

Service Manual

Portable Stereo CD System

Radio Cassette

COMPACT
disc
DIGITAL AUDIO

MASH*
multi-stage noise shaping

RX-DS22

Colour

(K) . . . Black Type



Area

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

* MASH is a trademark of NTT.

TAPE DECK : SG-20 MECHANISM SERIES
TRAVERSE DECK : RAE0150Z MECHANISM SERIES

■ Specifications

■ Radio

Frequency range	
FM	87.50 – 108.00 MHz
MW(E,EB)	522 – 1611 kHz
LW(E,EB)	144 – 288 kHz
AM(EG)	522 – 1611 kHz
Intermediate frequency	
FM	10.7 MHz
AM	459 kHz
Sensitivity	
FM(E,EB)	20 dB/50 mW (-3 dB limit sens.)
MW(E,EB)	54 dB/m/50 mW
LW(E,EB)	62 dB/m/50 mW
FM(EG)	17 dB/50 mW (-3 dB limit sens.)
AM(EG)	54 dB/m/50 mW

■ Tape Recorder

Track system	4 track, 2 channel, stereo
Recording system	AC bias
Erasing system	Multi pole magnet
Monitor system	Variable sound monitor
Frequency range	
Normal	50 – 14,000 Hz

■ CD Player

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source	Semiconductor laser (wavelength 780 nm)
No. of channels	2 channel, stereo
Frequency Response	20 Hz – 20 kHz (0, -2 dB)
S/N ratio	72 dB
Digital Filter	4 fs
Wow and flutter	Less than possible measurement data
D/A converter	MASH (1 bit DAC)

■ General

Power requirement	
AC	230 – 240 V, 50 Hz
Battery	Power consumption; 20 W 12V (Eight R20/LR20, UM-1 batteries)
Memory back-up for computer/clock	6V (Four R6/LR6, UM-3 batteries)
Power Output	3.7 W x 2 ...RMS (max.)
Speakers	2 Woofer; 10 cm
Jacks	
Output	Headphones: 32 Ω
Dimensions (W x H x D)	470 x 178 x 259 mm
Weight	3.8 kg without batteries

Note :

Specifications are subject to change without notice.
Weight and dimensions are approximate.

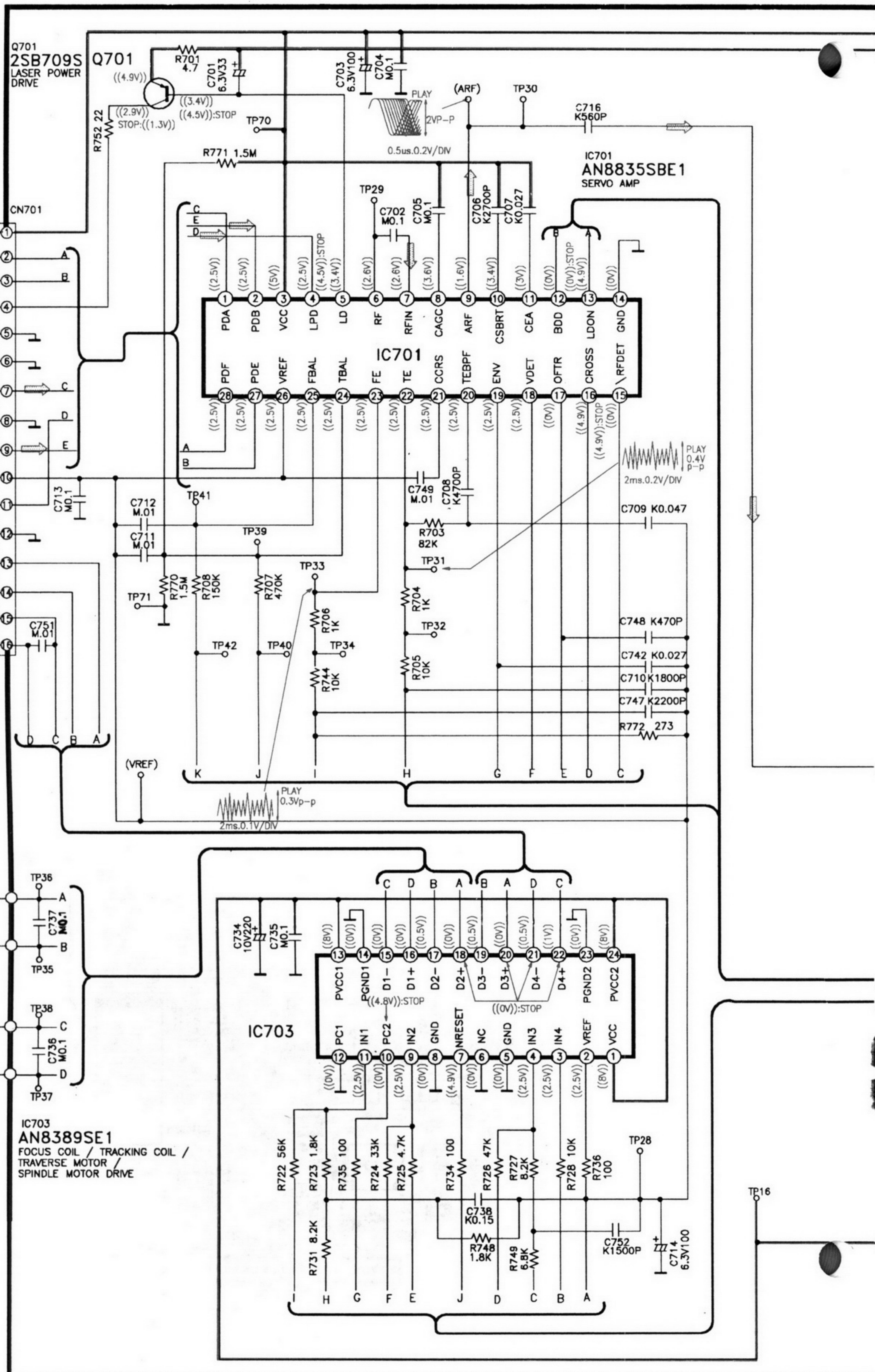
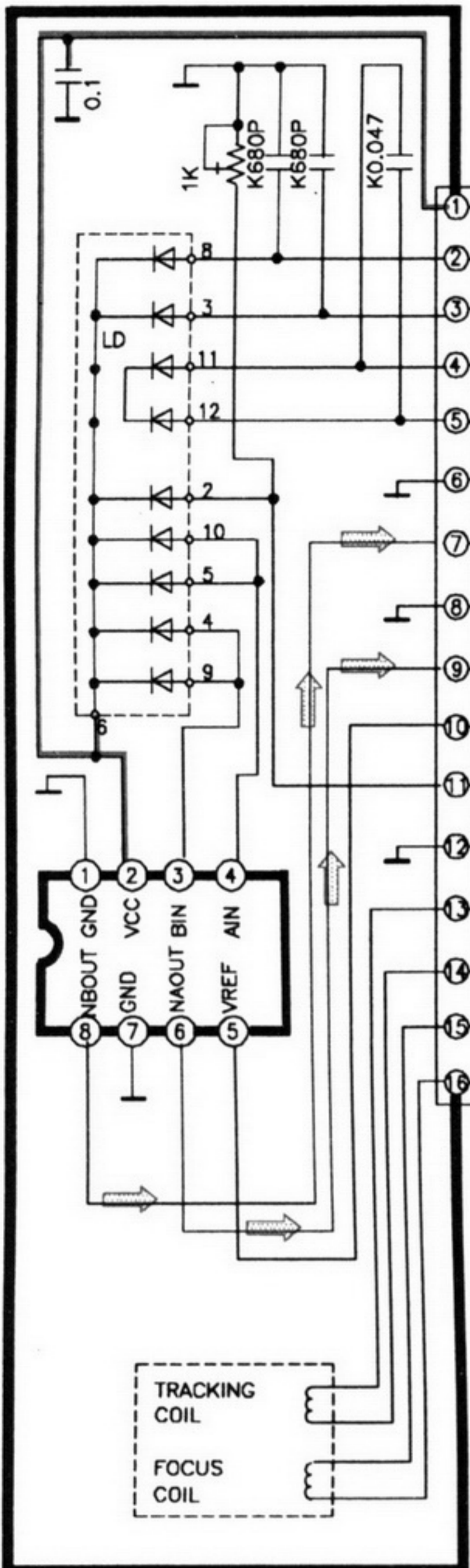
Panasonic®

