

Service Manual

Portable Stereo CD System

Radio Cassette
RX-DS20

COMPACT
disc
DIGITAL AUDIO



Color

(K) Black Type

Area

Country Code	Areas	Color
(EB)	Great Britain	(K)
(EG)	Continental Europe Third Region	

RX-DS30 MECHANISM SERIES (AR300)

■ SPECIFICATIONS

General:

Power Requirement: AC; (EB)...240V, 50 Hz
(EG)...220 V, 50 Hz
Battery; 15 V (ten UM-1 Batteries)
(Panasonic UM-1/R20/LR20
or equivalent)
Back-up Battery; 6 V (four UM-3
Batteries)
(Panasonic UM-3/
R6/LR6 or
equivalent)

Power Consumption: 43 W (AC only)
Power Output: 45 W (22.5 W×2)...PMPO
Speaker: Woofer; 12 cm×2 PM Dynamic
speaker (2.7Ω)

Input: MIX MIC; 2.5 mV/200~600Ω, Ø3.5
AUX; 200 mV/47 kΩ

Output: HEADPHONES; 32Ω, Ø3.5
Dimensions: 666 (W)×187 (H)×217 (D) mm
Weight: 5.7 kg without batteries

CD Player Section:

Sampling Frequency: 44.1 kHz
D-A Conversion: 2 DAC 4 time over sampling
Beam Source: Semiconductor laser
(wavelength 780 nm)

No. of Channels: 2 channels, stereo
Frequency Range: 20~20,000 Hz (+1/-2 dB)
Dynamic Range: 95 dB (1 kHz)
S/N Ratio: 100 dB (1 kHz)
Wow and Flutter: Unmeasurable

Radio Section:

Frequency Range: FM; 87.5~108 MHz
MW; 522~1611 kHz
LW; 146~288 kHz

Intermediate Frequency: FM; 10.7 MHz
AM; 459 kHz

Sensitivity: FM; 3.5 μV/50 mW output
(-3 dB Limit Sens.)
MW; 90 μV/m/50 mW output
LW; 90 μV/m/50 mW output

Tape Deck Section:

Frequency Range: 50~16,000 Hz (with normal tape)
Recording System: AC bias (67 kHz), AC erase
Tape Speed: 4.8 cm/s
Monitor System: Variable sound monitor
Track System: 4-track 2-channel stereo recording and
playback

Notes:

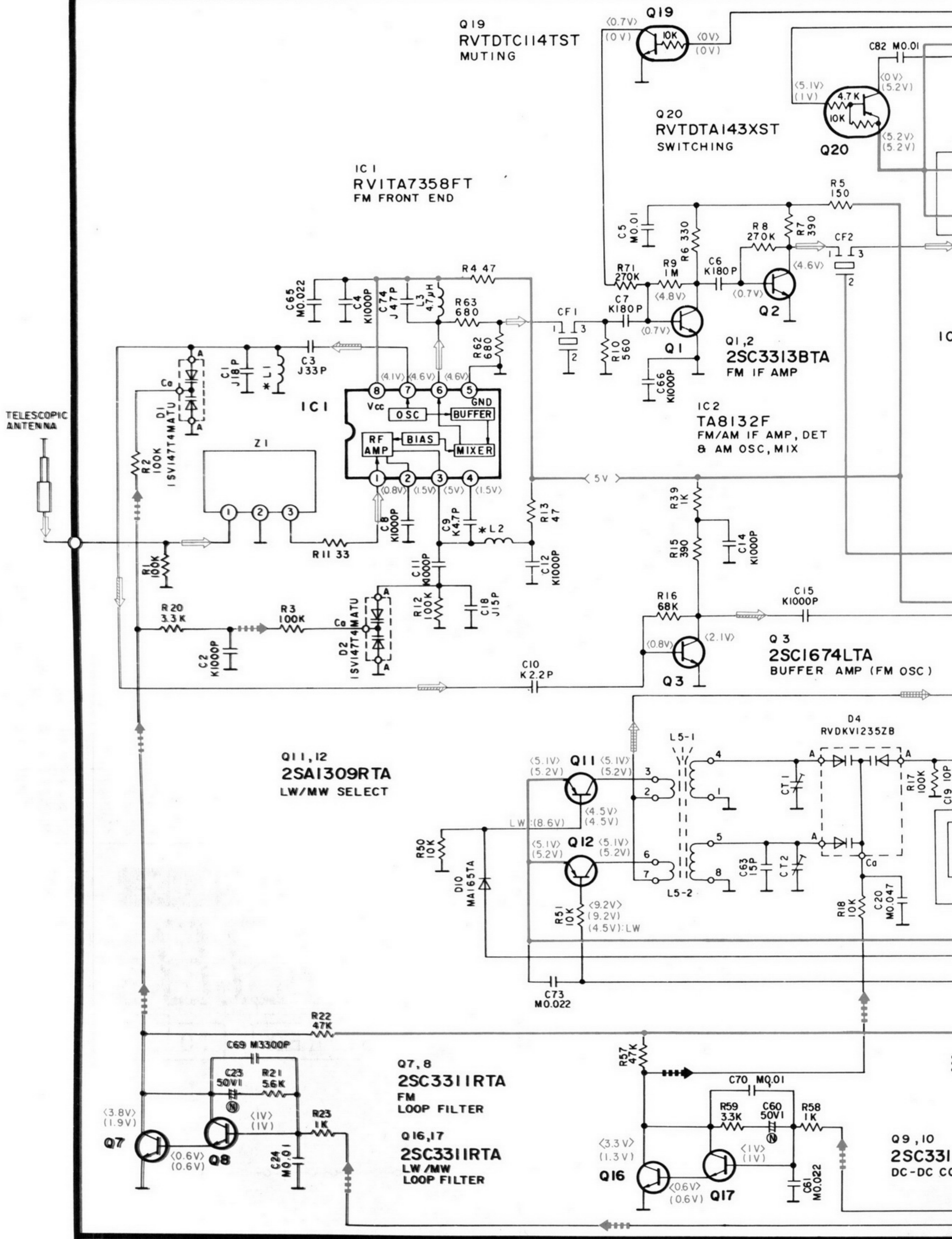
- Weights and dimensions shown are approximate.
- Design and specifications are subject to change without notice.

