

# Service Manual

**COMPACT**  
**disc**  
**DIGITAL AUDIO**

**MASH\***  
multi-stage noise shaping

Portable Stereo Component CD System

## RX-DS790

Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(EG)	Germany and Italy	(K)

\* MASH is a trademark of NTT.



**TAPE SECTION : AR300 MECHANISM SERIES**  
**CD SECTION : RAE0150Z TRAVERSE DECK SERIES**

## ■ Specifications

### ■ RADIO

Frequency range	
FM	87.50 – 108.00 MHz (50 kHz steps)
LW	144 – 288 kHz (9 kHz steps)
MW	522 – 1611 kHz (9 kHz steps)
Intermediate Frequency	
FM	10.7 MHz
AM	459 kHz
Sensitivity	
FM	13 dB/50 mW
LW	53 dB/m/50 mW
MW	49 dB/m/50 mW

### ■ 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(+1, -2 dB)
S/N ratio	75 dB
Wow and flutter	Less than possible measurement data
D/A converter	MASH (1 bit DAC)

#### Notes :

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

### ■ TAPE RECORDER

Track system	4 track, 2 channel, stereo
Recording system	AC bias
Erasing system	AC erase
Monitor system	Variable sound monitor
Frequency range(Normal position)	30 – 16,000 Hz

### ■ GENERAL

Power requirement	
AC	230 – 240 V, 50 Hz
	Power consumption: 57 W
Battery	15V (Ten R20/LR20, UM-1 batteries)
Memory back-up for computer/clock	6V (Four R6/LR6, UM-3 batteries)
Speakers	12 cm x 2 (Full range Woofer) 8 cm x 2 (Tweeter)
Jacks	
Output	Speakers; 2.7 – 8 Ω (LOW) 8 – 16 Ω (HIGH) Phones; 32 Ω
Input	MIX MIC; 5 mV (200 – 600 Ω)
Dimensions (W x H x D)	646 x 284 x 265 mm Main unit; 317 x 284 x 265 mm Speaker box; 170 x 270 x 183 mm
Weight	8.8 kg without batteries

# Panasonic®

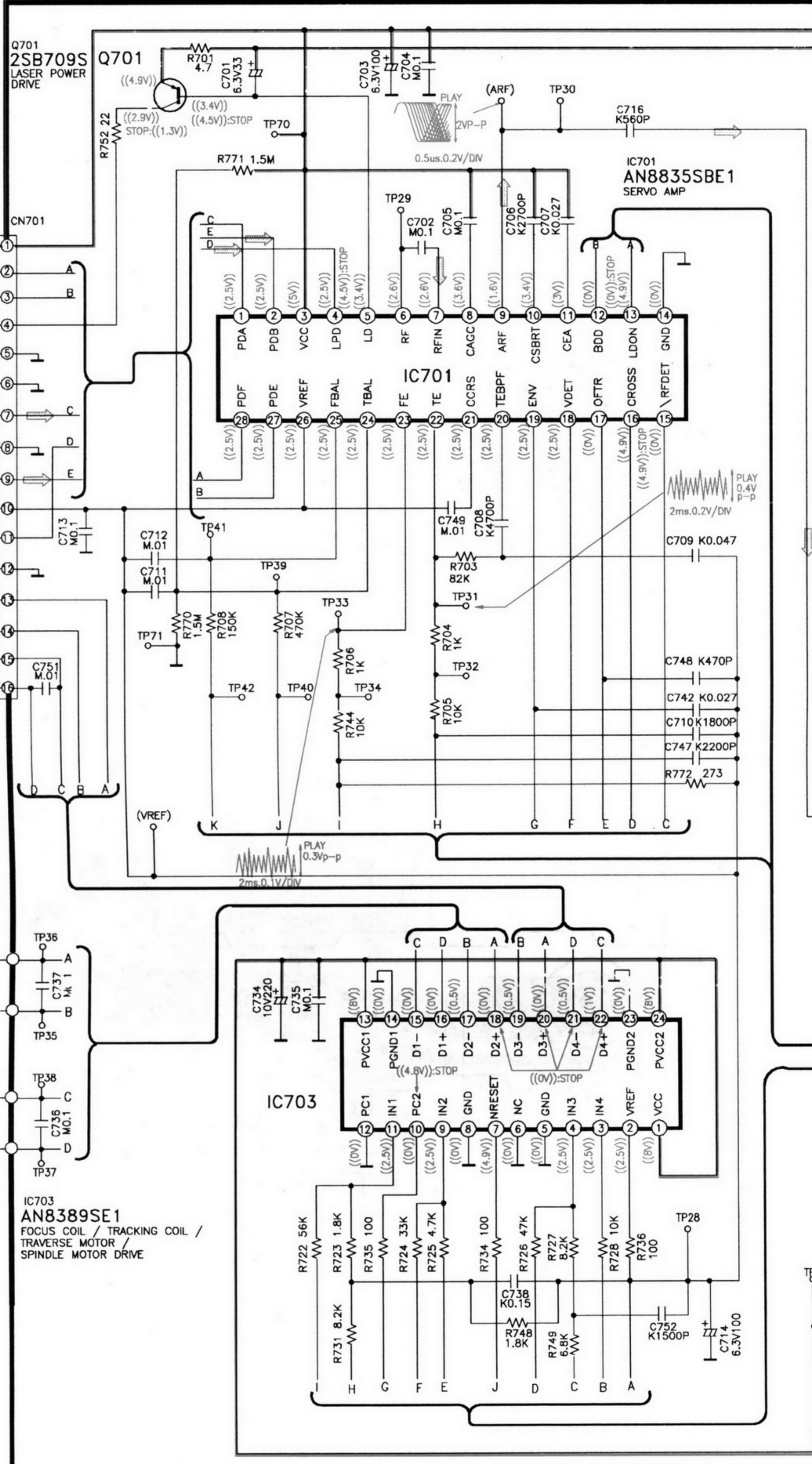
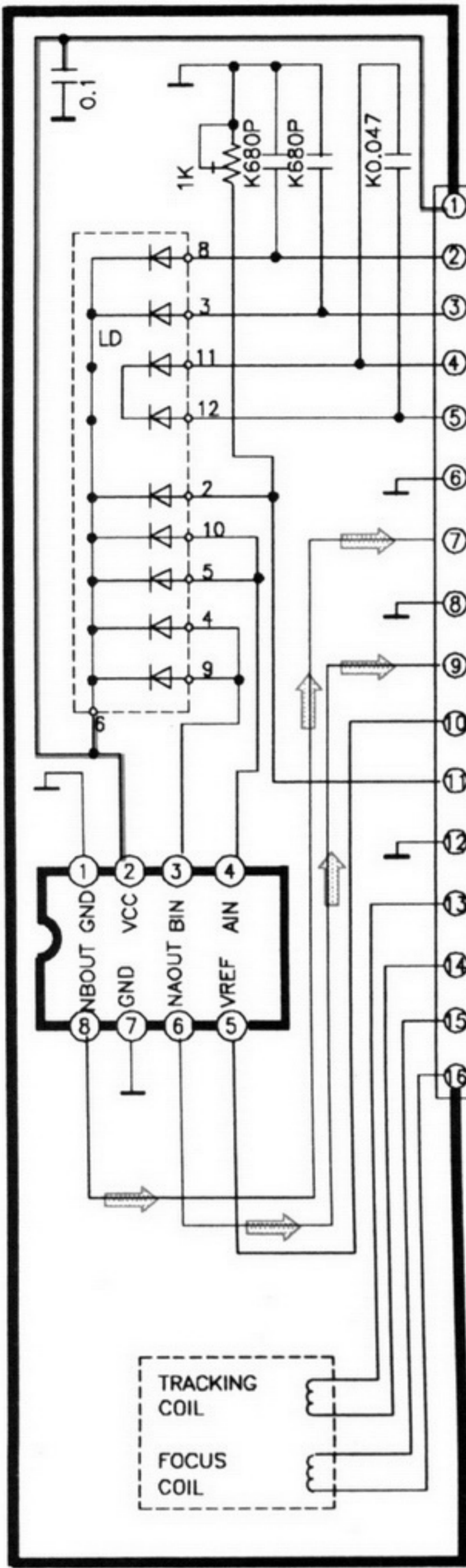
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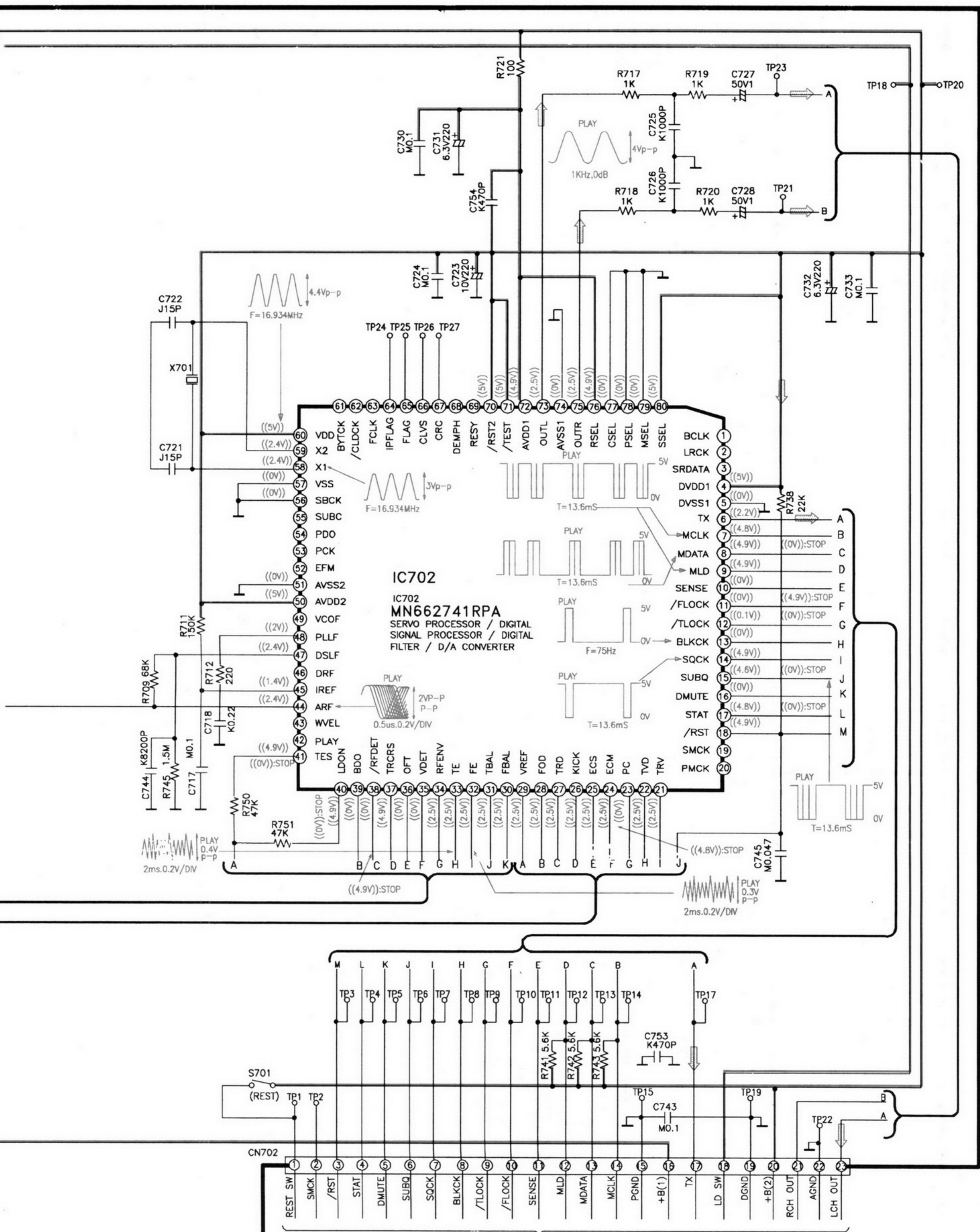
# Schematic Diagram