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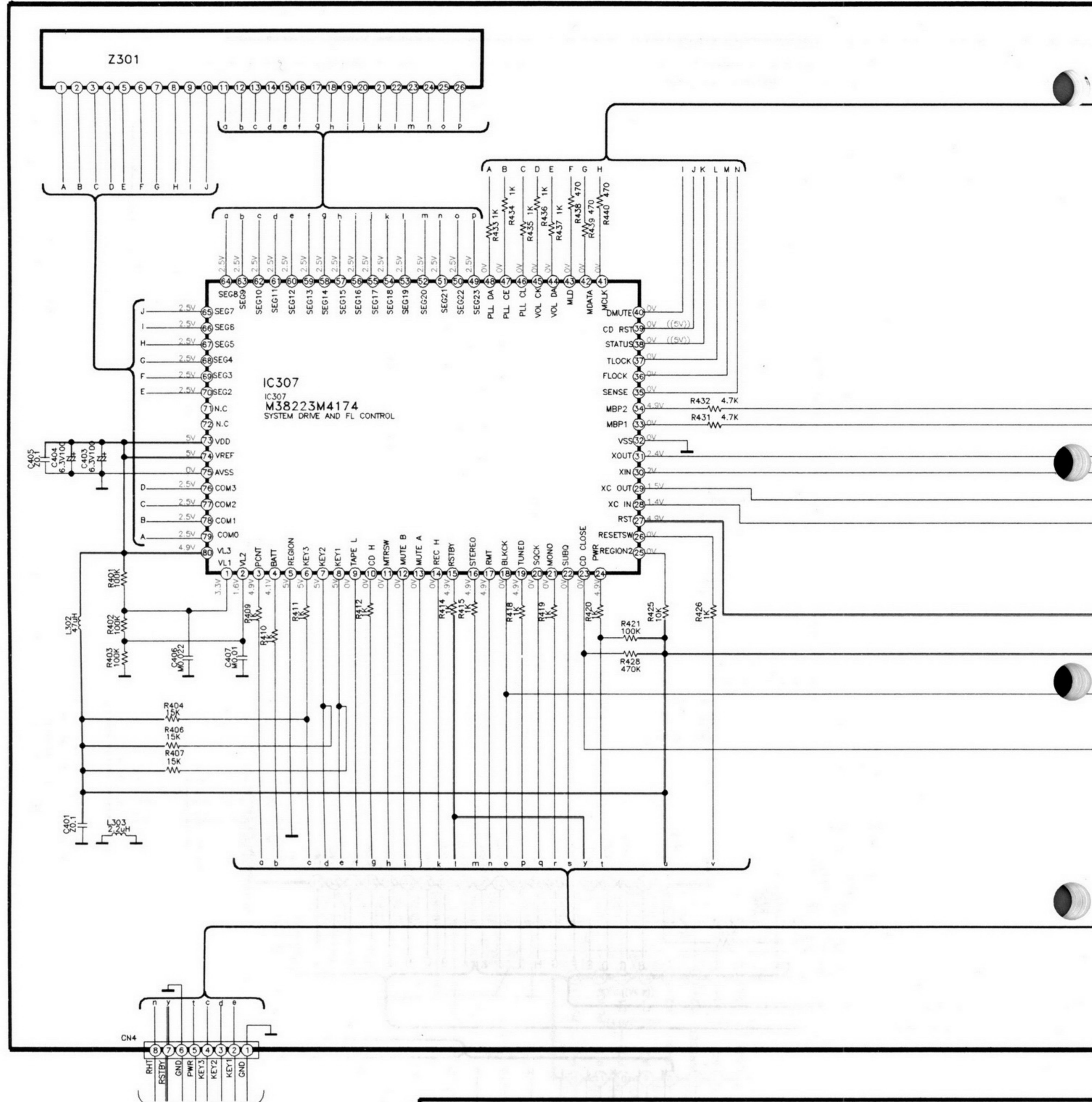
Schematic Diagram