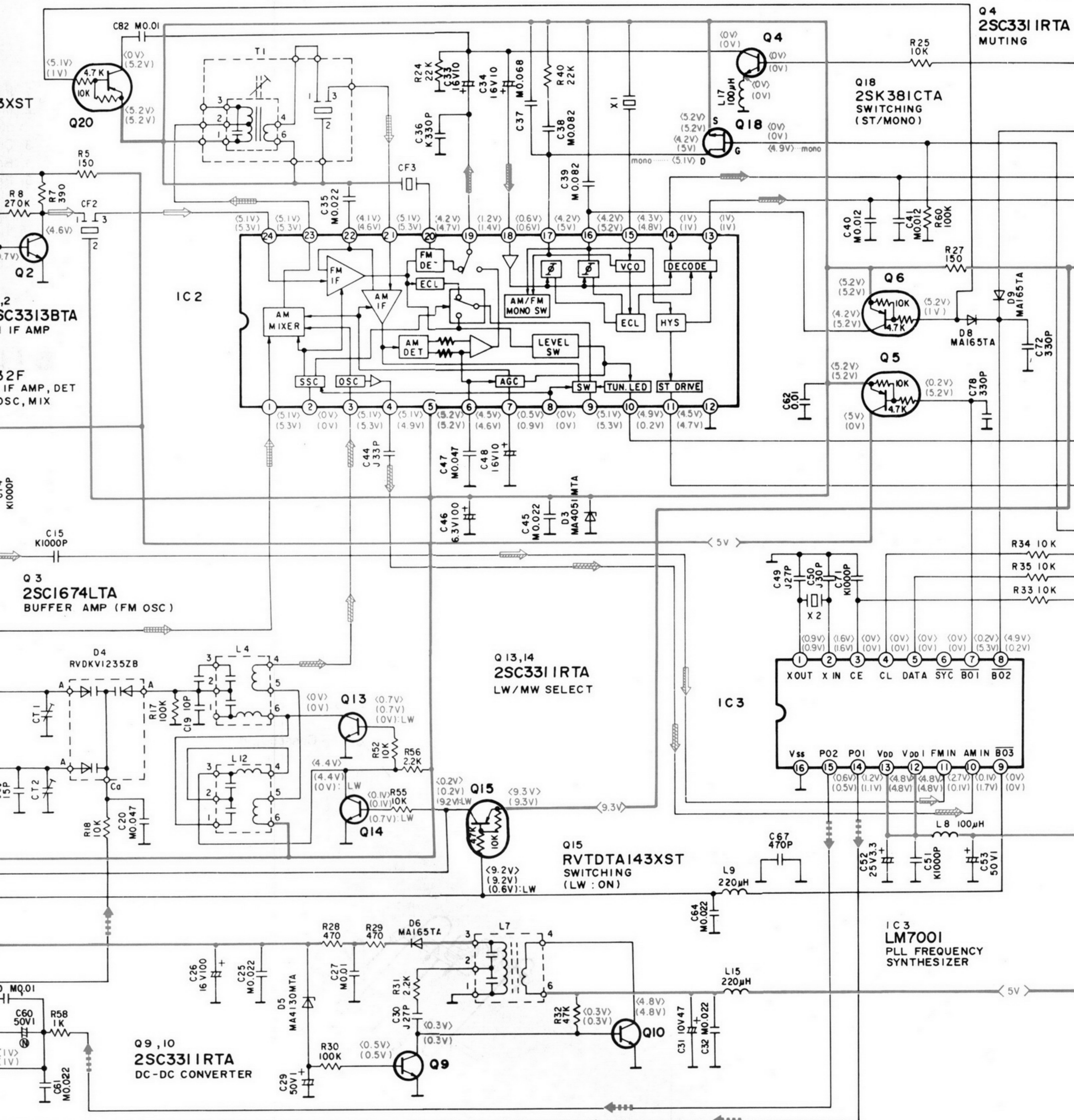
Panasonic

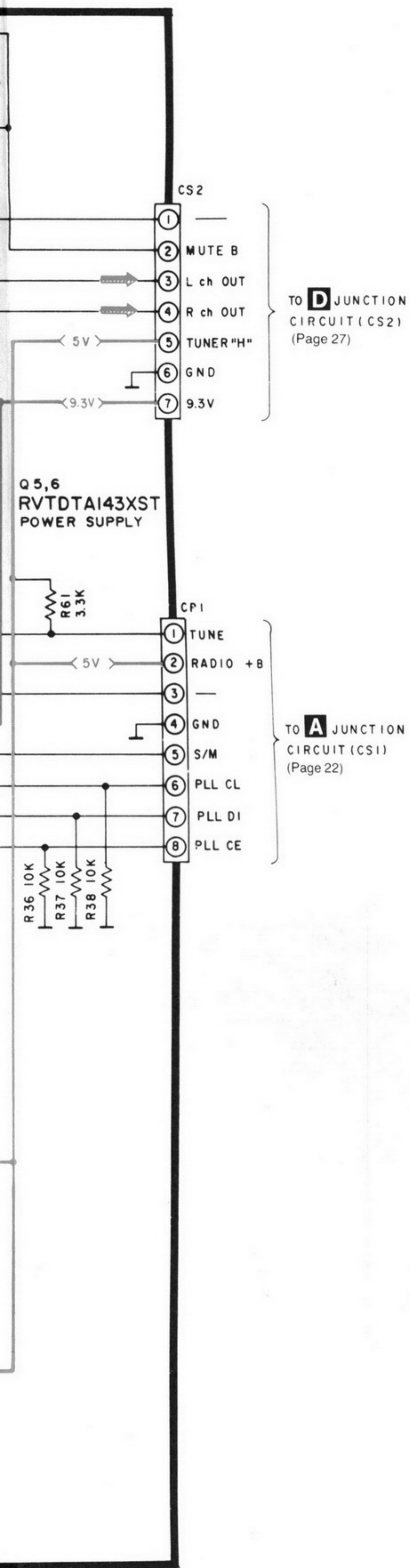
Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

■ SCHEMATIC DIAGRAM • for Tuner Circuit (Parts list on pages 57~60.)

A TUNER CIRCUIT







Notes:

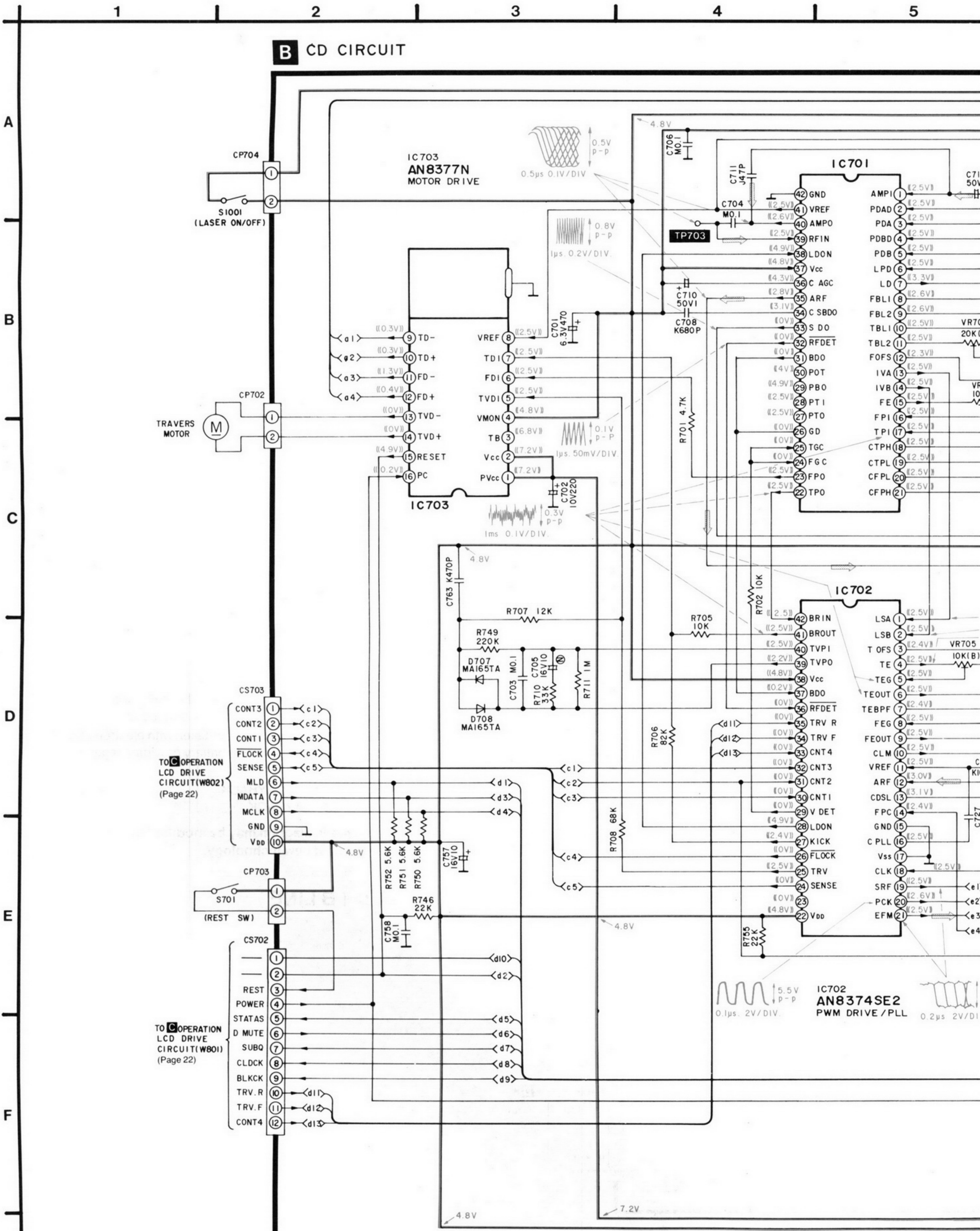
(for Tuner circuit and CD circuit)