## A SERVO CIRCUIT

### OPTICAL PICKUP



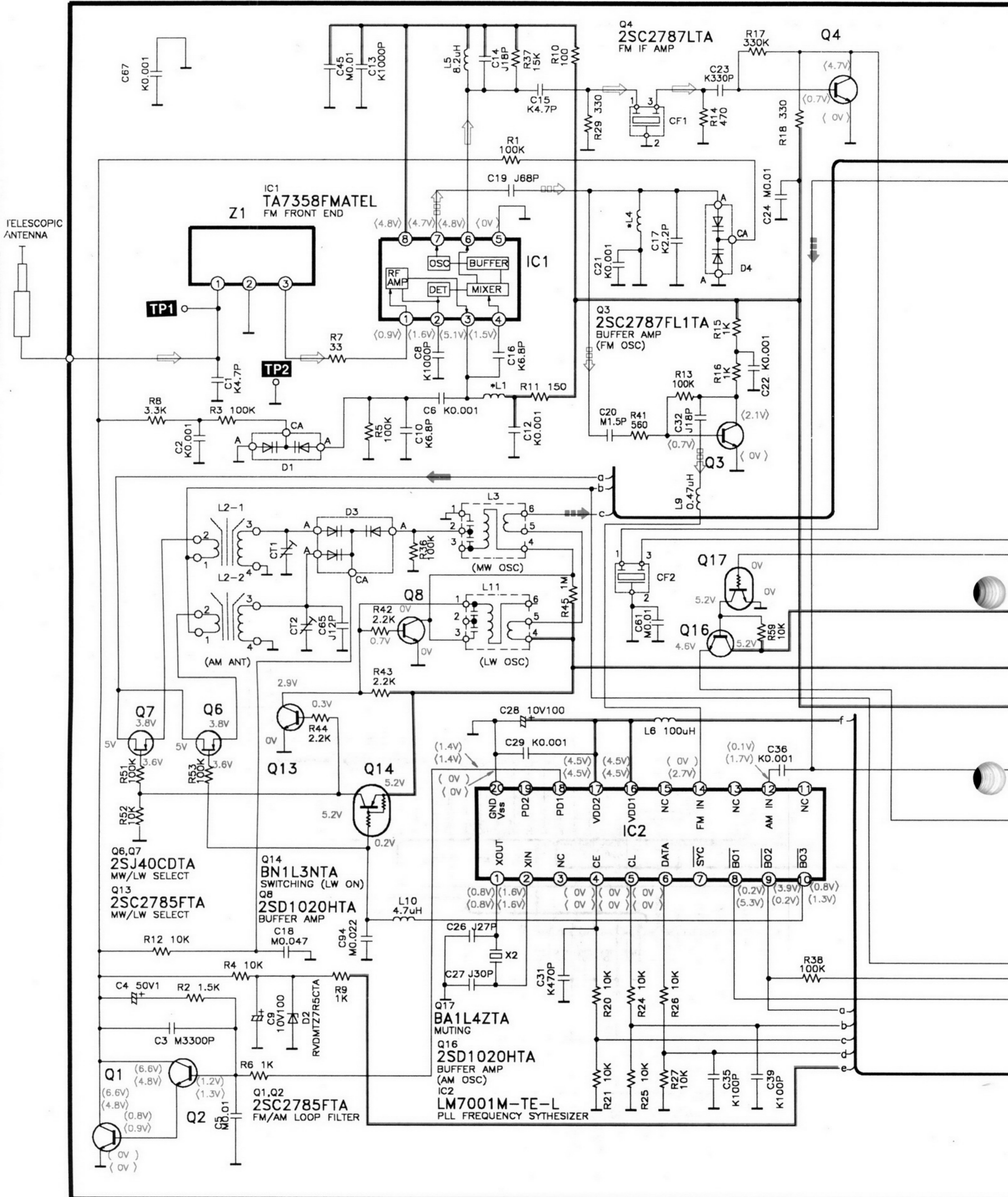




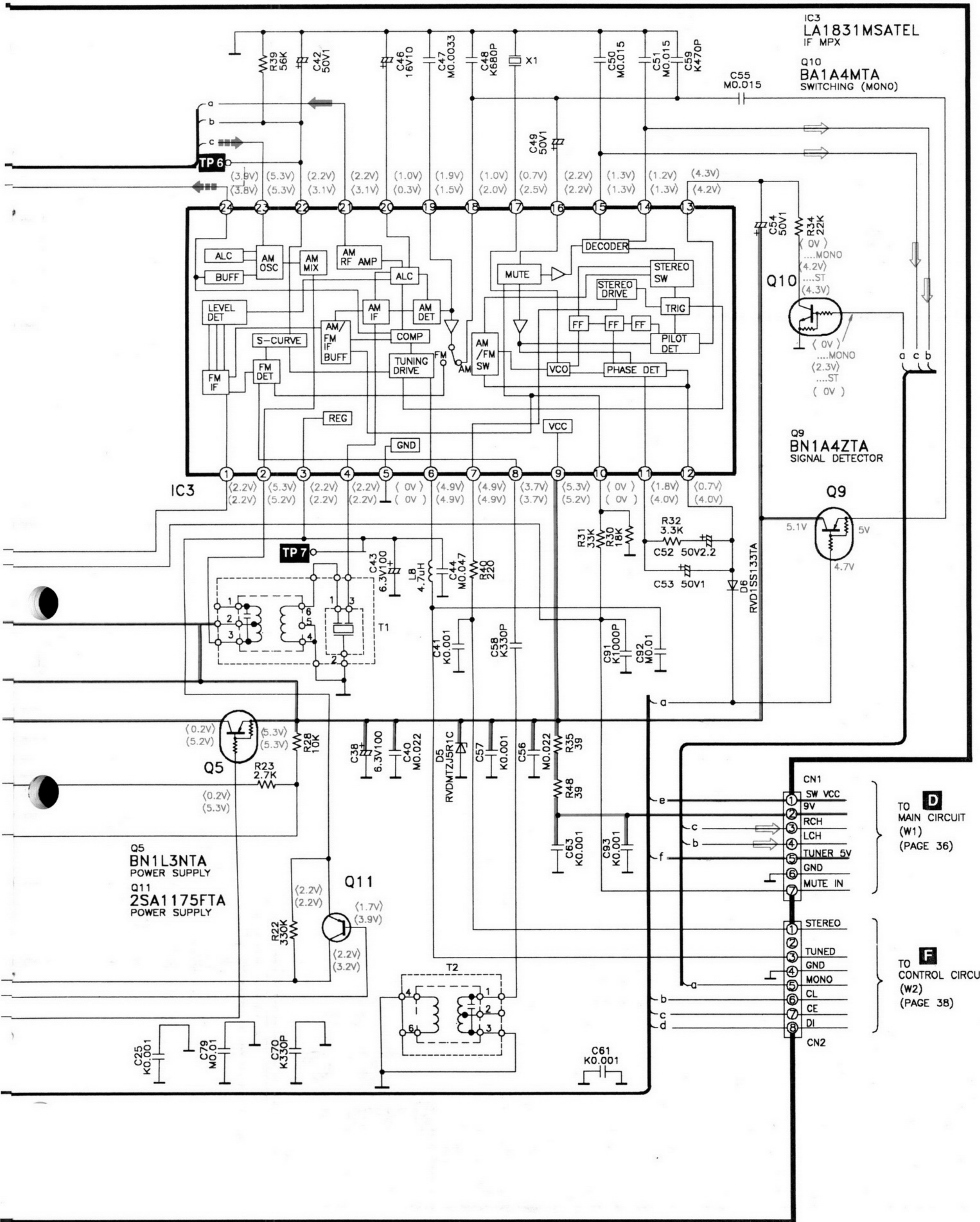
TO CONTROL CIRCUIT (CN702)