A SERVO CIRCUIT

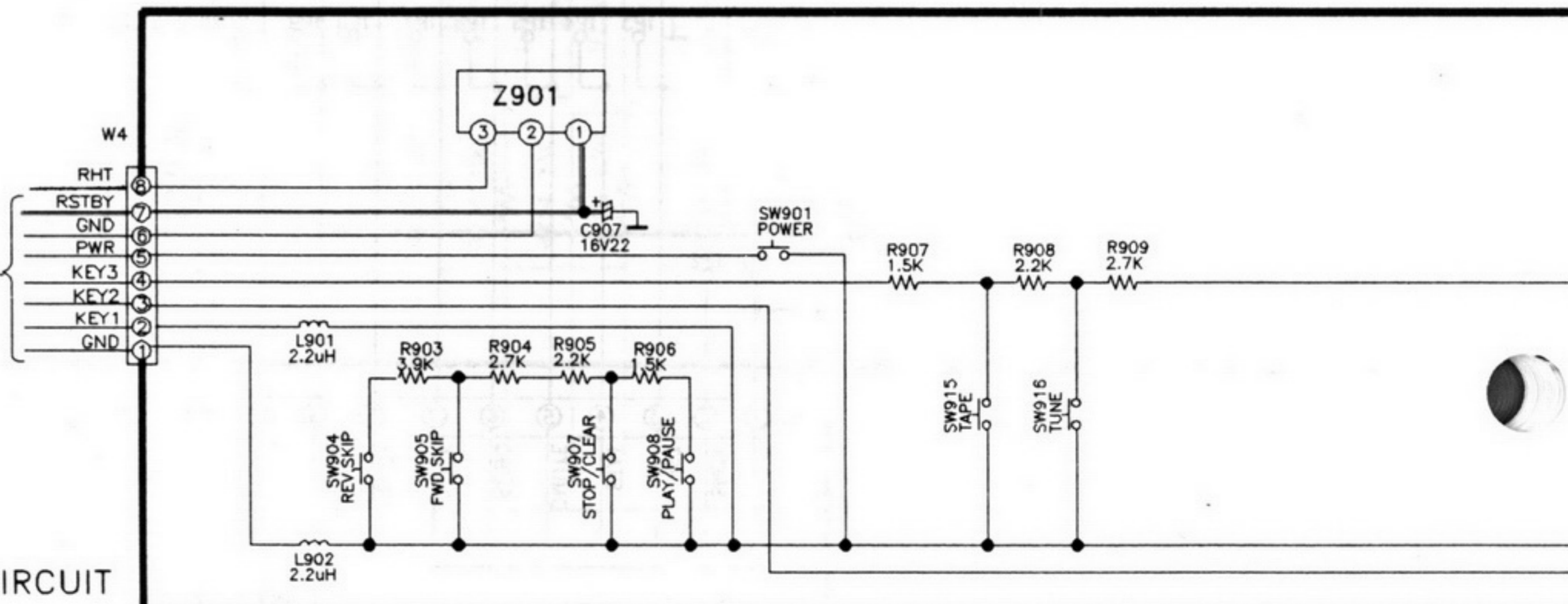
OPTICAL PICKUP

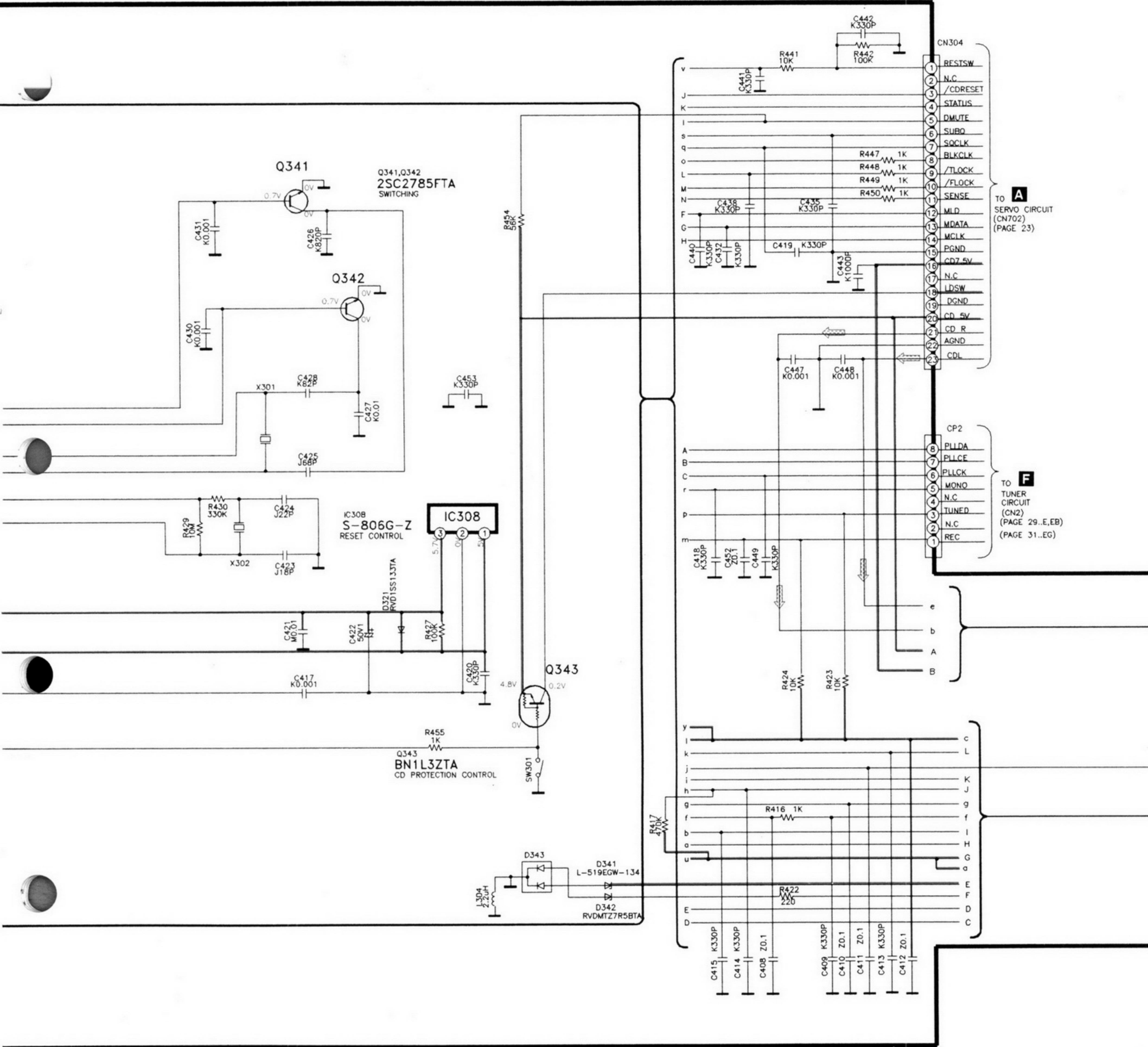


B MAIN CIRCUIT



