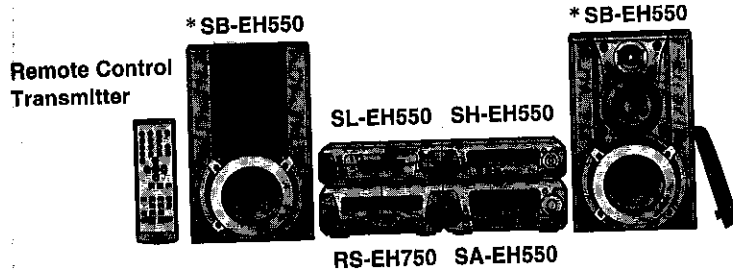


Service Manual



Tuner/Amplifier SA-EH550



Colour
(S) Silver Type

Areas
(E) Europe.
(EB) Great Britain.
(EG) Germany,
Italy, France,
Netherlands
and Denmark.
(EP) CIS.

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

| | | |
|--|----------|---|
|  KRHY | Door No. |  51f |
| | 3 | |
| | Drop No. | |
| | 0 | |
| Customer: TECHNICA42 | | |
| Load: SPOWE1 | | |
| Model: AD9903062C2 | Qty: 1 | |
| Assemble at: 60 | 05/07/00 | |

| System | SC-EH550 |
|-----------------|-----------------|
| Sound Processor | SH-EH550 |
| Tuner/Amplifier | SA-EH550 |
| CD Player | SL-EH550 |
| Cassette Deck | RS-EH750 |
| Front Speakers* | SB-EH550 |

* : Made in Singapore

Specificati

Amplifier Secti
Power output (at F
DIN 1 kHz, THD 1
both channels)

RMS 1 kHz, THD 10 %,
both channels driven;

PMPO 1 kHz:

Total harmonic distortion:
Rated power at 1 kHz;
Half power at 1 kHz;
Load impedance:
MAIN;

S.WOOFER:
Center frequency;
LEVEL (VOL-20 dB):

FM tuner Section

Frequency range: 87.50 - 108.00 MHz (0.05 MHz steps)
Sensitivity: 1.8 μ V (IHF usable)
S/N 26 dB: 1.5 μ V
S/N:
MONO: 70 dB (75 dB, IHF)
Antenna terminal(s): 75 Ω (unbalanced)

(HIGH) 2 x 40 W (6 Ω)
(LOW) 2 x 50 W (6 Ω)
1,400 W
(LOW 6 Ω , HIGH 6 Ω)

1 % (6 Ω)
0.1 % (6 Ω)

(HIGH) 6 Ω
(LOW) 6 Ω

70 Hz
MID +8 dB
MAX +12 dB

Timer Section

Clock:
Function:

Setting (Play/Rec):

General

Power supply:
(E),(EG),(EP) areas;
(EB) area;

Power consumption:
Standby;
Normal;

ECO mode;
Dimensions (WxHxD):
Weight:

Quartz - lock type
Play timer (1 time, daily)
Rec timer (1 time, daily)
Sleep (120 min, 30 min intervals)
1 minute - 23 hours 59 minutes
(1 min intervals)

AC 230 V, 50 Hz
AC 230 - 240 V, 50 Hz
110 W

11 W

0.6 W

293x118.5x342.5 mm

4.3 kg

Notes: Specifications are subject to change without notice.
Weight and dimensions are approximate.
Total harmonic distortion is measured by the digital spectrum analyzer

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

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Before Repair

- Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C701, C703 and C702, C704) in order to discharge the voltage.
- Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230/240V.

| | | |
|------------------------|-------------|----------|
| Power supply voltage | AC 230 V | AC 240 V |
| Consumed current 50 Hz | 70 ~ 250 mA | |

Protection Circuitry

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The functions of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

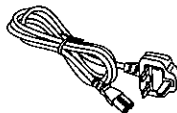
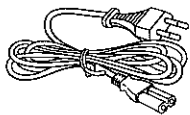
- Switch OFF the power.
- Determine the cause of the problem and correct it.
- Switch ON the power once again.

Note:

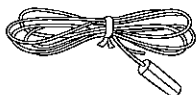
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

Accessories

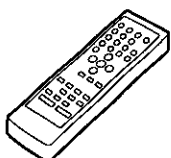
- AC power supply cord for (E),(EG),(EP) areas (RJA0019-X) 1 pc.
- AC power supply cord for (EB) area (RJA0053-2X) 1 pc.
- AM loop antenna set (RSA0022-J) 1 pc.



- FM indoor antenna (RSA0007) 1 pc.
- Speaker cords (REE0499) 2 pcs.
- Antennal plug adaptor for (EB) area only (SJP9009) 1 pc.
- Speaker cords (REE0853) 2 pcs.

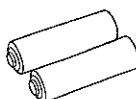


- Remote control transmitter (RAK-EHA18WH) 1 pc.



- Batteries (UM-3, "AA", R6/LR6) 2 pcs.

Note: These are available on sales route.





■ Caution for AC Mains Lead

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 5-ampere fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below. If in any doubt please consult a qualified electrician.

IMPORTANT


The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

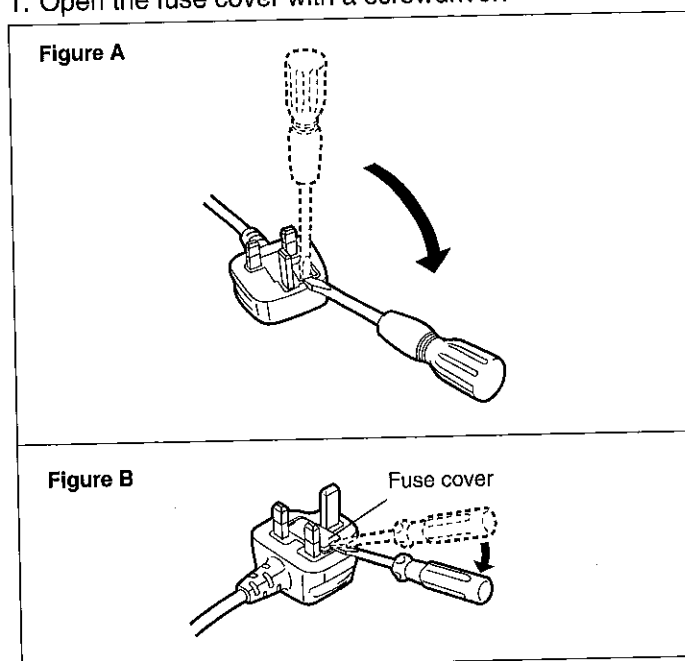
Before use

Remove the connector cover.

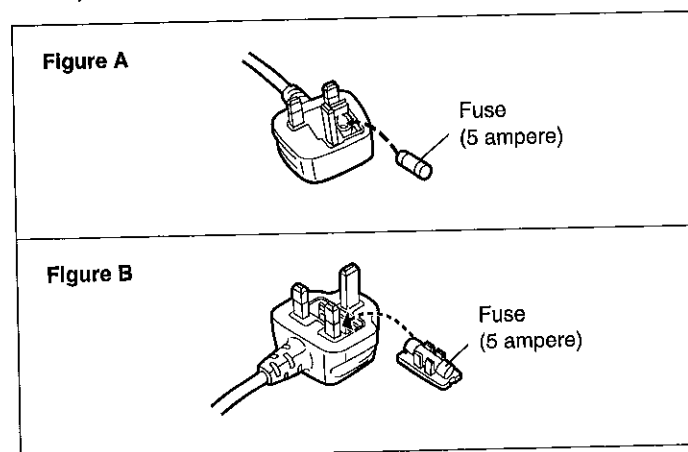
How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

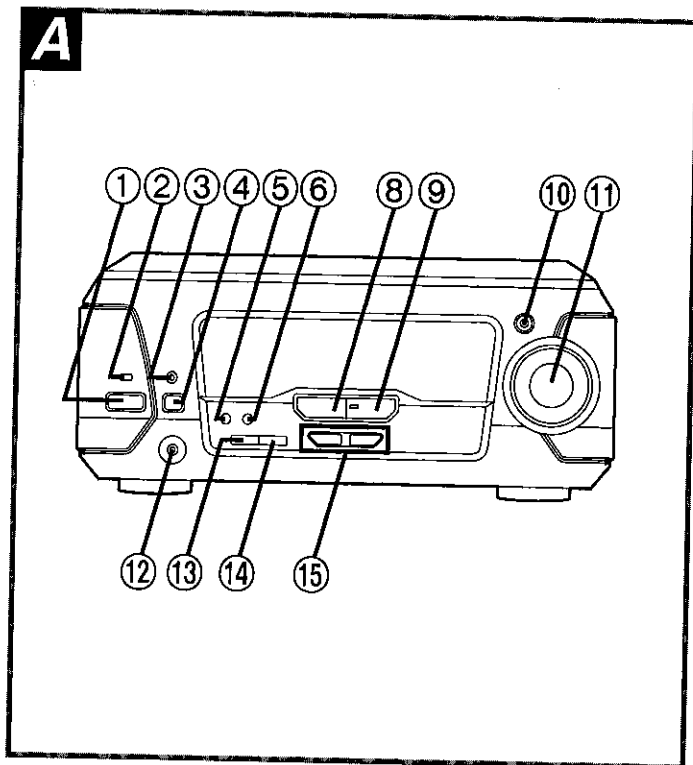
1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



Location of Controls

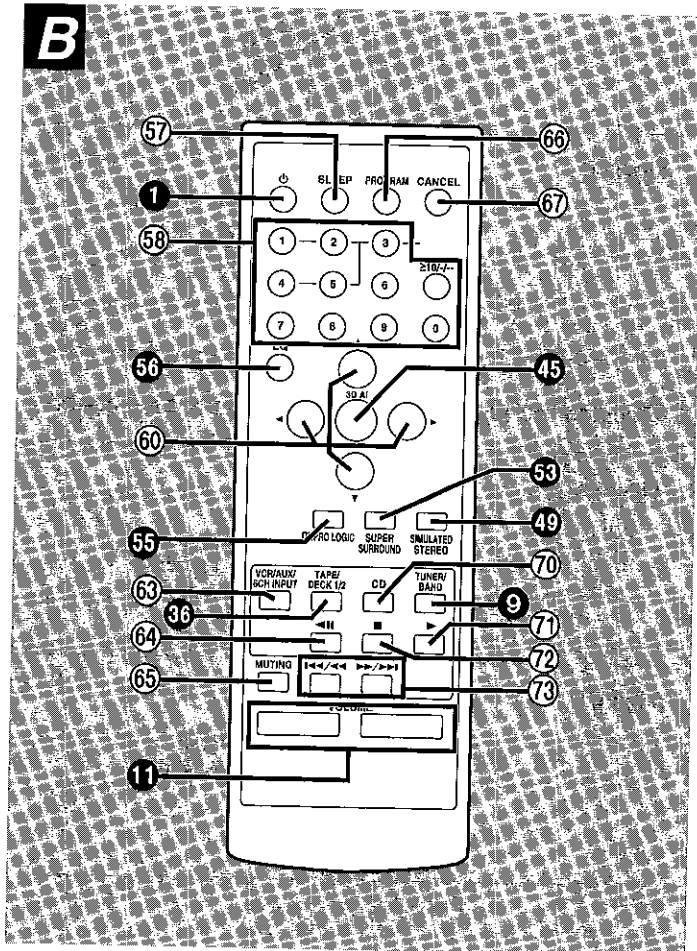


Tuner amplifier

A

- ① **Standby/on switch** (⏻/⏻)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ② **Standby Indicator** (⏻)
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ③ **Play timer/record timer button and Indicator** (⏻ PLAY/⏻ REC)
- ④ **ECO mode button** (ECO)
- ⑤ **Clock/timer, demo button** (CLOCK/TIMER, -DEMO)
- ⑥ **FM mode select button** (FM AUTO/MONO)
- ⑧ **Source input select button** (INPUT SELECTOR)
- ⑨ **Tuner/band select button and Indicator** (TUNER/BAND)
- ⑩ **Super woofer button and Indicator** (S.WOOFER)
- ⑪ **Volume control** (VOLUME)
- ⑫ **Headphones jack** (PHONES)
- ⑬ **Tuning mode select button** (TUNING MODE)
- ⑭ **Set button** (SET)
- ⑮ **Tuning buttons** (⏻, ⏻ TUNING)

B



Remote control

B

Buttons as ① function in exactly same way as the buttons on the main unit.

- ⑤⑦ **Sleep timer button** (SLEEP)
- ⑤⑧ **Numeric buttons** (1-9, 0, ≥10/-/-)
- ⑤⑨ **Cursor buttons** (⏻, ⏻, ⏻, ⏻)
- ⑤⑩ **VCR select button** (VCR)
- ⑤⑪ **Tape reverse playback/CD pause button** (⏻/⏻)
- ⑤⑫ **Muting button** (MUTING)
- ⑤⑬ **Program button** (PROGRAM)
- ⑤⑭ **Cancel button** (CANCEL)
- ⑤⑮ **CD button** (CD)
- ⑤⑯ **CD play/tape forward playback button** (▶)
- ⑤⑰ **CD/tape stop button** (■)
- ⑤⑱ **CD skip/search, tape fast forward/rewind buttons** (⏻/⏻, ⏻/⏻)

Installation

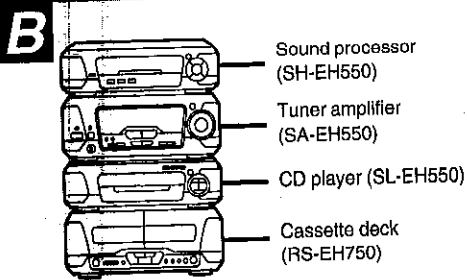
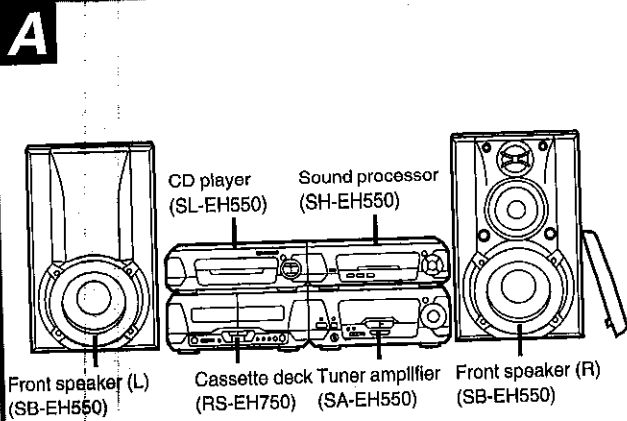
Locating the components

Side-by-side set-up **A**

Stacking **B**

Note

Left and right front speakers are exactly the same.



Turning the Demo Function Off (DEMO)

If the clock has not been set, a demonstration of the display is shown when the unit is off.

This function is set to on at the time of purchase.

To get the most from the ECO mode, turn the demo function off.

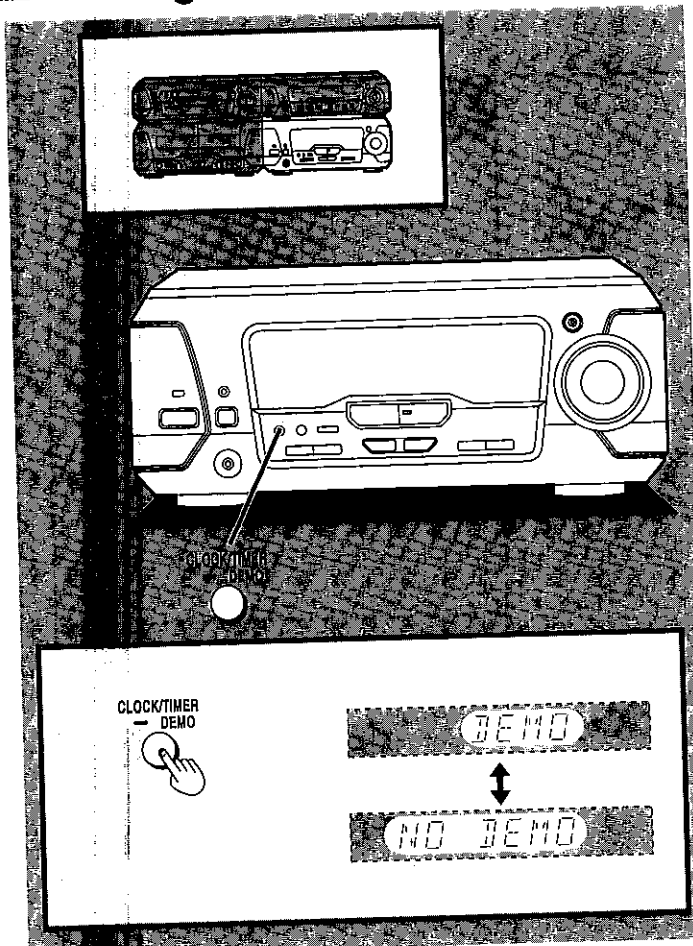
Press and hold [CLOCK/TIMER, -DEMO] until "NO DEMO" is displayed.