**B** TUNER CIRCUIT

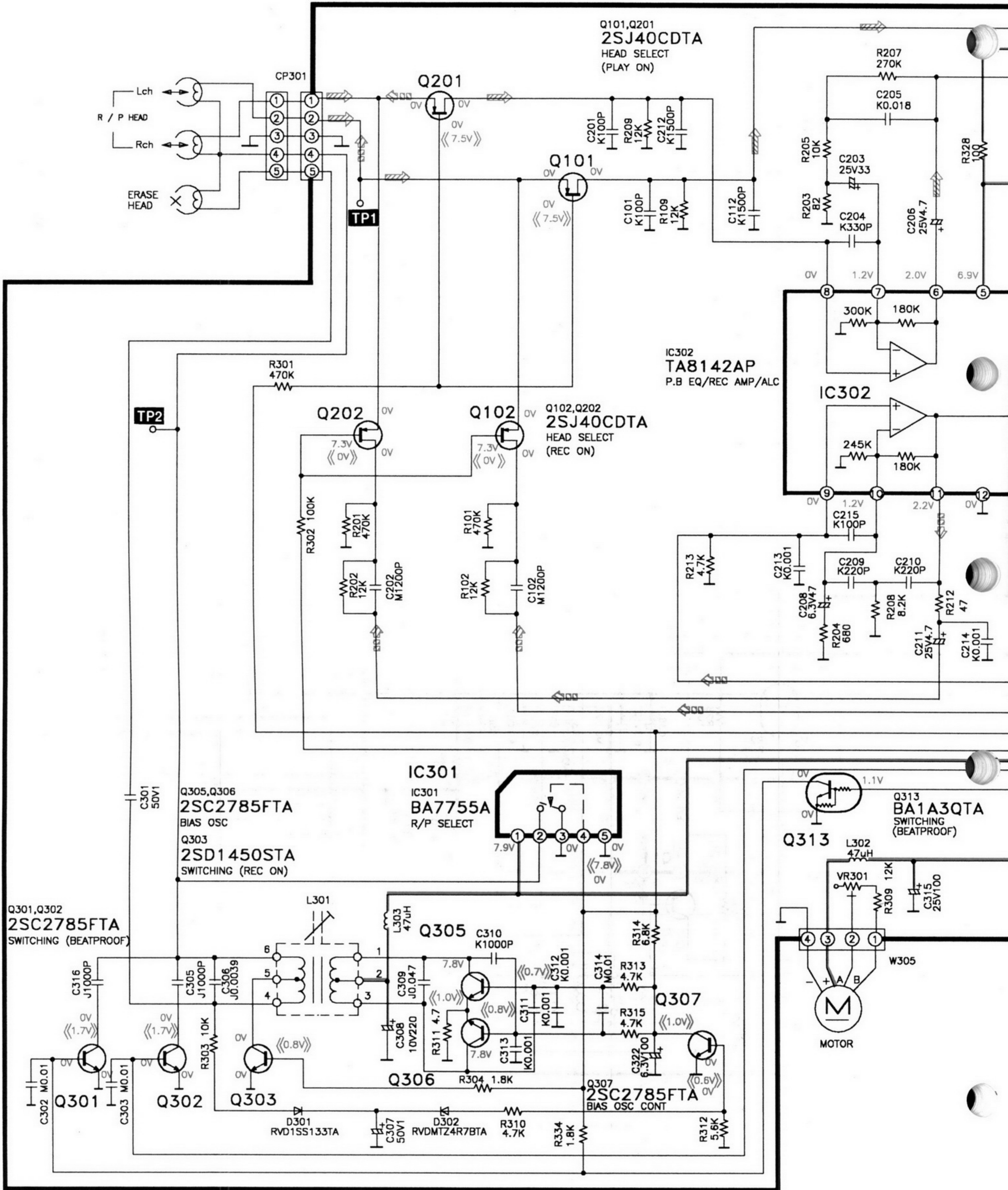




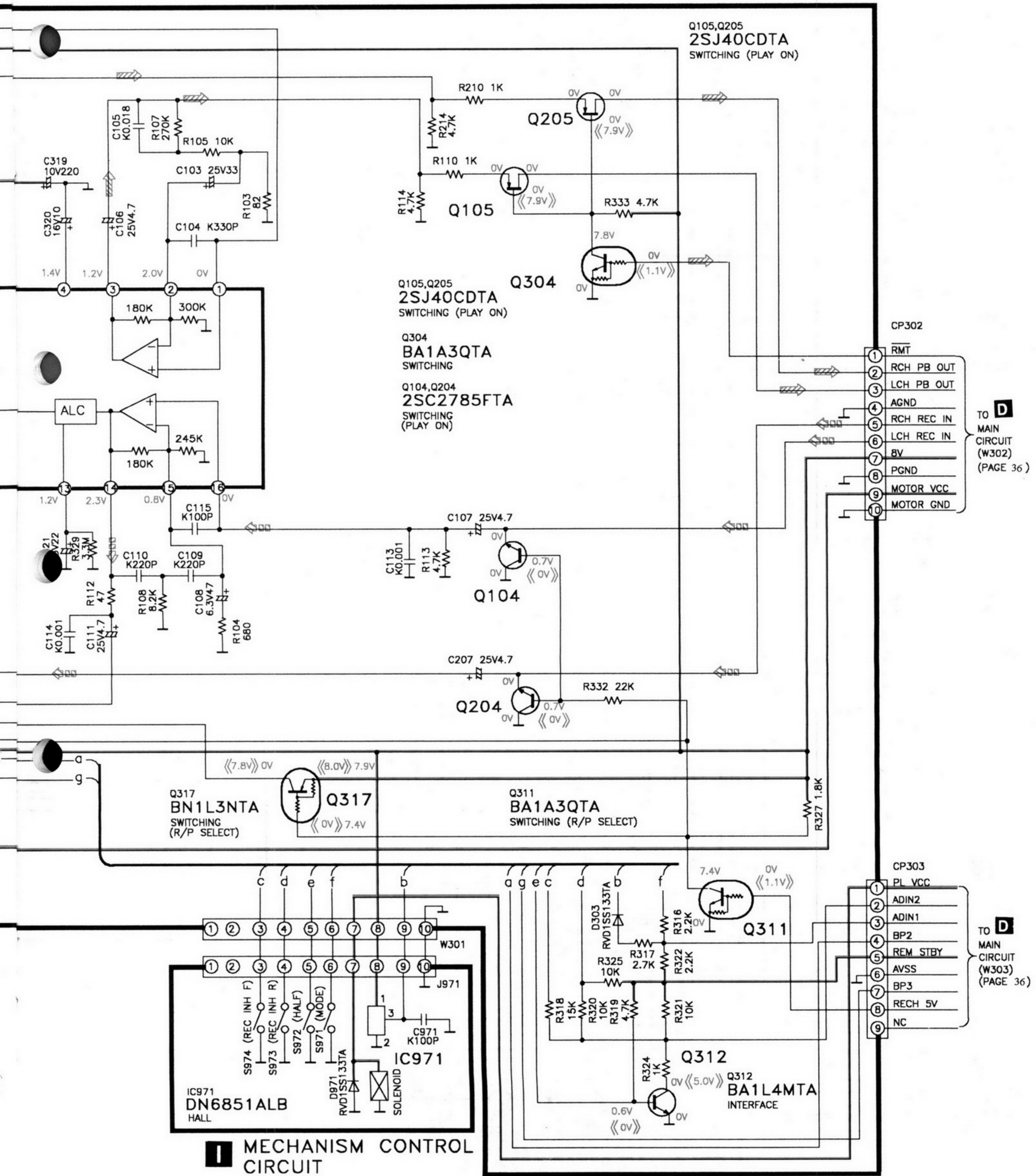




**C** DECK CIRCUIT







**I MECHANISM CONTROL CIRCUIT**

TO MAIN CIRCUIT (W302) (PAGE 36)

TO MAIN CIRCUIT (W303) (PAGE 36)



