

CFD-S22/S32

SERVICE MANUAL

Ver 1.0 2000. 02

US Model
Canadian Model
E Model



Photo: CFD-S32 (Silver)

| | | |
|---------------|------------------------------------|------------|
| CD Section | Model Name Using Similar Mechanism | CFD-S38 |
| | CD Mechanism Type | KSM-213CDM |
| | Optical Pick-up Name | KSS-213C |
| TC Section | Model Name Using Similar Mechanism | CFD-S38 |
| | Tape Transport Mechanism Type | MF-V10-117 |

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US Model)

POWER OUTPUT AND TOTAL

HARMONIC DISTORTION

With 3.2-ohm loads, both channels driven from
150 - 6,300 Hz; rated 1.8 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 $\pm 1/-2$ dB

Wow and flutter

Below measurable limit

Radio section

Frequency range

FM: 87.6 - 108 MHz

AM: 530 - 1,710 kHz

Antennas

FM: Telescopic antennas

AM: Built-in ferrite bar antennas

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 - 10,000 Hz

General

Speaker

Full range: 10 cm (4 in.) dia.,

3.2 ohms, cone type (2)

Outputs

Headphones jack (stereo minijack)

For 16 - 68 ohms impedance headphones

— Continued on next page —

CD RADIO CASSETTE-CORDER

SONY®

Power output (excluding US model)
2.3 W + 2.3 W (at 3.2 ohms, 10 %)
harmonic distortion in AC operation)

Power requirements
For CD radio cassette-corder:
120 V AC, 60 Hz
9 V DC, 6 size D (R20) batteries
For remote control (CFD-S32 only):
3 V DC, 2 size AA (R6) batteries

Power consumption
AC 20 W

Battery life
For CD radio cassette-corder:

| |
|---------------------|
| FM recording |
|---------------------|

| |
|---------------------------|
| Sony R20P: approx. 13.5 h |
|---------------------------|

| |
|----------------------------------|
| Sony alkaline LR20: approx. 20 h |
|----------------------------------|

| |
|----------------------|
| Tape playback |
|----------------------|

| |
|--------------------------|
| Sony R20P: approx. 7.5 h |
|--------------------------|

| |
|----------------------------------|
| Sony alkaline LR20: approx. 15 h |
|----------------------------------|

| |
|--------------------|
| CD playback |
|--------------------|

| |
|--------------------------|
| Sony R20P: approx. 2.5 h |
|--------------------------|

| |
|---------------------------------|
| Sony alkaline LR20: approx. 7 h |
|---------------------------------|

Dimensions

Approx. 420 × 165 × 256 mm (w/h/d)
(16 5/8 × 6 1/2 × 10 1/8 inches) (incl. projecting parts)

Mass

Approx. 4.1 kg (9 lb. 1 oz.) (incl. batteries)

Supplied accessories

AC power cord (1)

Remote control RMT-CS32A (1) (CFD-S32 only)

Design and specifications are subject to change without notice.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE \triangle SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

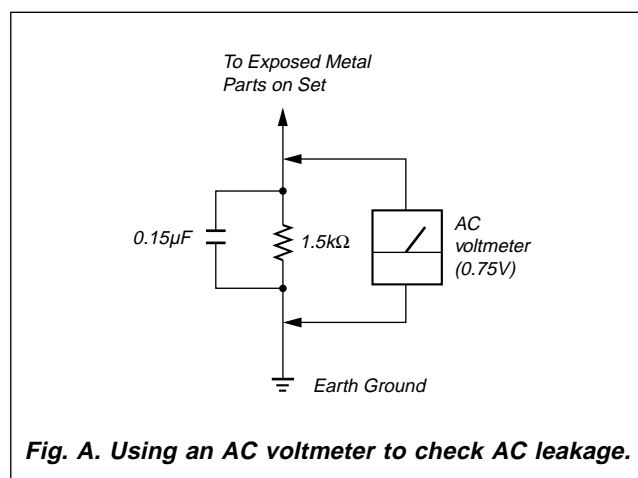


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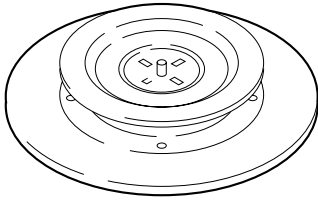
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SECTION 1 SERVICING NOTES

CHUCK PLATE JIG ON REPAIRING

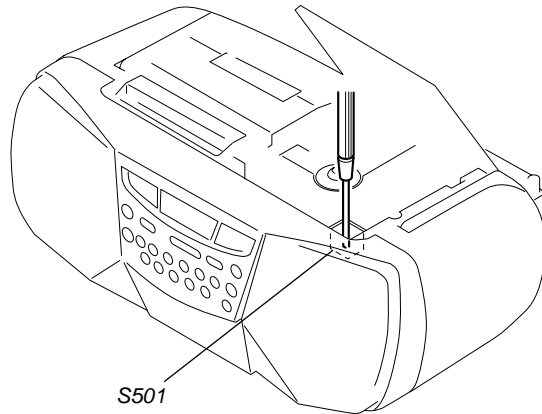
On repairing CD section, playing a disc without the lid (CD), use Chuck Plate Jig.

- Code number of Chuck Plate Jig: X-4918-255-1



LASER DIODE AND FOCUS SEARCH OPERATION CHECK

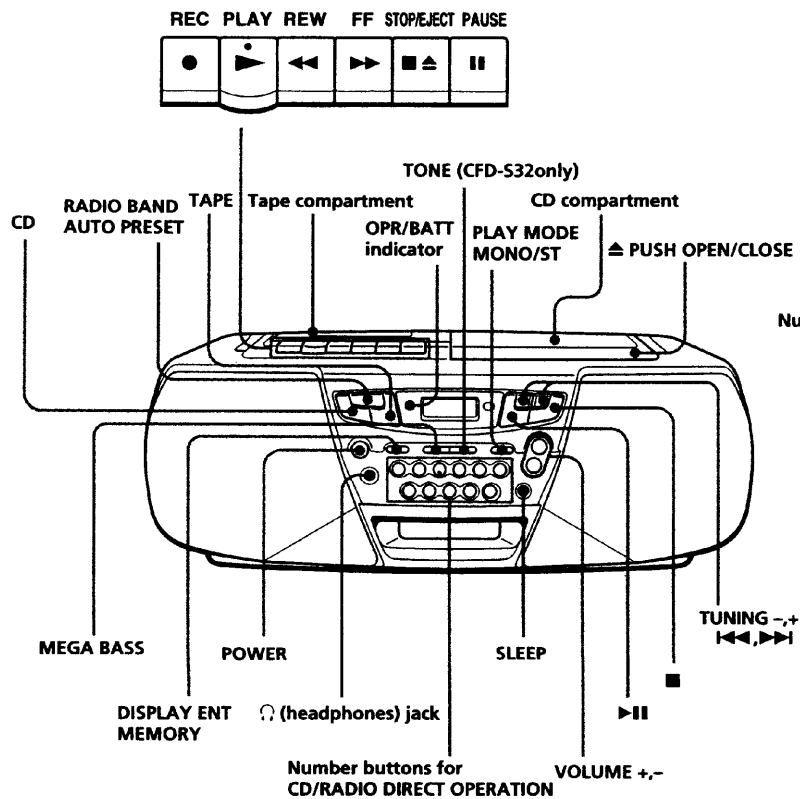
1. Turn ON the POWER button and press FUNCTION button to CD position.
2. Open the lid (CD).
3. Turn on S501 with screwdriver, etc. as following figure.
4. Press the CD ► || button.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken. Objective lens moves up and down three times for focus search.



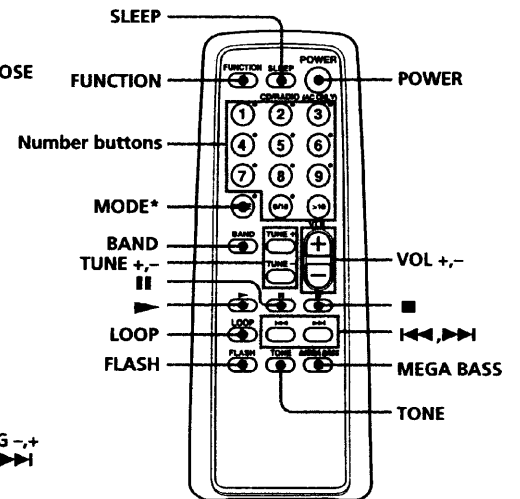
SECTION 2 GENERAL

This section is extracted
from instruction manual.

Location of controls



Remote Control (CFD-S32only)



* MODE on the remote has same function as
PLAY MODE • MONO/ST on the player.

Tip

To listen through headphones, connect the headphones to the
(headphones) jack.

Adjusting the sound emphasis (MEGA BASS/TONE)

Reinforcing the bass sound

Press MEGA BASS.

"MEGA BASS" appears in the display.

To return to normal sound, press the button again.

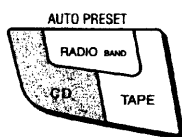
Adjusting the tone (CFD-S32only)

Press TONE.

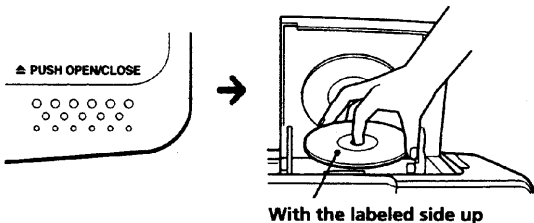
| To enhance | Display |
|---------------|---------|
| the high tone | HI |
| the low tone | LO |

Playing a CD

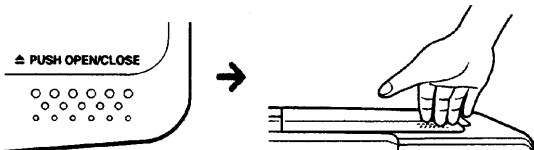
- 1** Press CD (direct power-on).



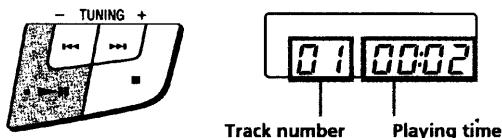
- 2** Press Δ PUSH OPEN/CLOSE down to open the CD compartment and place a CD in the CD compartment.



- 3** Close the CD compartment.



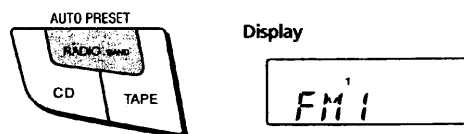
- 4** Press $\blacktriangleright\blacktriangleright$ (\blacktriangleright on the remote, CFD-S32 only). The player plays all the tracks once.



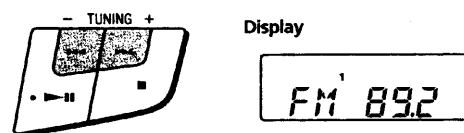
| To | Press |
|-------------------------------|--|
| adjust the volume | VOLUME +, - (VOL +, - on the remote, CFD-S32 only) |
| stop playback | \blacksquare |
| pause playback | $\blacktriangleright\blacktriangleright$ (\blacksquare on the remote, CFD-S32 only) Press the button again to resume play after pause. |
| go to the next track | $\blacktriangleright\blacktriangleright$ |
| go back to the previous track | $\blacktriangleleft\blacktriangleleft$ |
| remove the CD | Δ PUSH OPEN/CLOSE |
| turn on/off the player | POWER |

Listening to the radio

- 1** Press RADIO BAND•AUTO PRESET until the band you want appears in the display (direct power-on). Each time you press the button, the indication changes as follows: "FM1" \rightarrow "FM2" \rightarrow "AM".



- 2** Hold down TUNING + or - (TUNE + or - on the remote, CFD-S32 only) until the frequency digits begin to change in the display.

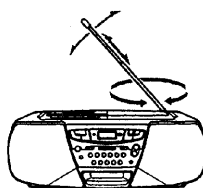


The player automatically scans the radio frequencies and stops when it finds a clear station.
If you can't tune in a station, press the button repeatedly to change the frequency step by step.

| To | Press |
|-----------------------|--|
| adjust the volume | VOLUME +, - (VOL +, - on the remote, CFD-S32 only) |
| turn on/off the radio | POWER |

To improve broadcast reception

Reorient the antenna for FM. Reorient the player itself for AM.



FM



AM

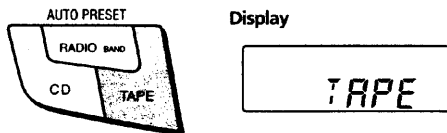
Tips

- The "FM1" and "FM2" bands have the same functions. You can store the stations you want separately in "FM1" and "FM2".
- If the FM broadcast is noisy, press PLAY MODE•MONO/ST until "Mono" appears in the display and the radio will play in monaural.

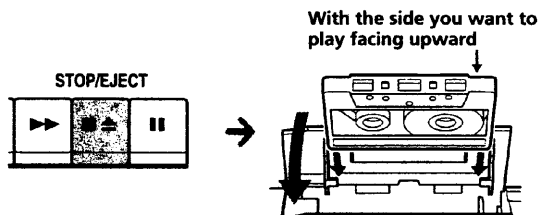
Use TYPE I (normal) tape only.

Playing a tape

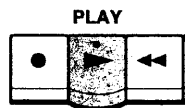
- 1 Press **TAPE** (direct power-on).



- 2 Press **STOP/EJECT** to open the tape compartment and insert a recorded tape. Close the compartment.



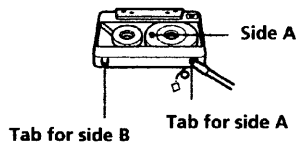
- 3 Press **▶**.



| To | Press |
|---------------------------------|--|
| adjust the volume | VOLUME +, - (VOL +, - on the remote, CFD-S32 only) |
| stop playback | ■▲ |
| fast-forward or rewind the tape | ▶▶ or ◀◀ |
| pause playback | Press the button again to resume play after pause. |
| eject the cassette | ■▲ |
| turn on/off the player | POWER |

Notes on cassettes

- Break off the cassette tab from side A or B to prevent accidental recording. If you want to reuse the tape for recording, cover the broken tab with adhesive tape.

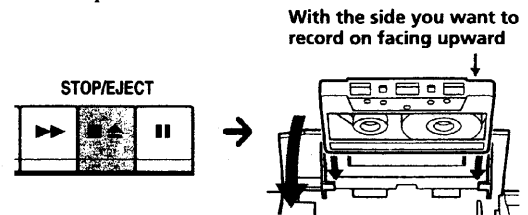


- The use of a cassette with more than 90 minutes of play time is not recommended except for long, continuous recording or playback.

Use TYPE I (normal) tape only.

Recording

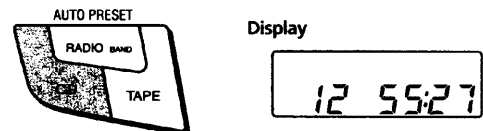
- 1 Press **■▲** to open the tape compartment and insert a blank tape.



- 2 Select the program source you want to record.

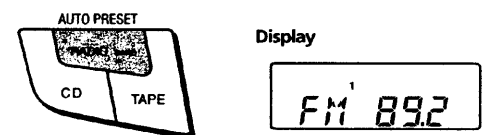
To record from the CD player

Press **CD** and insert a CD (See "Playing a CD").

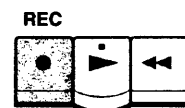


To record from the radio

Press **RADIO BAND**•**AUTO PRESET** and tune in the station you want (See "Listening to the radio").



- 3 Press **●** to start recording.
(▶ is depressed automatically).



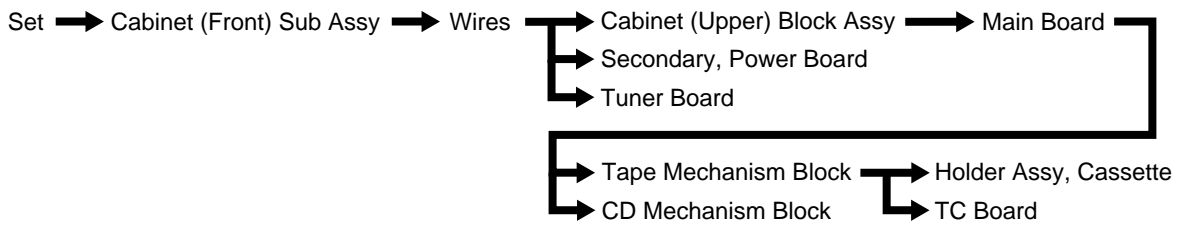
| To | Press |
|------------------------|---|
| stop recording | ■▲ |
| pause recording | Press the button again to resume recording. |
| turn on/off the player | POWER |

Tips

- Adjusting the volume or the audio emphasis will not affect the recording level.
- For the best results, use the AC power as a power source for recording.
- To erase a recording, proceed as follows:
 - 1 Insert a tape with the recording you want to erase.
 - 2 Press **TAPE**.
 - 3 Press **●**.

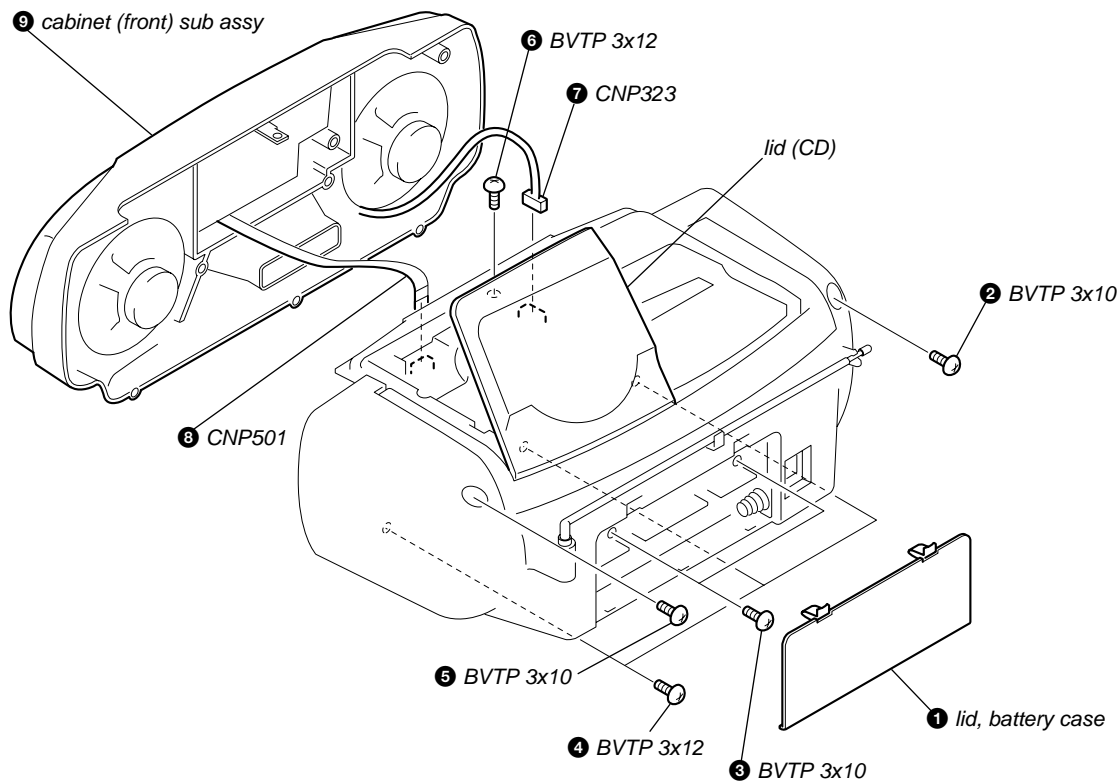
SECTION 3 DISASSEMBLY

- The equipment can be removed using the following procedure.



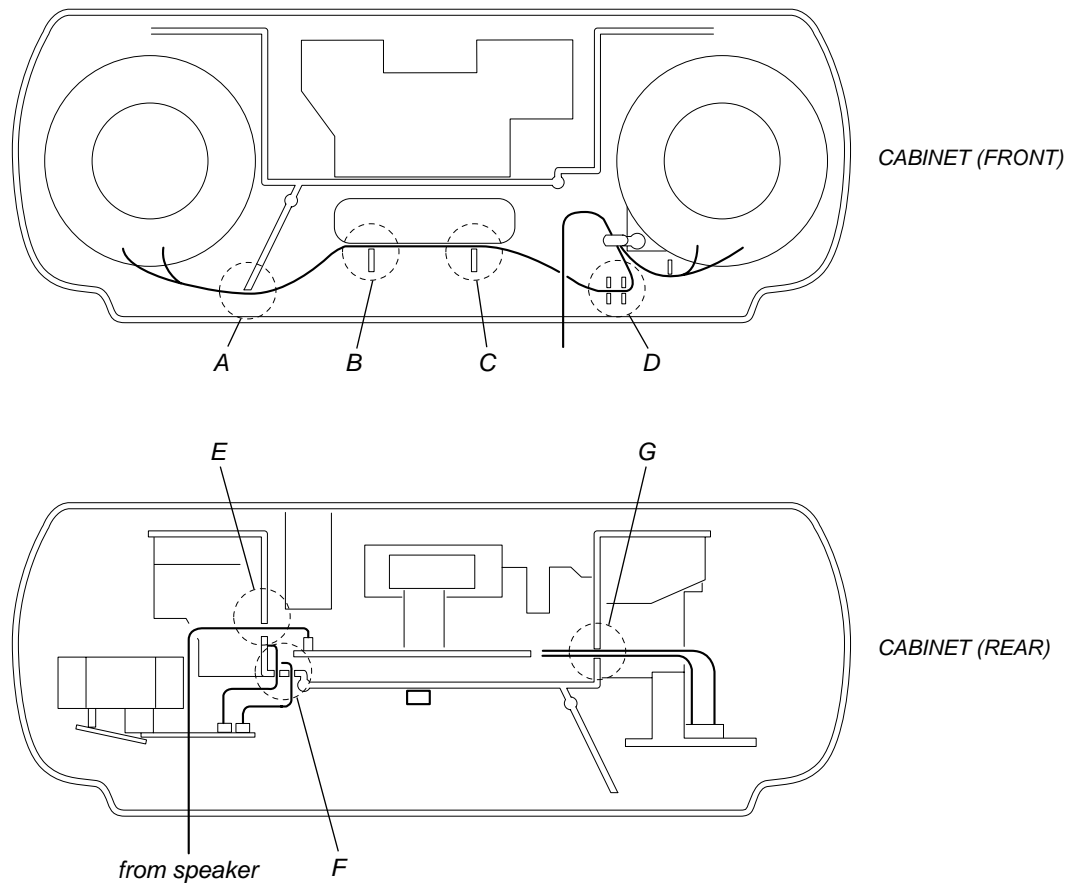
Note : Follow the disassembly procedure in the numerical order given.

3-1. CABINET (FRONT) SUB ASSY

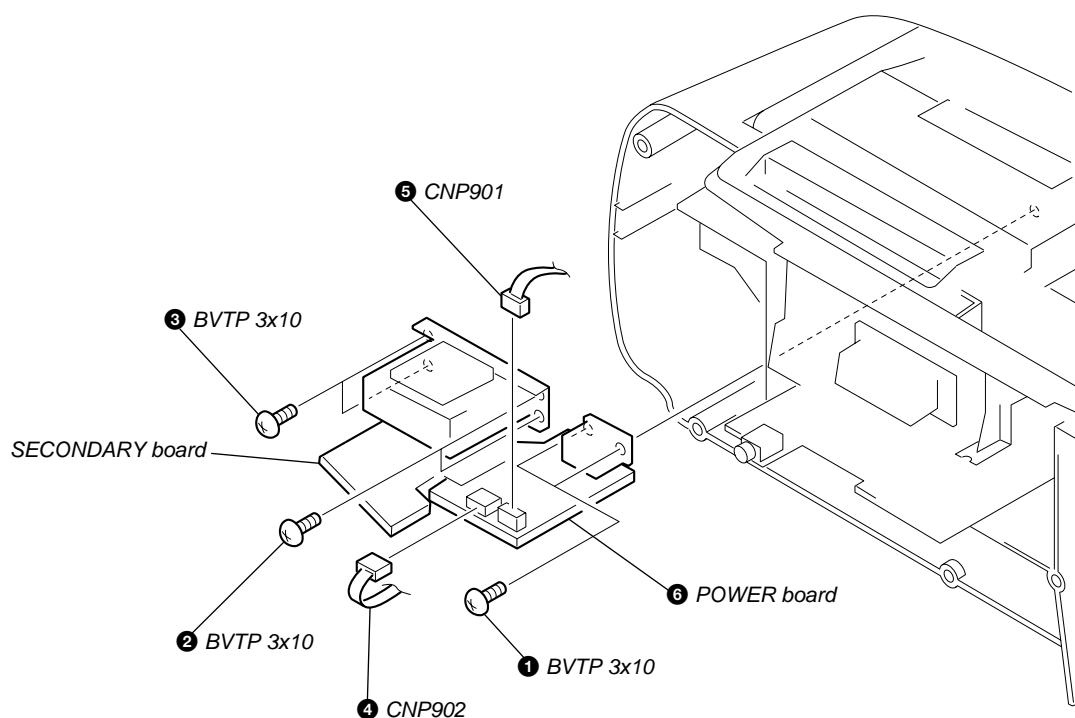


3-2. WIRES

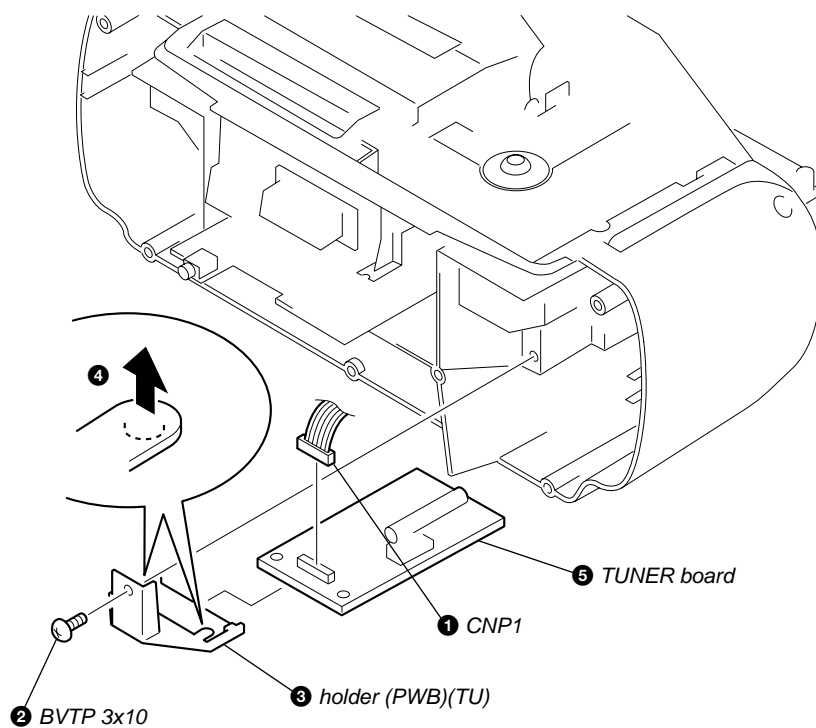
Put flat cable and wires between the cabinets and push them in the grooves located at A to G in the figure to prevent disconnection before assembling the set.



