National/Panasonic

Contents

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ORDER No. ACED0003229

Service Manual

AUTOMOTIVE CONSUMER ELECTRONICS

CQ-RD333N
CQ-RD323N
CQ-RD313N

High-Power Cassette Player / RDS Receiver with Changer Control

<CQ-RD333N>

Specification*

General	
Power Supply	DC 12V (11V - 16V), Test Voltage 14.4V Negative Ground
Tone Controls	Bass ; ±12dB at 100Hz Treble ; ±12dB at 10kHz
Current Consumption	Less than 2.5A (tape mode ; 0.5W×4-speaker)
Maximum Power Output	40W×4 (at 4Ω)
Power Output	20W×4 (DIN45 324, at 4Ω)
Speaker Impedance	4-8Ω
Pre-Amp Output Voltage	2V (with CD changer connected) <only for CQ-RD333N>
Pre-Amp Output Impedance	600Ω <only for CQ-RD333N>
FM Stereo Radio	
Frequency Range	87.5 - 108MHz
Usable Sensitivity	6dB/μV (S/N 30dB)
MW Radio	
Frequency Range	531 - 1,602kHz
Usable Sensitivity	28dB/μV (S/N 20dB)
LW Radio	
Frequency Range	153 - 279kHz
Usable Sensitivity	32dB/μV (S/N 20dB)
Cassette Player	
Reproduction System	4-track, 2-program stereo
Tape Speed	4.76 cm/sec
FF/REW Time	Less than 110 sec (C-60)
Frequency Response	30Hz to 17,000Hz (normal) 30Hz to 18,000Hz (metal)
Signal to Noise Ratio	52dB (Dolby off)
<only for CQ-RD333N>	62dB (Dolby B NR on)
Wow and Flutter	0.12% (WRMS)
Dimensions**	178×50×150mm (W×H×D)
Weight**	1.4kg

* Specifications and the design are subject to possible modification without notice due to improvements.

** Dimensions and Weight shown are approximate.

Doldy noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"Dolby" and the double-D symbol ◧◨ are trade marks of Dolby Laboratories Licensing Corporation.

Panasonic

⚠ 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.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

CONTENTS

1 FEATUERS

- PLL (Phase Locked Loop) synthesized tuning.
- 18-FM, 6-AM presets with preset scan.
- Dolby NR function. <only for CQ-RD333N>
- CD Changer control function <only for CQ-RD333N>
- Electronic control of Volume, Bass, Treble, Balance and Fader.
- Detachable face plate security.

2 REPLACING THE FUSE

Use fuses of the same specified rating (15amps). Using different substitutes or fuses with higher ratings, or connecting the unit directly without a fuse, could cause fire or damage to the unit.

3 MAINTENANCE

Your product is designed and manufactured to ensure the minimum of maintenance. Use a soft cloth for routine exterior cleaning. Never use benzine, thinner or other solvents.

4 RADIO ALIGNMENT

Do not align the AM/FM package block. When the package block is necessary, it will be supplied already aligned at the factory.

5 ALIGNMENT JIG

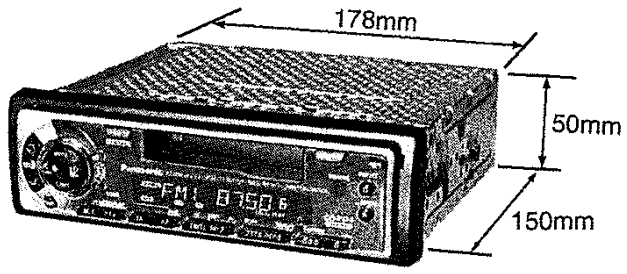
- Dolby NR Alignment Test Tape : RFKZ0038

6 NOTES

This operating instruction manual is three models CQ-RD333N, CQ-RD323N and CQ-RD313N. The differences between these models are mentioned below. All illustrations throughout this manual represent model CQ-RD333N unless otherwise specified.

	CQ-RD333N	CQ-RD323N	CQ-RD313N
CD Changer Control	Yes	None	None
Pre Out	Yes	None	None
Remote Control	Option	Supplied	Unusable
Dolby B NR	Yes	None	None
Warning Alarm	Yes	None	None

7 DIMENSIONS



8 OPERATING INSTRUCTIONS

ENGLISH

Precautions (ISO Connector)

- Wiring for the power connector conforms to the arrangement of standard ISO connectors.
- In case of some car types, the arrangement of connector may differ from the standard ISO as shown in Table 1, even though ISO connectors are adopted.

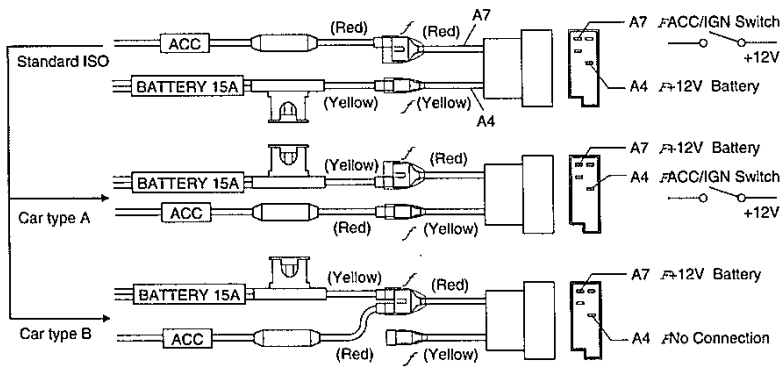
Table 1

	Fig. 1 Pin No.	
	A4	A7
Car for standard ISO	Battery (permanent 12 V supply)	"IGN" or "ACC" (switched 12 V supply)
In case of Car type A	"IGN" or "ACC" (switched 12 V supply)	Battery (permanent 12 V supply)
In case of Car type B	No connection	Battery (permanent 12 V supply)

❑ For CQ-RD333N

- Make sure the ISO connector arrangement in your car side is as the same as the standard ISO. (Table 1, Fig. 1)
- In case of arrangement for Car type A or B, change connections of the red/yellow leads at the re-connectable joint (※) as shown in Fig.1.

Fig. 1



- After fixing the connections, the part (※) should be insulated with electrical tape to keep away from unit damage.

ENGLISH

❑ For CQ-RD323/RD313N

ISO-Standard

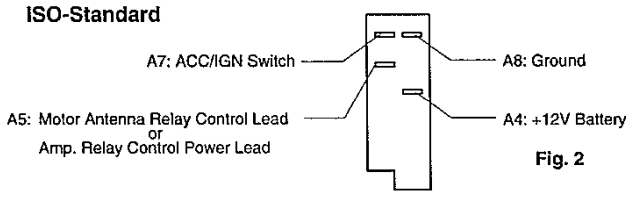
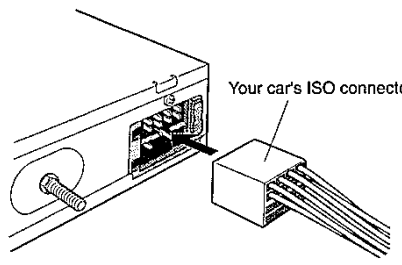


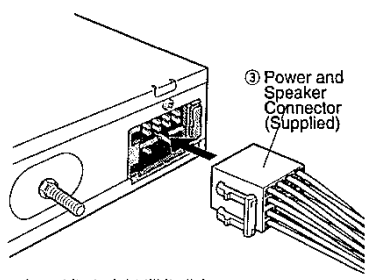
Fig. 2

- Make sure that your car's ISO connector arrangement is the same as that of the ISO standard. (Table 1, Fig. 2) In this case (that is, your ISO connector arrangement is the same as that of the ISO standard), use your car's connector as it is.

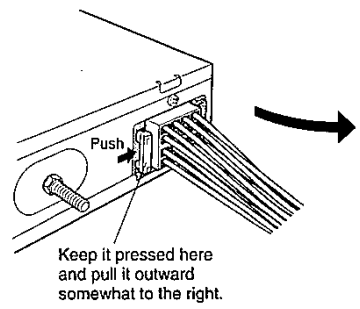


- If it is different from that of the ISO standard, correct wire using the supplied power and speaker connector ③. (See pages 46 and 47.)

How to mount power and speaker connector ③

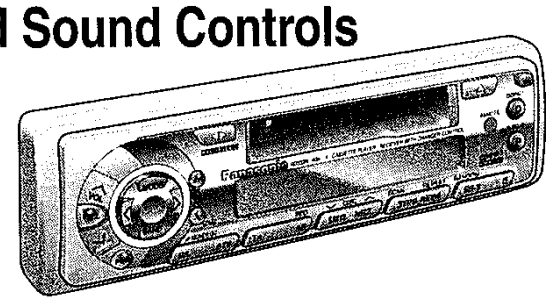


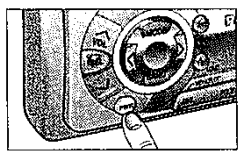
How to remove power and speaker



Power and Sound Controls

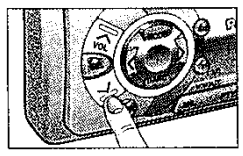
ENGLISH 2





Power

Turn the key in the ignition until the accessory indicator lights.
Press **[PWR]** to switch on the power.
Press and hold **[PWR]** again to switch off the power.
When the power is switched off, the panel removal alarm sounds. (See page 42 about the panel removal alarm.)
Note: When the power is switched on for the first time, demonstration message appears on the display. To cancel this display, press **[D]**(DISP/CT).



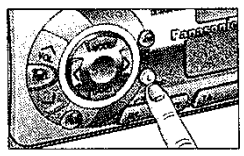
Volume

- Press **[∧VOL]** or **[∨VOL]** to increase or decrease the volume.

- Press and hold **[∧VOL]** or **[∨VOL]** for more than 0.5 seconds to change the numeric level in sequence.

Note: In the VOL mode, the display will be back to regular operation mode with no operation for more than 2 seconds.

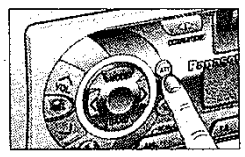
Anti-Volume-Blast Circuit
This unit has a safety function which slowly raises volume level when power is switched back on after it is turned off at a specific level (20) or higher.



Tone Enhancement

- Press **[L]**(LOUD) to enhance bass and treble tones when listening at low or medium volume.

- Press **[L]**(LOUD) again to cancel.



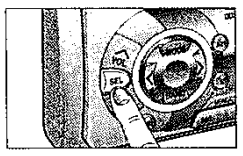
Attenuator

- Press **[ATT]** to decrease the volume to about 1/10 of the previous level.

- Press **[ATT]** again to cancel.

Power and Sound Controls (continued)

ENGLISH 3

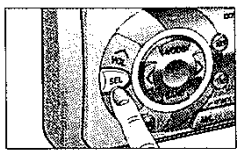


Audio Mode

Press **[SEL]** to change the audio mode setting as follows.

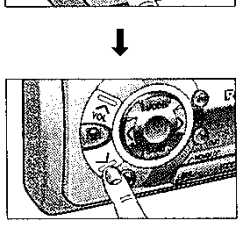
Regular Mode → VOL (Volume) → BAS (Bass) → TRE (Treble) → BAL (Balance) → FAD (Fader)

Note: In the audio mode (BAS/TRE/BAL/FAD), the display will be back to regular operation mode with no operation for more than 5 seconds (2 seconds in the VOL mode).



Bass and Treble

Press **[SEL]** to change to the bass (or treble) mode. Press **[∧VOL]** or **[∨VOL]** to increase or decrease the bass (or treble) level by 3 dB step.



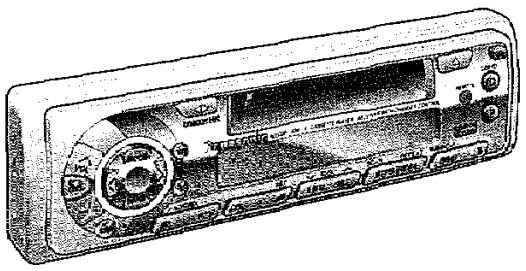
Balance

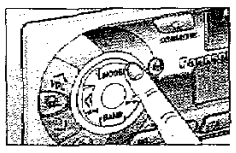
Press **[SEL]** to change to the balance mode. Press **[∧VOL]** or **[∨VOL]** to shift the sound volume to the right or left speakers.

Fader

Press **[SEL]** to change to the fader mode. Press **[∧VOL]** or **[∨VOL]** to shift the sound volume to the front or rear speakers.

Radio Basics

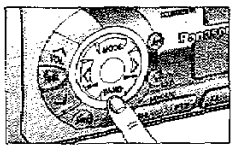




Mode Selection

Press [MODE] to change the source as follows.

Radio → Cassette Tape Player (When a tape is inserted) → CD Changer Control (When a CD changer is connected) (Only for CQ-RD333N)

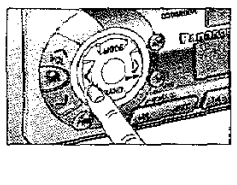


Band

Press [BAND] to change the band setting as follows.

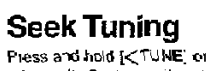
FM1 → FM2 → FM3 → AM(LW/MW)

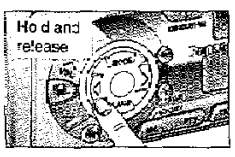
The stereo indicator lights during reception of an FM stereo broadcast.



Manual Tuning

Press [<TUNE] or [>TUNE] to tune in a higher or lower frequency.





Seek Tuning

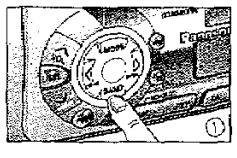
Press and hold [<TUNE] or [>TUNE] for more than 0.5 seconds, then release it. Seeking will automatically stop when a signal of the next broadcast station is received.

Radio Basics (continued)

Station Preset

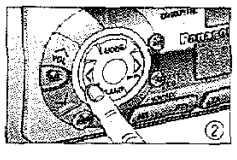
FM1, FM2, FM3 and AM (LW/MW) can save maximum 6 stations each in their preset station memories.

Caution: To ensure safety, never attempt to preset stations while you are driving.



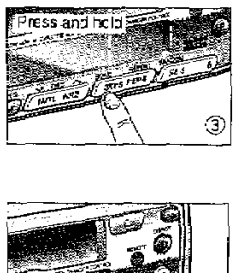
Manual Station Preset

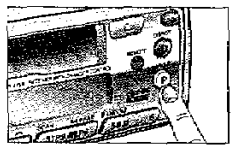
① Press [BAND] to select a desired band.
② Use manual or seek tuning to find a station which is to be preset in the memory.
③ Press and hold one of the preset buttons [1] to [6] for more than 2 seconds until the display blinks once.



Preset Number

Note: You can change the memory setting by repeating the above procedure

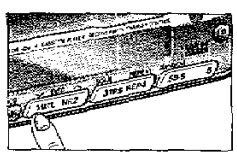




Auto Station Preset

Select the band and press [P](AUTO•P).

- The 6 strongest available stations will be automatically saved in the memory on preset buttons [1] to [6].
- Once set, the preset stations are sequentially scanned for 5 seconds each.

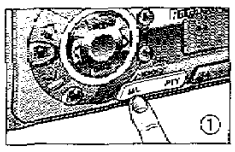


Tuning in a Preset Station

Press the corresponding preset buttons [1] to [6] to tune in a preset station.

MONO/LOCAL Selection

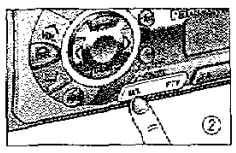
- At the MONO setting, the amount of interference heard when weak signals are received from an FM broadcast station is significantly decreased.
- At the LOCAL setting, only strong signals of stations are searched in seek tuning, while at the LOCAL OFF setting, relatively weak signals are also searched.



① FM Broadcasts

Press [M/L](MONO/LOC) to change the mode until the desired mode is reached, then release it.

MONO OFF LOCAL OFF → MONO ON LOCAL OFF → MONO ON LOCAL ON → MONO OFF LOCAL ON



② AM Broadcasts

Press [M/L](MONO/LOC) to switch the Local mode as follows.

LOCAL OFF ⟷ LOCAL ON

RDS (Radio Data System) Reception

Many FM stations are broadcasting added data compatible with RDS. This radio set offers convenient functions using such data.

AF (Alternative Frequency)
When receiving condition becomes poor, an RDS station with the same program will be automatically selected.

EON (Enhanced Other Networks)
When EON data is received, the EON indicator lights and the TA and AF functions are expanded.
TA: Traffic information from not only the station now tuned in to but also other stations of the same network can be received.
AF: The frequency list of the RDS stations preset by received EON data is updated.

PS (Program Service Name)
When an RDS station is received, the name of that station is automatically displayed instead of the frequency. When [D](DISP/CT) is pressed during PS display, the frequency appears on the display for 3 seconds, then PS display returns.

PI (Program Identification)
If a preset RDS station is poor in receiving condition when it is selected, the automatic seek (PI Seek) starts to seek the same program and tune in to it.

PTY (Program Type)
Program type identification signal
Example : News, rock, classical music, etc.

TA (Traffic Announcement)
When an FM station that periodically provides the latest traffic information is received, the TP indicator lights. If TA ON is set, FM traffic information automatically interrupts your listening to a tape or CD changer source until it ends, then you will listen again to whatever you have been listening to. (The CD changer mode is applicable only to CQ-RD333N.)