**D** MAIN CIRCUIT

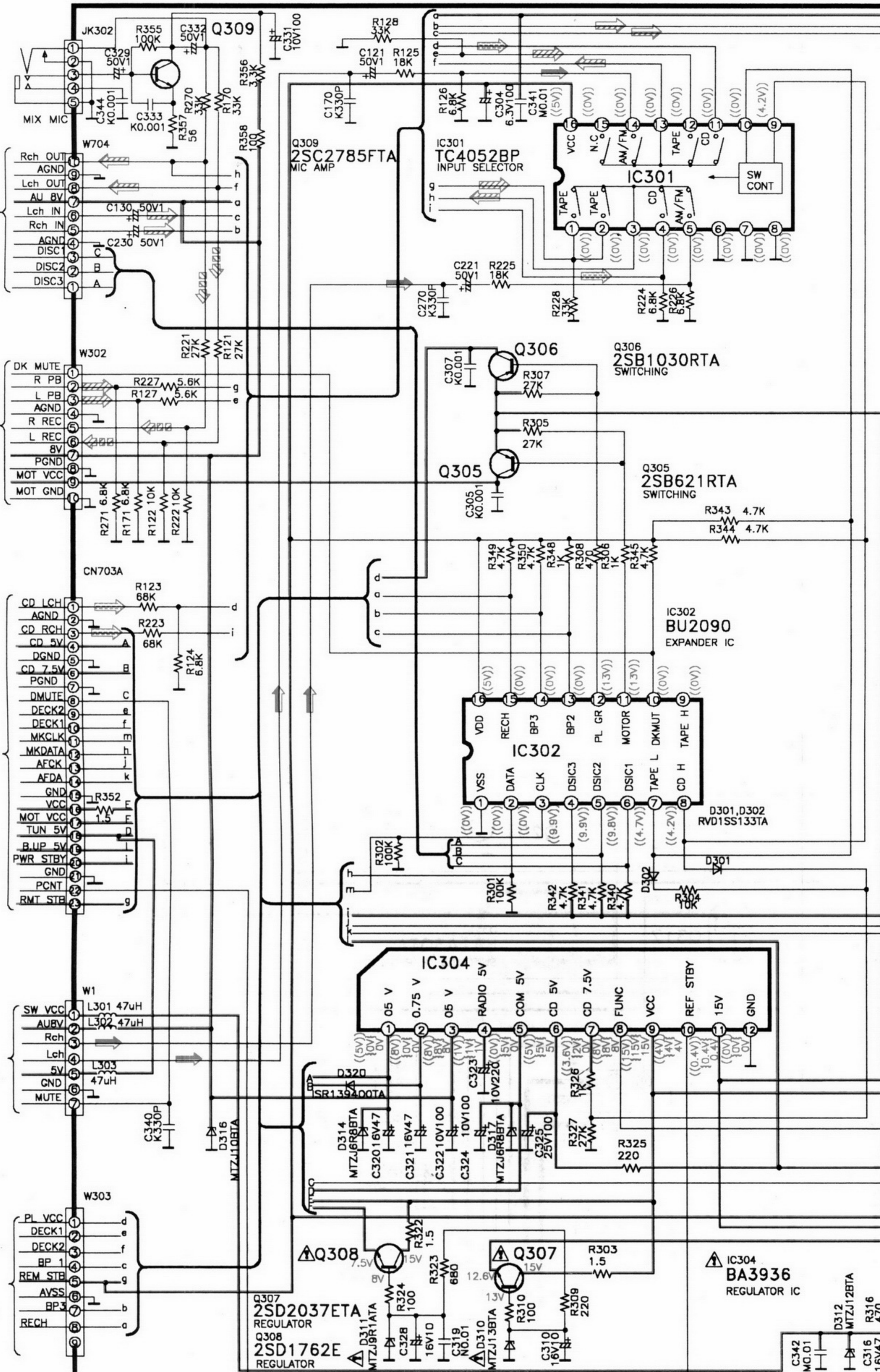
**E**  
TO PANEL CIRCUIT (CP704) (PAGE 40)

**C**  
TO DECK CIRCUIT (CP302) (PAGE 35)

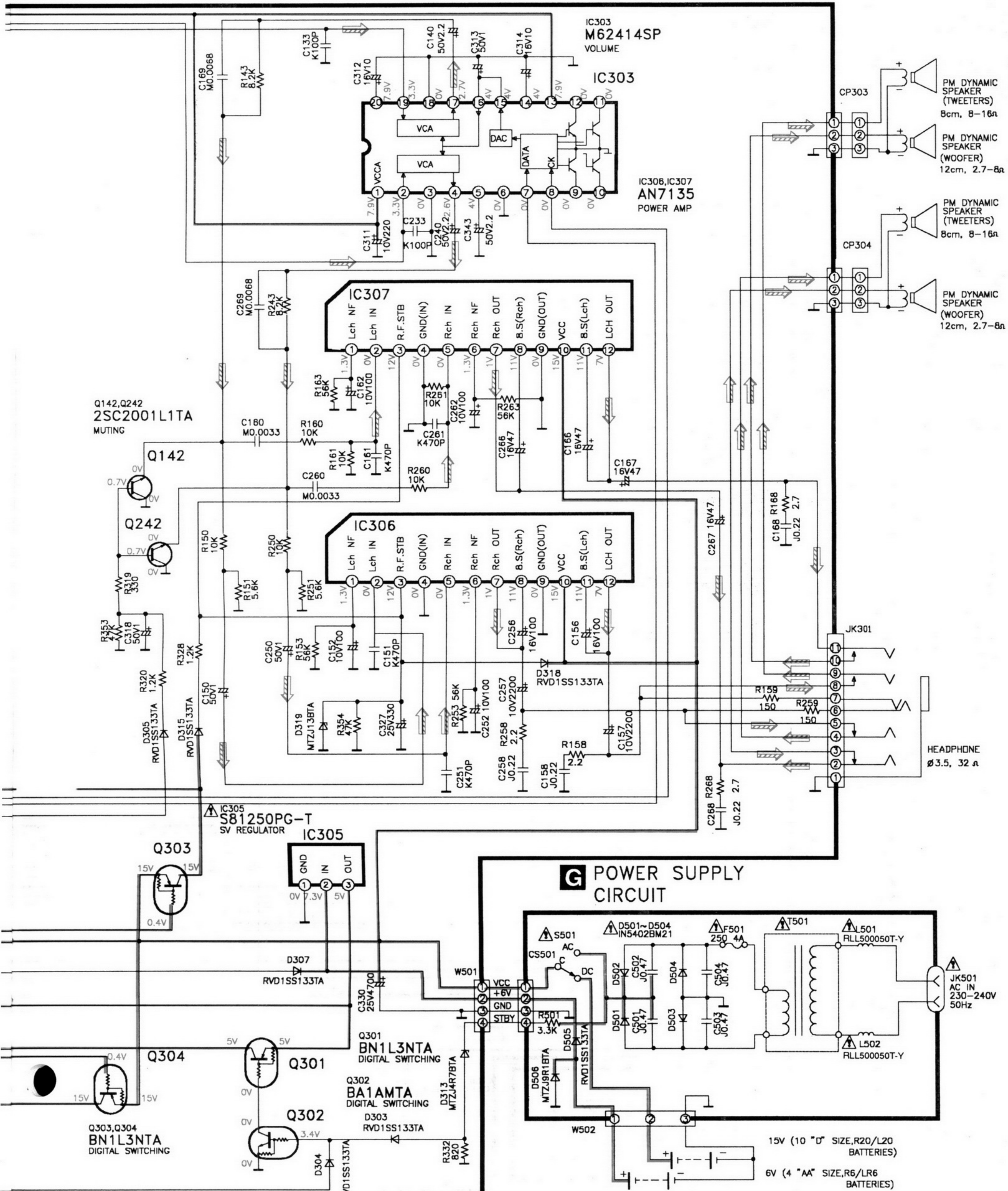
**F**  
TO CONTROL CIRCUIT (CN703B) (PAGE 39)

**B**  
TO TUNER CIRCUIT (CN1) (PAGE 33)

**G**  
TO DECK CIRCUIT (CP303) (PAGE 35)







PM DYNAMIC SPEAKER (TWEETERS) 8cm, 8-16Ω

PM DYNAMIC SPEAKER (WOOFER) 12cm, 2.7-8Ω

PM DYNAMIC SPEAKER (TWEETERS) 8cm, 8-16Ω

PM DYNAMIC SPEAKER (WOOFER) 12cm, 2.7-8Ω

HEADPHONE Ø3.5, 32 Ω

### G POWER SUPPLY CIRCUIT

15V (10 "D" SIZE, R20/L20 BATTERIES)

6V (4 "AA" SIZE, R6/LR6 BATTERIES)



