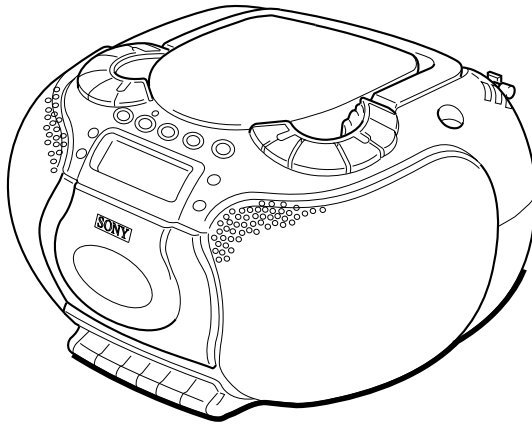


CFD-E55

SERVICE MANUAL

Ver 1.1 2000.04

US Model
Canadian Model
E Model
Australian Model



CD Section	Model Name Using Similar Mechanism	CFD-Z500
	CD Mechanism Type	KSM-213CDM
	Optical Pick-up Name	KSS-213C
TAPE Section	Model Name Using Similar Mechanism	CFD-Z500
	Tape Transport Mechanism Type	MF-Z500-117

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model only)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 3.2-ohm loads, both channels driven from 100 - 10,000 Hz; rated 1.5 W per channel-minimum RMS power, with no more than 10 % total harmonic distortion in AC operation.

Other Specifications

CD player section

System

Compact disc digital audio system

Laser diode properties

Material: GaAlAs
Wave length: 780 nm

Emission duration: Continuous

Laser output: Less than 44.6 μ W

(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)

Spindle speed

200 r/min (rpm) to 500 r/min (rpm) (CLV)

Number of channels

2

Frequency response

20 - 20,000 Hz +0/-0.5 dB

Wow and flutter

Below measurable limit

Radio section

- US, Canadian, E92*, Mexican models -

Frequency range

FM: 87.6 - 108 MHz
AM: 530 - 1,710 kHz

Aerials

FM: Telescopic aerial
AM: Built-in ferrite bar aerial

- Singapore, Argentine, Australian models -

Frequency range

FM: 87.6 - 108 MHz
AM: 531 - 1,602 kHz

IF

FM: 10.7 MHz
AM/MW: 450 kHz

Aerials

FM: Telescopic aerial
AM/MW: Built-in ferrite bar aerial

Cassette-corder section

Recording system

4-track 2 channel stereo

Fast winding time

Approx. 120 sec. with Sony cassette C-60

Frequency response

TYPE I (normal): 70 - 13,000 Hz

General

Speaker

Full range: 8 cm (3 1/4 in.) dia.,
3.2 ohms, cone type (2)

Outputs

Headphones jack (stereo minijack)
For 16 - 68 ohms impedance headphones

Power output (excluding for US model)

2 W + 2 W (at 3.2 ohms, 10 % harmonic distortion
in AC operation)

Power requirements

For CD radio cassette-corder:
120 V AC, 60 Hz (US, Canadian, E92*,
Mexican models)
230 V AC, 50Hz (Singapore, Argentine,
Australian models)
9 V DC, 6 size D (R20) batteries
For memory back-up:
4.5 V DC, 3 size AA (R6) batteries

Power consumption

AC 17 W

Battery life

For CD radio cassette-corder:

FM recording

Sony manganese SUM-1 (N): approx. 9 h

Sony alkaline AM-1 (N): approx. 19 h

Tape playback

Sony manganese SUM-1 (N): approx. 5 h

Sony alkaline AM-1 (N): approx. 14 h

CD playback

Sony manganese SUM-1 (N): approx. 1.5 h

Sony alkaline AM-1 (N): approx. 7 h

Dimensions

Approx. 304 × 169 × 262 mm (w/h/d)
(12 × 6 3/4 × 10 3/8 inches) (incl. projecting parts)

Mass

Approx. 3.6 kg (7 lb. 15 oz) (incl. batteries)

Supplied accessories

AC power cord (1)
Instruction manual (1)

*E92: Central and South America

Design and specifications are subject to change without notice.

CD RADIO CASSETTE-CORDER

SONY®

MODEL TYPE IDENTIFICATION

In this set, the routing of speaker lead wires and the boards have been changed in the midway of production, and the set is grouped into the following four types depending on the specifications.

TYPE A: Original model.

TYPE B: To the original model, the routing of speaker lead wires is changed.

TYPE C: To the type B, the print patterns of board are changed.

TYPE D: To the type C, the shapes of boards are changed.

• Model Type Discrimination

Identify each type from the part number printed on each board by referring to the following table.

Also, each board is common to type A and type B, but routing of speaker lead wires is different. For details of different places, refer to “6. Diagrams 6-10. Printed Wiring Boards – MAIN/POWER SUPPLY Section (Type A, B) –” (page 42, location A-1 and B-1).

Board	Type A, B	Type C	Type D
	Part No.		
BATT (+)	1-675-297-11	1-675-297-12	1-677-315-11
BATT (-)	1-675-298-11	1-675-298-12	1-677-316-11
CD	1-675-290-11	1-675-290-12	1-677-308-11
CD MOTOR	in common to all types		
KEY 1	1-675-292-11	1-675-292-12	1-677-310-11
KEY 2	1-675-293-11	1-675-293-12	1-677-311-11
KEY 3	1-675-294-11	1-675-294-12	1-677-312-11
LCD	1-675-295-11	1-675-295-12	1-677-313-11
LED *1	998-11	998-12	319-11
MAIN	1-675-289-11	1-675-289-12	1-677-307-11
POWER	1-675-291-11	1-675-291-12	1-677-309-11
REC SW	1-675-296-11	1-675-296-12	1-677-314-11

*1) For the LED board, only the lower five digits of part number is printed.

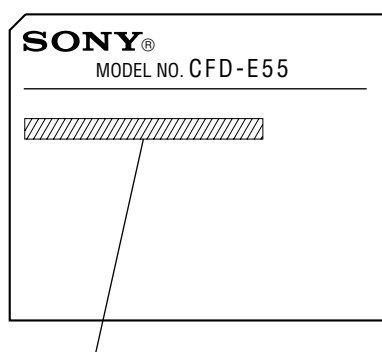
• Precaution on Replacing the Boards

The supplied boards are all type D, and therefore if the board is replaced, use the board of type D only whichever model is serviced.

However, on the type D model, the number of pins of connectors that connect MAIN board to CD board, and MAIN board to POWER board has been changed, and accordingly the type D is not interchangeable with type A, B, and C respectively.

Therefore, if even one of MAIN, CD, and POWER boards is replaced, replace all three boards simultaneously.

