

Service Manual

Portable Stereo Component CD System

Radio Cassette

RX-E300

COMPACT
disc
DIGITAL AUDIO

* **DOLBY B NR**

MASH*
multi-stage noise shaping

Colour

(K) ... Black Type



Area

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

TAPE DECK : MECHANISM SERIES (AR300)
TRAVERSE DECK : MECHANISM SERIES (RAE0113Z)

■ SPECIFICATIONS

■ RADIO

Frequency range
FM 87.5 – 108 MHz
LW 144 – 288 kHz
MW 522 – 1611 kHz

■ 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 30 – 16000 Hz
 CrO₂ 30 – 17000 Hz
 Metal 30 – 17000 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(+1, -2 dB)
 Wow and flutter Less than possible measurement data
 D/A converter MASH (1 bit DAC)

■ GENERAL

Power requirement
AC 230 – 240 V, 50 Hz
 Power consumption: 42 W
Battery 12 V (Eight R20/LR20, UM-1 batteries)
Memory back-up for computer/clock 6 V (Four "R6/LR6" size, UM-3 batteries)
Speakers
 2 Woofer 8 cm
 2 Tweeter 6 x 7 cm
Jacks
Input MIX MIC; 5 mV (200 – 600 Ω)
Output SPEAKERS; LOW 2.7 – 8 Ω
 HIGH 6 – 16 Ω
 PHONES; 32 Ω
Dimensions (W x H x D) 586 x 153 x 249 mm
 Main unit; 297 x 153 x 249 mm
 Speaker box; 150 x 152 x 233 mm
Weight 6.3 kg without batteries

* MASH is a trademark of NTT.

* 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.

Notes :

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

Panasonic

■ SCHEMATIC DIAGRAM

1 | 2 | 3 | 4 | 5

A

B

C

D

E

F

Notes:

- S501 : CD Loading switch.
- S502 : CD Leaf switch.
- S701 : CD Reset switch.
- S801 : Dolby switch.
- S802 : Tape Counter Reset switch.
- S803 : Tape Record Pause switch.
- S804 : CD-To-Tape Record switch.
- S805 : Tape FF switch.
- S806 : Tape REW switch.
- S807 : Tape Play/DIR switch.
- S808 : Tape Stop switch.
- S809 : Timer Set switch.
- S810 : Memory Adjustment switch.
- S811 : Timer Check switch.
- S812 : Tuning/Timer Set/CD skip (-) switch.
- S813 : Tuning/Timer Set/CD skip (+) switch.
- S814 : Volume (-) switch.
- S815 : Volume (+) switch.
- S816 : Preset Equalizer switch.
- S817 : CD Stop/Clear switch.
- S818 : CD Play/Pause switch.
- S819 : Tuner Band switch.
- S820 : Preset Tuning switch.
- S821 : Sleep switch.
- S822 : Power ON/OFF switch.
- S901 : AC/DC switch.
- S971 : Mode Detect switch.
- S972 : Tape Detect switch.
- S973 : TAB Detect switch.
- S974 : TAB Detect switch.
- S975 : CrO₂ Detect switch.
- VR101 : PB Gain Adjustment (Lch).
- VR201 : PB Gain Adjustment (Rch).
- VR301 : Tape Speed Adjustment.

• Battery Current :

| | | |
|----------------|---------|----------------------------|
| Vol. max | 1400mA | (FM) |
| | 1300 mA | (TAPE) |
| | 2100 mA | (Recording; CD to tape) |
| | 1700 mA | (Recording; Tuner to tape) |
| | 1700 mA | (CD) |

Measurement instructions

| | |
|------|---------------------|
| FM | : 74 dB/m, 30% Mod. |
| TAPE | : 315 dB, 0 dB |
| CD | : 1 kHz, 0 dB |

• DC voltage measurements are taken with electronic voltmeter from negative terminal of battery.

• *L1 and *L4 are printed coils formed on the P.C.B and thus not found in the Replacement Parts List.

• No mark ... Playback < > ... FM () ... MW/LW
 << >> ... REC { } ... TUNER (()) ... CD

• Important Safety Notice:

Component identified by 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.