# F CONTROL CIRCUIT

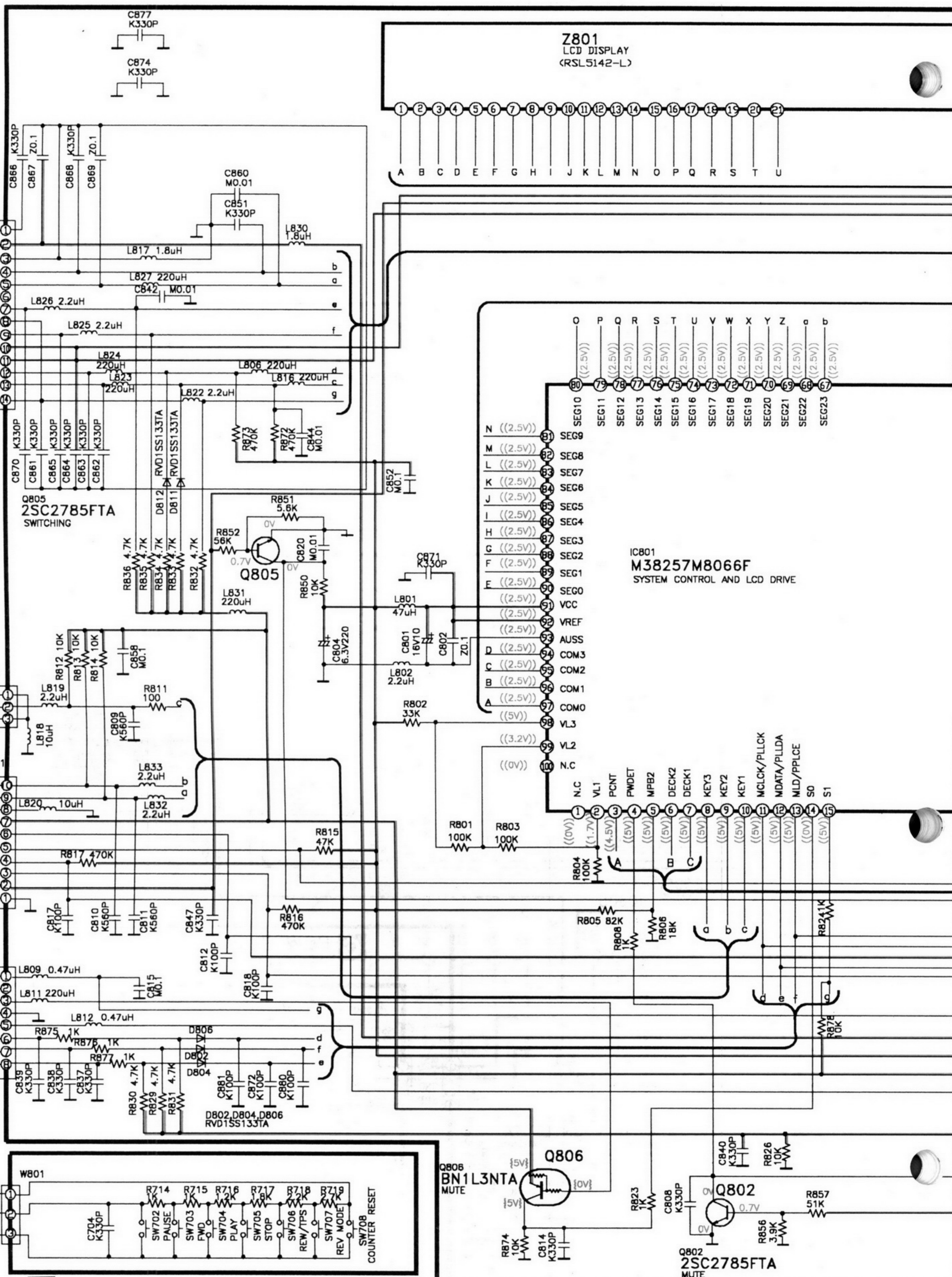
**J**  
TO LOADING MOTOR CIRCUIT (CN1) (PAGE 41)

