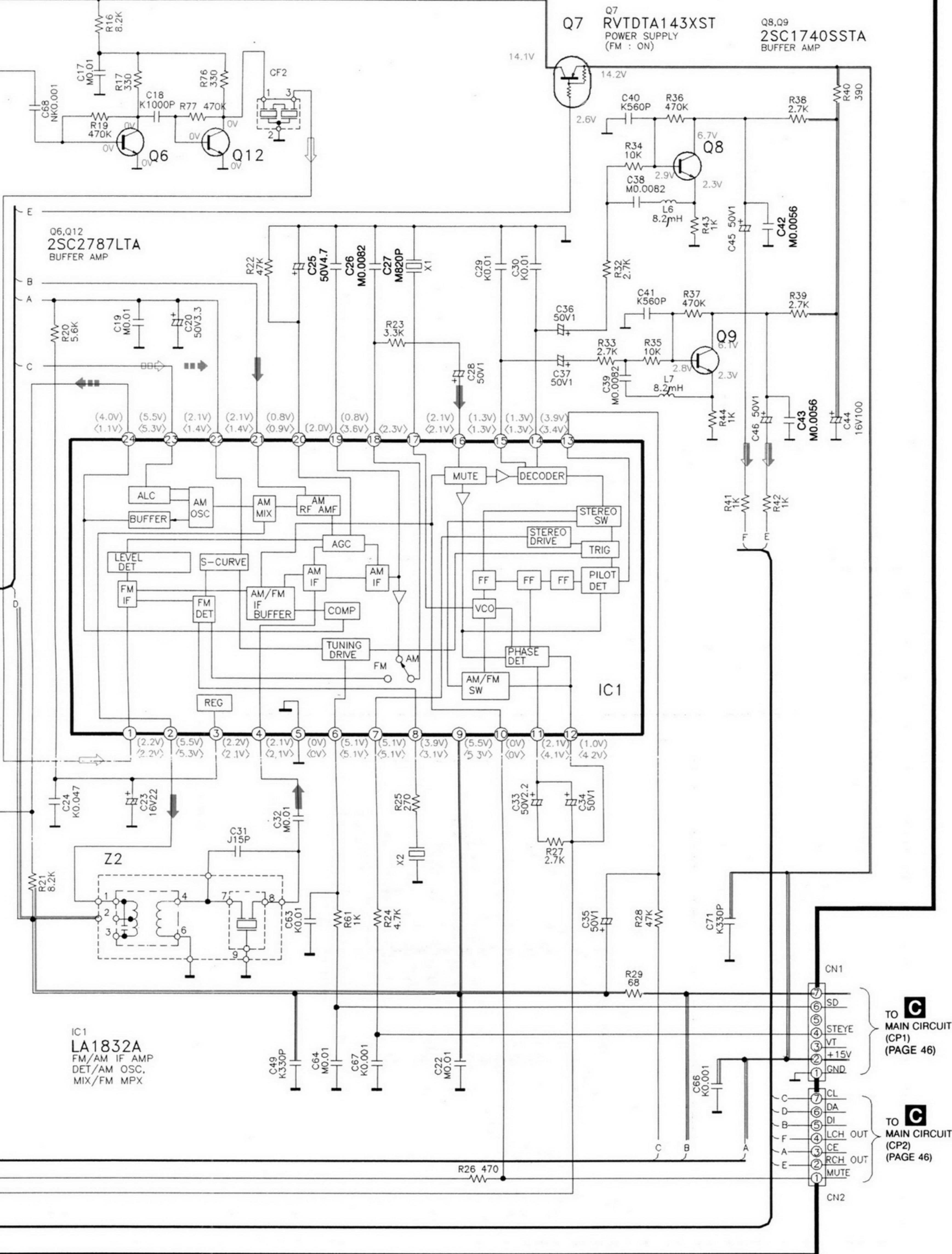
TO POWER CIRCUIT (CN502) (PAGE 55)