MODEL IDENTIFICATION



US, Canadian, E (AC 120V area),

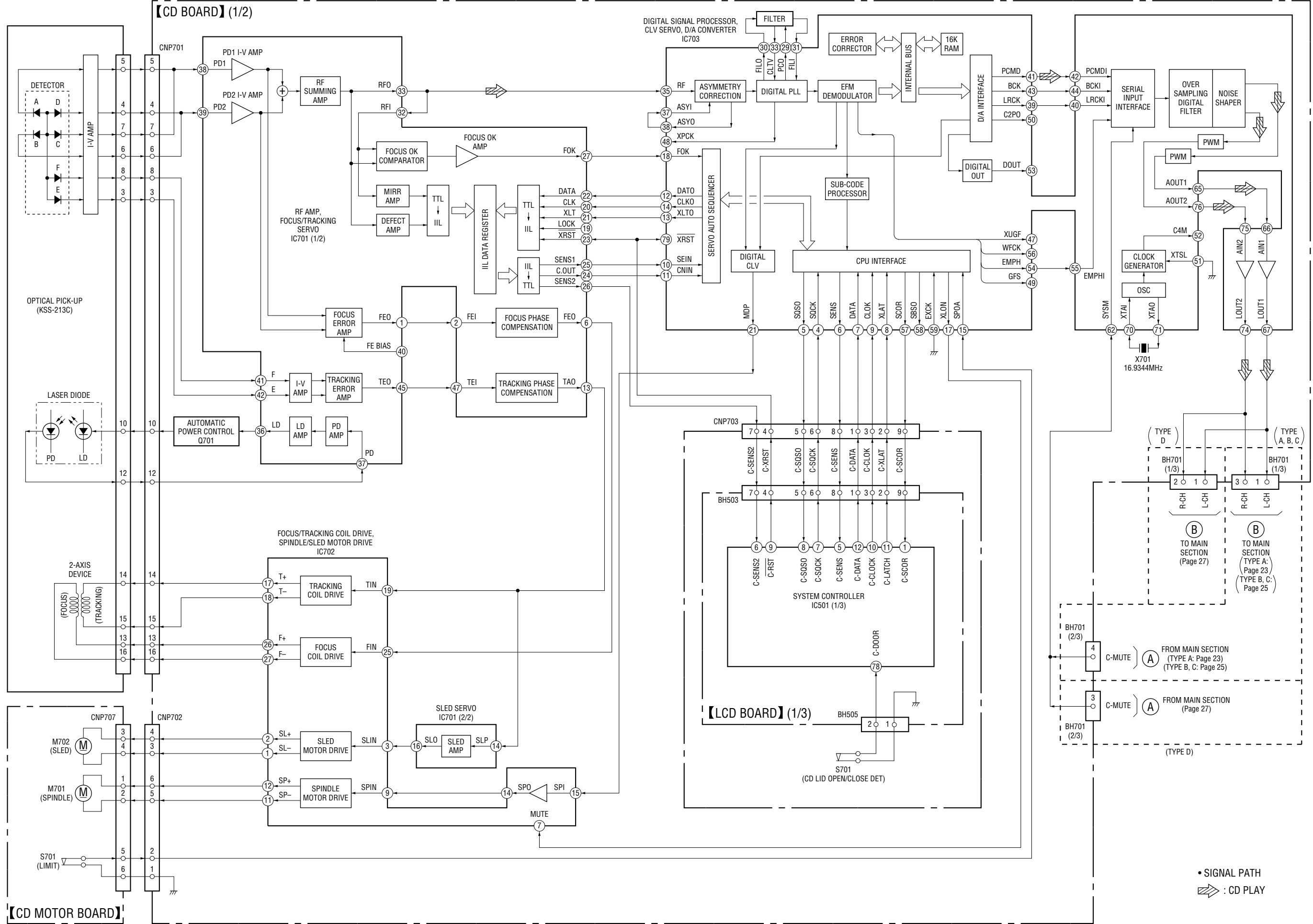
Mexican models: AC: 120 V 60 Hz 17 W

Singapore, Argentine,

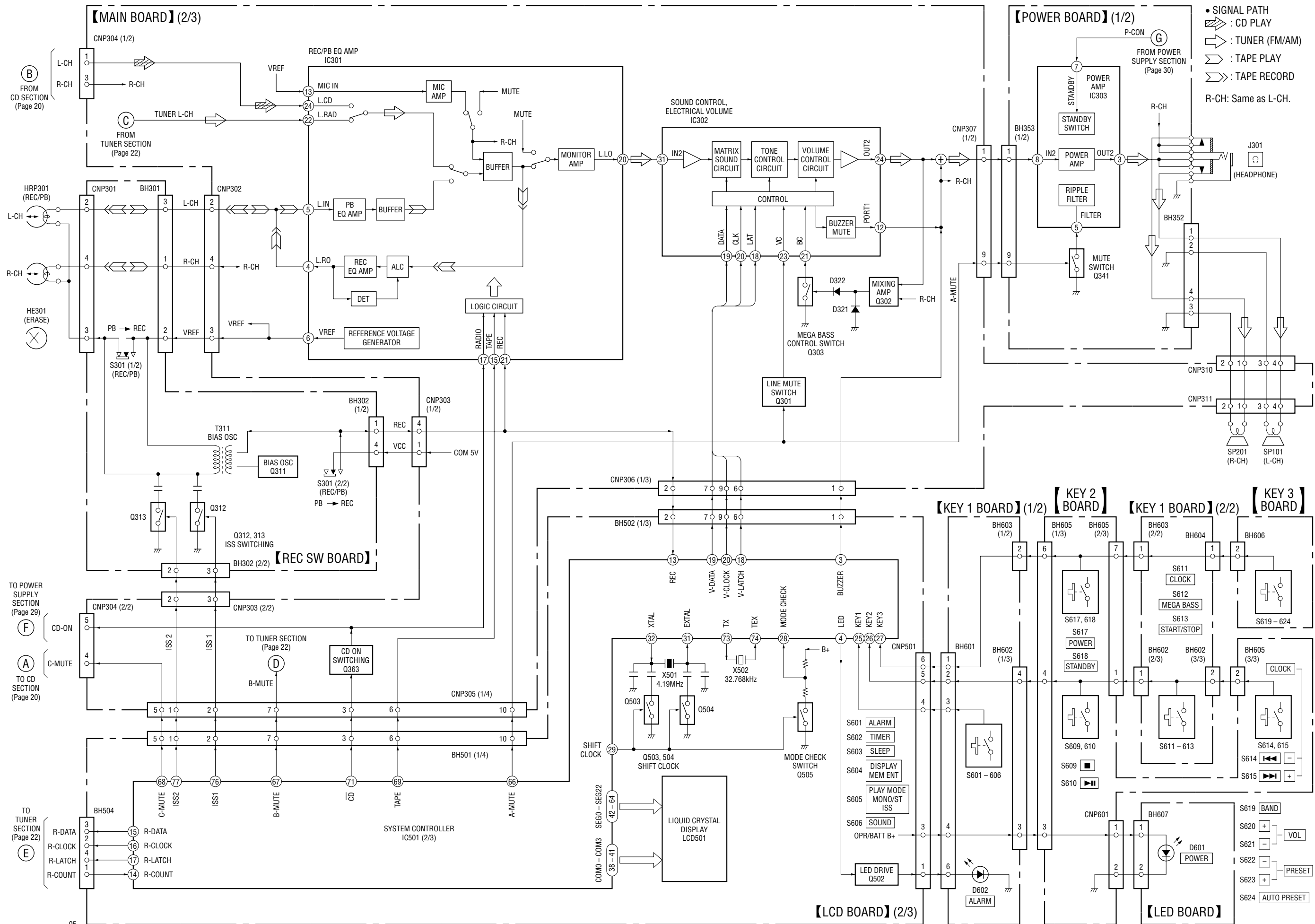
Australian models: AC: 230 V ~ 50 Hz 17 W