Best Station Research
If a preset RDS station is in poor condition of reception when you try to tune in to it, the best frequency is selected from the AF list of that station.

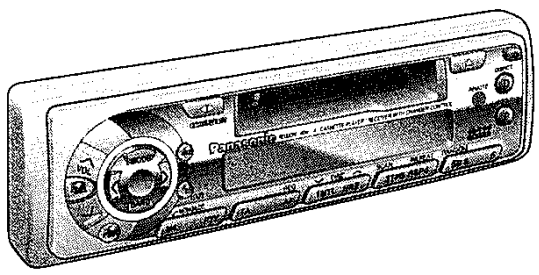
REG(Region)
The AF, Best Station Research, PI Seek functions will be as follows:
REG ON : The frequency changes only with the same regional program. This function is mainly used while driving in the same area, for example, in a city.
REG OFF: The frequency changes even with a different regional program if the station is in the same network. The broadcast may be different depending on the case. This function is mainly used when driving far from one region to another.

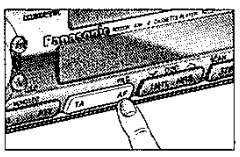
What Provides EON Capabilities

EON lets the radio set take advantage of RDS information much more than before. It constantly updates the AF list of all presets, including the station currently tuned in to. So, even if you change preset far from home, you will be able to receive the same station at an alternative frequency, or another station serving the same program if any. EON also keeps track of locally available TP stations for quick reception.

Note: When you're in AF ON mode, auto preset memory only works for RDS station. When in TA ON mode, it only works for TP stations. To make auto preset for ordinary stations, cancel AF mode and change to TA off in advance.

A. Basic Operation in RDS Reception (PS, AF, CT, PI)

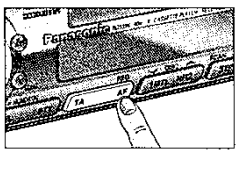




RDS Reception

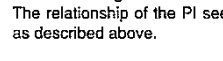
Press **[AF]** when receiving a station in the FM1, FM2 or FM3 band.
- The AF ON/OFF can be set in each FM band.

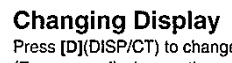
- Select AF ON if you wish to use the AF network of an RDS station. Best Station Research is activated at the same time.
- Select AF OFF if the AF network of an RDS station is not necessary.

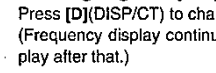


Changing AF Mode

Press **[AF]** to change AF ON and activate Best Station Research at the same time. (3 seconds maximum)


.....AF 1 Mode (Default)

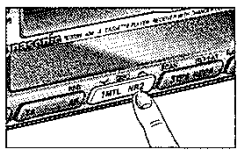

.....AF 2 Mode


.....AF OFF Mode

Notes:
1. Default mode is AF1.
2. AF1 has a low level of AF operating sensitivity in urban areas. Therefore, AF does not frequently operate even of sensitivity is temporarily lowered between skyscrapers, for example.
3. AF2 is for suburban areas with a higher level of sensitivity than AF1.

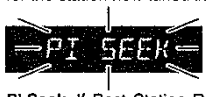
RDS (Radio Data System) Reception (continued)

For Seek Tuning, RDS Station Preset, Tuning in a RDS Preset Station, and Auto RDS Station Preset, please refer to Radio Basics (Page 21 to 23).

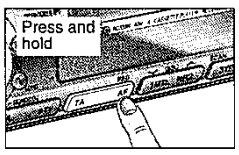


RDS seek tuning (PI seek)

The PI seek function may be used if an RDS station selected from the memory is poor in receiving condition. Press the preset button again for the station now tuned in to.

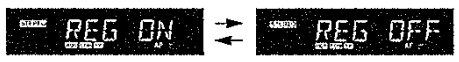


PI Seek: If Best Station Research fails in selecting the best station, the PI seek function operates to automatically tune in to the same program.

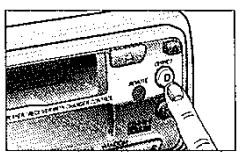


Region (REG) Switching

Press and hold **[AF](REG)** for more than 2 seconds in AF mode to alternately select REG ON and REG OFF.

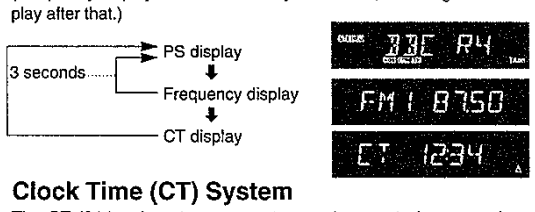


Note: If you wish to stay with the same program, keep REG ON. In REG OFF mode, there is a higher possibility of returning to an AF station in better receiving condition.
The relationship of the PI seek function with REG ON and REG OFF is as described above.



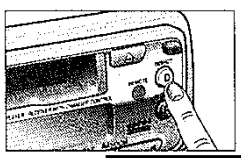
Changing Display

Press **[D](DISP/CT)** to change the display as follows.
(Frequency display continues for only 3 seconds, returning to PS display after that.)



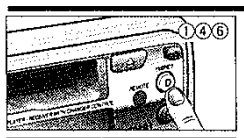
Clock Time (CT) System

The CT (24-hour) system may not properly operate in areas where RDS CT service is not available. Once CT service is received, the CT system keeps operating. "NO CT" is displayed in areas where no CT service is available.



Clock Display

Press **[D](DISP/CT)** to indicate the clock display.

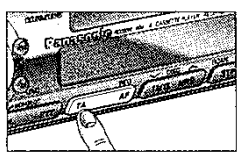


Initial Time Setting

Press **[BAND]** to change to AM mode.
① Press **[D](DISP/CT)**, "NO CT " appears on the display.
② Press and hold **[D](DISP/CT)** again for more than 2 seconds, "hours" blinks and the time setting mode is activated.
③ To set hours, press **[<TUNE]** or **[>TUNE]**.
Hold **[<TUNE]** or **[>TUNE]** to change numbers rapidly.
④ Press **[D](DISP/CT)** again for minutes setting.
⑤ To set minutes, press **[<TUNE]** or **[>TUNE]**.
⑥ After setting the time, press **[D](DISP/CT)**.

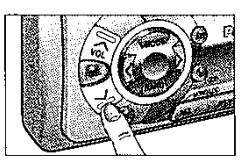
Notes:
- If CT display is kept on, it remains on even if **[PWR]** and accessory are turned off and back on again.
- In other modes, press **[D](DISP/CT)** to get RDS CT-service.

B. TP Reception



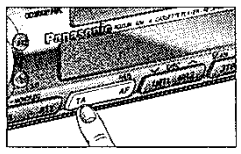
Select Traffic Announcement (TA on) Mode

Press **[TA]** to switch on and keep it there when you wish to listen to traffic information. Press **[TA]** again to switch off.



Volume Setting (Only for TA on mode)

Adjust the volume as desired by pressing **[∧VOL]** or **[∨VOL]** while receiving Traffic Announcement. (TA)
After volume for Traffic Announcement (TA) is set, the difference between normal volume and TA volume is automatically stored in the memory (up to 5 levels) so that next traffic information will be received at the preceding TA volume which may be higher or lower than normal volume.
Normal volume can be changed up to 5 levels upward or downward.
If the volume level is over 40 or less than 0, any further change will not be made.



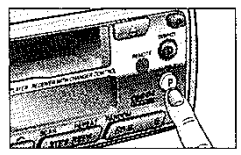
When receiving a station other than TP station (including EON stations)

A traffic information station is automatically searched for and the radio automatically stops the next available TP station.
EON Capabilities:
EON lets the radio take advantage of much more RDS information than before. It constantly updates the AF lists for all switch presets far from home, you will receive an alternative frequency for the same station, or another station carrying the same program, when such exists. EON also keeps track of locally available TP station.

RDS (Radio Data System) Reception (continued)

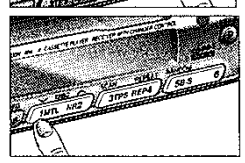
TP Seek Tuning

Press and hold **[<TUNE]** or **[>TUNE]** for more than 0.5 seconds, then release. The seeking automatically stops at the next available TP station.



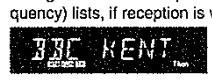
Auto TP Station Preset

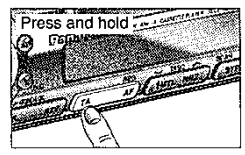
Press **[P](AUTO·P)** until the display blinks in TA on. The six strongest available TP stations are automatically saved in the memory on the preset button **[1]** to **[6]**.
Once saved, the preset stations are sequentially scanned for 5 seconds each.



Tuning in a TP station preset

Press any of the preset buttons **[1]** to **[6]** that you want to listen to. Best Station Research function is activated to automatically select the strongest available frequency for the TP station (through the built-in frequency) lists, if reception is weak.





Muting TA on

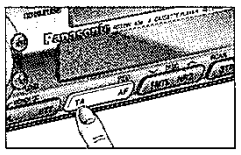
Press and hold **[TA]** for more than 2 seconds to light "TA on".
Then Traffic Announcement (TA) function is activated to operate, allowing you to listen to only Traffic Program whenever it is available.

Muting TA on Canceling (Muting TA on → TA on)

Press **[TA]** again.
Or press **[∧VOL]** to increase the volume level.

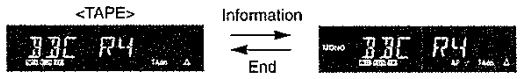
TP Auto Search

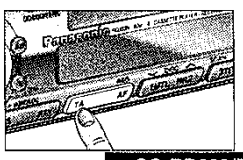
If receiving conditions are poor when TA is on during muting and if there is no other alternative frequency in the same network, a traffic announcement station in good receiving condition is automatically searched for.



Tape/CD Changer TA on

(The CD changer mode is applicable only to CQ-RD333N.)
Press **[TA]** during tape, CD changer mode.
When TA on mode is selected while listening to the source in that mode, wait for Traffic Announcement to begin.



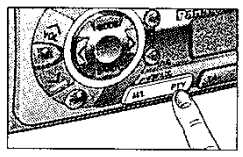


Switching to TA off Mode

(The CD changer mode is applicable only to CQ-RD333N.)
Select either one of the following steps.
- Press **[TA]** when TA is on.
- Press and hold **[TA]** for more than 2 seconds when Muting TA is on.
- Press **[TA]** when tape/CD changer TA is on.

C. PTY Reception

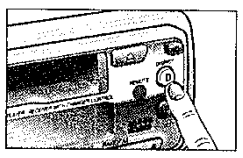
(There are some areas where PTY service may not be available.)



Switching to PTY Mode

Press **[PTY]** to select PTY display mode, and the PTY of the broadcast now received appears on the display.

"NO PTY" appears on the display if there is no corresponding program type.

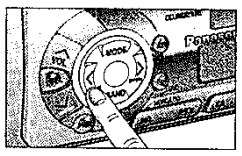


Changing PTY Display Language

The display language can be changed to Swedish as required.
Press **[D](DISP/CT)** in PTY mode to alternate the language between English and Swedish.

Press **[D](DISP/CT)**

<English> <Swedish>



Program Type Selection

Press **[<TUNE]** or **[>TUNE]** to select the program type as follows.

SPEECH – MUSIC – NEWS – AFFAIRS – INFO – SPORT – EDUCATE – DRAMA
ROCK M – POP M – VARIED – SCIENCE – CULTURES
M.O.R.M – LIGHT M – CLASSICS – OTHER M – WEATHER – FINANCE
LEISURE – TRAVEL – PHONE IN – RELIGION – SOCIAL A – CHILDREN
JAZZ – COUNTRY – NATIONAL – OLDIES – FOLK M – DOCUMENT

When a desired selection has been made, press **[BAND]**. Then automatic seek will start to tune into the station broadcasting the selected program type.

Note: Seek tuning does not operate as long as "NO PTY" appears on the display.

RDS (Radio Data System) Reception (continued)

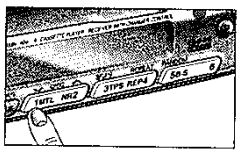


Table of PTY Code and Program Type

Press any of the preset buttons **[1]** to **[6]** according to your preference. Those buttons already have the program types as follows. (Default setting)

<Preset PTY>

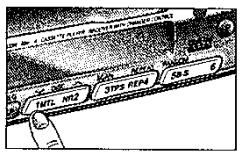
Preset No.	1	2	3	4	5	6
Program Type	News	Speech	Sport	Pop. Music	Classics	Music
Display	NEWS 1	SPEECH 2	SPORT 3	POP M 4	CLASSICS 5	MUSIC 6
	NEWS	AFFAIRS INFO EDUCATE DRAMA CULTURES SCIENCE VARIED WEATHER FINANCE CHILDREN SOCIAL A RELIGION PHONE IN TRAVEL LEISURE DOCUMENT	SPORT	POP.M	CLASSICS	ROCK M M.O.R.M LIGHT M OTHER M JAZZ COUNTRY NATIONAL OLDIES FOLK M

Program Type Preset

Press and hold one of the buttons **[1]** to **[6]** for more than 2 seconds to preset the desired program type selection in that button.

Tuning in a PTY Preset Station

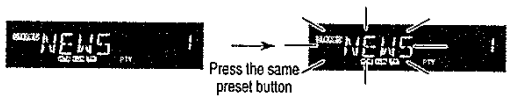
Press any of the preset buttons **[1]** to **[6]** that you want to listen to.



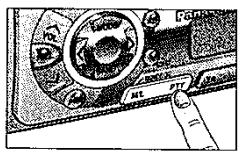
Searching for PTY

① Select the desired station from preset in the preset number buttons **[1]** to **[6]**. Then, the preset PTY and that preset number appear on the display for 5 seconds.

② While the desired type from 6 presets appears on the display, take either of the following two steps.
a) Press the same preset button again.
b) Press **[BAND]**.
If the desired PTY station is available, it is directly received. If it is not, "NO PTY" blinks and the radio returns to the station that was received before the search.



Press the same button again to cancel.



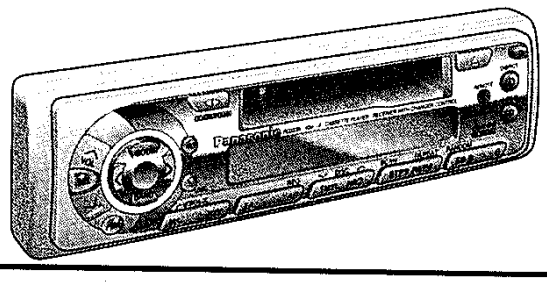
Canceling of PTY Mode

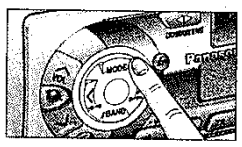
Press **[PTY]** to cancel.
The set returns to the state existing before PTY mode while the receiving frequency remains unchanged.

Emergency Announcement Reception

(The CD changer mode is applicable only to CQ-RD333N.)
(Some areas are not covered by emergency announcement service.)
If an emergency announcement is broadcast during TA on/tape/CD changer mode, the radio is automatically selected to receive the emergency announcement. "ALARM" blinks.

Cassette Tape Player Basics





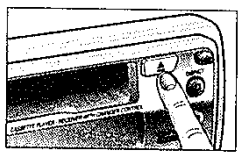
Mode Selection

Press **[MODE]** to change the source as follows.

Radio → Cassette Tape Player → CD Changer Control
(When a tape is inserted) (When a CD changer is connected) (Only for CQ-RD333N)

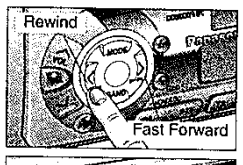
Tape Insert

Insert the cassette with the exposed tape side facing to the right. Play will start automatically.



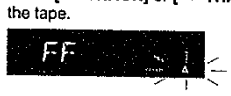
Tape Eject

Press **[⏏]** to eject the tape, and the previous mode of operation will be resumed.
Notes:
- If power is switched off before **[⏏]** is pressed, the cassette will not be ejected. Switch on the power again and press **[⏏]** to eject the cassette.
- Always remove the cassette tape from the unit when the cassette tape player is not being used.

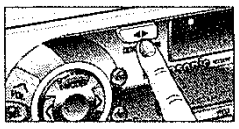


Rewind and Fast Forward

Press **[◄◄TRACK]** or **[►►TRACK]** to activate rewind or fast forward of the tape.

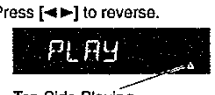


Press **[◄►]** to stop.



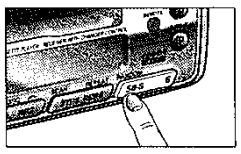
Changing Sides

Press [◄►] to reverse.



Top Side Playing

Bottom Side Playing

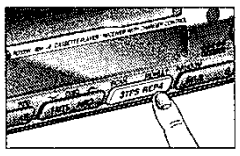


Blank Skip

- Press [5](B · S) to skip unrecorded portions on the tape.

- Press [5](B · S) again to cancel.

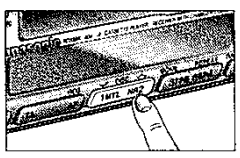
Notes:
- When repeat is on, the blank skip does not work because the repeat has priority over the blank skip.
- The blank skip does not work when an unrecorded portion of a tape is less than 15 seconds.