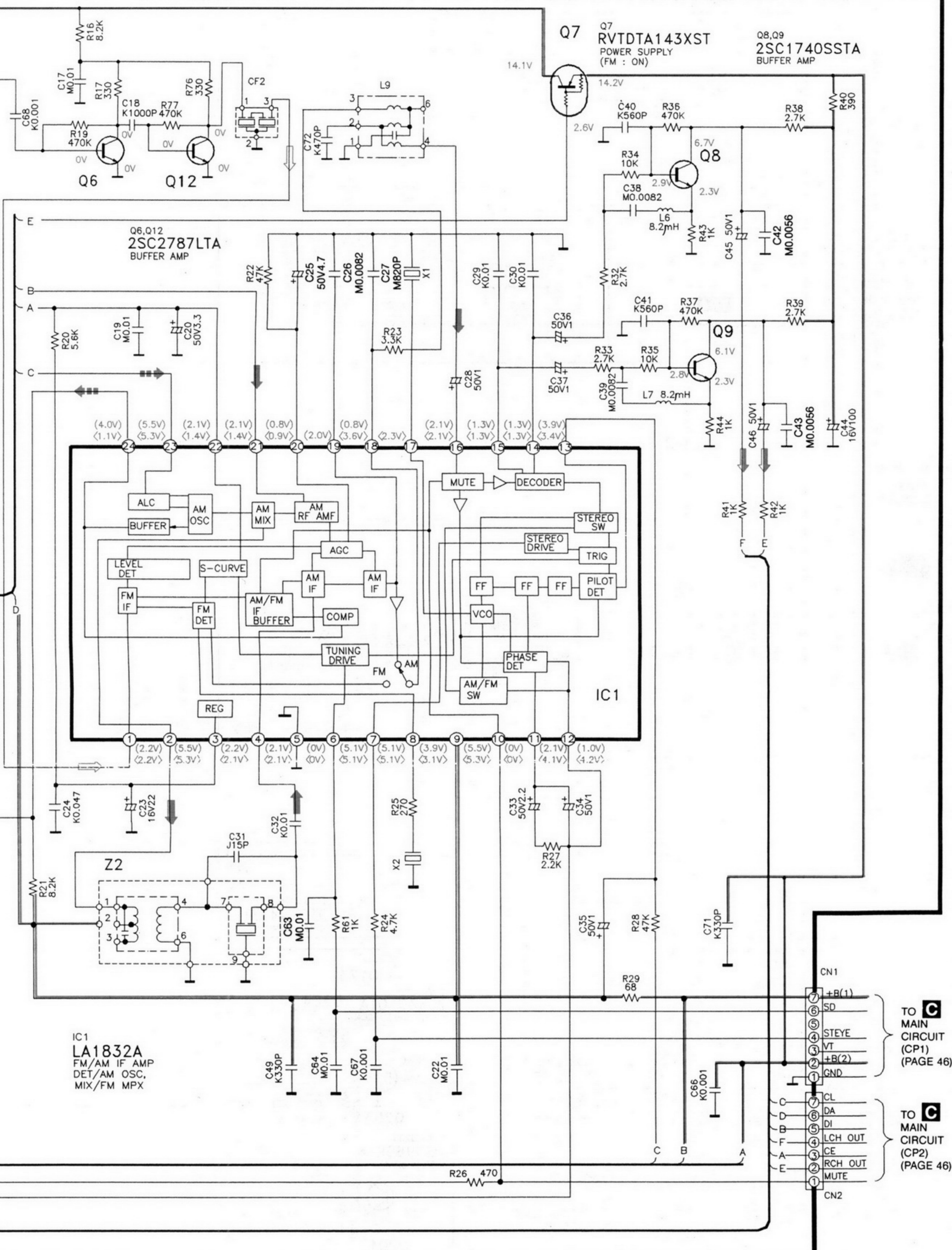
P TUNER PACK CIRCUIT FOR E,EB AREAS