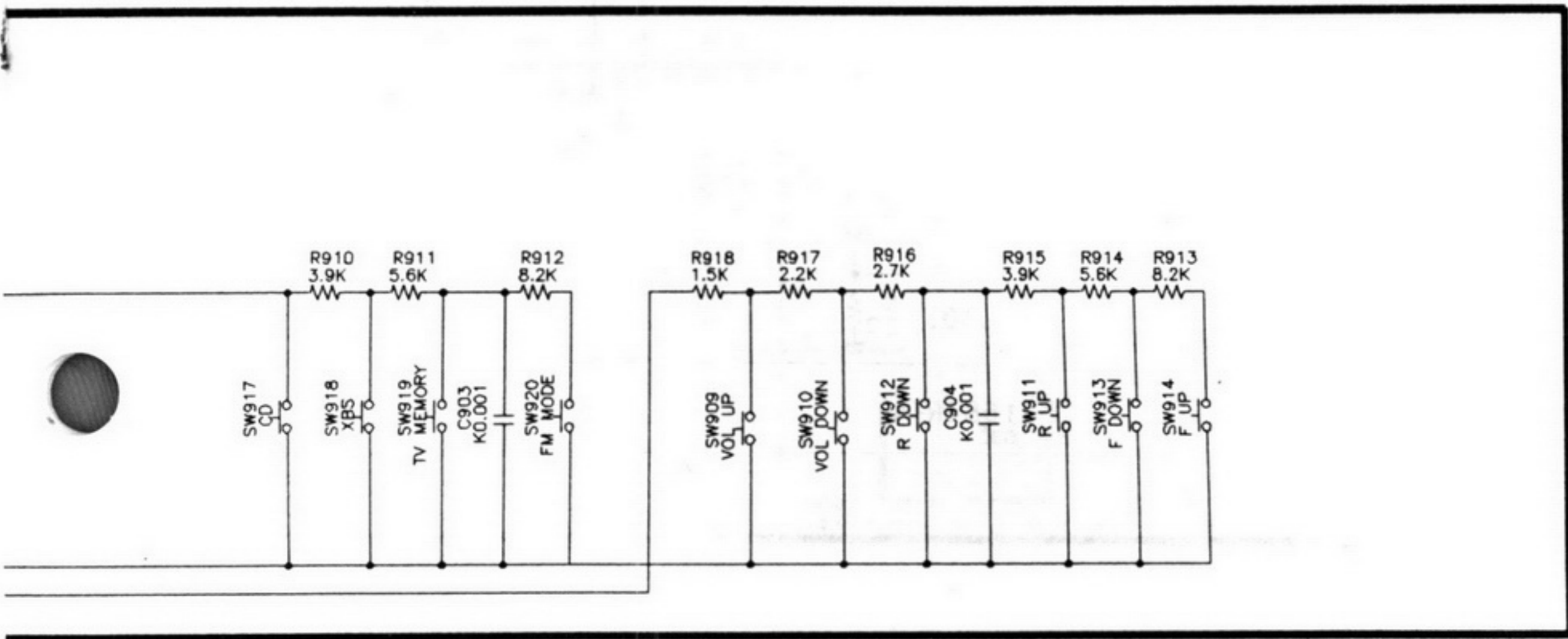
G PANEL CIRCUIT

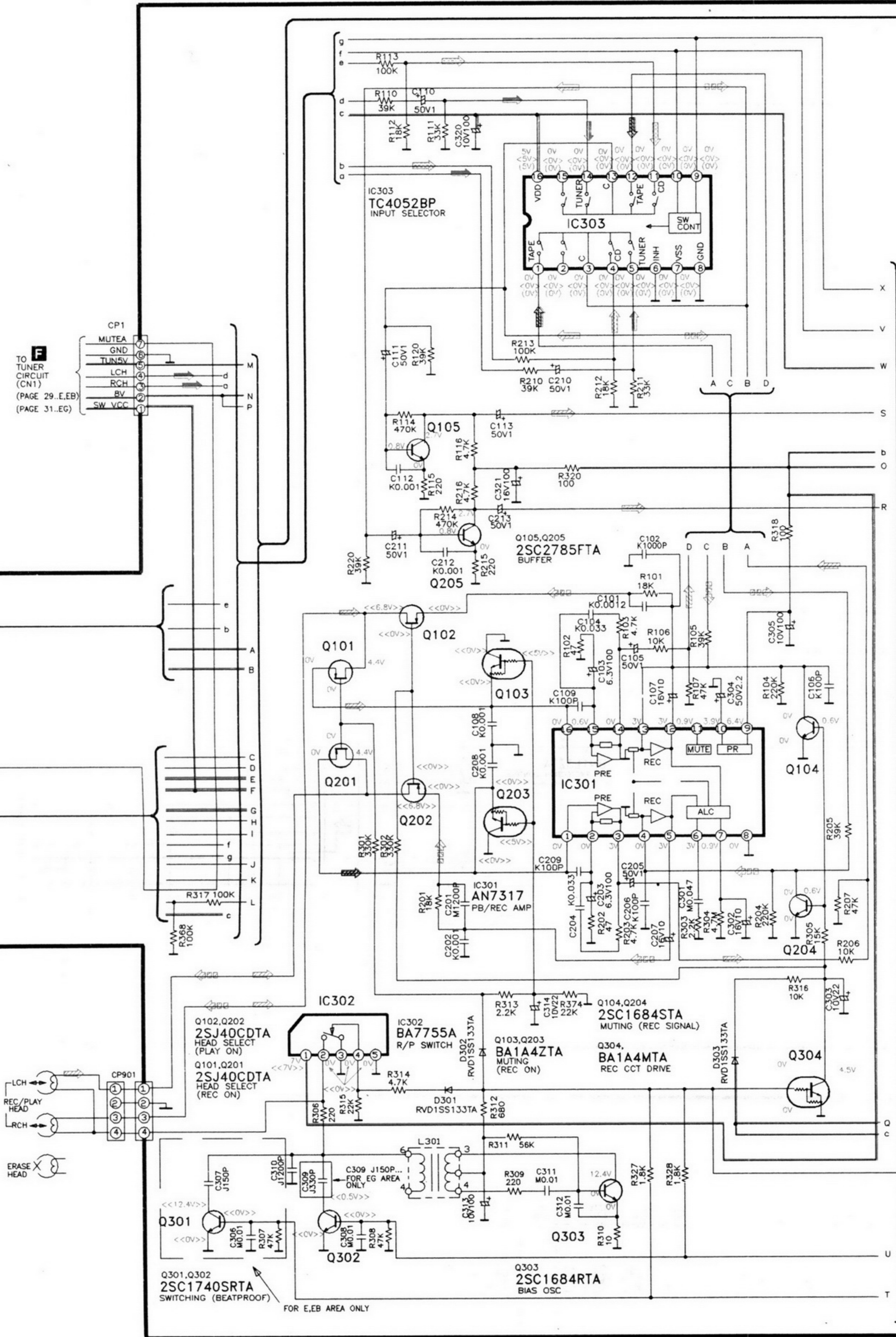


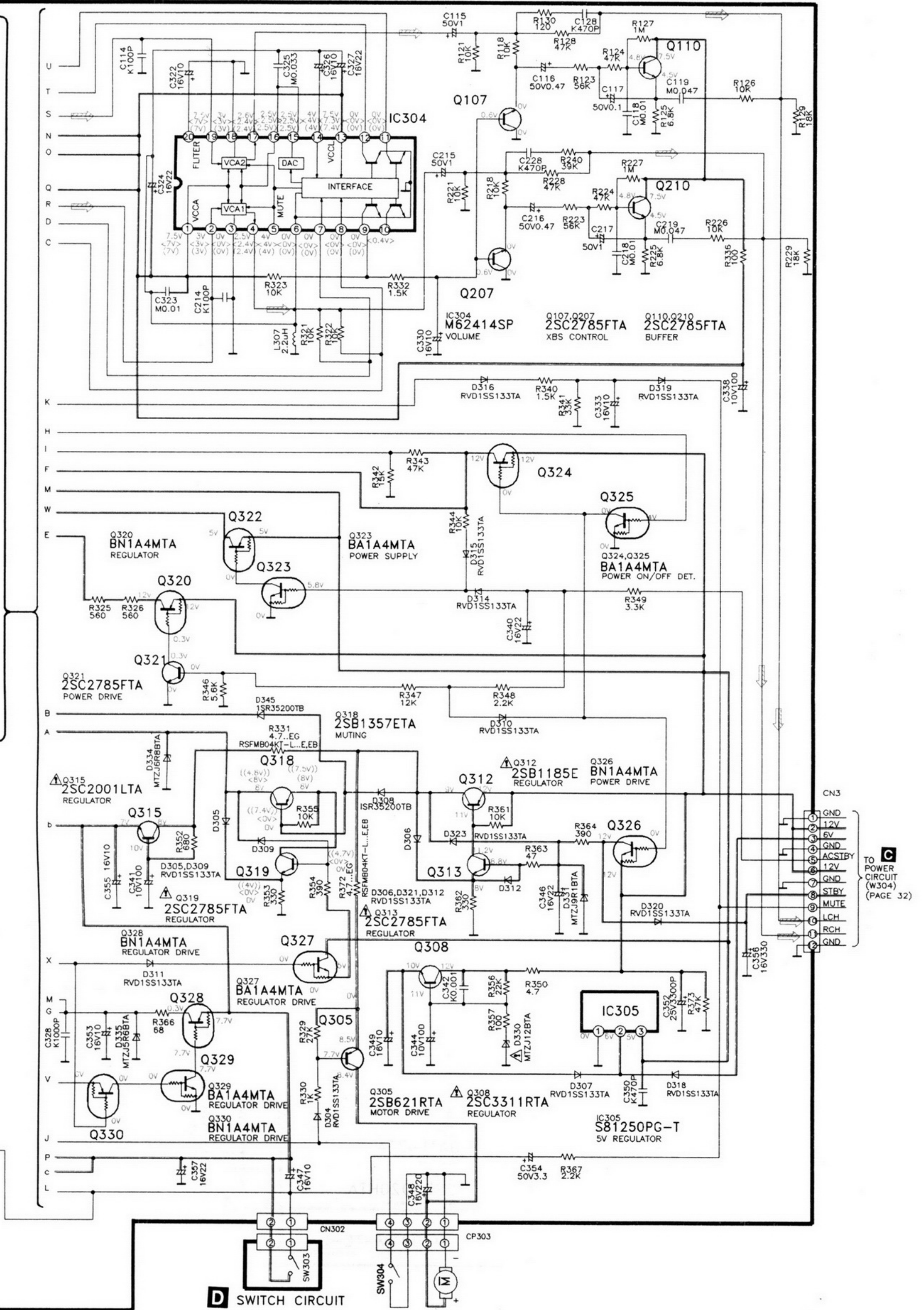