Repeat Play

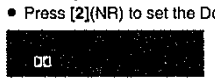
- Press [4](REP) to repeat the current program.

- Press [4](REP) again to cancel.



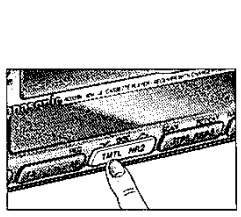
Dolby Noise Reduction (Only for CQ-RD333N)

- Press [2](NR) to set the Dolby B NR mode.



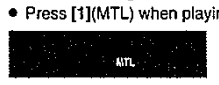
- Press [2](NR) again to cancel.

Note: Set the Dolby B NR mode when playing back a tape recorded with Dolby B Noise Reduction.



Metal Tape Mode

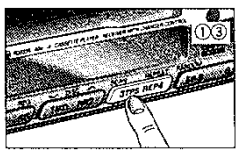
- Press [1](MTL) when playing metal or chromium dioxide (CrO_2) tapes.



- Press [1](MTL) again to cancel.

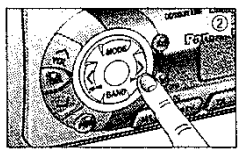
Note: Playing non-metal tapes in MTL mode causes high frequency imbalance, which affects tone quality.

Cassette Tape Player Basics (continued)

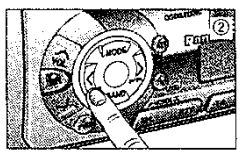


TPS Operation (Tape Program Search)

① Press [3](TPS) to activate the Tape Program Search mode.



or



② To select a desired program, press [►►TRACK] or [◄◄TRACK] corresponding times to go forward (up to 9) or backward (up to 8).

(Rewind:) 8 ◄---------- 0 (Fast forward:) 1 ----------► 9

EX1. To select the current program again, press [3](TPS) and press [◄◄TRACK].

EX2. To select the last program, press [3] (TPS) and press [◄◄TRACK] twice.

EX3. To select the next program, press [3] (TPS) and press [►►TRACK].

EX4. To select the next 3rd program, press [3](TPS) and press [►►TRACK] three times.

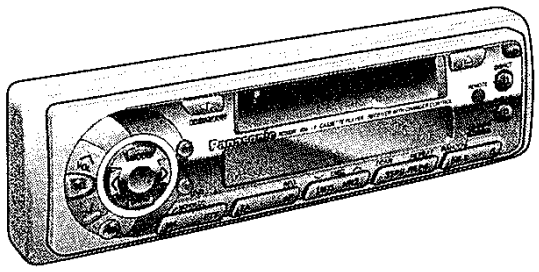
③ Press [3](TPS) again to cancel.

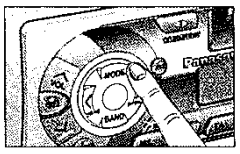
Notes:
The TPS mode may not work correctly in the following cases. This, however, does not mean that the unit is defective.
- There is an interval less than 3 seconds or having a high level of noise or hum between programs.
- There is particularly low-level passage during the program.

Notes:
- To maintain your cassette player in top condition, avoid using tapes that are longer than 90 minutes (C-90).
- If you insert into the unit a cassette with a loose tape caused by forcing it into cassette with a finger or the like, the cassette may not be properly reproduced. In such a case, eject the cassette, make the tape tight, then insert it back into the deck.

CD Changer Basics (Only for CQ-RD333N)

Note: The CD changer functions are designed for an optional CD changer unit.

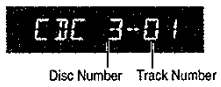




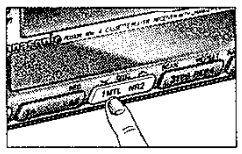
Starting the CD Changer

Once the CD changer has been connected, press **[MODE]** to change to the CD changer mode as follows. When a disc magazine is inserted, CD play starts automatically.

Radio → Cassette Tape Player → CD Changer Control
(When a tape is inserted) (When a CD changer is connected) (Only for CQ-RD333N)



Disc Number Track Number

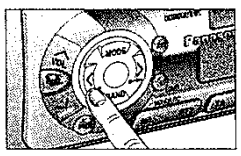


Disc Selection

Press [1](∨DISC) or [2](∧DISC) to select a disc in descending or ascending order.

Then, the selected disc will start to play from the first track.

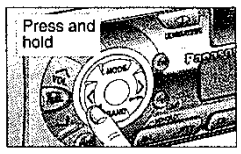
Note: The number of discs you can load the CD changer with is specific to each model.



Track Selection

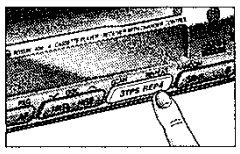
- Press [►►TRACK] to advance to the next track.
- Press [◄◄TRACK] to start play from the beginning of the track now playing.
- Press [►►TRACK] or [◄◄TRACK] repeatedly to skip the desired number of tracks.

CD Changer Basics (continued)



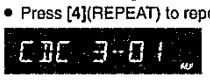
Track Search

- Press and hold [►►TRACK] or [◄◄TRACK] for more than 0.5 seconds to activate fast forward or reverse.
- Release [►►TRACK] or [◄◄TRACK] to resume regular CD changer play from the released position.

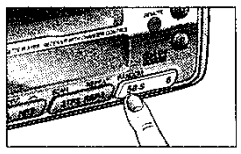


Track Repeat

- Press [4](REPEAT) to repeat the current selection.

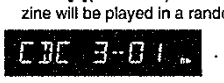


- Press [4](REPEAT) again to cancel.



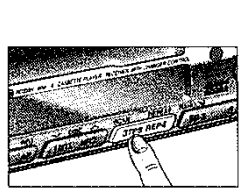
Track Random

- Press [5](RANDOM). All the available tracks on all discs in the magazine will be played in a random sequence.



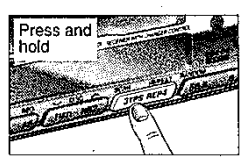
- Press [5](RANDOM) again to cancel.

Note: The Random mode will stop and the disc select function will operate once the [1](∨DISC) or [2](∧DISC) is pressed.



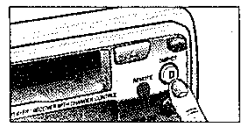
Track Scan

- Press [3](SCAN). The display blinks and the first 10 seconds of each track on the discs play in sequence.
- Press [3](SCAN) again to cancel.



Disc Scan

- Press and hold [3](SCAN) for more than 2 seconds. The 1st track of all the discs in the magazine is played for 10 seconds each.
- Press and hold [3](SCAN) for more than 2 seconds again to cancel.



Changing the Display

Press [D](DISP/CT) to switch the display as follows.

Disc/Track Number
Press [D](DISP/CT) ↕
Track Play Time

Press and hold [D](DISP/CT) for more than 2 seconds ⇄ Press [D](DISP/CT)

CT display

Error Display Messages

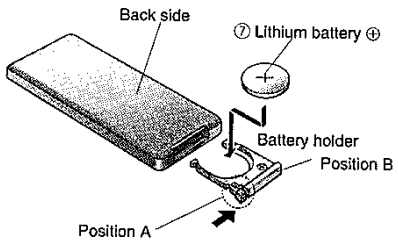
CDC E1	Appears on the display when the compact disc is dirty or inverted. Selects the next available compact disc.
CDC E2	Appears on the display when compact disc is scratched. Selects the next available compact disc.
CDC E3	Appears on the display when the unit stops operating for some reason. Press the reset switch on the CD changer (option).
CDC 0000	Appears on the display when there is no disc in the magazine.

Remote Control Basics

[CQ-RD333N (Option)] [CQ-RD323N (Supplied)]

Battery Installation

1. Remove the battery holder.
   Take hold of the holder at position B and pull it out to remove the battery by pushing position A in the direction shown by the arrow.
2. Install the battery.
   Set a new battery properly with its (+) side facing up as shown in the figure.
3. Insert the battery holder.
   Push in the battery holder back into its original position.



Battery Notes

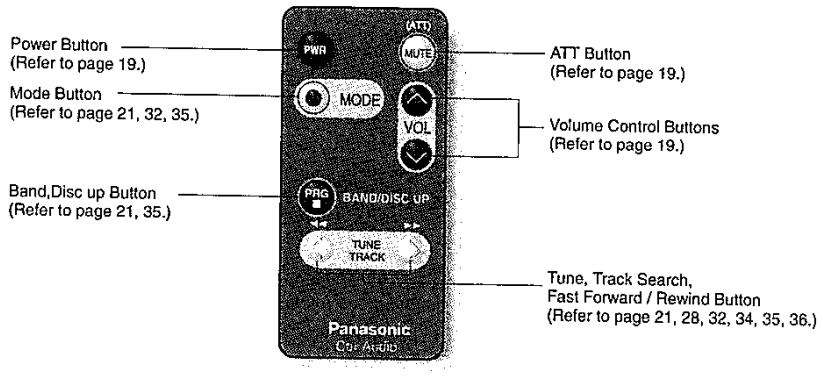
Remove and dispose of an old battery immediately.
Battery Information:
- Battery type: Panasonic lithium battery (CR2025)
- Battery Life: Approximately 6 months under normal use (at room temperature)

Caution: Improper use of batteries may cause overheating, an explosion or ignition, resulting in injury or a fire. Battery leakage may damage the unit.

- Do not disassemble or short the battery. Do not throw a battery into a fire.
- Keep batteries away from children to avoid the risk of accidents.
- Be careful to the disposal rules when you dispose of batteries.

Main Controls

For details of each function, refer to the pages in parentheses. Some of the functions may not be usable even if they are shown.



Anti-Theft System

This unit is equipped with a removable face plate. By removing this face plate, the radio becomes totally inoperable. The security indicator will blink.

To Remove the Removable Face Plate

① Switch off the power.
② Press the release button (⏏). The removable face plate will be released.

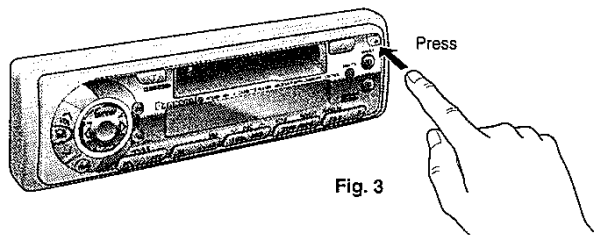


Fig. 3

③ Remove the removable face plate by pulling on the right side of the unit. Place the face plate in a supplied case.

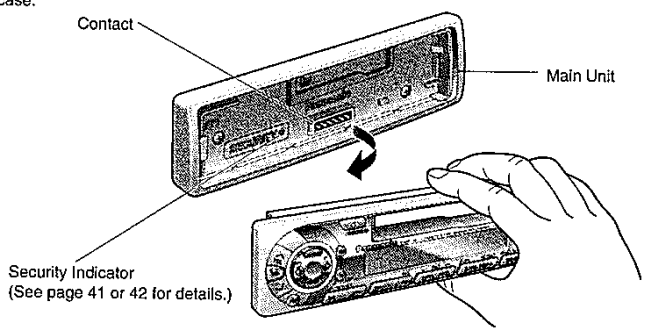


Fig. 4

④ As shown in Fig.5, gently push the lower side of the case and open its cover. Keep the face plate in the case. Then, you can bring the plate safely.

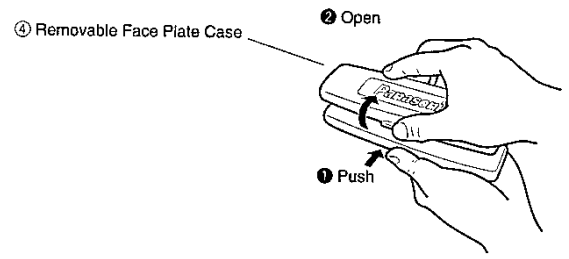


Fig. 5

Anti-Theft System (continued)

To Install the Removable Face Plate

① Slide the left side of the removable face plate in place.

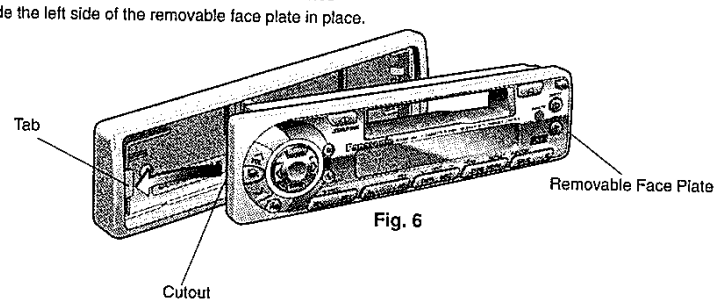


Fig. 6

② Press the right end of removable face plate until a "click" is heard.

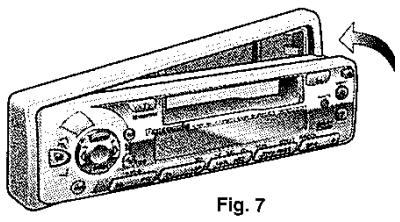


Fig. 7

Cautions:
1. Before removing the face plate, make sure the power is off.
2. This face plate is not water-proof. Do not expose it to water or excessive moisture.
3. Do not remove the face plate while driving your car.
4. Do not place the face plate on the dashboard or nearby areas where the temperature rises to high levels.
5. Do not touch the contacts on the face plate or on the main unit, since this may result in poor electrical contacts.
6. If dirt or other foreign substances get on the contacts, wipe them off with clean and dry cloth.

<CQ-RD333N>
Warning Alarm

Caution:
This car radio is equipped with an integrated Warning Alarm in order to make robbery more difficult. But it has to be secured that the installation will be properly done so that the Warning Alarm may work in a perfect way. Concerning the installation, the following points have to be observed:

1. The supplied mounting collar has to be firmly fixed with the mounting tabs to the dashboard.
2. The radio has to be put into the mounting collar in that way that it exactly ends with the collar.
3. Please make sure that the technical features (impedance and power) of the speakers are installed correspond to the specifications of this car radio (see technical specifications).

Only when these three points are observed during the installation, the correct function of the "Warning Alarm" will be secured.
If the main unit is not correctly wired and installed, the system may accidentally sound the alarm.

Warning Alarm and Security Indicator
The security indicator blinks when the removable face plate is removed from the unit. (See Fig 4 on page 39.) Furthermore, the alarm will set off for 1 minute then reset when an attempt is made to remove the unit from the mounting collar.

Activate Warning Alarm and Security Indicator
1. Press and hold **[SEL]** for more than 4 seconds when the power is on. "ALRM ON" is displayed, and the security indicator and Warning Alarm are turned on.

(Default : The security indicator is off.)

2. To check whether the unit is set in the ALARM ON mode, make sure that the security indicator blinks when the removable face plate is removed.

Display	Security Indicator	Warning Alarm	Panel Removal Alarm
ALRM ON	Blinks	ON	ON
	(Press and hold **[SEL]** for more than 4 seconds.)		
ALRM OFF	OFF	OFF	OFF

Cautions:
1. Warning Alarm system may not operate if the exclusive supplied mounting collar is not used. This mounting collar will set off the alarm when the unit is being removed.
   If the main unit is not correctly wired and installed, the system may accidentally sound the alarm.
2. When removing or installing the unit, make sure that it is in the ALARM OFF mode.
3. When the Warning Alarm is activated by mistake, or when you want to remove the unit, the Warning Alarm and the security indicator functions can be canceled by the following procedure.
   - Install the removable face plate.
   - Disconnect the power connector.

Anti-Theft System (continued)

<CQ-RD323 / RD313N>

Security Indicator
The security indicator blinks when the removable face plate is removed from the unit.

Activate Security Indicator
1. Press and hold **[SEL]** for more than 2 seconds when the power is on. "LED ON" is displayed, and the security indicator turned on.

(Default : The security indicator is on.)

2. To check whether the unit is set in the LED ON mode, make sure that the security indicator blinks when the removable face plate is removed.

Display	Security Indicator	Panel Removal Alarm
LED ON	Blinks	ON
	(Press and hold **[SEL]** for more than 2 seconds.)	
LED OFF	OFF	OFF

Panel Removal Alarm
This alarm sounds to warn you not to forget to remove the panel before leaving your car. This function is activated when the security alarm is on.

Installation

Preparation
- Before installation check the radio operation with antenna and speakers.
- Disconnect the cable from the negative (–) battery terminal (see caution below).
- Unit should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°.

Caution: For installation to cars with trip or navigational computers, all electronic memory settings previously registered in the computer will be lost when the battery terminal is disconnected. For this type of car, battery could not be disconnected. Therefore, extra care should be taken to prevent short circuiting.

In-dash Installation

Installation Opening
In-dash installation can be done if the car's dashboard has an opening for this unit as shown in Fig. 8. The car's dashboard should have a thickness of 4.5mm - 6mm in order to make the installation of the unit.

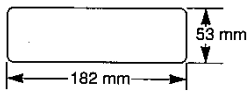


Fig. 8

Installation Precautions
This product, if possible, should be installed by a professional installer.

In case of difficulty, please consult your nearest authorized Panasonic Service Center.
1. This system is to be used only in a 12-volt, DC battery system (car) with negative ground.
2. Follow the electrical connections on page 46 or 47 carefully. Failure to do so may result in damage to the unit.
3. Connect the power lead (red) after all other connections are made.
4. Be sure to connect the battery lead (yellow) to the positive terminal (+) of the battery or fuse block (BAT) terminal.
5. Insulate all exposed wires to prevent short circuiting.
6. Secure all loose wires after installing the unit.
7. Please carefully read the operating and installation instructions of the respective equipment before connecting it to this unit.