SECTION 6
DIAGRAMS

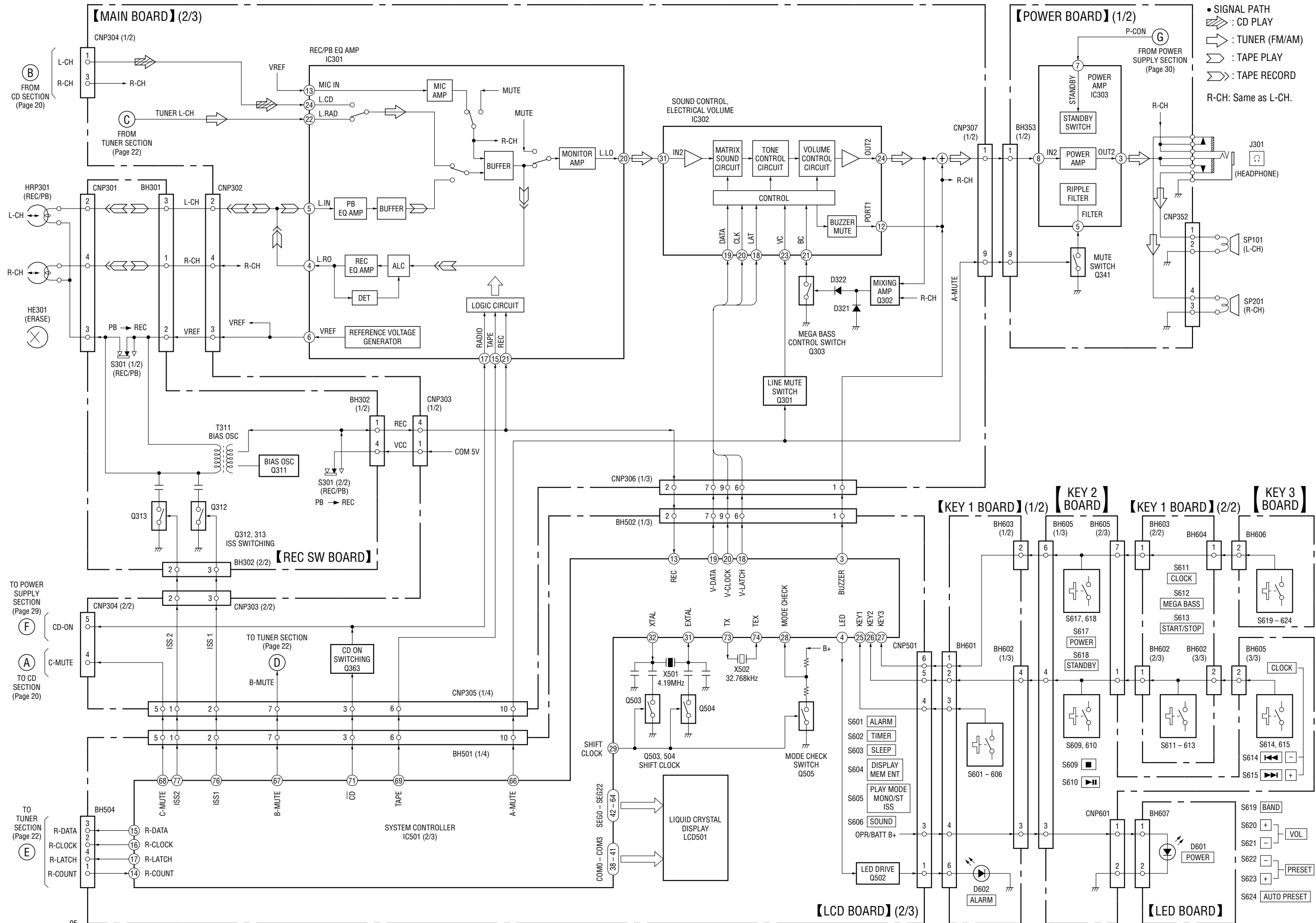
6-1. BLOCK DIAGRAM - CD Section -



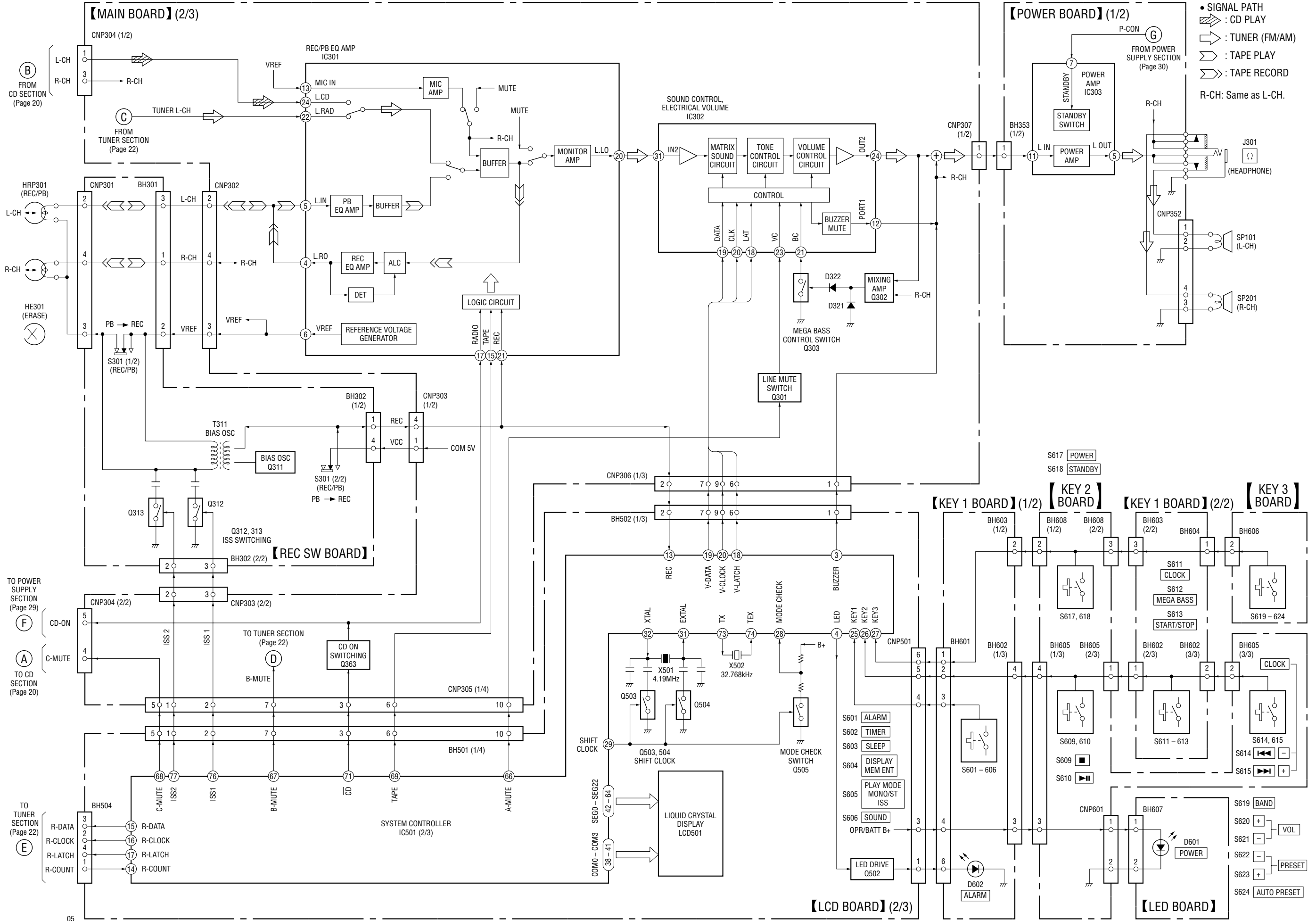
6-3. BLOCK DIAGRAM - MAN Section (TYPE A) -