B TUNER CIRCUIT FOR E,EB AREAS



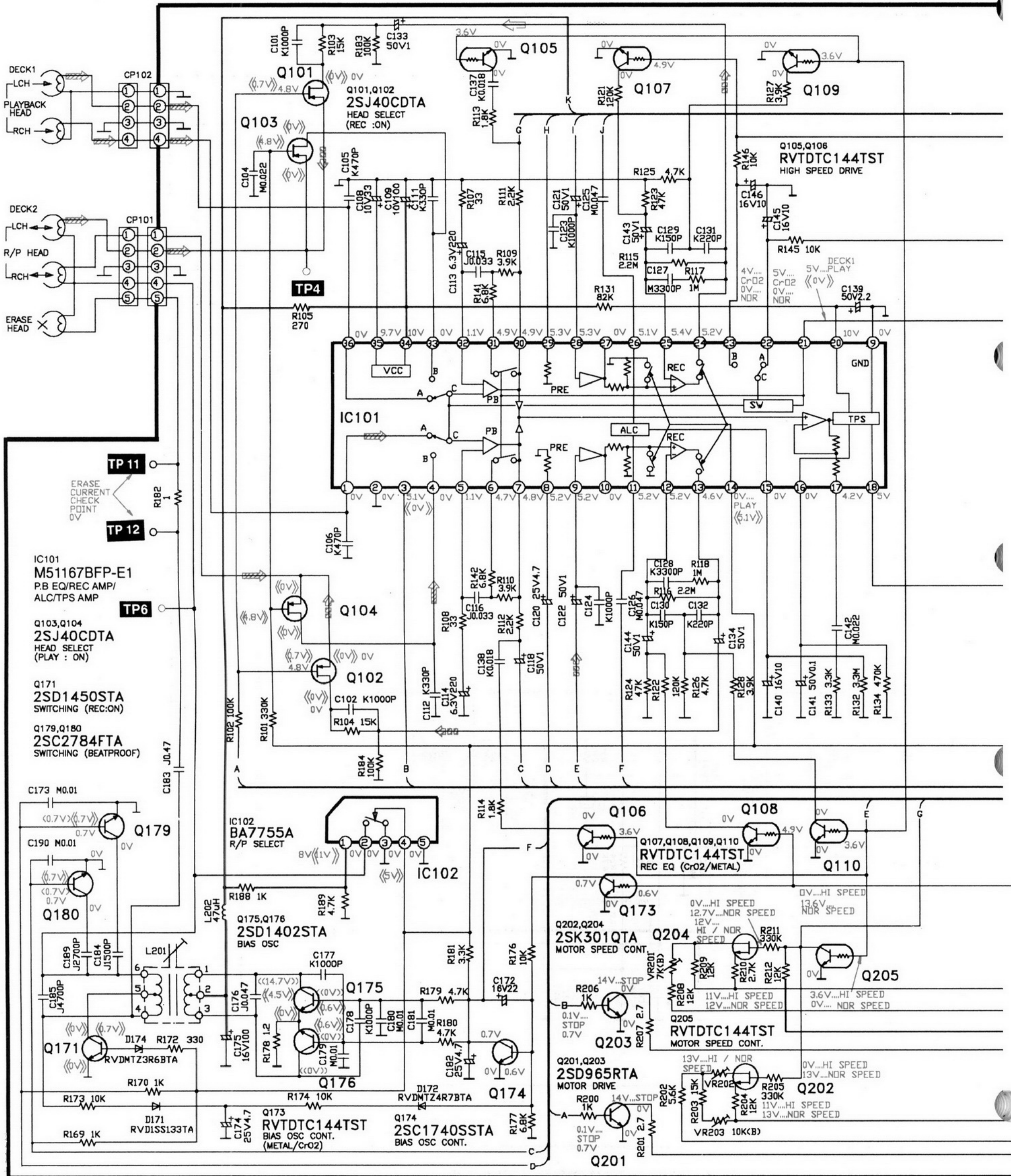


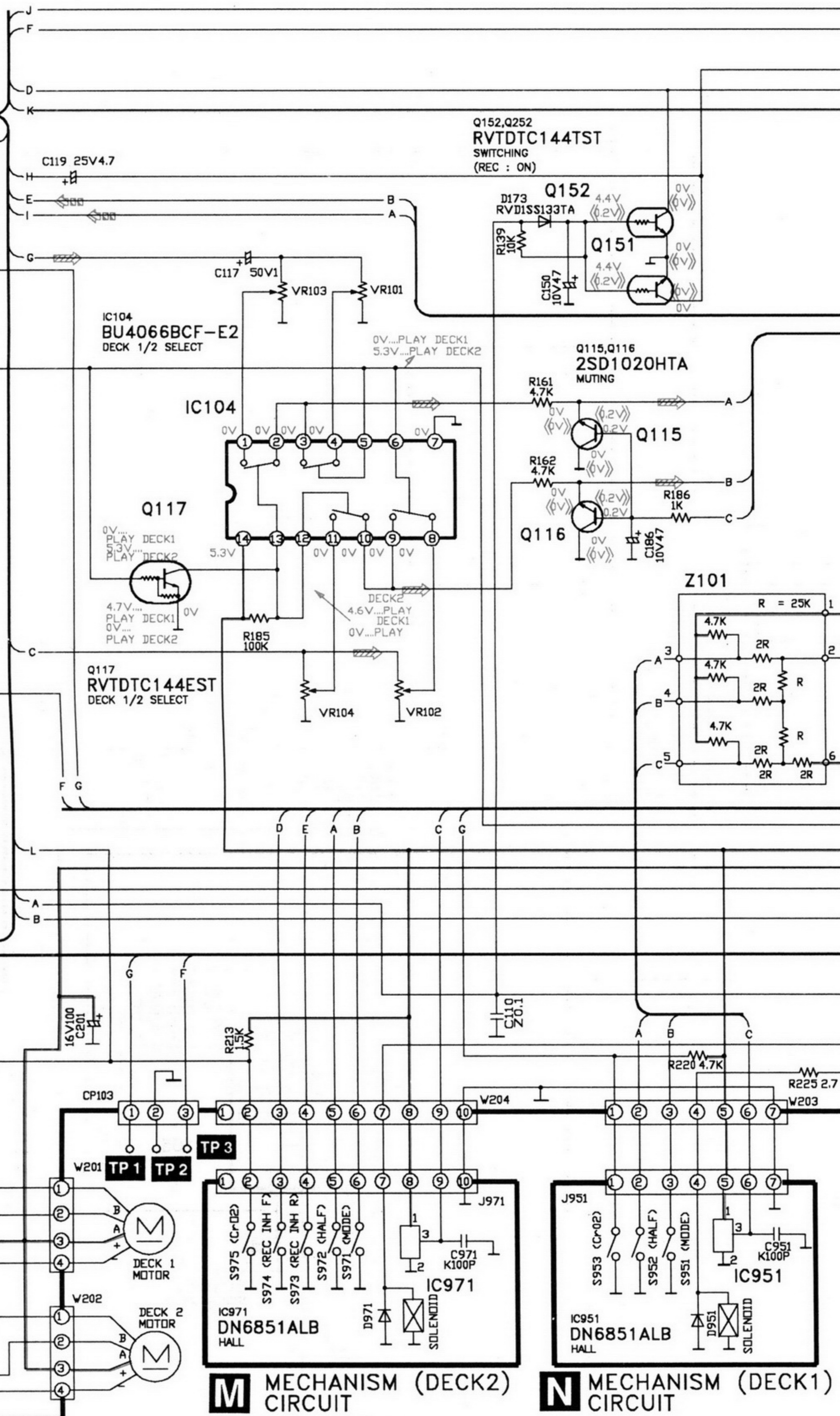