Supplied Hardware

No.	Item	Diagram	Q'ty
①	Mounting Collar		1
②	Mounting Bolt (5 mmϕ) (For CQ-RD333N)		1
	Mounting Bolt (5 mmϕ) (For CQ-RD323/RD313N)		
③	Power Connector (Only for CQ-RD333N)		1
	Power and Speaker Connector (Only for CQ-RD323/RD313N)		
④	Removable Face Plate Case		1

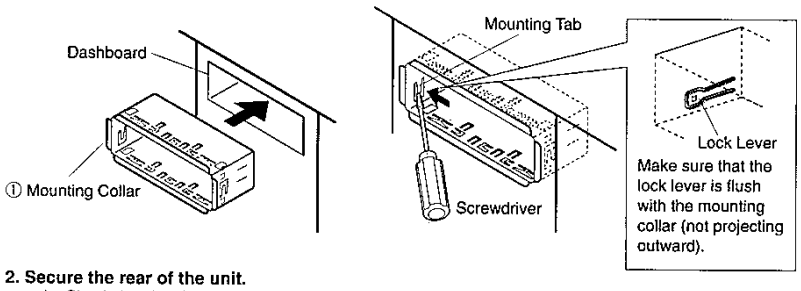
No.	Item	Diagram	Q'ty
⑤	Dismounting Plate (Only for CQ-RD333N)		1
	Dismounting Plate (Only for CQ-RD323/RD313N)		
⑥	Remote Control Unit (Only for CQ-RD323N)		1
⑦	Lithium Battery (CR 2025) (Only for CQ-RD323N)		1
⑧	ISO Antenna Adaptor (Only for CQ-RD333N)		1

Installation (continued)

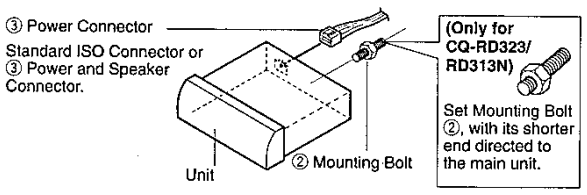
- When bending the mounting tab of the mounting collar with a screwdriver, be careful not to injure your hands and fingers.
- We strongly recommend you to wear gloves for installation work to protect yourself from injuries.

Installation Procedures
Note: Disconnect the cable from the negative (–) battery terminal.

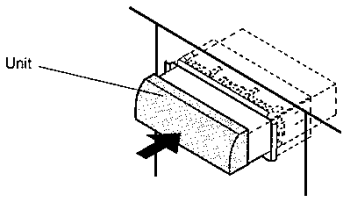
1. Secure Mounting Collar ①.
Insert Mounting Collar ① into the car's dashboard, and bend mounting tabs out with a screwdriver.



2. Secure the rear of the unit.
a) Check the electrical connection by referring to this operating instructions.
b) Connect Mounting Bolt ② using a suitable wrench.
c) **<CQ-RD333N>**
Insert Power Connector ③ to the unit.
<CQ-RD323 / RD313N>
Insert standard ISO connector or Power and Speaker Connector ③ to the unit. (See page 4 and 5.)

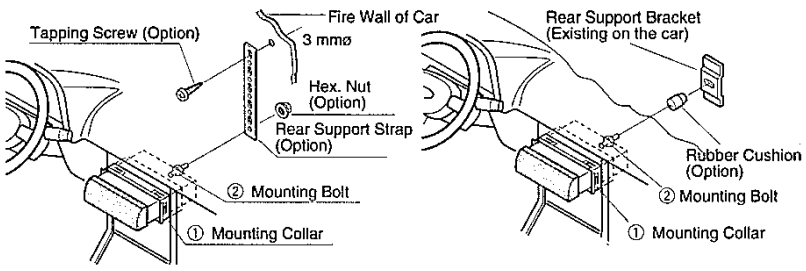


d) Insert the unit into Mounting Collar ① and push it in until a "click" is heard.



e) Secure the rear of the unit to the car by either of the two recommended methods.

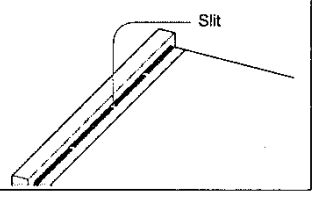
- **Using the Rear Support Strap (Option)**
  Affix one end of the Rear Support Strap to the rear of the unit, and the other end to the fire wall of car, or some other metallic area.
- **Using the Rubber Cushion (Option)**
  (If there is an existing Rear Support Bracket on the fire wall of car.)
  Cover Mounting Bolt ② on the rear of the unit with Rubber Cushion (option), and mount it into the existing Rear Support Bracket.



3. After installation reconnect the negative (–) battery terminal.

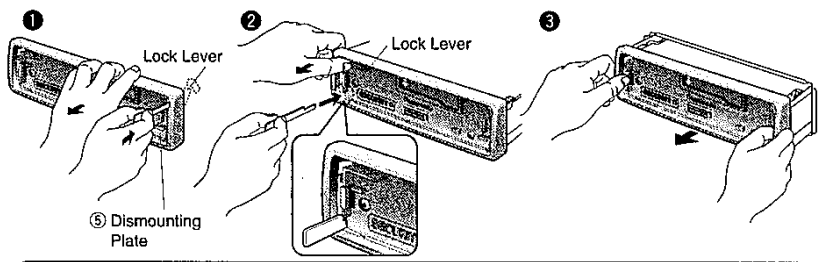
To remove the trim plate (for Japanese Cars)
You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your dealer.

To mount this unit on a Japanese car, first cut the 9 slits in back of the trim plate with side-cut pliers, remove the trim plate, then mount this unit.



To Remove the Unit

a) Remove the removable face plate. (See page 39.)
b) Pull out the unit while pushing the lock lever using Dismounting Plate ⑤. Dismounting Plate ⑤ of CQ-RD333N differs in shape from that of CQ-RD323/RD313N. (See page 43.)
c) Remove the unit pulling with both hands.



Note: Do not lose Dismounting Plate ⑤. It will be needed to remove the unit from the car's dashboard.

A4
Battery Lead (Yellow)
To the car battery, continuous +12V DC

A5
Motor Antenna Relay Control Lead (Dark blue)
(To motor antenna) (Max. 500 mA)
This lead is not intended for use with switch actuated power antenna.
Amp. Relay Control Power Lead (Dark blue)
This lead is for connection to Panasonic power amplifier.

A7
Power Lead (ACC or IGN) (Red)
To ACC power, +12V DC

A8
Ground Lead (Black)
To a clean, bare metallic part of the car chassis

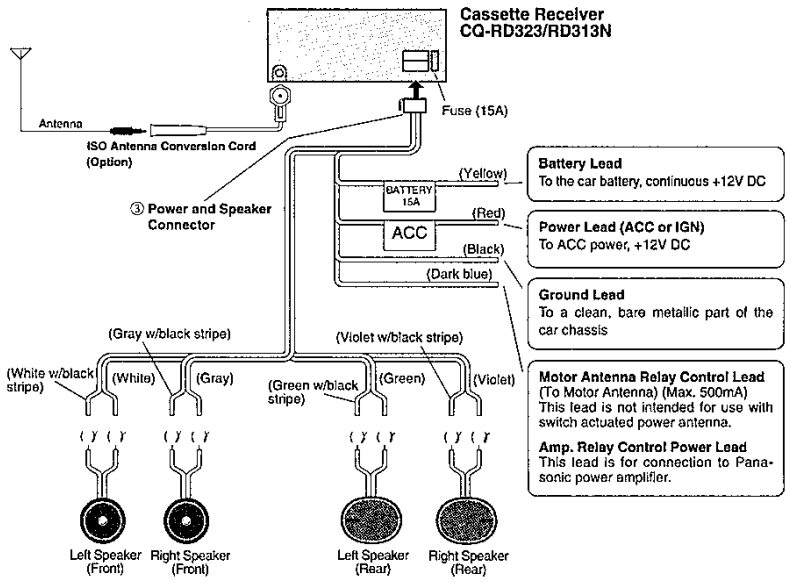
C1
Not used

C2
Telephone Mute Lead (Orange)
Connect to the car telephone mute lead.
Note: This telephone mute lead is for connection only to the radio mute lead. Be sure to ascertain this because it will not work with other type of output system.
Navi Mute Lead (Orange)
Connect to the Navi Mute lead of the Panasonic car navigation system (for example, CN-DV2000EN).

Notes:
Telephone Mute
The sound from the speakers cannot be heard while the telephone conversation is in progress.
Navi Mute
The sound from the speakers cannot be heard while the navigation voice guide is on.

<CQ-RD323/RD313N>

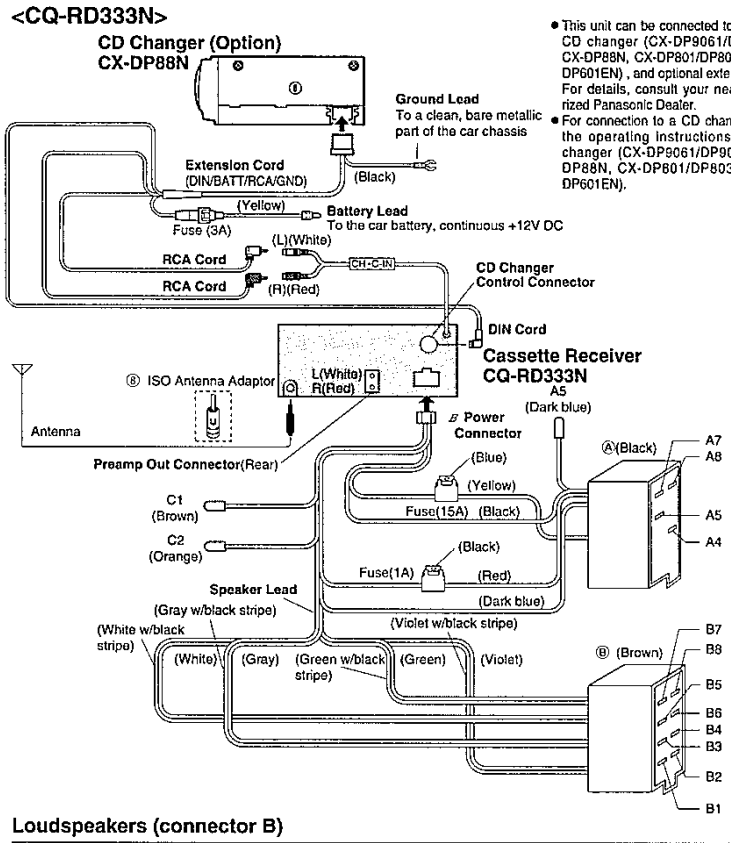
Example: In case of using the supplied power and speaker connector (See Page 5.)



Electrical Connections

Cautions:
- **Confirm the note on page 4 and 5, and make connections to the connectors on car side.**
- This product is designed to be used in a car having 12-volt negative ground battery system.
- To prevent damage to the unit, be sure to follow the connection diagram below.
- Remove the covering of the leads about 5 mm long from their end before connecting. (except for ISO connector's cords)
- Do not insert the power connector into the unit until the wiring is completed.
- Be sure to insulate any exposed wires from a possible short-circuit from the car chassis. Bundle all cables and keep cable terminals free from touching any metal parts.

<CQ-RD333N>



- This unit can be connected to an optional CD changer (CX-DP9061/DP9060EN, CX-DP88N, CX-DP801/DP803EN or CX-DP601EN), and optional extension cord. For details, consult your nearest authorized Panasonic Dealer.
- For connection to a CD changer, refer to the operating instructions of the CD changer (CX-DP9061/DP9060EN, CX-DP88N, CX-DP801/DP803EN or CX-DP601EN).

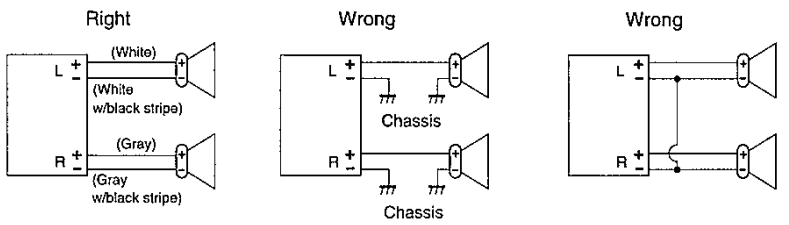
Loudspeakers (connector B)

	Left +	Left –	Right +	Right –
Front	B5 (White)	B6 (White w/black stripe)	B3 (Gray)	B4 (Gray w/black stripe)
Rear	B7 (Green)	B8 (Green w/black stripe)	B1 (Violet)	B2 (Violet w/black stripe)

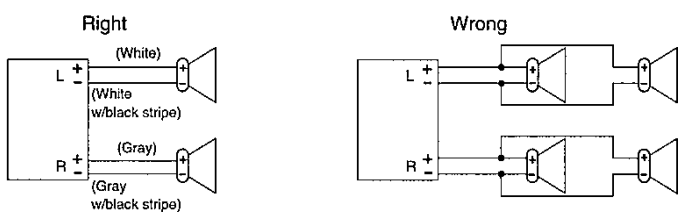
Speaker Connections

Cautions:
1. Use ungrounded speakers only.
2. The speakers to be used with this unit should be able to handle more than 40W of audio power. If an optional amplifier is used, the speakers should be able to handle the maximum output power of the amplifier. Use of speakers with small input ratings can cause damage to the speakers.
3. The speaker impedance should be 4 - 8 Ω. If the impedance is too large or too small, it affects the output and may cause damage to the speakers or this unit.
4. Do not use 3-wire type speaker system having a common earth lead. Never connect the speaker cord to the body of the car. This unit uses the BTCL circuit, so each speaker should be connected separately using parallel vinyl insulated cords.
5. The speaker cords and the power amplifier unit should be kept away (about 30cm apart) from the antenna and antenna extension cord.
6. Follow the connection diagram below carefully. Failure to do so may cause damage to both unit and speakers.

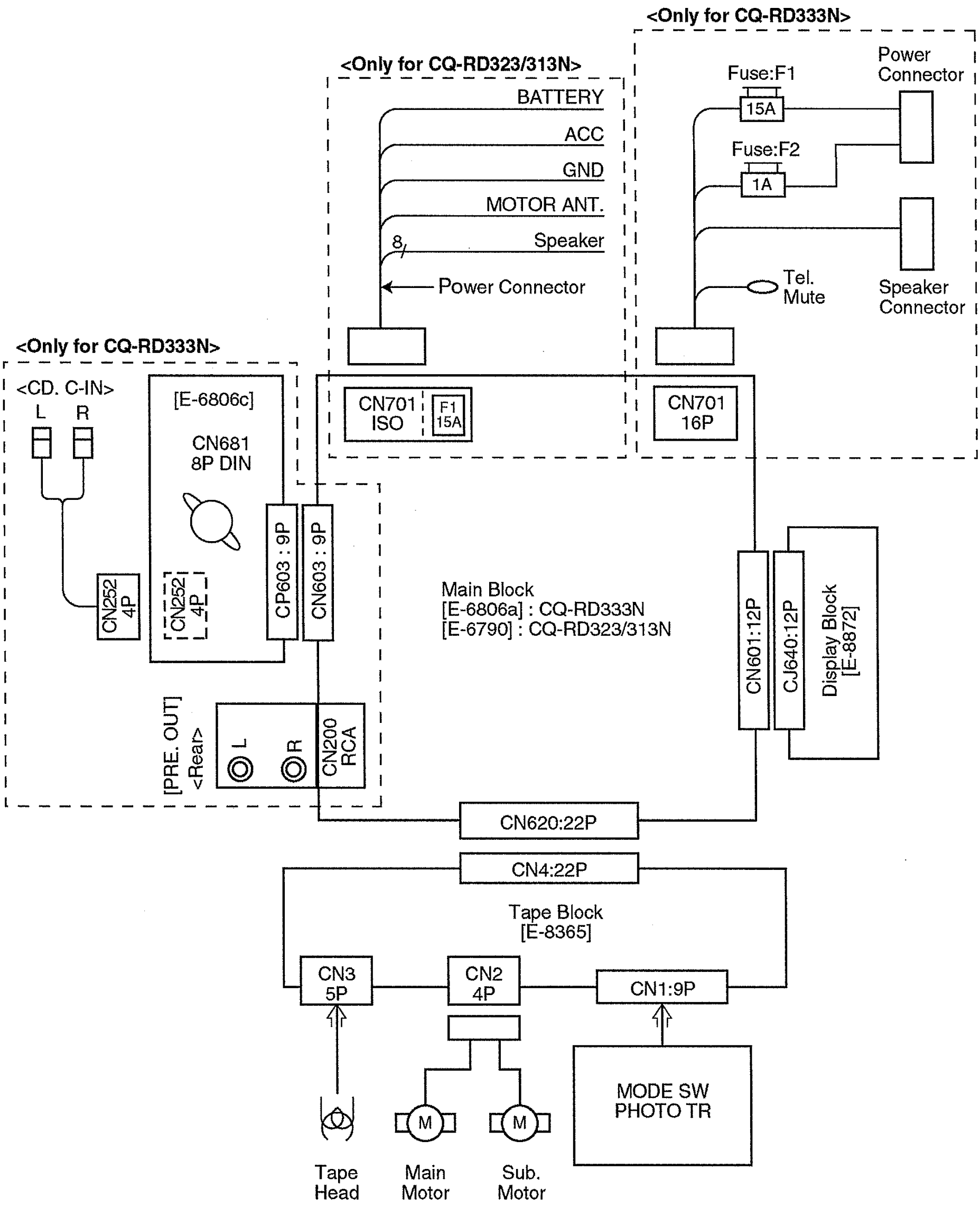
- **Unit will be damaged if speakers (Front, Rear) are not connected properly.**