Every time you press and hold the button;

NO DEMO (off) ↔ DEMO (on)

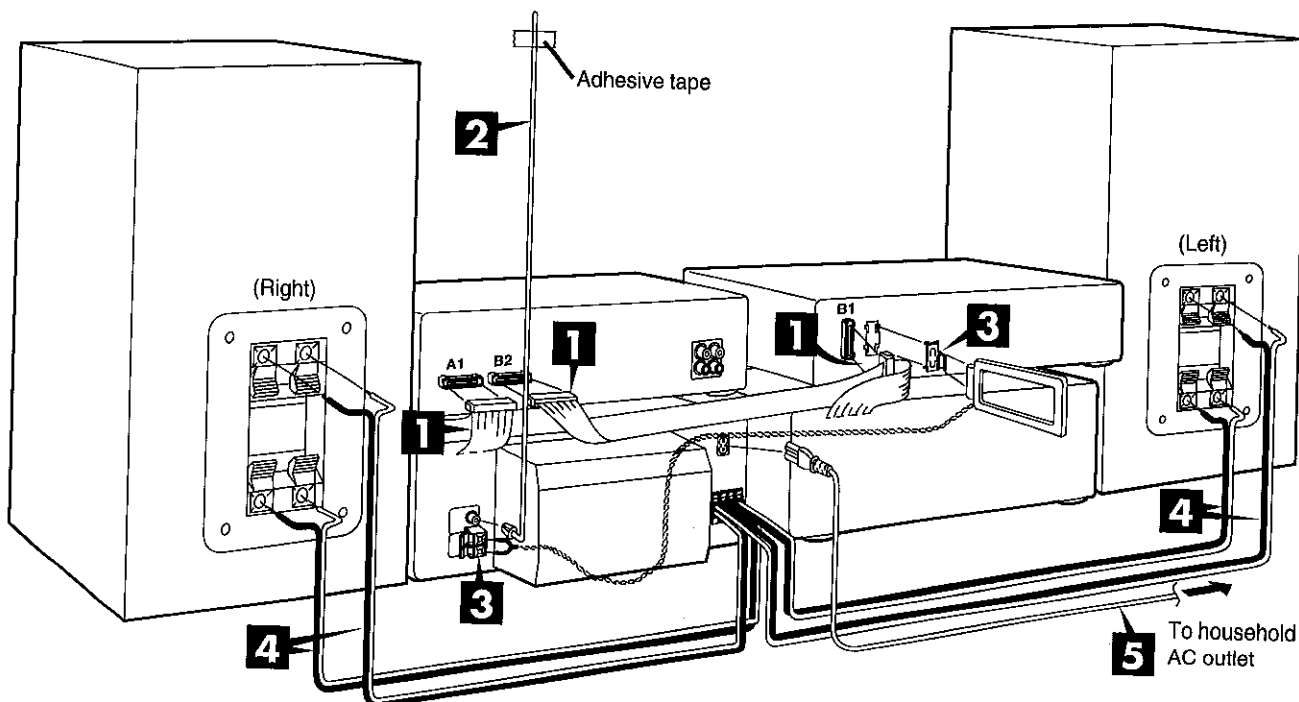
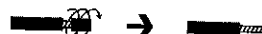
Note

Once the clock has been set the demo cannot be turned on when the unit is off.



Connections

To prepare the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.



| | | |
|---|---------------------------------|---|
| <p>1</p> <p>To connect cables</p> <p>Connector White line</p> <p>To unplug cables Hold the connector from both ends and pull it out.</p> | <p>3</p> <p>1</p> | <p>4 Tuner amplifier side</p> <p>Red (+) Black (-) Blue (-) Gray (+)</p> |
| <p>2</p> <p>FM ANT 75Ω</p> | <p>2</p> | <p>Speaker side</p> <p>Gray (+) Blue (-) Red (+) Black (-)</p> |

■ Preparing the Remote Control

1 Connect the flat cables.

1. Connect the shorter flat cable from the tuner amplifier to terminal A1 on the sound processor.
2. Connect the longer flat cable from the cassette deck to terminals B1 and B2.

After connection:

Keep cables as flat against the back of the unit as possible.

2 Connect the FM indoor antenna.

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

3 Connect the AM loop antenna.

1. Attach the antenna holder to the rear panel of the CD player. Then clamp the antenna into the antenna holder.
2. Connect the antenna terminal to the rear panel of the tuner amplifier.

Note

To minimize noise pickup, bundle the loop antenna cord using tape or the like to keep the flat cables away from the AM loop antenna cord.

4 Connect the right (R) and left (L) front speaker cables.

Connect each end of the speaker cables to the terminal lever of the same color.

Use only the supplied front speakers.

The combination of the main unit and front speakers provide the best sound. Using other front speakers can damage the unit and sound quality will be negatively effected.

Note

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.
- Be sure to connect only positive (red or gray) wires to positive (+) terminals and negative (black or blue) wires to negative (-) terminals.

(United Kingdom only)

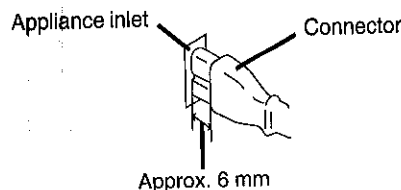
BE SURE TO READ THE CAUTION FOR AC MAINS LEAD BEFORE PROCEEDING TO STEP 5.

5 Connect the AC mains lead.

Insertion of Connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

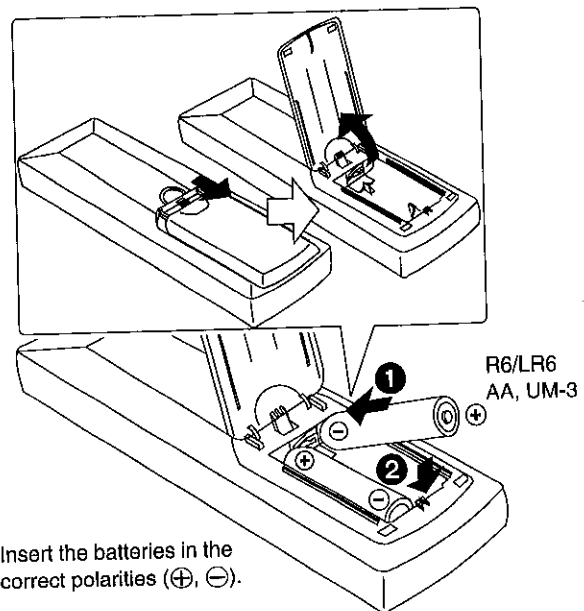
However there is no problem using the unit.



For your reference

Information you enter into the unit's memory, except for the time, remains intact for up to two weeks after the mains lead is disconnected.

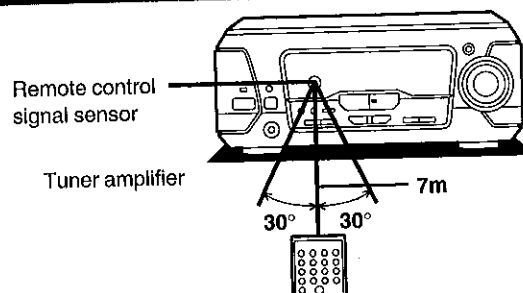
Battery installation



Insert the batteries in the correct polarities (⊕, ⊖).

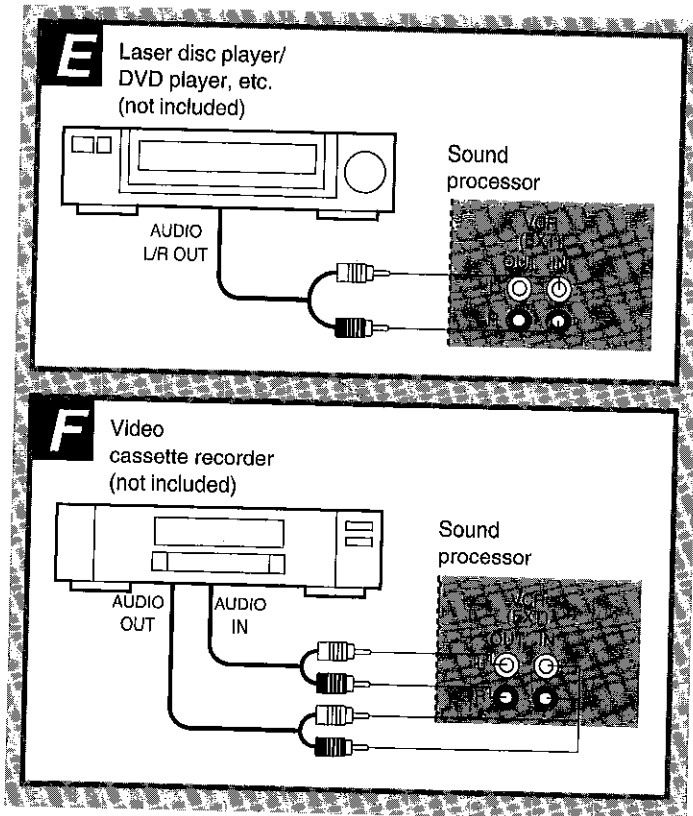
- Do not mix old and new batteries, or batteries of different types (manganese and alkaline, etc.).
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control is not to be used for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use rechargeable type batteries.

Correct method of use



- Aim the remote control's transmission window toward the unit's sensor. Avoid any obstacles.
- Be sure the transmission window and the unit's sensor are free from dust. Excessive dust might affect its performance.
- This unit may not operate correctly if direct sunlight or another strong light source strikes the receiving sensor of this unit. If there is a problem, place the unit away from the light source.
- Never place heavy items on top of the unit.
- Do not disassemble or reconstruct the unit.
- Do not spill water or other liquids into the unit.

External Unit Connections



- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the units which are to be connected.
- All peripheral components and cables sold separately.

Stereo connection cable (not included)

White (L)  

Red (R)  

Video connection cable (not included)

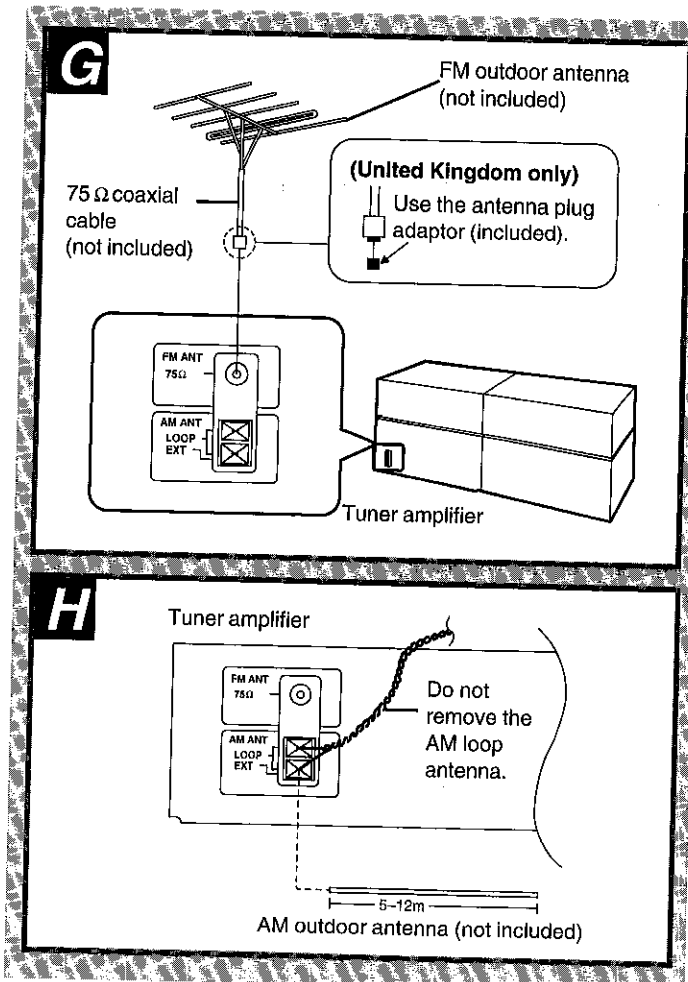
 

E Laser disc player/DVD player etc.

F Video cassette recorder

You can enjoy only sound of the video cassette recorder.

Optional Antenna Connections



You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

FM outdoor antenna (not included) G

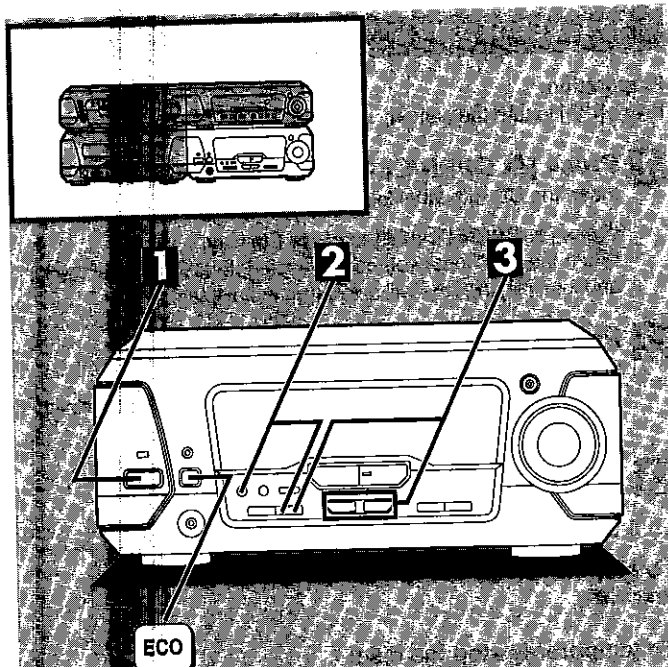
AM outdoor antenna (not included) H

Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

■ Setting the Time



This is a 24-hour display clock.

The figure shows how to set the time for 16:25.

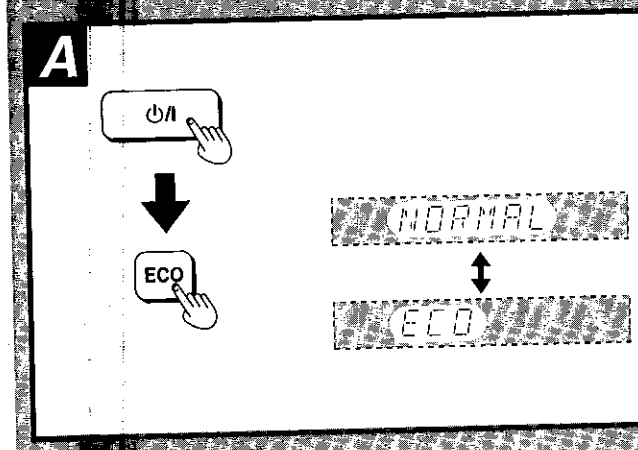
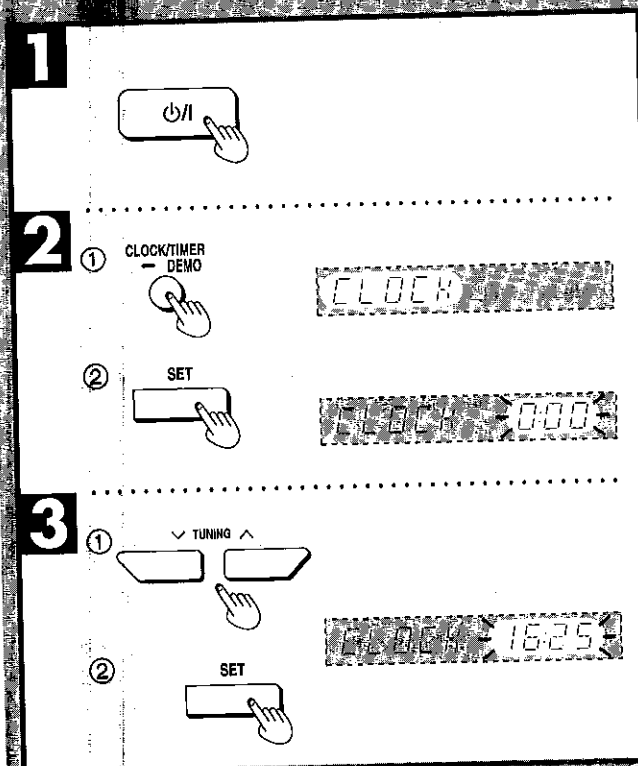
- 1** Press [⏻/⏻] to turn the unit on.
- 2** **1** Press [CLOCK/TIMER, -DEMO] to show "CLOCK".
Every time you press the button;
CLOCK → ⏻ PLAY → ⏻ REC → Original display
- 3** **1** Press [TUNING (∨ or ∧)] to set the present time on the display.
The time display can be changed in one minute units by tapping the buttons, and quickly by holding down the buttons.
2 Press [SET].
The display will return to the previous display after about 3 seconds.

To display the clock:

Press [CLOCK/TIMER, -DEMO].

The time is shown for about five seconds.

The time is shown constantly when the unit and ECO mode are off.



■ ECO mode A

When this mode is used the power consumed when the unit is switched to standby mode reduces from a maximum of 11 W to 0.6 W

This mode is set to on at the time of purchase.

| | NORMAL (off) | ECO (on) |
|-----------------------------------|---------------------|----------|
| Display | Clock display, etc. | Blank |
| Power consumption in standby mode | 11 W | 0.6 W |

The demonstration is shown if DEMO is on, regardless of the condition of the ECO mode. Turn DEMO off if ECO is used.

Turning ECO on and off:

Press [⏻/⏻] to turn the unit on.

Press [ECO].

The current ECO mode is displayed. Press again to change the mode.