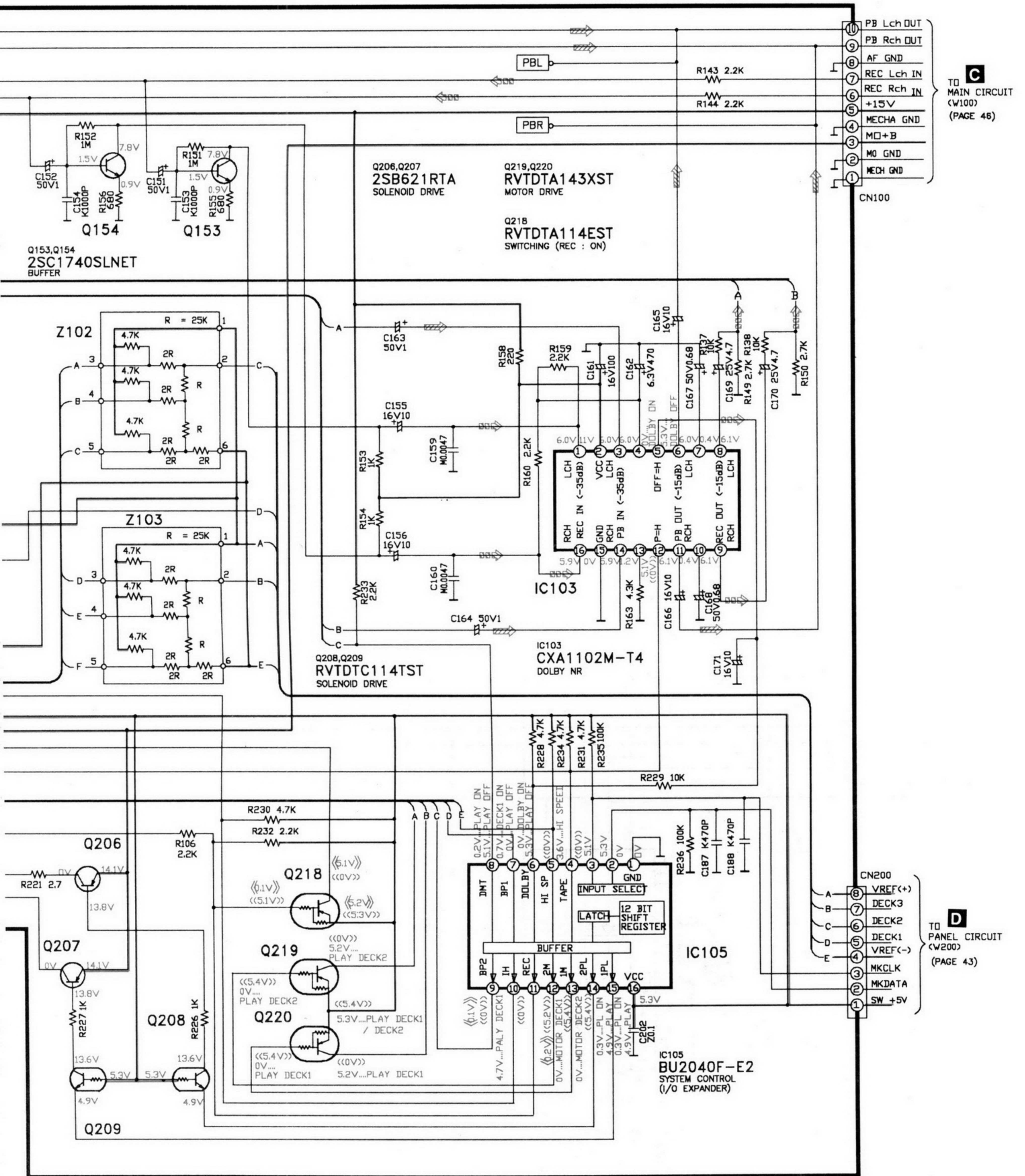
TO MAIN
CIRCUIT
(CP1)
(PAGE 46)