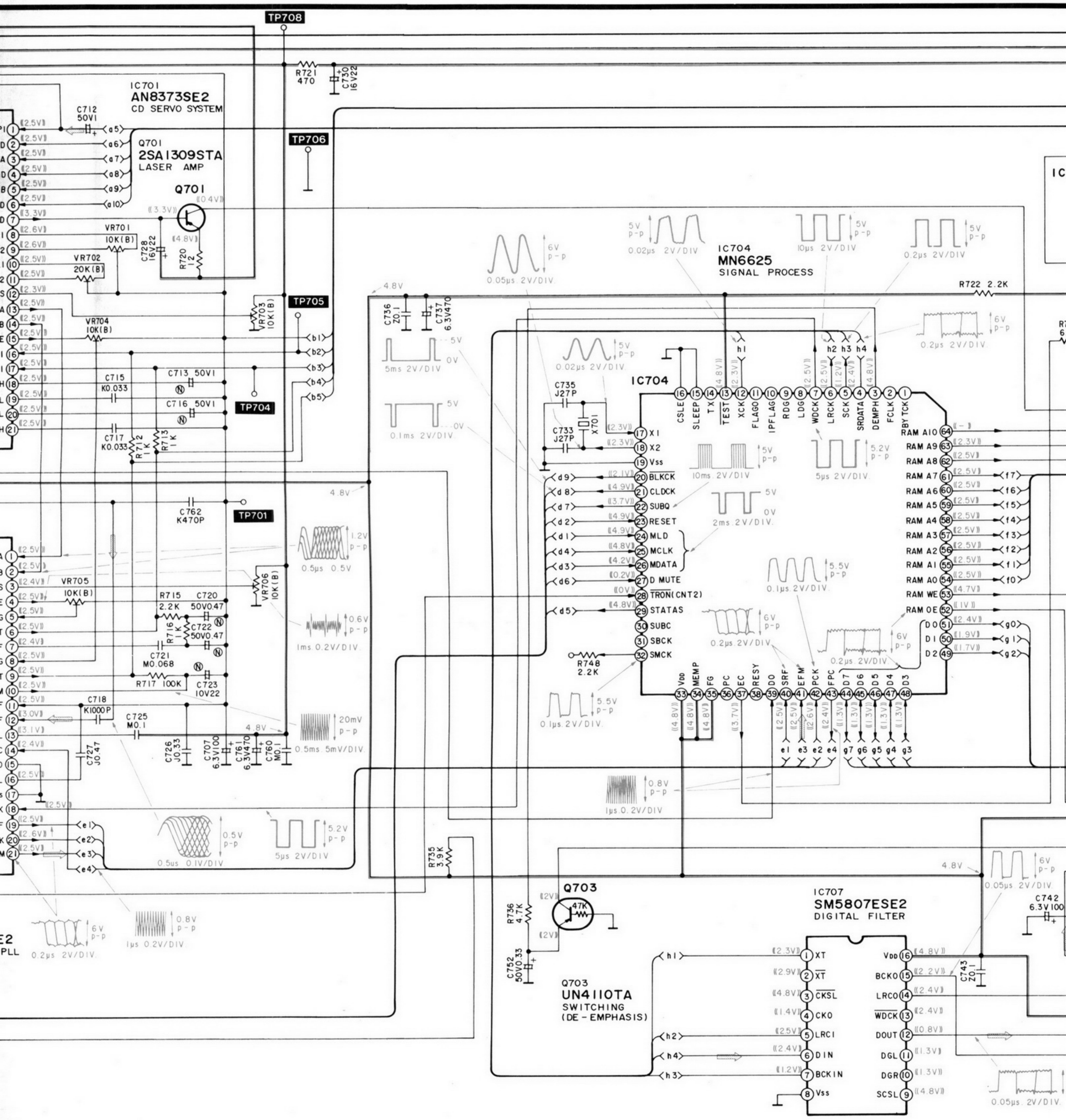
1. S701: REST switch.
 2. S1001: Laser ON/OFF switch.
 3. VR701: Best eye adjustment VR.
 4. VR702: Tracking balance adjustment VR.
 5. VR703: Focus offset adjustment VR.
 6. VR704: Focus gain adjustment VR.
 7. VR705: Tracking gain adjustment VR.
 8. VR706: Tracking offset adjustment VR.
 9. DC voltage measurements are taken with electronics voltmeter.
The negative terminal of the battery provides negative meter connection point.
- ()...MW/LW (())...CD
< >...FM