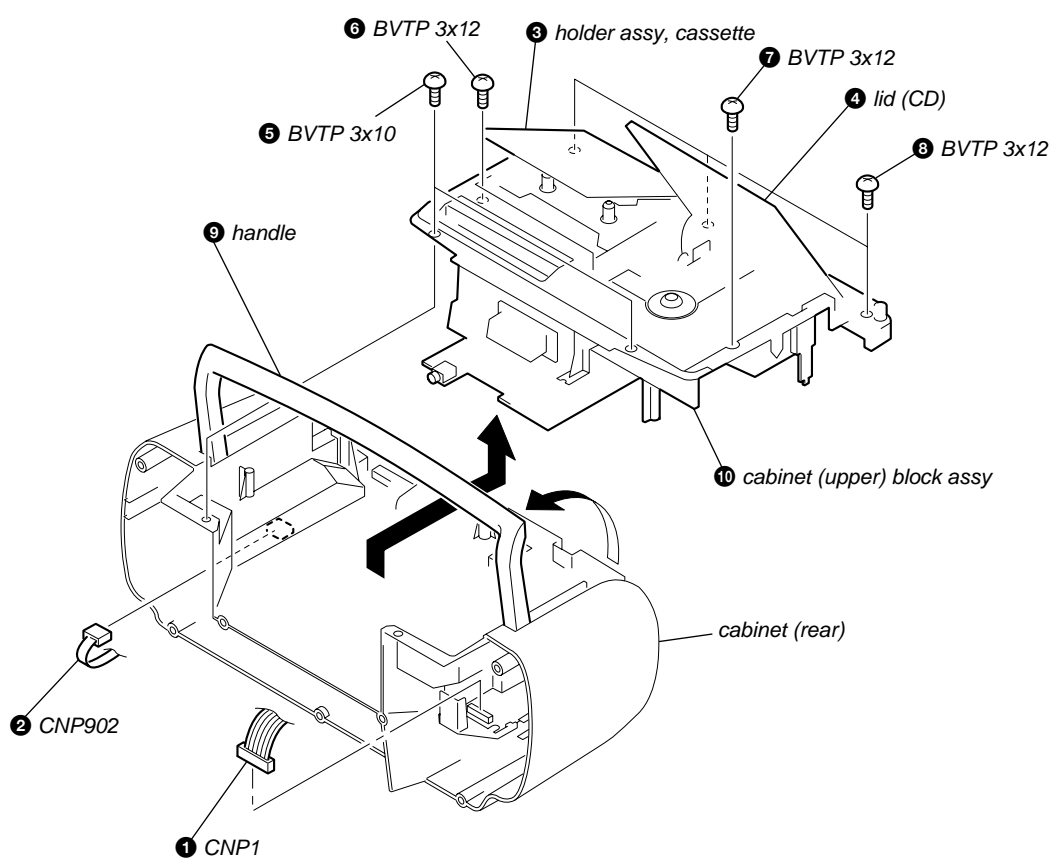
3-3. SECONDARY BOARD, POWER BOARD



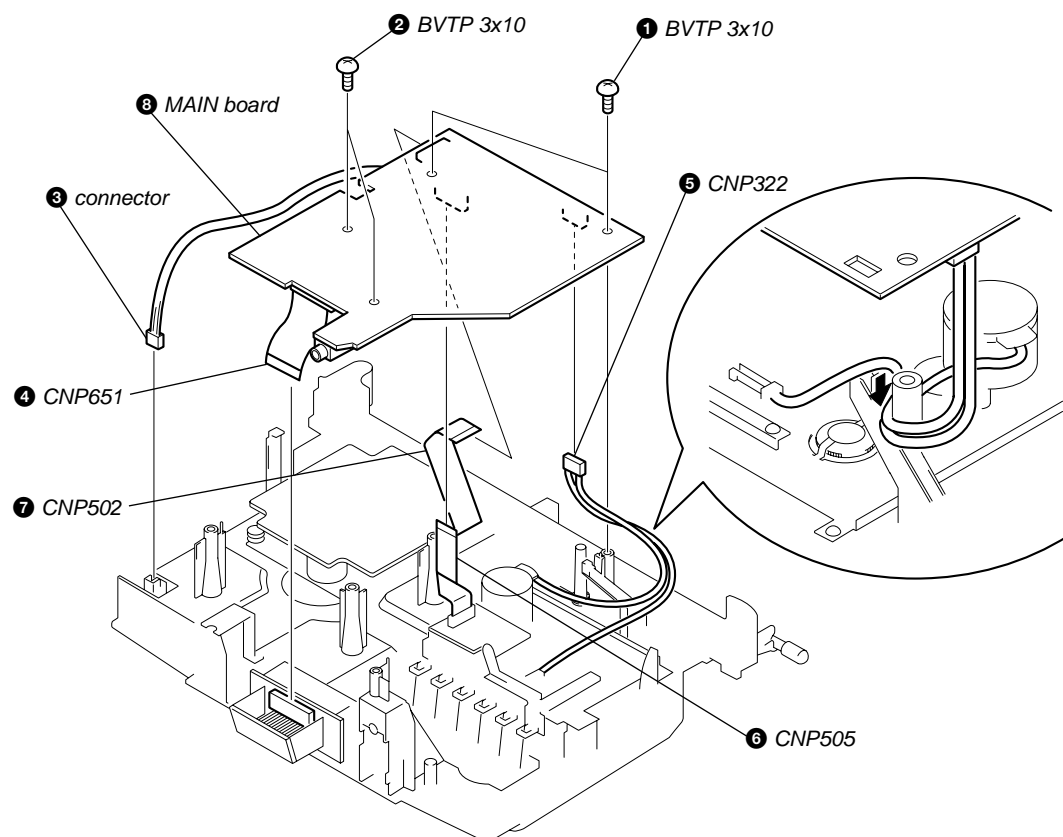
3-4. TUNER BOARD



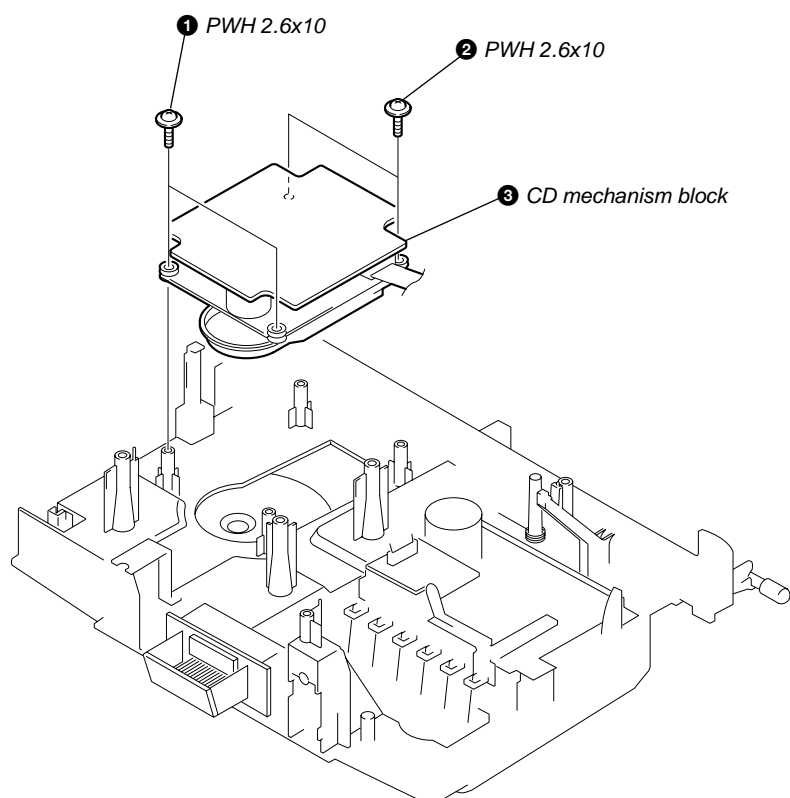
3-5. CABINET (UPPER) BLOCK ASSY



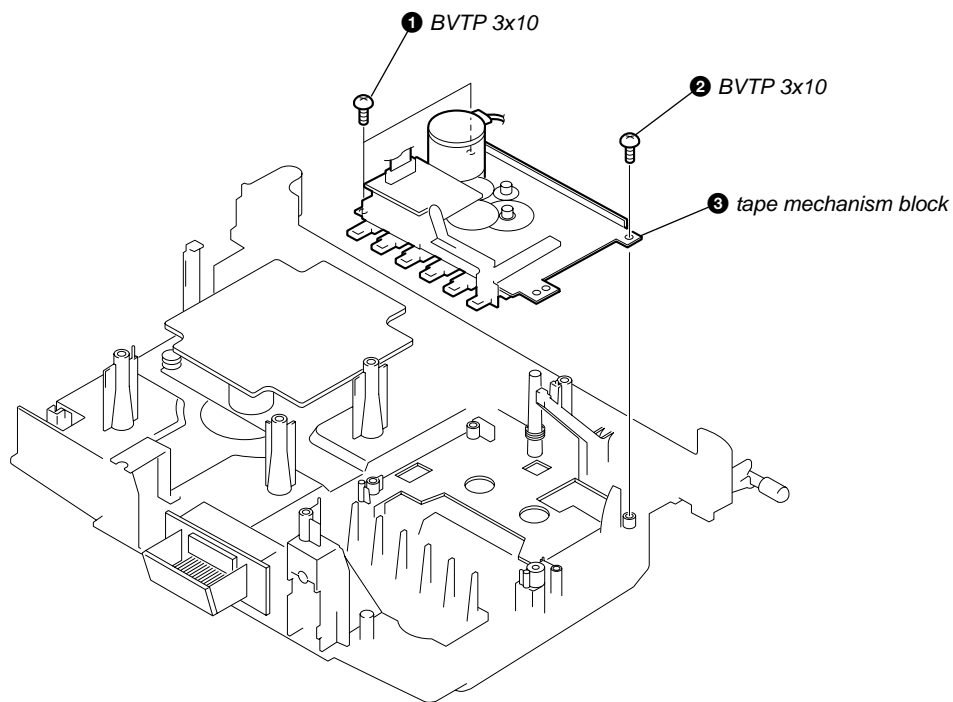
3-6. MAIN BOARD



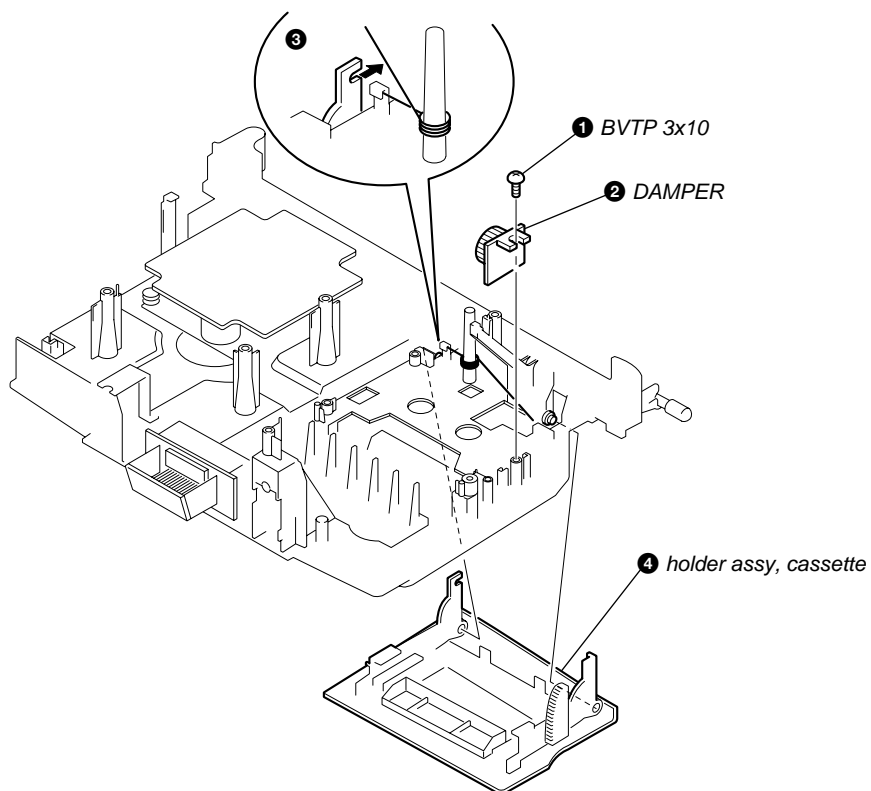
3-7. CD MECHANISM BLOCK



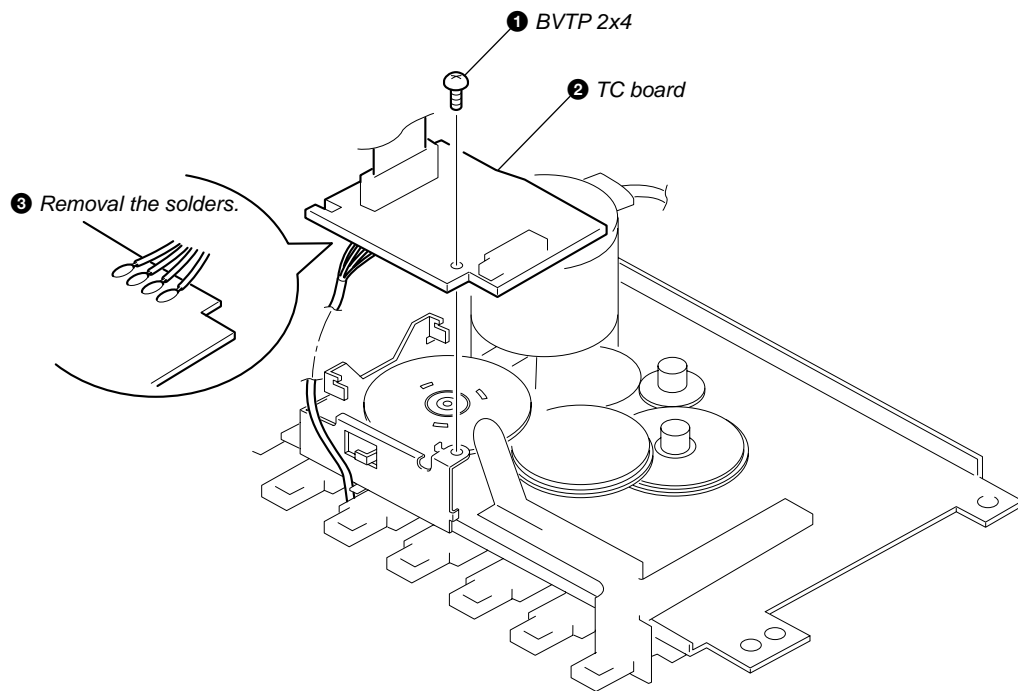
3-8. TAPE MECHANISM BLOCK



3-9. HOLDER ASSY, CASSETTE



3-10. TC BOARD



SECTION 4 MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab :

| | |
|----------------------|--------------|
| record/playback head | pinch roller |
| erase head | rubber belts |
| capstan | idlers |
- Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head magnetizer close to the erase head.)
- Do not use a magnetized screwdriver for the adjustments.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

| Mode | Torque meter | Meter reading |
|---------------------|--------------|---|
| FWD | CQ-102C | 30 – 70 g • cm (0.42 – 0.97 oz • inch) |
| FWD Back Tension | CQ-102C | 1.5 – 5.5 g • cm (0.021 – 0.076 oz • inch) |
| FF | CQ-201B | more than 60 g • cm (more than 0.83 oz • inch) |
| REW | CQ-201B | more than 60 g • cm (more than 0.83 oz • inch) |

Tape Tension Measurement

| Mode | Tension meter | Meter Reading |
|------|---------------|--|
| FWD | CQ-403A | more than 100 g (more than 3.53 oz) |

SECTION 5 ELECTRICAL ADJUSTMENTS

TAPE SECTION **0 dB = 0.775 V**

• Standard Output Level

| Output terminal | HP OUT |
|---------------------|-----------------|
| load impedance | 32 Ω |
| output signal level | 0.25 V (–10 dB) |

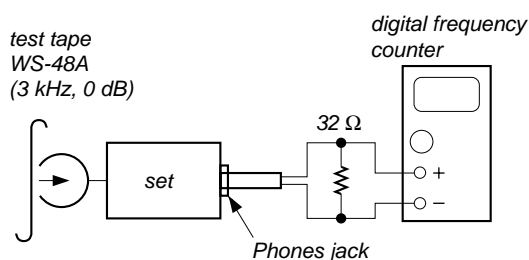
• Test Tape

| Type | Signal | Used for |
|--------|-------------|-----------------------|
| WS-48A | 3 kHz, 0 dB | tape speed adjustment |

Tape Speed Adjustment

Procedure:

Mode: playback



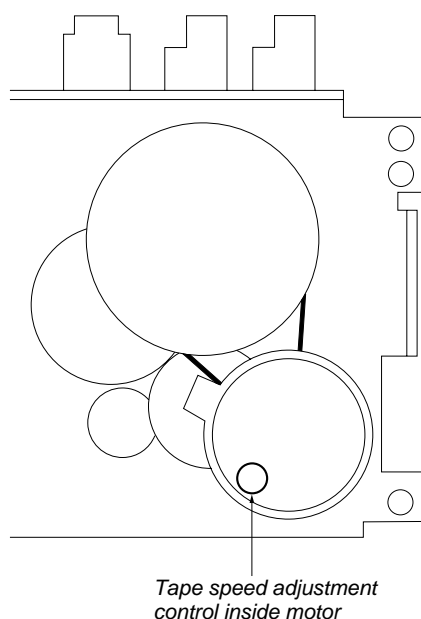
Adjust so that the value on the digital frequency counter is 3,000 Hz.

Specification Value:

| Digital frequency counter |
|---------------------------|
| 2,910 to 3,090 Hz |

Adjust so that the frequency at the beginning and that at the end of tape winding are between 2,910 to 3,090 Hz.

Adjustment Location:

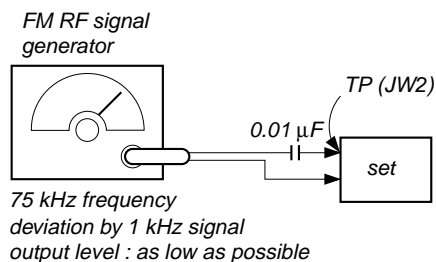


TUNER SECTION 0 dB = 1 μ V

• FM Section

Setting:

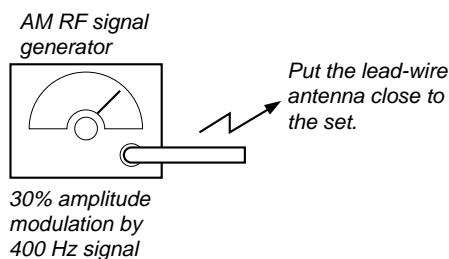
RADIO (BAND) button: FM



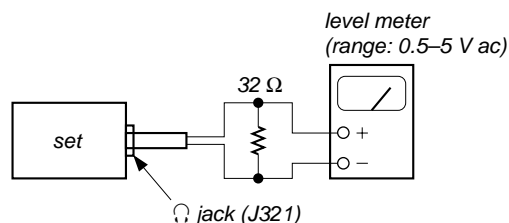
• AM Section

Setting:

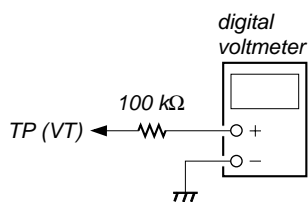
RADIO (BAND) button: AM



• Connecting Level Meter (FM and AM)



• Connecting Digital Voltmeter (FM and AM)



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT

| | | |
|------------------------------|-----------------|-----------------|
| Frequency Display | 87.5 MHz | 108 MHz |
| Reading on Digital voltmeter | 1.6 ± 0.4 V | 4.0 ± 0.3 V |
| Adjustment Part | <confirmation> | L2 |

FM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

| | |
|----------|---------|
| L1 | CT1 |
| 87.5 MHz | 108 MHz |

AM FREQUENCY COVERAGE ADJUSTMENT

| | | |
|------------------------------|-----------------|-----------------|
| Frequency Display | 530 kHz | 1,710 kHz |
| Reading on Digital voltmeter | 1.1 ± 0.1 V | 5.2 ± 0.8 V |
| Adjustment Part | L4 | <confirmation> |

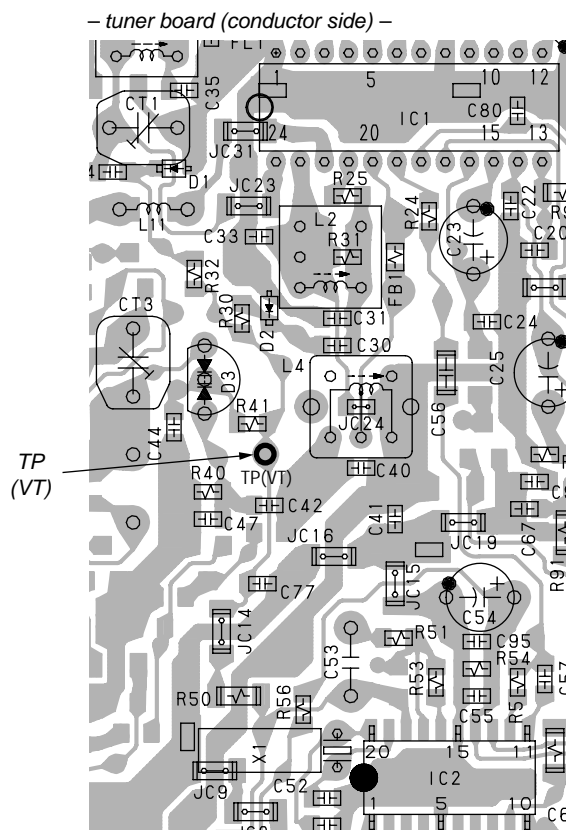
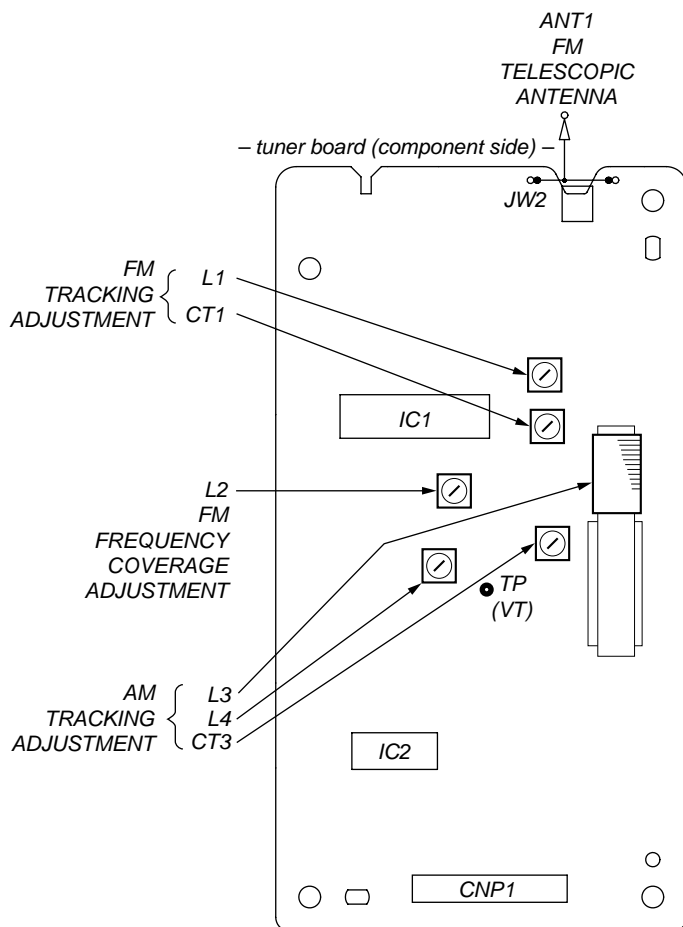
AM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

| | |
|---------|-----------|
| L3 | CT3 |
| 620 kHz | 1,400 kHz |

- For AM adjustment, fix the ferrite-rod antenna (L3) as shown below and then perform tracking adjustment at L4 and CT3. Lastly check the voltage.

Adjustment Location:



CD SECTION

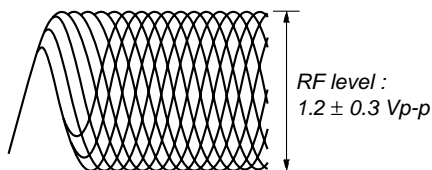
CD section adjustments are done automatically in this set.
In case of operation check, confirm that focus bias.