The display changes each time the button is pressed:

NORMAL (off) ↔ ECO (on)

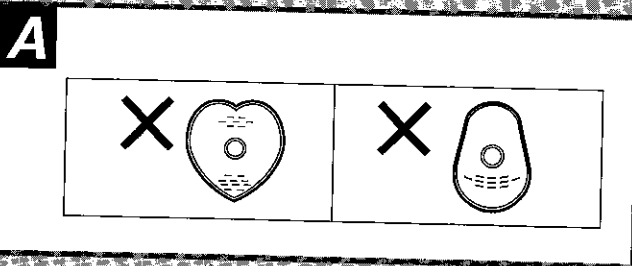
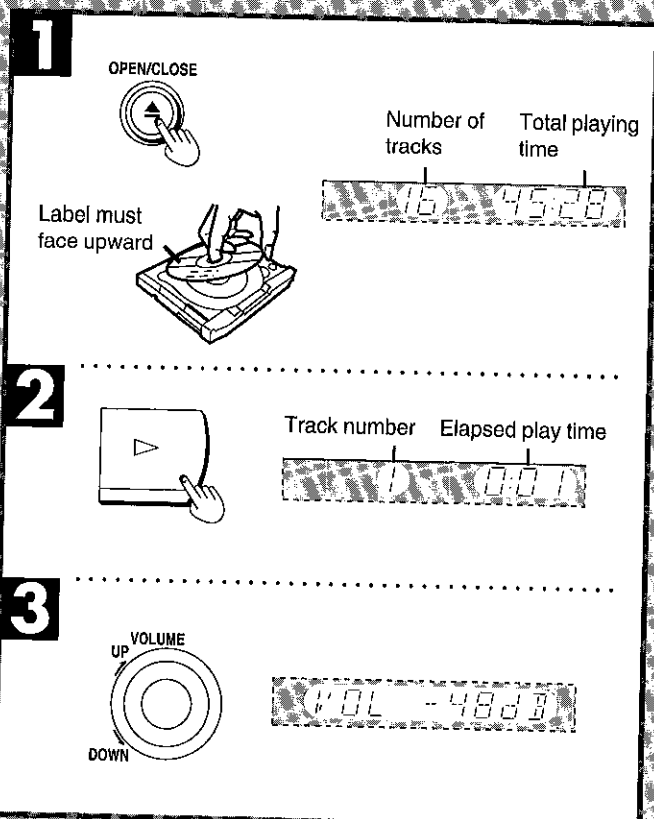
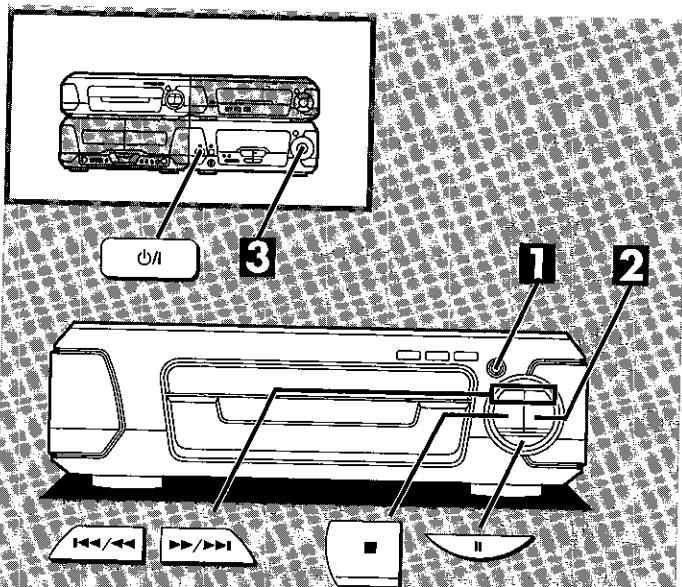
When ECO is on:

When the power is switched off, standby indicator lights, but the display panel remains blank.

Note

When the unit is off, the mode can be switched from NORMAL to ECO, but not the other way.

■ Listening to Compact Disc



Sequential play

Preparation:

Press [⏻/⏻] to turn the unit on.

1 Press [⏻ OPEN/CLOSE] to open the tray.

Insert the CD with label facing upward.

Press [⏻ OPEN/CLOSE] to close the tray.

When the "CD" input source is selected, total number of tracks and total playing time will appear on the display.

2 Press [▶].

Play will start from the first track on the CD.

Play will stop automatically when the last track on the CD finishes playing.

3 Adjust the volume.

To stop the disc:

Press [■].

To temporarily stop the disc:

Press [⏸]. The play indicator flashes.

To play again, press [▶].

Skipping tracks backward and forward:

Press [⏮/⏮] to skip backward. Press [⏭/⏭] to skip forward.

Searching through tracks during play:

Press and hold [⏮/⏮] to search backward. Press and hold [⏭/⏭] to search forward.

When "NO DISC" display appears:

It indicates that a CD has not been installed.

For your reference:

If you press [▶] instead of [⏻ OPEN/CLOSE] after inserting a CD, the tray will close and play will start directly from track 1.

Note

- During random play, you cannot skip to tracks which have already been played.
- During program play or random play, you cannot search-forward/backward over tracks.
- During program play, skipping is always in the programmed order, whether forward or backward.
- Do not use CDs with poorly attached labels or stickers. Adhesive protruding from underneath stickers or left over from peeled off stickers can cause the system to malfunction.
- Do not use irregular shaped CDs. **A**

Direct access play

A

by remote control only

Direct access allows you to start sequential play from a specific track to the last track on the CD.

- 1** Press [CD].
- 2** Press the numeric button(s) to select the desired track number.
Play will start with the track you select.

To select a two-digit track:

Press [≥ 10 /-/-] and then the two numbers you want within 10 seconds or so.

Repeat play

B

This function repeats the play of all tracks.

Press [REPEAT] before or during play.

To cancel repeat play:

Press [REPEAT] once again.

To repeat only your favorite track(s)

1. Program the track(s) you want.
2. Press [REPEAT] and make sure "☺" is displayed.
3. Press [>]. Play will start

Random play

C

This function automatically selects a sequence of tracks to be played in random order.

Press [RANDOM].

Random play will start.

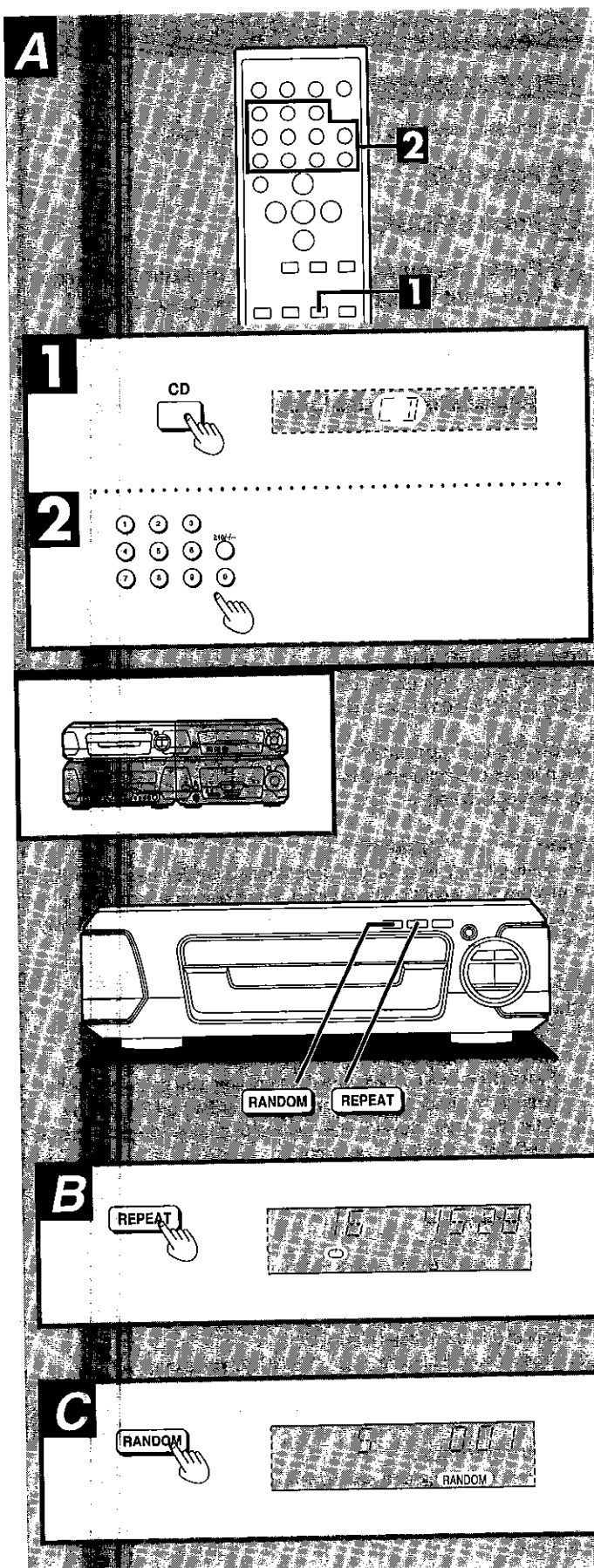
Play will stop automatically when all tracks on the CD finish playing randomly.

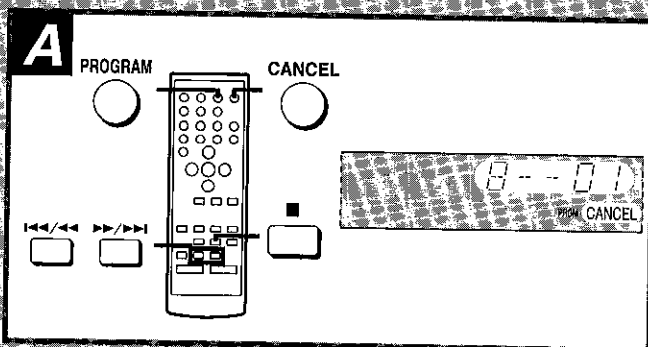
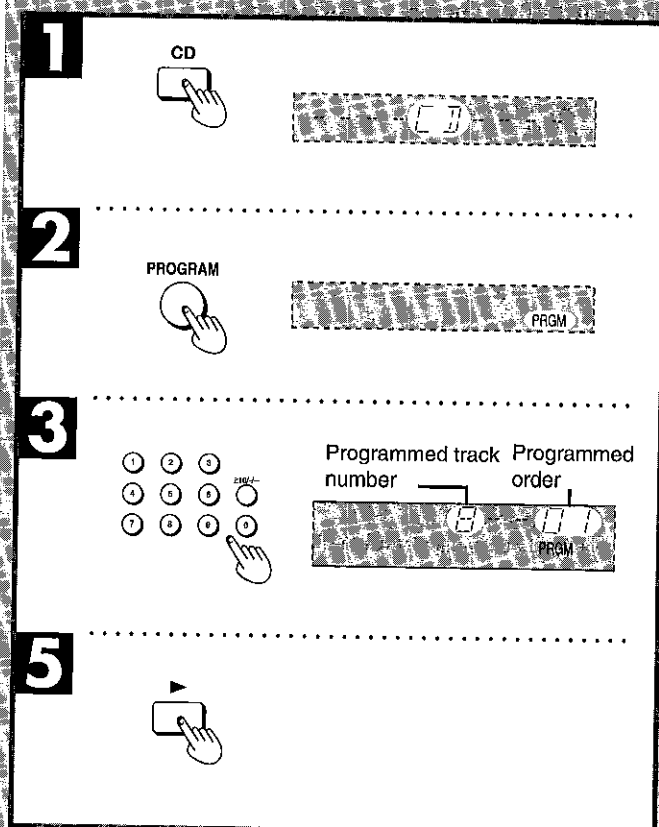
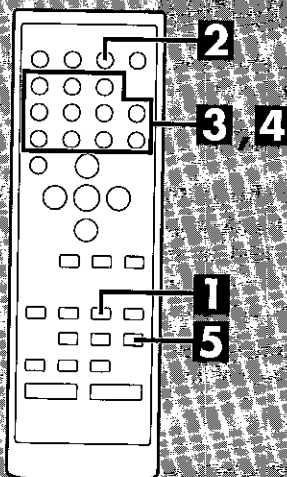
To cancel random play:

Press [RANDOM] once again.

For your reference:

In the program play mode, the programmed tracks will be played randomly.





Program play

by remote control only

This function allows you to program up to 24 tracks.

- 1** Press [CD].
- 2** Press [PROGRAM].
- 3** Press the numeric button(s) to select the track you want to play in the desired sequence.

To select a two-digit track:

Press [$\geq 10/-/-$] and then the two numbers you want.

- 4** Repeat step **3** until you have programmed all the tracks you want.
- 5** Press [▶].
Play will start in the programmed sequence.
Play will stop automatically when all the programmed tracks have been played.

To cancel program play mode:

Press [PROGRAM].

"CLEAR" will appear on the display for approximately 1 second and all the programmed tracks will be cancelled.

When "FULL" appears:

The number of programmed tracks is limited to 24. No further tracks can be programmed.

When "--:--" appears:

The total playing time of the programmed tracks has exceeded 99 minutes 59 seconds, or you tried programming a track which is numbered 25 or more. In any case, you can still program and play discs.

You can do the following during program play. **A**

• Check program contents.

1. Press [CANCEL].
"CANCEL" will light.
2. Press [◀/◀◀] or [▶/▶▶]. Every time you press one of the buttons, the track and program No. are shown on the display.
3. After the total playing time appears on the display, press [CANCEL]. "CANCEL" goes out.

• Add to the program.

Repeat step **3**.

• Cancel entries.

A specific track only:

- ① Press [CANCEL]. "CANCEL" will light.
- ② Press the numeric button(s) of the track you want to cancel, or press [◀/◀◀] or [▶/▶▶] to select the track you want to cancel and then press [CANCEL].
- ③ Press [CANCEL] once again. "CANCEL" goes out.

All tracks:

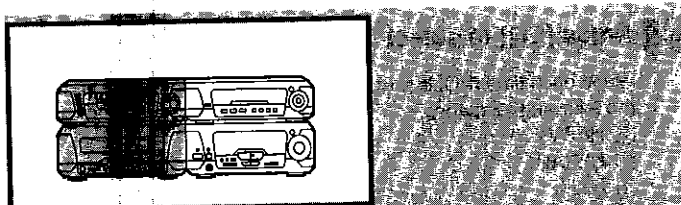
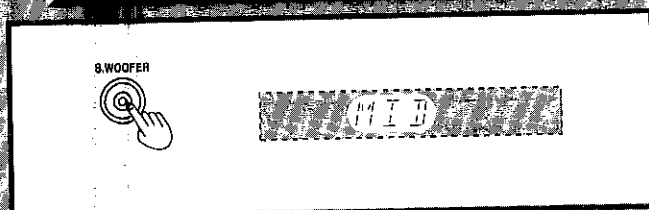
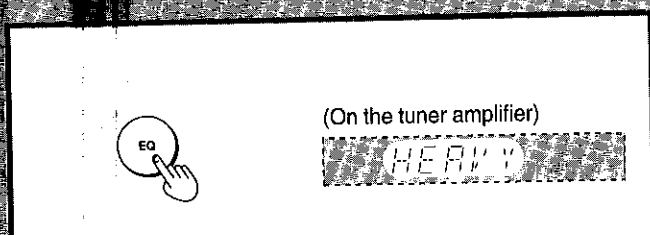
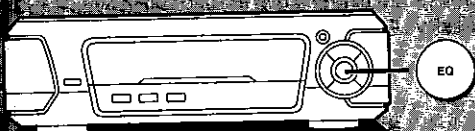
Press [PROGRAM], or press [■] while play is stopped.

For your reference:

To program the track you are listening to:

If you press [PROGRAM] during playback, the program mode will engage and the current playback track will be automatically recorded as program No. 1.

■ Boosting the Super Woofer **A**

**A****B**

① (On the sound processor)



②



③



④



⑤



⑥



Press [S. WOOFER].
[S. WOOFER] lamp lights.

- When listening to the sound through the speakers:
MID (medium) → MAX (high) → Light off (OFF)
- When listening to the sound through the headphones:
Light on (ON) ↔ Light off (OFF)

To cancel

Press [S. WOOFER] to select OFF.

■ Using the Built-in Sound Quality/ Sound Field Settings **B**

Press [EQ] to select the sound quality or sound field.

When each time [EQ] is pressed, the settings are selected in the following sequence.

- ① **HEAVY (sound quality)**
Select this when playing rock or other kinds of music that sound better with an added punch.
- ② **CLEAR (sound quality)**
Select this for jazz or other kinds of music for which clarity in the treble range is desired.
- ③ **HALL (sound field)**
Select this to add an expansiveness to the sound to produce the atmosphere of a great concert hall.
- ④ **AI EQ**
- ⑤ **MANUAL**
- ⑥ **FLAT**
The original display is restored on the display panel in about 5 seconds.

To release the equalizer

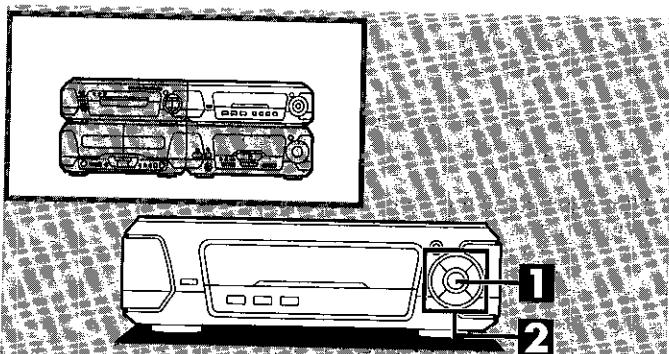
Press [EQ] to select "FLAT".

When using the remote control to perform the operations described above

Press [EQ].

Each time this button is pressed, the setting is changed in the sequence described above.

■ Varying the Sound Quality with the Manual Equalizer (Manual EQ)



1 Press [EQ] to select "MANUAL".

When each time [EQ] is pressed, the settings are selected in the following sequence.