- **Do not connect more than one speaker to one set of speaker leads.**



9 WIRING CONNECTION

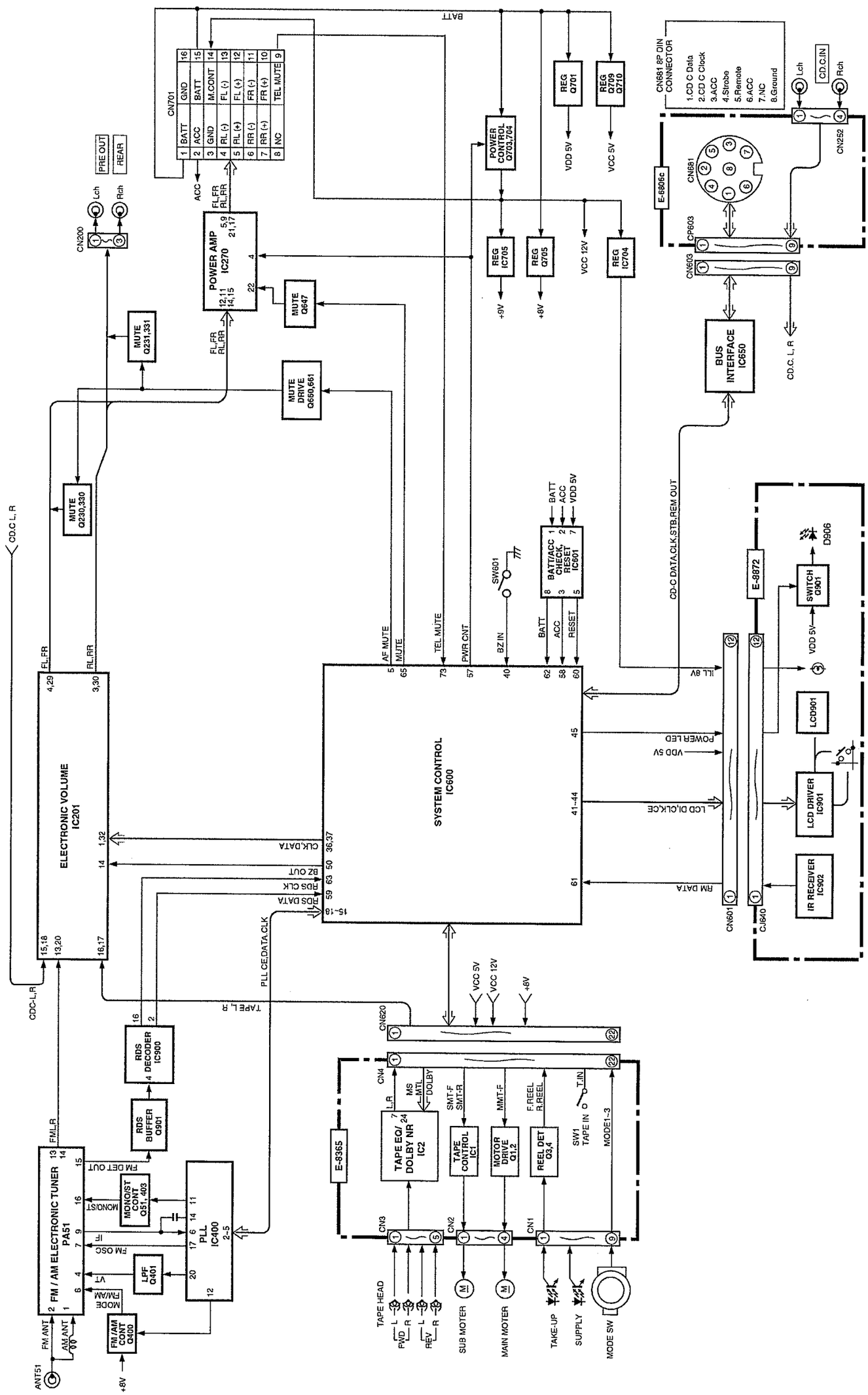


<Note> :

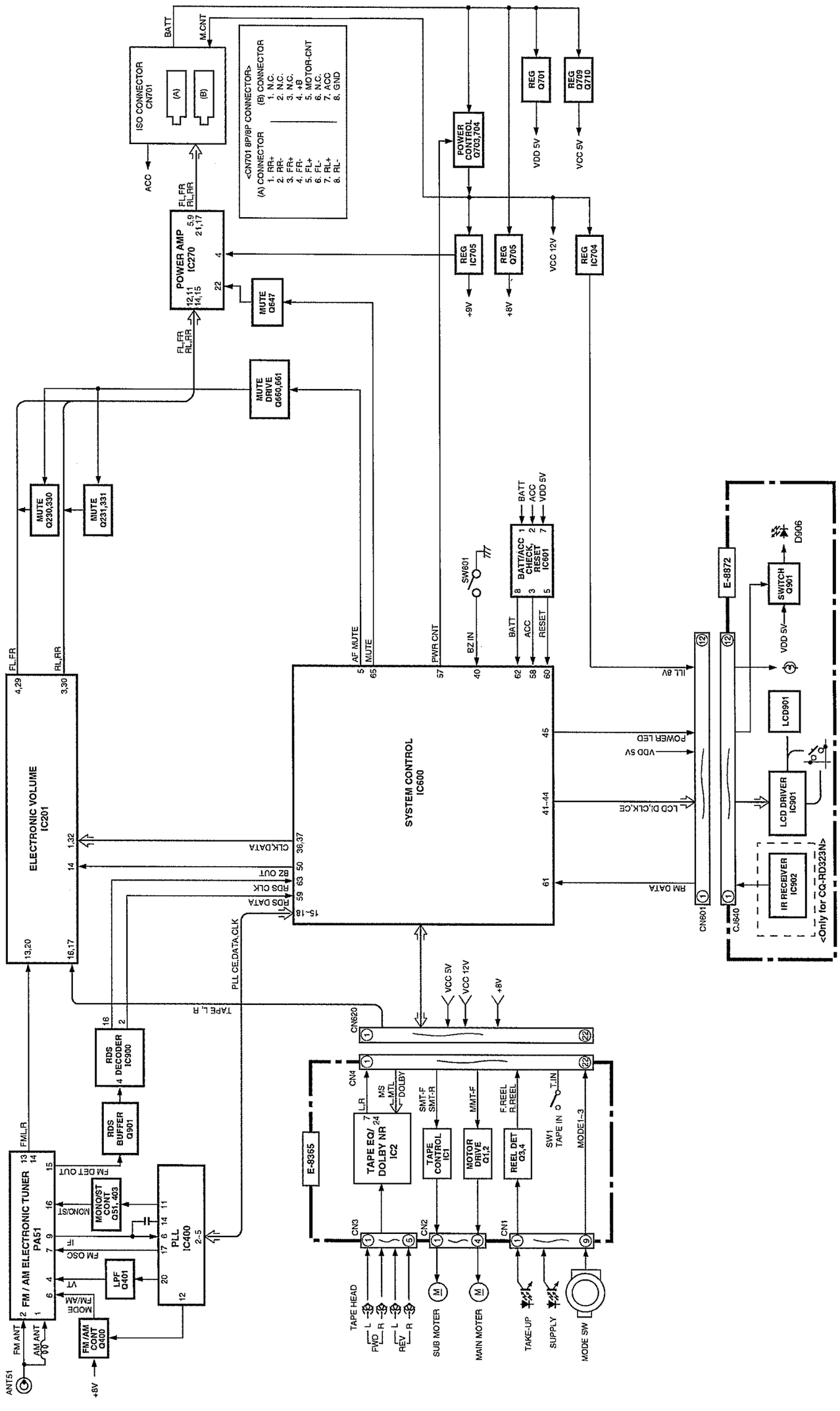
▭ .....This mark shows a Ref. No. of connector

⌜ ⌝ ⌞ ⌟ .....This mark shows a mounting position of connector.

10 BLOCK DIAGRAM <CQ-RD333N>



11 BLOCK DIAGRAM <CQ-RD323/313N>



12 TERMINALS DESCRIPTION

12.1. Main Block

IC600 : YEAM78058F60

Pin No.	Port	Description	I/O	(V)
1	INIT C	Initial C	I	4.9
2	P.ICSTBY	Not used	-	-
3	CD POWER	Not used	-	-
4	AVSS	Analog ground	-	-
5	AF MUTE	AF mute	O	5.1
6	NC	No connection	-	-
7	AVREF	Reference voltage	-	5.1
8	MODE1	Tape mode SW	I	5.0
9	MODE2	Tape mode SW	I	5.0
10	MODE3	Tape mode SW	I	0
11	CD.C DATA	CD changer data **(Note 2)**	I	0
12	NC	No connection	-	-
13	CD.C CLK	CD changer clock **(Note 2)**	I	0
14	REM OUT	CD changer remote control **(Note 2)**	O	4.6
15	PLL CE	PLL controller chip enable	O	0
16	PLL DATA (MI)	Data from PLL	I	5.1
17	PLL DATA (MO)	Data for PLL	O	0
18	PLL CLK	Clock for PLL	O	4.8
19	NC	No connection	-	-
20	NC	No connection	-	-
21	MMT-F	Main motor control	O	0
22	SMT-F	Sub motor control	O	4.8
23	DOLBY	Dolby control **(Note 2)**	O	4.8
24	F/R	Tape FF/REW detection	I	4.8
25	NC	No connection	-	-
26	MS GAIN	MS gain control	O	4.8
27	MLT OUT	Metal tape select	O	0
28	SMT-R	Sub motor control	O	4.8
29	R.REEL	Tape REW detection	I	1.5
30	MS.IN	TPS input	I	0
31	F.REEL	Tape FF detection	I	1.5
32	T.IN	Tape detection	I	0
33	VSS	Ground	-	0
34	NC	No connection	-	-
35	/ST	FM stereo detection	I	4.6
36	IC2-CLK	Electronic volume clock	O	5.0
37	IC2-DATA	Electronic volume data	O	5.0
38	LED	Warning alarm LED control	O	3.6
39	/HDB	No connection	-	-
40	BZIN	Power on/off detection	I	4.9
41	LCD-DI (MO)	LCD data input	O	0
42	LCD-DO (MI)	LCD data output	I	0.5
43	LCD-CLK	LCD clock	O	0
44	LCD-CE	LCD chip enable output	O	0.2
45	POWER LED	Pilot lamp on	O	0
46	NC	No connection	-	-
47	NC	No connection	-	-
48	NC	No connection	-	-
49	NC	No connection	-	-
50	BZOUT	BEEP output	O	0
51	NC	No connection	-	-
52	NC	No connection	-	-
53	NC	No connection	-	-
54	NC	No connection	-	-
55	PANEL	Panel detect	I	4.8
56	NC	No connection	-	-
57	PWR CNT	Power control	O	5.1
58	ACC	ACC detection	I	4.7
59	RDS DATA	RDS data input	I	2.5
60	/RESET	Reset input	I	4.7
61	REM	Remocon data input (Note 2)	I	4.4
62	BATT	Battery detection	I	4.8
63	RDS CLK	RDS clock input	I	2.5
64	CD.C.STB	CD changer strobe input **(Note 2)**	I	0
65	MUTE	Mute control	O	5.1
66	NC	(Connecting to ground)	-	0
67	CD.C2	Not used	-	-
68	VDD	+5V power supply	-	5.1
69	X2	Crystal oscillator	-	3.0
70	X1	Crystal oscillator	-	1.7
71	VSS	Ground	-	0
72	NC	No connection	-	-
73	TEL MUTE	Telephone mute **(Note 2)**	I	4.9
74	AVDD	+5V power supply	-	5.1
75	AVREF	(Connecting to VDD)	-	5.1
76	NC	(Connecting to ground)	-	0
77	SD	Search detect	I	0.6
78	INIT D	Initial value D	I	3.9
79	INIT A	Initial value A	I	0
80	INIT B	Initial value B	I	4.9

Note 1 :

Voltage measuerments are with respect to ground, with a voltmeter (Internal resistance : 10M ohms.)

Note 2 :

Only for CQ-RD333N

12.2. Display Block

IC901 : YEAMLC75854T

Pin No.	Port	Description	I/O	(V)
1-35	SEG1-35	LCD segment	O	2.5
36-39	NC	No connection	-	-
40-43	COM1-4	LCD common	O	2.5
44-49	KS1-6	Key data output	O	0.9
50-54	KI1-5	Key data input	I	0
55	TEST	(Connecting to ground)	-	0
56	VDD	+5V power supply	-	5.1
57	VDD1	Ground through capasitor	-	3.3
58	VDD2	Ground through capasitor	-	1.7
59	VSS	Ground	-	0
60	OSC	CR oscillator	-	3.9
61	DO	LCD data output	O	4.4
62	CE	Chip enable	I	0
63	CLK	LCD clock	I	0
64	DI	LCD data input	I	0

13 ALIGNMENT INSTRUCTIONS

13.1. Alignment Conditions

- Power Supply Voltage : DC14.4V
- Output Impedance : 4Ω
- Output Power : 0.5W
- Balance, Fader Control : Center
- Bass, Treble Control : Center

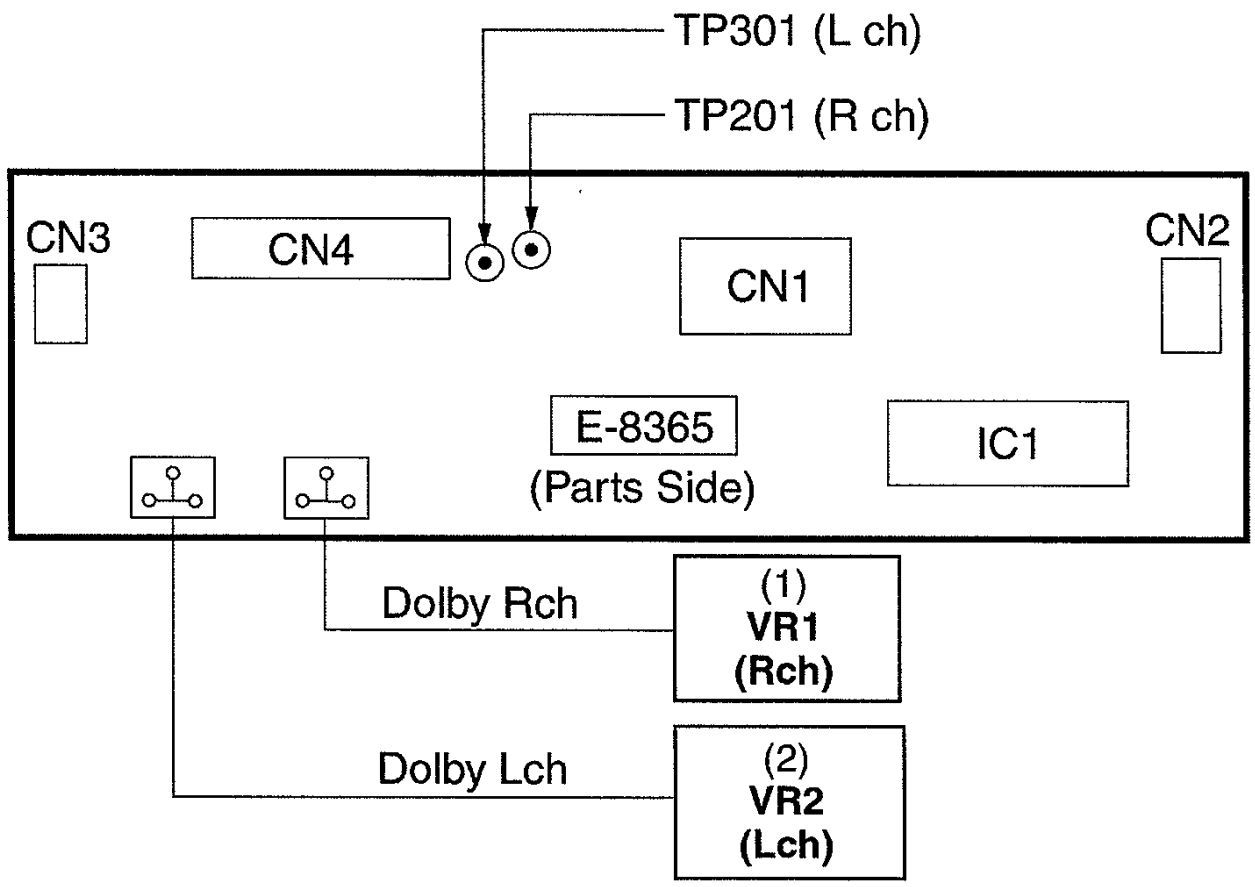
Note:

Do not align the FM/AM package block. When the package block is necessary, it will be supplied already aligned at the factory.