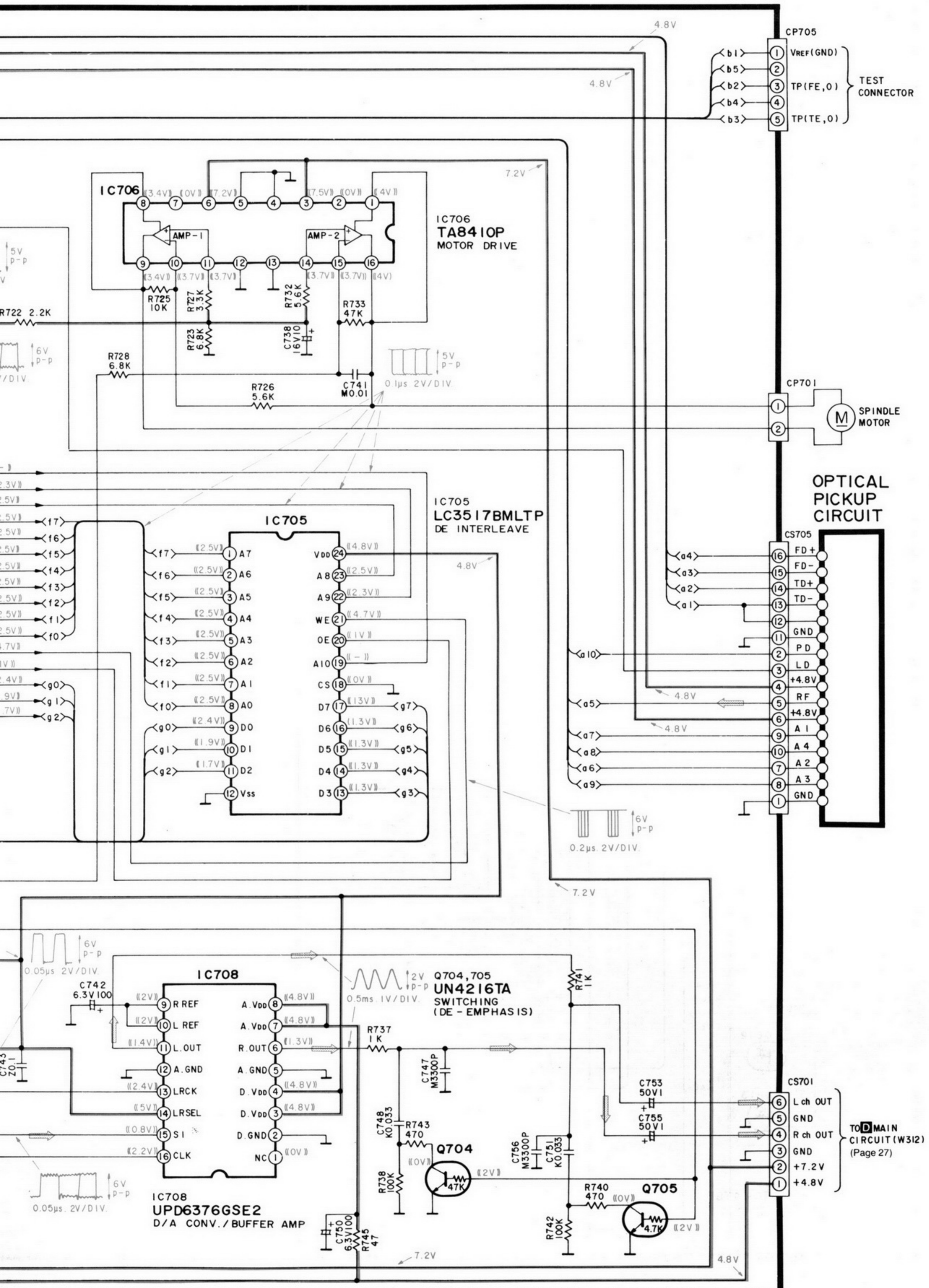
• This schematic diagram may be modified at any time with the development of new technology.

- : FM SIGNAL LINE
- : LW/MW SIGNAL LINE
- : FM/LW/MW SIGNAL LINE
- : FM OSC SIGNAL LINE
- : LW/MW OSC SIGNAL LINE
- : FM/MW/LW V-cap CONTROL SIGNAL LINE
- : CD SIGNAL LINE
- : +B LINE

SCHEMATIC DIAGRAM for CD Circuit (Parts list on pages 57~60.)