FOCUS BIAS CHECK

1. Connect the oscilloscope between IC701 pin ⑮ (TP RFO) and GND on CD board.
2. Insert the disc (YEDS-18). (Part No. : 3-702-101-01)
3. Press the CD ► button.
4. Confirm that the oscilloscope waveform is as shown in the figure below. (eye pattern)
A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

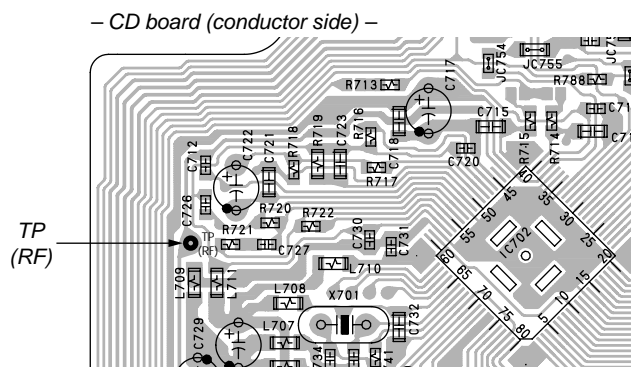
- RF signal reference waveform (eye pattern)

VOLT/DIV : 200 mV (10 : 1 probe in use)
TIME/DIV : 500 nS



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Test Point:



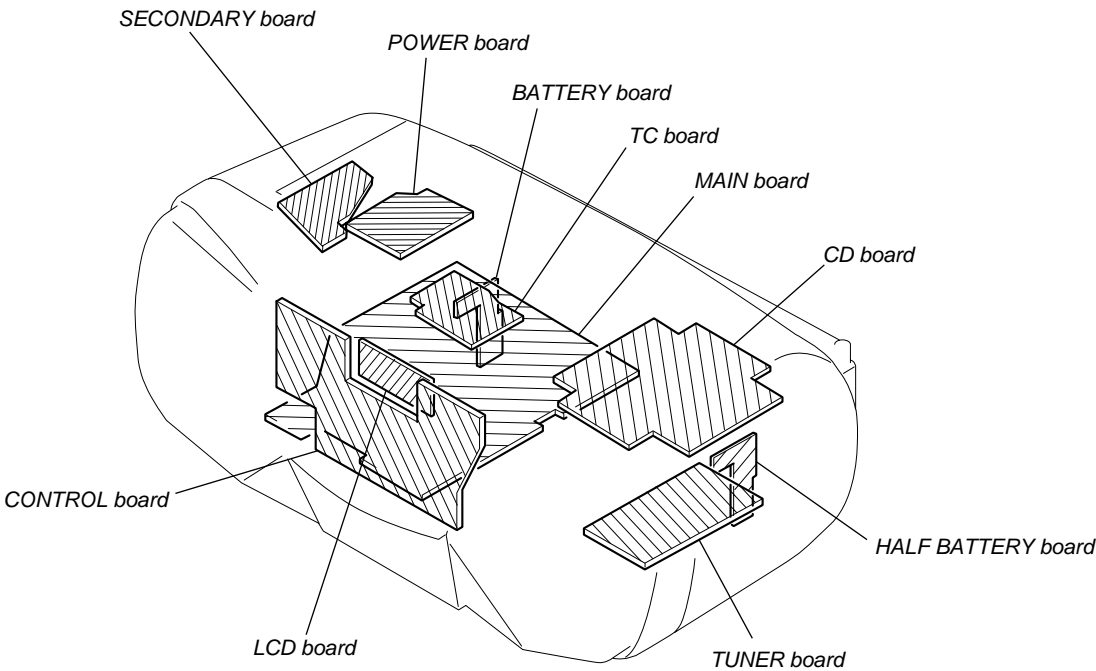
SECTION 6
DIAGRAMS

6-1. IC PIN DESCRIPTION
• IC501 CXP83620-022Q (SYSTEM CONTROL)

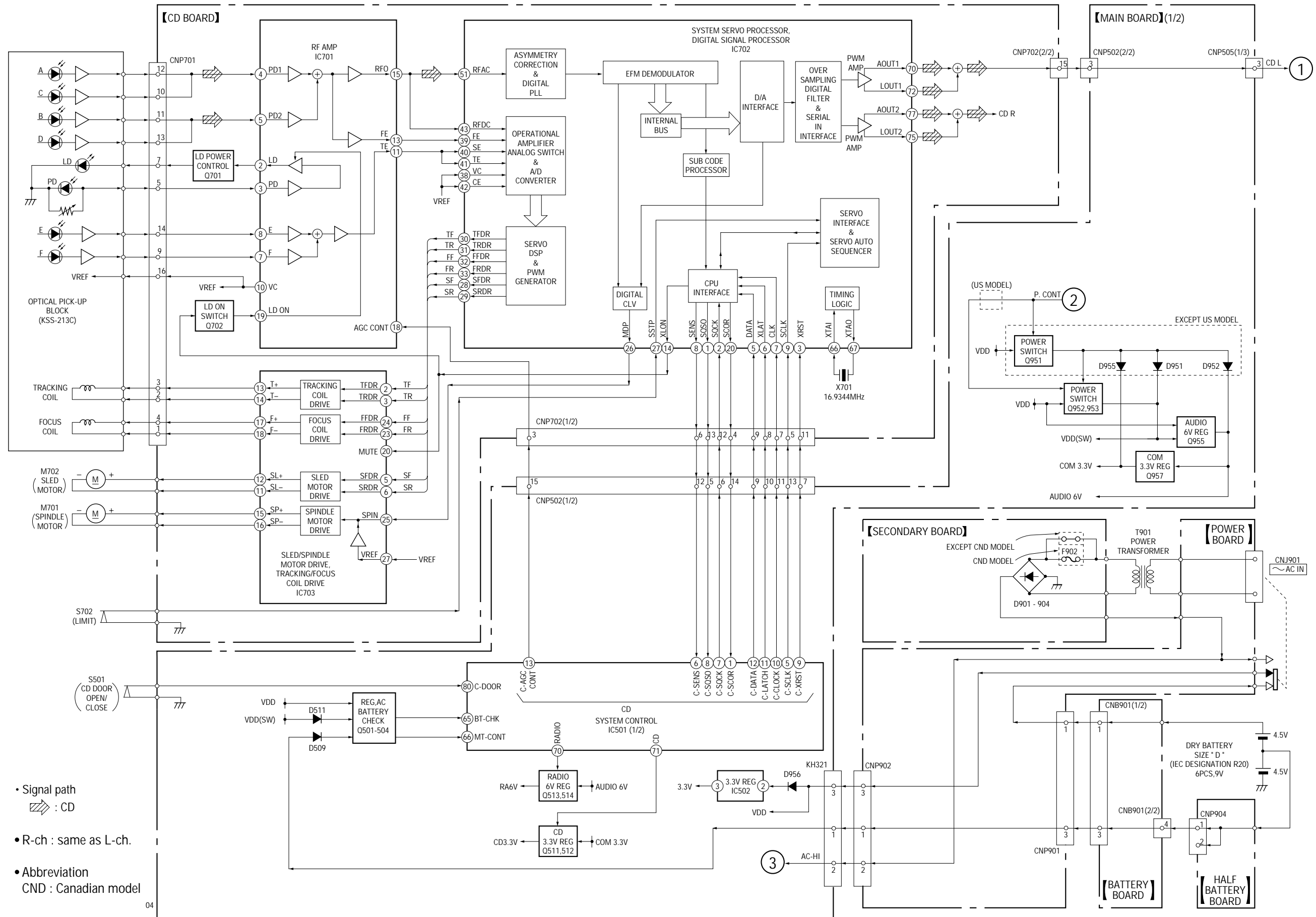
| Pin No. | Pin Name | I/O | Pin Description |
|---------|------------|-----|---|
| 1 | C-SCOR | I | CD SCOR input |
| 2 | RMC | I | Sircs receiver input |
| 3 | MUTE | O | MUTE output H: Mute |
| 4 | ADJ | O | F TEX frequency division output |
| 5 | C-SCLK | O | CD SENSE read clock output |
| 6 | C-SENS | I | CD SENSE input |
| 7 | C-SQCK | O | CD Sub-Q read clock output |
| 8 | C-SQSO | I | CD Sub-Q data input |
| 9 | C-XRST | O | CD system reset output |
| 10 | C-CLOCK | O | CD system clock output |
| 11 | C-LATCH | O | CD system latch output |
| 12 | C-DATA | O | CD command data output |
| 13 | C-AGCCONT | O | CD AGC control output |
| 14 | R-COUNT | I | Tuner PLL data input |
| 15 | R-CLOCK | O | Tuner PLL clock output |
| 16 | R-DATA | O | Tuner PLL data output |
| 17 | R-LATCH | O | Tuner PLL latch output |
| 18 | V-LATCH | O | Volume latch output Not used. (Open) |
| 19 | V-DATA | O | Volume data output |
| 20 | V-CLOCK | O | Volume clock output |
| 21 | P-CON | O | System power control output H: PCON |
| 22 | REG CHK | I | Regulator check signal input |
| 23 | REC | I | Tape record signal input H: REC |
| 24 | SDA | I/O | EEPROM input/output |
| 25 – 28 | KEY-1 – 4 | I | Key input |
| 29 | MODE CHECK | I | Mode set input |
| 30 | RST | I | System reset input |
| 31 | EXTAL | I | Oscillation input (4.19 MHz) |
| 32 | XTAL | O | Oscillation output (4.19 MHz) |
| 33 | VSS | — | GND |
| 34 | VL | O | LCD drive port ON/OFF output |
| 35 – 37 | VLC3 – 1 | O | LCD drive voltage output |
| 38 – 41 | COM0 – 3 | O | LCD drive common output |
| 42 – 58 | SEG0 – 16 | O | LCD drive segment output |
| 59 | SEG17 | O | LCD drive segment output Not used. (Open) |
| 60, 61 | NC | — | Not used. (Open) |
| 62 | INIT | O | Initial set signal output |
| 63 | TONE | O | TONE control output L: TONE |
| 64 | MEGA BASS | O | MEGA BASS control output H: MEGA BASS |
| 65 | BT-CHK | I | Battery check input H: BT-CHK |
| 66 | MT-CONT | I | MT control input H: MT-CONT |
| 67 | ISS1 | O | ISS1 output H: ISS1 Not used. (Open) |
| 68 | ISS2 | O | ISS2 output H: ISS2 Not used. (Open) |
| 69 | TAPE | O | Tape function output H: Tape |
| 70 | RADIO | O | Tuner function output H: Radio |
| 71 | CD | O | CD function output H: CD |
| 72 | VDD | — | Power supply pin (+3.3 V) |
| 73 | TX | O | Oscillation output (150 kHz) |
| 74 | TEX | I | Oscillation input (150 kHz) |

| Pin No. | Pin Name | I/O | Pin Description |
|---------|----------|-----|--|
| 75 | NC | — | Not used. (Open) |
| 76 | A-MUTE | O | Audio mute output H: Mute |
| 77 | SCL | O | EEPROM clock output |
| 78 | EC | I | Event counter input |
| 79 | TC-PLAY | I | Tape play switch input L: Tape |
| 80 | C-DOOR | I | CD door open/close switch input L: Close |

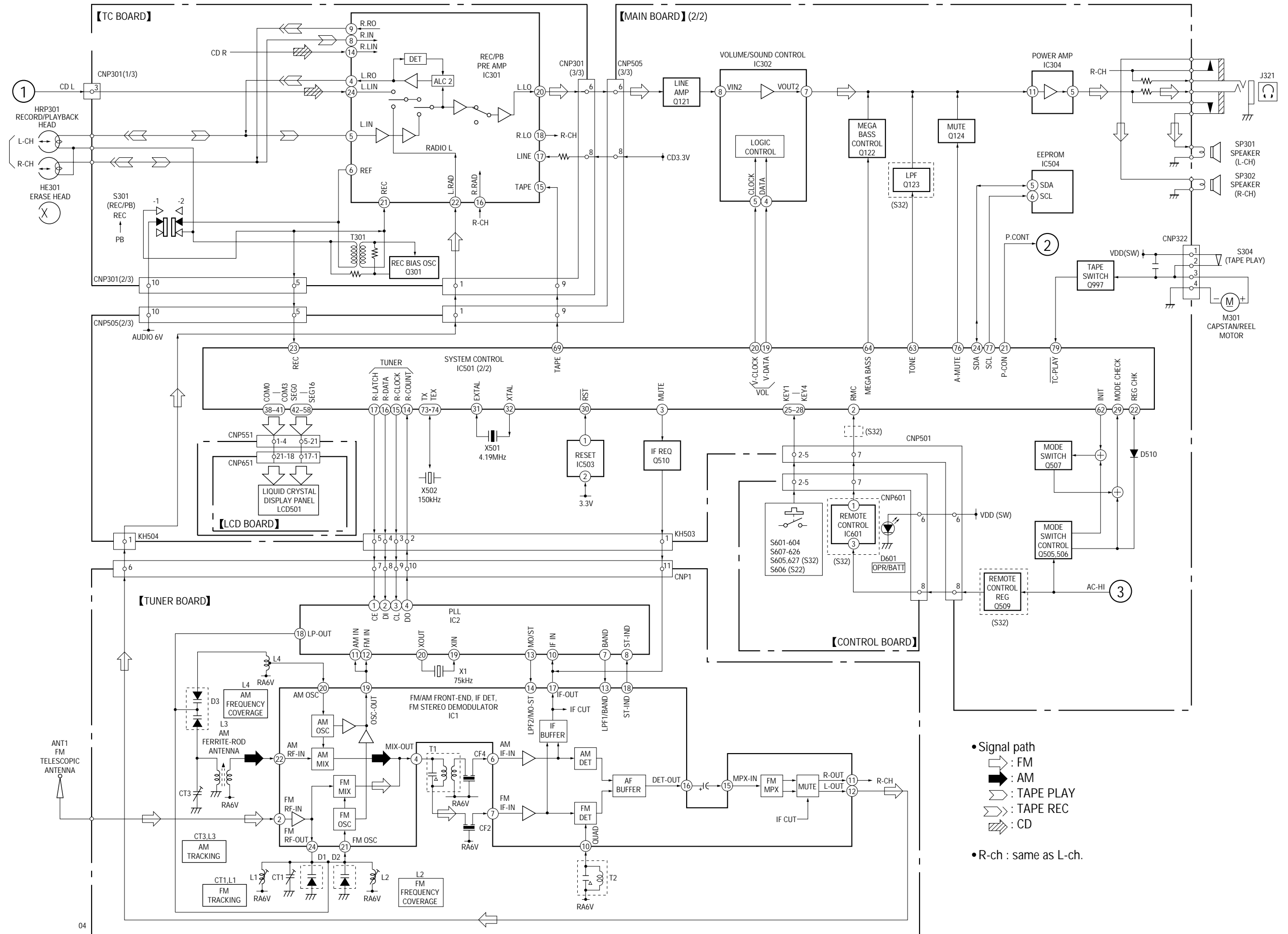
6-2. CIRCUIT BOARDS LOCATION



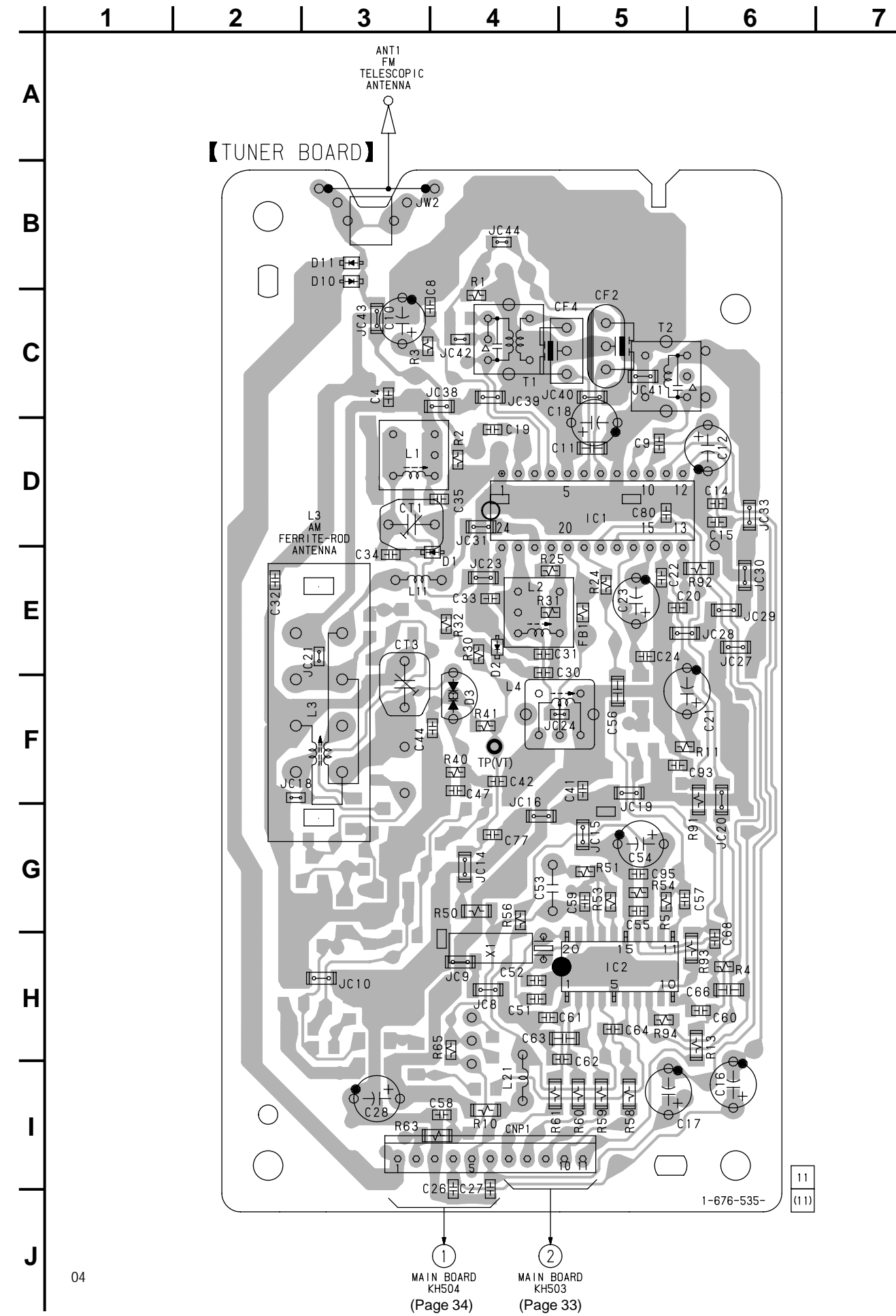
6-3. BLOCK DIAGRAM — CD SECTION —



6-4. BLOCK DIAGRAM — MAIN SECTION —



6-5. PRINTED WIRING BOARD — TUNER SECTION — • Refer to page 18 for Circuit Boards Location.



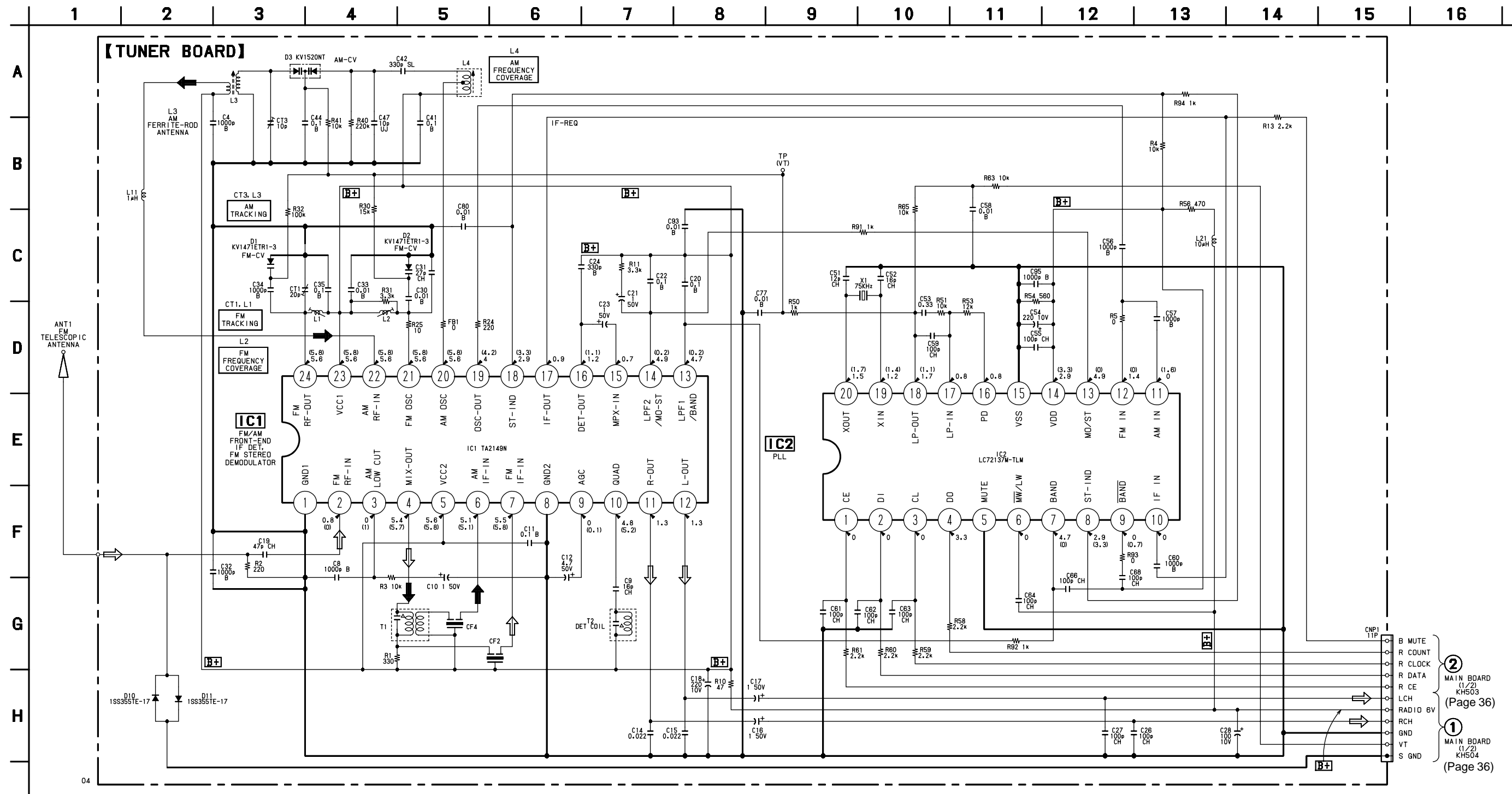
• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D1 | E-4 |
| D2 | E-4 |
| D3 | F-4 |
| D10 | B-3 |
| D11 | B-3 |
| IC1 | D-5 |
| IC2 | H-5 |

Note on Printed Wiring Boards:

- ○ : parts extracted from the component side.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing.

6-6. SCHEMATIC DIAGRAM — TUNER SECTION — • Refer to page 47 for IC Block Diagrams.

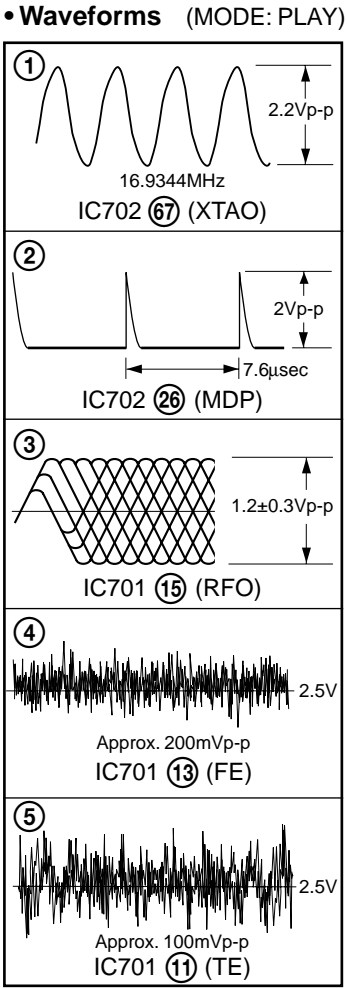
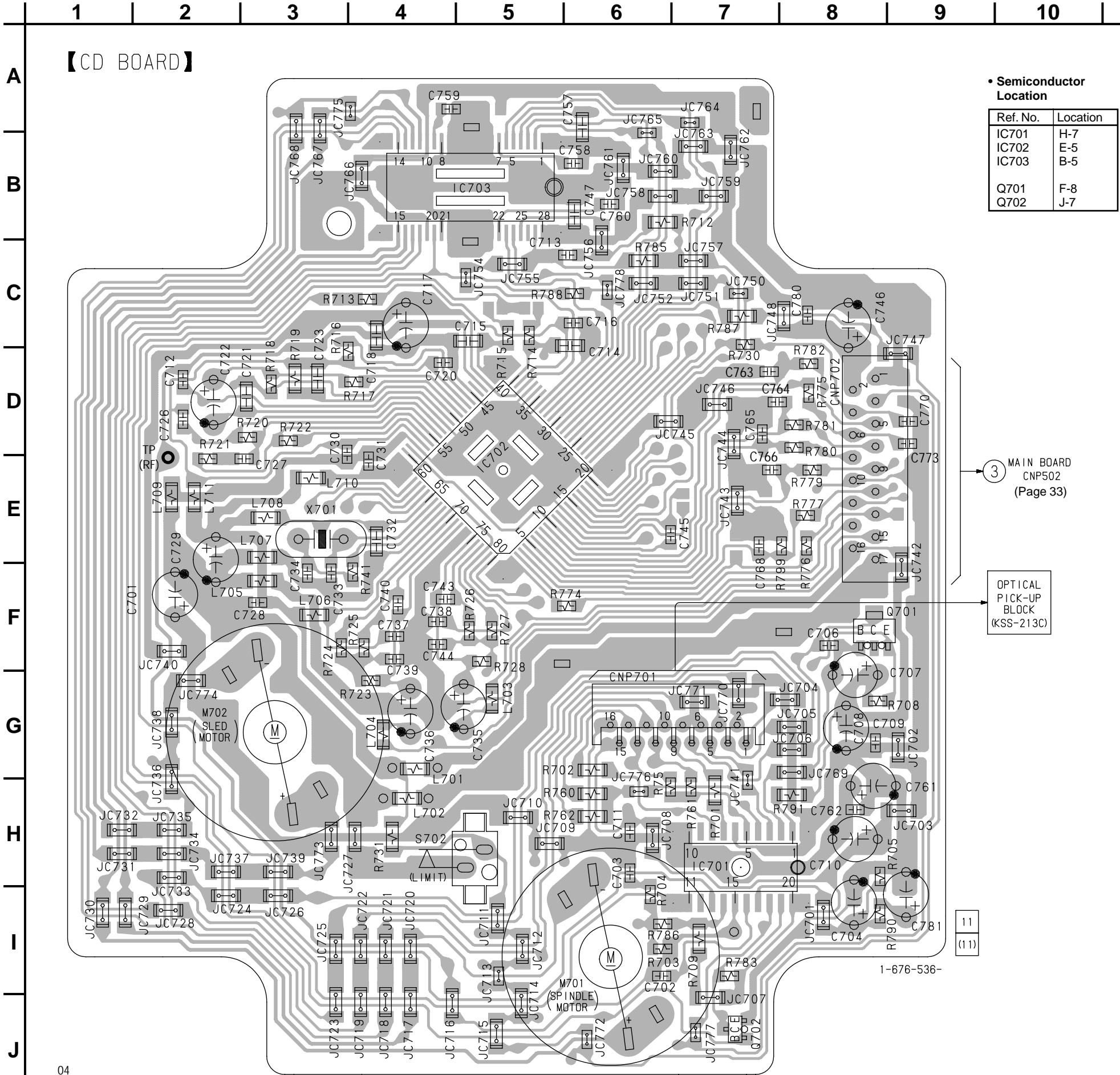


Note on Schematic Diagram:



- 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.
- Δ : internal component.
- **B+** : B+ Line.
- **□** : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.