**H**  
TO OPERATION CIRCUIT (WB01) (PAGE 38)

**E**  
TO PANEL CIRCUIT (CN701) (PAGE 40)

**B**  
TO TUNER CIRCUIT (CN2) (PAGE 33)

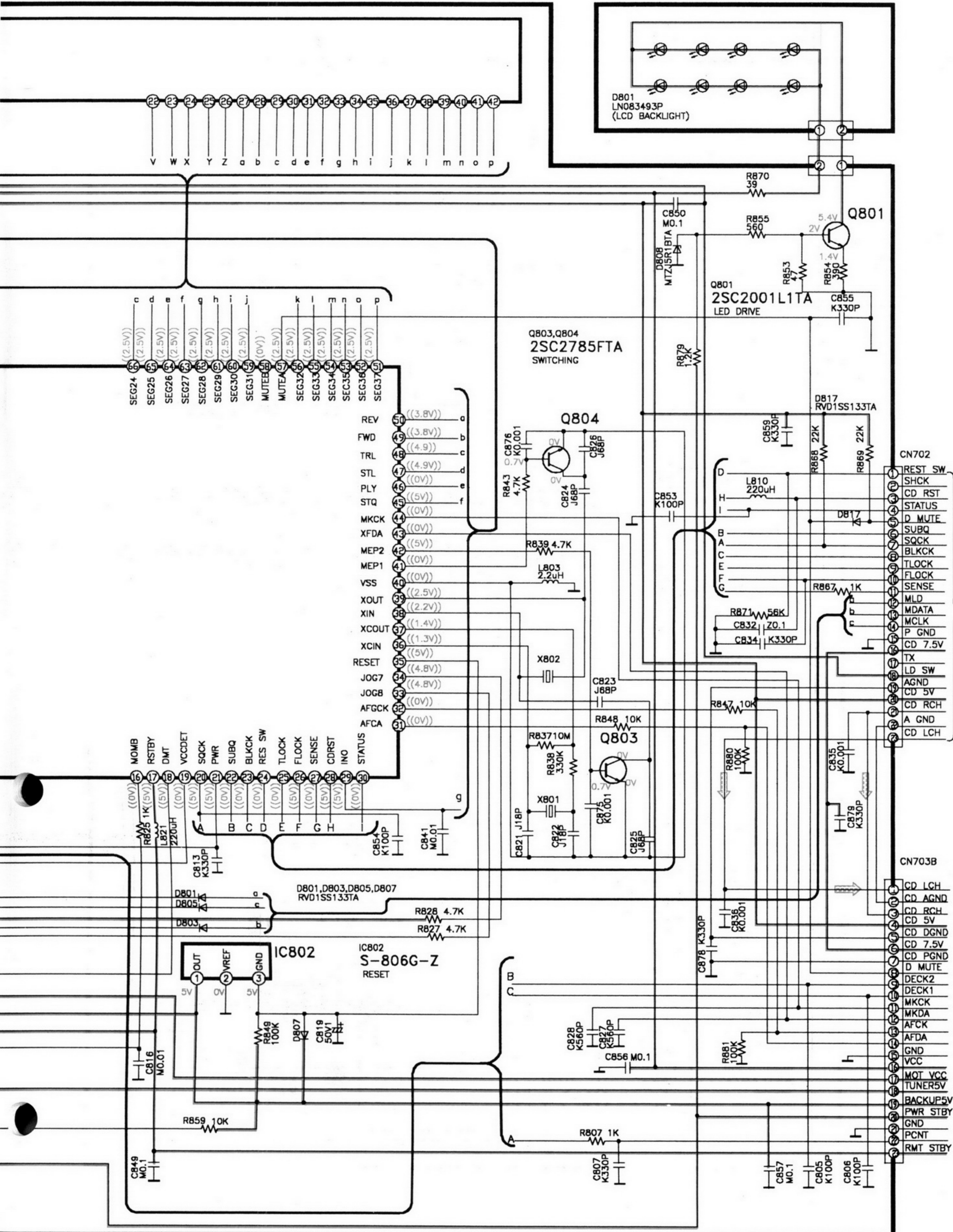
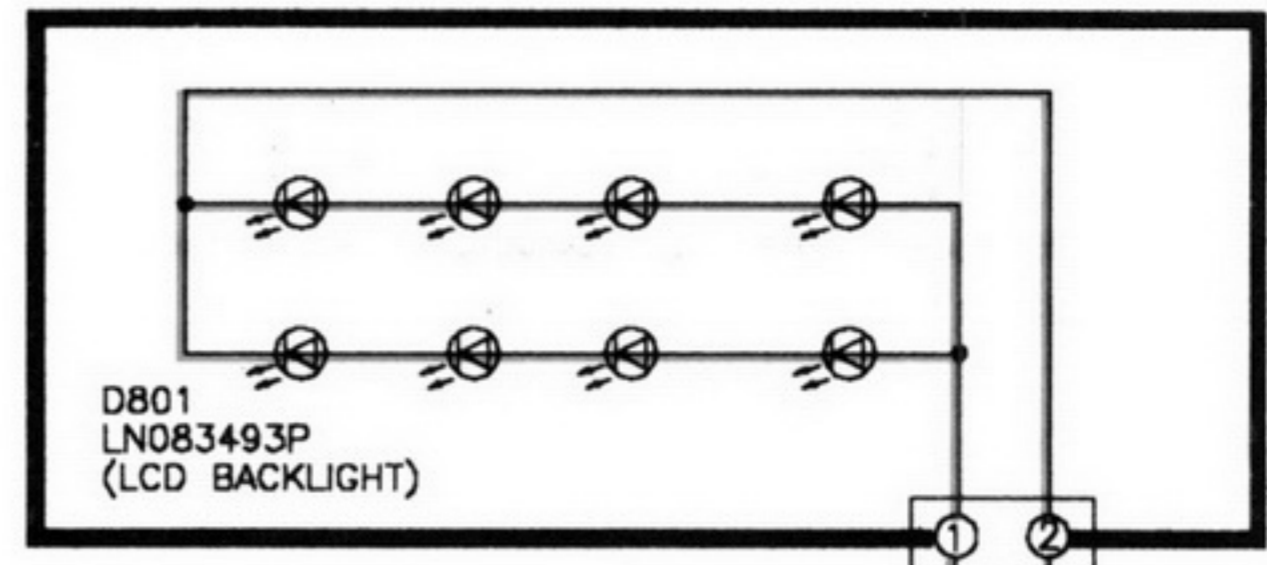
**F**  
TO CONTROL CIRCUIT (WB01) (PAGE 38)



# H OPERATION CIRCUIT



LED BLOCK



**A**  
TO CD TRAVERSE  
CIRCUIT  
(CN702)  
(PAGE 31)

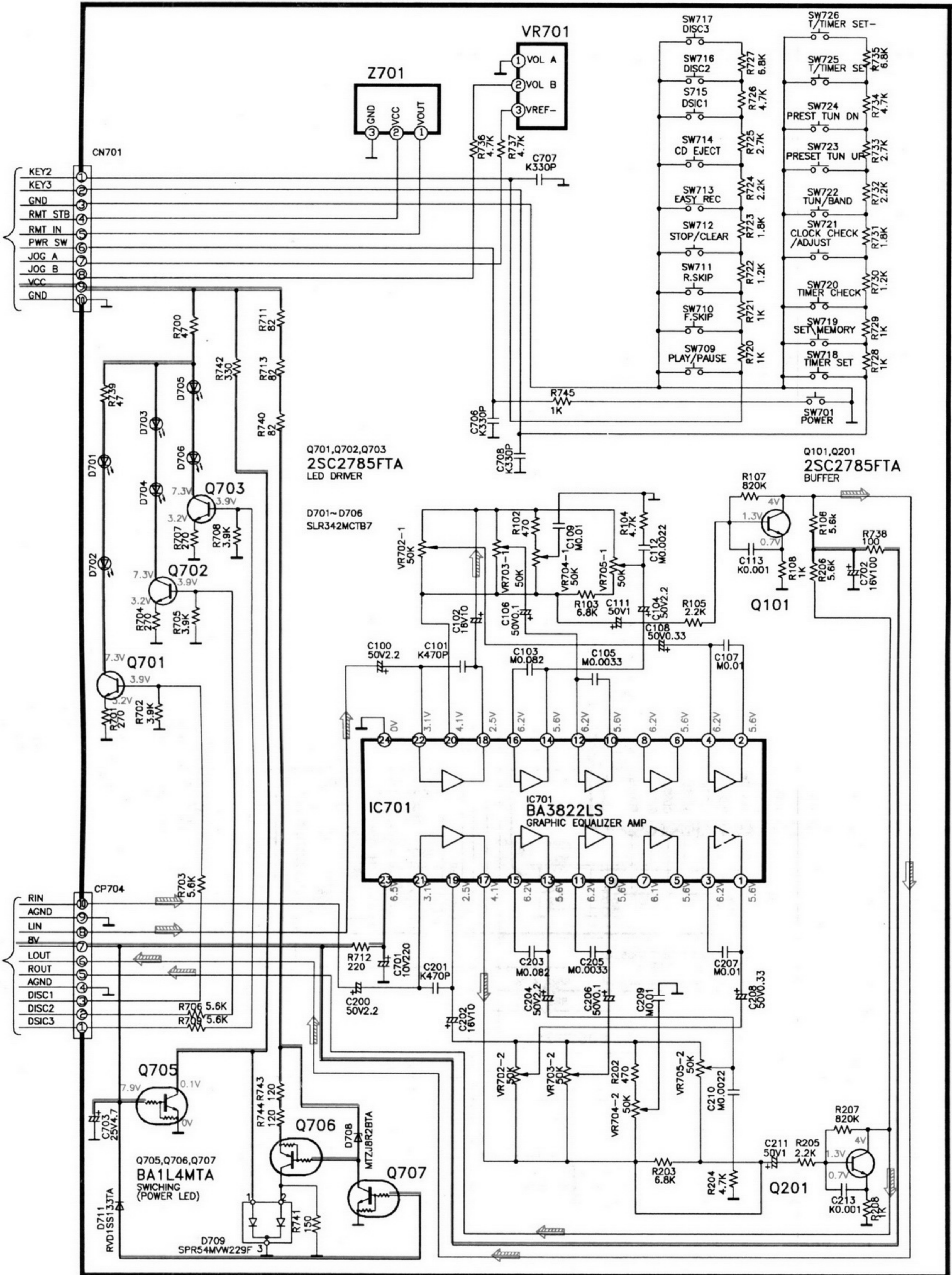
**D**  
TO MAIN  
CIRCUIT  
(CN703A)  
(PAGE 36)