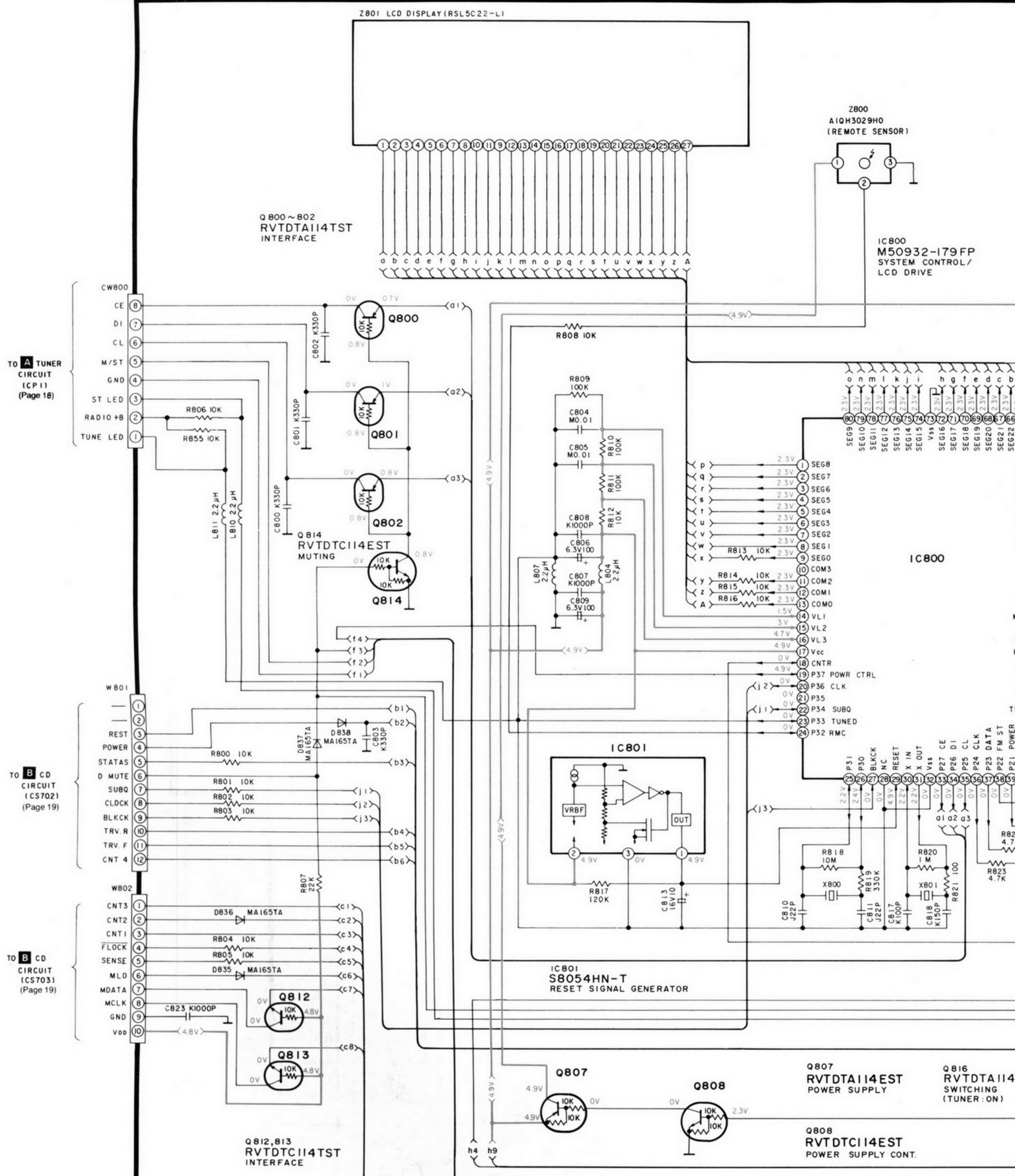


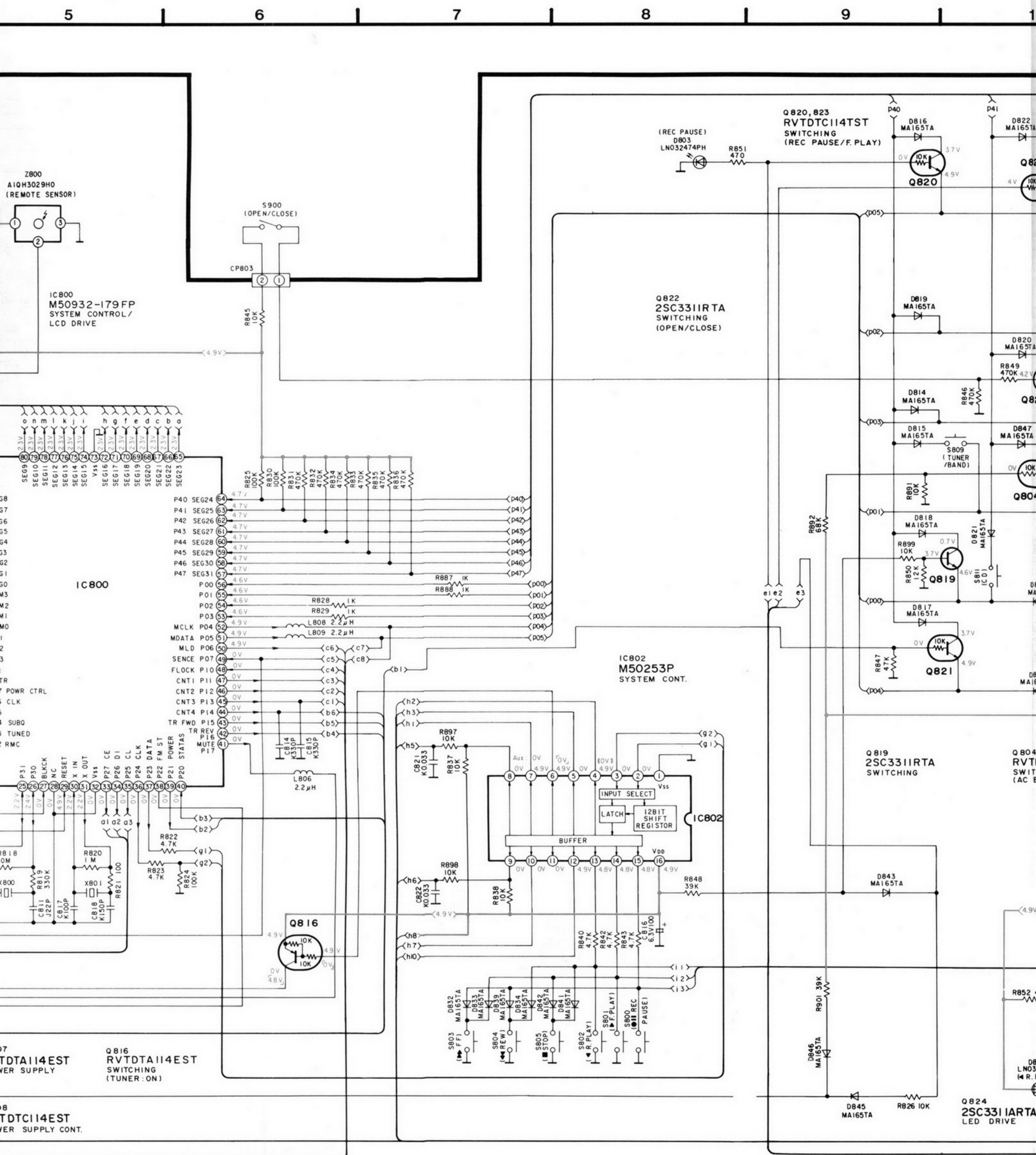


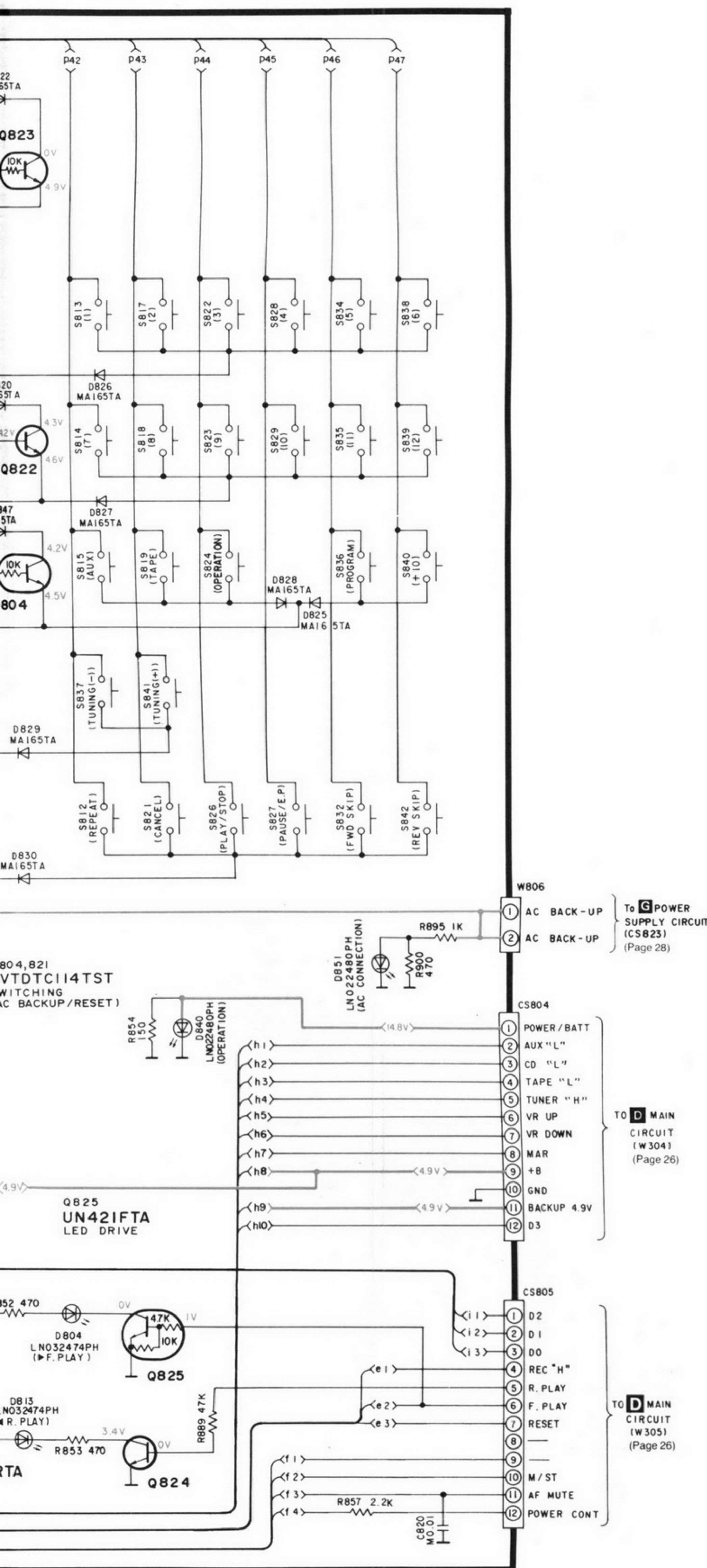
SCHEMATIC DIAGRAM •for LCD/Key Operation Circuit (Parts list on pages 57~60.)