- ① HEAVY
- ② CLEAR
- ③ HALL
- ④ AI EQ
- ⑤ **MANUAL**
- ⑥ FLAT

2 Adjust the sound quality.

- ① ← → direction: For selecting the range of the sound to be adjusted

Characteristics of each sound range

Under 100 Hz: Super woofer range

Around 315 Hz: Bass to midrange

Around 1 kHz: Midrange

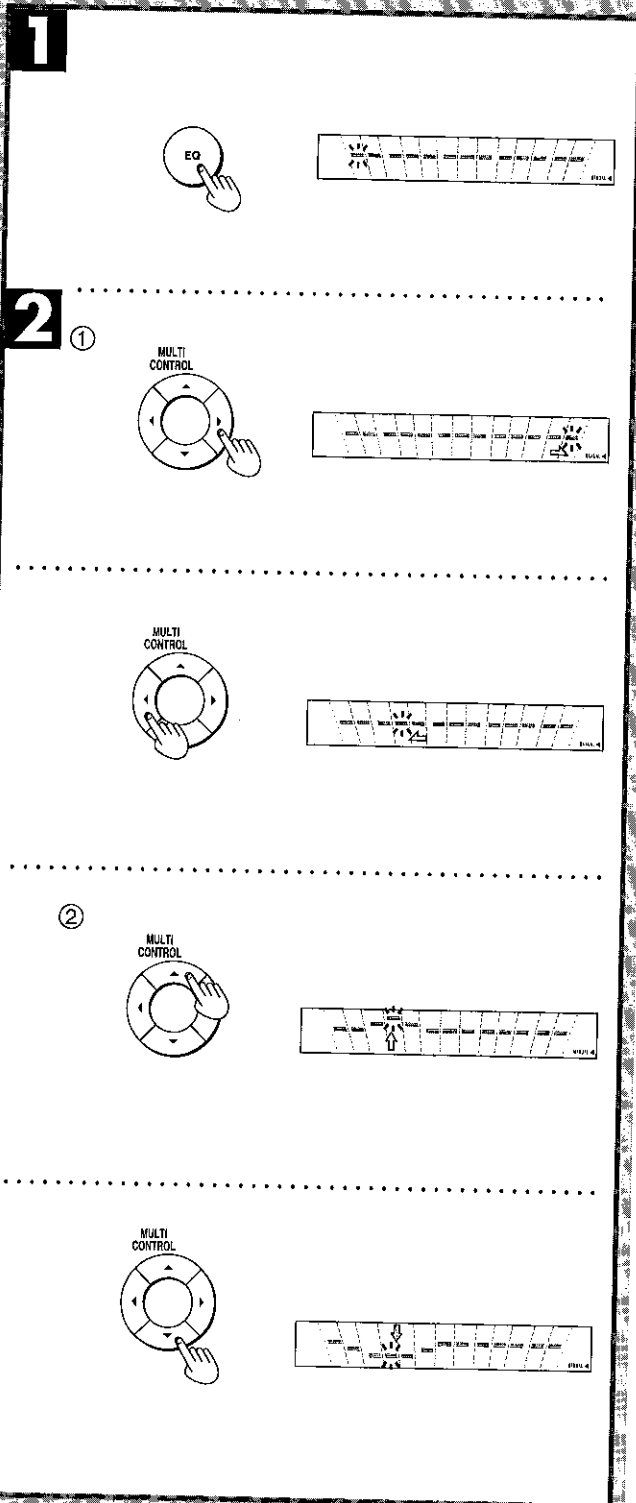
Around 3.15 kHz: Midrange to treble

Above 10 kHz: Treble

- ② ↓ ↑ direction: For adjusting the level

Repeat steps ① and ② to set the desired sound quality.

The original display is restored on the display panel in about 5 seconds.



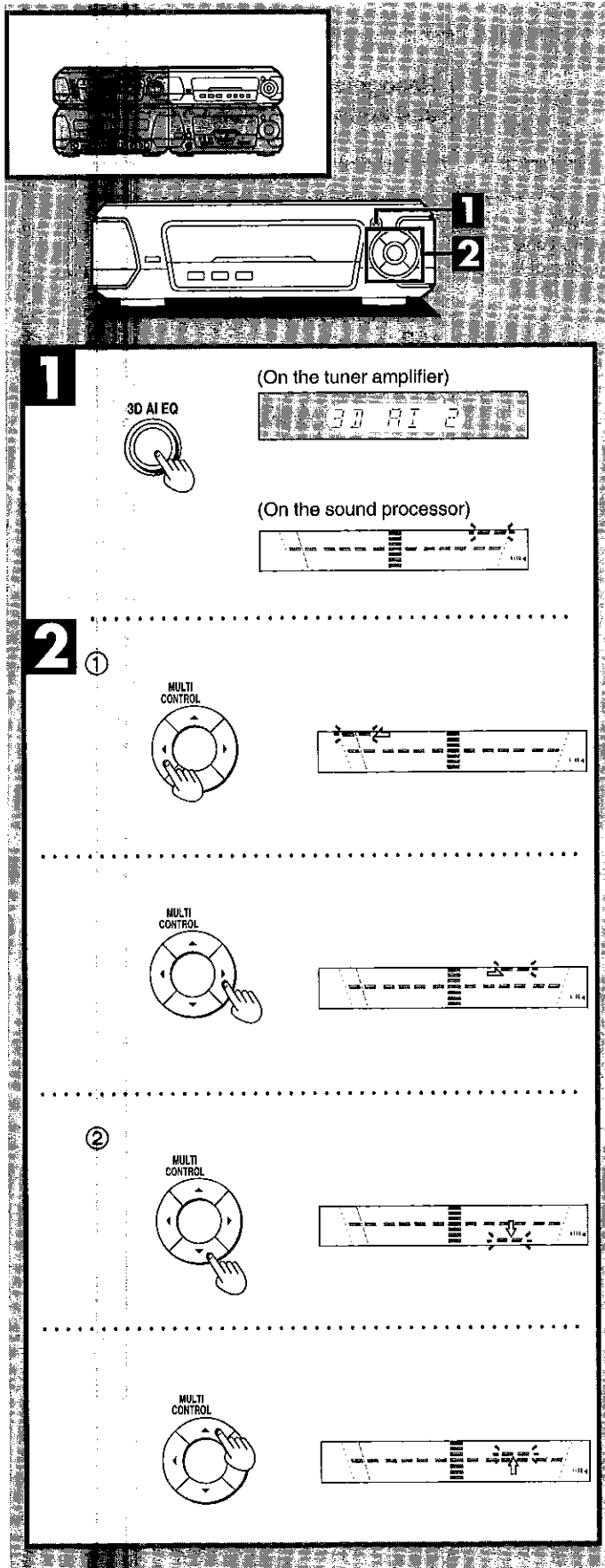
To release the equalizer

Press [EQ] to select "FLAT".

Note

- The sound quality setting is stored automatically. It is recalled when "MANUAL" is next selected.
- All recordings are performed at the flat setting even if an alternative sound quality setting has been selected.

■ Varying the Sound Quality with the Acoustic Image (AI) Equalizer (3D AI EQ)



It is possible to use the acoustic image equalizer (AI EQ) together with the surround effect to create your own sound effect. The AI EQ equalizer uses the SOFT, SHARP, HEAVY and LIGHT sound quality coordinates to achieve subtle sound quality settings with ease.

1 Press [3D AI EQ] to adjust the surround level.

Everytime you press the button;
AI EQ → 3D AI 1 → 3D AI 2

2 Adjust the sound quality.

① ← → direction: SOFT–SHARP setting

② ↓ ↑ direction: LIGHT–HEAVY setting

Repeat steps ① and ② to set the desired sound quality.

The original display is restored on the display panel in about 5 seconds.

To release the equalizer



Press [EQ] to select "FLAT".

Note

- The sound quality setting is stored automatically. It is recalled when "AI EQ" is next selected.
- All recordings are performed at the flat setting even if an alternative sound quality setting has been selected.
- 3D AI 1 and 3D AI 2 cannot be selected while SIMULATED STEREO and VIRTUAL DOLBY SURROUND modes are on.

■ Surround Systems

- Select the surround mode appropriate to the source you are using. Read the following explanations to aid your selection.

| Surround system | Features | Recognizing the sound sources and software that can be used |
|--|--|---|
| <p>VIRTUAL DOLBY SURROUND</p>  | <p>This mode enables you to play sources recorded in Dolby Digital or Dolby Pro Logic through 2 channels, but with the feeling of 4 or 5.1 channel playback.</p> | <p>Software recorded in Dolby Digital or Dolby Pro Logic (See above):</p> <ul style="list-style-type: none"> • Laser Disc • DVD • Video tape (VCR) • CD  <p>This mode cannot be used with the radio.</p> |
| <p>SIMULATED STEREO</p> | <ul style="list-style-type: none"> • This mode adds stereo-like effects to monaural sound sources. | <p>Any general sound source recorded in monaural can be used.</p> <ul style="list-style-type: none"> • CD • Tape • Video tape <p>This mode cannot be used with the radio and 6CH DISCRETE INPUT mode.</p> |

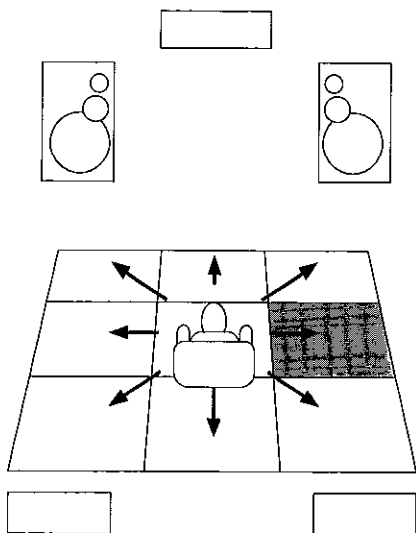
Add these audio effects to improve the experience

- Check the set-up of your speakers.

Set your speakers up to suit the surround mode you have selected to get the best surround effect.
These modes cannot be used with the radio.

Seat position function

- This function helps maintain the sound signal position even if the listening position itself is changed.
- It is effective when using VIRTUAL DOLBY SURROUND.



■ Using Virtual Dolby Surround **A**

Use this mode with 4 or 5.1 channel sources such as Dolby Pro Logic and Dolby Digital.

The sound from 2 speakers is processed so it appears as if it is coming from 5 or 5.1 speakers.

Press [VIRTUAL DOLBY SURROUND].
The [VIRTUAL DOLBY SURROUND] lamp lights.

To cancel the mode

Press [VIRTUAL DOLBY SURROUND].

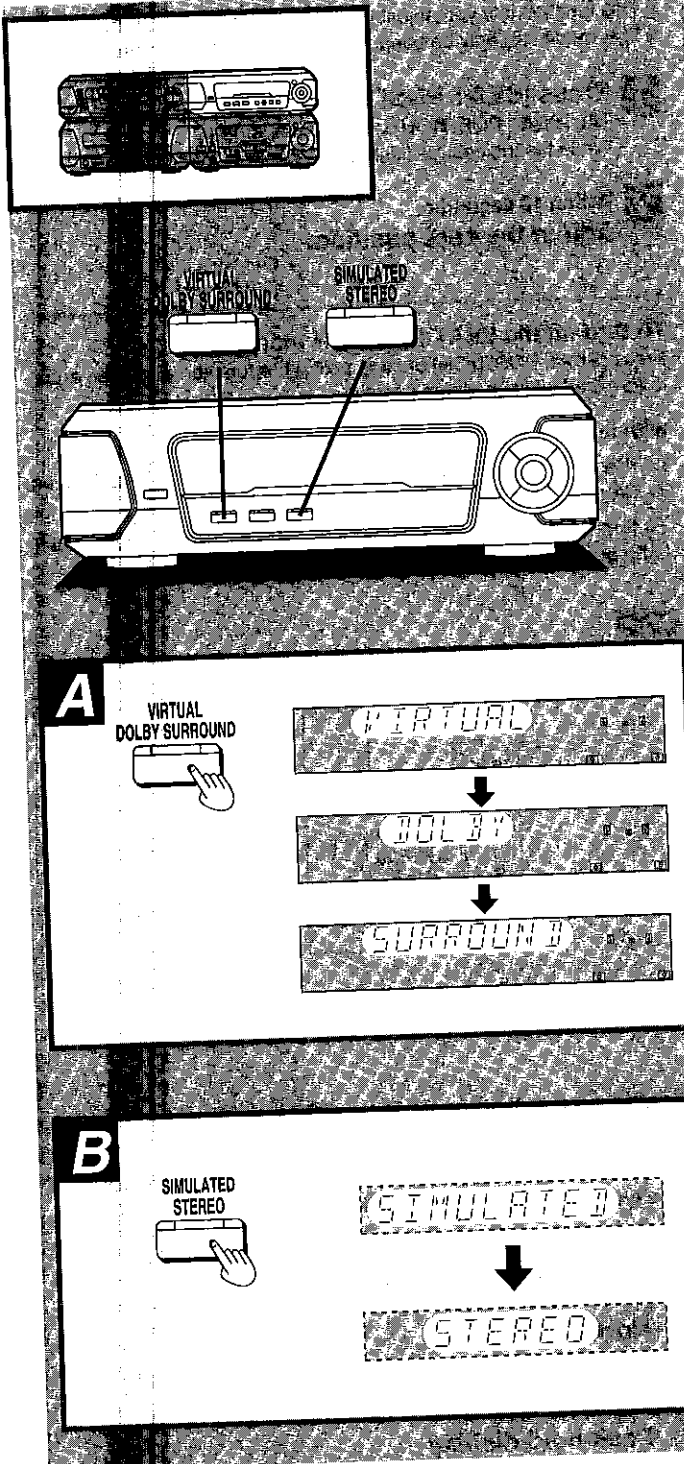
■ Enjoy the Sound with Simulated Stereo **B**

This mode adds stereo effect to monaural sources.

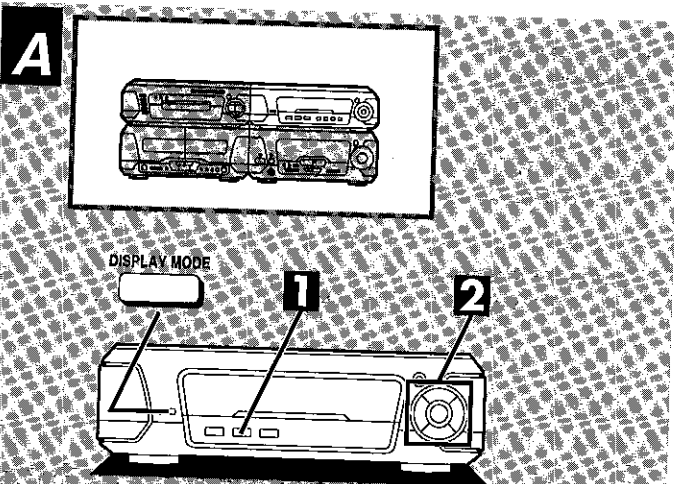
1 Press [SIMULATED STEREO].
The [SIMULATED STEREO] lamp lights.

2 Playback the source.

To turn off the SIMULATED STEREO mode
Press [SIMULATED STEREO].
The [SIMULATED STEREO] lamp goes out.



■ Using the Seat Position Function



- This function lets you adjust the listening position for better effect.
- This mode can only be used when Virtual Dolby Surround is on.

1 Press [SEAT POSITION].

The [SEAT POSITION] lamp flashes green.

While the indicator is flashing change the seat position.

2 Within 10 seconds

Adjust the seat position.

To turn off the SEAT POSITION mode

Press [SEAT POSITION] once to select the function and once again to turn it off while the lamp flashes.

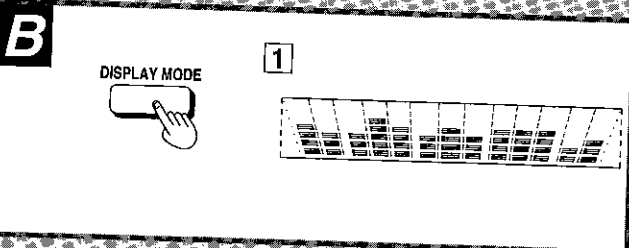
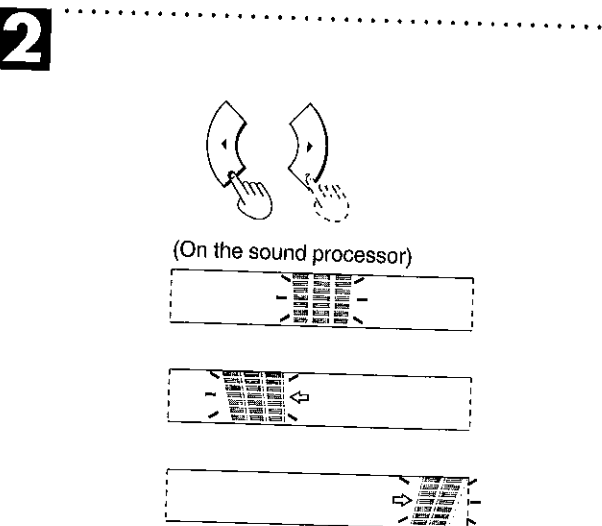
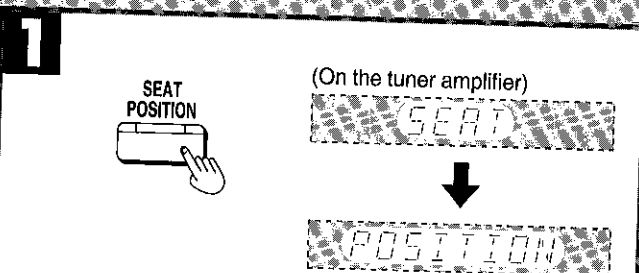
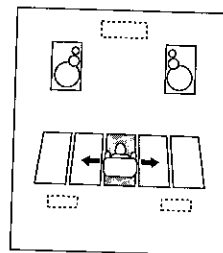
With the remote control

1. Press [SEAT POSITION] so the [SEAT POSITION] lamp flashes.
2. Press [◀] or [▶] to adjust the seat position.

To turn it off, press [SEAT POSITION] so the [SEAT POSITION] lamp goes out.