... FM SIGNAL LINE

... MW/LW SIGNAL LINE

... FM OSC SIGNAL LINE

... +B LINE

... FM/MW/LW SIGNAL LINE

... MW/LW OSC SIGNAL LINE

... CD SIGNAL LINE

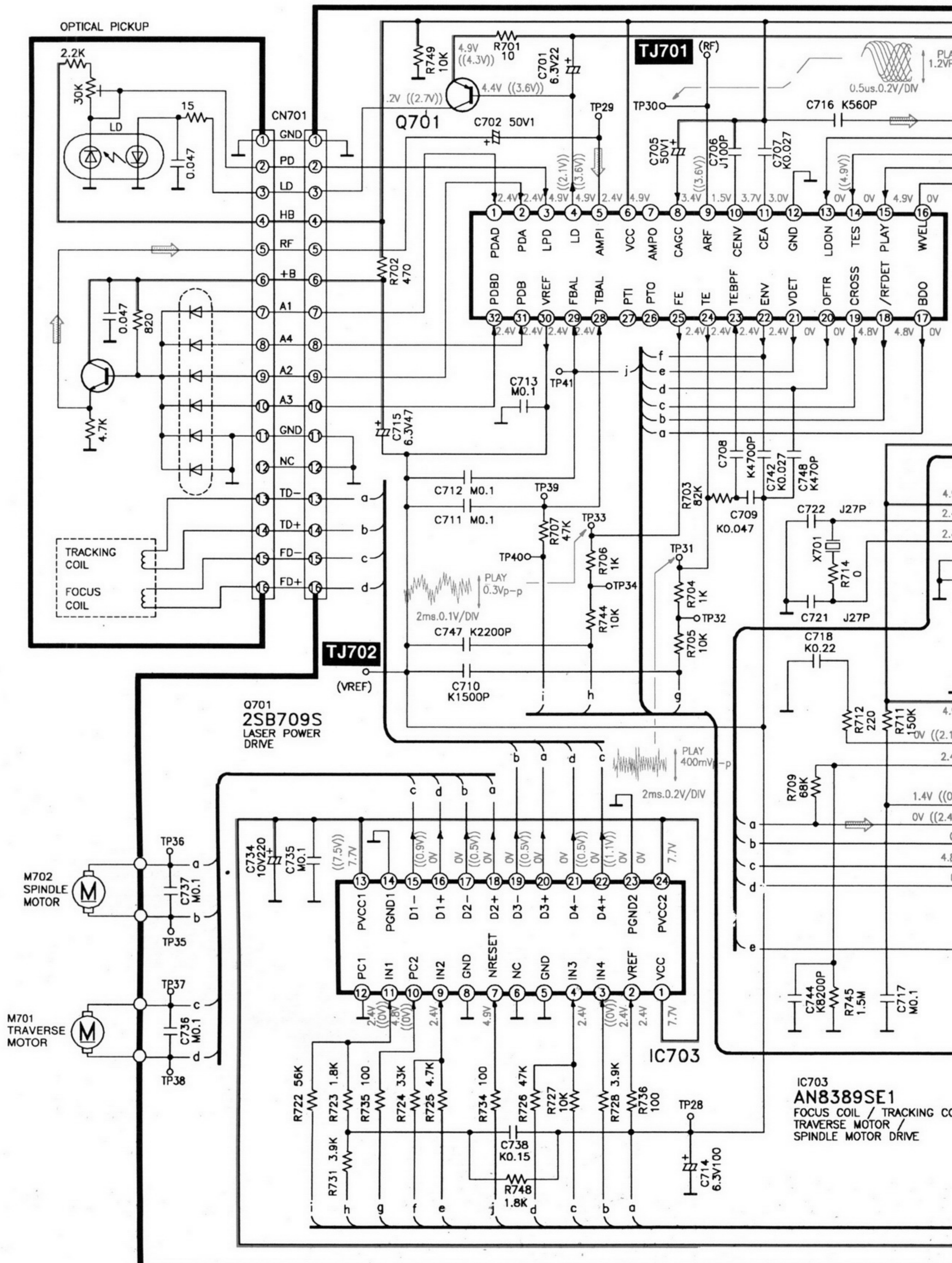
... PLAYBACK SIGNAL LINE

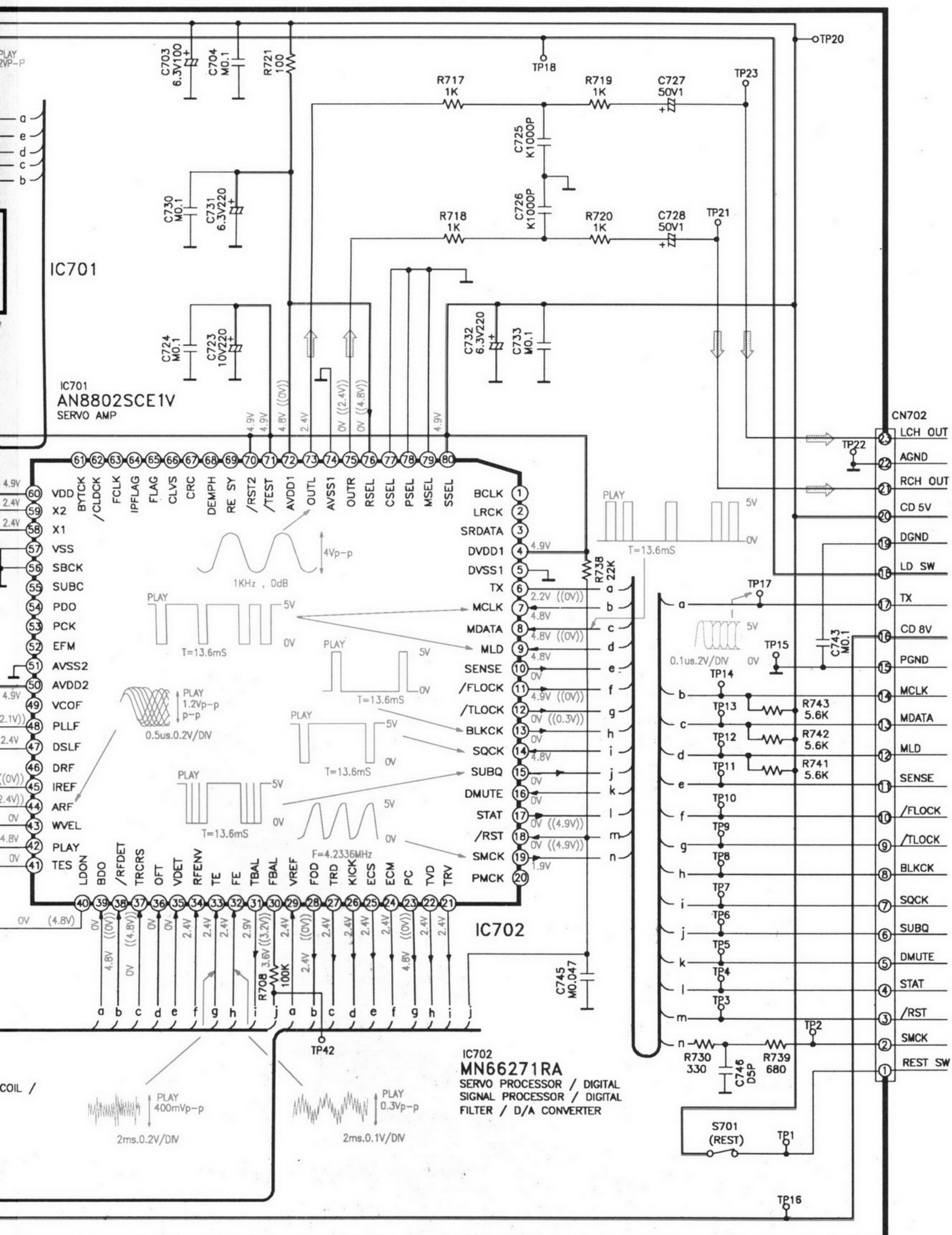
... RECORD SIGNAL LINE