13.2. Dolby NR Alignment

Step	Alignment Item	Test Tape	VTVM Connection	Adjust	Remarks
(1)	DOLBY NR Rch	RFKZ0038	TP201	VR1	Adjust for 388mV ±20mV
(2)	DOLBY NR Lch	RFKZ0038	TP301	VR2	Adjust for 388mV ±20mV

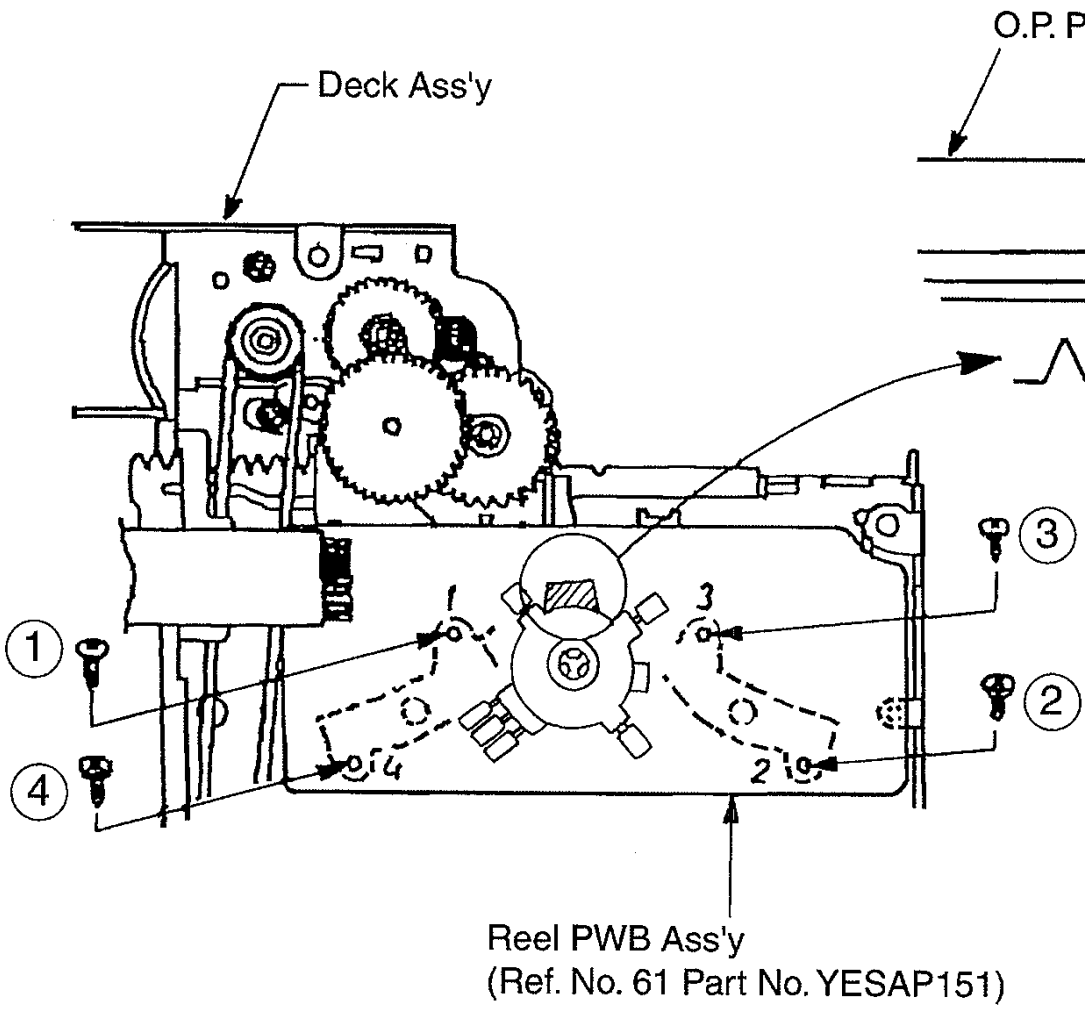
14 ALIGNMENT POINTS



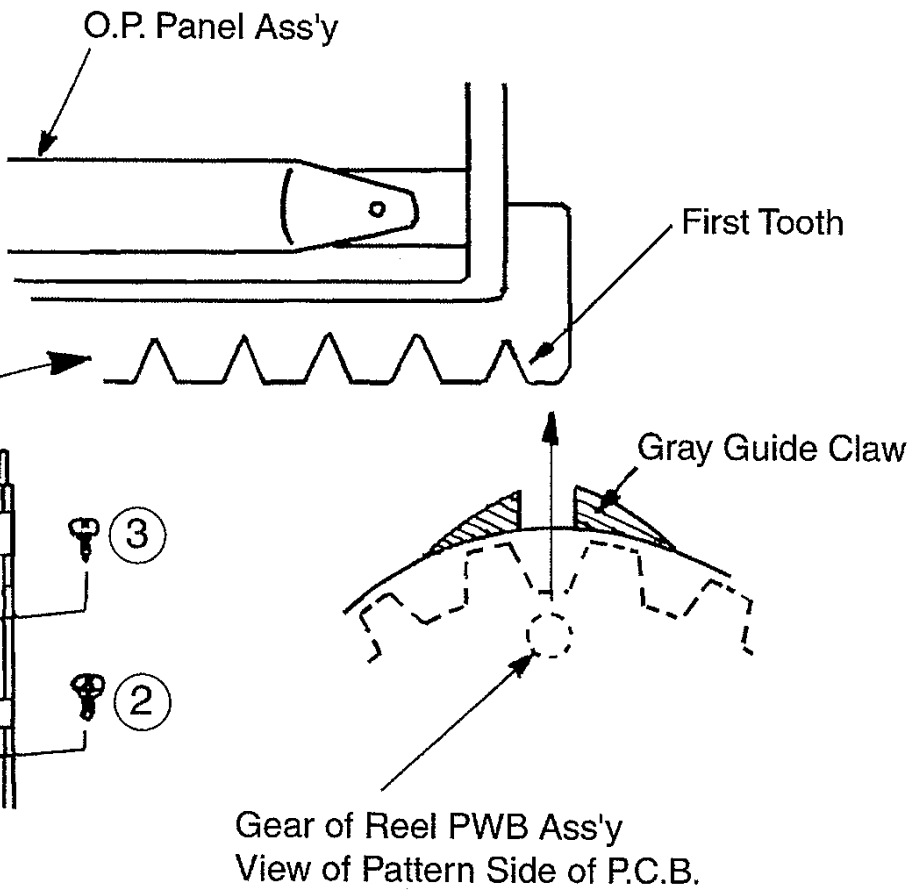
15 RE-ASSEMBLY PROCEDURE for REEL PWB ASS´Y

・When you re-assembly the REEL PWB Ass´y please refer to the following procedure.

1. Set the gear of Reel PWB Ass´y (Ref. No. 61) into the first tooth of O.P. Plate Ass´y (Ref. No. 20) as shown below.
2. Tighte the (1-4) screws of Reel PWB Ass´y shown in the figure.



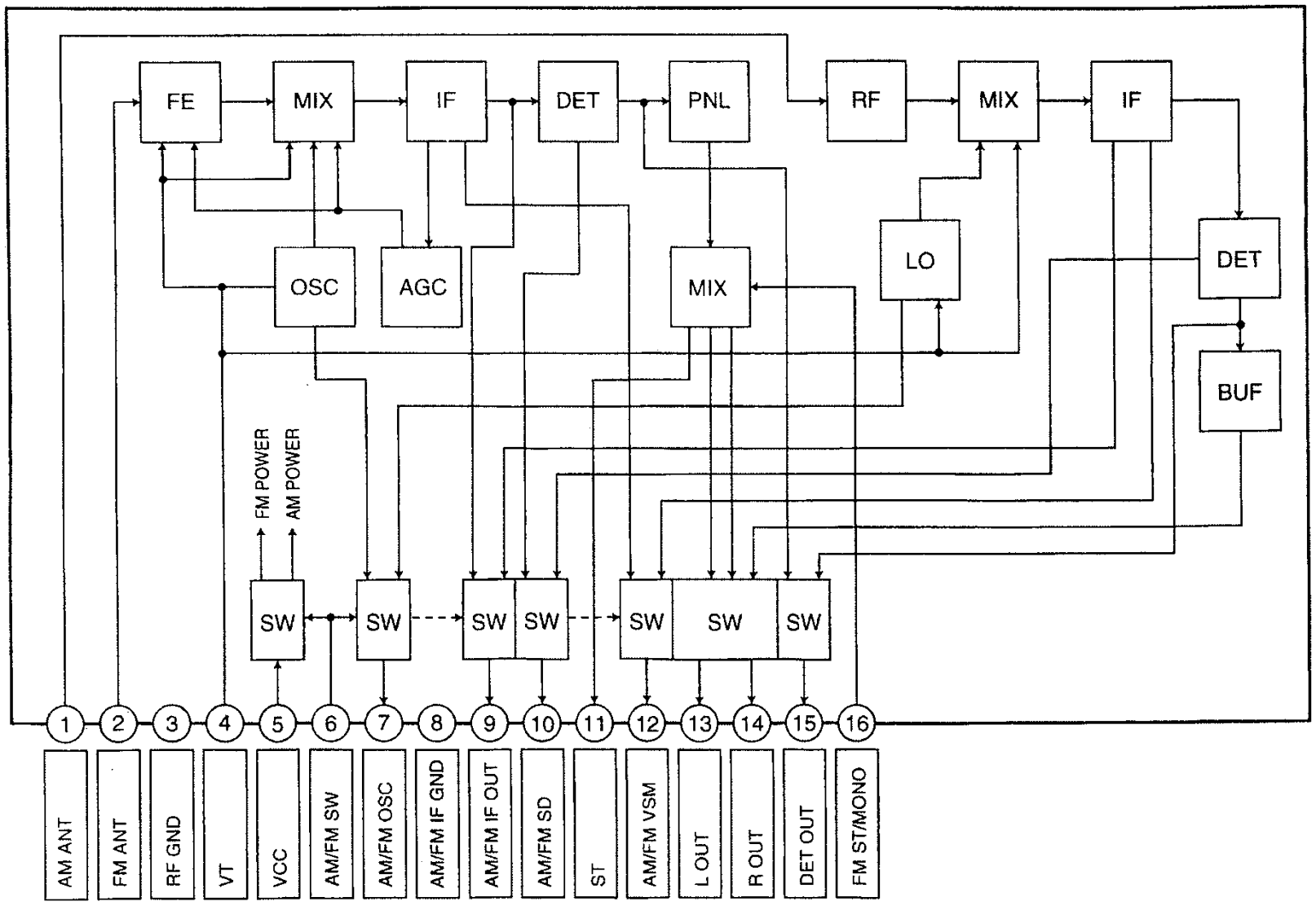
Reel PWB Ass'y
(Ref. No. 61 Part No. YESAP151)



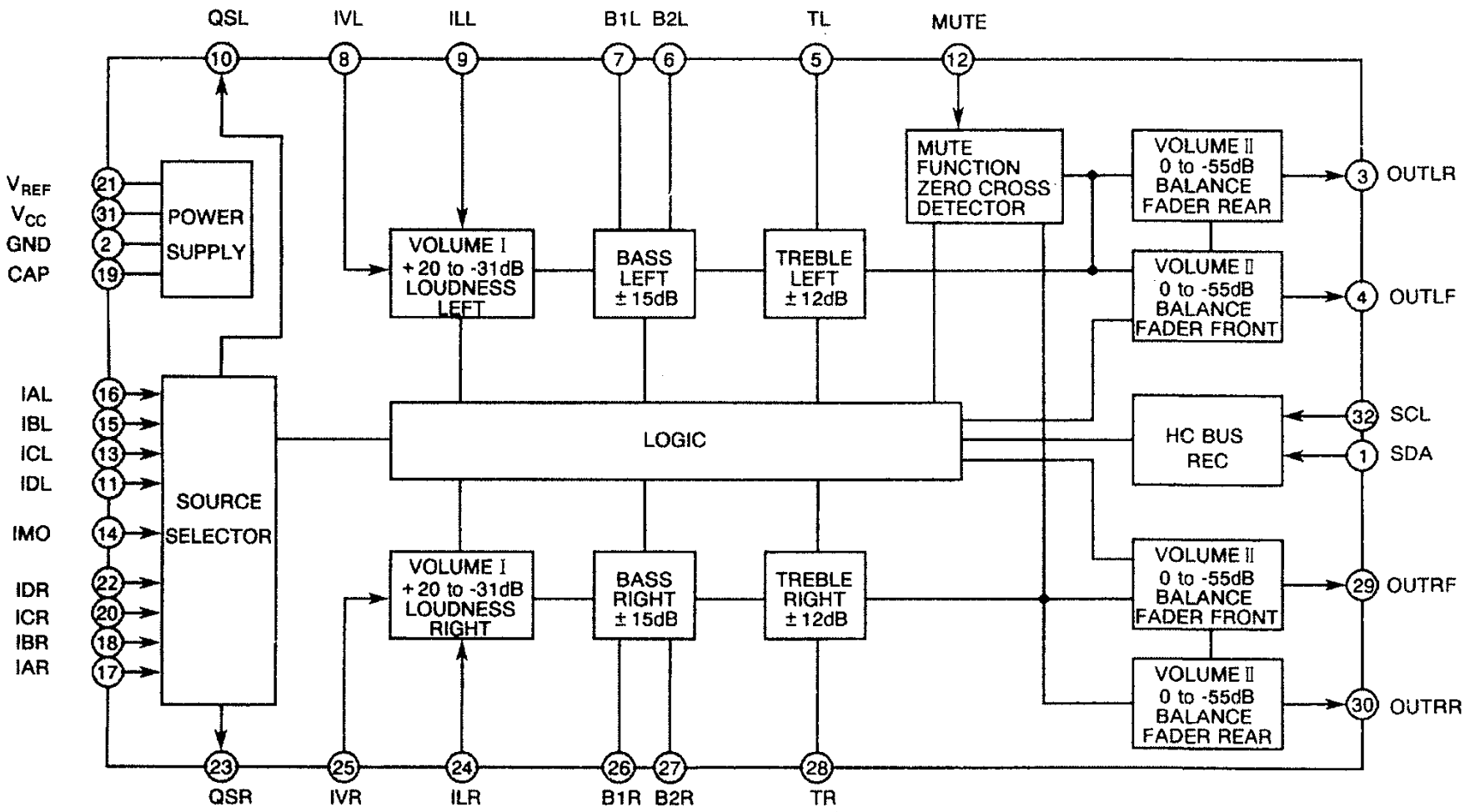
Gear of Reel PWB Ass'y
View of Pattern Side of P.C.B.