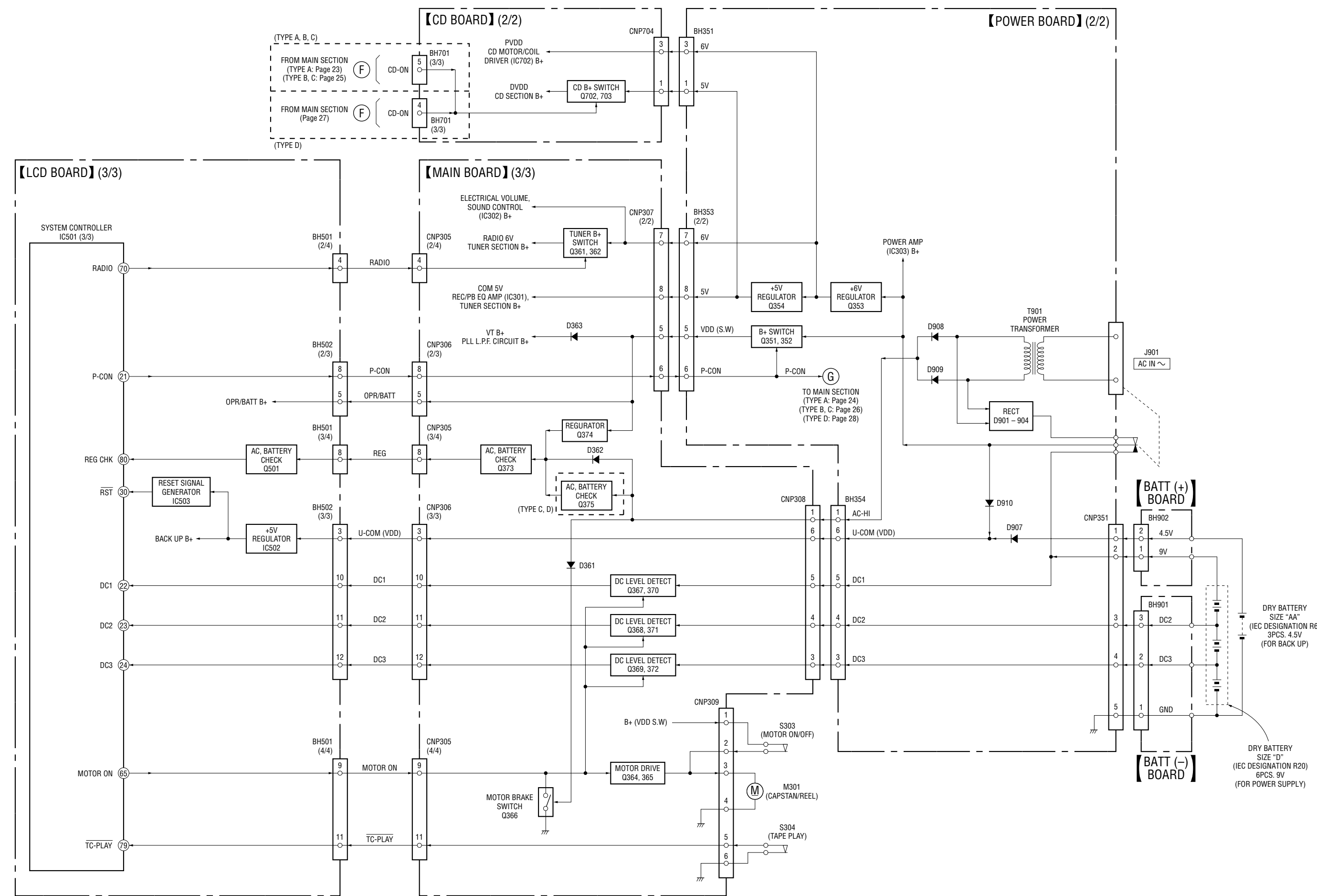
6-4. BLOCK DIAGRAM – MAIN Section (TYPE B, C) –