... MAIN SIGNAL LINE

... MIC SIGNAL LINE

A SERVO CIRCUIT



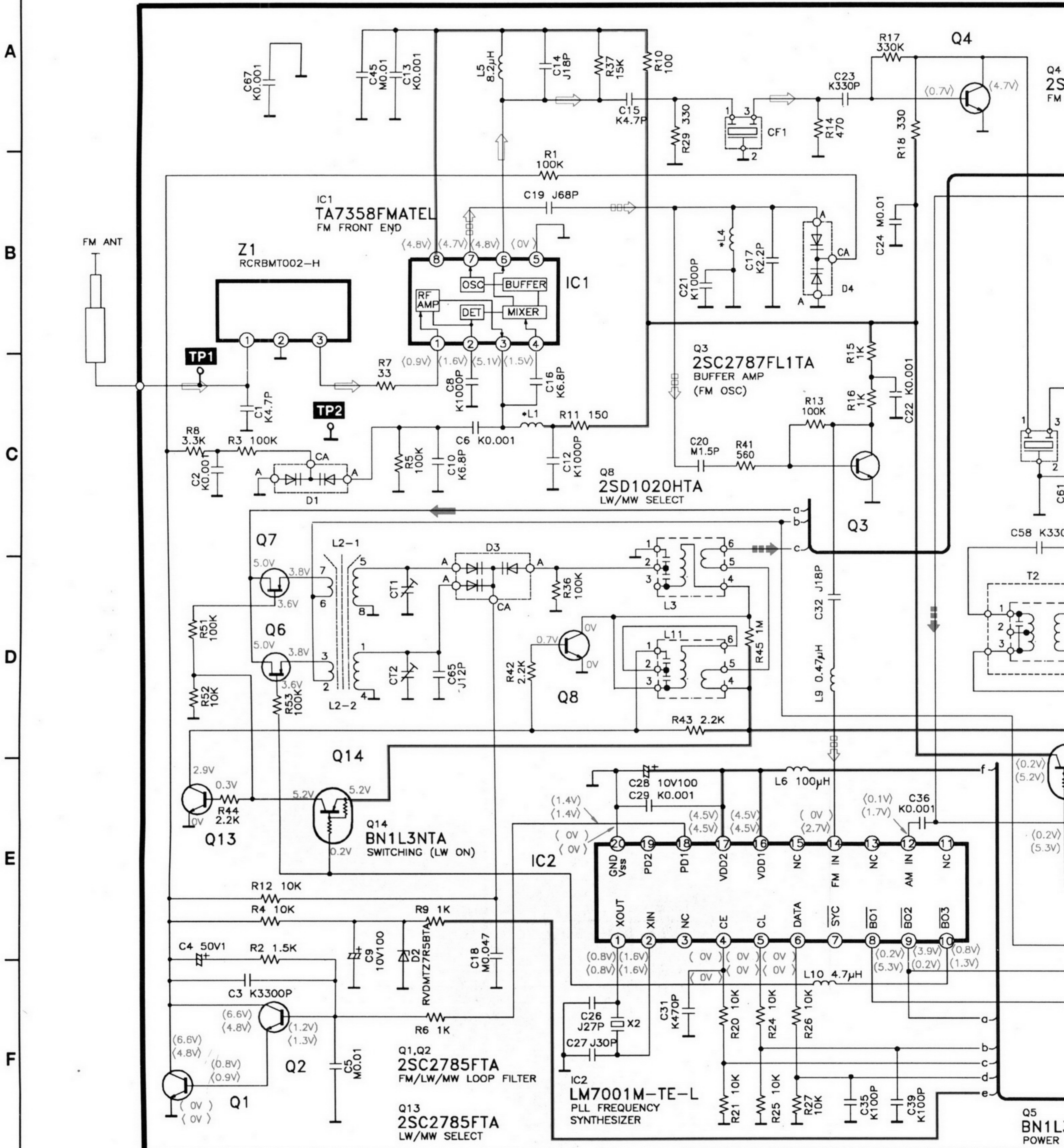


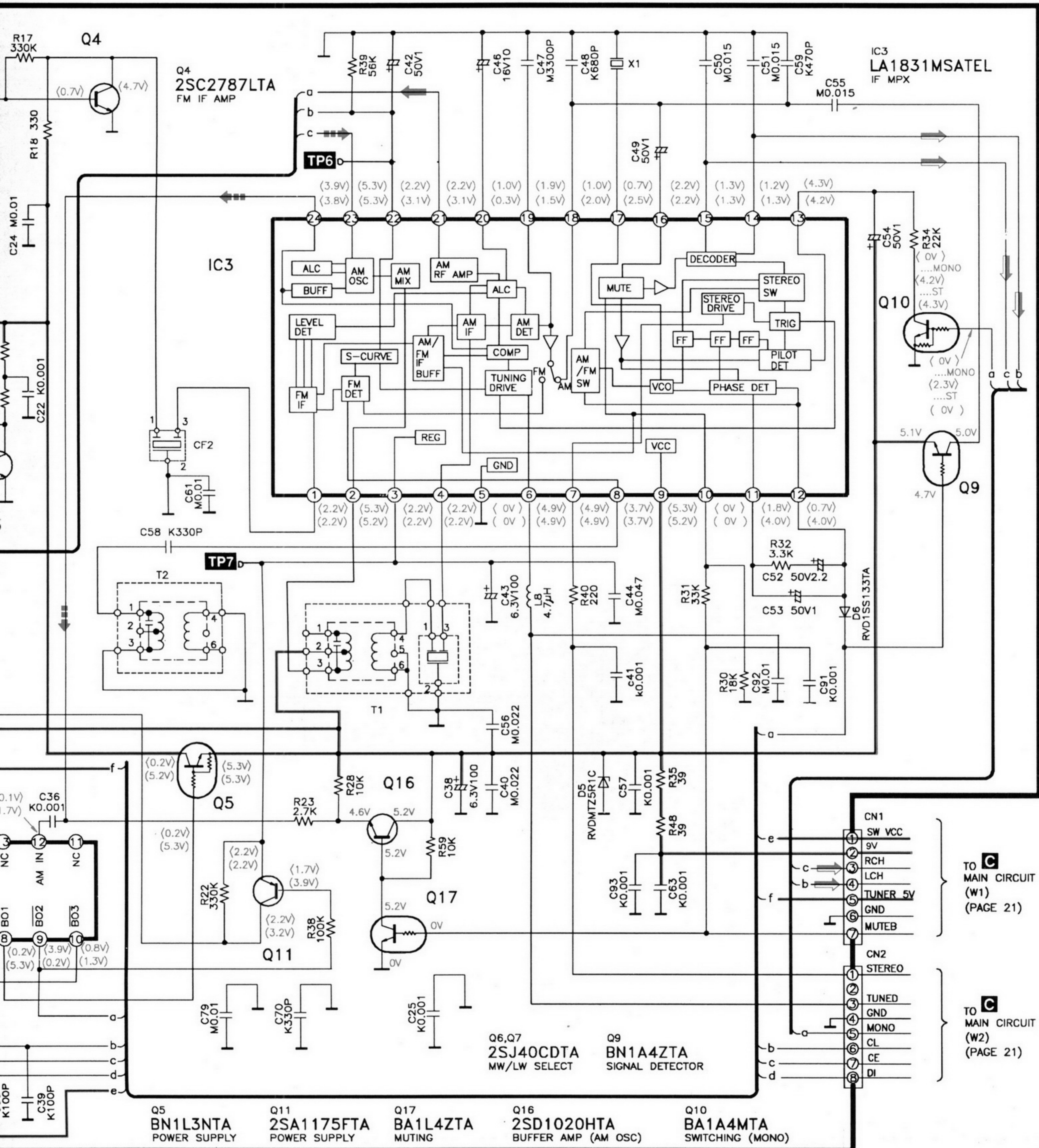
- CN702
- 23 LCH OUT
 - 22 AGND
 - 21 RCH OUT
 - 20 CD 5V
 - 19 DGND
 - 18 LD SW
 - 17 TX
 - 16 CD 8V
 - 15 PGND
 - 14 MCLK