- Voltage 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 $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- \Rightarrow : FM
- \Rightarrow : AM

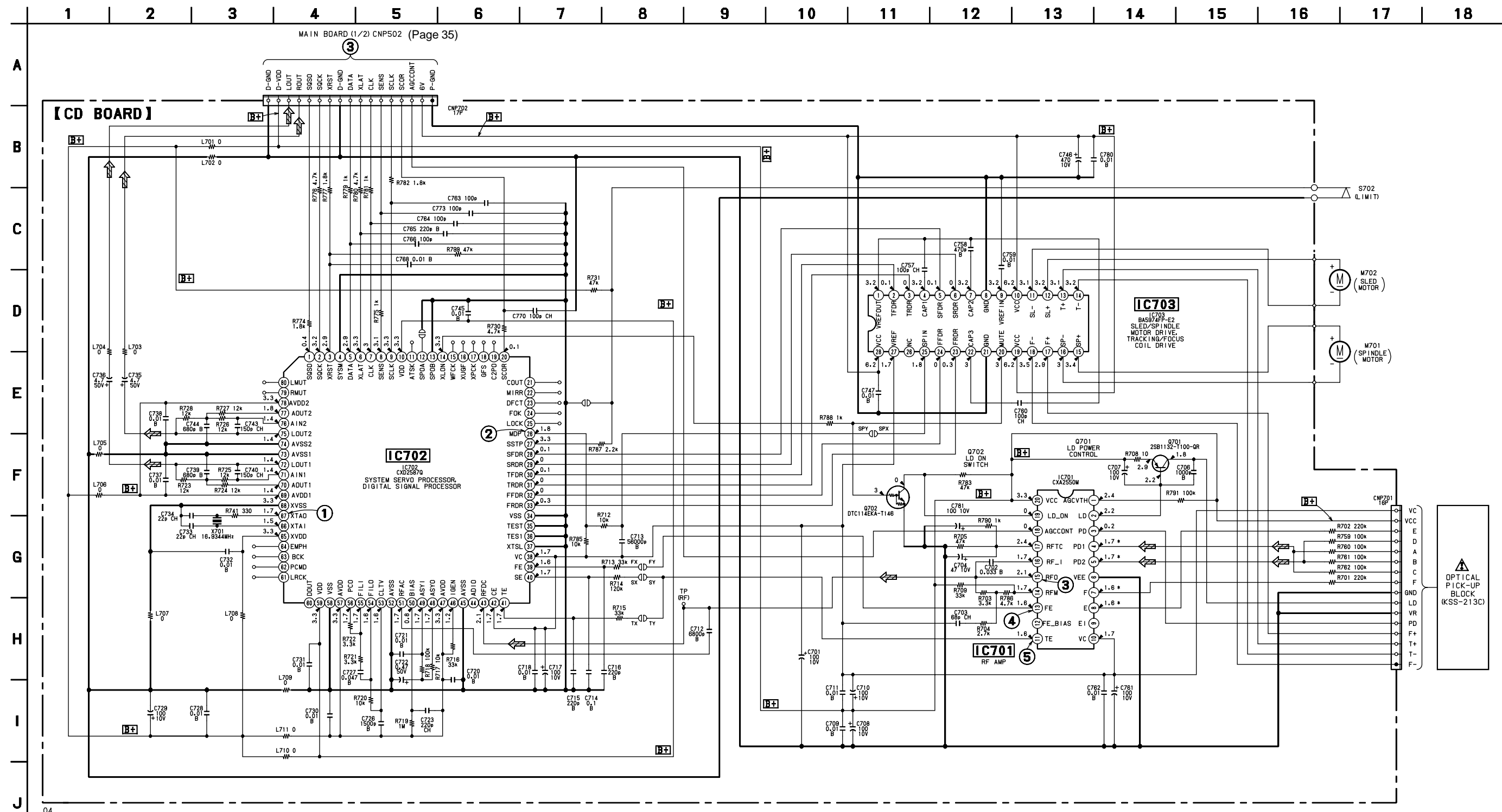
6-7. PRINTED WIRING BOARD — CD SECTION — • Refer to page 18 for Circuit Boards Location.



Note on Printed Wiring Boards:

-  : parts extracted from the component side.
-  : Pattern from the side which enables seeing.



6-8. SCHEMATIC DIAGRAM — CD SECTION — • Refer to page 47 for IC Block Diagrams.




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.

Note:

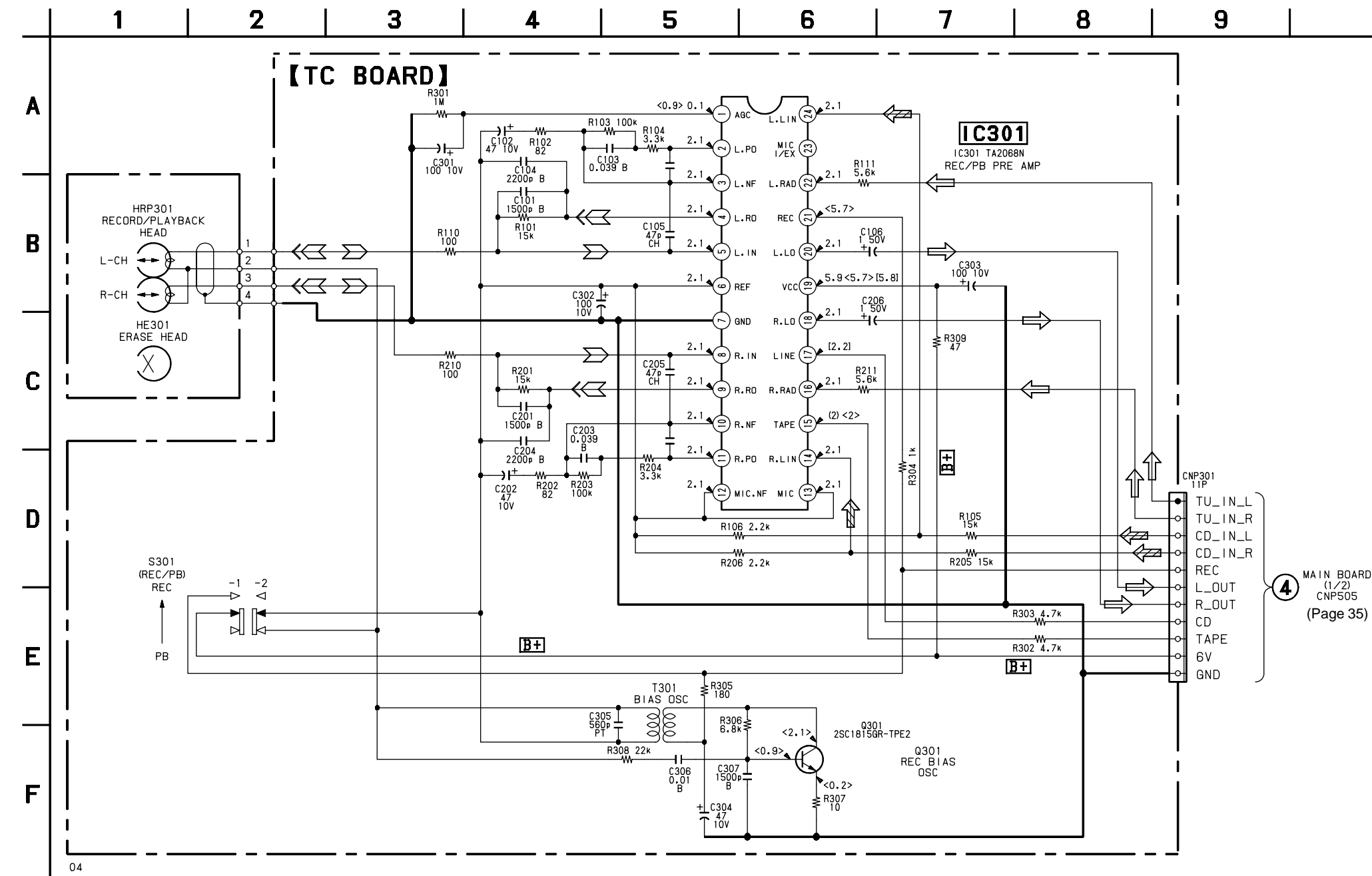
The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

| |
|--------------|
| Note: |
|--------------|

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

- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : CD STOP
* : Impossible to measure
- 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 a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 : CD

6-9. SCHEMATIC DIAGRAM — TC SECTION — • Refer to page 48 for IC Block Diagrams.












- **Semiconductor Location**




| Ref. No. | Location | Ref. No. | Location |
|----------|----------|----------|----------|
| D322 | G-11 | (Q123) | G-11 |
| D323 | H-11 | Q124 | G-12 |
| D324 | B-10 | Q221 | E-11 |
| D504 | C-8 | Q222 | E-11 |
| D505 | C-8 | (Q223) | F-11 |
| (D506) | E-7 | Q224 | G-12 |
| (D507) | E-7 | Q301 | B-2 |
| (D508) | E-8 | Q501 | D-8 |
| D509 | E-8 | Q502 | D-8 |
| D510 | E-8 | Q503 | E-8 |
| D511 | E-8 | Q504 | E-8 |
| D953 | E-13 | Q505 | I-8 |
| D956 | H-11 | Q506 | E-8 |
| D957 | C-13 | Q507 | I-8 |
| | | (Q509) | E-7 |
| IC301 | C-3 | Q510 | D-9 |
| IC302 | E-10 | Q511 | D-7 |
| IC304 | F-12 | Q512 | D-7 |
| IC501 | H-9 | Q513 | B-9 |
| IC502 | H-10 | Q514 | C-8 |
| IC503 | I-8 | Q952 | D-13 |
| IC504 | G-7 | Q953 | D-13 |
| | | Q955 | D-12 |
| Q121 | E-12 | Q957 | C-13 |
| Q122 | E-11 | Q997 | B-13 |

() : CFD-S32 only

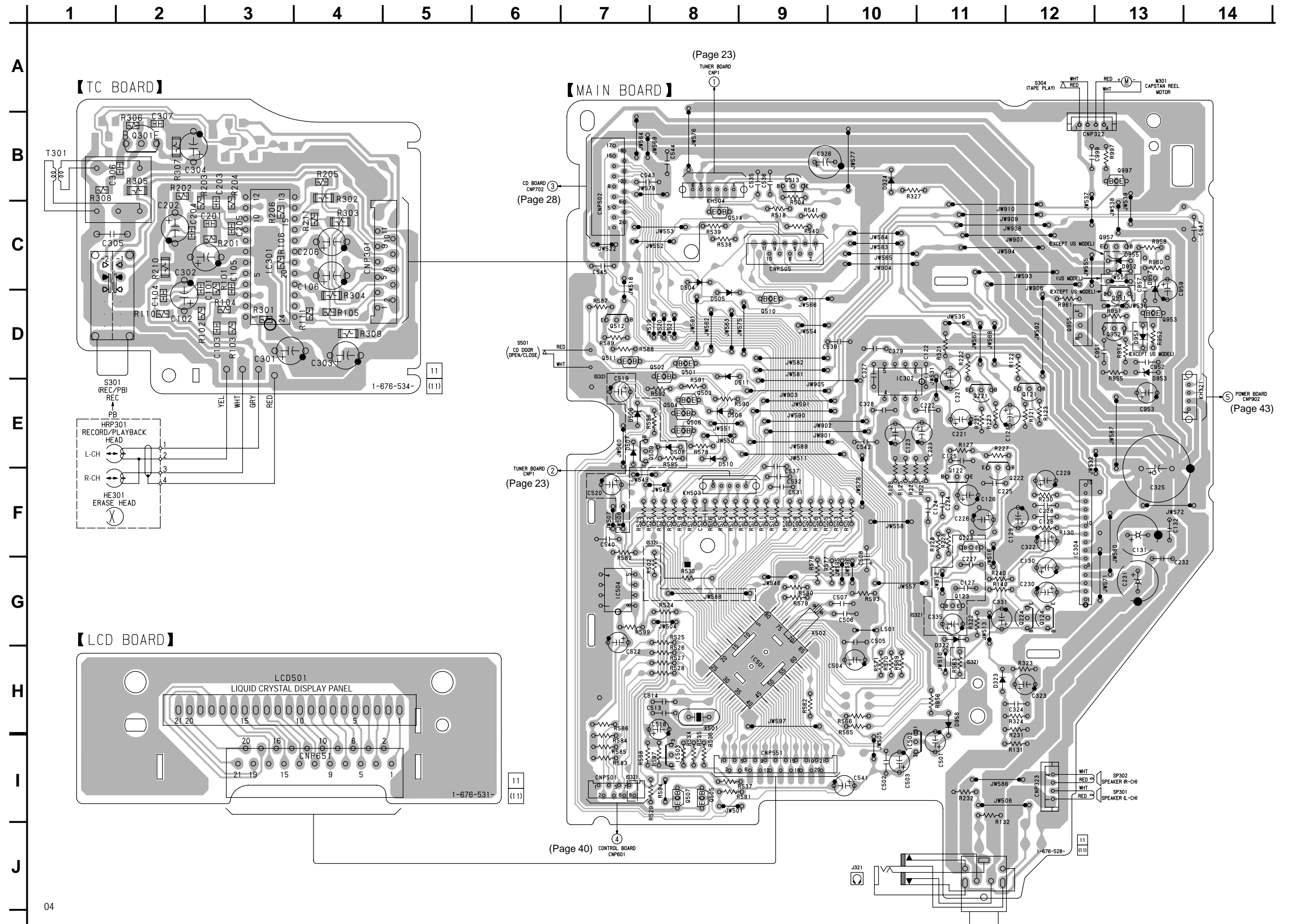
Note on Schematic Diagram:

- 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 $1/4\text{W}$ or less unless otherwise specified.
-  : panel designation.
-  : B+ Line.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- () : PB
- <  > : REC
- [] : CD STOP
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
-  : FM
-  : PB
-  : REC
-  : CD
- Abbreviation
- CND : Canadian model.
- E92 : AC 120V area in E model.
- MX : Mexican model.

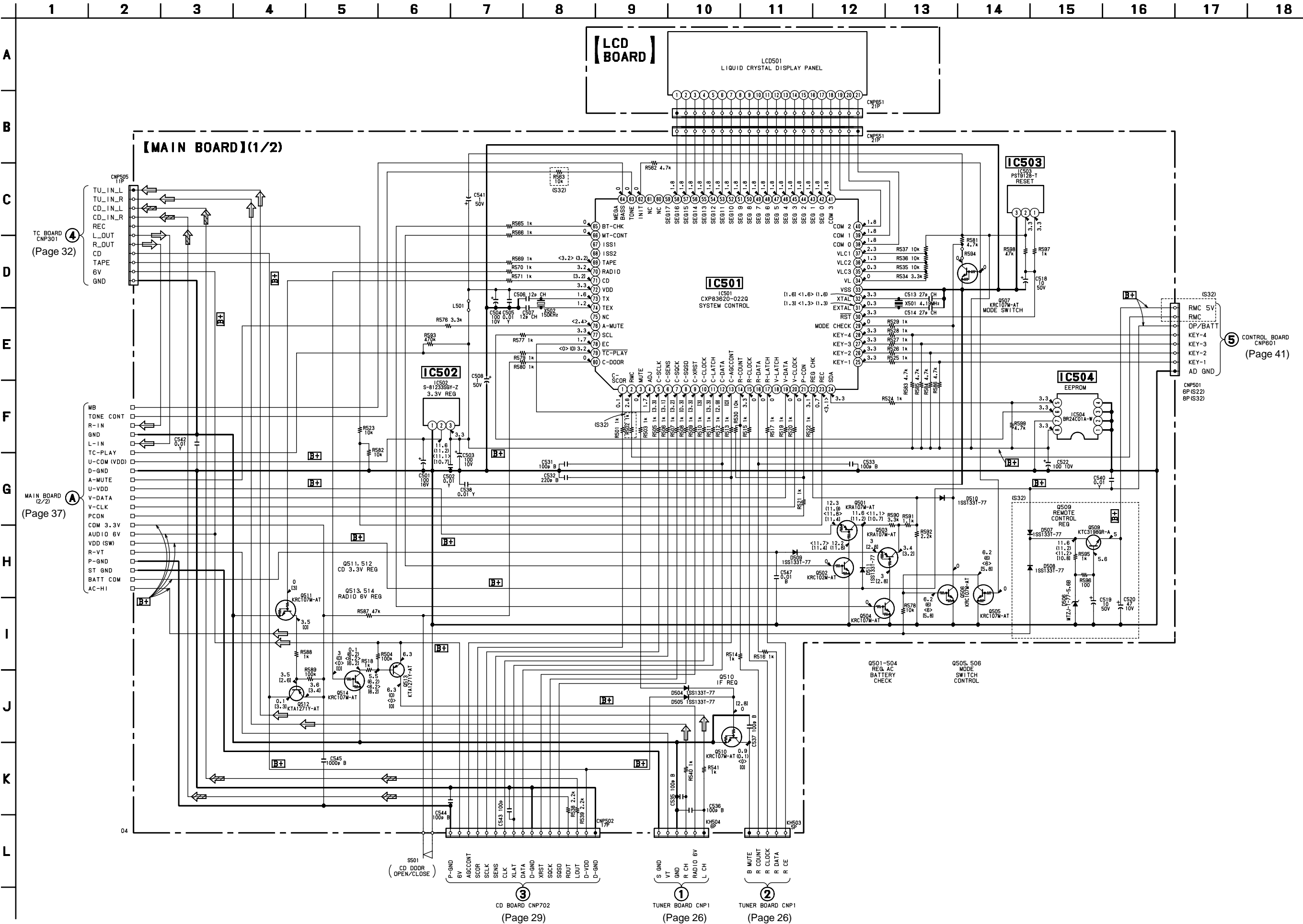
Note on Printed Wiring Boards:

-  : parts extracted from the component side.
-  : parts mounted on the conductor side.
-  : Pattern from the side which enables seeing.
- Abbreviation
 - CND : Canadian model.
 - E92 : AC 120V area in E model.
 - MX : Mexican model.

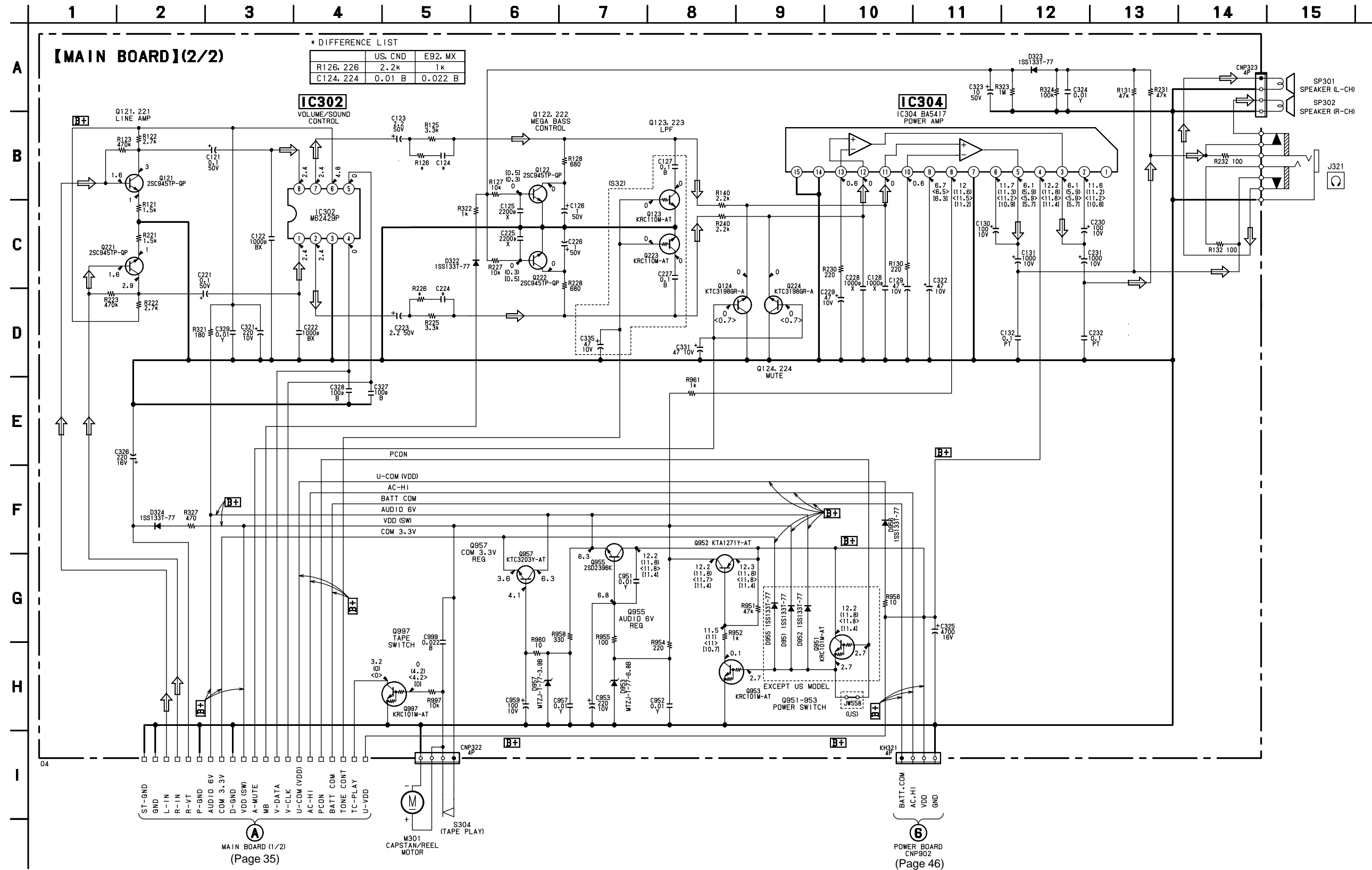
6-10. PRINTED WIRING BOARDS — MAIN SECTION — • Refer to page 18 for Circuit Boards Location.



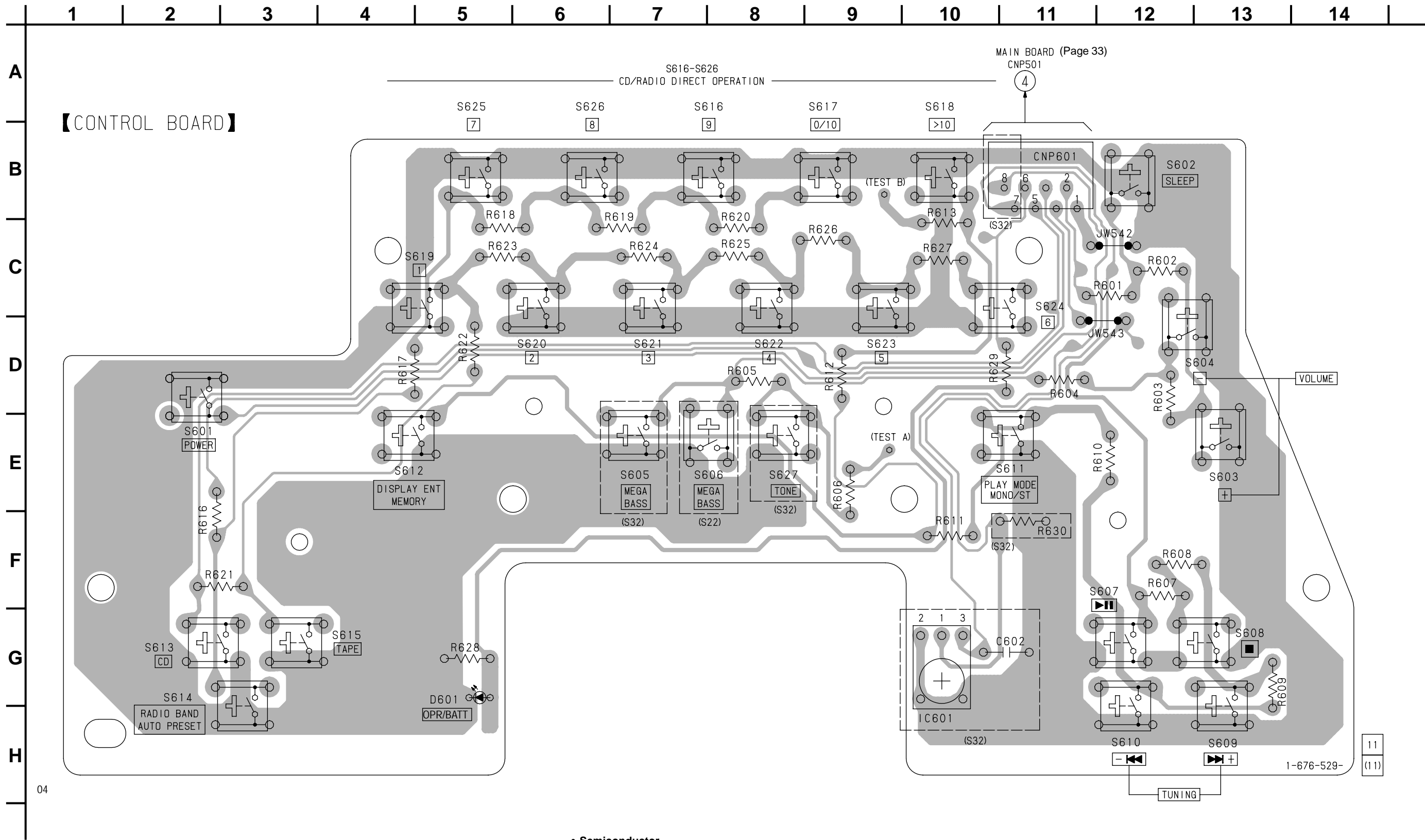
6-11. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) — • Refer to page 32 for Note on Schematic Diagram and page 48 for IC Block Diagrams.



6-12. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 32 for Note on Schematic Diagram and page 48 for IC Block Diagrams.



6-13. PRINTED WIRING BOARD — CONTROL SECTION — • Refer to page 18 for Circuit Boards Location.



• Semiconductor Location

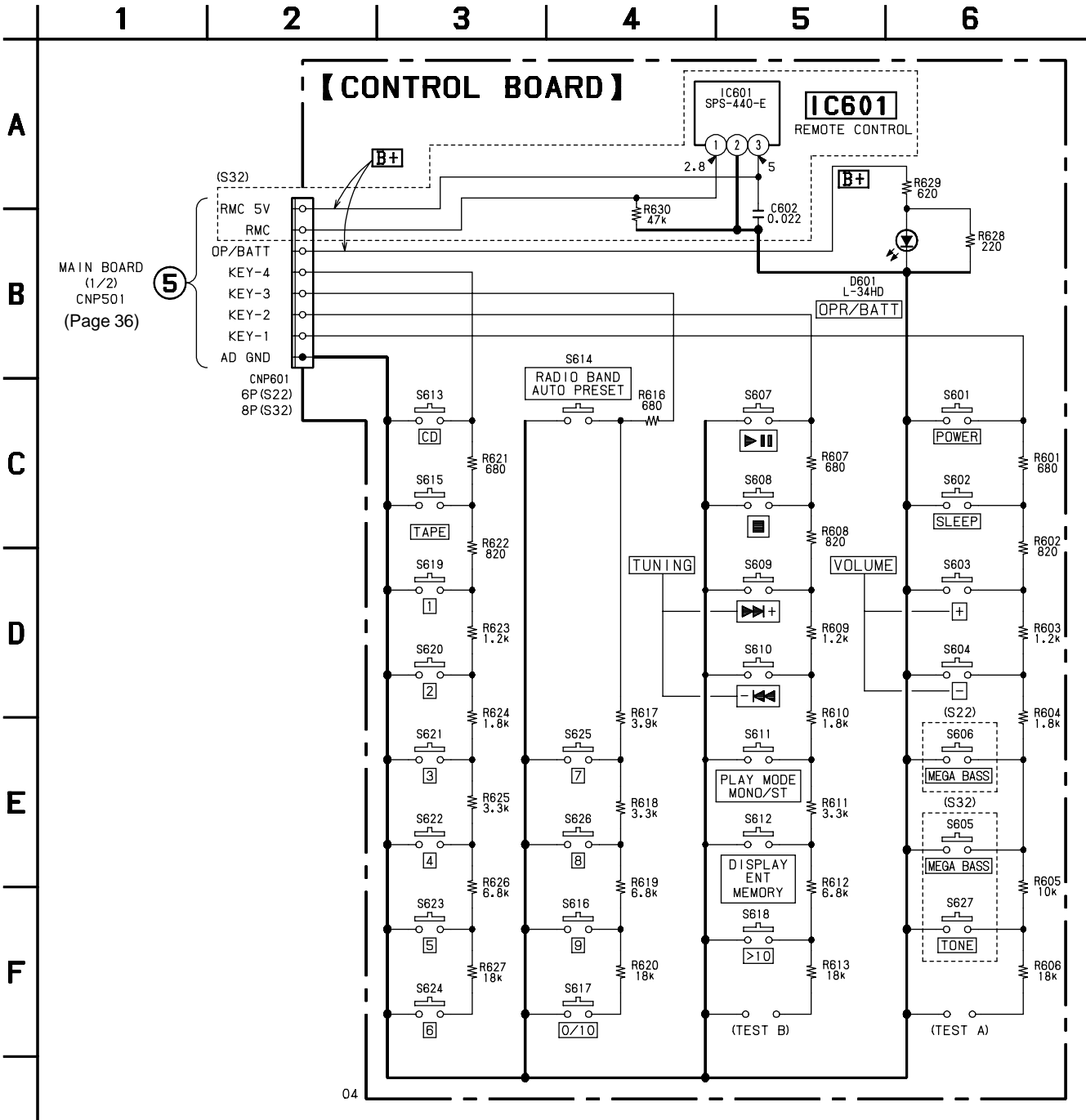
| Ref. No. | Location |
|----------|----------|
| D601 | G-5 |
| (IC601) | G-10 |

() : CFD-S32 only

Note on Printed Wiring Boards:

- : parts extracted from the component side.
- : Pattern from the side which enables seeing.