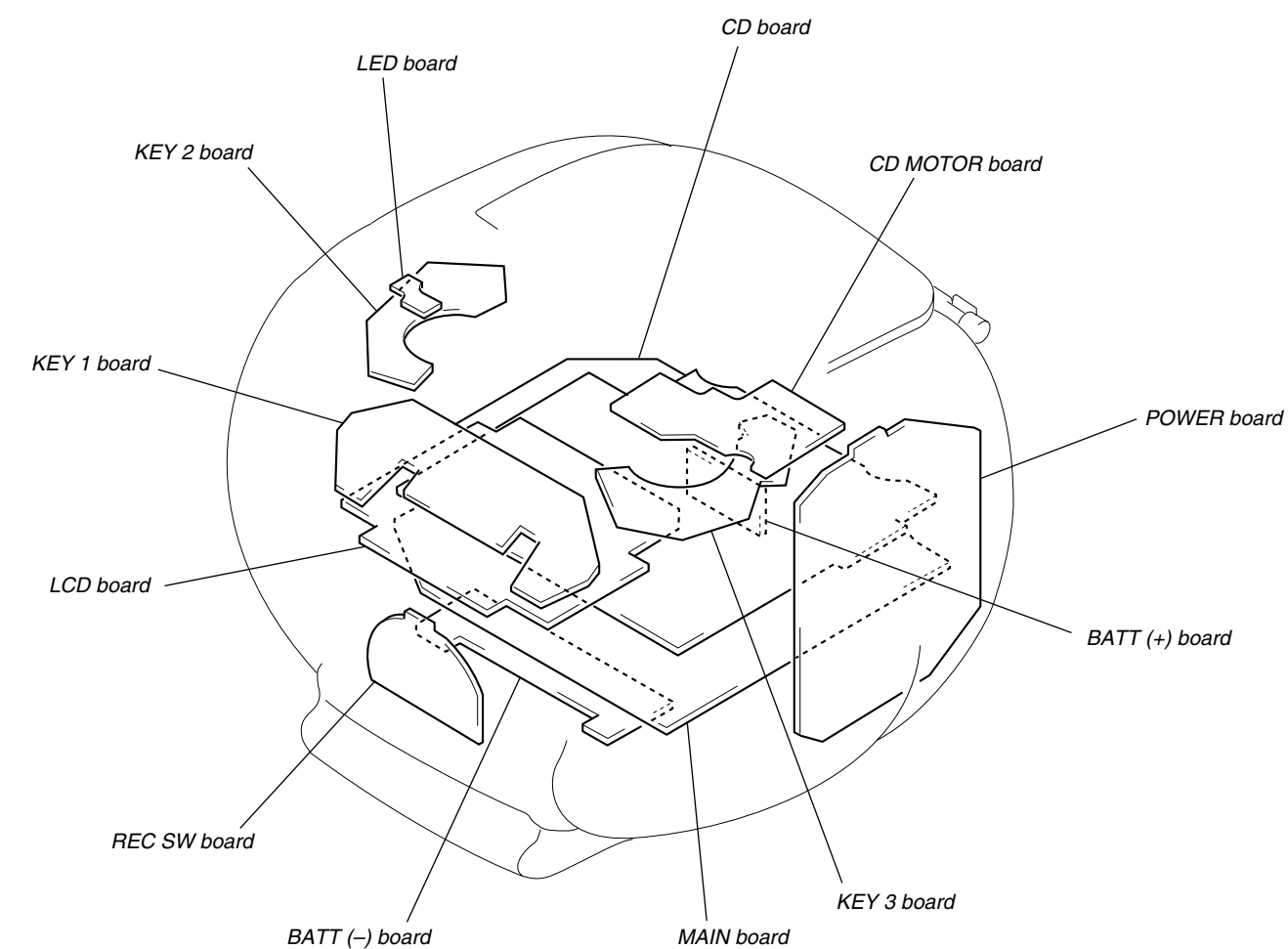
6-5. BLOCK DIAGRAM - MAIN Section (TYPE D) -