 - 13 MDATA
 - 12 MLD
 - 11 SENSE
 - 10 /FLOCK
 - 9 /TLOCK
 - 8 BLKCK
 - 7 SQCK
 - 6 SUBQ
 - 5 DMUTE
 - 4 STAT
 - 3 /RST
 - 2 SMCK
 - 1 REST SW

TO MAIN CIRCUIT (CS702) (PAGE 21)

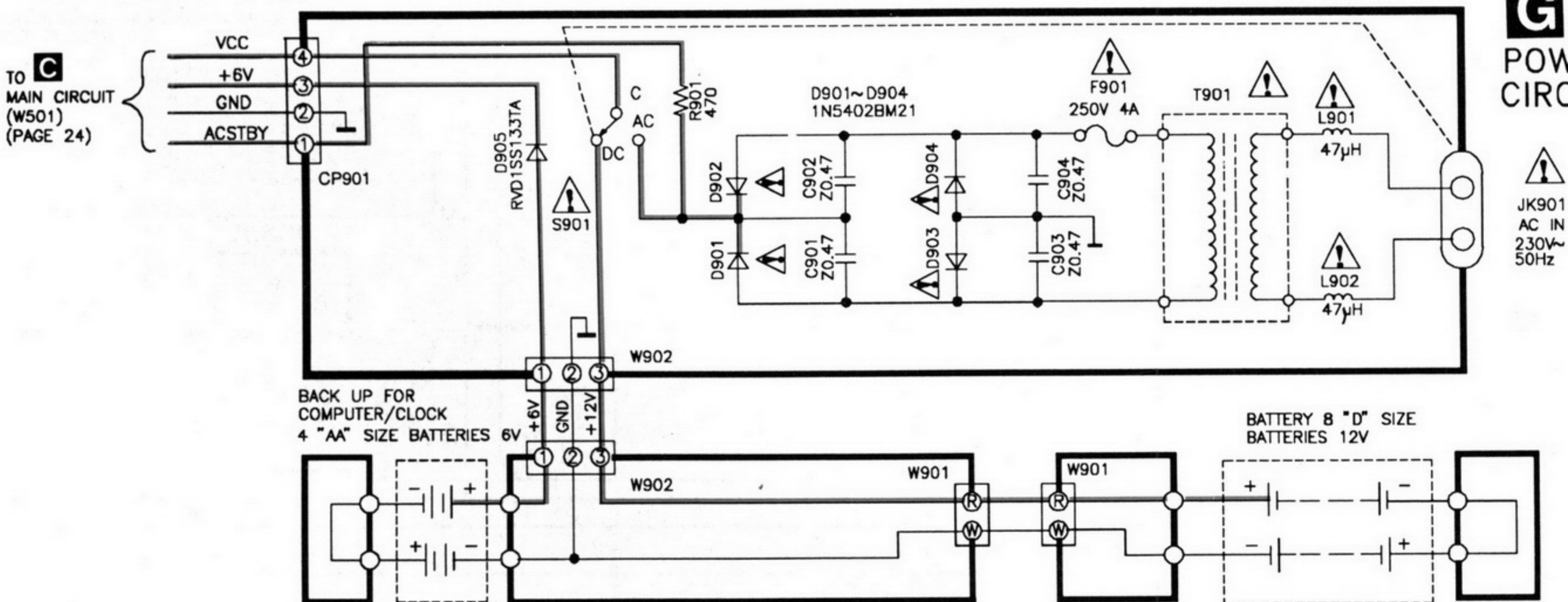
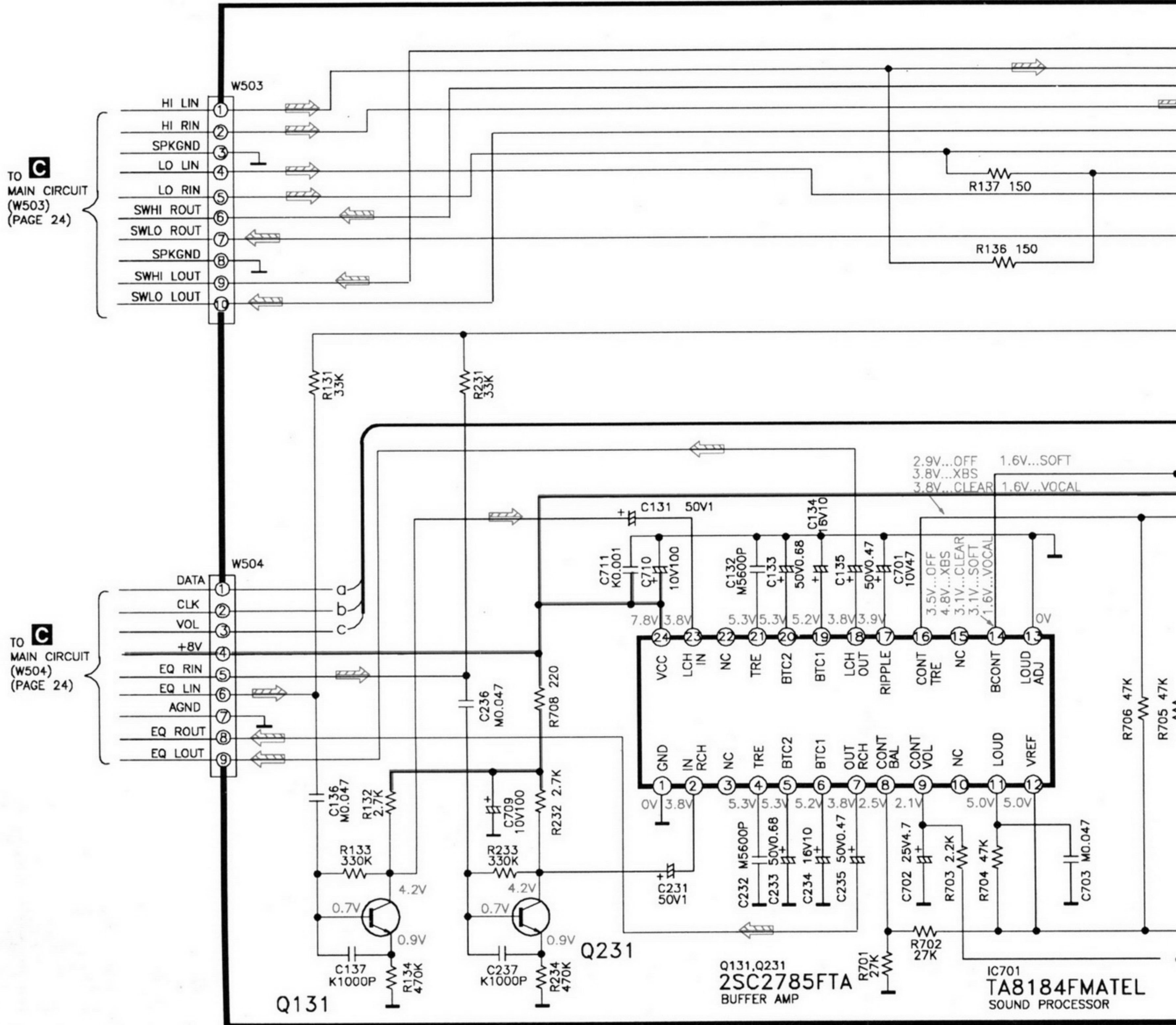
SCHEMATIC DIAGRAM