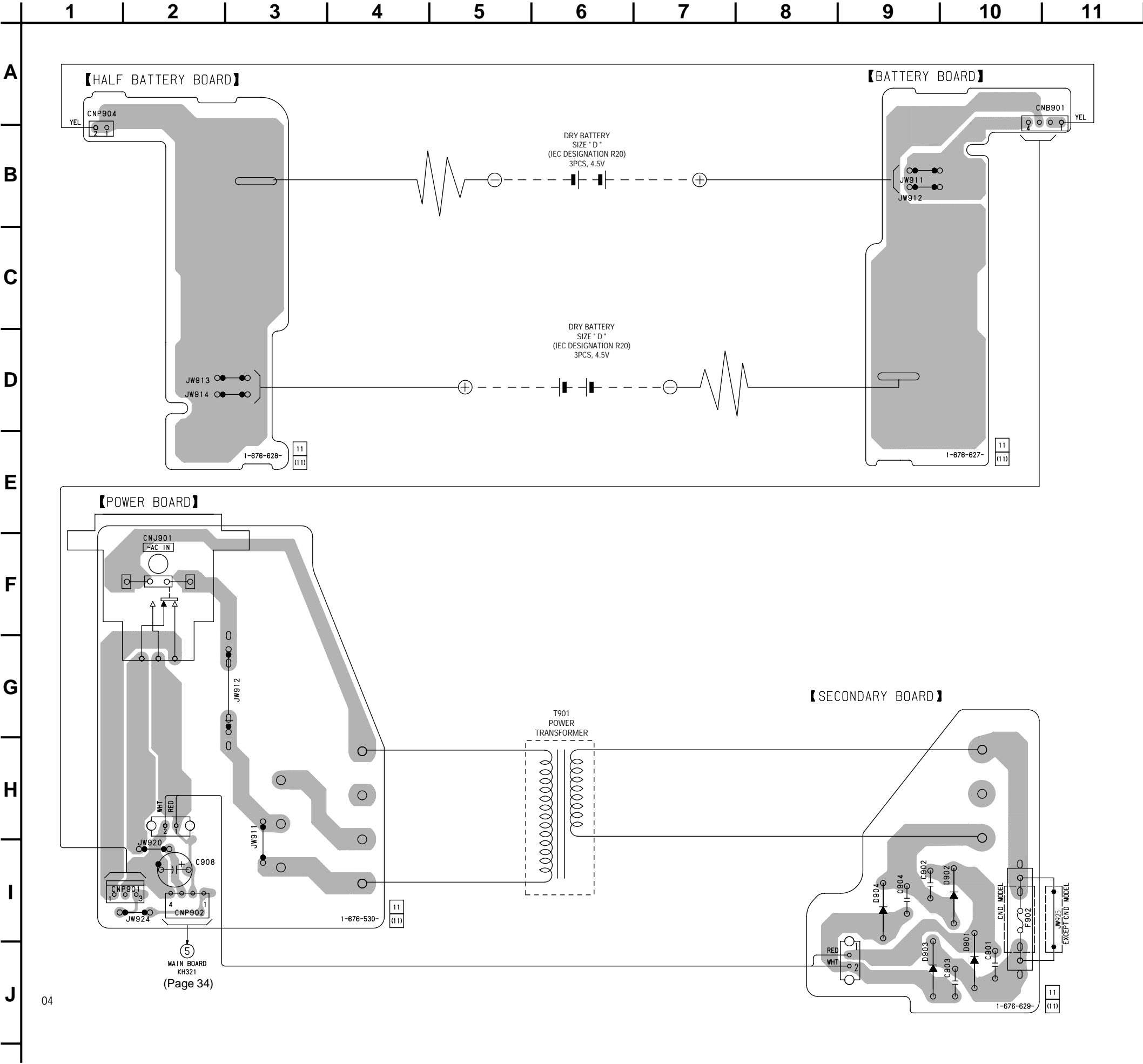
6-14. SCHEMATIC DIAGRAM — CONTORL SECTION —



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.
- : panel designation.
- B+ : B+ Line.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM
- Voltages are taken with a VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.

6-15. PRINTED WIRING BOARDS — POWER SUPPLY SECTION — • Refer to page 18 for Circuit Boards Location.



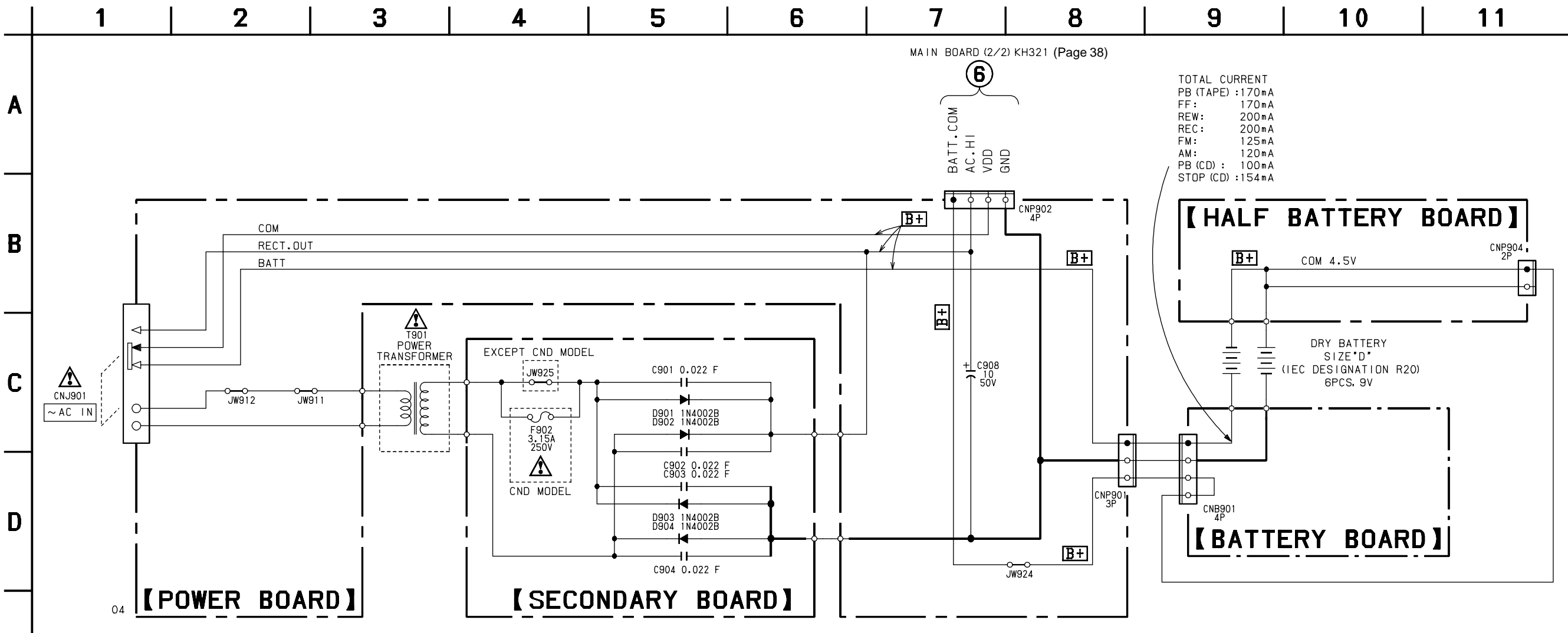
• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D901 | J-10 |
| D902 | I-10 |
| D903 | J-9 |
| D904 | I-9 |

Note on Printed Wiring Boards:

- — : parts extracted from the component side.
- : Pattern from the side which enables seeing.
- Abbreviation
CND : Canadian model.

6-16. SCHEMATIC DIAGRAM — POWER SUPPLY SECTION —



TOTAL CURRENT
PB (TAPE) : 170mA
FF : 170mA
REW : 200mA
REC : 200mA
FM : 125mA
AM : 120mA
PB (CD) : 100mA
STOP (CD) : 154mA

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.
- : panel designation.

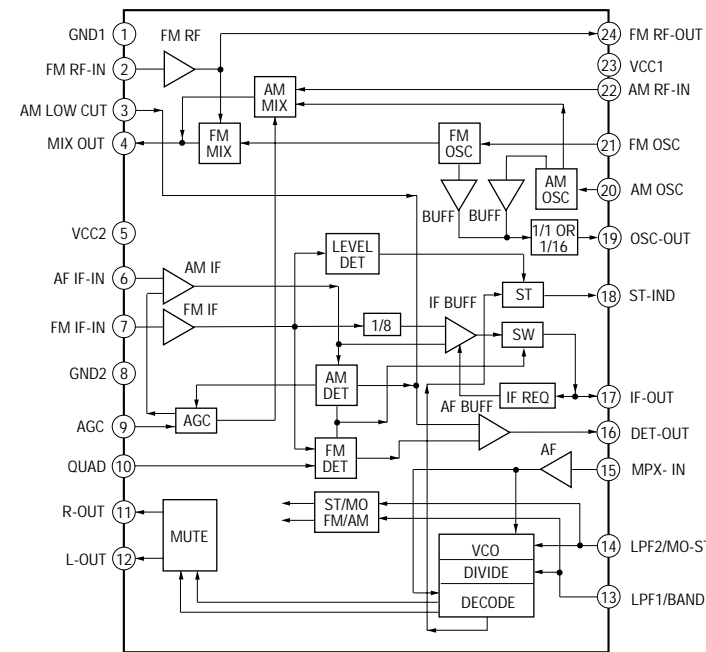
Note:
The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

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

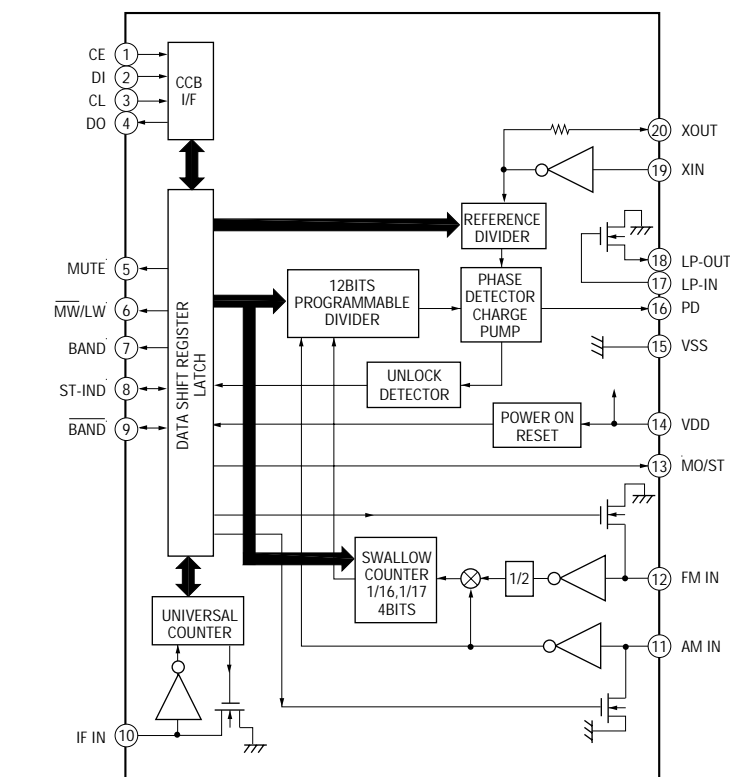
- B+ : B+ Line.
- Total current is measured with no cassette installed.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Abbreviation
CND : Canadian model.

- IC Block Diagrams

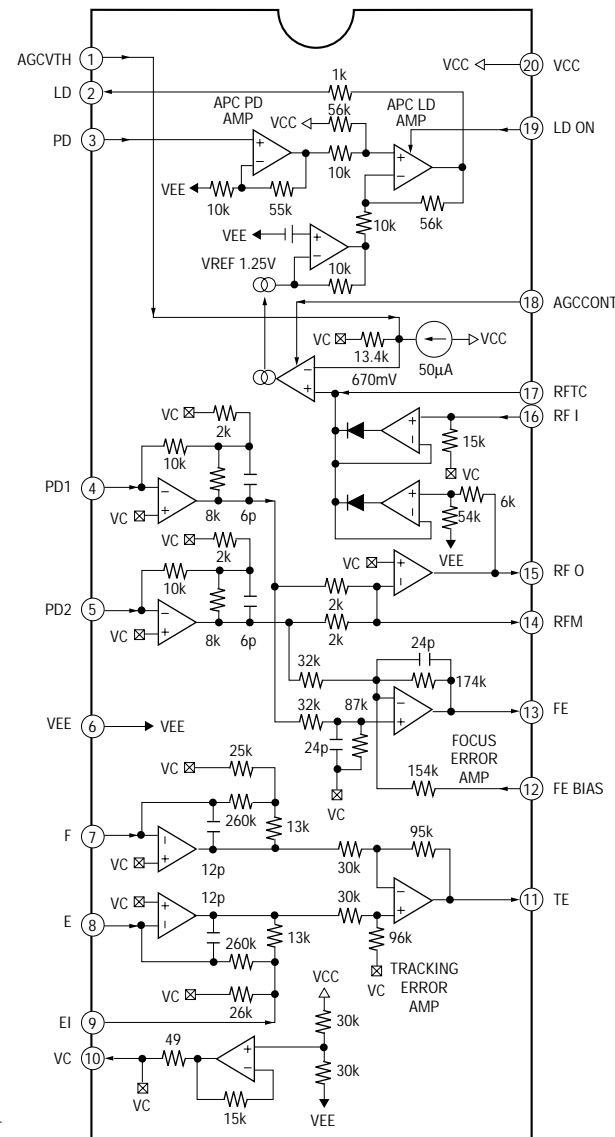
IC1 TA2149N



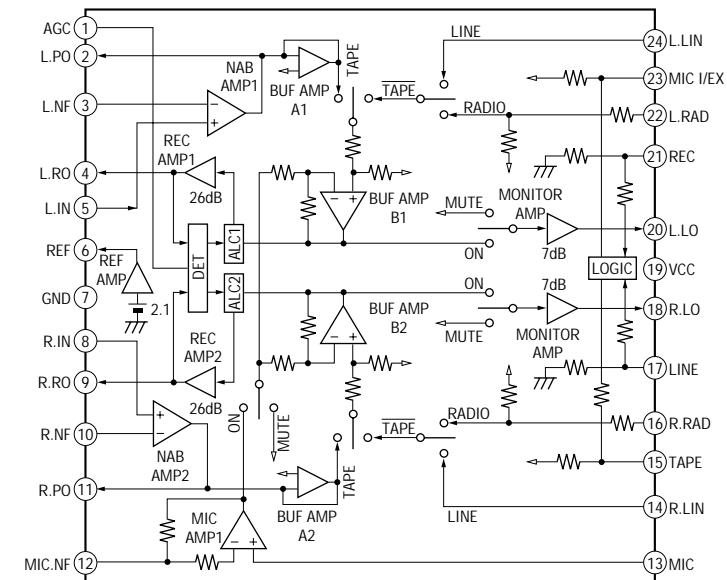
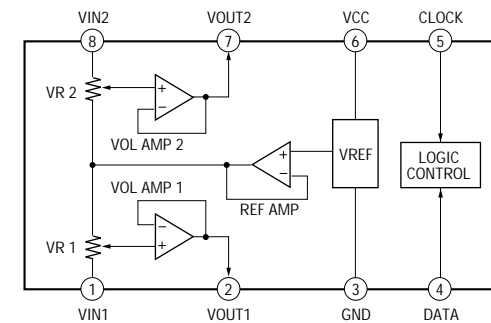
IC2 LC72137M-TLM



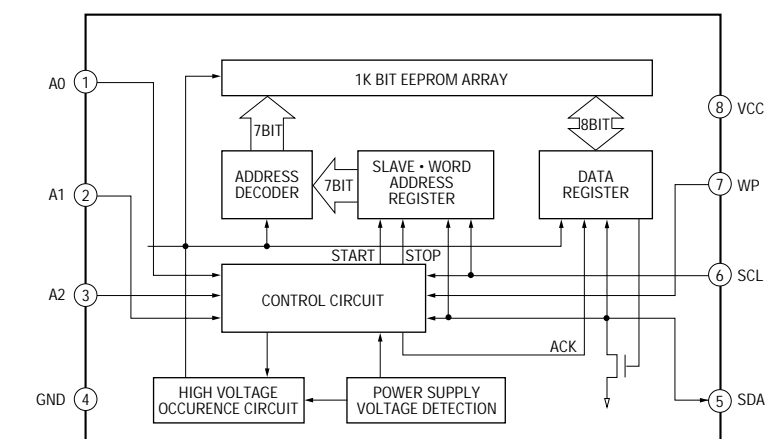
IC701 CXA2550M



IC301 TA2068N

**IC302 M62429P**

IC504 BR2401A-W



The diagram illustrates the internal architecture of the TDA19810 IC, a video decoder and servo controller. The chip is organized into several functional blocks:

- Input/Output and Power:** Pins 1-4 (SOSO, SOCK, XRST, XSYM) connect to the SERIAL IN INTERFACE. Pins 5-8 (DATA, XLAT, CLK, SENS) connect to the CPU INTERFACE. Pins 9-20 (SCLK, VDD, ATSK, SPOA, SPOB, XLOL, WFCF, XUGF, XPCK, GFS, C2PO, SCOR) connect to the CPU INTERFACE and other internal blocks. Pins 21-26 (COUT, MIRR, DFCT, FOK, LOCK, MDP) connect to the MIRR, DFCT, FOK DETECTOR. Pins 27-34 (SSTP, SFDR, SRDR, TFDR, TRDR, FFDR, VSS, TEST, TES1) connect to the PWM GENERATOR and other blocks. Pins 35-40 (VSS, VC, FE, SE) connect to the OPERATIONAL AMPLIFIER ANALOG SWITCH A/D CONVERTER.
- Processing and Control:** The CPU INTERFACE (5-8) is connected to the SUBCODE PROCESSOR, SERVO INTERFACE, and SERVO AUTO SEQUENCER. The SERVO INTERFACE is connected to the SERVO DSP (FOCUS, TRACKING, SLED SERVO) and the PWM GENERATOR (FOCUS, TRACKING, SLED PWM GENERATOR). The SUBCODE PROCESSOR is connected to the DIGITAL PLL and the DIGITAL CLV. The DIGITAL PLL is connected to the DIGITAL OUT and the DIGITAL CLV. The DIGITAL CLV is connected to the MIRR, DFCT, FOK DETECTOR. The DIGITAL OUT is connected to the D/A INTERFACE. The D/A INTERFACE is connected to the TIMING LOGIC. The TIMING LOGIC is connected to the 3rd ORDER NOISE SHAPER. The 3rd ORDER NOISE SHAPER is connected to the OVER SAMPLING DIGITAL FILTER. The OVER SAMPLING DIGITAL FILTER is connected to the SERIAL IN INTERFACE. The SERIAL IN INTERFACE is connected to the CPU INTERFACE. The CPU INTERFACE is connected to the SERVO INTERFACE. The SERVO INTERFACE is connected to the SERVO AUTO SEQUENCER. The SERVO AUTO SEQUENCER is connected to the SERVO DSP. The SERVO DSP is connected to the PWM GENERATOR. The PWM GENERATOR is connected to the OPERATIONAL AMPLIFIER ANALOG SWITCH A/D CONVERTER. The OPERATIONAL AMPLIFIER ANALOG SWITCH A/D CONVERTER is connected to the OUTPUT. The OUTPUT is connected to the DOUT pin (60).
- Other Blocks:** The ERROR CORRECTOR is connected to the DIGITAL PLL. The 16K RAM is connected to the DIGITAL PLL. The ASYMMETRY CORRECTION is connected to the DIGITAL PLL. The DIGITAL PLL is connected to the DIGITAL OUT. The DIGITAL OUT is connected to the DOUT pin (60). The DOUT pin (60) is connected to the DOUT pin (60).

[illegible]

SECTION 7

EXPLODED VIEWS

NOTE:



- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
CND : Canadian model
E92 : AC 120V area in E model
MX : Mexican model


- Color Indication of Appearance Parts
Example :

KNOB, BALANCE (WHITE) ... (RED)

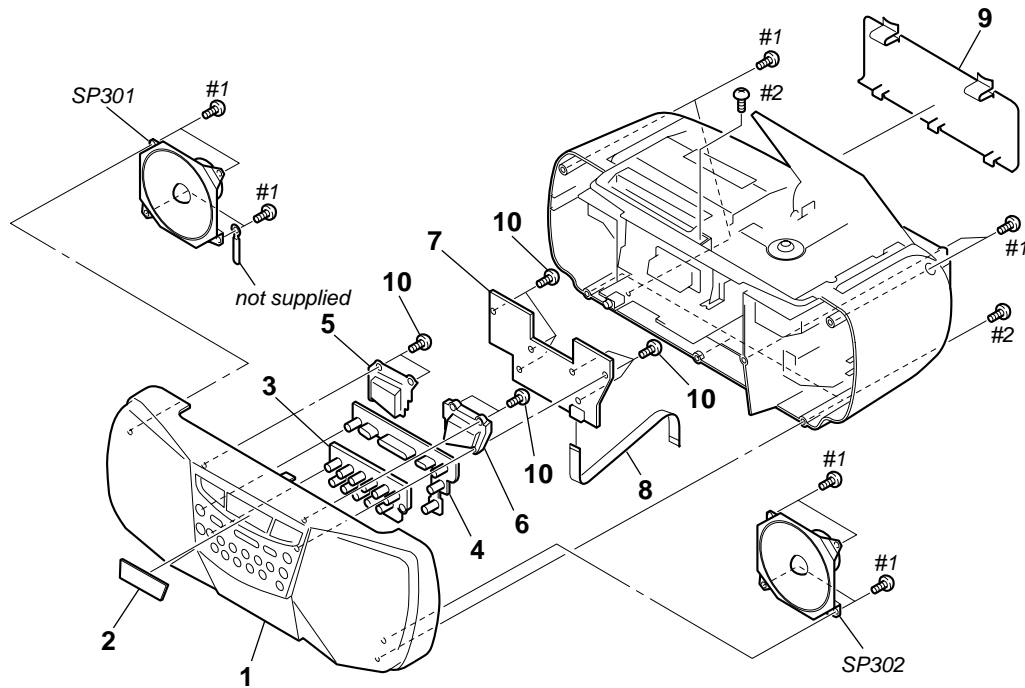
↑ ↑

Parts Color Cabinet's Color
- Accessories and packing materials are given in the last of this parts list.

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

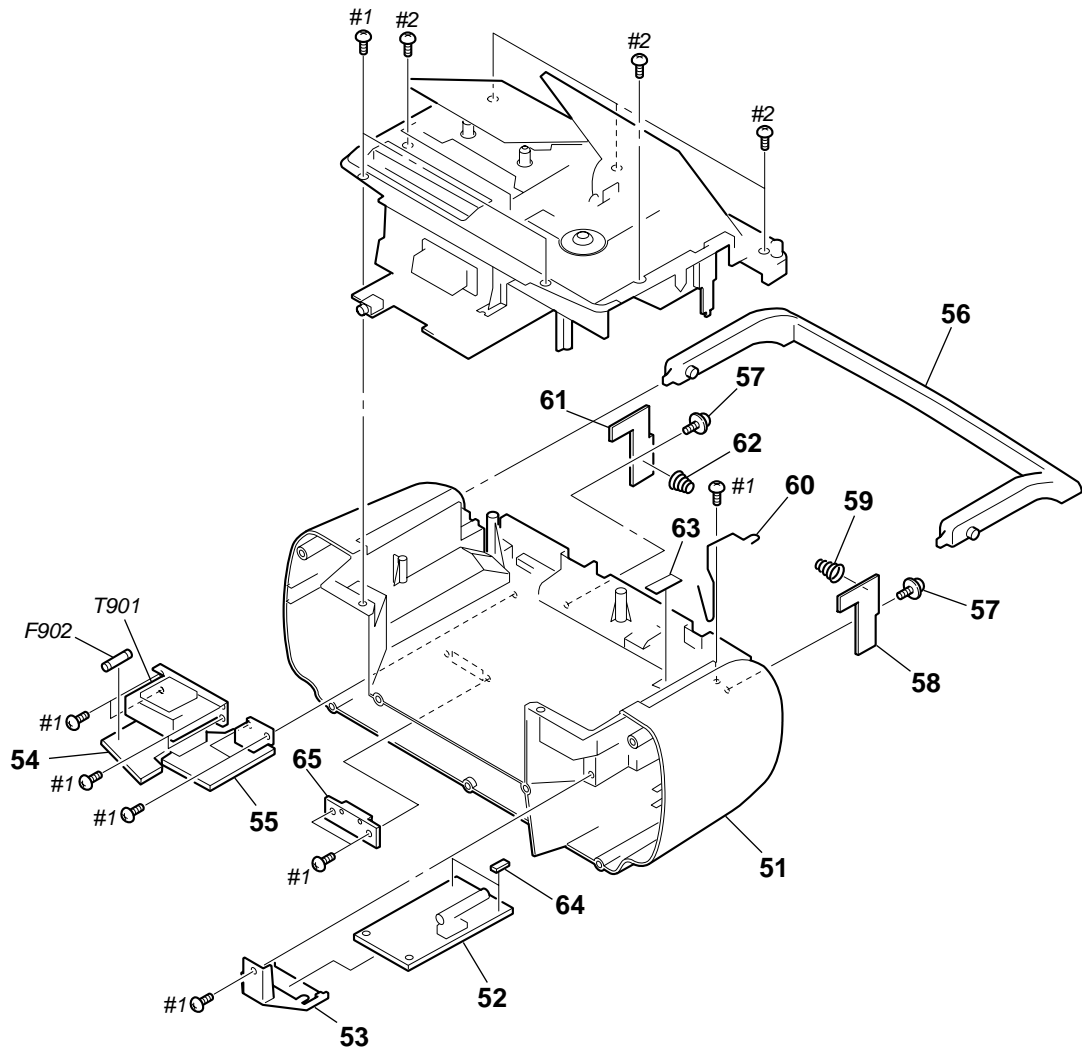
Les composants identifiés par une
marque  sont critiques pour
la sécurité.
Ne les remplacer que par une pièce
portant le numéro spécifié.