**E** PANEL CIRCUIT

**F**  
TO CONTROL  
CIRCUIT  
(CP701)  
(PAGE 38)

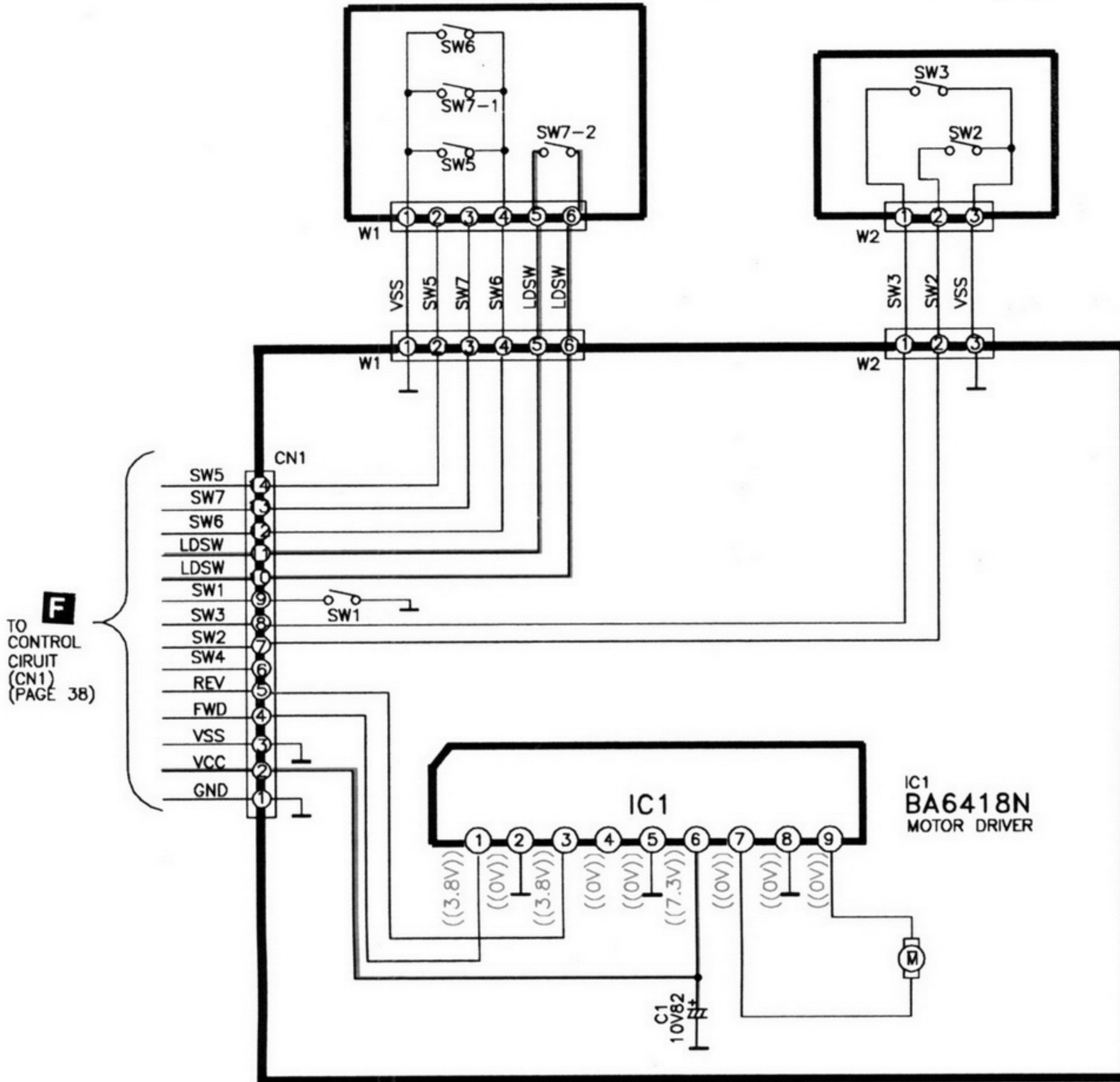
**D**  
TO MAIN  
CIRCUIT  
(W704)  
(PAGE 36)





DETECTING SWITCH (1) CIRCUIT

DETECTING SWITCH (2) CIRCUIT



**F**  
TO CONTROL  
CIRCUIT  
(CN1)  
(PAGE 38)

**J** LOADING MOTOR CIRCUIT



# Schematic Diagram

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

Note :

< for Servo circuit > (Page 31)

- S701 : Reset switch

< for Deck circuit > (Page 34)

- VR301 : Tape speed control.

< for Mechanism circuit > (Page 35)

- S971 : Deck mode detect switch.
- S972 : Deck tape detect switch.
- S973 : Deck tab switch.
- S974 : Deck tab switch.

< for Main circuit and Power Supply circuit > (Page 37)

- S501 : AC/DC switch (JK501)

< for Operation Switch circuit and Panel circuit > (Page 38, 40)

- SW701 : Power switch
- SW702 : Record/Record Pause switch
- SW703 : Cassette FF switch
- SW704 : Cassette Play/Dir switch
- SW705 : Cassette Stop switch
- SW706 : Cassette Rew switch
- SW707 : Reverse Mode switch
- SW708 : Counter Reset switch
- SW709 : CD Play/Pause switch
- SW710 : CD Forward skip switch
- SW711 : CD Reverse skip switch
- SW712 : CD Stop/Clear switch
- SW713 : Easy CD Record switch
- SW714 : CD Eject switch
- SW715 : CD Disc 1 switch
- SW716 : CD Disc 2 switch
- SW717 : CD Disc 3 switch
- SW718 : Timer switch
- SW719 : Memory switch
- SW720 : Timer Chk switch
- SW721 : Clock Chk switch
- SW722 : Tuner/Band switch
- SW723 : Preset Tuning Up switch
- SW724 : Preset Tuning Down switch
- SW725 : Tuning/Time Set + switch
- SW726 : Tuning/Time Set - switch
- VR701 : Volume control
- VR702-1 ~ VR702-2 : Equaliser control (330Hz)
- VR703-1 ~ VR703-2 : Equaliser control (1kHz)
- VR704-1 ~ VR704-2 : Equaliser control (10kHz)
- VR705-1 ~ VR705-2 : S-XBS control

< for Loading Motor circuit > (Page 41)

- SW1 : Leaf switch.
- SW2~SW7-2 : Mecha switch.

< General >







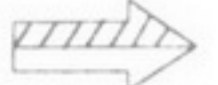
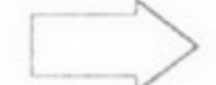


•Battery Current

Without signal....	340mA(Tape Stop)
	430mA(CD Stop)
Vol. min .....	365mA(FM)
	355mA(AM)
	430mA(Tape)
	540mA(CD)
Recording .....	470mA

Vol. max .....	960mA(FM)
	920mA(AM)
	1520mA(Tape)
	2500mA(CD)

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

•Signal line

	: +B line		: Record signal line		: AM OSC signal line
	: FM/AM signal line		: CD signal line		: FM OSC signal line
	: Main signal line		: FM signal line		
	: Playback signal line		: AM 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    << >>.....Rec    { } : Tuner    (( )) : CD    ( )..... AM    < >..... 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.

- Put a conductive mat on the work table.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.