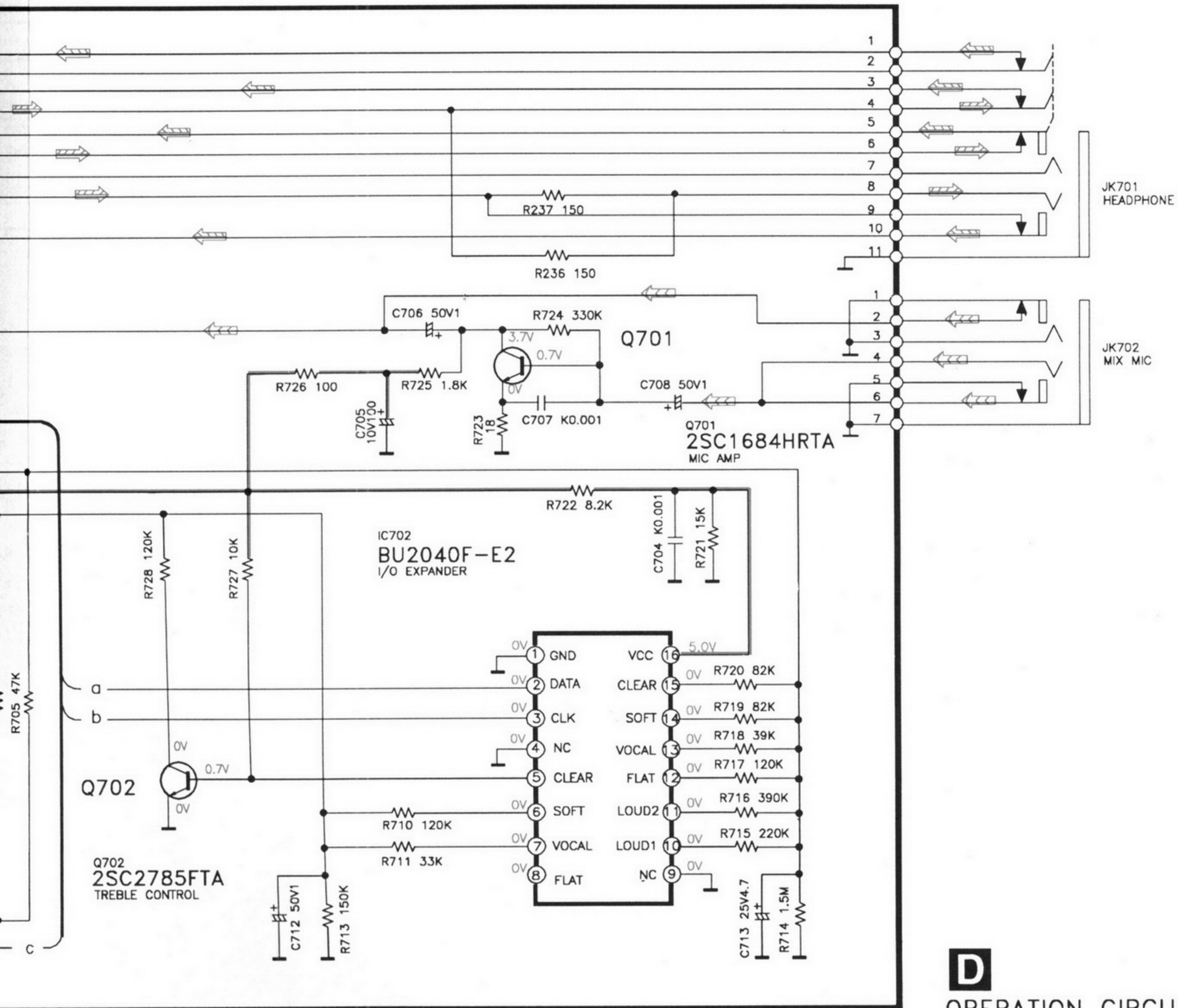
B TUNER CIRCUIT





E G.E.Q. CIRCUIT

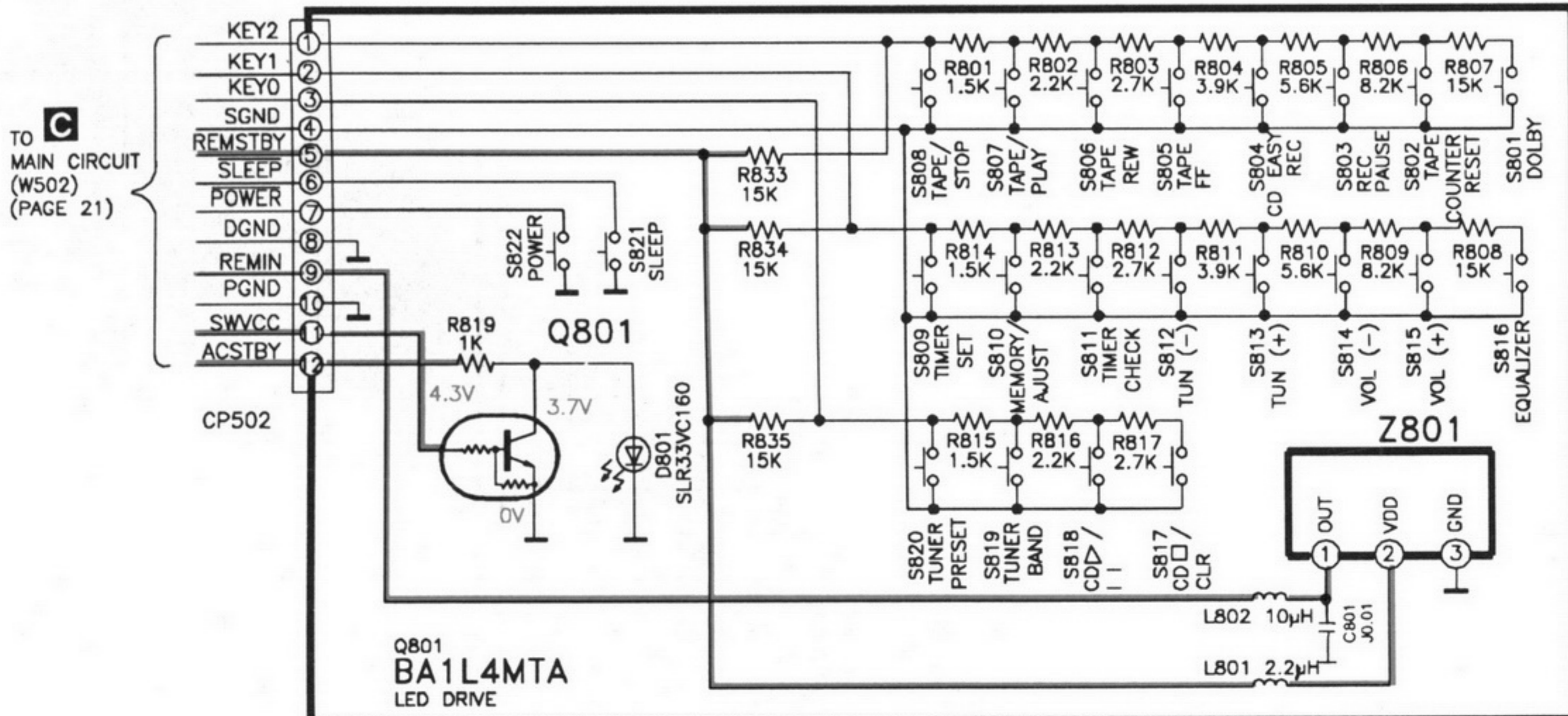




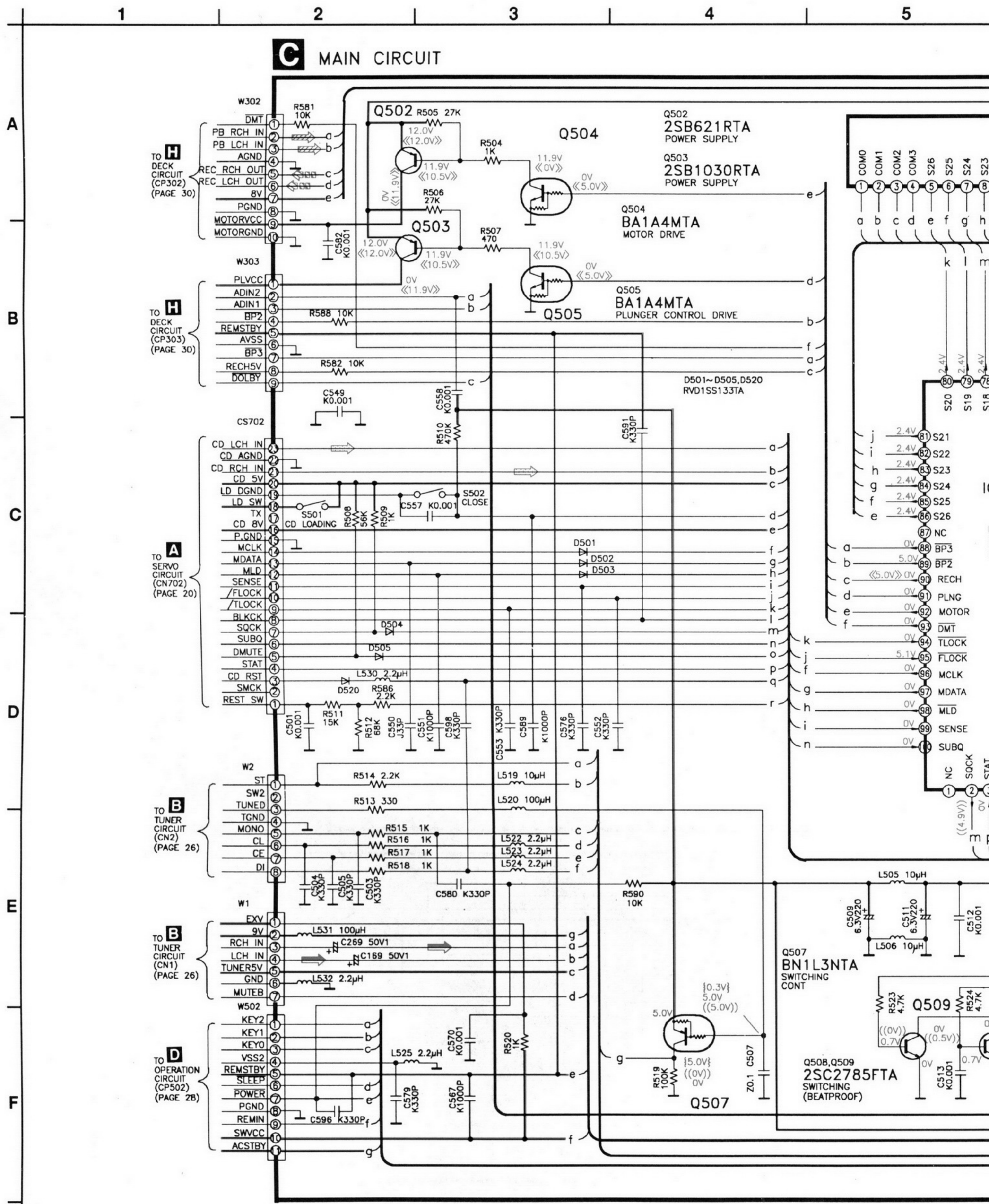
D OPERATION CIRCUIT

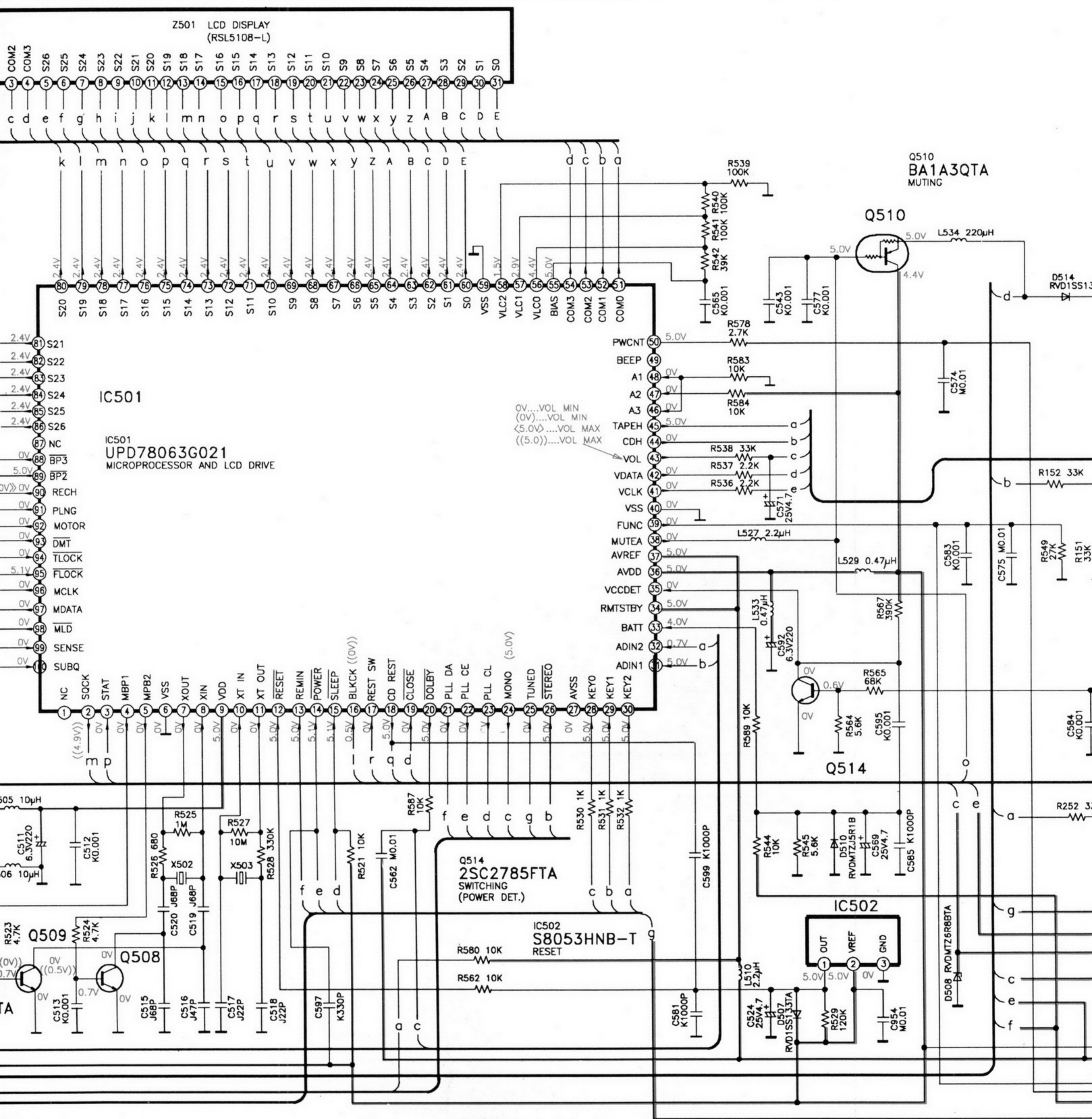
G POWER SUPPLY CIRCUIT

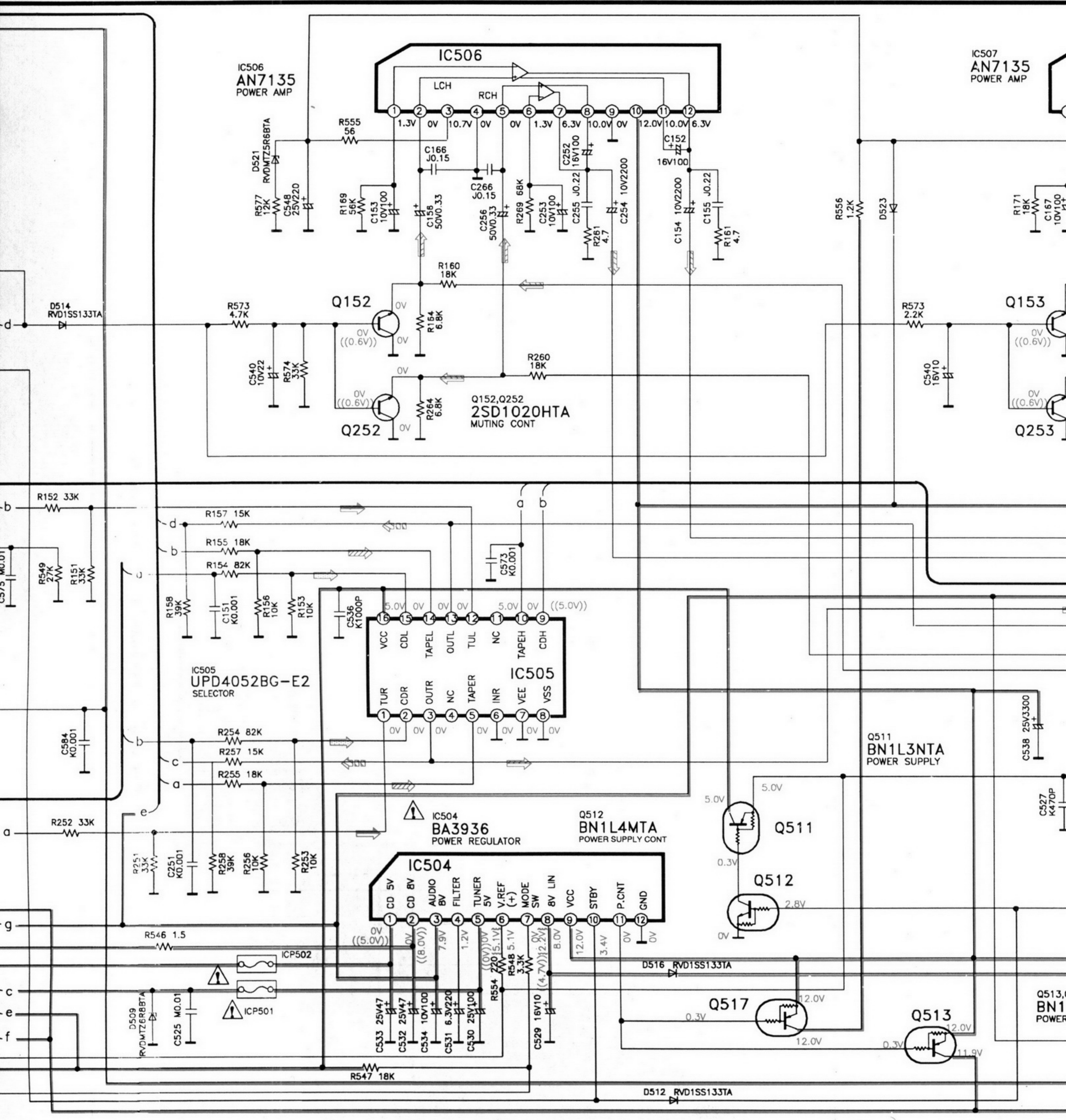
CAUTION: AC IN 50V~240V 50/60Hz

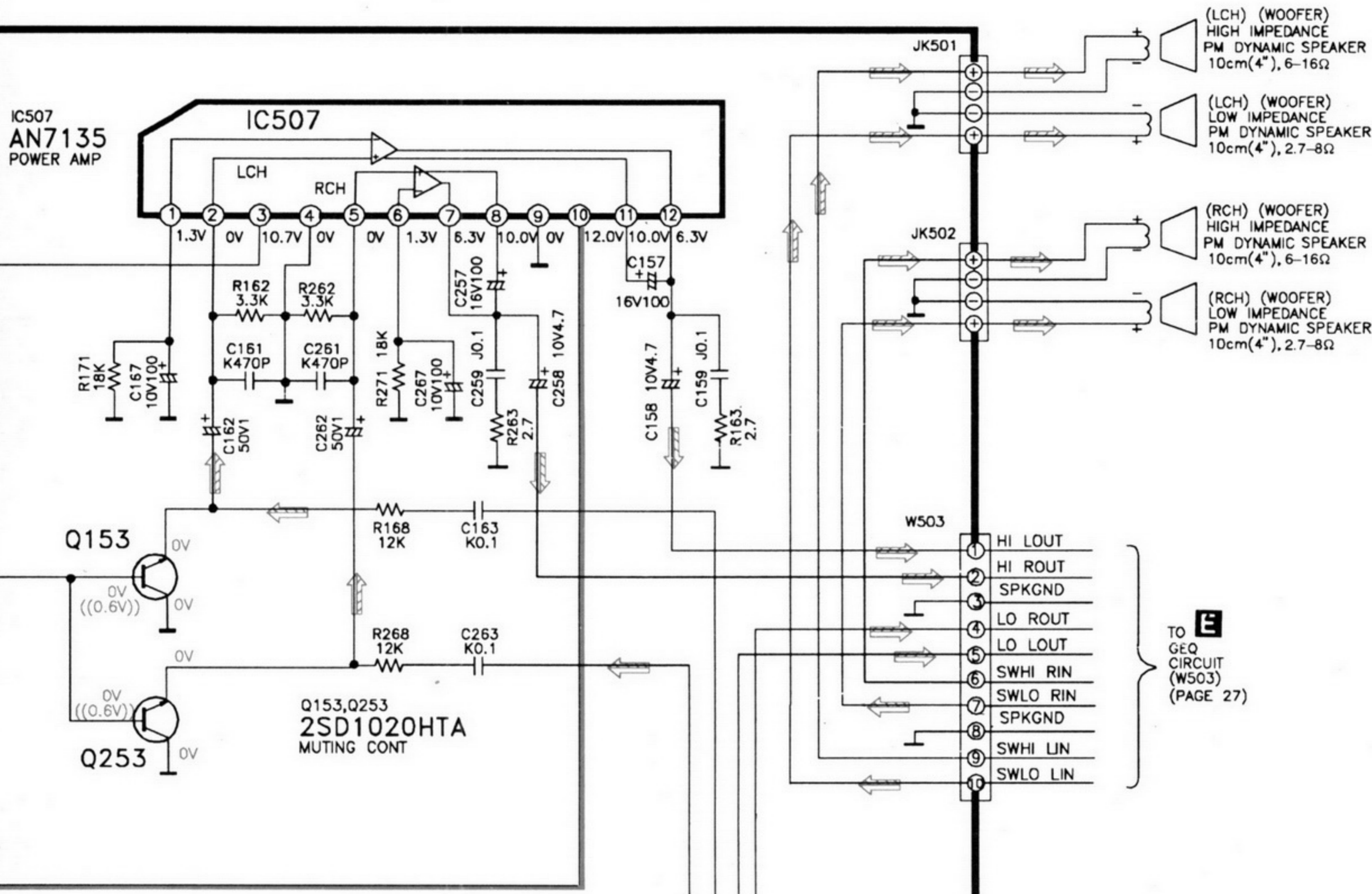