TO SERVO CIRCUIT (CN702) (PAGE 23)

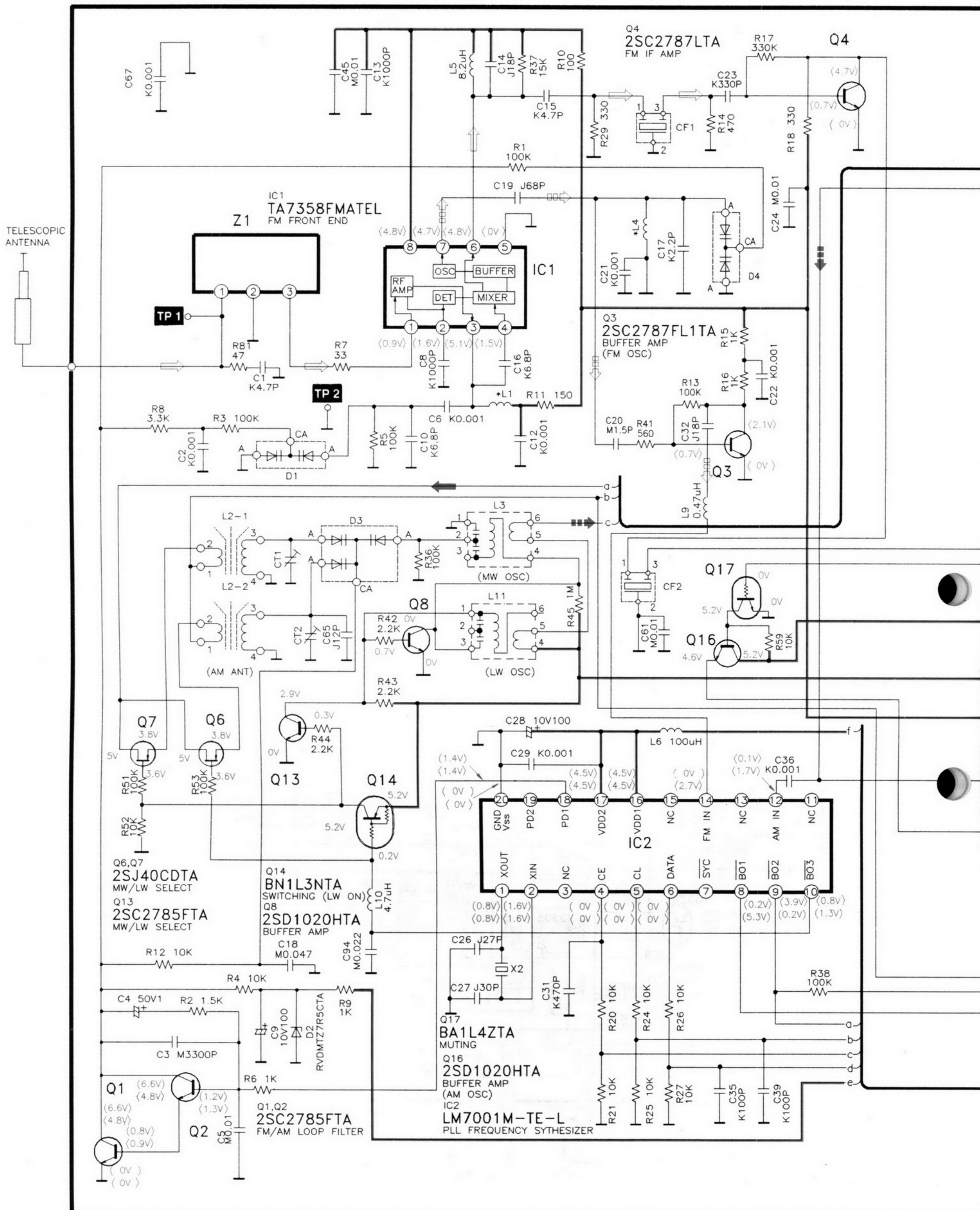
TO TUNER CIRCUIT (CN2) (PAGE 29..E,EB) (PAGE 31..EG)