7-1. CABINET (FRONT) SECTION



| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Remark</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Remark</u> |
|-----------------|-----------------|--|---------------|-----------------|-----------------|--|---------------|
| 1 | X-3378-329-1 | CABINET (FRONT) SUB ASSY (SILVER)...(SILVER) | | 5 | 3-042-650-01 | BUTTON (CD) (SILVER)...(SILVER) | |
| | | (S22:US) | | 5 | 3-042-650-11 | BUTTON (CD) (BLACK)...(BLACK) (S22:US) | |
| 1 | X-3378-334-1 | CABINET (FRONT) SUB ASSY (SILVER)...(SILVER) | | 5 | 3-042-650-21 | BUTTON (CD) (WHITE)...(WHITE) (US) | |
| | | (S32:US) | | 6 | 3-042-649-01 | BUTTON (FUNCTION) (SILVER)...(SILVER) | |
| 1 | X-3378-562-1 | CABINET (FRONT) SUB ASSY (SILVER)...(SILVER) | | 6 | 3-042-649-11 | BUTTON (FUNCTION) (BLACK)...(BLACK) | |
| | | (S22:CND,E92) | | | | (S22:US) | |
| 1 | X-3378-564-1 | CABINET (FRONT) SUB ASSY (SILVER)...(SILVER) | | | | | |
| | | (S32:CND,E92,MX) | | 6 | 3-042-649-21 | BUTTON (FUNCTION) (WHITE)...(WHITE) (US) | |
| 1 | X-3378-566-1 | CABINET (FRONT) SUB ASSY (BLACK)...(BLACK) | | * 7 | A-3322-447-A | CONTROL BOARD, COMPLETE (S22) | |
| | | (S22:US) | | * 7 | A-3322-470-A | CONTROL BOARD, COMPLETE (S32) | |
| | | | | 8 | 1-792-206-11 | WIRE, PARALLEL (6 CORE) (S22) | |
| 1 | X-3378-567-1 | CABINET (FRONT) SUB ASSY (WHITE)...(WHITE) | | 8 | 1-792-207-11 | WIRE, PARALLEL (8 CORE) (S32) | |
| | | (S22:US) | | | | | |
| 1 | X-3378-729-1 | CABINET (FRONT) SUB ASSY (WHITE)...(WHITE) | | 9 | 3-045-772-01 | LID, BATTERY CASE (SILVER)...(SILVER) | |
| | | (S32:US) | | 9 | 3-926-244-61 | LID, BATTERY CASE (WHITE)...(WHITE) (US) | |
| 2 | 3-042-646-01 | WINDOW (LCD) (S22) | | 9 | 3-926-244-91 | LID, BATTERY CASE (BLACK)...(BLACK) | |
| 2 | 3-042-646-11 | WINDOW (LCD) (S32) | | | | | |
| 3 | 3-042-652-01 | BUTTON (TEN KEY) | | | | | (S22:US) |
| | | | | 10 | 4-951-620-11 | SCREW (2.6X10), +BVTP | |
| | | | | SP301 | 1-529-215-11 | SPEAKER (10cm) (L-CH) (US,CND) | |
| 4 | 3-042-651-01 | BUTTON (POWER) (SILVER)...(SILVER) (S22) | | | | | |
| 4 | 3-042-651-11 | BUTTON (POWER) (SILVER)...(SILVER) (S32) | | SP301 | 1-529-340-11 | SPEAKER (10cm) (L-CH) (E92,MX) | |
| 4 | 3-042-651-21 | BUTTON (POWER) (BLACK)...(BLACK) (S22:US) | | SP302 | 1-529-215-11 | SPEAKER (10cm) (R-CH) (US,CND) | |
| 4 | 3-042-651-31 | BUTTON (POWER) (WHITE)...(WHITE) (S22:US) | | SP302 | 1-529-340-11 | SPEAKER (10cm) (R-CH) (E92,MX) | |
| 4 | 3-042-651-51 | BUTTON (POWER) (WHITE)...(WHITE) (S22:US) | | | | | |

7-2. CABINET (REAR) SECTION

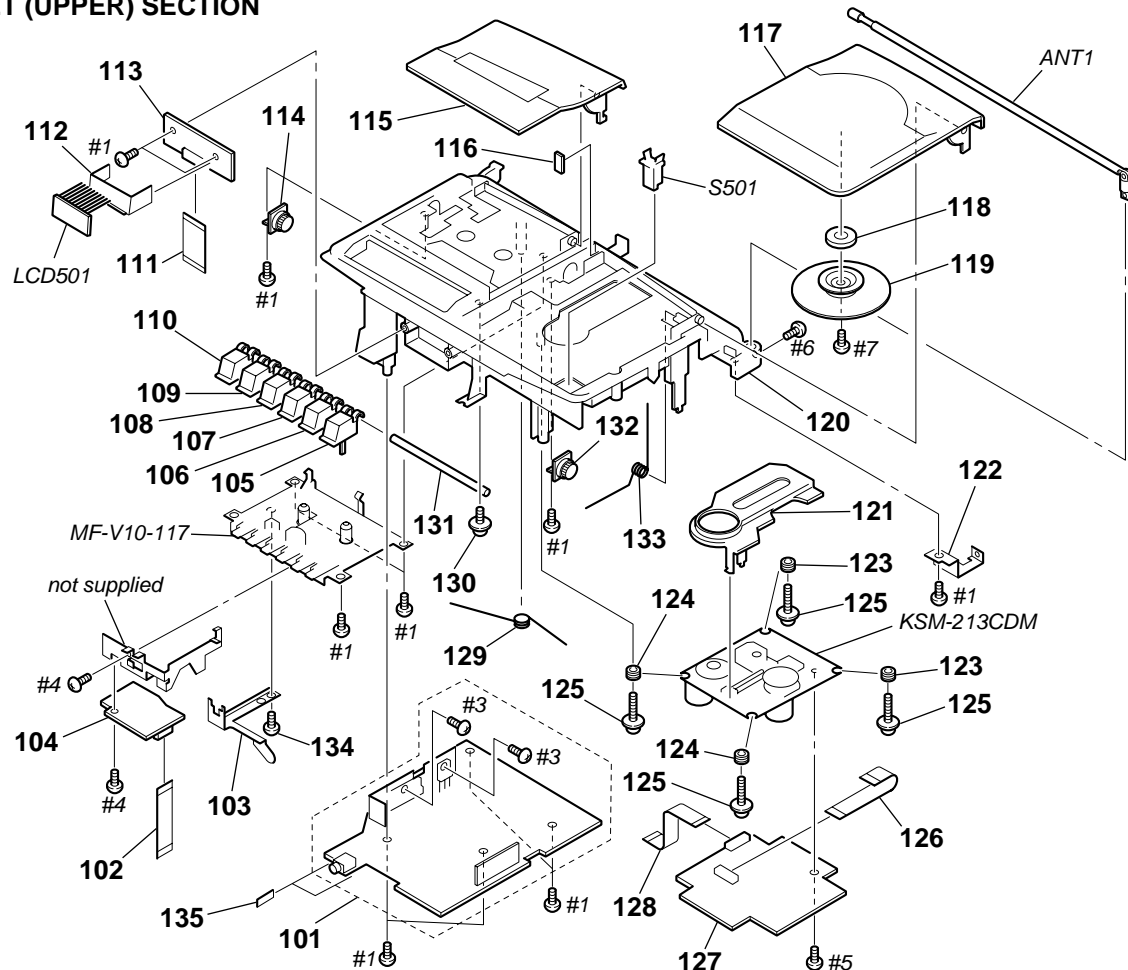


The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

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

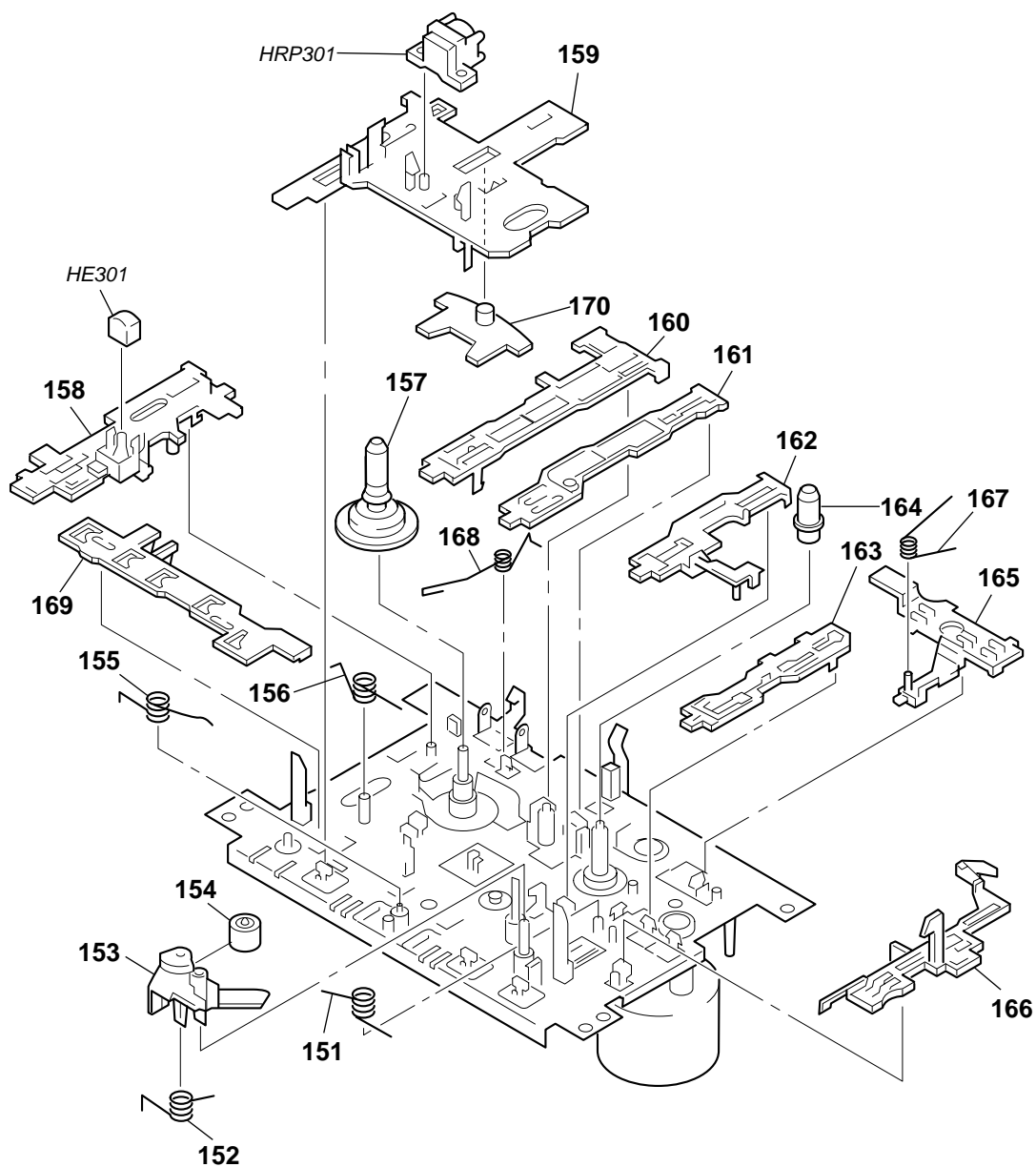
| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|--|--------|---------------|--------------|----------------------------|--------|
| 51 | 3-041-557-01 | CABINET (REAR) (SILVER)...(SILVER) (S22:US) | | 56 | 3-036-886-51 | HANDLE (SILVER)...(SILVER) | |
| 51 | 3-041-557-11 | CABINET (REAR) (SILVER)...(SILVER) (S32:US) | | 57 | 4-960-167-01 | SCREW (3X8) (DIA.10), +WH | |
| 51 | 3-041-557-41 | CABINET (REAR) (SILVER)...(SILVER) (EXCEPT US) | | * 58 | 1-676-628-11 | HALF BATTERY BOARD | |
| 51 | 3-041-557-61 | CABINET (REAR) (BLACK)...(BLACK) (S22:US) | | 59 | 3-028-154-01 | TERMINAL (-), BATT | |
| 51 | 3-041-557-71 | CABINET (REAR) (WHITE)...(WHITE) (S22:US) | | 60 | 3-041-562-01 | TERMINAL (REAR), ANTENNA | |
| 51 | 3-041-557-91 | CABINET (REAR) (WHITE)...(WHITE) (S32:US) | | * 61 | 1-676-627-11 | BATTERY BOARD | |
| * 52 | A-3322-456-A | TUNER BOARD, COMPLETE | | 62 | 3-028-154-01 | TERMINAL (-), BATT | |
| 53 | 3-041-560-01 | HOLDER (PWB) (TU) | | 63 | 3-047-439-01 | CUSHION | |
| * 54 | 1-676-629-11 | SECONDARY BOARD | | 64 | 3-363-898-01 | CUSHION | |
| * 55 | 1-676-530-11 | POWER BOARD | | 65 | 3-034-633-01 | COVER (VOL SEL) | |
| 56 | 3-031-540-01 | HANDLE (BLACK)...(BLACK) (S22:US) | | Δ F902 | 1-576-107-11 | FUSE (3.15A) (CND) | |
| 56 | 3-031-540-21 | HANDLE (WHITE)...(WHITE) (US) | | Δ T901 | 1-433-576-11 | TRANSFORMER, POWER | |

7-3. CABINET (UPPER) SECTION



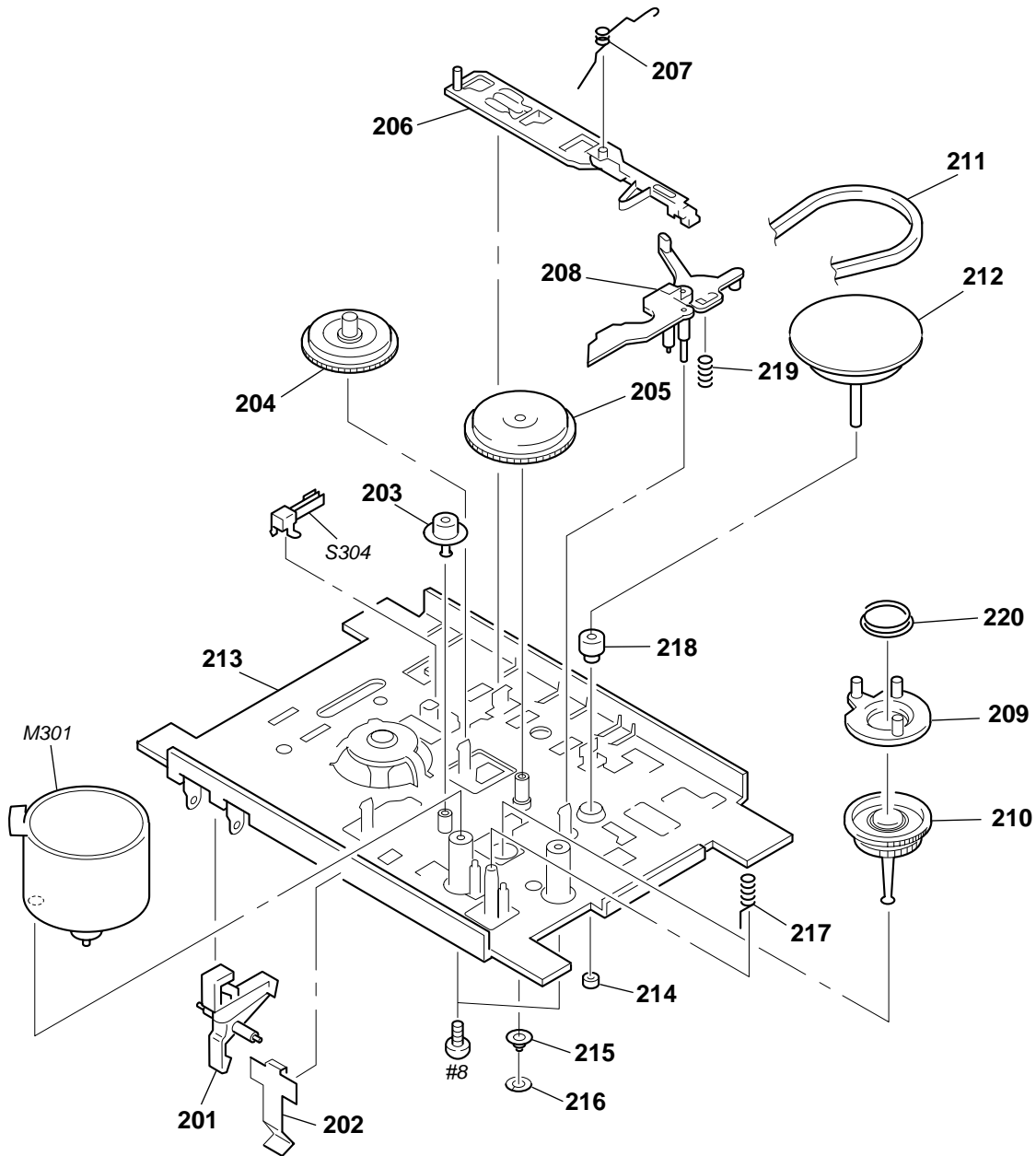
| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|---|--------|----------|--------------|--|-------------|
| * 101 | A-3322-449-A | MAIN BOARD, COMPLETE (S22:US) | | 115 | X-3378-330-1 | HOLDER ASSY, CASSETTE (SILVER)...(SILVER) | |
| * 101 | A-3322-471-A | MAIN BOARD, COMPLETE (S32:US) | | 115 | X-3378-669-1 | HOLDER ASSY, CASSETTE (BLACK)...(BLACK) | (S22:US) |
| * 101 | A-3322-735-A | MAIN BOARD, COMPLETE (S32:E92, MX) | | 115 | X-3378-670-1 | HOLDER ASSY, CASSETTE (WHITE)...(WHITE) | (US) |
| * 101 | A-3322-736-A | MAIN BOARD, COMPLETE (S32:CND) | | 116 | 3-015-345-01 | CUSHION | |
| * 101 | A-3322-738-A | MAIN BOARD, COMPLETE (S22:E92) | | 117 | 3-036-885-61 | LID (CD) (SILVER)...(SILVER) | |
| * 101 | A-3322-739-A | MAIN BOARD, COMPLETE (S22:CND) | | 117 | 3-036-885-81 | LID (CD) (BLACK)...(BLACK) (S22:US) | |
| 102 | 1-792-204-11 | WIRE, PARALLEL (11 CORE) | | 117 | 3-036-885-91 | LID (CD) (WHITE)...(WHITE) (US) | |
| * 103 | 3-041-554-01 | LEVER (REC) | | 118 | 1-452-899-11 | MAGNET | |
| * 104 | A-3322-448-A | TC BOARD, COMPLETE | | 119 | 3-019-395-01 | PLATE, CHUCKING | |
| 105 | 3-045-771-01 | BUTTON (PAUSE) (SILVER)...(SILVER) | | 120 | 3-041-559-01 | CABINET (UPPER) (SILVER)...(SILVER) | |
| 105 | 3-045-771-11 | BUTTON (PAUSE) (BLACK)...(BLACK) (S22:US) | | 120 | 3-041-559-11 | CABINET (UPPER) (BLACK)...(BLACK) (S22:US) | |
| 105 | 3-045-771-21 | BUTTON (PAUSE) (WHITE)...(WHITE) (US) | | 120 | 3-041-559-21 | CABINET (UPPER) (WHITE)...(WHITE) (US) | |
| 106 | 3-045-770-01 | BUTTON (STOP) (SILVER)...(SILVER) | | 121 | 3-923-736-01 | COVER, CD | |
| 106 | 3-045-770-11 | BUTTON (STOP) (BLACK)...(BLACK) (S22:US) | | * 122 | 3-041-561-01 | TERMINAL (TOP), ANTENNA | |
| 106 | 3-045-770-21 | BUTTON (STOP) (WHITE)...(WHITE) (US) | | 123 | 3-038-948-01 | RUBBER, VIBRATION PROOF | |
| 107 | 3-045-769-01 | BUTTON (FF) (SILVER)...(SILVER) | | 124 | 3-038-948-11 | RUBBER, VIBRATION PROOF | |
| 107 | 3-045-769-11 | BUTTON (FF) (BLACK)...(BLACK) (S22:US) | | 125 | 3-921-725-01 | SCREW (2.6X10), +PWH | |
| 107 | 3-045-769-21 | BUTTON (FF) (WHITE)...(WHITE) (US) | | 126 | 1-792-209-11 | WIRE, PARALLEL (16 CORE) | |
| 108 | 3-045-768-01 | BUTTON (REW) (SILVER)...(SILVER) | | * 127 | A-3322-451-A | CD BOARD, COMPLETE | |
| 108 | 3-045-768-11 | BUTTON (REW) (BLACK)...(BLACK) (S22:US) | | 128 | 1-792-208-11 | WIRE, PARALLEL (17 CORE) | |
| 108 | 3-045-768-21 | BUTTON (REW) (WHITE)...(WHITE) (US) | | 129 | 3-031-561-01 | SPRING (CASSETTE) | |
| 109 | 3-045-767-01 | BUTTON (PLAY) (SILVER)...(SILVER) | | 130 | 4-960-167-01 | SCREW (3X8) (DIA.10), +WH | |
| 109 | 3-045-767-11 | BUTTON (PLAY) (BLACK)...(BLACK) (S22:US) | | 131 | 3-031-560-01 | SHAFT (MD) | |
| 109 | 3-045-767-21 | BUTTON (PLAY) (WHITE)...(WHITE) (US) | | 132 | 3-922-112-41 | DAMPER | |
| 110 | 3-045-766-01 | BUTTON (REC) (SILVER)...(SILVER)3 | | 133 | 3-031-562-01 | SPRING (CD) | |
| 110 | 3-045-766-11 | BUTTON (REC) (BLACK)...(BLACK) (S22:US) | | 134 | 4-951-620-01 | SCREW (2.6X8), +BVTP | |
| 110 | 3-045-766-21 | BUTTON (REC) (WHITE)...(WHITE) (US) | | 135 | 3-363-898-01 | CUSHION | |
| 111 | 1-792-205-11 | WIRE, PARALLEL (21 CORE) | | ANT1 | 1-501-883-21 | ANTENNA, TELESCOPIC | |
| * 112 | 3-041-646-01 | HOLDER (LCD) | | LCD501 | 1-803-873-11 | DISPLAY PANEL, LIQUID CRYSTAL | |
| * 113 | 1-676-531-11 | LCD BOARD | | S501 | 1-692-960-11 | SWITCH, PUSH (1 KEY) (CD DOOR | OPEN/CLOSE) |
| 114 | 3-922-112-21 | DAMPER | | | | | |

7-4. TAPE MECHANISM SECTION-1 (MF-V10-117)



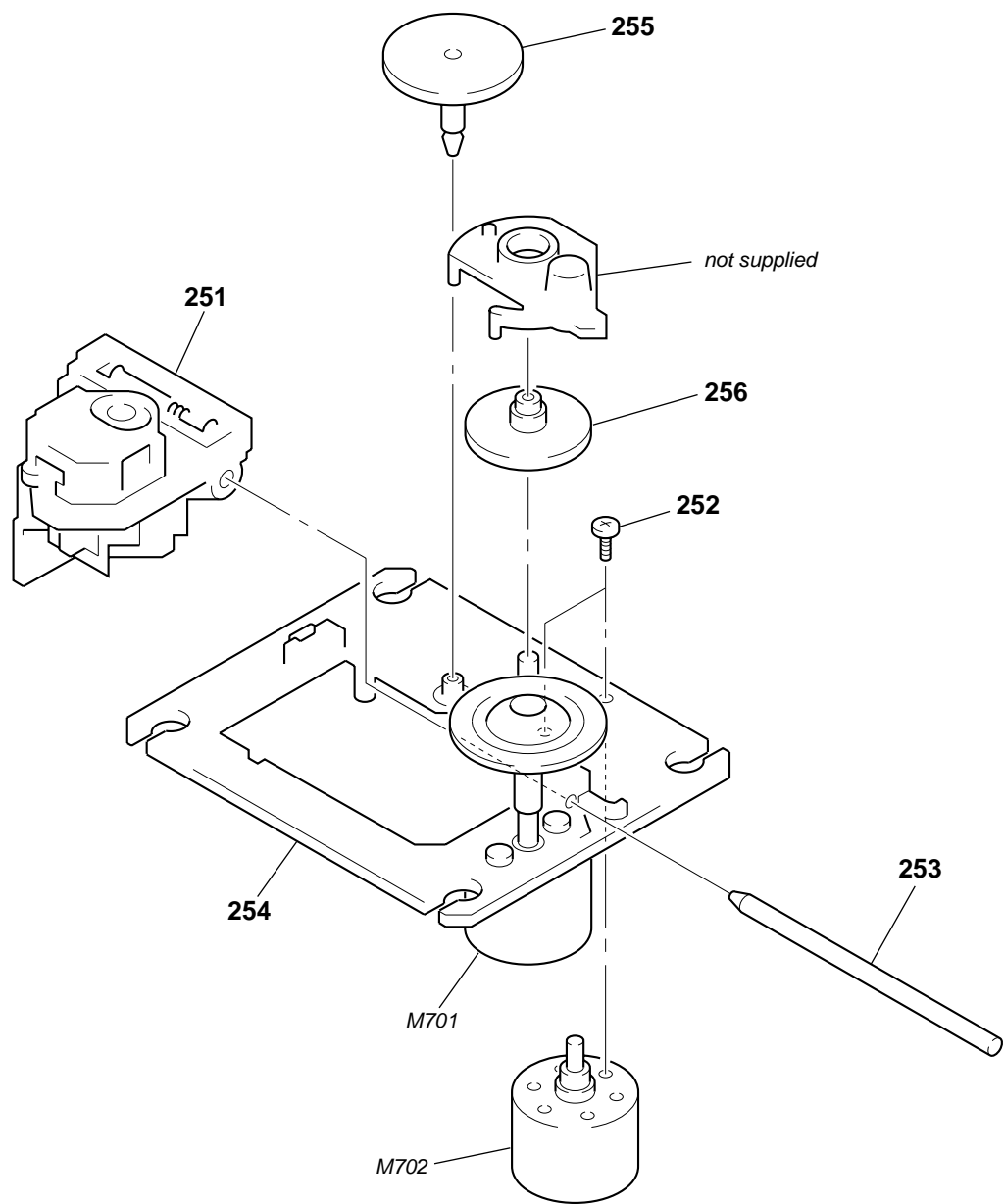
| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|-----------------------|--------|----------|--------------|----------------------------------|--------|
| 151 | 3-933-010-01 | SPRING (S/P), TORSION | | * 162 | 3-008-587-01 | SLIDER (STOP) | |
| 152 | 3-933-025-01 | SPRING (P), TORSION | | * 163 | 3-008-591-01 | SLIDER (PAUSE) | |
| 153 | 3-040-857-01 | LEVER (P) | | 164 | 3-933-004-01 | CLAW, REEL | |
| 154 | 3-933-024-01 | ROLLER, PINCH | | * 165 | 3-933-021-01 | SLIDER (FRP) | |
| 155 | 3-933-019-01 | SPRING (F/R), TORSION | | * 166 | 3-933-006-01 | SLIDER (EJECT) | |
| 156 | 3-933-028-01 | SPRING (FWD), TORSION | | 167 | 3-934-833-01 | SPRING (FRP) | |
| 157 | 3-933-016-01 | GEAR (S REEL) | | 168 | 3-022-794-02 | SPRING (BT) | |
| 158 | 3-008-590-01 | SLIDER (REC) | | 169 | 3-933-007-01 | PLATE, LOCK | |
| 159 | 3-008-592-01 | BASE (H), HEAD | | * 170 | 3-012-114-01 | LEVER (FR) | |
| * 160 | 3-008-588-01 | SLIDER (REW) | | HE301 | 1-543-876-11 | HEAD (ERASE) | |
| * 161 | 3-008-589-13 | SLIDER (FF) | | HRP301 | 1-500-454-11 | HEAD, MAGNETIC (RECORD/PLAYBACK) | |