SCHEMATIC DIAGRAM









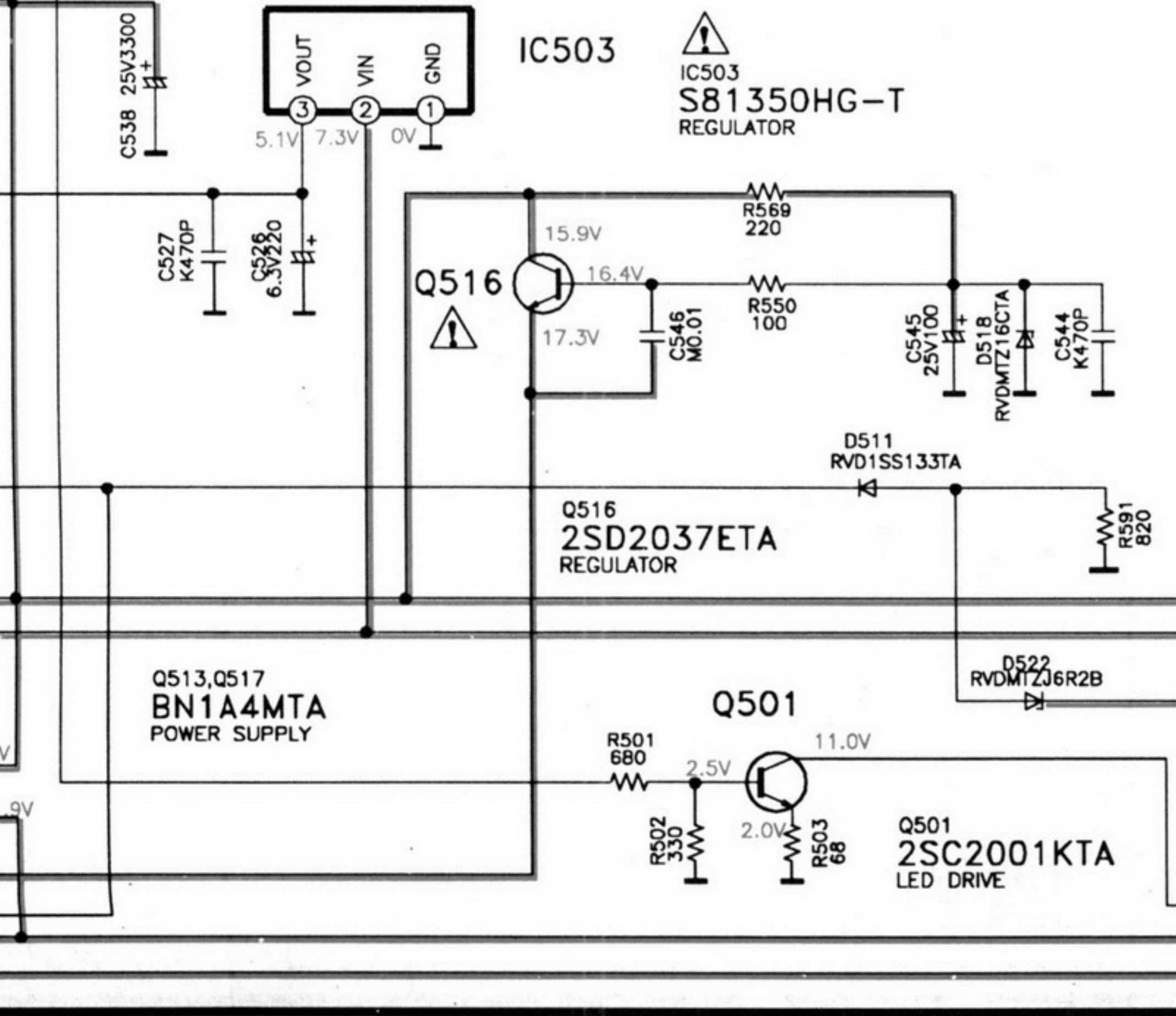
- (LCH) (WOOFER) HIGH IMPEDANCE PM DYNAMIC SPEAKER 10cm(4"), 6-16Ω
- (LCH) (WOOFER) LOW IMPEDANCE PM DYNAMIC SPEAKER 10cm(4"), 2.7-8Ω
- (RCH) (WOOFER) HIGH IMPEDANCE PM DYNAMIC SPEAKER 10cm(4"), 6-16Ω
- (RCH) (WOOFER) LOW IMPEDANCE PM DYNAMIC SPEAKER 10cm(4"), 2.7-8Ω