TO MAIN
CIRCUIT
(CP2)
(PAGE 46)

DECK CIRCUIT



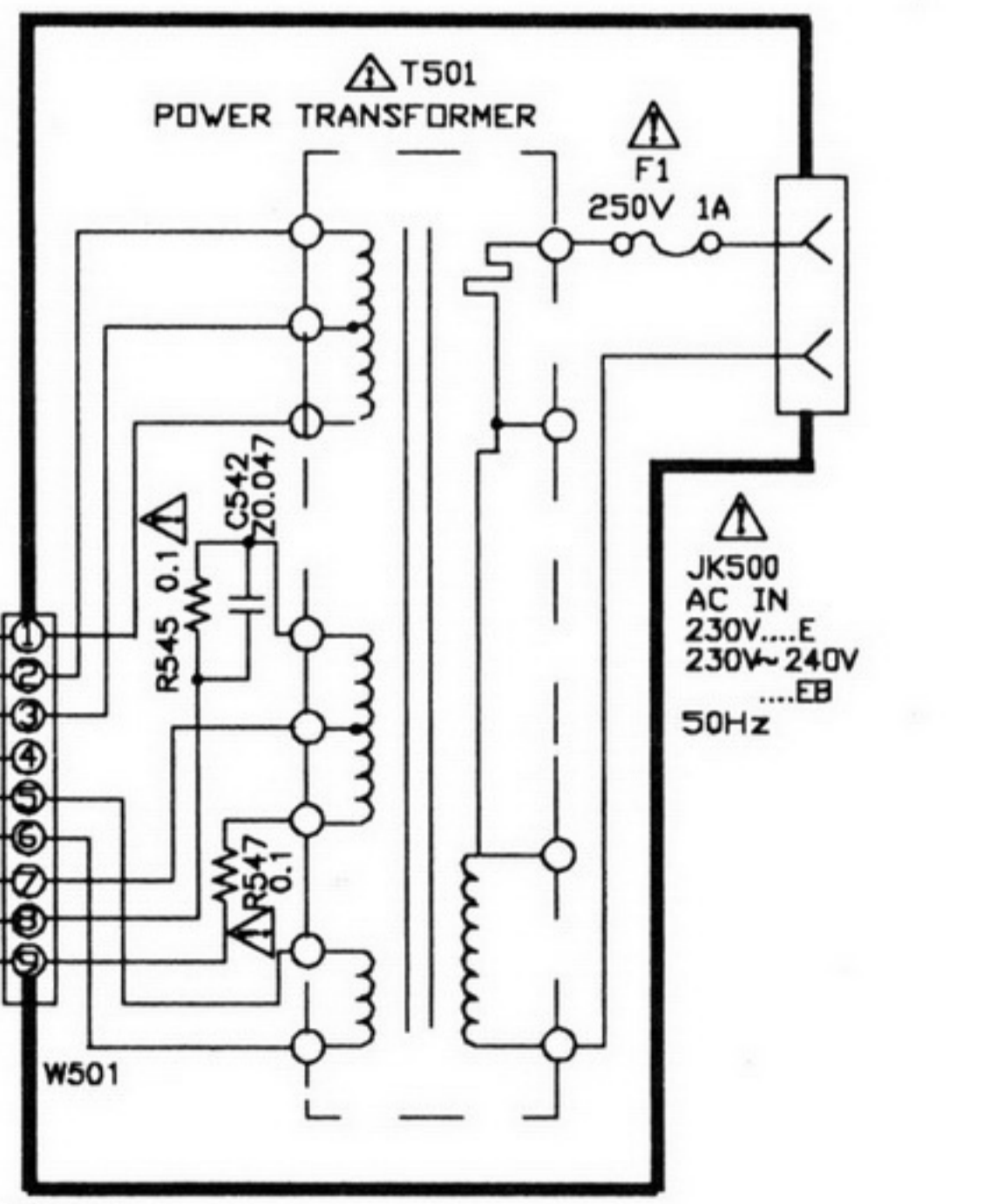