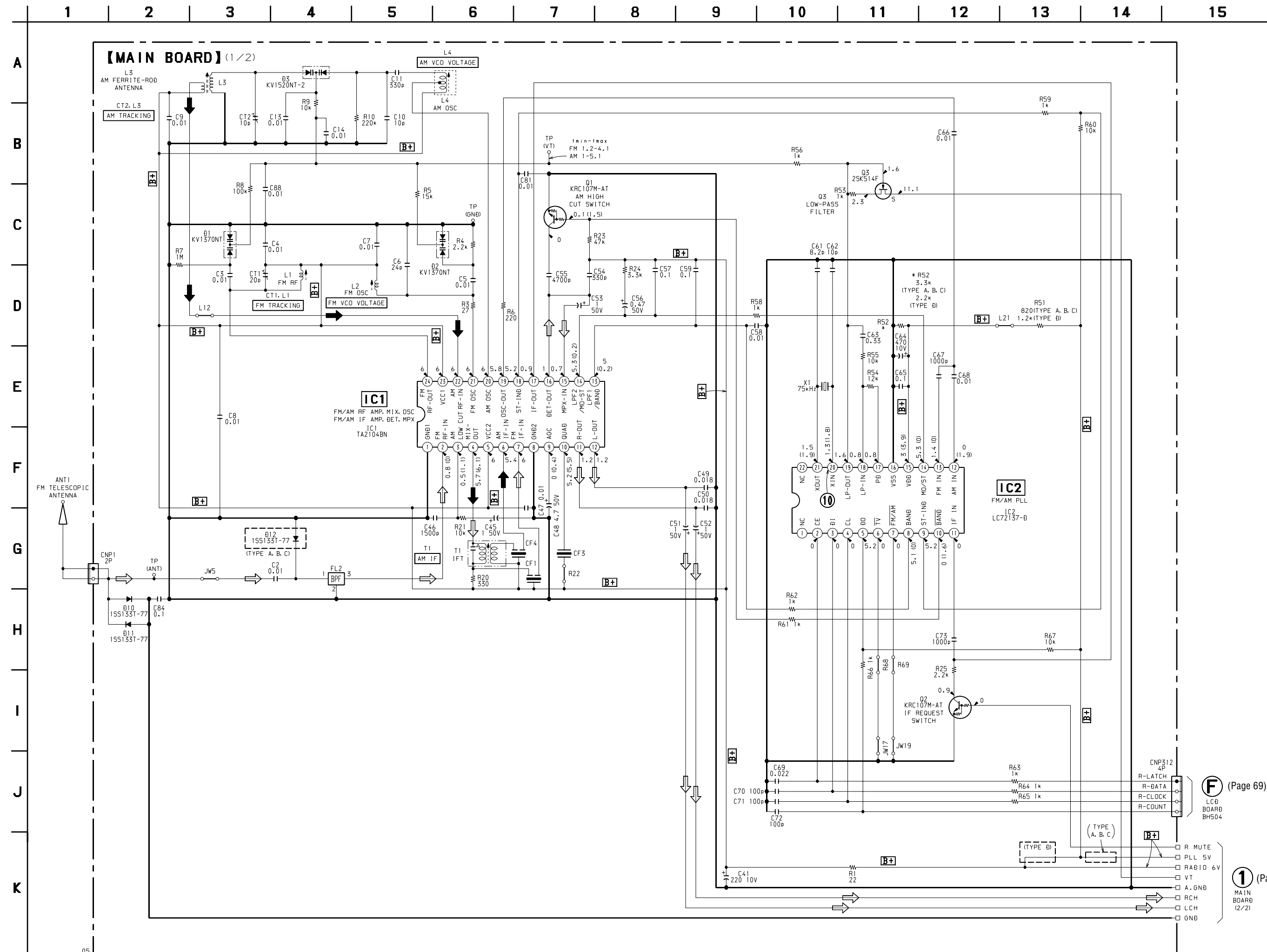


6-6. BLOCK DIAGRAM – POWER SUPPLY Section –



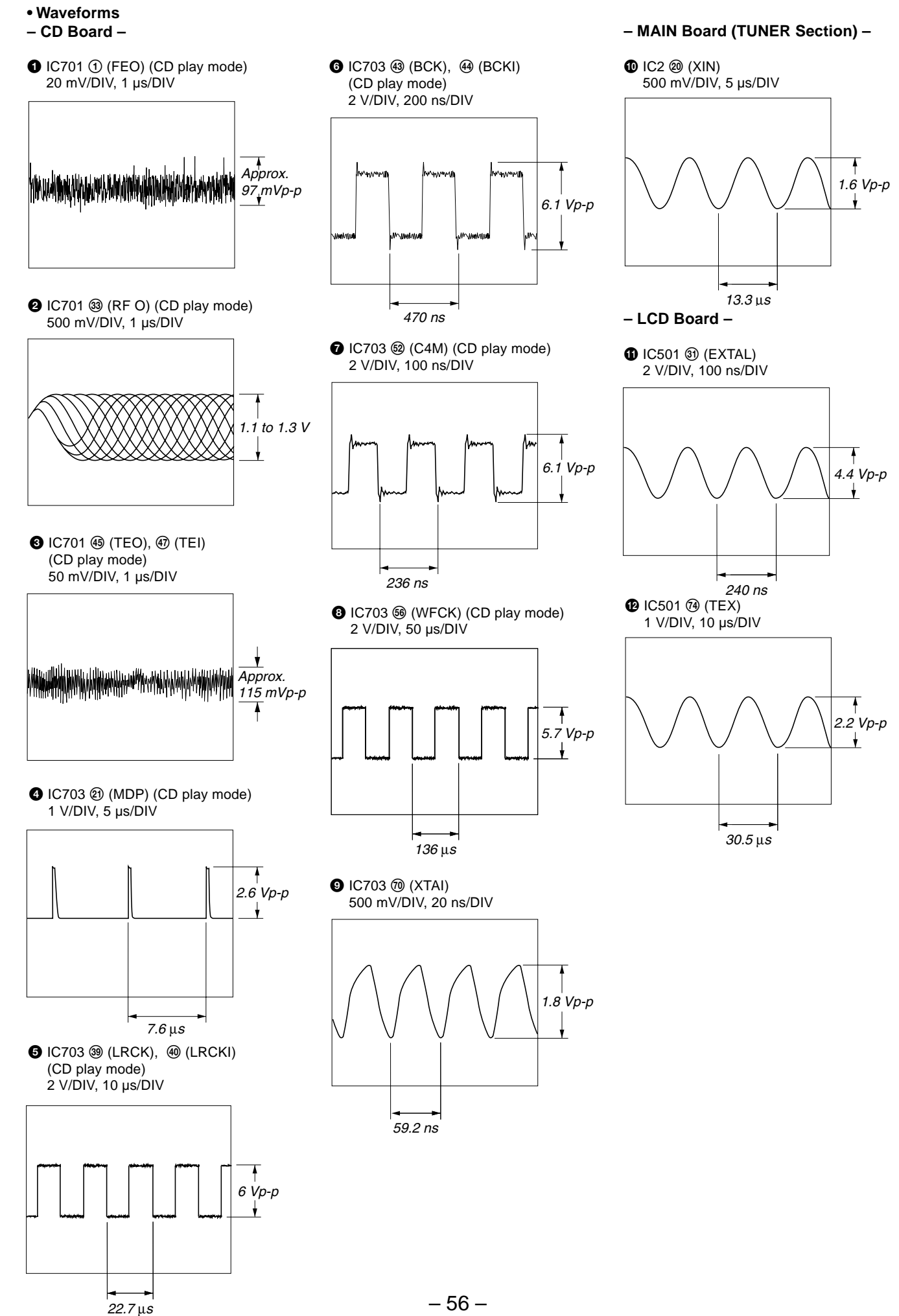
• Circuit Boards Location

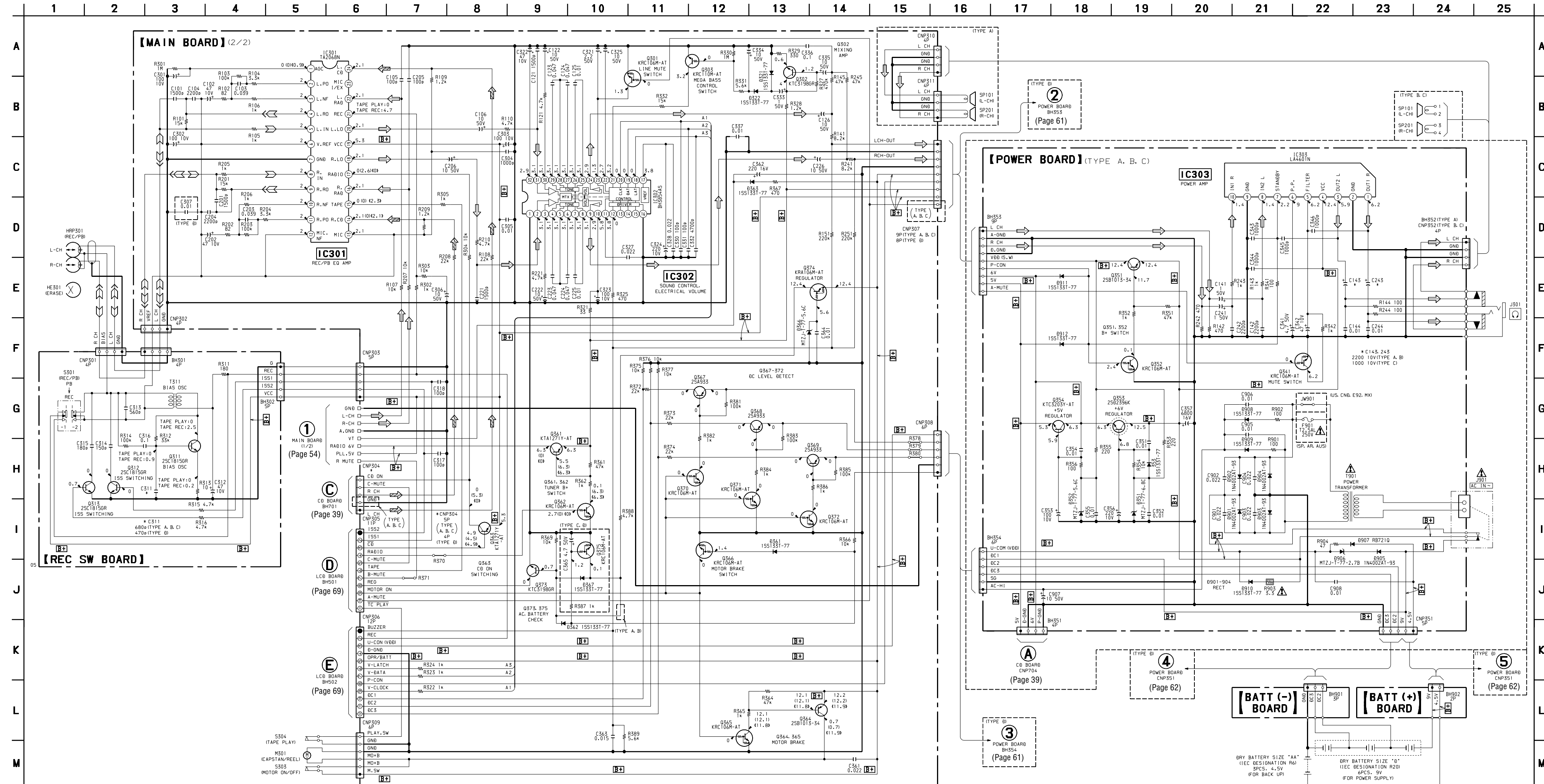




Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μF
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- Δ: internal component.
- B+: B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- (): AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path:
 - ↔: FM
 - : AM