- W503
- 1 HI LOUT
 - 2 HI ROUT
 - 3 SPKGND
 - 4 LO ROUT
 - 5 LO LOUT
 - 6 SWHI RIN
 - 7 SWLO RIN
 - 8 SPKGND
 - 9 SWHI LIN
 - 10 SWLO LIN

TO EQ CIRCUIT (W503) (PAGE 27)

- W504
- 1 DATA
 - 2 CLK
 - 3 VOL
 - 4 +BV
 - 5 EQ ROUT
 - 6 EQ LOUT
 - 7 AGND
 - 8 EQ RIN
 - 9 EQ LIN

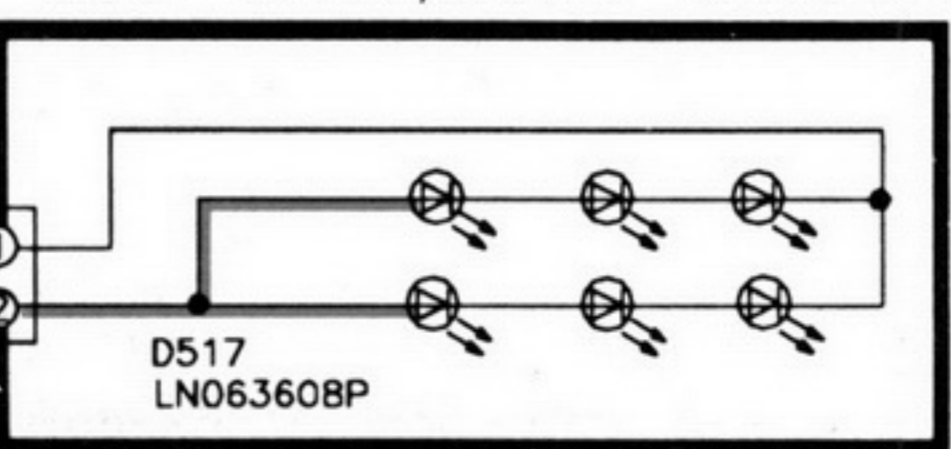
TO EQ CIRCUIT (W504) (PAGE 27)