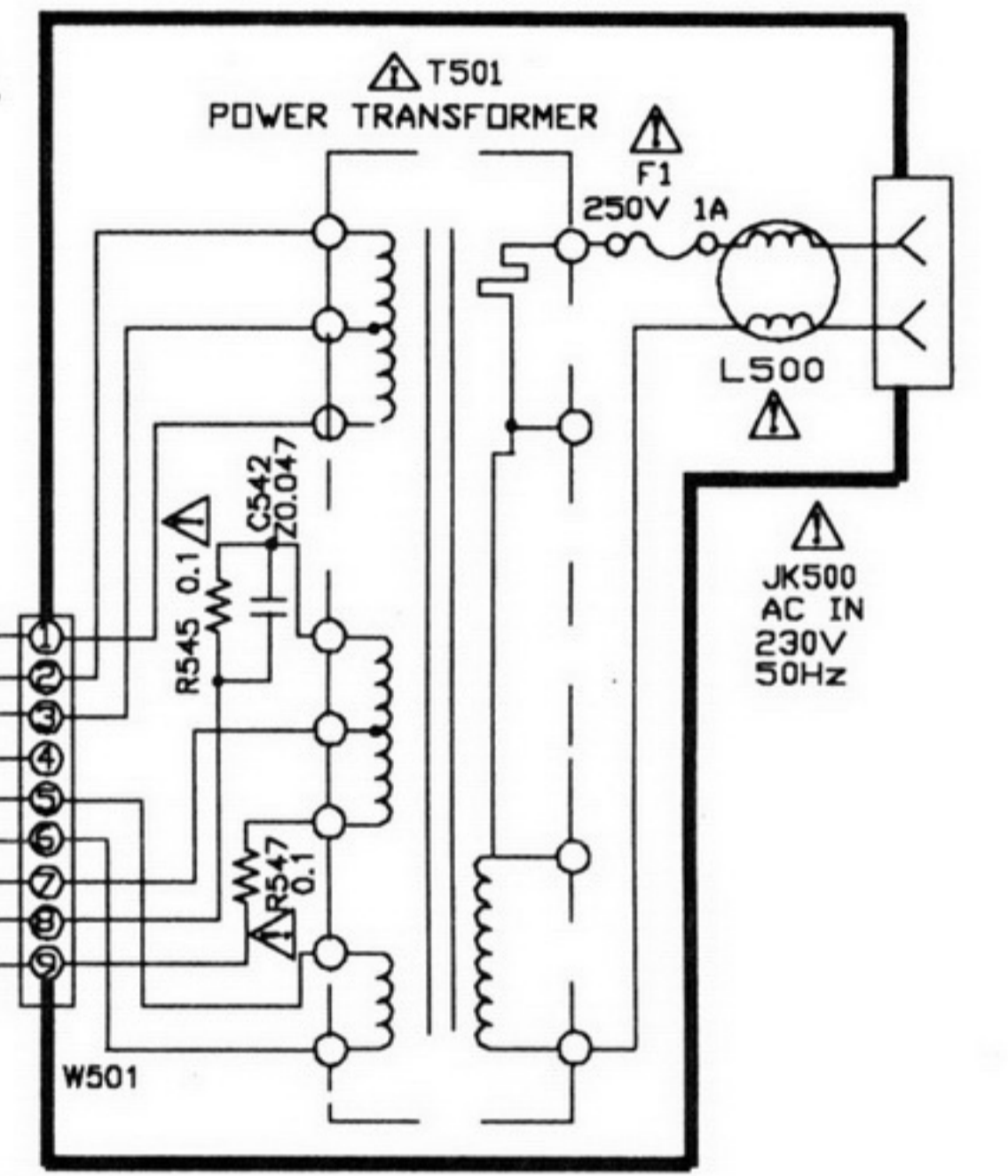