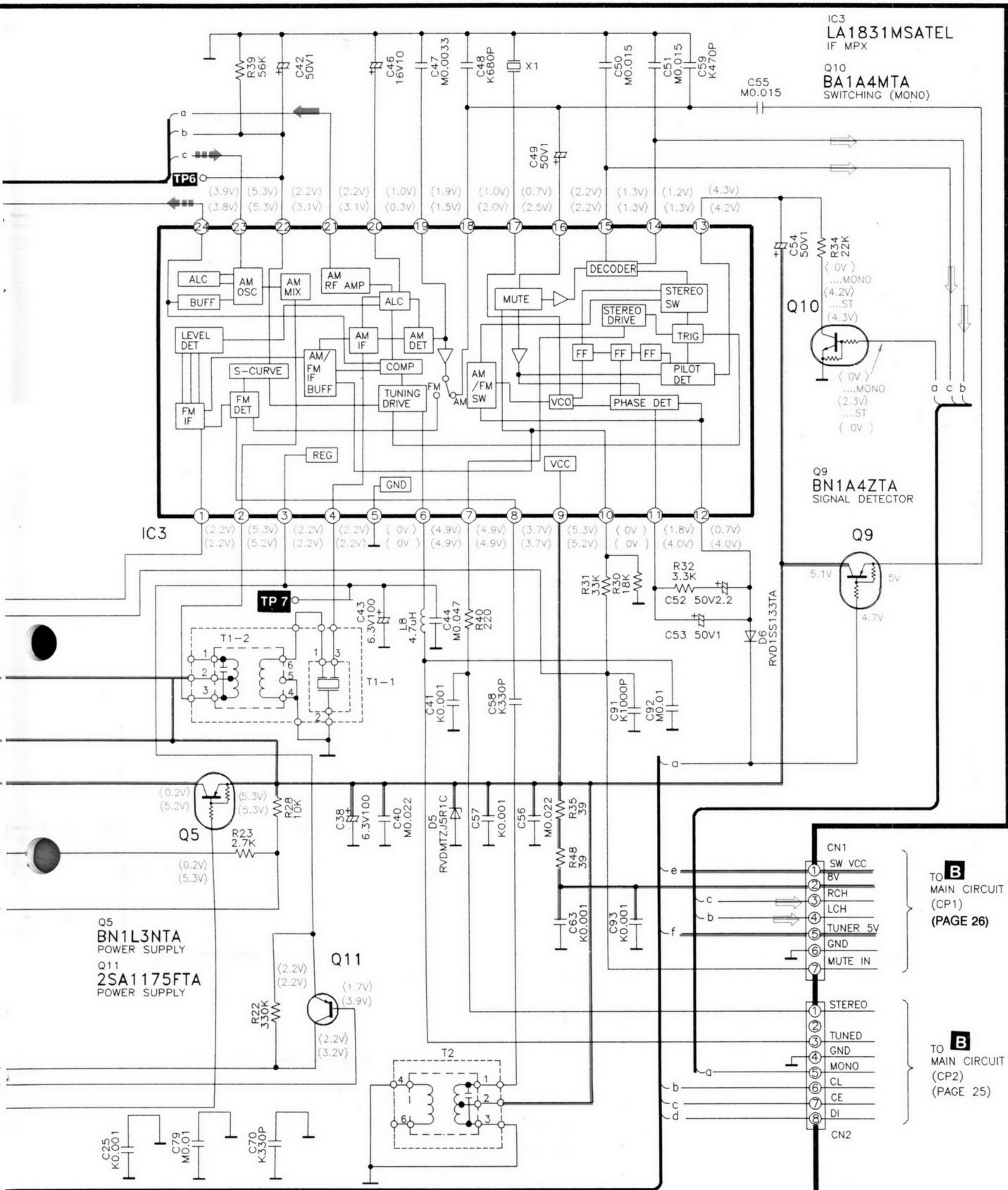






F TUNER CIRCUIT FOR E,EB AREAS

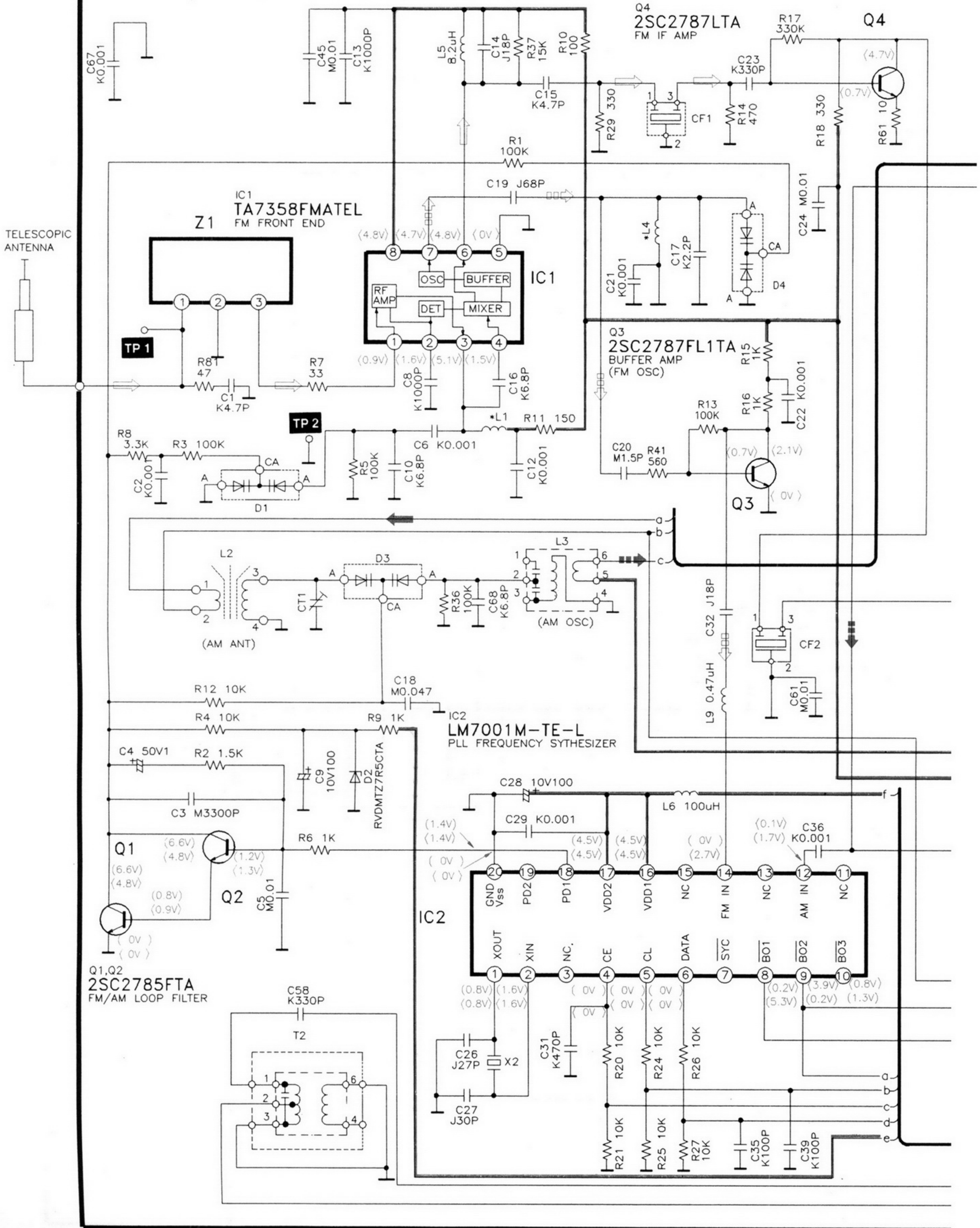