Note on Schematic Diagram:

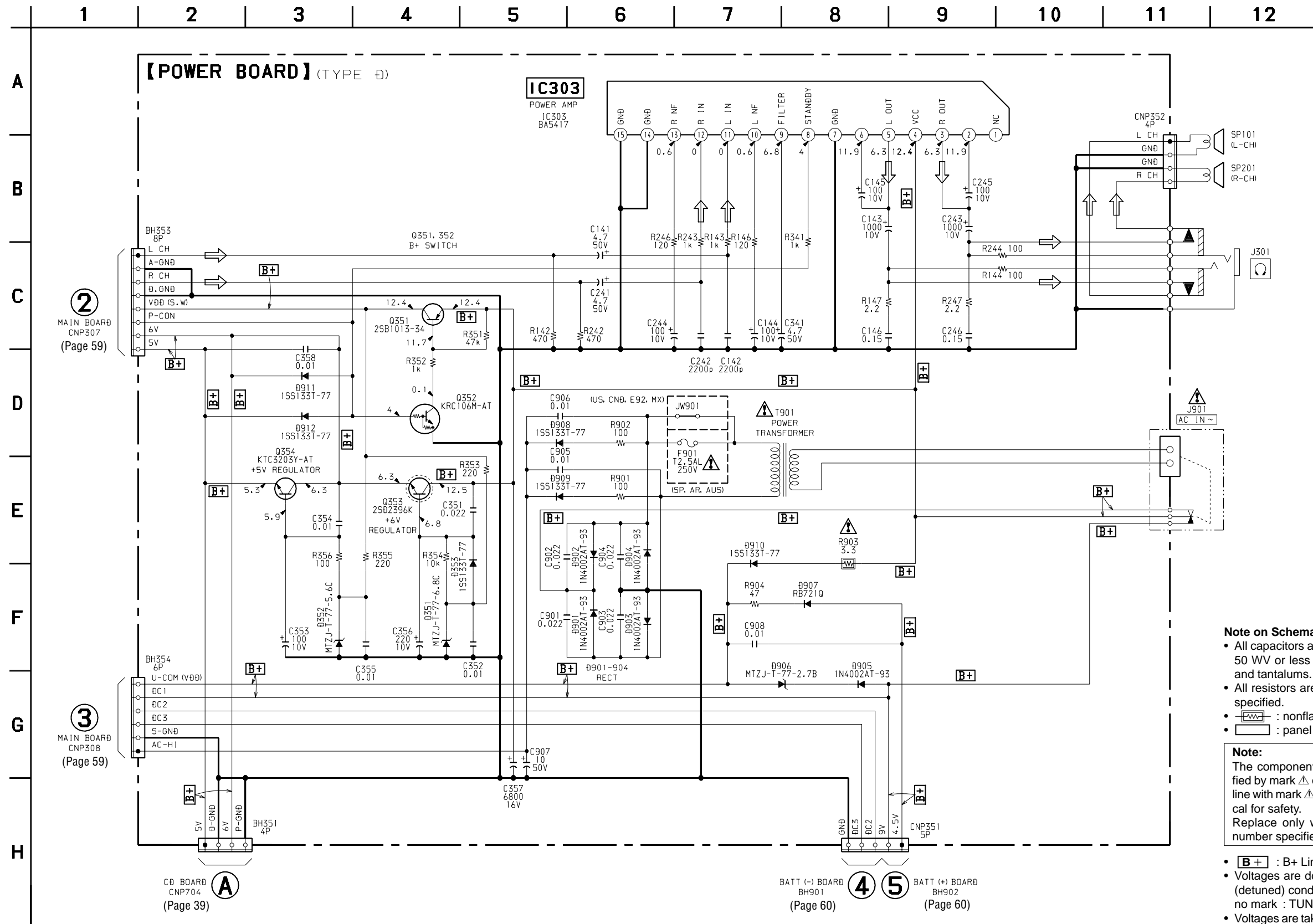
- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- \square : nonflammable resistor.
- \square : panel designation.

Note:
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line.
- Voltagés are dc with respect to ground under no-signal (detuned) conditions.
- no mark: TUNER
- (): CD
- (): TAPE
- Voltagés are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- \rightarrow : TUNER
- \rightarrow : TAPE PLAY
- \rightarrow : TAPE RECORD
- \rightarrow : CD PLAY
- Abbreviation
- AR: Argentine model
- AUS: Australian model
- CND: Canadian model
- E92: Central and South America model
- MX: Mexican model
- SP: Singapore model

6-15. SCHEMATIC DIAGRAM – POWER SUPPLY Section (TYPE D) – • See page 75 for IC Block Diagram.