7-5. TAPE MECHANISM SECTION-2
(MF-V10-117)



| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|---------------------------|--------|----------|--------------|------------------------------|--------|
| 201 | 3-933-029-01 | LEVER, ERASING PREVENTION | | 212 | X-3372-924-1 | FLYWHEEL ASSY | |
| 202 | 3-933-182-01 | SPRING, CASSETTE | | 213 | 3-932-993-01 | CHASSIS, OUTSERT | |
| 203 | 3-932-995-01 | GEAR (MID) | | 214 | 3-343-358-01 | RING, RETAINING | |
| 204 | X-3371-667-1 | CLUTCH ASSY | | 215 | 3-933-005-01 | SPRING (CAM), COMPRESSION | |
| 205 | 3-932-997-01 | GEAR (CAM) | | 216 | 3-016-349-01 | WASHER | |
| * 206 | 3-932-999-01 | SLIDER (SW) | | 217 | 3-937-760-01 | SPRING (GROUND), COMPRESSION | |
| 207 | 3-932-998-01 | SPRING (GROUND), TORSION | | 218 | 3-934-336-01 | BEARING | |
| 208 | 3-009-648-01 | LEVER (S.OFF) | | 219 | 3-939-383-02 | SPRING, COMPRESSION | |
| 209 | 3-936-438-01 | LEVER (K) | | 220 | 3-009-650-02 | SPRING (K), COMPRESSION | |
| 210 | X-3373-572-1 | REEL ASSY (N), T | | M301 | A-3320-446-A | MOTOR ASSY (CAPSTAN/REEL) | |
| 211 | 3-933-020-01 | BELT | | S304 | 1-692-302-11 | SWITCH, LEAF (TAPE PLAY) | |

7-6. OPTICAL PICK-UP SECTION
(KSM-213CDM)



| | |
|--|--|
| The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |
|--|--|

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|-----------------|--------------|--|--------|----------|--------------|------------------------------|--------|
| \triangle 251 | 8-848-483-05 | PICK-UP, OPTICAL KSS-213C/Q-RP | | 255 | 2-626-907-01 | GEAR (A) | |
| 252 | 3-713-786-51 | SCREW +P 2X3 | | 256 | 2-627-003-02 | GEAR (B) (RP) | |
| 253 | 2-626-908-01 | SHAFT, SLED | | M702 | X-2625-769-1 | GEAR ASSY (MB), MOTOR (SLED) | |
| 254 | X-2626-202-1 | CHASSIS ASSY (MB), MOTOR (SPINDLE) (INCLUDING M701) | | | | | |

SECTION 8 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS**
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable
- Abbreviation**
CND : Canadian model
E92 : AC 120V area in E model
MX : Mexican model

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS**
In each case, u : μ , for example:
uA.. : μ A.. uPA.. : μ PA..
uPB.. : μ PB.. uPC.. : μ PC.. uPD.. : μ PD..
- CAPACITORS**
uF : μ F
- COILS**
uH : μ H

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

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

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|-----------------------------|--------|----------|--------------|-----------------------------------|--------|
| * | 1-676-627-11 | BATTERY BOARD ***** | | C740 | 1-163-255-11 | CERAMIC CHIP 150PF 5% | 50V |
| | | | | C743 | 1-163-255-11 | CERAMIC CHIP 150PF 5% | 50V |
| | | | | C744 | 1-163-007-11 | CERAMIC CHIP 680PF 10% | 50V |
| | | | | C745 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V |
| | | | | C746 | 1-126-925-11 | ELECT 470uF 20% | 10V |
| | 3-028-154-01 | TERMINAL (-), BATT ***** | | C747 | 1-163-059-11 | CERAMIC CHIP 0.01uF 10% | 50V |
| * | A-3322-451-A | CD BOARD, COMPLETE ***** | | C757 | 1-163-181-00 | CERAMIC CHIP 100PF 5% | 50V |
| | | < CAPACITOR > | | C758 | 1-163-005-11 | CERAMIC CHIP 470PF 10% | 50V |
| C701 | 1-104-665-11 | ELECT 100uF 20% | 10V | C759 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V |
| C702 | 1-115-185-11 | CERAMIC CHIP 0.033uF 10% | 50V | C760 | 1-163-251-11 | CERAMIC CHIP 100PF 5% | 50V |
| C703 | 1-163-113-00 | CERAMIC CHIP 68PF 5% | 50V | C761 | 1-104-665-11 | ELECT 100uF 20% | 10V |
| C704 | 1-104-664-11 | ELECT 47uF 20% | 10V | C762 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V |
| C706 | 1-163-009-11 | CERAMIC CHIP 0.001uF 10% | 50V | C763 | 1-163-251-11 | CERAMIC CHIP 100PF 5% | 50V |
| C707 | 1-104-665-11 | ELECT 100uF 20% | 10V | C764 | 1-163-251-11 | CERAMIC CHIP 100PF 5% | 50V |
| C708 | 1-104-665-11 | ELECT 100uF 20% | 10V | C765 | 1-163-001-11 | CERAMIC CHIP 220PF 10% | 50V |
| C709 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V | C766 | 1-163-251-11 | CERAMIC CHIP 100PF 5% | 50V |
| C710 | 1-104-665-11 | ELECT 100uF 20% | 10V | C768 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V |
| C711 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V | C770 | 1-163-251-11 | CERAMIC CHIP 100PF 5% | 50V |
| C712 | 1-163-019-00 | CERAMIC CHIP 6800PF 10% | 50V | C773 | 1-163-251-11 | CERAMIC CHIP 100PF 5% | 50V |
| C713 | 1-164-343-11 | CERAMIC CHIP 0.056uF 10% | 25V | C780 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V |
| C714 | 1-104-329-11 | CERAMIC CHIP 0.1uF 10% | 50V | C781 | 1-104-665-11 | ELECT 100uF 20% | 10V |
| C715 | 1-163-189-00 | CERAMIC CHIP 220PF 10% | 50V | | | < CONNECTOR > | |
| C716 | 1-163-001-11 | CERAMIC CHIP 220PF 10% | 50V | CNP701 | 1-779-466-11 | CONNECTOR, FFC (LIF(NON-ZIF)) 16P | |
| C717 | 1-104-665-11 | ELECT 100uF 20% | 10V | CNP702 | 1-784-739-11 | CONNECTOR, FFC 17P | |
| C718 | 1-163-059-11 | CERAMIC CHIP 0.01uF 10% | 50V | | | < IC > | |
| C720 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V | IC701 | 8-752-083-15 | IC CXA2550M | |
| C721 | 1-163-059-11 | CERAMIC CHIP 0.01uF 10% | 50V | IC702 | 8-752-386-85 | IC CXD2587Q | |
| C722 | 1-126-959-11 | ELECT 0.47uF 20% | 50V | IC703 | 8-759-549-28 | IC BA5974FP-E2 | |
| C723 | 1-163-189-00 | CERAMIC CHIP 220PF 5% | 50V | | | < JUMPER RESISTOR > | |
| C726 | 1-163-011-11 | CERAMIC CHIP 0.0015uF 10% | 50V | JC701 | 1-216-296-00 | SHORT 0 | |
| C727 | 1-104-760-11 | CERAMIC CHIP 0.047uF 10% | 50V | JC702 | 1-216-296-00 | SHORT 0 | |
| C728 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V | JC703 | 1-216-296-00 | SHORT 0 | |
| C729 | 1-104-665-11 | ELECT 100uF 20% | 10V | JC704 | 1-216-296-00 | SHORT 0 | |
| C730 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V | JC705 | 1-216-296-00 | SHORT 0 | |
| C731 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V | JC706 | 1-216-296-00 | SHORT 0 | |
| C732 | 1-163-059-11 | CERAMIC CHIP 0.01uF 10% | 50V | JC707 | 1-216-296-00 | SHORT 0 | |
| C733 | 1-163-235-11 | CERAMIC CHIP 22PF 5% | 50V | JC708 | 1-216-296-00 | SHORT 0 | |
| C734 | 1-163-235-11 | CERAMIC CHIP 22PF 5% | 50V | JC709 | 1-216-296-00 | SHORT 0 | |
| C735 | 1-126-963-11 | ELECT 4.7uF 20% | 50V | JC710 | 1-216-296-00 | SHORT 0 | |
| C736 | 1-126-963-11 | ELECT 4.7uF 20% | 50V | JC711 | 1-216-296-00 | SHORT 0 | |
| C737 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V | JC712 | 1-216-296-00 | SHORT 0 | |
| C738 | 1-163-021-11 | CERAMIC CHIP 0.01uF 10% | 50V | | | | |
| C739 | 1-163-007-11 | CERAMIC CHIP 680PF 10% | 50V | | | | |

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|-------------|--------|----------------|--------------|-------------|---------------|
| JC713 | 1-216-295-00 | SHORT | 0 | JC768 | 1-216-296-00 | SHORT | 0 |
| JC714 | 1-216-296-00 | SHORT | 0 | JC769 | 1-216-296-00 | SHORT | 0 |
| JC715 | 1-216-296-00 | SHORT | 0 | JC770 | 1-216-296-00 | SHORT | 0 |
| JC716 | 1-216-296-00 | SHORT | 0 | JC771 | 1-216-296-00 | SHORT | 0 |
| JC717 | 1-216-296-00 | SHORT | 0 | JC772 | 1-216-295-00 | SHORT | 0 |
| JC718 | 1-216-296-00 | SHORT | 0 | JC773 | 1-216-296-00 | SHORT | 0 |
| JC719 | 1-216-296-00 | SHORT | 0 | JC774 | 1-216-296-00 | SHORT | 0 |
| JC720 | 1-216-296-00 | SHORT | 0 | JC775 | 1-216-295-00 | SHORT | 0 |
| JC721 | 1-216-296-00 | SHORT | 0 | JC776 | 1-216-295-00 | SHORT | 0 |
| JC722 | 1-216-296-00 | SHORT | 0 | JC777 | 1-216-295-00 | SHORT | 0 |
| JC723 | 1-216-296-00 | SHORT | 0 | JC778 | 1-216-295-00 | SHORT | 0 |
| JC724 | 1-216-296-00 | SHORT | 0 | < COIL > | | | |
| JC725 | 1-216-296-00 | SHORT | 0 | L701 | 1-216-296-00 | SHORT | 0 |
| JC726 | 1-216-296-00 | SHORT | 0 | L702 | 1-216-296-00 | SHORT | 0 |
| JC727 | 1-216-296-00 | SHORT | 0 | L703 | 1-216-295-00 | SHORT | 0 |
| JC728 | 1-216-296-00 | SHORT | 0 | L704 | 1-216-295-00 | SHORT | 0 |
| JC729 | 1-216-296-00 | SHORT | 0 | L705 | 1-216-296-00 | SHORT | 0 |
| JC730 | 1-216-296-00 | SHORT | 0 | L706 | 1-216-296-00 | SHORT | 0 |
| JC731 | 1-216-296-00 | SHORT | 0 | L707 | 1-216-296-00 | SHORT | 0 |
| JC732 | 1-216-296-00 | SHORT | 0 | L708 | 1-216-296-00 | SHORT | 0 |
| JC733 | 1-216-296-00 | SHORT | 0 | L709 | 1-216-296-00 | SHORT | 0 |
| JC734 | 1-216-296-00 | SHORT | 0 | L710 | 1-216-296-00 | SHORT | 0 |
| JC735 | 1-216-296-00 | SHORT | 0 | L711 | 1-216-296-00 | SHORT | 0 |
| JC736 | 1-216-296-00 | SHORT | 0 | < TRANSISTOR > | | | |
| JC737 | 1-216-296-00 | SHORT | 0 | Q701 | 8-729-903-46 | TRANSISTOR | 2SB1132-P |
| JC738 | 1-216-296-00 | SHORT | 0 | Q702 | 8-729-900-53 | TRANSISTOR | DTC114EK |
| JC739 | 1-216-296-00 | SHORT | 0 | < RESISTOR > | | | |
| JC740 | 1-216-296-00 | SHORT | 0 | R701 | 1-216-254-00 | RES-CHIP | 220K 5% 1/8W |
| JC741 | 1-216-295-00 | SHORT | 0 | R702 | 1-216-254-00 | RES-CHIP | 220K 5% 1/8W |
| JC742 | 1-216-296-00 | SHORT | 0 | R703 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W |
| JC743 | 1-216-296-00 | SHORT | 0 | R704 | 1-216-059-00 | METAL CHIP | 2.7K 5% 1/10W |
| JC744 | 1-216-296-00 | SHORT | 0 | R705 | 1-216-089-11 | RES-CHIP | 47K 5% 1/10W |
| JC745 | 1-216-296-00 | SHORT | 0 | R708 | 1-216-001-00 | METAL CHIP | 10 5% 1/10W |
| JC746 | 1-216-296-00 | SHORT | 0 | R709 | 1-216-234-00 | RES-CHIP | 33K 5% 1/8W |
| JC747 | 1-216-296-00 | SHORT | 0 | R712 | 1-216-222-00 | RES-CHIP | 10K 5% 1/8W |
| JC748 | 1-216-296-00 | SHORT | 0 | R713 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W |
| JC750 | 1-216-295-00 | SHORT | 0 | R714 | 1-216-099-00 | METAL CHIP | 120K 5% 1/10W |
| JC751 | 1-216-296-00 | SHORT | 0 | R715 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W |
| JC752 | 1-216-296-00 | SHORT | 0 | R716 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W |
| JC754 | 1-216-295-00 | SHORT | 0 | R717 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W |
| JC755 | 1-216-296-00 | SHORT | 0 | R718 | 1-216-097-11 | RES-CHIP | 100K 5% 1/10W |
| JC756 | 1-216-296-00 | SHORT | 0 | R719 | 1-216-270-00 | RES-CHIP | 1M 5% 1/8W |
| JC757 | 1-216-296-00 | SHORT | 0 | R720 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W |
| JC758 | 1-216-296-00 | SHORT | 0 | R721 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W |
| JC759 | 1-216-296-00 | SHORT | 0 | R722 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W |
| JC760 | 1-216-296-00 | SHORT | 0 | R723 | 1-216-075-00 | METAL CHIP | 12K 5% 1/10W |
| JC761 | 1-216-296-00 | SHORT | 0 | R724 | 1-216-075-00 | METAL CHIP | 12K 5% 1/10W |
| JC762 | 1-216-296-00 | SHORT | 0 | R725 | 1-216-075-00 | METAL CHIP | 12K 5% 1/10W |
| JC763 | 1-216-296-00 | SHORT | 0 | R726 | 1-216-075-00 | METAL CHIP | 12K 5% 1/10W |
| JC764 | 1-216-295-00 | SHORT | 0 | | | | |
| JC765 | 1-216-295-00 | SHORT | 0 | | | | |
| JC766 | 1-216-296-00 | SHORT | 0 | | | | |
| JC767 | 1-216-296-00 | SHORT | 0 | | | | |

CD

CONTROL

| Ref. No. | Part No. | Description | Remark | | |
|----------|--------------|-------------|--------|----|-------|
| R727 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R728 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R730 | 1-216-065-11 | RES-CHIP | 4.7K | 5% | 1/10W |
| R731 | 1-216-238-11 | RES-CHIP | 47K | 5% | 1/8W |
| R741 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R759 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R760 | 1-216-246-00 | RES-CHIP | 100K | 5% | 1/8W |
| R761 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R762 | 1-216-246-00 | RES-CHIP | 100K | 5% | 1/8W |
| R774 | 1-216-055-00 | RES-CHIP | 1.8K | 5% | 1/10W |
| R775 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R776 | 1-216-065-11 | RES-CHIP | 4.7K | 5% | 1/10W |
| R777 | 1-216-055-00 | RES-CHIP | 1.8K | 5% | 1/10W |
| R779 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R780 | 1-216-065-11 | RES-CHIP | 4.7K | 5% | 1/10W |
| R781 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R782 | 1-216-055-00 | RES-CHIP | 1.8K | 5% | 1/10W |
| R783 | 1-216-089-11 | RES-CHIP | 47K | 5% | 1/10W |
| R785 | 1-216-222-00 | RES-CHIP | 10K | 5% | 1/8W |
| R786 | 1-216-065-11 | RES-CHIP | 4.7K | 5% | 1/10W |
| R787 | 1-216-206-00 | RES-CHIP | 2.2K | 5% | 1/8W |
| R788 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R790 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| R791 | 1-216-246-00 | RES-CHIP | 100K | 5% | 1/8W |
| R799 | 1-216-089-11 | RES-CHIP | 47K | 5% | 1/10W |

< SWITCH >

S702 1-762-812-11 SWITCH, LEAF (LIMIT)

< VIBRATOR >

X701 1-577-253-11 VIBRATOR, CERAMIC (16.9344MHz)

* A-3322-447-A CONTROL BOARD, COMPLETE (S22)

* A-3322-470-A CONTROL BOARD, COMPLETE (S32)

< CAPACITOR >

C602 1-161-494-00 CERAMIC 0.022uF 25V (S32)

< CONNECTOR >

* CNP601 1-770-516-31 CONNECTOR, FFC/FPC 8P (S32)

CNP601 1-770-540-31 CONNECTOR, FFC/FPC 6P (S22)

< DIODE >

D601 8-719-059-97 LED L-34HD (OPR/BATT)

< IC >

IC601 8-749-014-88 IC SPS-440-E (S32)

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Remark</u> | | |
|-----------------|-----------------|--------------------|---------------|----|------|
| < RESISTOR > | | | | | |
| R601 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R602 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R603 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R604 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R605 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| | | | | | |
| R606 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R607 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R608 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R609 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R610 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| | | | | | |
| R611 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R612 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R613 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R616 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R617 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| | | | | | |
| R618 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R619 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R620 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R621 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R622 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| | | | | | |
| R623 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R624 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R625 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R626 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R627 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| | | | | | |
| R628 | 1-247-815-11 | CARBON | 220 | 5% | 1/4W |
| R629 | 1-247-826-00 | CARBON | 620 | 5% | 1/4W |
| R630 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |

(S32)

< SWITCH >

S601 1-762-798-11 SWITCH, KEY BOARD (POWER)

S602 1-762-798-11 SWITCH, KEY BOARD (SLEEP)

S603 1-762-798-11 SWITCH, KEY BOARD (+ VOLUME)

S604 1-762-798-11 SWITCH, KEY BOARD (- VOLUME)

S605 1-762-798-11 SWITCH, KEY BOARD (MEGA BASS) (S32)

S606 1-762-798-11 SWITCH, KEY BOARD (MEGA BASS) (S22)

S607 1-762-798-11 SWITCH, KEY BOARD (▶▶ II)

S608 1-762-798-11 SWITCH, KEY BOARD (■)

S609 1-762-798-11 SWITCH, KEY BOARD (▶▶▶ + TUNING)

S610 1-762-798-11 SWITCH, KEY BOARD (-◀◀ TUNING)

S611 1-762-798-11 SWITCH, KEY BOARD (PLAY MODE MONO/ST)

S612 1-762-798-11 SWITCH, KEY BOARD (DISPLAY ENT MEMORY)

S613 1-762-798-11 SWITCH, KEY BOARD (CD)

S614 1-762-798-11 SWITCH, KEY BOARD (RADIO BAND AUTO PRESET)

S615 1-762-798-11 SWITCH, KEY BOARD (TAPE)

S616 1-762-798-11 SWITCH, KEY BOARD (9)

S617 1-762-798-11 SWITCH, KEY BOARD (0/10)

S618 1-762-798-11 SWITCH, KEY BOARD (>10)

S619 1-762-798-11 SWITCH, KEY BOARD (1)

S620 1-762-798-11 SWITCH, KEY BOARD (2)

CONTROL

HALF BATTERY

LCD

MAIN

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|------------------------------------|--------|----------|--------------|--------------------------|------------------|
| S621 | 1-762-798-11 | SWITCH, KEY BOARD (3) | | C131 | 1-126-926-11 | ELECT 1000uF 20% 10V | |
| S622 | 1-762-798-11 | SWITCH, KEY BOARD (4) | | C132 | 1-136-165-00 | MYLAR 0.1uF 5% 50V | |
| S623 | 1-762-798-11 | SWITCH, KEY BOARD (5) | | C221 | 1-126-956-11 | ELECT 0.1uF 20% 50V | |
| S624 | 1-762-798-11 | SWITCH, KEY BOARD (6) | | C222 | 1-162-294-31 | CERAMIC 0.001uF 10% 50V | |
| S625 | 1-762-798-11 | SWITCH, KEY BOARD (7) | | C223 | 1-126-961-11 | ELECT 2.2uF 20% 50V | |
| S626 | 1-762-798-11 | SWITCH, KEY BOARD (8) | | C224 | 1-127-876-21 | CERAMIC 0.01uF 10% 50V | (EXCEPT E92, MX) |
| S627 | 1-762-798-11 | SWITCH, KEY BOARD (TONE) (S32) | | C224 | 1-127-880-21 | CERAMIC 0.022uF 10% 50V | (E92, MX) |
| ***** | | | | C225 | 1-162-302-11 | CERAMIC 0.0022uF 30% 16V | |
| * | 1-676-628-11 | HALF BATTERY BOARD | ***** | C226 | 1-126-960-11 | ELECT 1uF 20% 50V | |
| | 3-028-154-01 | TERMINAL (-), BATT | | C227 | 1-127-888-21 | CERAMIC 0.1uF 10% 50V | (S32) |
| | | < CONNECTOR > | | C228 | 1-162-294-31 | CERAMIC 0.001uF 10% 50V | |
| * CNP904 | 1-580-163-11 | PIN, CONNECTOR (PC BOARD) 2P | | C229 | 1-104-664-11 | ELECT 47uF 20% 10V | |
| ***** | | | | C230 | 1-104-665-11 | ELECT 100uF 20% 10V | |
| * | 1-676-531-11 | LCD BOARD | ***** | C231 | 1-126-926-11 | ELECT 1000uF 20% 10V | |
| | 3-041-646-01 | HOLDER (LCD) | | C232 | 1-136-165-00 | MYLAR 0.1uF 5% 50V | |
| | | < CONNECTOR > | | C321 | 1-126-934-11 | ELECT 220uF 20% 10V | |
| CNP651 | 1-568-864-11 | CONNECTOR, FFC 21P | | C322 | 1-104-664-11 | ELECT 47uF 20% 10V | |
| | | < LIQUID CRYSTAL DISPLAY > | | C323 | 1-126-964-11 | ELECT 10uF 20% 50V | |
| LCD501 | 1-803-873-11 | DISPLAY PANEL, LIQUID CRYSTAL | | C324 | 1-162-306-11 | CERAMIC 0.01uF 20% 16V | |
| ***** | | | | C325 | 1-126-937-11 | ELECT 4700uF 20% 16V | |
| * | A-3322-449-A | MAIN BOARD, COMPLETE (S22:US) | | C326 | 1-126-934-11 | ELECT 220uF 20% 16V | |
| * | A-3322-471-A | MAIN BOARD, COMPLETE (S32:US) | | C327 | 1-162-282-31 | CERAMIC 100PF 10% 50V | |
| * | A-3322-735-A | MAIN BOARD, COMPLETE (S32:E92, MX) | | C328 | 1-162-282-31 | CERAMIC 100PF 10% 50V | |
| * | A-3322-736-A | MAIN BOARD, COMPLETE (S32:CND) | | C329 | 1-162-306-11 | CERAMIC 0.01uF 20% 16V | |
| * | A-3322-738-A | MAIN BOARD, COMPLETE (S22:E92) | | C331 | 1-104-664-11 | ELECT 47uF 20% 10V | |
| * | A-3322-739-A | MAIN BOARD, COMPLETE (S22:CND) | ***** | C335 | 1-104-664-11 | ELECT 47uF 20% 10V | (S32) |
| | 7-685-645-79 | SCREW +BVTP 3X6 TYPE2 N-S | | C501 | 1-126-933-11 | ELECT 100uF 20% 16V | |
| | | < CAPACITOR > | | C502 | 1-162-306-11 | CERAMIC 0.01uF 20% 16V | |
| C121 | 1-126-956-11 | ELECT 0.1uF 20% 50V | | C503 | 1-104-665-11 | ELECT 100uF 20% 10V | |
| C122 | 1-162-294-31 | CERAMIC 0.001uF 10% 50V | | C504 | 1-104-665-11 | ELECT 100uF 20% 10V | |
| C123 | 1-126-961-11 | ELECT 2.2uF 20% 50V | | C505 | 1-162-306-11 | CERAMIC 0.01uF 20% 16V | |
| C124 | 1-127-876-21 | CERAMIC 0.01uF 10% 50V | | C506 | 1-162-201-31 | CERAMIC 12PF 5% 50V | |
| | | (EXCEPT E92, MX) | | C507 | 1-162-201-31 | CERAMIC 12PF 5% 50V | |
| C124 | 1-127-880-21 | CERAMIC 0.022uF 10% 50V | | C508 | 1-126-960-11 | ELECT 1uF 20% 50V | |
| | | (E92, MX) | | C513 | 1-128-802-21 | CERAMIC 27PF 5% 50V | |
| C125 | 1-162-302-11 | CERAMIC 0.0022uF 30% 16V | | C514 | 1-128-802-21 | CERAMIC 27PF 5% 50V | |
| C126 | 1-126-960-11 | ELECT 1uF 20% 50V | | C518 | 1-126-964-11 | ELECT 10uF 20% 50V | |
| C127 | 1-127-888-21 | CERAMIC 0.1uF 10% 50V | | C519 | 1-126-964-11 | ELECT 10uF 20% 50V | (S32) |
| | | (S32) | | C520 | 1-104-664-11 | ELECT 47uF 20% 10V | (S32) |
| C128 | 1-162-294-31 | CERAMIC 0.001uF 10% 50V | | C522 | 1-104-665-11 | ELECT 100uF 20% 10V | |
| C129 | 1-104-664-11 | ELECT 47uF 20% 10V | | C531 | 1-162-282-31 | CERAMIC 100PF 10% 50V | |
| C130 | 1-104-665-11 | ELECT 100uF 20% 10V | | C532 | 1-162-286-21 | CERAMIC 220PF 10% 50V | |
| | | | | C533 | 1-162-282-31 | CERAMIC 100PF 10% 50V | |
| | | | | C534 | 1-162-294-31 | CERAMIC 0.001uF 10% 50V | |
| | | | | C535 | 1-162-282-31 | CERAMIC 100PF 10% 50V | |
| | | | | C536 | 1-162-282-31 | CERAMIC 100PF 10% 50V | |
| | | | | C537 | 1-162-282-31 | CERAMIC 100PF 10% 50V | |
| | | | | C538 | 1-162-306-11 | CERAMIC 0.01uF 20% 16V | |