C OPERATION/LCD DRIVE CIRCUIT

A
B
C
D
E
F







Notes:

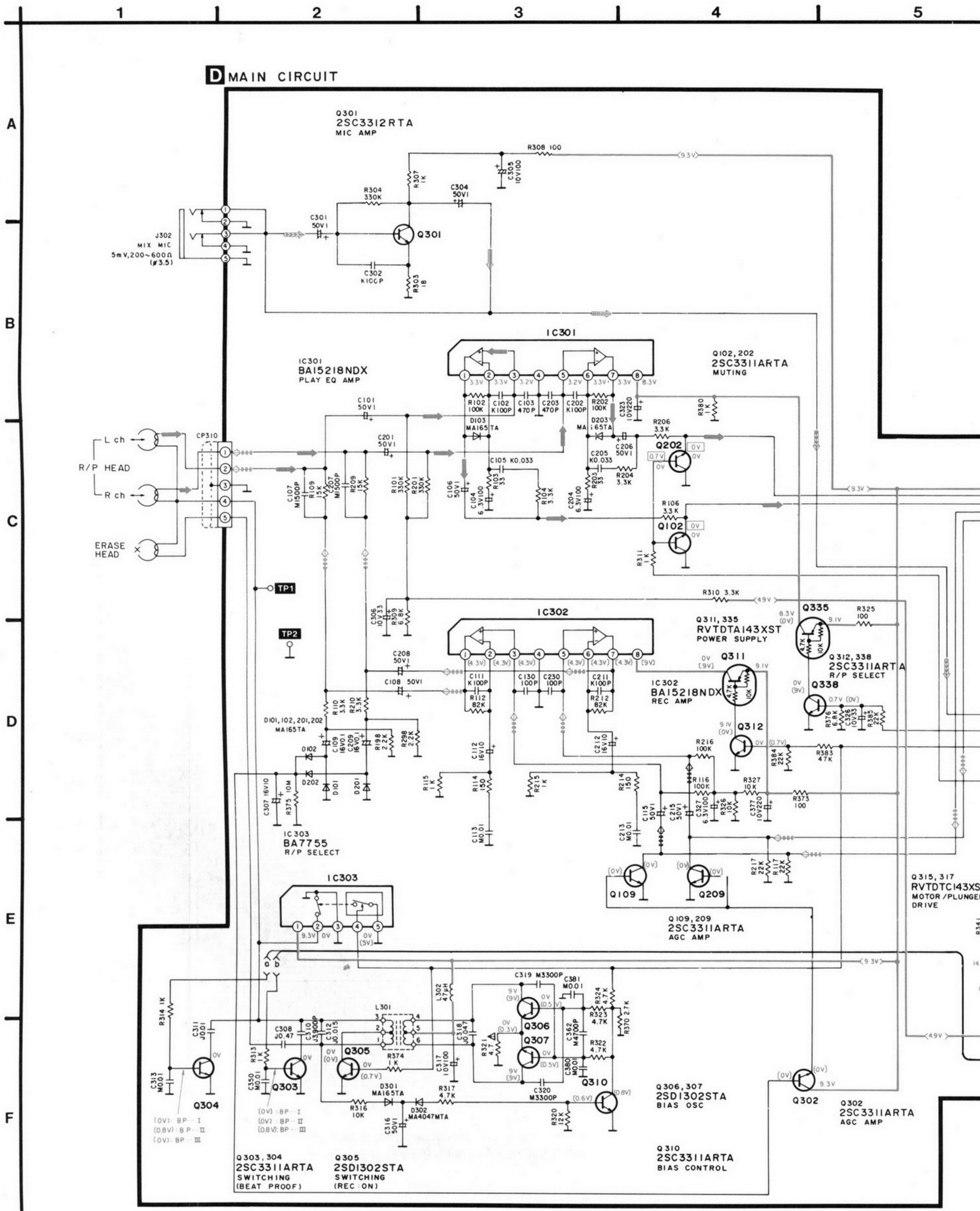
1. S800: Rec pause switch.
2. S801: FWD playback switch.
3. S802: REV playback switch.
4. S803: FF/TPS switch.
5. S804: REW/TPS switch.
6. S805: STOP switch.
7. S809: TUNER/BAND switch.
8. S811: CD switch.
9. S812: CD operation "REPEAT" switch.
10. S813: CD/TUNER "1" switch.
11. S814: CD/TUNER "7" switch.
12. S815: AUX switch.
13. S817: CD/TUNER "2" switch.
14. S818: CD/TUNER "8" switch.
15. S819: TAPE switch.
16. S821: TIME SET/TUNING "CANCEL" switch.
17. S822: CD/TUNER "3" switch.
18. S823: CD/TUNER "9" switch.
19. S824: POWER switch.
20. S826: CD OPERATION "▶/■" switch.
21. S827: CD OPERATION "||/E.P" switch.
22. S828: CD/TUNER "4" switch.
23. S829: CD/TUNER "10" switch.
24. S832: CD OPERATION "▶▶/▶▶" switch.
25. S834: CD/TUNER "5" switch.
26. S835: CD/TUNER "11" switch.
27. S836: CD/TUNER "PROGRAM" switch.
28. S837: TUNING "-" switch.
29. S838: CD/TUNER "6" switch.
30. S839: CD/TUNER "12" switch.
31. S840: CD/TUNER "+10" switch.
32. S841: TUNING "+" switch.
33. S842: CD OPERATION "◀◀/◀◀" switch.
34. S900: CD cover open/close detect switch.
35. DC voltage measurements are taken with electronics voltmeter. The negative terminal of the battery provides negative meter connection point.