- W501
- 1 ACSTBY
 - 2 GND
 - 3 +6V
 - 4 VCC

TO POWER SUPPLY CIRCUIT (CP501) (PAGE 27)

LCD BACKLIGHT CIRCUIT



SCHEMATIC DIAGRAM

1 2 3 4 5

DECK CIRCUIT

A

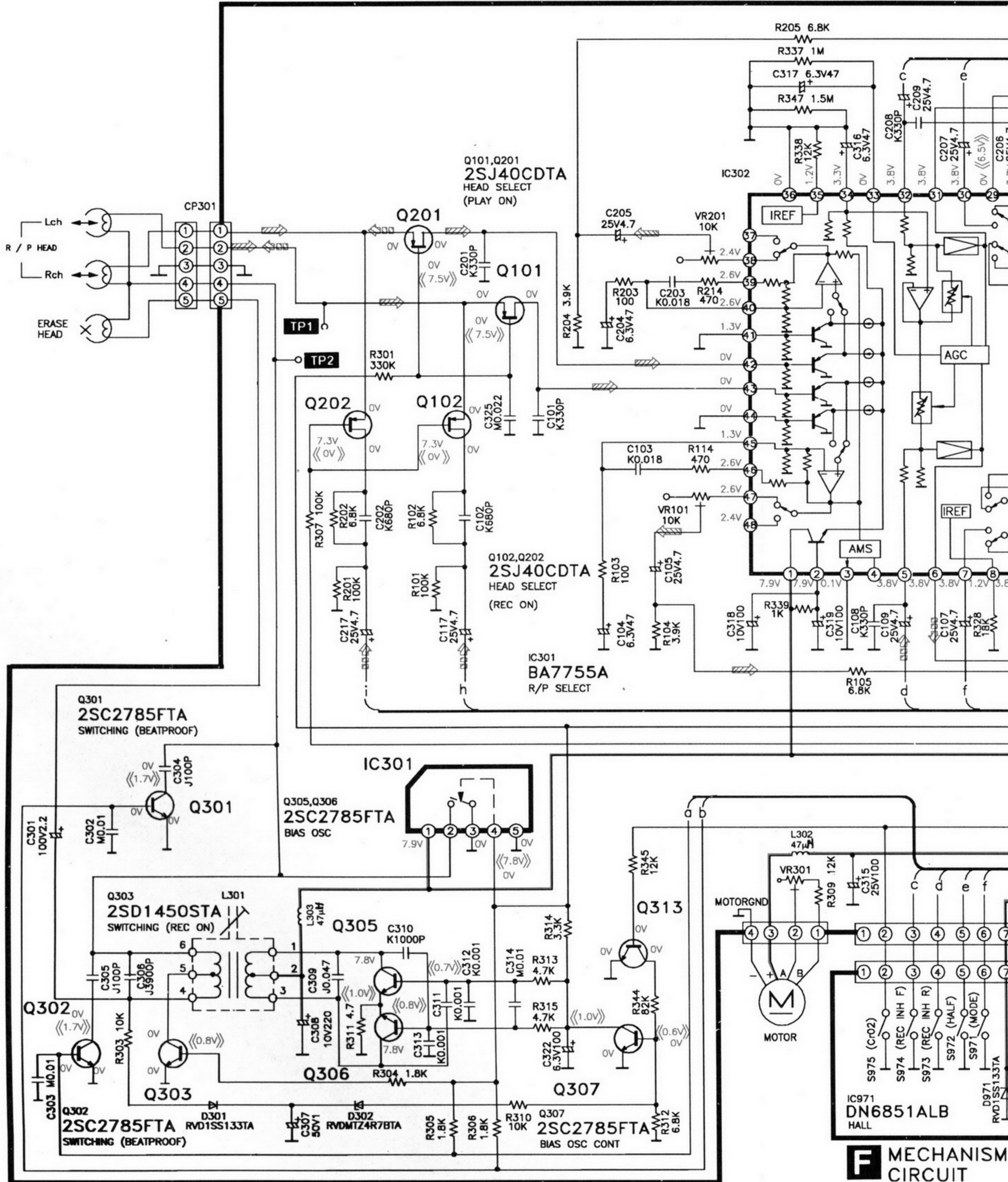
B

C

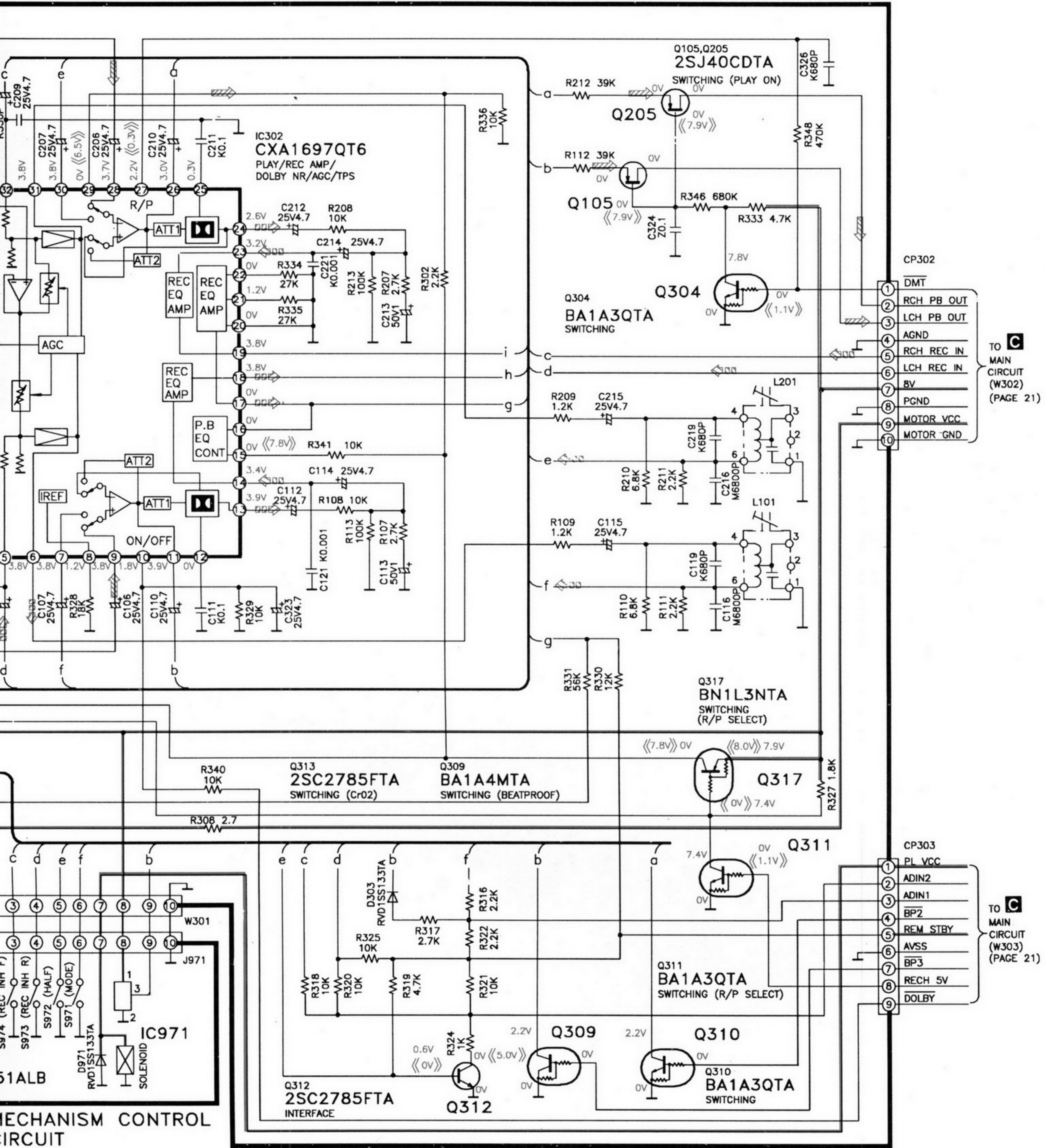
D

E

F



MECHANISM CIRCUIT



MECHANISM CONTROL CIRCUIT

TO MAIN CIRCUIT (W302) (PAGE 21)

TO MAIN CIRCUIT (W303) (PAGE 21)