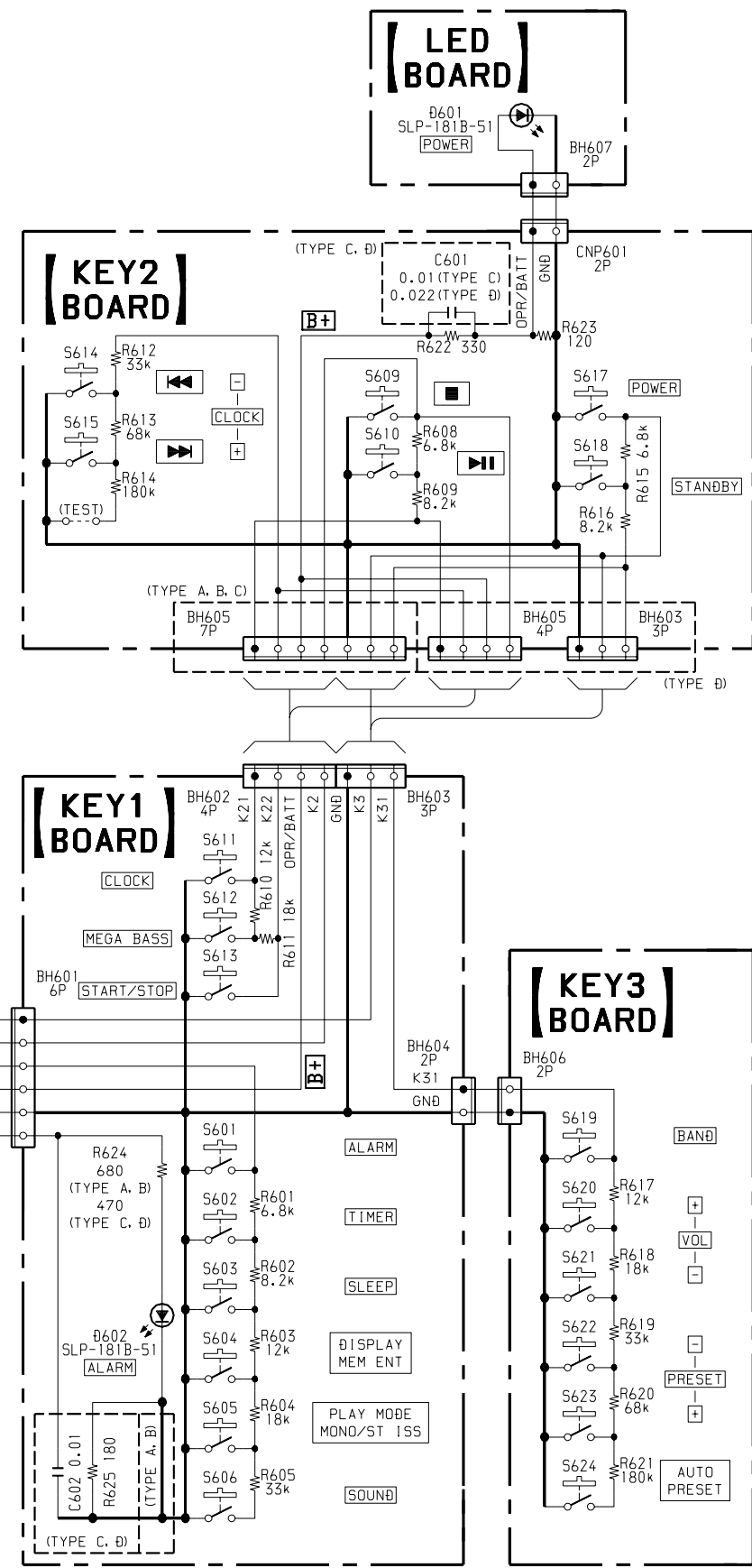
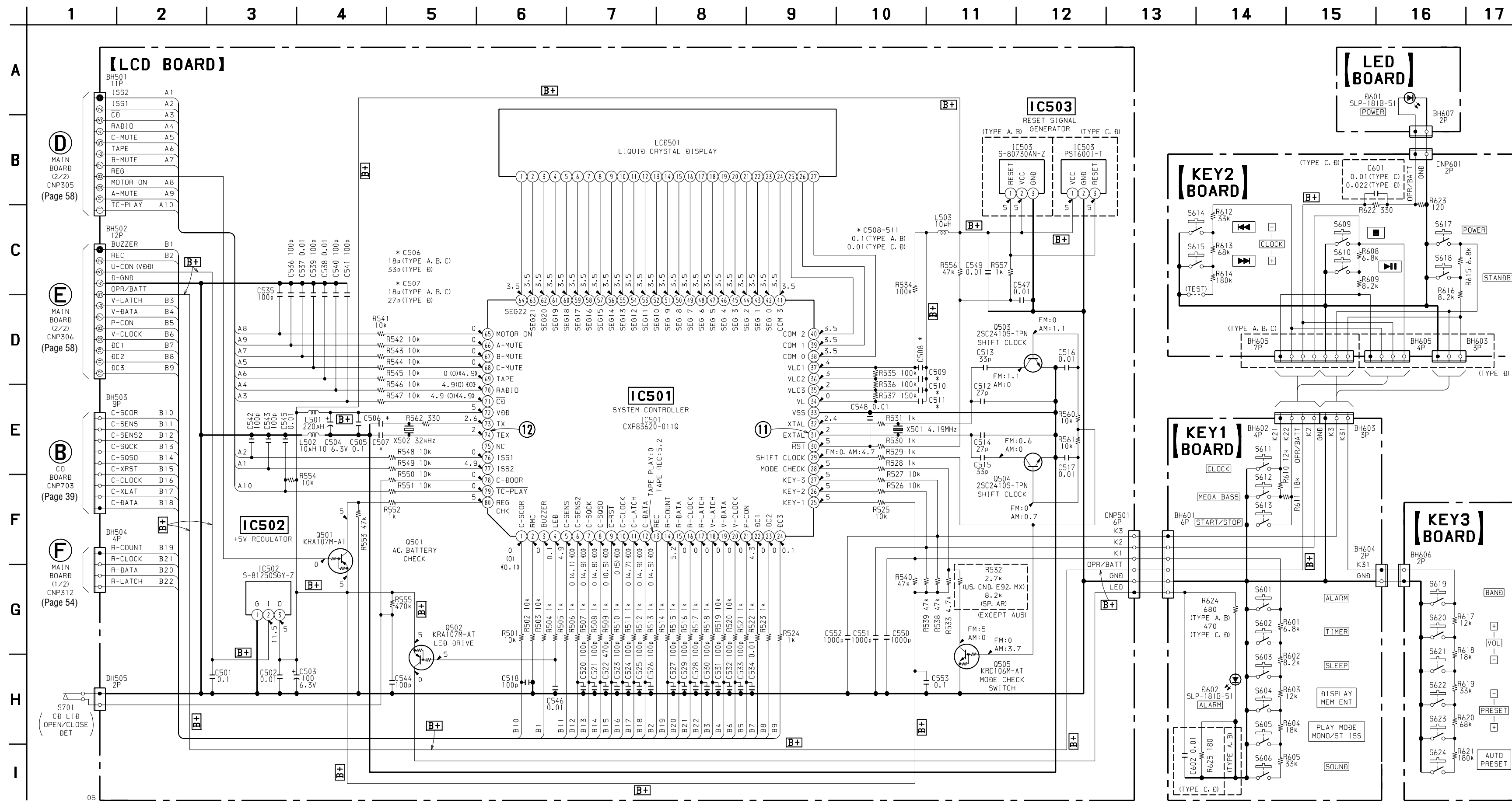
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- : nonflammable resistor.
- : panel designation.

<p>Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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- **[B+]** : B+ Line.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
no mark : TUNER
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
 : TUNER
- Abbreviation
AR : Argentine model
AUS : Australian model
CND : Canadian model
E92 : Central and South America model
MX : Mexican model
SP : Singapore model

6-19. SCHEMATIC DIAGRAM – DISPLAY Section (TYPE A, B, C, D) – • See page 56 for Waveforms.



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : μpF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- : panel designation.
- B+ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : TUNER () : CD << >> : TAPE
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Abbreviation
- AR : Argentine model
- AUS : Australian model
- CND : Canadian model
- E92 : Central and South America model
- MX : Mexican model
- SP : Singapore model