No mark...TAPE PLAYBACK ◻ ...TUNER
 (())...CD PLAYBACK

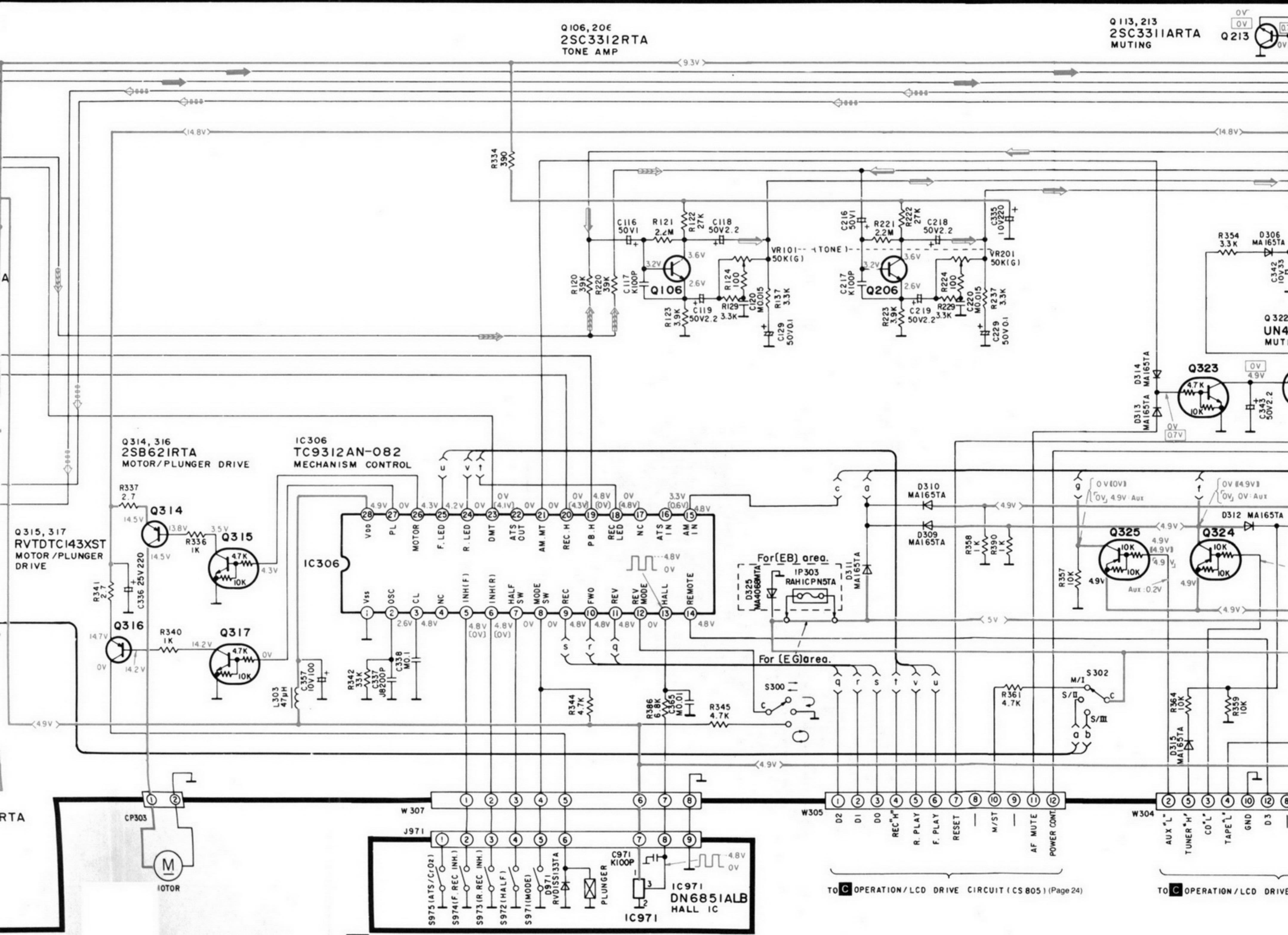
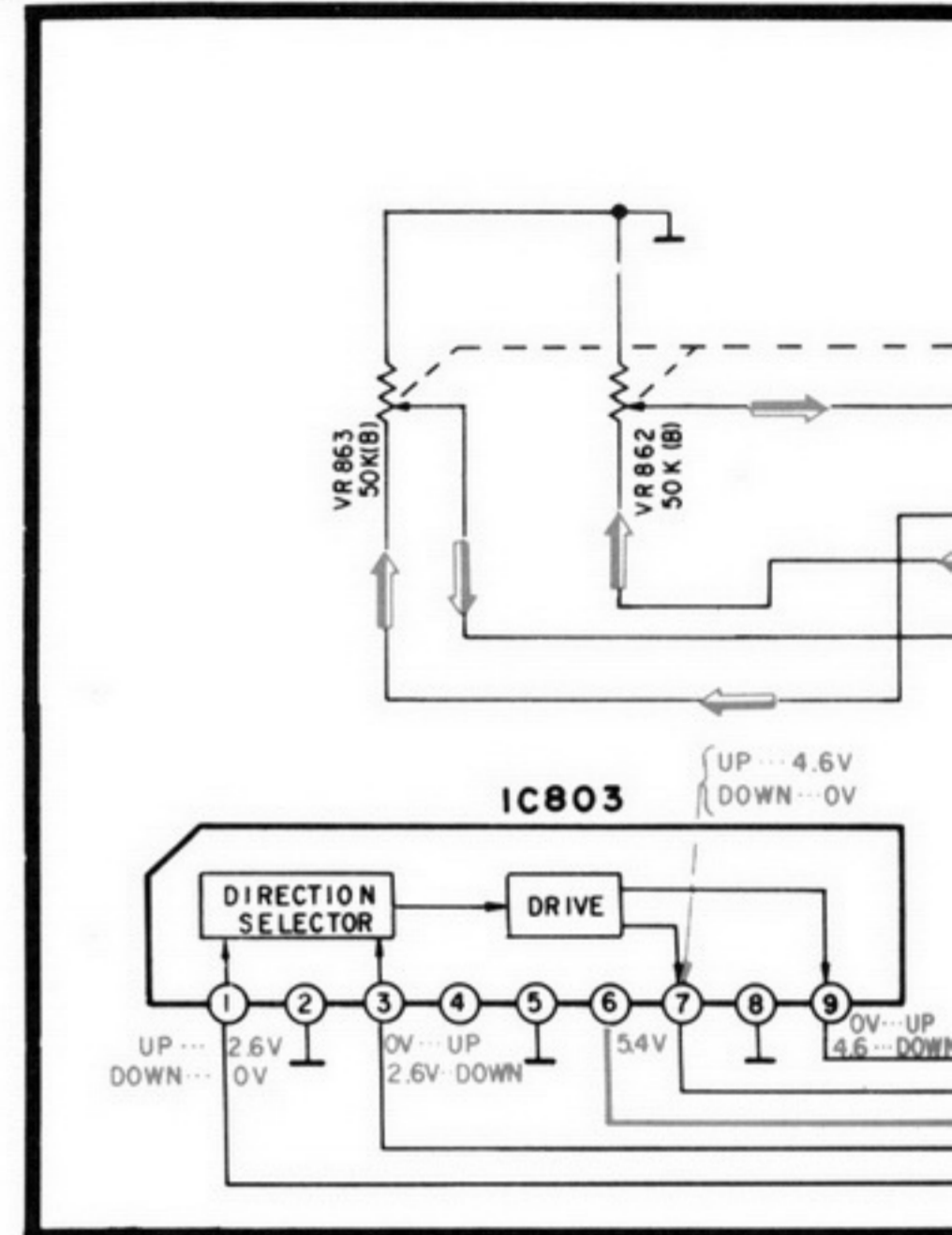
• This schematic diagram may be modified at any time with the development of new technology.