Note

- Seat position is changed in 5 horizontal steps.



■ Concerning the Display

The sound processor shows the level of each sound range with the three types of display described below. **B**

Press [DISPLAY MODE].

The spectrum display will change as follows.

1 Normal display

This display indicates the strength of the sound in each tonal range.

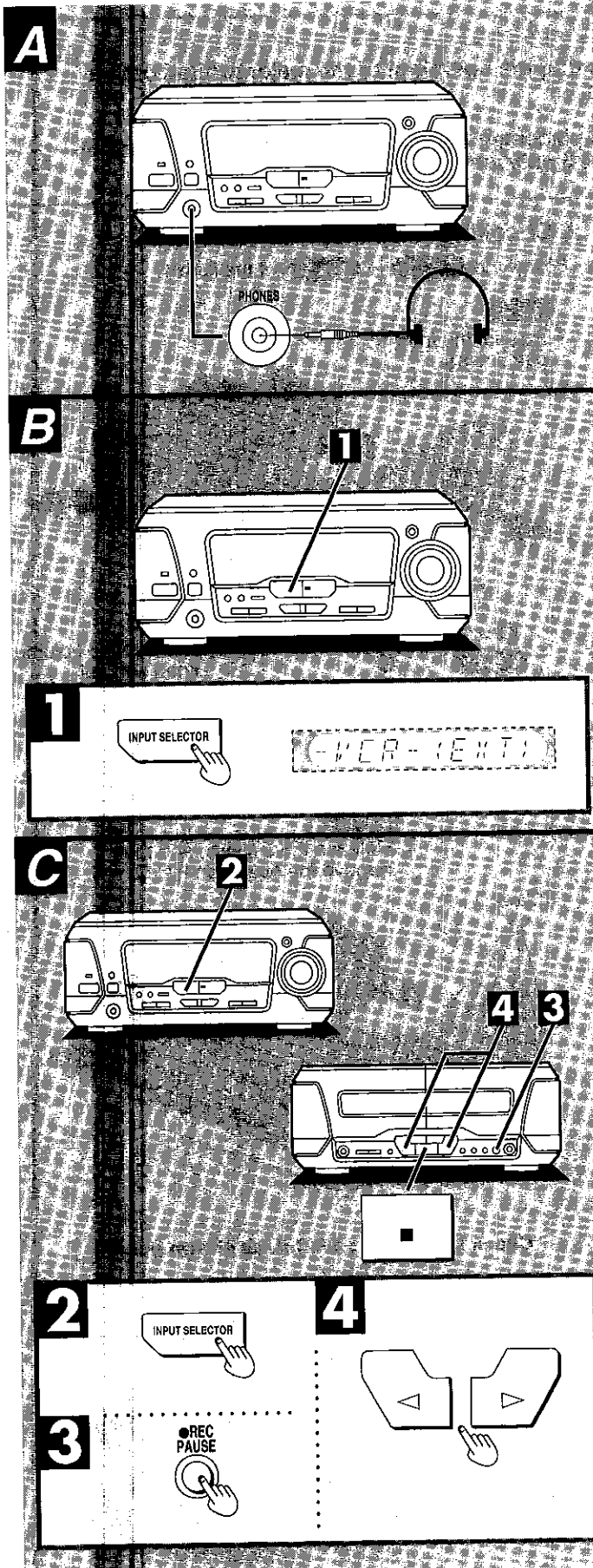
2 Peak-hold display

The peak sound value of each sound range is held on the display for about one second after it occurs.

3 Aurora display

The peak sound value of each sound range is displayed in inverted form.

Using an External Unit



To use headphones **A**

- Before connecting, reduce the volume level.
- Avoid listening for prolonged periods of time to prevent hearing damage.
- Plug type: 3.5 mm stereo

Listening to an external source **B**

- 1** Press [INPUT SELECTOR] to select the external source.

Each time you press this button, sound sources will be switched as follows.

TUNER → CD → TAPE → VCR (EXT) → AUX (DVD)

- 2** Operate the external unit which you have connected to the system.

Refer to your equipment's operating instructions.

Recording from an external source **C**

- 1** Press [△ OPEN] on deck 2 and insert the tape.
- 2** Press [INPUT SELECTOR] to select the external source.
- 3** Press [● REC PAUSE] to put the cassette deck into the recording standby mode.
- 4** Press [◀] or [▶] to start recording.
- 5** Start playing the source to be recorded.
- Refer to your equipment's operating instructions.

To stop recording:

Press [■] on the cassette deck.

To briefly interrupt recording:

Press [● REC PAUSE].

The cassette deck will go into the recording standby mode.

To resume recording:

Press [◀] or [▶] corresponding to the direction in which recording is taking place.

Recording on an external unit

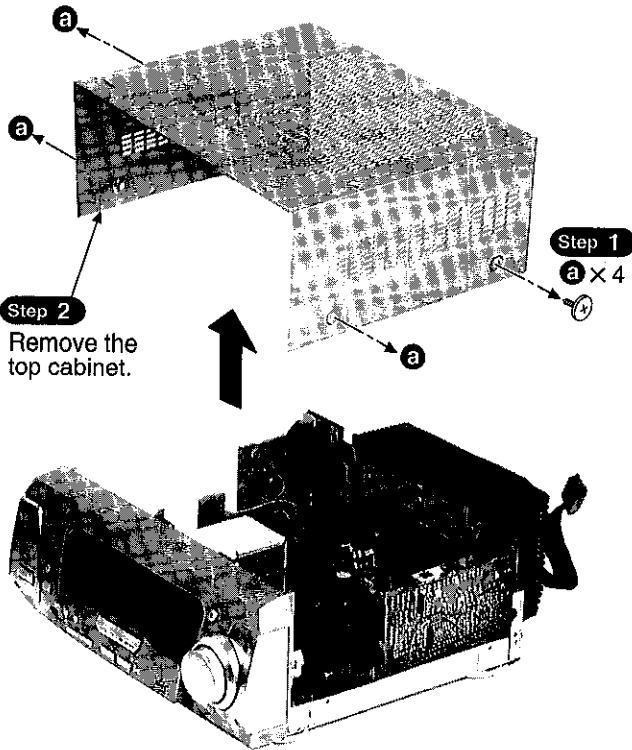
First, select the source with [INPUT SELECTOR].

Start recording on an external unit, and then start playing the source to be recorded.

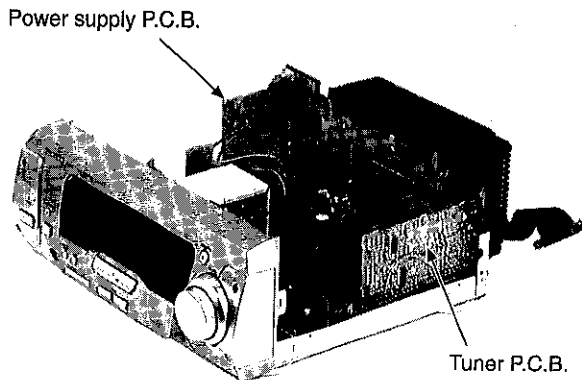
Operation Checks and Component Replacement Procedures

- NOTE**
1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
 2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

1. Checking for the tuner P.C.B. and power supply P.C.B.

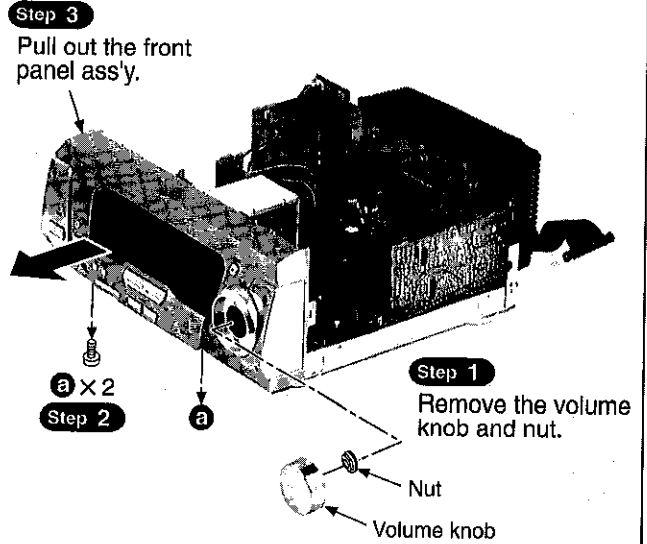


• Check the tuner P.C.B. and power supply P.C.B. as shown below.

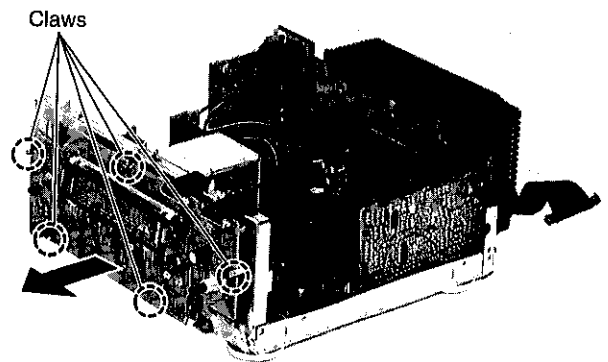


2. Checking for the operation P.C.B.

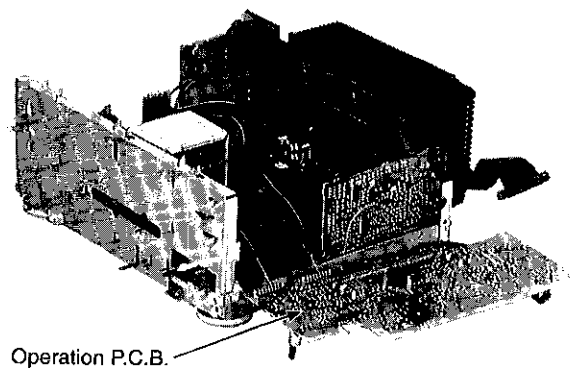
• Follow the Step 1 ~ Step 2 of the item 1.



Step 4
Release the 5 claws, and then remove the operation P.C.B..

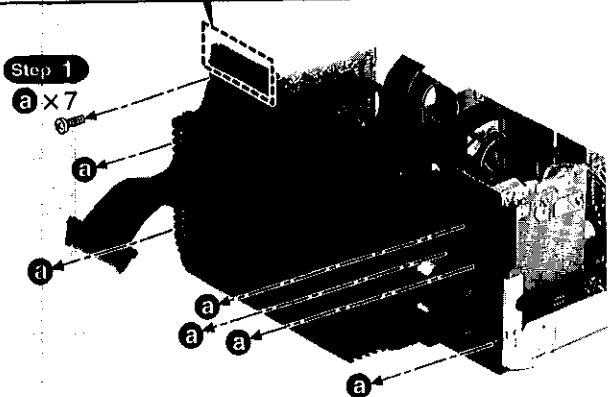
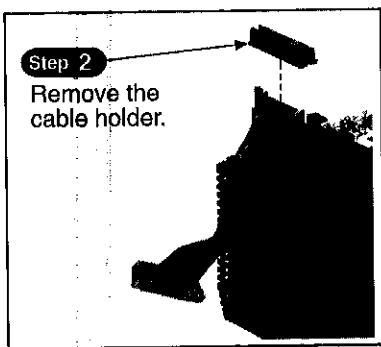


• Check the operation P.C.B. as shown below.

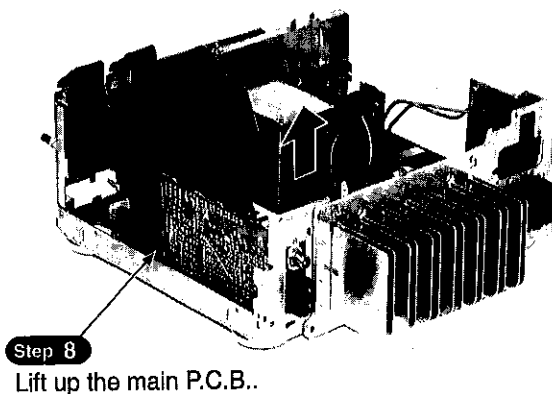
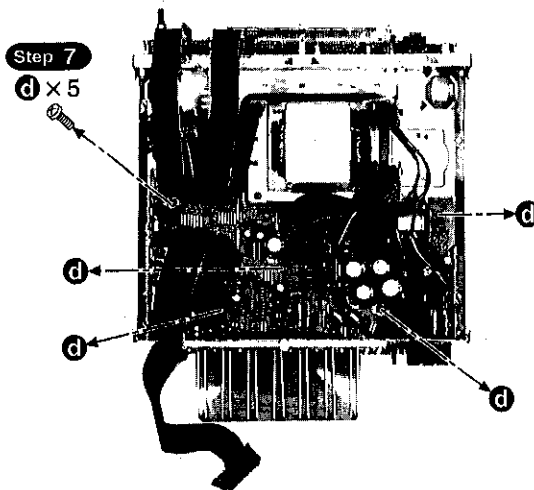
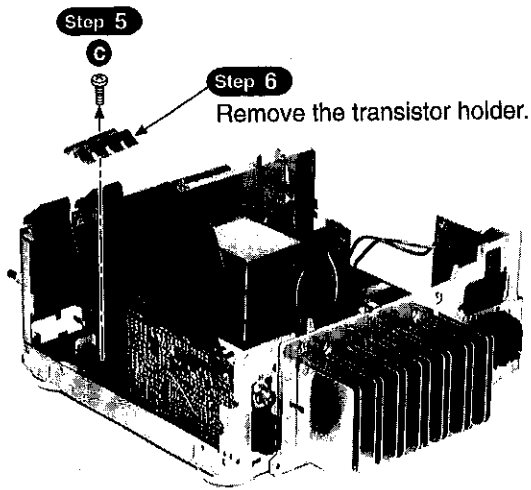
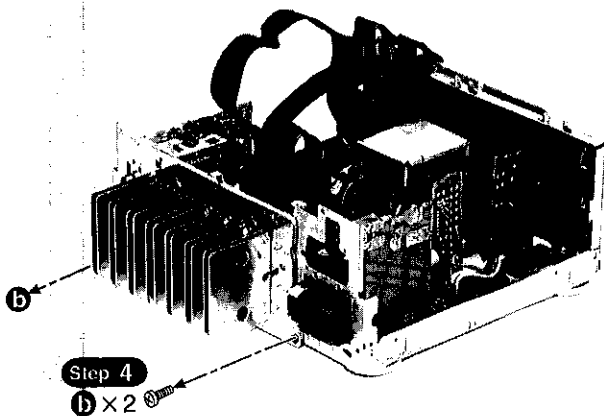
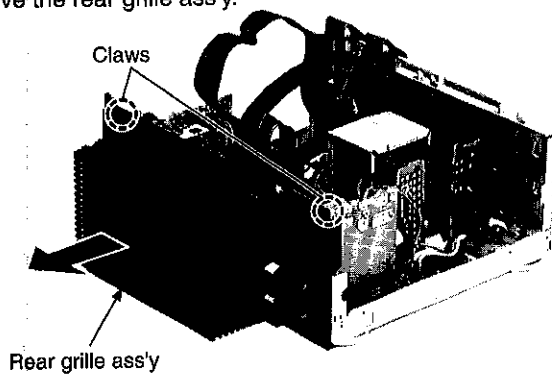


3. Checking for the main P.C.B.

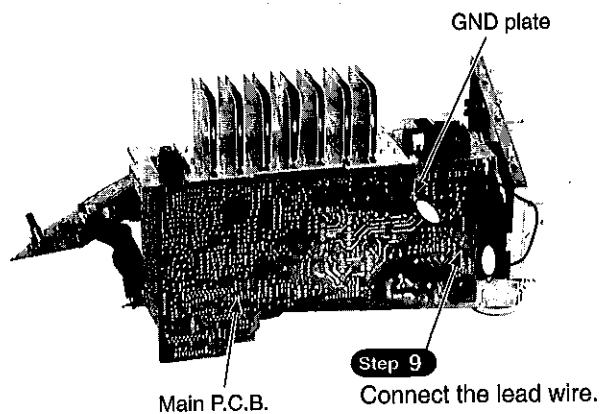
- Follow the Step 1 ~ Step 2 of the item 1.
- Follow the Step 1 ~ Step 4 of the item 2.



Step 3
Release the 2 claws, and then remove the rear grille ass'y.

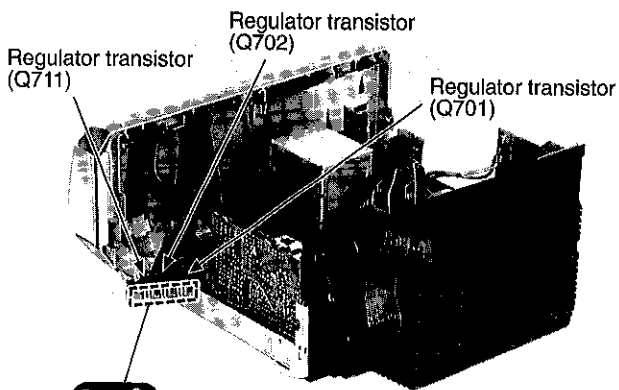
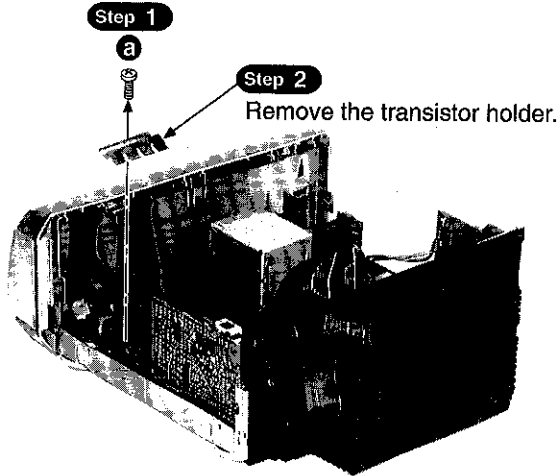


- Check the main P.C.B. as shown below.