16 PACKAGE AND IC BLOCK DIAGRAM

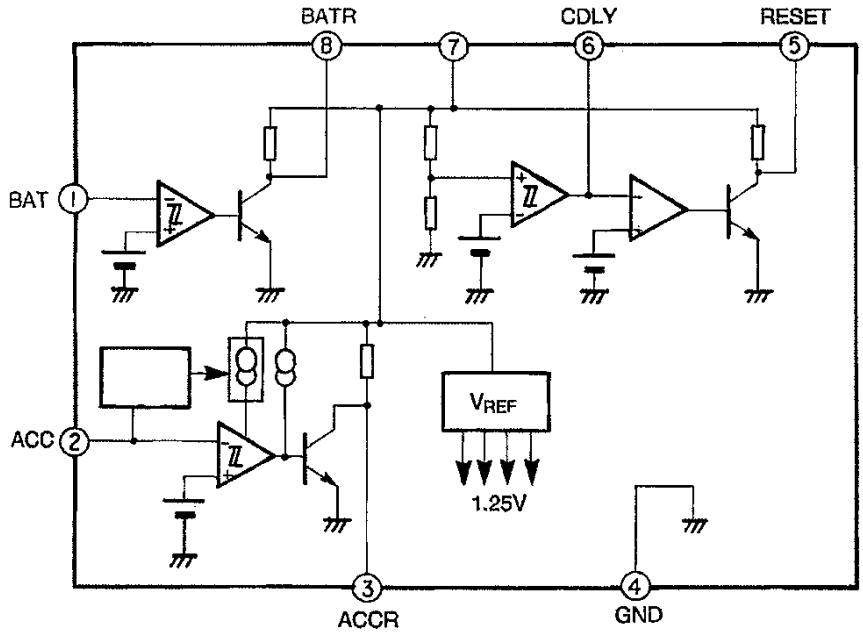
16.1. Main Block



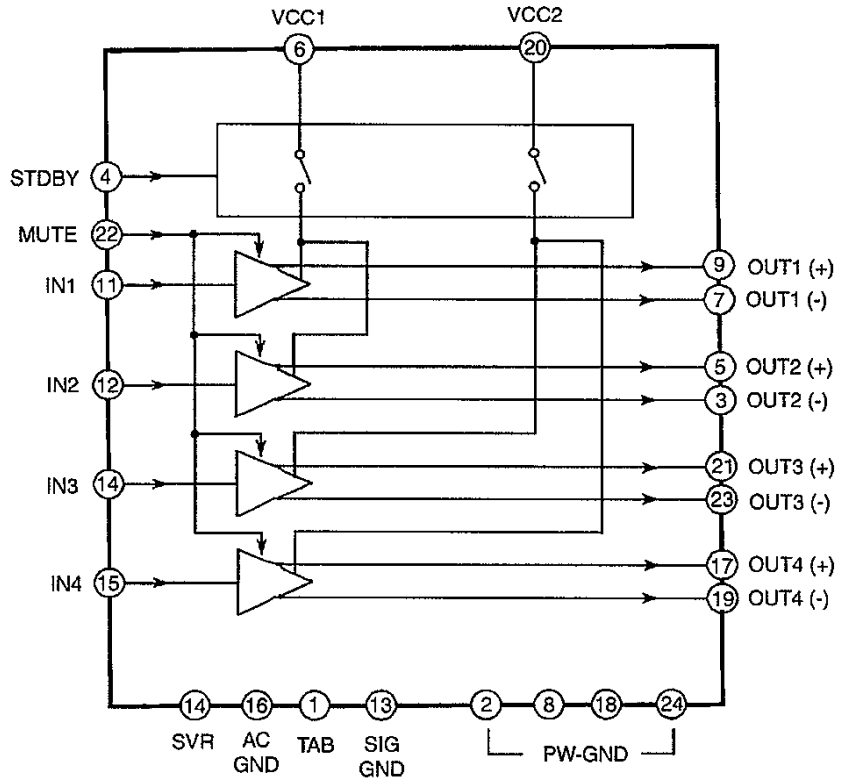
PA51 : YEAU03A052C



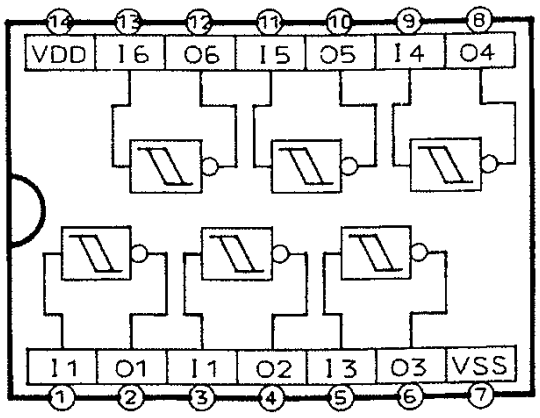
IC201 : YEAMEA6320TT



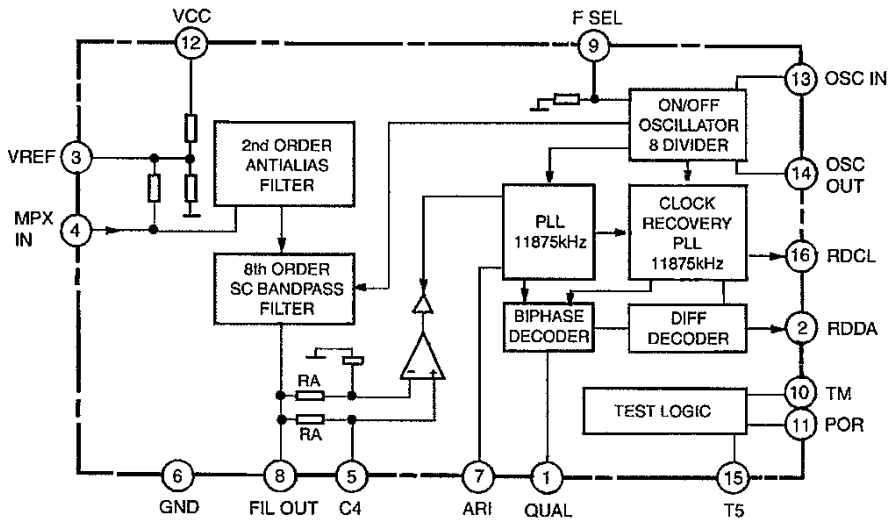
IC601 : AN8065SE1



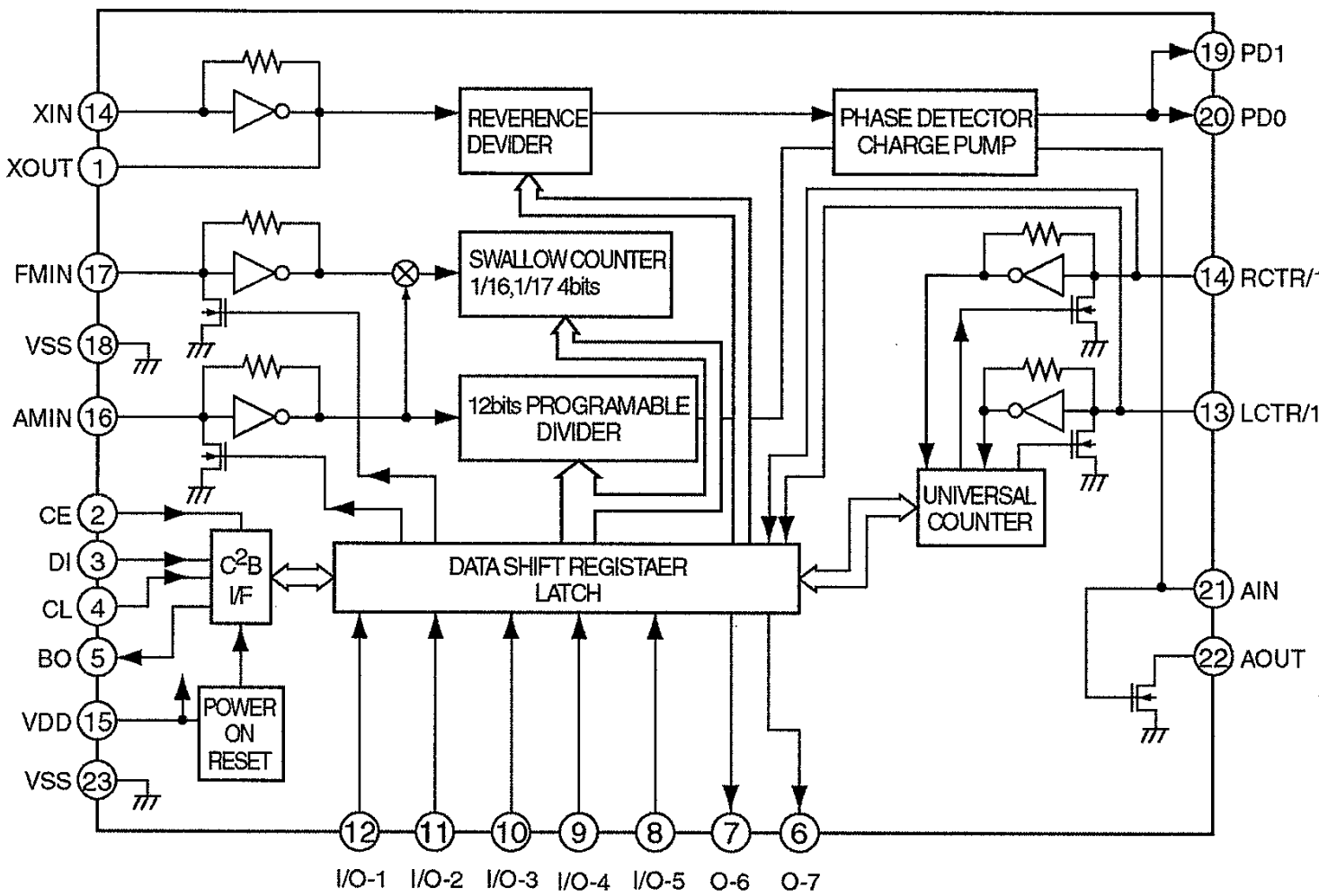
IC270 : YEAMTDA7384



IC650 : YEAMC14584BE

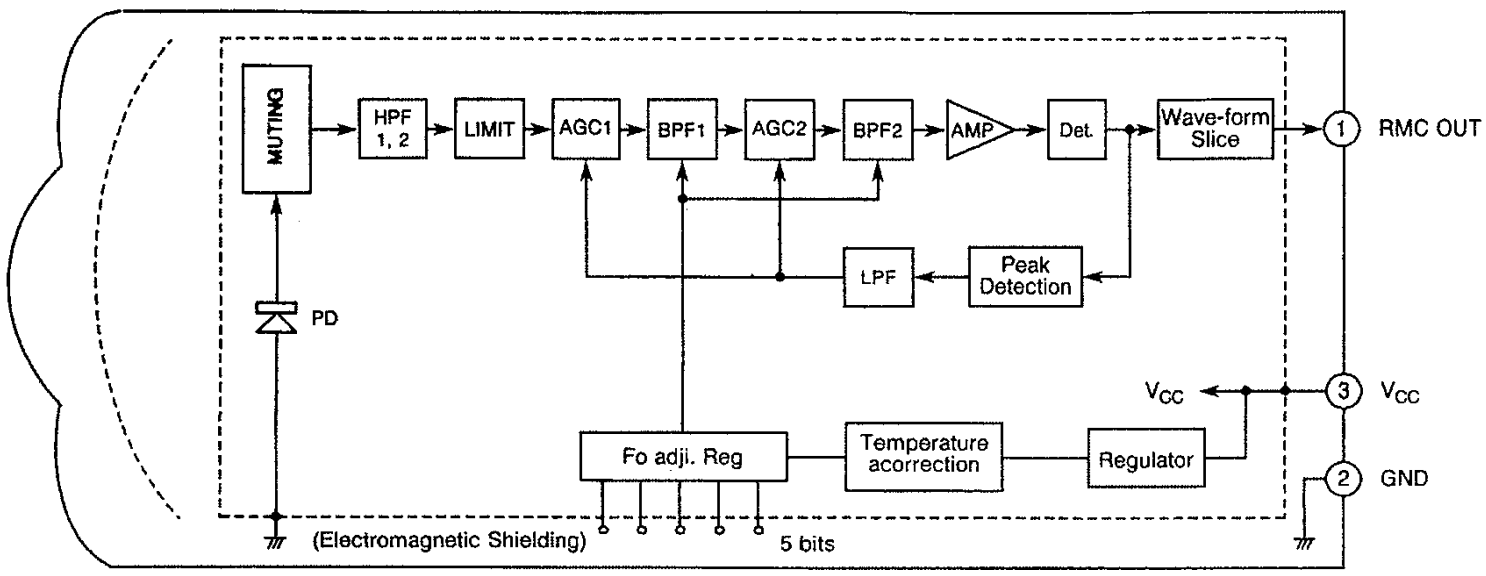


IC900 : YEAMDA7479D



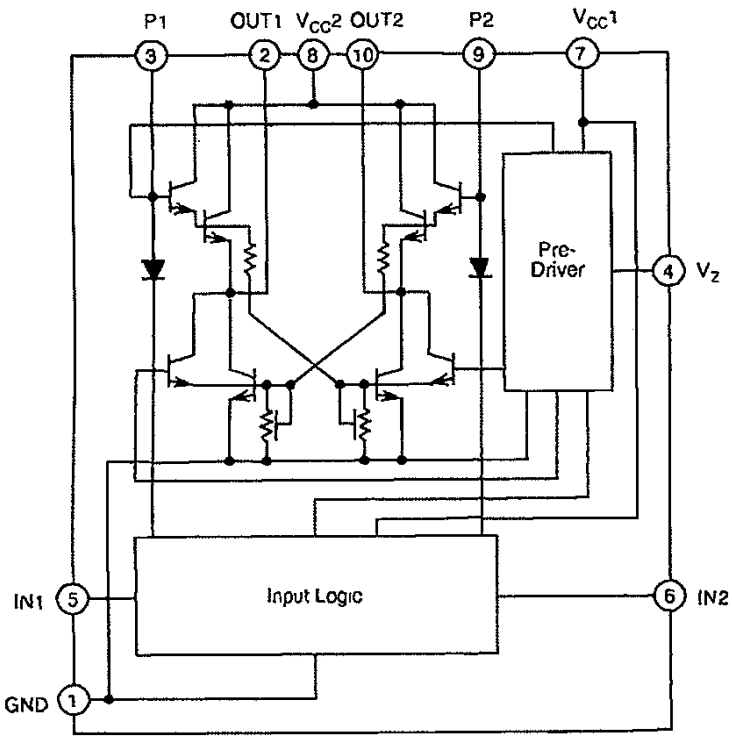
IC400 : YEAMLC72146T

16.2. Display Block

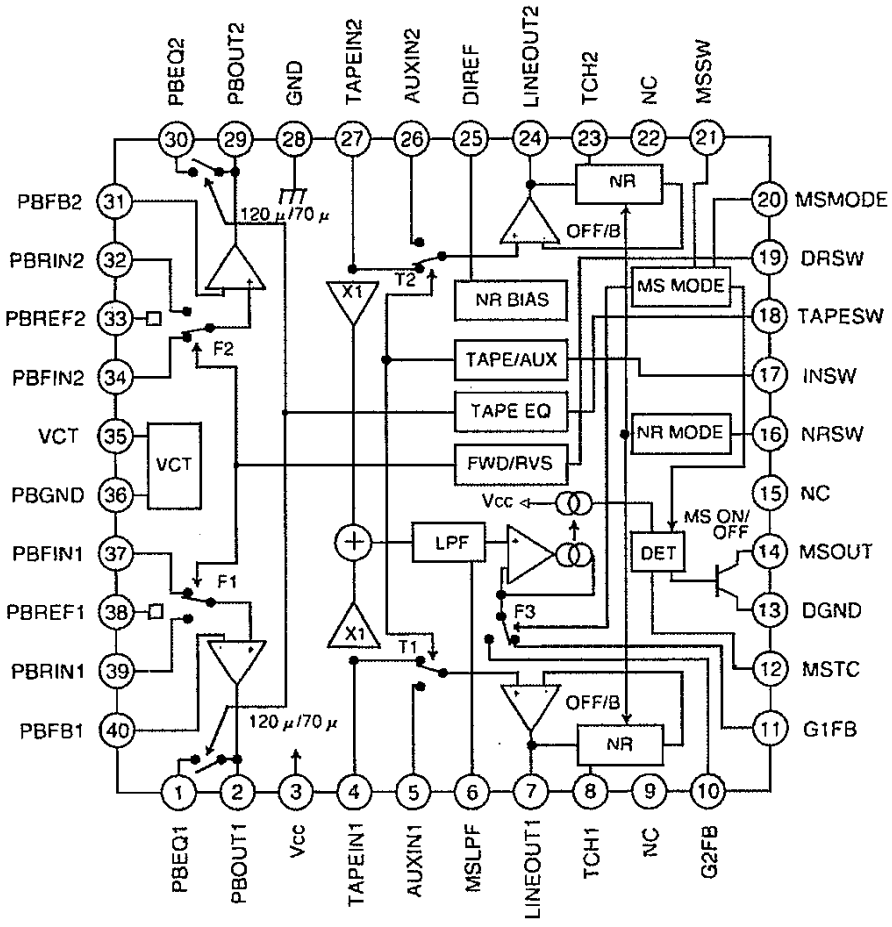


IC902 : YEAMSBX8035F

16.3. Tape Block



IC1 : YEAMLB1641



IC2 : YEAMCX2510AQ

17 REPLACEMENT PARTS LIST

Notes :

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice: Components, identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer´s specified parts.
3. Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing, as in a road map.
4. The marking (RTL) indicates that Retention Time is limited for this item. After the discontinuation of assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
5. "A", "B" or "C" marks in remarks column are indicated as follows :
   - A : CQ-RD333N
   - B : CQ-RD323N
   - C : CQ-RD313N

17.1. IC´s and Transistors

MAIN BLOCK <[E6806] : CQ-RD333N, [E6790] : CQ-RD323/313N>

Ref. No.	Part No.	Part Name & Description	Remarks
IC201	YEAMEA6320TT	IC	
IC270	YEAMTDA7384	IC	
IC400	YEAMLC72146T	IC	
IC600	YEAM78058F60	IC	
IC601	AN8065SE1	IC	
IC650	YEAMC14584BE	IC	A
IC704	YEAMPC78M08A	IC	
IC705	AN8009M-E1	IC	
IC900	YEAMDA7479D	IC	
PA51	YEAU03E052C	Electronic Tuner	
Q51	YEANA114EKTX	Transistor	
Q230	YEANC323TKT	Transistor	
Q231	YEANC323TKT	Transistor	
Q330	YEANC323TKT	Transistor	
Q331	YEANC323TKT	Transistor	
Q400	YEANFP1F3PT1	Transistor	
Q401	YEAN2SK536TB	Transistor	
Q403	B1GBCFNN0005	Transistor	
Q647	YEANC144EUTX	Transistor	
Q660	YEANA114EKTX	Transistor	
Q661	YEANA114EUKT	Transistor	
Q701	YEAND1859T	Transistor	
Q703	YEANB1261ZT	Transistor	
Q704	YEANC143XKTX	Transistor	
Q705	2SD2139TA	Transistor	
Q709	YEANA114YKTX	Transistor	
Q710	YEAND1859T	Transistor	
Q901	B1ABCF000044	Transistor	

DISPLAY BLOCK [E8872]

Ref. No.	Part No.	Part Name & Description	Remarks
IC901	YEAMLC75854T	IC	
IC902	YEAMSBX8035F	IC	A,B
Q901	YEANA114EKTX	Transistor	