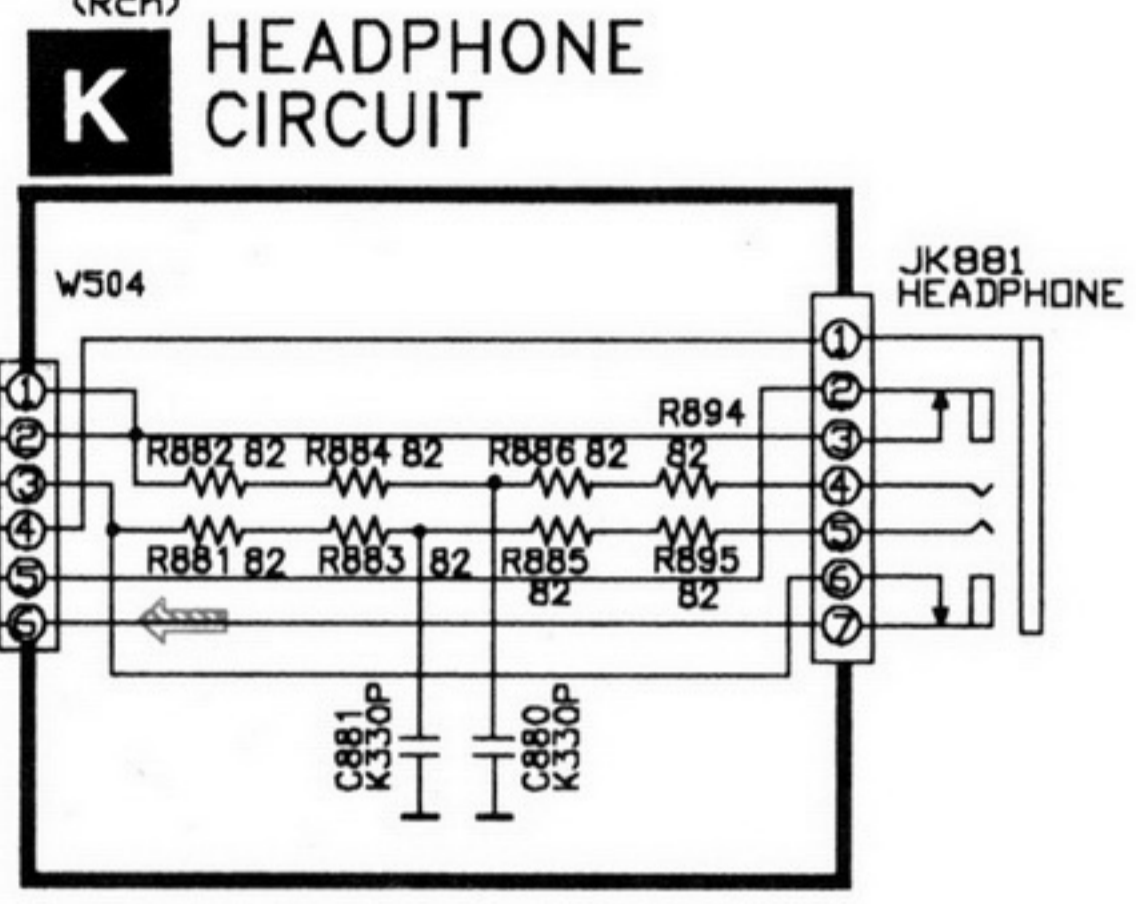
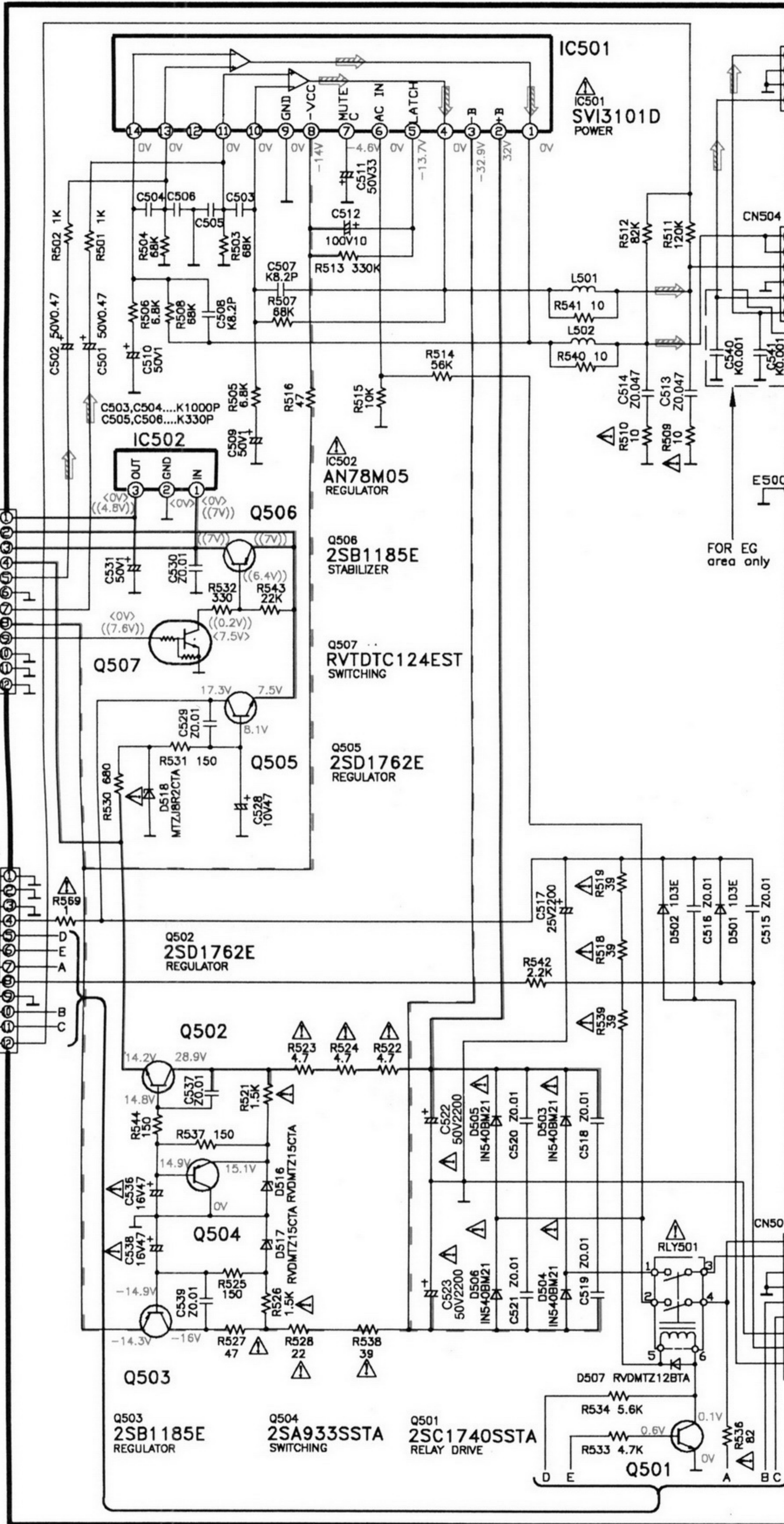