4. Replacement for the regulator transistor

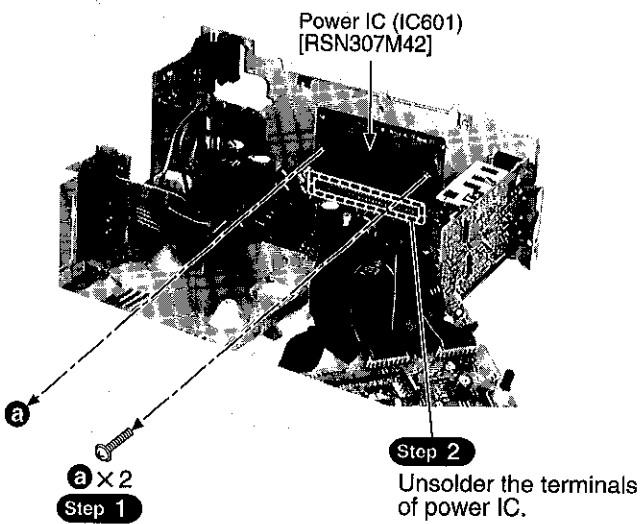
Follow the **Step 1** ~ **Step 2** of the item 1.



Step 3
Unsolder the terminals of regulator transistors.

5. Replacement for the power IC

- Follow the **Step 1** ~ **Step 2** of the item 1.
- Follow the **Step 1** ~ **Step 4** of the item 2.
- Follow the **Step 1** ~ **Step 8** of the item 3.

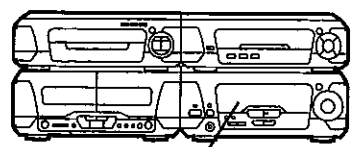
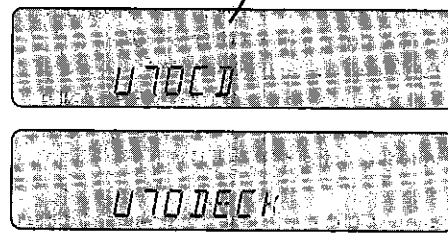


NOTE

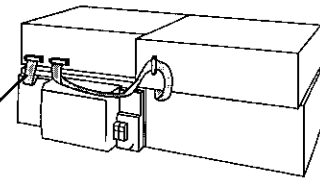
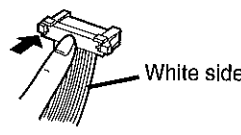
When mounting the power IC apply silicone compound (RFKX0002) to the rear side of power IC.

■ Self-Diagnostic Mode

This unit is equipped with a self-diagnostic function which, in the event of a malfunction, automatically displays a code indicating the nature of the malfunction. Use this self-diagnostic function when servicing the unit.

| Display method | Display location |
|--|---|
| <p>To display the malfunction code</p> <p>U70 CD: U70 DECK: Automatically displays on the tuner/amplifier when a malfunction occurs.</p> <p>F61 Automatically displays on the tuner/amplifier when a malfunction occurs.</p> <p>To return to the normal display</p> <p>1. For U70 CD/U70 DECK:</p> <ul style="list-style-type: none"> ● Press any operation button on the tuner/amplifier. ● To re-display the code, switch the power off (POWER STANDBY button), and then switch power back on again. <p>2. For F61:</p> <ul style="list-style-type: none"> ● If "F61" is displayed, the power will automatically be switched off and the standby indicator will light up. ● "F61" will be displayed for 3 seconds, and then the clock will be displayed. ● To re-display the code, switch the power on. "F61" will be re-displayed, and then after 3 seconds the clock will be displayed and the power will automatically switch off. | <p>CD Changer (SL-EH550) Sound processor (SH-EH550)</p>  <p>Cassette deck (RS-EH750) Tuner/Amplifier (SA-EH550)</p>  |

Display contents

| Display code | Problem or condition | Correction procedure |
|--|--|---|
| <p>U70 CD U70 DECK (displayed automatically)</p> | <p>A bus-line communications error has occurred as a result of the flat cables being inserted incorrectly, thus preventing the system from operating.</p> <p>1. If "U70" is displayed on the tuner/amplifier, the tape deck or CD Player cannot be operated by remote control.</p> | <p>Correction procedure</p>  <p>Flat cable</p> <ol style="list-style-type: none"> To check for correct insertion of the flat cables. <ol style="list-style-type: none"> Insert each connector until you hear a click. Insert the flat cables at the back of the unit in the order indicated. Make sure the white side of the cable is on your right side. Breakage of flat cable. (Check and replace as necessary.) If the problem is not corrected by items (1.) and (2.) above, this indicates a faulty IC. <p>SA-EH550: IC901 (LC8A524A5K01)</p> <p>SL-EH550: IC451 (M38504M6200F)</p> <p>RS-EH750: IC701 (M38503M2400F)</p> <p>Check these IC's and replace as necessary.</p>  <p>White side</p> |
| <p>F61</p> | <p>When the power switch is switched on, it automatically switches back off, making it impossible to switch power on.</p> | <ul style="list-style-type: none"> ● Faulty Tuner/Amplifier (SA-EH550) output IC (IC601). (When a DC voltage is applied to the speaker terminals.) |

■ Schematic Diagram

| | Page | | Page |
|-------------------------------------|-------|--|------|
| A TUNER CIRCUIT | 25,26 | E AC IN CIRCUIT | 33 |
| B OPERATION CIRCUIT | 27~29 | F POWER TRANSFORMER (A) CIRCUIT | 33 |
| C MAIN CIRCUIT | 30~33 | G POWER TRANSFORMER (B) CIRCUIT | 33 |
| D POWER SUPPLY CIRCUIT | 33 | | |

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

Notes:

- **S901** : Power "Standby/on" switch (⏻ / I)
- **S902** : ECO mode switch (ECO)
- **S903** : Clock timer, demo switch (CLOCK/TIMER, ■ DEMO)
- **S904** : Play timer/Record timer switch (⊙PLAY/⊙REC)
- **S905** : FM mode select switch (FM AUTO/MONO)
- **S906** : Tuning mode select switch (TUNING MODE)
- **S907** : Set switch (SET)
- **S908** : Source input select switch (INPUT SELECTOR)
- **S910** : Tuning down switch (TUNING ∨)
- **S911** : Tuning up switch (TUNING ∧)
- **S912** : Tuner/band select switch (TUNER/BAND)
- **S913** : Super woofer switch (S.WOOFER)
- **VR901** : Volume control VR (VOLUME)

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark: FM () : AM

- Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- **Caution!**

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil.


Ground the soldering iron.


Put a conductive mat on the work table.


Do not touch the legs of IC or LSI with the fingers directly.