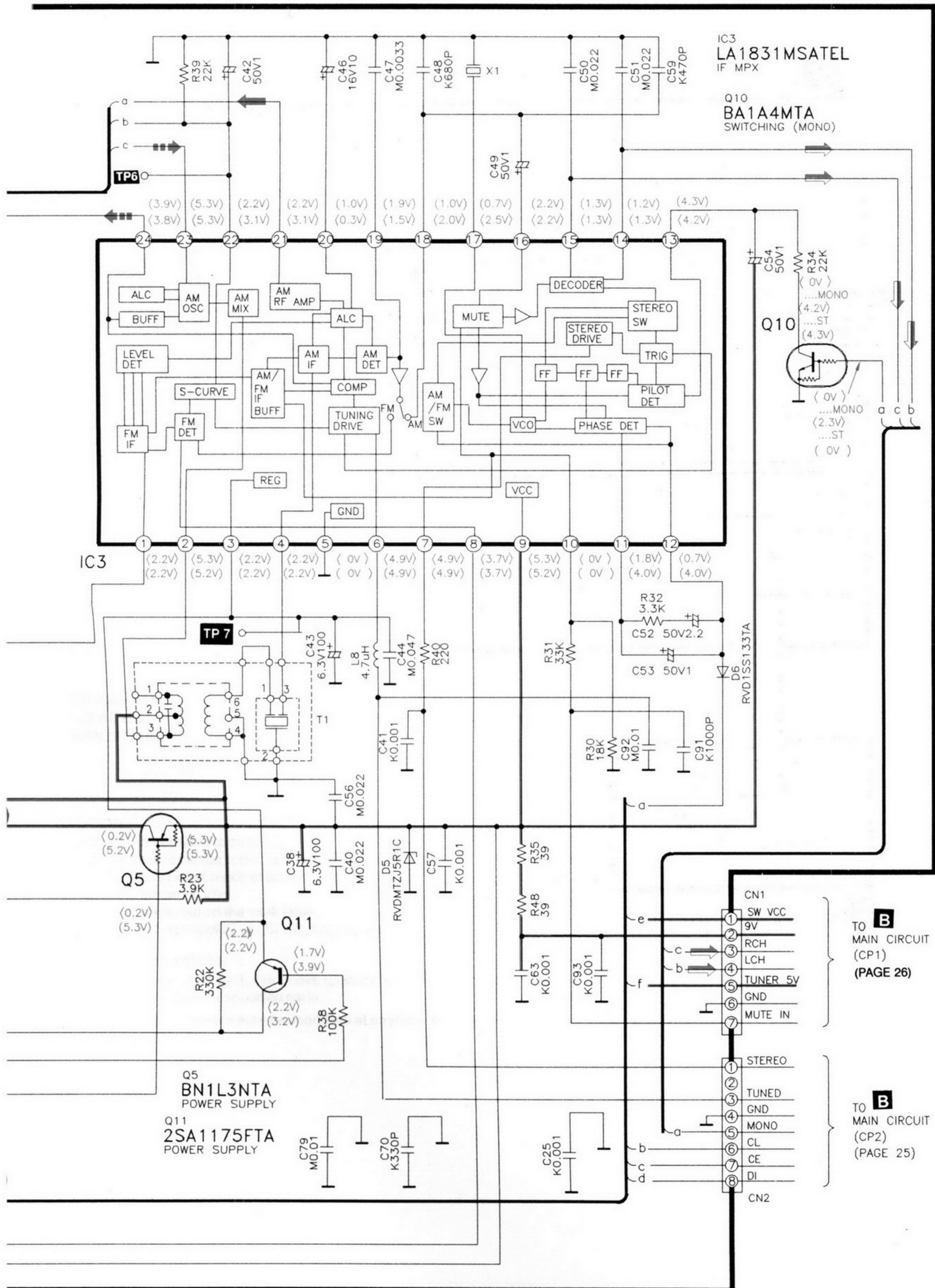


TO **B**
MAIN CIRCUIT
(CP1)
(PAGE 26)

TO **B**
MAIN CIRCUIT
(CP2)
(PAGE 25)