MAIN

| Ref. No. | Part No. | Description | Remark | | |
|---------------|--------------|------------------------------|------------------------|-----|-----|
| C540 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C541 | 1-126-960-11 | ELECT | 1uF | 20% | 50V |
| C542 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C543 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C544 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C545 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C547 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C951 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C952 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C953 | 1-126-934-11 | ELECT | 220uF | 20% | 10V |
| C957 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C959 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C999 | 1-127-880-21 | CERAMIC | 0.022uF | 10% | 50V |
| < CONNECTOR > | | | | | |
| CNP322 | 1-506-986-11 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| CNP323 | 1-506-986-11 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| CNP501 | 1-691-040-31 | CONNECTOR, FFC 8P (S32) | | | |
| CNP501 | 1-784-767-11 | CONNECTOR, FFC 6P (S22) | | | |
| CNP502 | 1-784-739-11 | CONNECTOR, FFC 17P | | | |
| CNP505 | 1-568-830-11 | CONNECTOR, FFC 11P | | | |
| CNP551 | 1-784-782-11 | CONNECTOR, FFC 21P | | | |
| < DIODE > | | | | | |
| D322 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D323 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D324 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D504 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D505 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D506 | 8-719-109-89 | DIODE | RD5.6ESB2 (S32) | | |
| D507 | 8-719-991-33 | DIODE | 1SS133T-77 (S32) | | |
| D508 | 8-719-991-33 | DIODE | 1SS133T-77 (S32) | | |
| D509 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D510 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D511 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D951 | 8-719-991-33 | DIODE | 1SS133T-77 (EXCEPT US) | | |
| D952 | 8-719-991-33 | DIODE | 1SS133T-77 (EXCEPT US) | | |
| D953 | 8-719-109-97 | DIODE | RD6.8ES-B2 | | |
| D955 | 8-719-991-33 | DIODE | 1SS133T-77 (EXCEPT US) | | |
| D956 | 8-719-991-33 | DIODE | 1SS133T-77 | | |
| D957 | 8-719-109-72 | DIODE | RD3.9ES-B2 | | |
| < IC > | | | | | |
| IC302 | 8-759-539-45 | IC | M62429P | | |
| IC304 | 8-759-426-51 | IC | BA5417 | | |
| IC501 | 8-752-915-52 | IC | CXP83620-022Q | | |
| IC502 | 8-759-658-46 | IC | S81233SGY-Z | | |
| IC503 | 8-759-645-87 | IC | PST9128-T | | |
| IC504 | 8-759-641-21 | IC | BR24C01A-W | | |
| < JACK > | | | | | |
| J321 | 1-779-050-11 | JACK (♂) | | | |

| Ref. No. | Part No. | Description | Remark | | |
|------------------|--------------|------------------|------------------------|----|------|
| < CABLE HOLDER > | | | | | |
| * KH321 | 1-565-385-11 | HOLDER, CABLE 4P | | | |
| * KH503 | 1-565-386-11 | HOLDER, CABLE 5P | | | |
| < TRANSISTOR > | | | | | |
| Q121 | 8-729-194-57 | TRANSISTOR | 2SC945-P | | |
| Q122 | 8-729-194-57 | TRANSISTOR | 2SC945-P | | |
| Q123 | 8-729-036-80 | TRANSISTOR | KRC110M (S32) | | |
| Q124 | 8-729-036-89 | TRANSISTOR | KTC3198GR-AT | | |
| Q221 | 8-729-194-57 | TRANSISTOR | 2SC945-P | | |
| Q222 | 8-729-194-57 | TRANSISTOR | 2SC945-P | | |
| Q223 | 8-729-036-80 | TRANSISTOR | KRC110M (S32) | | |
| Q224 | 8-729-036-89 | TRANSISTOR | KTC3198GR-AT | | |
| Q501 | 8-729-037-34 | TRANSISTOR | KRA107M | | |
| Q502 | 8-729-036-58 | TRANSISTOR | KRC102M-AT | | |
| Q503 | 8-729-037-34 | TRANSISTOR | KRA107M | | |
| Q504 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| Q505 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| Q506 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| Q507 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| Q509 | 8-729-036-89 | TRANSISTOR | KTC3198GR-AT (S32) | | |
| Q510 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| Q511 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| Q512 | 8-729-037-13 | TRANSISTOR | KTA1271Y | | |
| Q513 | 8-729-037-13 | TRANSISTOR | KTA1271Y | | |
| Q514 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| Q951 | 8-729-036-57 | TRANSISTOR | KRC101M-AT (EXCEPT US) | | |
| Q952 | 8-729-037-13 | TRANSISTOR | KTA1271Y | | |
| Q953 | 8-729-036-57 | TRANSISTOR | KRC101M-AT | | |
| Q955 | 8-729-021-82 | TRANSISTOR | 2SD2396K | | |
| Q957 | 8-729-036-86 | TRANSISTOR | KTC3203Y-AT | | |
| Q997 | 8-729-036-57 | TRANSISTOR | KRC101M-AT | | |
| < RESISTOR > | | | | | |
| R121 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R122 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R123 | 1-247-895-11 | CARBON | 470K | 5% | 1/4W |
| R125 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R126 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| (E92, MX) | | | | | |
| R126 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| (EXCEPT E92, MX) | | | | | |
| R127 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R128 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R130 | 1-247-815-11 | CARBON | 220 | 5% | 1/4W |
| R131 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R132 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R140 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R221 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R222 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R223 | 1-247-895-11 | CARBON | 470K | 5% | 1/4W |
| R225 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark | Ref. No. | Part No. | Description | | | Remark |
|----------|--------------|-------------|------|----|--------------------------|----------|--------------|-----------------------------|------|-----|---------------|
| R226 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W (E92, MX) | R541 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R226 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W (EXCEPT E92, MX) | R562 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| | | | | | | R563 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W (S32) |
| R227 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | R565 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R228 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W | R566 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R230 | 1-247-815-11 | CARBON | 220 | 5% | 1/4W | | | | | | |
| | | | | | | R569 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R231 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W | R570 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R232 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | R571 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R240 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | R576 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R321 | 1-249-408-11 | CARBON | 180 | 5% | 1/4W | R577 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R322 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | | | | | |
| | | | | | | R578 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R323 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | R579 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R324 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | R580 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R327 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | R581 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R501 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R582 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R502 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W (S32) | R583 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| | | | | | | R584 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R503 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R585 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R504 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | R586 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R505 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R587 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R506 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | | | | | |
| R507 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R588 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| | | | | | | R589 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R508 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R590 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R509 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R591 | 1-247-832-11 | CARBON | 1.1K | 5% | 1/4W |
| R510 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R592 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R511 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | | | | | |
| R512 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R593 | 1-247-895-11 | CARBON | 470K | 5% | 1/4W |
| | | | | | | R595 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W (S32) |
| R513 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | | | | | |
| R514 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R596 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W (S32) |
| R515 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | | | | | |
| R516 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R597 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R517 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R598 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| | | | | | | | | | | | |
| R518 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R599 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R519 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R951 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R520 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R952 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R521 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R954 | 1-247-815-11 | CARBON | 220 | 5% | 1/4W |
| R522 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R955 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| | | | | | | | | | | | |
| R523 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | R956 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R524 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R958 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R525 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R960 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R526 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R961 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R527 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R997 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| | | | | | | | | | | | |
| R528 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | | < VIBRATOR > | | | |
| R529 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | | | | | |
| R530 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | X501 | 1-781-775-11 | VIBRATOR, CERAMIC (4.19MHz) | | | |
| R534 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W | X502 | 1-781-721-11 | VIBRATOR, CRYSTAL (150kHz) | | | |
| R535 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | ***** | | | | | |
| | | | | | | | | | | | |
| R536 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | * | 1-676-530-11 | POWER BOARD | | | |
| R537 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | | | ***** | | | |
| R538 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | | | | | | |
| R539 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | | | < CAPACITOR > | | | |
| R540 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | | | | | |
| | | | | | | C908 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |

| | | | |
|--------------|------------------|-----------|--------------|
| POWER | SECONDARY | TC | TUNER |
|--------------|------------------|-----------|--------------|

| Ref. No. | Part No. | Description | Remark | | |
|----------------|--------------------|--------------------------------------|----------|-----|------|
| < AC INLET > | | | | | |
| △ CNJ901 | 1-526-818-11 | INLET, AC (∼ AC IN) (EXCEPT US, CND) | | | |
| △ CNJ901 | 1-540-009-11 | INLET, AC (∼ AC IN) (US, CND) | | | |
| < CONNECTOR > | | | | | |
| * CNP901 | 1-580-155-11 | PIN, CONNECTOR (PC BOARD) 3P | | | |
| * CNP902 | 1-580-165-21 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| ***** | | | | | |
| * 1-676-629-11 | SECONDARY BOARD | | ***** | | |
| 1-533-233-31 | HOLDER, FUSE (CND) | | | | |
| < CAPACITOR > | | | | | |
| C901 | 1-101-005-00 | CERAMIC | 22000PF | 50V | |
| C902 | 1-101-005-00 | CERAMIC | 22000PF | 50V | |
| C903 | 1-101-005-00 | CERAMIC | 22000PF | 50V | |
| C904 | 1-101-005-00 | CERAMIC | 22000PF | 50V | |
| < DIODE > | | | | | |
| D901 | 8-719-063-79 | DIODE 1N4002B | | | |
| D902 | 8-719-063-79 | DIODE 1N4002B | | | |
| D903 | 8-719-063-79 | DIODE 1N4002B | | | |
| D904 | 8-719-063-79 | DIODE 1N4002B | | | |
| ***** | | | | | |
| * A-3322-448-A | TC BOARD, COMPLETE | | ***** | | |
| < CAPACITOR > | | | | | |
| C101 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C102 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C103 | 1-162-587-11 | CERAMIC CHIP | 0.039uF | 10% | 25V |
| C104 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C105 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |
| C106 | 1-126-960-11 | ELECT | 1uF | 20% | 50V |
| C201 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C202 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C203 | 1-162-587-11 | CERAMIC CHIP | 0.039uF | 10% | 25V |
| C204 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C205 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |
| C206 | 1-126-960-11 | ELECT | 1uF | 20% | 50V |
| C301 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C302 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C303 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C304 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C305 | 1-137-431-11 | MYLAR | 560PF | 5% | 50V |
| C306 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C307 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| < CONNECTOR > | | | | | |
| CNP301 | 1-568-830-11 | CONNECTOR, FFC 11P | | | |

| Ref. No. | Part No. | Description | Remark | | |
|-----------------|--------------|-------------------------------|---------|-----|-------|
| < IC > | | | | | |
| IC301 | 8-759-264-71 | IC TA2068N | | | |
| < TRANSISTOR > | | | | | |
| Q301 | 8-729-281-53 | TRANSISTOR 2SC1815-GR | | | |
| < RESISTOR > | | | | | |
| R101 | 1-216-077-11 | RES-CHIP | 15K | 5% | 1/10W |
| R102 | 1-216-023-00 | METAL CHIP | 82 | 5% | 1/10W |
| R103 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R104 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R105 | 1-216-077-11 | RES-CHIP | 15K | 5% | 1/10W |
| R106 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R110 | 1-216-025-11 | RES-CHIP | 100 | 5% | 1/10W |
| R111 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R201 | 1-216-077-11 | RES-CHIP | 15K | 5% | 1/10W |
| R202 | 1-216-023-00 | METAL CHIP | 82 | 5% | 1/10W |
| R203 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R204 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R205 | 1-216-077-11 | RES-CHIP | 15K | 5% | 1/10W |
| R206 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R210 | 1-216-174-00 | RES-CHIP | 100 | 5% | 1/8W |
| R211 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R301 | 1-216-121-11 | RES-CHIP | 1M | 5% | 1/10W |
| R302 | 1-216-214-00 | RES-CHIP | 4.7K | 5% | 1/8W |
| R303 | 1-216-214-00 | RES-CHIP | 4.7K | 5% | 1/8W |
| R304 | 1-216-198-11 | RES-CHIP | 1K | 5% | 1/8W |
| R305 | 1-216-180-00 | RES-CHIP | 180 | 5% | 1/8W |
| R306 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R307 | 1-216-150-11 | RES-CHIP | 10 | 5% | 1/8W |
| R308 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R309 | 1-216-166-00 | RES-CHIP | 47 | 5% | 1/8W |
| < SWITCH > | | | | | |
| S301 | 1-762-565-11 | SWITCH, SLIDE (REC/PB) | | | |
| < TRANSFORMER > | | | | | |
| T301 | 1-416-041-11 | TRANSFORMER, BIAS OSCILLATION | | | |
| ***** | | | | | |
| * | A-3322-456-A | TUNER BOARD, COMPLETE | | | |
| ***** | | | | | |
| < CAPACITOR > | | | | | |
| C4 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C8 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C9 | 1-163-098-00 | CERAMIC CHIP | 16PF | 5% | 50V |
| C10 | 1-126-960-11 | ELECT | 1uF | 20% | 50V |
| C11 | 1-115-339-11 | CERAMIC CHIP | 0.1uF | 10% | 50V |
| C12 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C14 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C15 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |

| | |
|--|---|
| <p>The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.</p> | <p>Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p> |
|--|---|

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|-------------------------------|-----------------|----------|--------------|---------------------------|--------|
| C16 | 1-126-960-11 | ELECT | 1uF 20% 50V | CT3 | 1-141-304-21 | CAP, TRIMMER 10PF | |
| C17 | 1-126-960-11 | ELECT | 1uF 20% 50V | | | < DIODE > | |
| C18 | 1-126-934-11 | ELECT | 220uF 20% 10V | | | | |
| C19 | 1-163-243-11 | CERAMIC CHIP | 47PF 5% 50V | D1 | 8-719-078-48 | DIODE KV1471ETR1-3 | |
| C20 | 1-115-339-11 | CERAMIC CHIP | 0.1uF 10% 50V | D2 | 8-719-078-48 | DIODE KV1471ETR1-3 | |
| | | | | D3 | 8-719-050-69 | DIODE KV1520N | |
| C21 | 1-126-960-11 | ELECT | 1uF 20% 50V | D10 | 8-719-988-61 | DIODE 1SS355TE-17 | |
| C22 | 1-115-339-11 | CERAMIC CHIP | 0.1uF 10% 50V | D11 | 8-719-988-61 | DIODE 1SS355TE-17 | |
| C23 | 1-126-960-11 | ELECT | 1uF 20% 50V | | | < JUMPER RESISTOR > | |
| C24 | 1-163-003-11 | CERAMIC CHIP | 330PF 10% 50V | | | | |
| C26 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | FB1 | 1-216-295-00 | SHORT 0 | |
| | | | | | | < IC > | |
| C27 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | IC1 | 8-759-662-67 | IC A2149N | |
| C28 | 1-104-665-11 | ELECT | 100uF 20% 10V | IC2 | 8-759-483-40 | IC C72137M-TLM | |
| C30 | 1-163-021-11 | CERAMIC CHIP | 0.01uF 10% 50V | | | < JUMPER RESISTOR > | |
| C31 | 1-163-237-11 | CERAMIC CHIP | 27PF 5% 50V | | | | |
| C32 | 1-163-009-11 | CERAMIC CHIP | 0.001uF 10% 50V | JC8 | 1-216-296-00 | SHORT 0 | |
| | | | | JC9 | 1-216-296-00 | SHORT 0 | |
| C33 | 1-163-021-11 | CERAMIC CHIP | 0.01uF 10% 50V | JC10 | 1-216-296-00 | SHORT 0 | |
| C34 | 1-163-009-11 | CERAMIC CHIP | 0.001uF 10% 50V | JC14 | 1-216-296-00 | SHORT 0 | |
| C35 | 1-115-339-11 | CERAMIC CHIP | 0.1uF 10% 50V | JC15 | 1-216-296-00 | SHORT 0 | |
| C41 | 1-115-339-11 | CERAMIC CHIP | 0.1uF 10% 50V | | | | |
| C42 | 1-163-129-00 | CERAMIC CHIP | 330PF 5% 50V | JC16 | 1-216-296-00 | SHORT 0 | |
| | | | | JC18 | 1-216-295-00 | SHORT 0 | |
| C44 | 1-115-339-11 | CERAMIC CHIP | 0.1uF 10% 50V | JC19 | 1-216-296-00 | SHORT 0 | |
| C47 | 1-163-227-11 | CERAMIC CHIP | 10PF 0.5PF 50V | JC20 | 1-216-296-00 | SHORT 0 | |
| C51 | 1-163-229-11 | CERAMIC CHIP | 12PF 5% 50V | JC21 | 1-216-295-00 | SHORT 0 | |
| C52 | 1-163-098-00 | CERAMIC CHIP | 16PF 5% 50V | | | | |
| C53 | 1-136-171-00 | MYLAR | 0.33uF 5% 50V | JC23 | 1-216-296-00 | SHORT 0 | |
| | | | | JC24 | 1-216-295-00 | SHORT 0 | |
| C54 | 1-126-934-11 | ELECT | 220uF 20% 10V | JC27 | 1-216-296-00 | SHORT 0 | |
| C55 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | JC28 | 1-216-296-00 | SHORT 0 | |
| C56 | 1-163-009-11 | CERAMIC CHIP | 0.001uF 10% 50V | JC29 | 1-216-296-00 | SHORT 0 | |
| C57 | 1-163-009-11 | CERAMIC CHIP | 0.001uF 10% 50V | | | | |
| C58 | 1-163-021-11 | CERAMIC CHIP | 0.01uF 10% 50V | JC30 | 1-216-296-00 | SHORT 0 | |
| | | | | JC31 | 1-216-296-00 | SHORT 0 | |
| C59 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | JC33 | 1-216-296-00 | SHORT 0 | |
| C60 | 1-163-009-11 | CERAMIC CHIP | 0.001uF 10% 50V | JC38 | 1-216-296-00 | SHORT 0 | |
| C61 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | JC39 | 1-216-296-00 | SHORT 0 | |
| C62 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | | | | |
| C63 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | JC40 | 1-216-296-00 | SHORT 0 | |
| | | | | JC41 | 1-216-296-00 | SHORT 0 | |
| C64 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | JC42 | 1-216-295-00 | SHORT 0 | |
| C66 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | JC43 | 1-216-296-00 | SHORT 0 | |
| C68 | 1-163-251-11 | CERAMIC CHIP | 100PF 5% 50V | JC44 | 1-216-295-00 | SHORT 0 | |
| C77 | 1-163-021-11 | CERAMIC CHIP | 0.01uF 10% 50V | | | < COIL > | |
| C80 | 1-163-021-11 | CERAMIC CHIP | 0.01uF 10% 50V | L1 | 1-416-533-11 | COIL, AIR-CORE | |
| | | | | L2 | 1-416-509-11 | COIL, AIR-CORE | |
| C93 | 1-163-021-11 | CERAMIC CHIP | 0.01uF 10% 50V | L3 | 1-501-923-21 | ANTENNA, FERRITE-ROD (AM) | |
| C95 | 1-163-009-11 | CERAMIC CHIP | 0.001uF 10% 50V | L4 | 1-411-234-21 | COIL, AM OSC | |
| | | | | L11 | 1-414-142-11 | INDUCTOR 1uH | |
| | | < FILTER > | | L21 | 1-410-509-11 | INDUCTOR 10uH | |
| CF2 | 1-760-738-61 | FILTER, CERAMIC | | | | | |
| CF4 | 1-781-749-11 | FILTER, AM CERAMIC | | | | | |
| | | < CONNECTOR > | | | | | |
| * CNP1 | 1-785-663-11 | PIN, CONNECTOR (PC BOARD) 11P | | | | | |
| | | < TRIMMER > | | | | | |
| CT1 | 1-141-227-00 | CAP, TRIMMER 20PF | | | | | |

TUNER

| Ref. No. | Part No. | Description | Remark | | |
|-----------------|--------------|---------------------------|--------|----|-------|
| < RESISTOR > | | | | | |
| R1 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R2 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R3 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R4 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R5 | 1-216-295-00 | SHORT | 0 | | |
| | | | | | |
| R10 | 1-216-166-00 | RES-CHIP | 47 | 5% | 1/8W |
| R11 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R13 | 1-216-206-00 | RES-CHIP | 2.2K | 5% | 1/8W |
| R24 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R25 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| | | | | | |
| R30 | 1-216-077-11 | RES-CHIP | 15K | 5% | 1/10W |
| R31 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R32 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R40 | 1-216-105-11 | RES-CHIP | 220K | 5% | 1/10W |
| R41 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| | | | | | |
| R50 | 1-216-198-11 | RES-CHIP | 1K | 5% | 1/8W |
| R51 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R53 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R54 | 1-216-043-11 | RES-CHIP | 560 | 5% | 1/10W |
| R56 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| | | | | | |
| R58 | 1-216-206-00 | RES-CHIP | 2.2K | 5% | 1/8W |
| R59 | 1-216-206-00 | RES-CHIP | 2.2K | 5% | 1/8W |
| R60 | 1-216-206-00 | RES-CHIP | 2.2K | 5% | 1/8W |
| R61 | 1-216-206-00 | RES-CHIP | 2.2K | 5% | 1/8W |
| R63 | 1-216-222-00 | RES-CHIP | 10K | 5% | 1/8W |
| | | | | | |
| R65 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R91 | 1-216-198-11 | RES-CHIP | 1K | 5% | 1/8W |
| R92 | 1-216-198-11 | RES-CHIP | 1K | 5% | 1/8W |
| R93 | 1-216-296-00 | SHORT | 0 | | |
| R94 | 1-216-049-11 | RES-CHIP | 1K | 5% | 1/10W |
| < TRANSFORMER > | | | | | |
| T1 | 1-435-333-11 | TRANSFORMER, IF | | | |
| T2 | 1-419-465-11 | COIL (DET) | | | |
| < VIBRATOR > | | | | | |
| X1 | 1-781-592-11 | VIBRATOR, CRYSTAL (75kHz) | | | |
| ***** | | | | | |

| Ref. No. | Part No. | Description | Remark |
|--|--------------|--|--------|
| MISCELLANEOUS ***** | | | |
| 8 | 1-792-206-11 | WIRE, PARALLEL (6 CORE) (S22) | |
| 8 | 1-792-207-11 | WIRE, PARALLEL (8 CORE) (S32) | |
| 102 | 1-792-204-11 | WIRE, PARALLEL (11 CORE) | |
| 111 | 1-792-205-11 | WIRE, PARALLEL (21 CORE) | |
| 118 | 1-452-899-11 | MAGNET | |
| | | | |
| 126 | 1-792-209-11 | WIRE, PARALLEL (16 CORE) | |
| 128 | 1-792-208-11 | WIRE, PARALLEL (17 CORE) | |
| △ 251 | 8-848-483-05 | PICK-UP, OPTICAL KSS-213C/Q-RP | |
| 254 | X-2626-202-1 | CHASSIS ASSY (MB), MOTOR (SPINDLE) (INCLUDING M701) | |
| ANT1 | 1-501-883-21 | ANTENNA, TELESCOPIC | |
| △ F902 | 1-576-107-12 | FUSE (3.15A) (CND) | |
| HE301 | 1-543-876-11 | HEAD (ERASE) | |
| HRP301 | 1-500-454-11 | HEAD, MAGNETIC (RECORD/PLAYBACK) | |
| M301 | A-3320-446-A | MOTOR ASSY (CAPSTAN/REEL) | |
| M702 | X-2625-769-1 | GEAR ASSY (MB), MOTOR (SLED) | |
| | | | |
| S304 | 1-692-302-11 | SWITCH, LEAF (TAPE PLAY) | |
| S501 | 1-692-960-11 | SWITCH, PUSH (1 KEY) (CD DOOR OPEN/CLOSE) | |
| SP301 | 1-529-215-11 | SPEAKER (10cm) (L-CH) (US,CND) | |
| SP301 | 1-529-340-11 | SPEAKER (10cm) (L-CH) (E92,MX) | |
| SP302 | 1-529-215-11 | SPEAKER (10cm) (R-CH) (US,CND) | |
| | | | |
| SP302 | 1-529-340-11 | SPEAKER (10cm) (R-CH) (E92,MX) | |
| △ T901 | 1-433-576-11 | TRANSFORMER, POWER | |
| ***** | | | |
| ACCESSORIES & PACKING MATERIALS ***** | | | |
| △ | 1-557-287-11 | CORD, POWER (E92,MX) | |
| △ | 1-690-952-11 | CORD, POWER (CND) | |
| △ | 1-783-878-11 | CORD, POWER (US) | |
| | 3-027-153-11 | LID, BATTERY CASE (for RMT-CS32A) (S32) | |
| | 3-043-356-11 | MANUAL, INSTRUCTION (ENGLISH) | |
| | | | |
| | 3-043-356-21 | MANUAL, INSTRUCTION (FRENCH) (CND) | |
| | 3-044-465-61 | MANUAL, INSTRUCTION (SPANISH) (E92,MX) | |
| | A-3258-003-A | REMOTE CONTROLLER (RMT-CS32A) (S32) | |
| ***** | | | |
| ***** | | | |
| HARDWARE LIST ***** | | | |
| #1 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S | |
| #2 | 7-685-648-79 | SCREW +BVTP 3X12 TYPE2 N-S | |
| #3 | 7-685-645-79 | SCREW +BVTP 3X6 TYPE2 N-S | |
| #4 | 7-685-851-04 | SCREW +BVTT 2X4 (S) | |
| #5 | 7-621-255-45 | SCREW +P 2X6 | |
| | | | |
| #6 | 7-682-548-04 | SCREW +B 3X8 | |
| #7 | 7-685-533-19 | SCREW +BTP 2.6X6 TYPE2 N-S | |
| #8 | 7-621-770-87 | SCREW +B 2.6X5 | |

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|--|--|
| The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |
|--|--|