- **Voltage and signal line**

 : Positive voltage line

 : AM signal line

 : FM signal line

 : Source signal line

 : Negative voltage line

 : AM OSC signal line

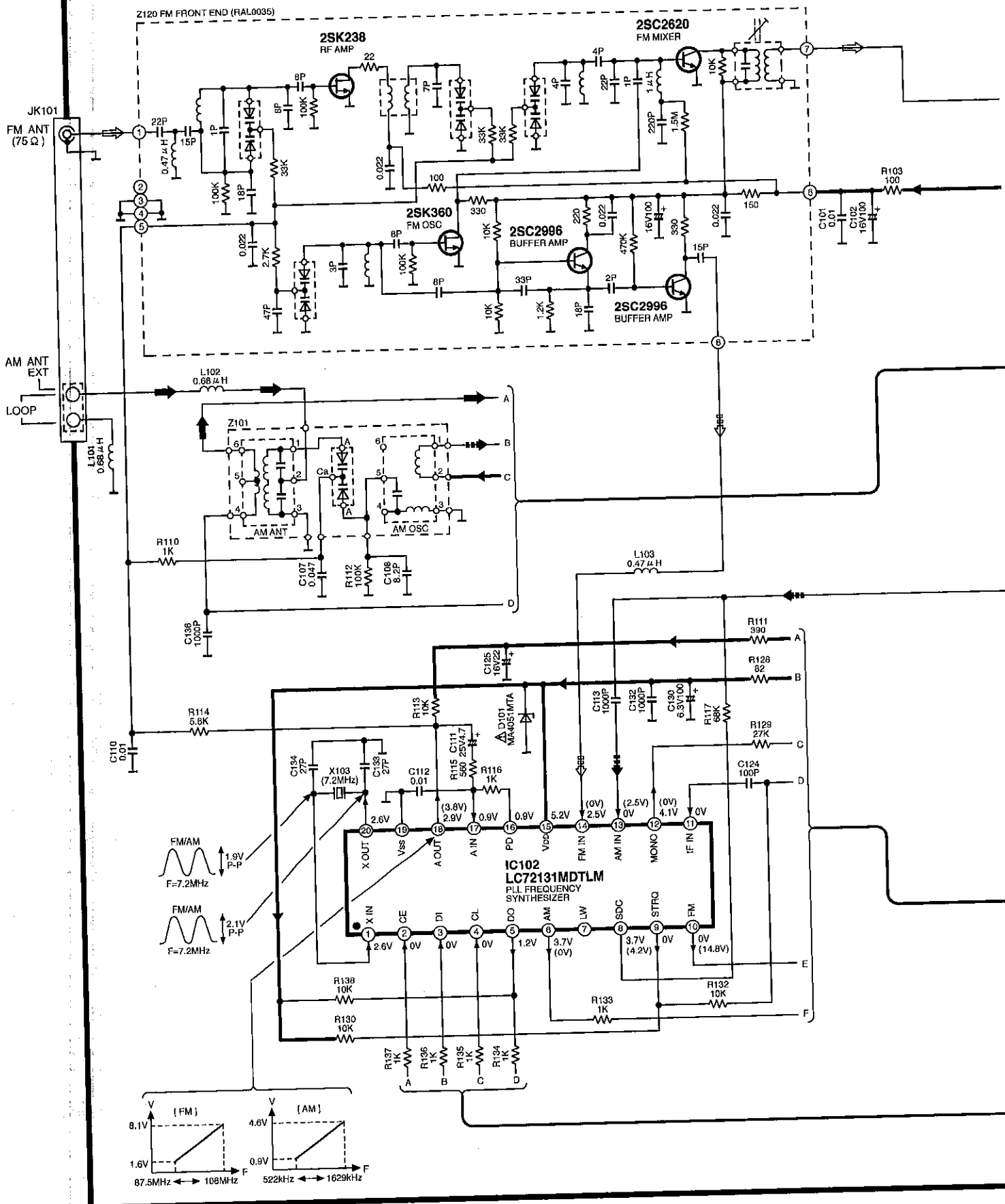
 : FM OSC signal line

SCHEMATIC DIAGRAM-1

NOTE:
 The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

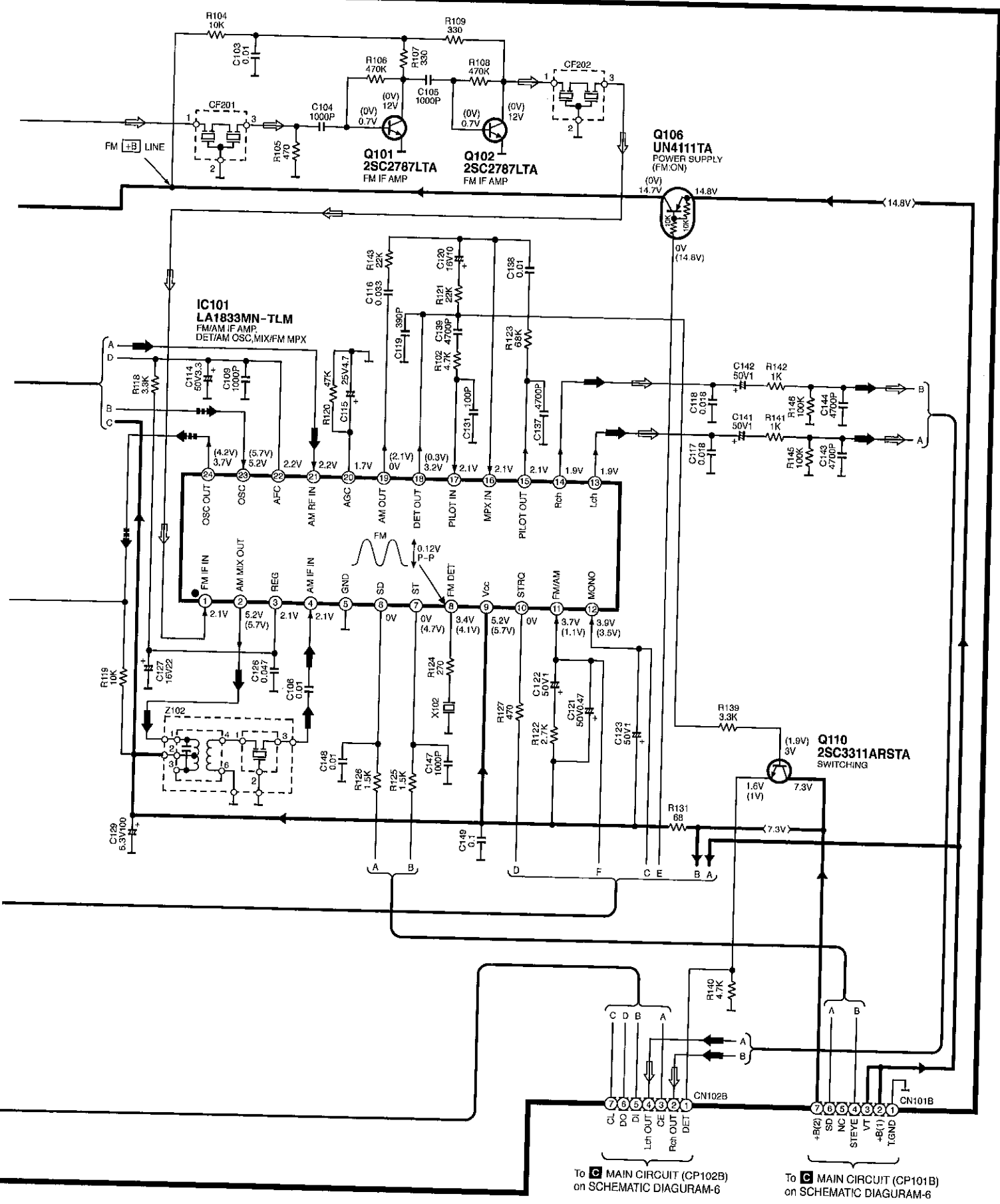
A TUNER CIRCUIT

◀ : FM OSC SIGNAL LINE ▶ : FM SIGNAL LINE
 ◀ : AM OSC SIGNAL LINE ▶ : AM SIGNAL LINE
 → : POSITIVE VOLTAGE LINE



SCHEMATIC DIAGRAM-2

→ : POSITIVE VOLTAGE LINE ⇨ : FM SIGNAL LINE ➔ : AM SIGNAL LINE ⇨⇨ : AM OSC SIGNAL LINE

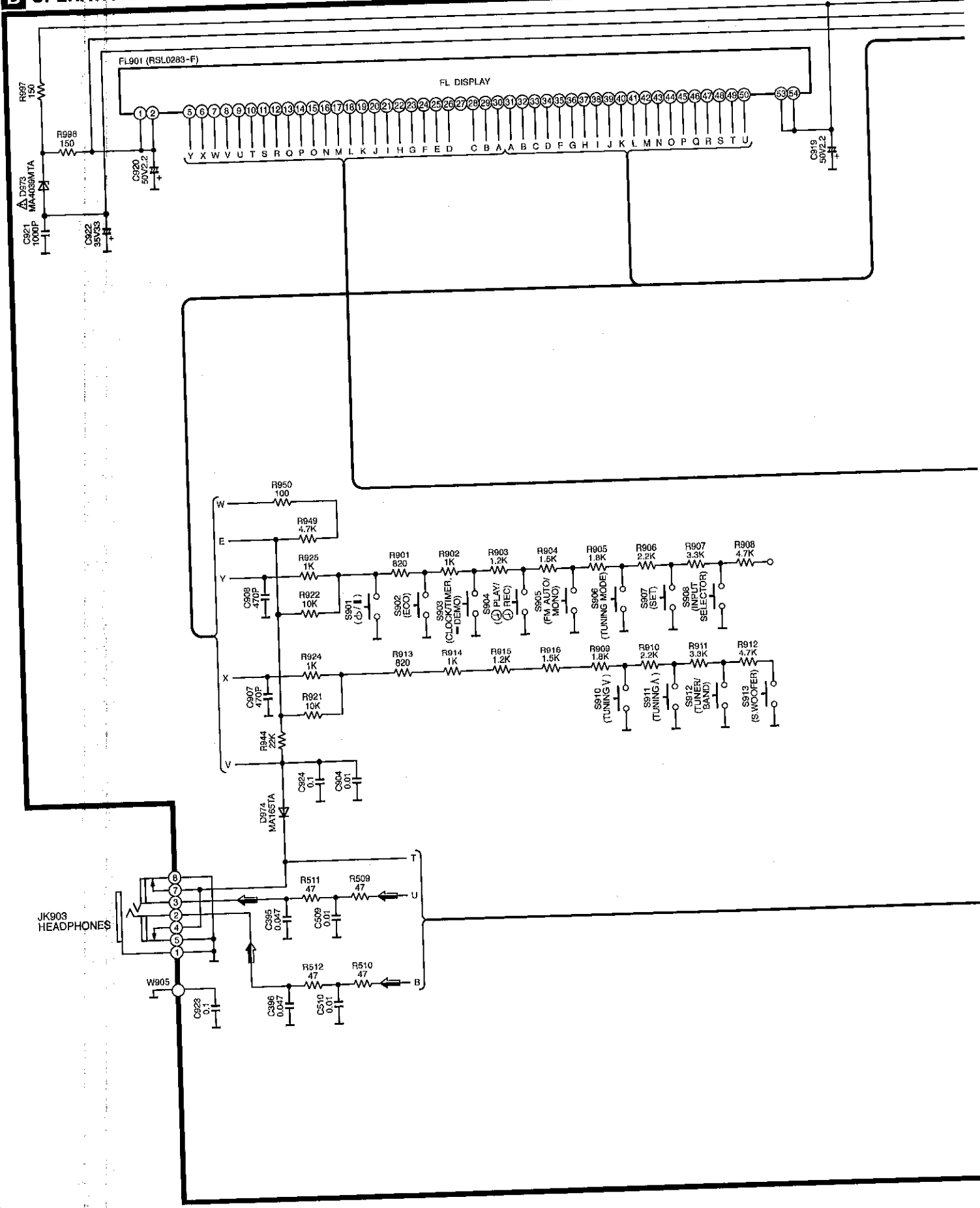


To **C** MAIN CIRCUIT (CP102B) on SCHEMATIC DIAGRAM-6

To **C** MAIN CIRCUIT (CP101B) on SCHEMATIC DIAGRAM-6

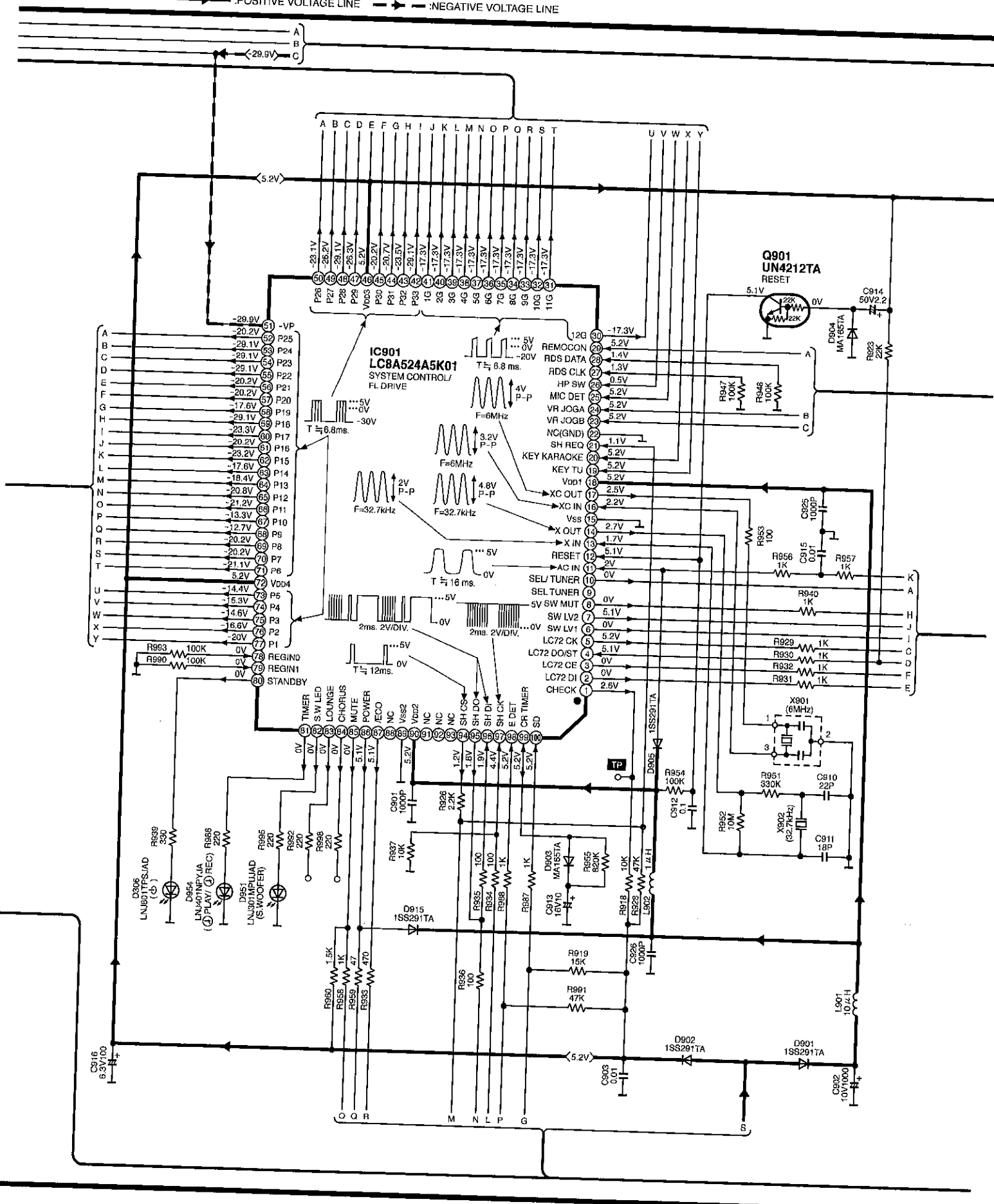
SCHEMATIC DIAGRAM-3 B OPERATION CIRCUIT

→ SOURCE SIGNAL LINE



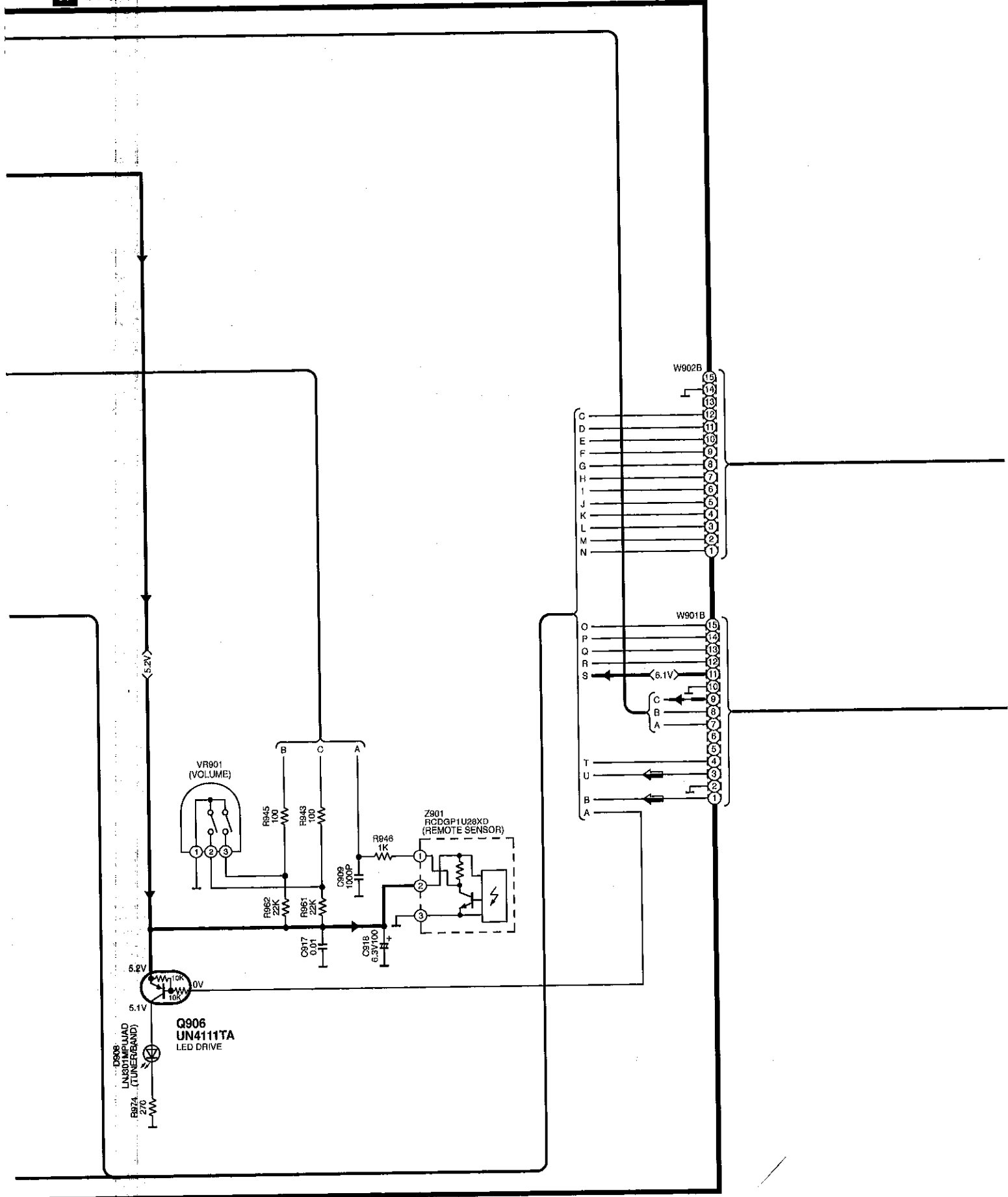
SCHEMATIC DIAGRAM-4

→ POSITIVE VOLTAGE LINE - - - - - NEGATIVE VOLTAGE LINE



SCHEMATIC DIAGRAM-5
B OPERATION CIRCUIT

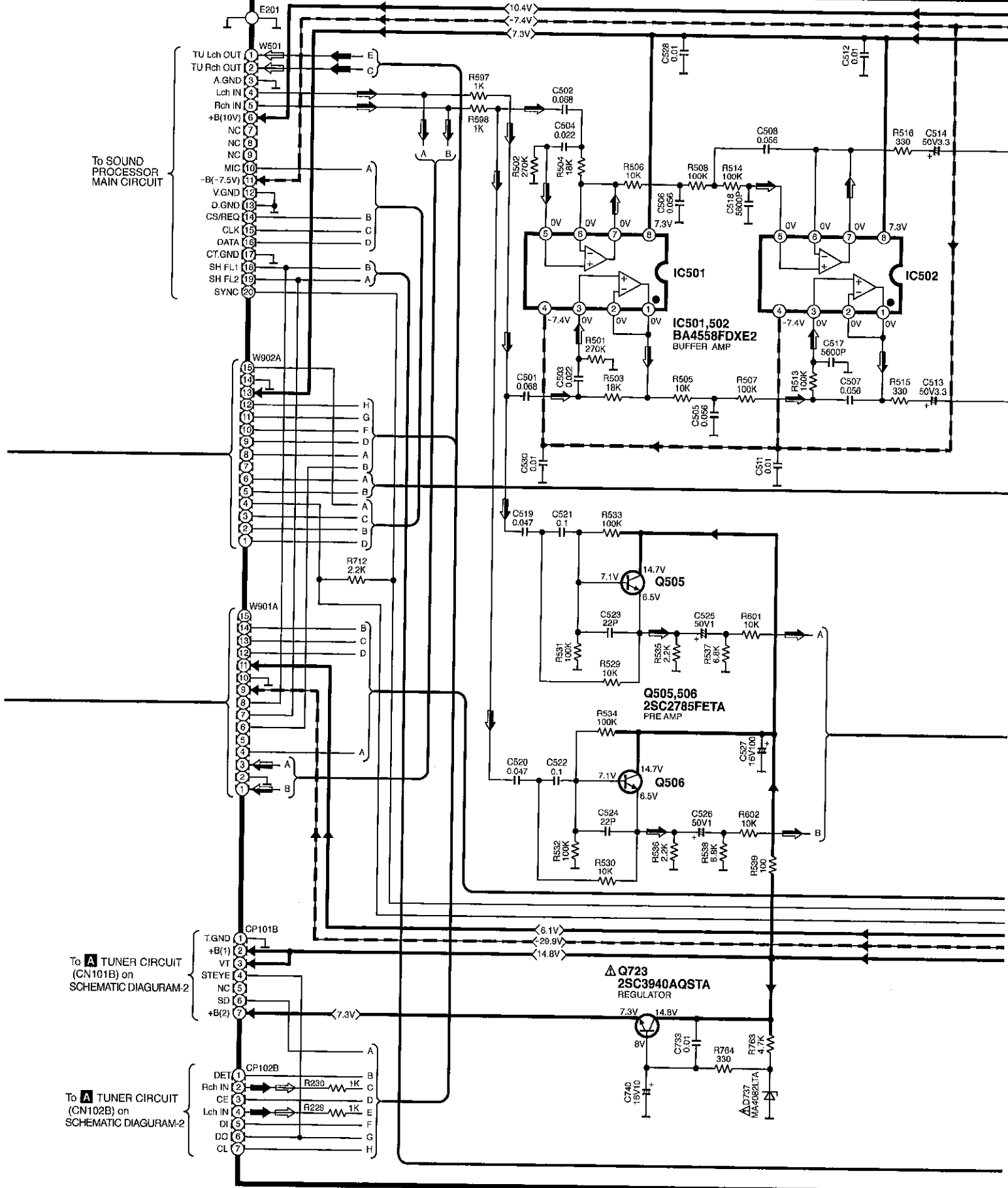
→ : POSITIVE VOLTAGE LINE
 ← : NEGATIVE VOLTAGE LINE
 ⇨ : SOURCE SIGNAL LINE



SCHEMATIC DIAGRAM-6

C MAIN CIRCUIT

——— POSITIVE VOLTAGE LINE ⇨ FM SIGNAL LINE
 - - - - - NEGATIVE VOLTAGE LINE ⇨ AM SIGNAL LINE ⇨ SOURCE SIGNAL LINE



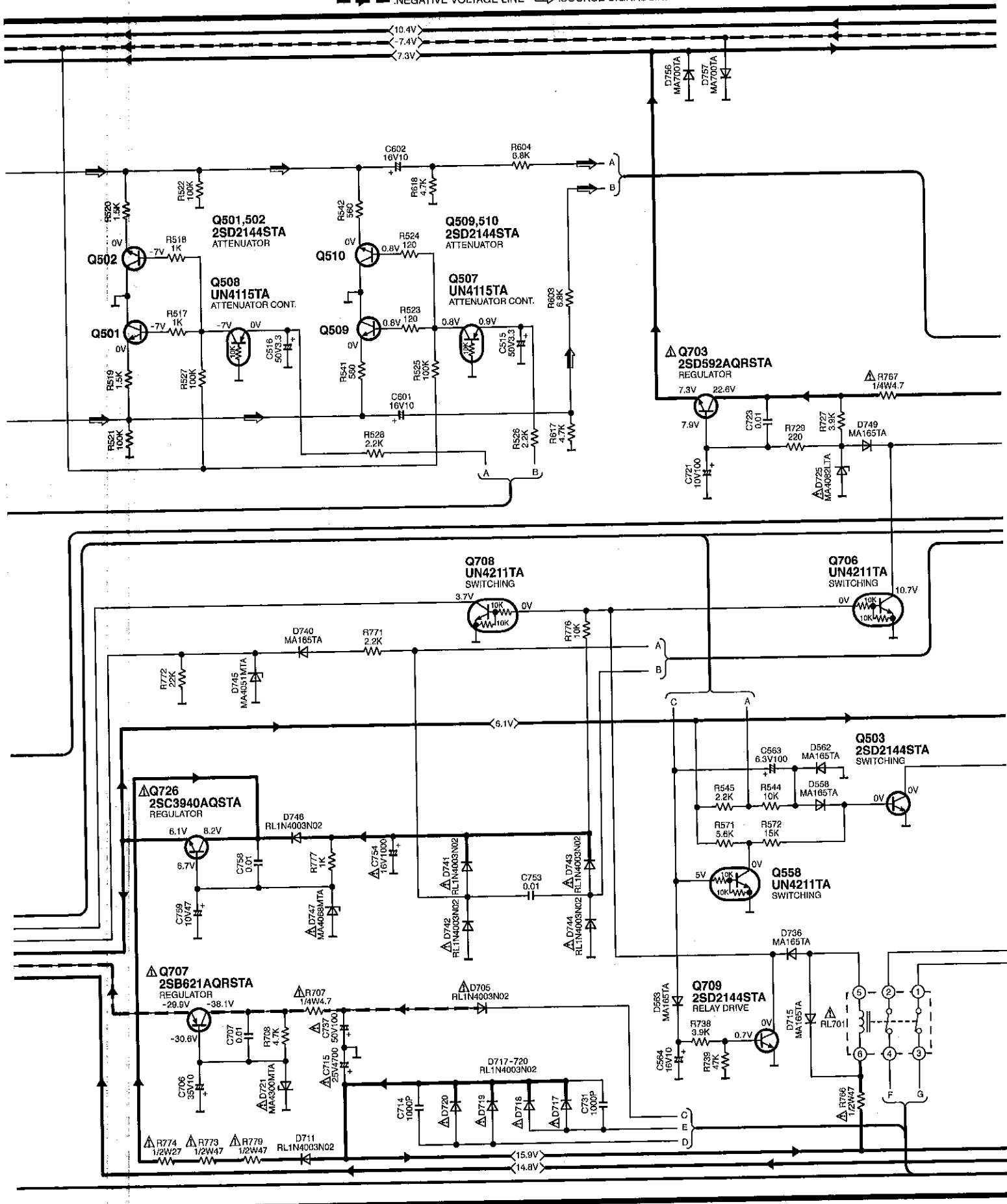
To SOUND PROCESSOR MAIN CIRCUIT

To **A** TUNER CIRCUIT (CN101B) on SCHEMATIC DIAGRAM-2

To **A** TUNER CIRCUIT (CN102B) on SCHEMATIC DIAGRAM-2

SCHEMATIC DIAGRAM-7

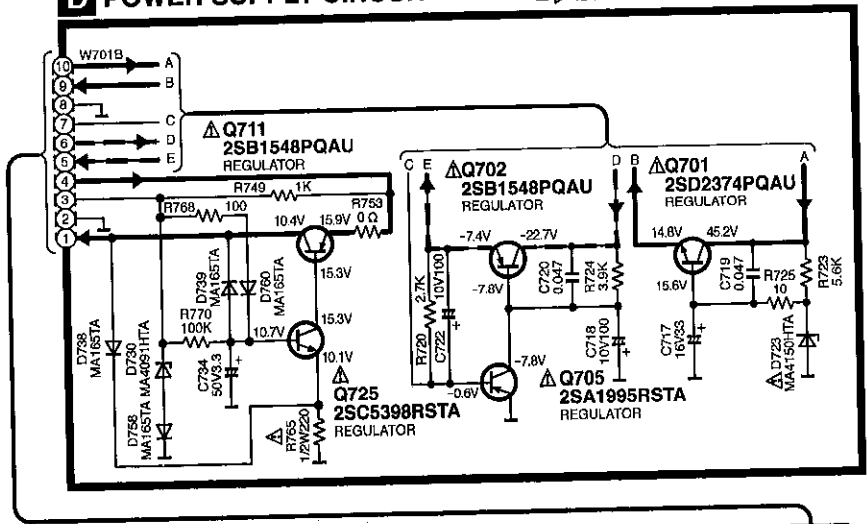
→ : POSITIVE VOLTAGE LINE
 - - - : NEGATIVE VOLTAGE LINE ↗ : SOURCE SIGNAL LINE



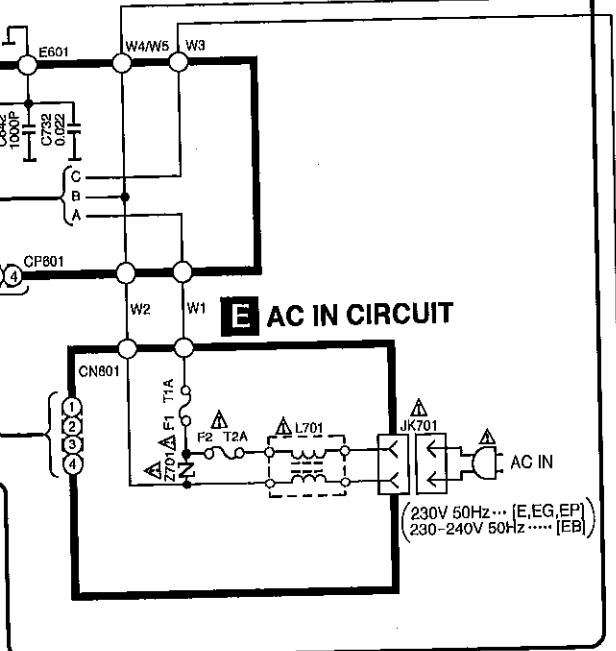
SCHEMATIC DIAGRAM-9

→ : POSITIVE VOLTAGE LINE
 ← : NEGATIVE VOLTAGE LINE
 ⇨ : SOURCE SIGNAL LINE

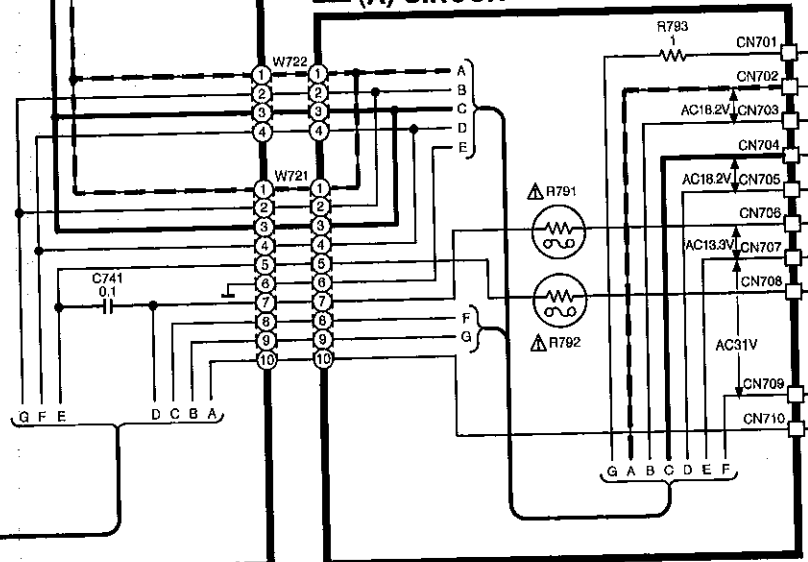
D POWER SUPPLY CIRCUIT



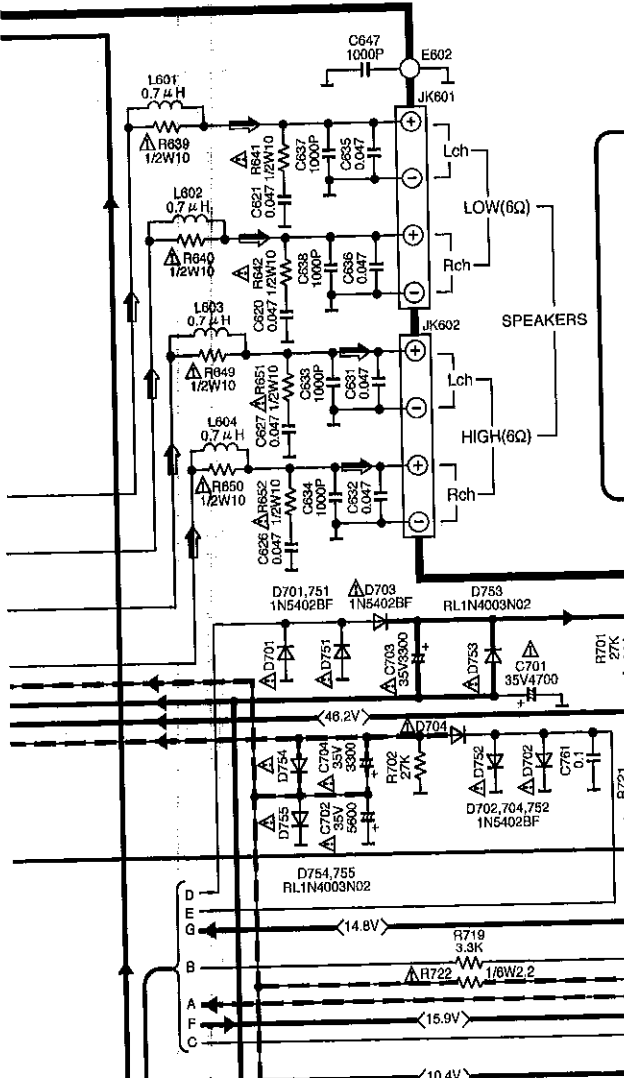
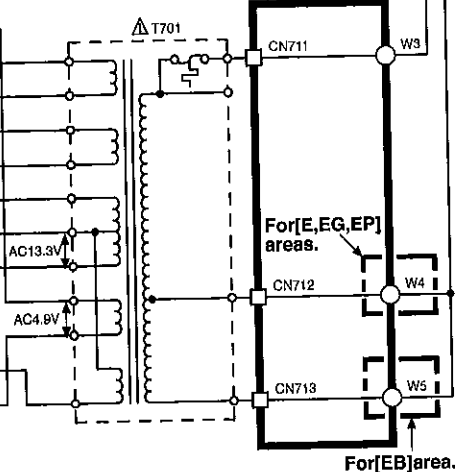
E AC IN CIRCUIT



F POWER TRANSFORMER (A) CIRCUIT

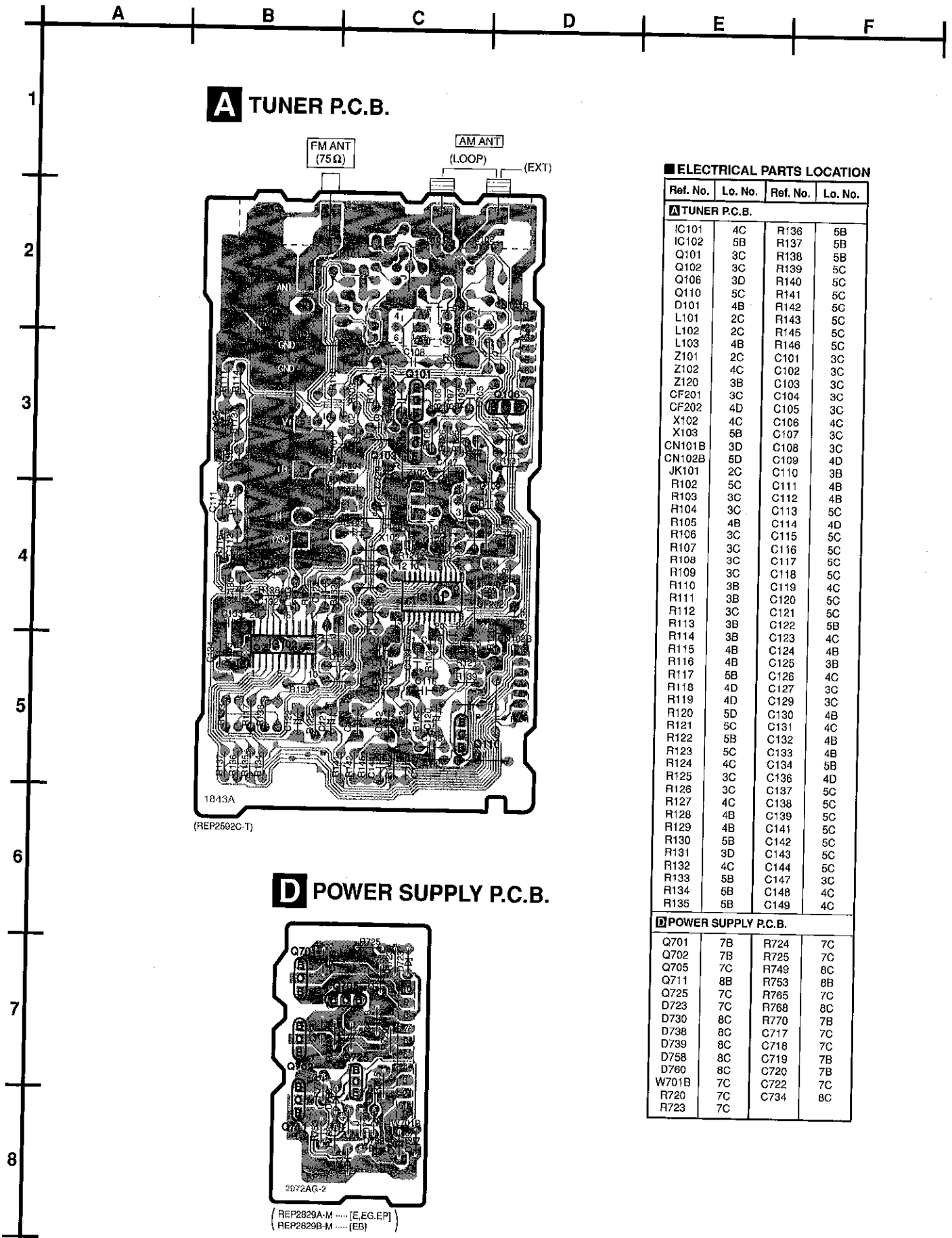


G POWER TRANSFORMER (B) CIRCUIT

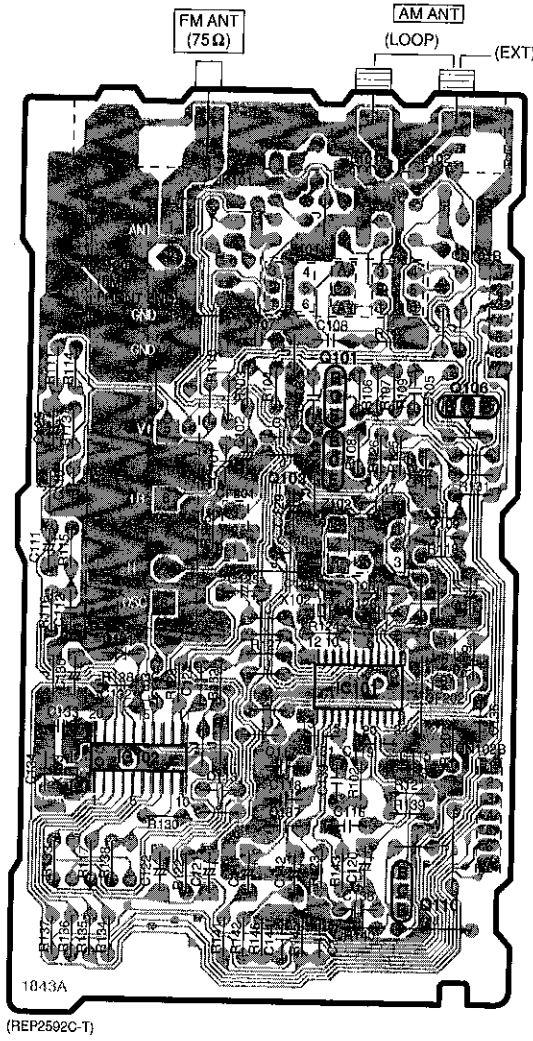


Printed Circuit Board Diagram