C
TO MAIN CIRCUIT (W100)
(PAGE 46)

D
TO PANEL CIRCUIT (W200)
(PAGE 43)

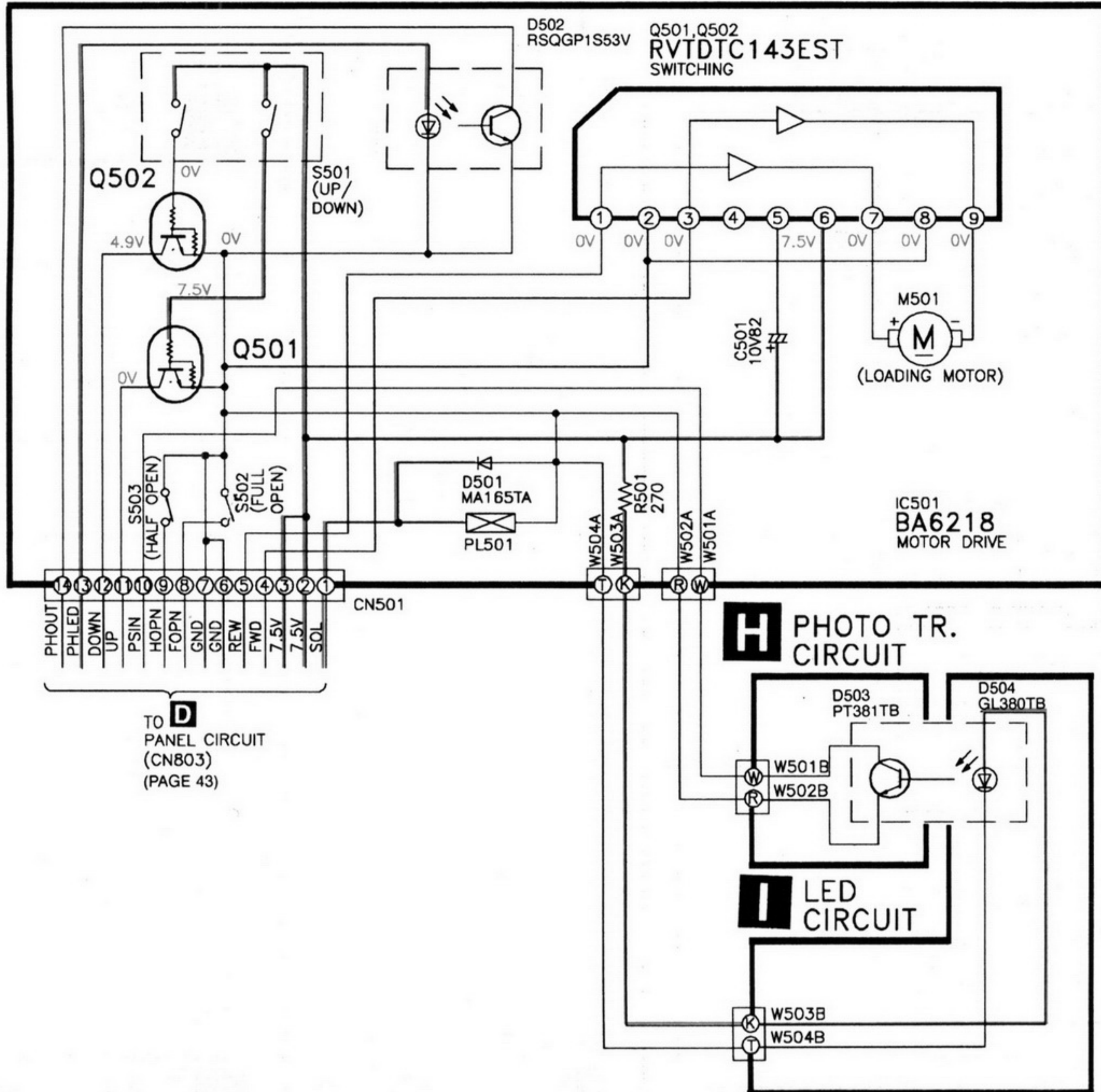
J POWER CIRCUIT



TO MAIN CIRCUIT (CP503) (PAGE 47)

TO MAIN CIRCUIT (CP502) (PAGE 47)

G LOADING MOTOR CIRCUIT



D TO PANEL CIRCUIT (CN803) (PAGE 43)