— : +B LINE

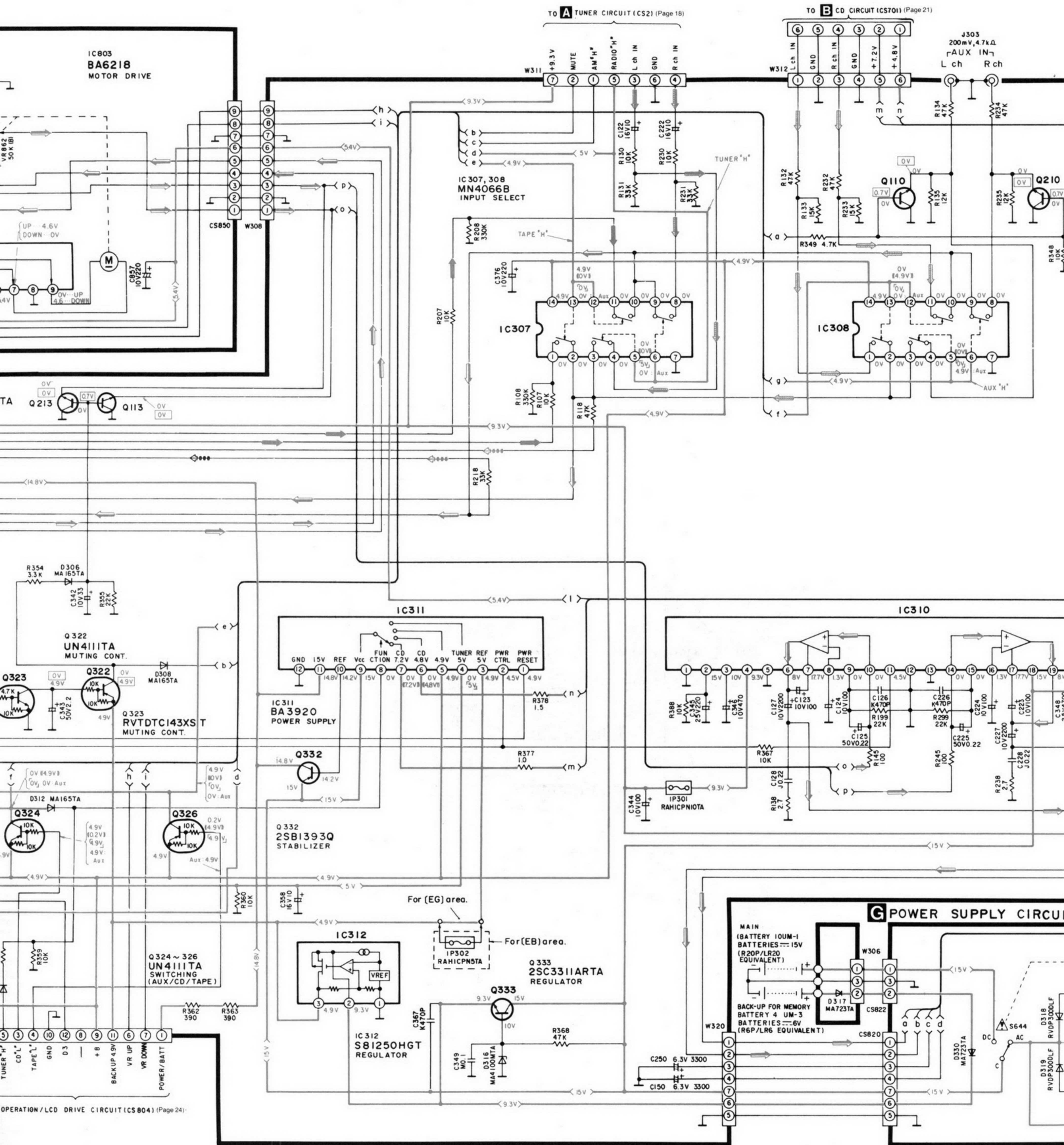
SCHEMATIC DIAGRAM • for Main, Mechanism, Volume and Power Supply Circuits

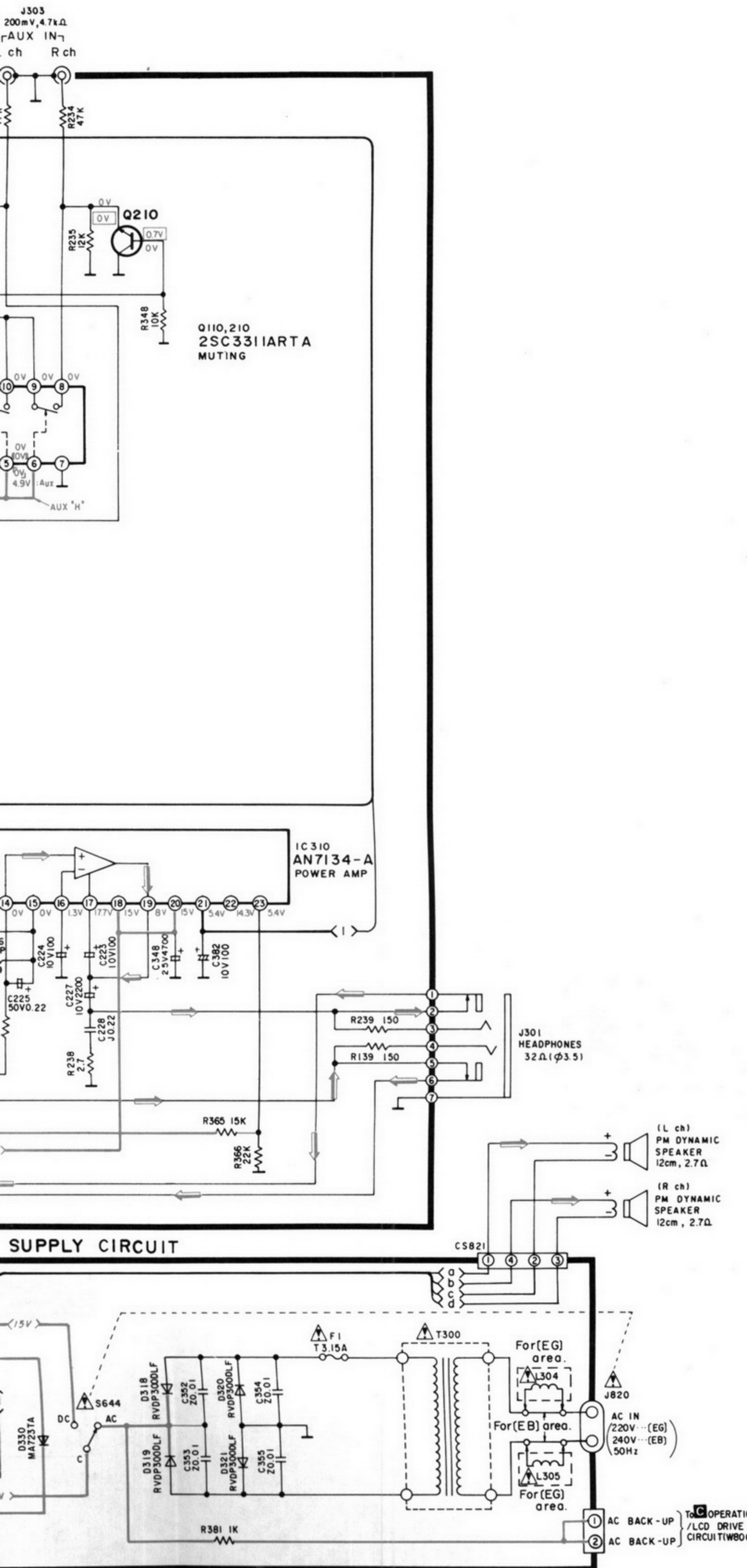


F VOLUME CIRCUIT



E MECHANISM CIRCUIT





Notes:

- S300: Reverse mode switch in "↔" position.
- S302: FM mode select/Beat proof switch in "MONO/||".
(M/||...MONO/||, S/||...STEREO/||, S/||...STEREO/||)
- S644: AC/DC select switch in "AC" position.
- S971: Mode detect switch.
- S972: Cassette tape insertion detect switch.
- S973: Record prevention tab detect switch (FWD).
- S974: Record prevention tab detect switch (REV).
- VR101, VR201: Tone control VR.
- VR862, VR863: Volume control VR.
- DC voltage measurements are taken with electronics voltmeter. The negative terminal of the battery provides negative meter connection point.
No mark...PLAYBACK []...RECORD
□...MUTING (())...CD 「 」...TUNER
- Battery Current:
Vol. min 230 mA (Tape Playback)
160 mA (Tuner)
360 mA (CD)
Vol. max 1460 mA (Tape Playback)
1190 mA (Radio)
1680 mA (CD)

Measurement instruction

- Tape: 315 Hz, 0 dB
- Radio: FM 60 dB, 30% Mod.
- CD: 1 kHz, 0 dB

12. 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.

13. The mark (■) shows test point e.g. TP1 = test point 1.

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