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



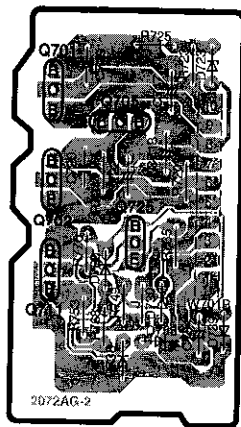
A TUNER P.C.B.



ELECTRICAL PARTS LOCATION

| Ref. No. | Lo. No. | Ref. No. | Lo. No. |
|------------------------------|---------|----------|---------|
| A TUNER P.C.B. | | | |
| IC101 | 4C | R136 | 5B |
| IC102 | 5B | R137 | 5B |
| Q101 | 3C | R138 | 5B |
| Q102 | 3C | R139 | 5C |
| Q106 | 3D | R140 | 5C |
| Q110 | 5C | R141 | 5C |
| D101 | 4B | R142 | 5C |
| L101 | 2C | R143 | 5C |
| L102 | 2C | R145 | 5C |
| L103 | 4B | R146 | 5C |
| Z101 | 2C | C101 | 3C |
| Z102 | 4C | C102 | 3C |
| Z120 | 3B | C103 | 3C |
| CF201 | 3C | C104 | 3C |
| CF202 | 4D | C105 | 3C |
| X102 | 4C | C106 | 4C |
| X103 | 5B | C107 | 3C |
| CN101B | 3D | C108 | 3C |
| CN102B | 5D | C109 | 4D |
| JK101 | 2C | C110 | 3B |
| R102 | 5C | C111 | 4B |
| R103 | 3C | C112 | 4B |
| R104 | 3C | C113 | 5C |
| R105 | 4B | C114 | 4D |
| R106 | 3C | C115 | 5C |
| R107 | 3C | C116 | 5C |
| R108 | 3C | C117 | 5C |
| R109 | 3C | C118 | 5C |
| R110 | 3B | C119 | 4C |
| R111 | 3B | C120 | 5C |
| R112 | 3C | C121 | 5C |
| R113 | 3B | C122 | 5B |
| R114 | 3B | C123 | 4C |
| R115 | 4B | C124 | 4B |
| R116 | 4B | C125 | 3B |
| R117 | 5B | C126 | 4C |
| R118 | 4D | C127 | 3C |
| R119 | 4D | C129 | 3C |
| R120 | 5D | C130 | 4B |
| R121 | 5C | C131 | 4C |
| R122 | 5B | C132 | 4B |
| R123 | 5C | C133 | 4B |
| R124 | 4C | C134 | 5B |
| R125 | 3C | C136 | 4D |
| R126 | 3C | C137 | 5C |
| R127 | 4C | C138 | 5C |
| R128 | 4B | C139 | 5C |
| R129 | 4B | C141 | 5C |
| R130 | 5B | C142 | 5C |
| R131 | 3D | C143 | 5C |
| R132 | 4C | C144 | 5C |
| R133 | 5B | C147 | 3C |
| R134 | 5B | C148 | 4C |
| R135 | 5B | C149 | 4C |
| D POWER SUPPLY P.C.B. | | | |
| Q701 | 7B | R724 | 7C |
| Q702 | 7B | R725 | 7C |
| Q705 | 7C | R749 | 8C |
| Q711 | 8B | R763 | 8B |
| Q725 | 7C | R765 | 7C |
| D723 | 7C | R768 | 8C |
| D730 | 8C | R770 | 7B |
| D738 | 8C | C717 | 7C |
| D739 | 8C | C718 | 7C |
| D758 | 8C | C719 | 7B |
| D760 | 8C | C720 | 7B |
| W701B | 7C | C722 | 7C |
| R720 | 7C | C734 | 8C |
| R723 | 7C | | |

D POWER SUPPLY P.C.B.



(REP2829A-M [E,EG,EP])
 (REP2829B-M [EB])