F TUNER CIRCUIT FOR EG AREA

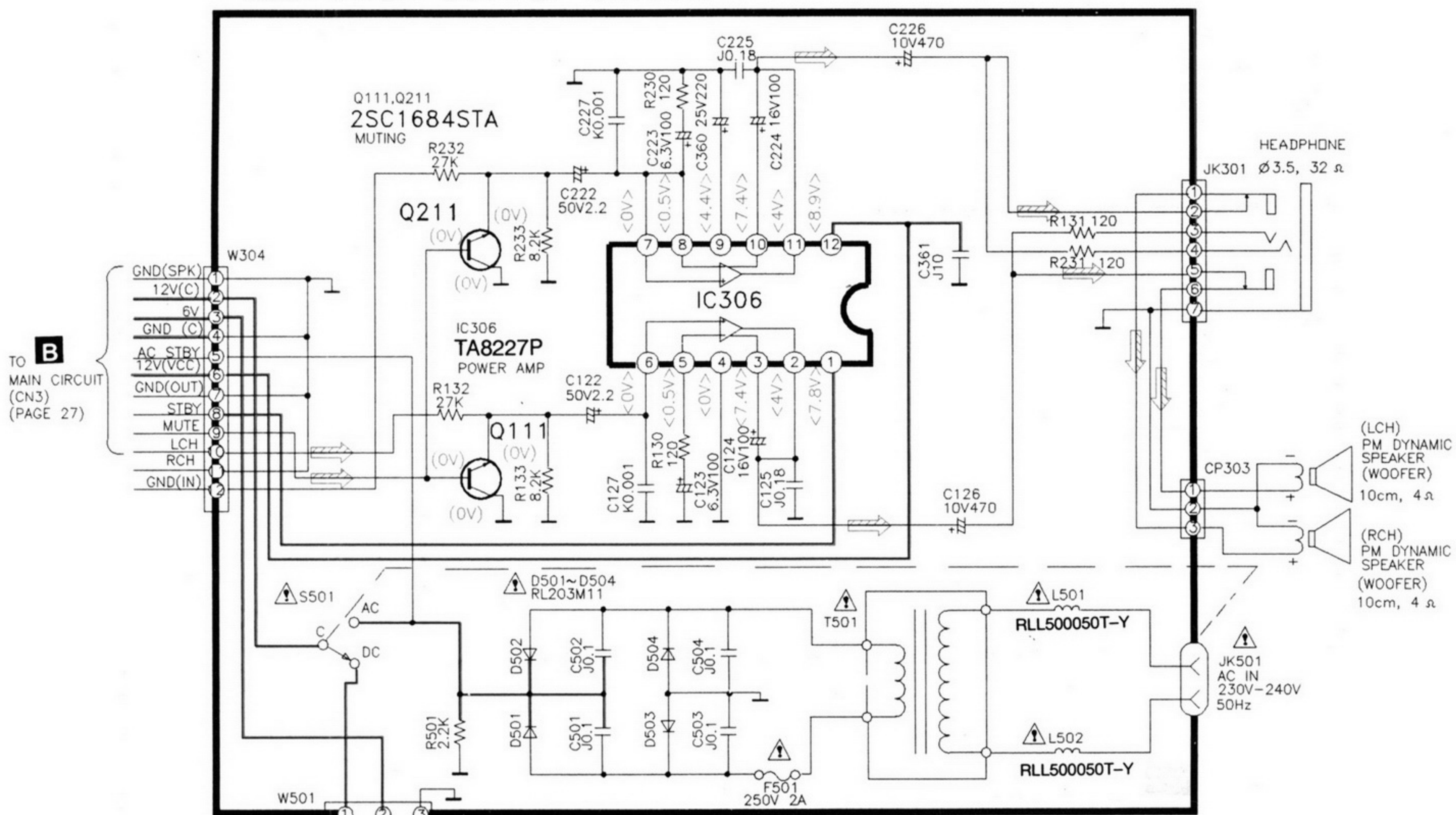




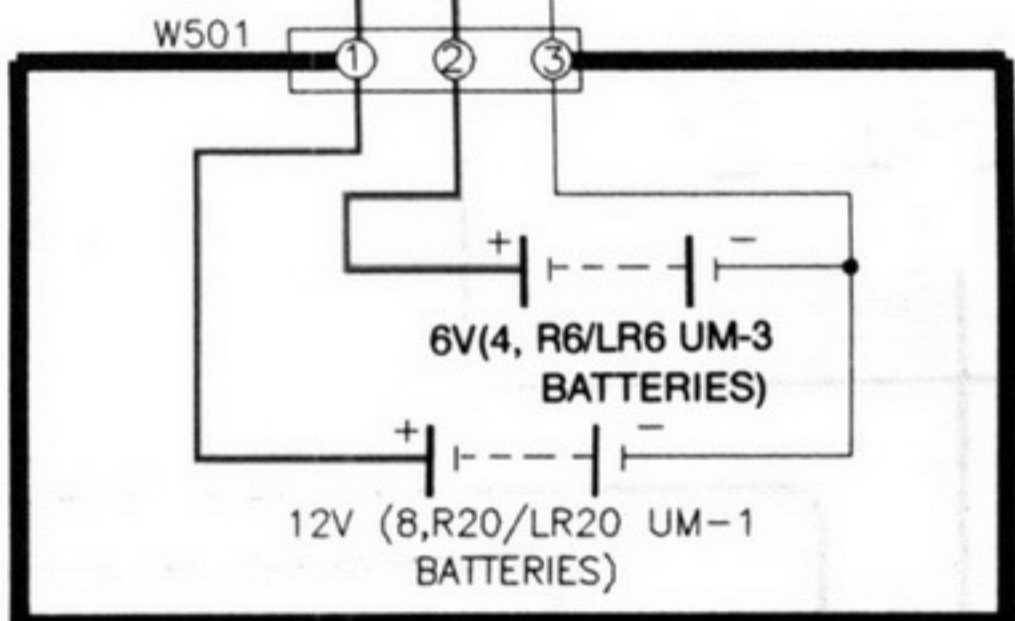
TO **B**
MAIN CIRCUIT
(CP1)
(PAGE 26)

TO **B**
MAIN CIRCUIT
(CP2)
(PAGE 25)

C POWER SUPPLY CIRCUIT



B TO MAIN CIRCUIT (CN3) (PAGE 27)

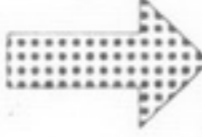
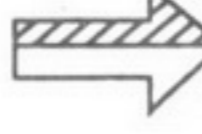










E BATTERY CIRCUIT

Schematic Diagram

NOTES:

- S501 : AC/Battery select switch (JK501).
- S701 : Reset switch.
- SW301 : CD Open/Close switch.
- SW303 : Record switch.
- SW304 : Deck motor switch.
- SW901 : Power switch.
- SW904 : Reverse skip.
- SW905 : Forward skip.
- SW907 : Stop/clear switch.
- SW908 : Play/Pause switch.
- SW909 : Decrease volume switch.
- SW910 : Increase volume switch.
- SW911 : Preset up switch.
- SW912 : Preset down switch.
- SW913 : Tuning down switch.
- SW914 : Tuning up switch.
- SW915 : Tape select switch.
- SW916 : Tuner/Band select switch.
- SW917 : CD select switch.
- SW918 : XBS switch.
- SW919 : Memory switch.
- SW920 : FM mode/B.P. switch.

-  ... CD SIGNAL LINE
-  ... MAIN SIGNAL LINE
-  ... AM SIGNAL LINE
-  ... FM SIGNAL LINE
-  ... AM OSC SIGNAL LINE
-  ... FM OSC SIGNAL LINE
-  ... FM/AM SIGNAL LINE
-  ... PLAYBACK SIGNAL LINE
-  ... RECORDING SIGNAL LINE
-  ... +B LINE

• Battery Current consumption:

Vol. min.....	203.3 mA (FM)	Vol. max.....	800 mA (FM)
	185.5 mA (AM)(MW/LW)		195.4 mA (AM)(MW/LW)
	244 mA (TAPE)		830 mA (TAPE)
	380 mA (CD)		830 mA (CD)
			840 mA (RECORDING)

(Measurement condition:
 Radio : FM 60 dB, 30%mod
 AM 74 dB/m, 30%mod
 Tape : 315 Hz, 0dB
 CD : 1kHz, 0dB)

• 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 ... Tape Playback < > ... FM (()) ... CD () ... AM(MW/LW)

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 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.

• Important safety notice :

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

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