17.2. Diodes

MAIN BLOCK <[E6806] : CQ-RD333N, [E6790] : CQ-RD323/313N>

Ref. No.	Part No.	Part Name & Description	Remarks
D602	LN25RP	LED	
D701	YEADDAM3MA47	Diode	
D702	MA165TA	Diode	
D703	B0BA5R700006	Diode	
D704	MA723TA	Diode	
D705	MA165TA	Diode	
D707	MA736TX	Diode	
D708	YEADRD91M1T2	Diode	

DISPLAY BLOCK [E8872]

Ref. No.	Part No.	Part Name & Description	Remarks
D901	MA8047MTX	Diode	
D902	MA8056LMHTX	Diode	
D903	MA8056LMHTX	Diode	
D904	MA8056LMHTX	Diode	
D905	MA8056LMHTX	Diode	
D906	LN1271RAL	LED	
D908	LNJ301MPUJA	LED	
D909	LNJ301MPUJA	LED	

17.3. Capacitors

MAIN BLOCK <[E6806] : CQ-RD333N, [E6790] : CQ-RD323/313N>

Ref. No.	Part No.	Part Name & Description	Remarks
C51	ECA1CSA470I	Electrolytic, 47µF 16WV	
C52	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C53	YECUS1H183KX	Ceramic, 0.018µF 50WV	
C56	YECUS1H183KX	Ceramic, 0.018µF 50WV	
C57	YECUS1H102KX	Ceramic, 0.001µF 50WV	
C203	ECA1HSA3R3I	Electrolytic, 3.3µF 50WV	
C204	ECA1HSA3R3I	Electrolytic, 3.3µF 50WV	A
C205	ECA1HSA010I	Electrolytic, 1µF 50WV	
C208	YECUS1E333KX	Ceramic, 0.033µF 25WV	
C209	YECUS1H562KX	Ceramic, 0.0056µF 50WV	
C210	ECA1CSA470I	Electrolytic, 47µF 16WV	
C211	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C230	ECA1CSA100I	Electrolytic, 10µF 16WV	
C231	ECA1CSA100I	Electrolytic, 10µF 16WV	
C240	ECEA1HKAR47I	Electrolytic, 0.47µF 50WV	
C241	ECEA1HKAR47I	Electrolytic, 0.47µF 50WV	
C249	YECUS1H122KX	Ceramic, 0.0012µF 50WV	
C250	YECUS1H122KX	Ceramic, 0.0012µF 50WV	
C278	ECEA1AKA470I	Electrolytic, 47µF 10WV	
C279	ECEA1HKA2R2I	Electrolytic, 2.2µF 50WV	
C303	ECA1HSA3R3I	Electrolytic, 3.3µF 50WV	
C304	ECA1HSA3R3I	Electrolytic, 3.3µF 50WV	A
C305	ECA1HSA010I	Electrolytic, 1µF 50WV	
C308	YECUS1E333KX	Ceramic, 0.033µF 25WV	
C309	YECUS1H562KX	Ceramic, 0.0056µF 50WV	
C310	ECA0JSA101I	Electrolytic, 100µF 6.3WV	
C311	ECA1CSA470I	Electrolytic, 47µF 16WV	
C330	ECA1CSA100I	Electrolytic, 10µF 16WV	
C331	ECA1CSA100I	Electrolytic, 10µF 16WV	
C340	ECEA1HKAR47I	Electrolytic, 0.47µF 50WV	
C341	ECEA1HKAR47I	Electrolytic, 0.47µF 50WV	
C349	YECUS1H122KX	Ceramic, 0.0012µF 50WV	
C350	YECUS1H122KX	Ceramic, 0.0012µF 50WV	
C401	YECUS1H150JM	Ceramic, 15PF 50WV	
C402	YECUS1H150JM	Ceramic, 15PF 50WV	
C403	ECA0JSA101I	Electrolytic, 100µF 6.3WV	
C404	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C408	YECUS1E223KX	Ceramic, 0.022µF 25WV	
C409	ECQV1H224JL2	Plastic Film, 0.22µF 50WV	
C410	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C411	ECEA1AKA221I	Electrolytic, 220µF 10WV	
C413	YECUS1H101JM	Ceramic, 100PF 50WV	
C417	ECEA1AKA221I	Electrolytic, 220µF 10WV	
C601	YECUS1H220JM	Ceramic, 22PF 50WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C602	YECUS1H220JM	Ceramic, 22PF 50WV	
C603	YECUS1C104KX	Ceramic, 0.1µF 16WV	
C604	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C606	ECEA0JKS331I	Electrolytic, 330µF 6.3WV	
C607	EECS5R5T473	Electrolytic, 0.047FD 5.5WV	
C608	YECUS1C104KX	Ceramic, 0.1µF 16WV	
C609	YECUS1C224KX	Ceramic, 0.22µF 16WV	
C611	YECUS1E104ZF	Ceramic, 0.1µF 25WV	
C612	YECUV1H104ZF	Ceramic, 0.1µF 50WV	
C631	ECA1CSA470I	Electrolytic, 47µF 16WV	
C660	ECEA1HKA010I	Electrolytic, 1µF 50WV	
C661	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C690	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C702	ECEA0JKA470I	Electrolytic, 47µF 6.3WV	
C705	YECUS1C224KX	Ceramic, 0.22µF 16WV	
C706	YECUS1C104KX	Ceramic, 0.1µF 16WV	
C707	ECA1AM221I	Electrolytic, 220µF 10WV	
C710	ECA1CM471B	Electrolytic, 470µF 16WV	
C715	YECUS1C224KX	Ceramic, 0.22µF 16WV	
C717	YECUS1C224KX	Ceramic, 0.22µF 16WV	
C720	YECUS1C104KX	Ceramic, 0.1µF 16WV	
C722	YECUS1C104KX	Ceramic, 0.1µF 16WV	
C723	ECEA0JKA470I	Electrolytic, 47µF 6.3WV	
C732	YECUS1E104ZF	Ceramic, 0.1µF 25WV	
C735	ECA1CDT472Y	Electrolytic, 4700µF 16WV	
C738	ECEA1HKA010I	Electrolytic, 1µF 50WV	
C901	ECEA0JKA470I	Electrolytic, 47µF 6.3WV	
C902	YECUS1E104ZF	Ceramic, 0.1µF 25WV	
C903	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C904	YECUS1H270JM	Ceramic, 27PF 50WV	
C905	YECUS1H270JM	Ceramic, 27PF 50WV	
C906	ECEA1CKA100I	Electrolytic, 10µF 16WV	
C907	YECUV1H271JM	Ceramic, 270PF 50WV	
C909	YECUS1H471JM	Ceramic, 470PF 50WV	

DISPLAY BLOCK [E8872]

Ref. No.	Part No.	Part Name & Description	Remarks
C901	YECUS1E104ZF	Ceramic, 0.1µF 25WV	
C902	YECUS1E104ZF	Ceramic, 0.1µF 25WV	
C903	YECUS1H681JM	Ceramic, 680PF 50WV	
C904	YECUS1E104ZF	Ceramic, 0.1µF 25WV	
C905	YECUS1E104ZF	Ceramic, 0.1µF 25WV	A,B
C906	YECUS1H102KX	Ceramic, 0.001µF 50WV	A,B
C912	YECUS1E104ZF	Ceramic, 0.1µF 25WV	

17.4. Resistors

MAIN BLOCK <[E6806] : CQ-RD333N, [E6790] : CQ-RD323/313N>

Ref. No.	Part No.	Part Name & Description	Remarks
J1	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J501	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J502	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J503	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J504	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J505	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J508	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J510	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J511	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J513	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J520	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
J601	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J604	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J606	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J607	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J608	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J610	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J612	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J613	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
R50	ERJ6GEYJ5R6	Chip, 5.6Ω 1/10W	
R52	ERJ8GEYJ101V	Chip, 100Ω 1/8W	
R53	ERJ8GEYJ331V	Chip, 330Ω 1/8W	
R58	ERJ6GEYJ103	Chip, 10kΩ 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R201	ERJ6GEYJ183	Chip, 18kΩ 1/10W	
R202	ERJ6GEYJ183	Chip, 18kΩ 1/10W	
R204	ERD25TJ822	Carbon, 8.2kΩ 1/4W	A
R205	ERJ6GEYJ392	Chip, 3.9kΩ 1/10W	A
R208	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
R230	ERD25TJ101	Carbon, 100Ω 1/4W	
R235	ERD25TJ101	Carbon, 100Ω 1/4W	
R236	ERJ6GEYJ561	Chip, 560Ω 1/10W	A
R241	ERJ6GEYJ472	Chip, 4.7kΩ 1/10W	
R243	ERJ6GEYJ472	Chip, 4.7kΩ 1/10W	
R301	ERJ6GEYJ183	Chip, 18kΩ 1/10W	
R302	ERJ6GEYJ183	Chip, 18kΩ 1/10W	
R304	ERD25TJ822	Carbon, 8.2kΩ 1/4W	A
R305	ERJ6GEYJ392	Chip, 3.9kΩ 1/10W	A
R308	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
R330	ERD25TJ101	Carbon, 100Ω 1/4W	
R335	ERD25TJ101	Carbon, 100Ω 1/4W	
R336	ERJ8GEYJ561V	Chip, 560Ω 1/8W	A
R341	ERJ6GEYJ472	Chip, 4.7kΩ 1/10W	
R343	ERJ6GEYJ472	Chip, 4.7kΩ 1/10W	
R401	ERJ6GEYJ152	Chip, 1.5kΩ 1/10W	
R402	ERJ6GEYJ222	Chip, 2.2kΩ 1/10W	
R406	ERJ6GEYJ182	Chip, 1.8kΩ 1/10W	
R407	ERJ6GEYJ561	Chip, 560Ω 1/10W	
R409	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R600	ERJ6GEYJ153	Chip, 15kΩ 1/10W	
R601	ERJ6GEYJ683	Chip, 68kΩ 1/10W	
R603	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R604	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R606	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R608	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R609	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R610	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R611	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R614	ERDS2TJ681	Carbon, 680Ω 1/4W	
R615	ERDS2TJ100	Carbon, 10Ω 1/4W	
R616	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R617	ERDS2TJ102	Carbon, 1kΩ 1/4W	
R618	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R619	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R620	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R621	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R622	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R623	ERJ6GEYJ184	Chip, 180kΩ 1/10W	
R626	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R629	ERD25TJ102	Carbon, 1kΩ 1/4W	
R630	ERD25TJ102	Carbon, 1kΩ 1/4W	
R631	ERD25TJ102	Carbon, 1kΩ 1/4W	
R635	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R636	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R637	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R638	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R639	ERJ6GEYJ184	Chip, 180kΩ 1/10W	
R640	ERJ6GEYJ103	Chip, 10kΩ 1/10W	
R641	ERJ6GEYJ224	Chip, 220kΩ 1/10W	
R644	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R647	ERJ8GEYJ682V	Chip, 6.8kΩ 1/8W	
R648	ERJ6GEYJ223	Chip, 22kΩ 1/10W	
R650	ERJ6GEYJ104	Chip, 100kΩ 1/10W	A
R651	ERJ8GEYJ104V	Chip, 100kΩ 1/8W	A
R652	ERJ8GEYJ104V	Chip, 100kΩ 1/8W	A
R653	ERDS2TJ102	Carbon, 1kΩ 1/4W	
R654	ERDS2TJ102	Carbon, 1kΩ 1/4W	
R660	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R661	ERJ6GEYJ393	Chip, 39kΩ 1/10W	
R671	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R673	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R674	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R675	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R676	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R677	ERJ6GEYJ102	Chip, 1kΩ 1/10W	A
R678	ERJ6GEYJ102	Chip, 1kΩ 1/10W	A
R679	ERJ6GEYJ102	Chip, 1kΩ 1/10W	A

Ref. No.	Part No.	Part Name & Description	Remarks
R680	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R681	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R686	ERJ6GEYJ272	Chip, 2.7kΩ 1/10W	
R690	ERJ6GEYJ103	Chip, 10kΩ 1/10W	
R691	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R692	ERJ6GEYJ104	Chip, 100kΩ 1/10W	
R693	ERDS2TJ102	Carbon, 1kΩ 1/4W	
R694	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R695	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R701	ERDS2FJ470	Carbon, 47Ω 1/4W	
R702	ERDS2FJ470	Carbon, 47Ω 1/4W	
R703	ERJ6GEYJ682	Chip, 6.8kΩ 1/10W	
R704	ERJ6GEYJ274	Chip, 270kΩ 1/10W	
R705	ERJ6GEYJ433	Chip, 43kΩ 1/10W	
R706	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R707	ERJ6GEYJ274	Chip, 270kΩ 1/10W	
R708	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R709	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R710	ERDS1FJ331	Carbon, 330Ω 1/2W	
R711	ERDS1FJ331	Carbon, 330Ω 1/2W	
R712	ERD25FJ1R0	Carbon, 1Ω 1/4W	
R713	ERD25FJ1R0	Carbon, 1Ω 1/4W	
R714	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R717	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
R718	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R719	ERDS1FJ820	Carbon, 82Ω 1/2W	
R720	ERDS2TJ103	Carbon, 10kΩ 1/4W	
R721	ERJ6GEYJ103	Chip, 10kΩ 1/10W	
R722	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R723	ERJ6GEYJ222	Chip, 2.2kΩ 1/10W	
R724	ERJ6GEYJ821	Chip, 820Ω 1/10W	
R725	ERD25TJ154	Carbon, 150kΩ 1/4W	
R726	ERDS2TJ472	Carbon, 4.7kΩ 1/4W	
R727	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R728	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
R901	ERDS2TJ103	Carbon, 10kΩ 1/4W	
R902	ERDS2TJ103	Carbon, 10kΩ 1/4W	
R903	ERJ6GEYJ225V	Chip, 2.2MΩ 1/10W	
R904	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R905	ERJ6GEYJ334	Chip, 330kΩ 1/10W	
R906	ERJ6GEYJ222	Chip, 2.2kΩ 1/10W	

DISPLAY BLOCK [E8872]

Ref. No.	Part No.	Part Name & Description	Remarks
R901	ERJ6GEYJ4R7	Chip, 4.7Ω 1/10W	
R902	ERJ6GEYJ102	Chip, 1kΩ 1/10W	A,B
R903	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R904	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R905	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R906	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R908	ERJ6GEYJ182	Chip, 1.8kΩ 1/10W	
R909	ERJ6GEYJ4R7	Chip, 4.7Ω 1/10W	
R910	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R911	ERJ6GEYJ103	Chip, 10kΩ 1/10W	
R912	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R914	ERJ6GEYJ152	Chip, 1.5kΩ 1/10W	
R915	ERJ6GEYJ681	Chip, 680Ω 1/10W	
R926	ERJ6GEY0R00V	Chip, 0Ω 1/10W	
R927	ERJ8GEYJ6R8V	Chip, 6.8Ω 1/8W	
R928	ERJ6GEYJ6R8V	Chip, 6.8Ω 1/10W	

17.5. Connectors

MAIN BLOCK <[E6806] : CQ-RD333N, [E6790] : CQ-RD323/313N>

Ref. No.	Part No.	Part Name & Description	Remarks
CJ620	YEAES22B100B	Connector, 22P flexible	
CP603	K1KB09B00013	Connector, 9P	A
CN200	YEAE02165	Connector, 2P RCA	A
CN252	YEAE012709	Connector, 2P RCA	A
CN601	YEAE012475	Connector, 12P	
CN603	K1KA09A00062	Connector, 9P	A
CN620	YEAE012659	Connector, 22P	
CN681	YEAE012307	Connector, 8P DIN	A
CN701	YEAE012194	Connector, 16P	A
CN701	YESAE307	Connector	B,C

DISPLAY BLOCK [E8872]

Ref. No.	Part No.	Part Name & Description	Remarks
CJ640	YEAE012476	Connector, 12P	

17.6. Electric Parts

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW601	YEAS07174	Switch	
SW901	EVQPJH05K	Switch	
SW902	EVQPJH05K	Switch	
SW903	EVQPJH05K	Switch	
SW904	YEAS09312	Switch	
SW905	EVQPJH05K	Switch	
SW906	EVQPJH05K	Switch	
SW907	EVQPJH05K	Switch	
SW908	YEAS09312	Switch	
SW909	EVQPJH05K	Switch	
SW910	EVQPJH05K	Switch	
SW911	EVQPJH05K	Switch	
SW912	EVQPJH05K	Switch	
SW913	YEAS09312	Switch	
SW914	EVQPJH05K	Switch	
SW915	YEAS09312	Switch	
SW916	YEAS09312	Switch	
SW917	YEAS09312	Switch	
SW918	YEAS09312	Switch	
SW919	YEAS09312	Switch	
SW920	EVQPJH05K	Switch	
SW921	EVQPJH05K	Switch	
SW922	EVQPJH05K	Switch	
SW923	EVQPJH05K	Switch	
SW926	EVQPJH05K	Switch	

CRYSTALS

Ref. No.	Part No.	Part Name & Description	Remarks
XL400	YEXL49U072TA	Crystal OSC	
XL600	YEXL49U0419T	Crystal OSC	
XL901	YEXL49U0433T	Crystal OSC	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L50	YELT02C330KT	Coil	
L400	YELT02C101KT	Coil	
L600	YELT02C470KT	Coil	
L702	YETQ026F143	Coil	
L901	YELT02C101KT	Coil	

LCD

Ref. No.	Part No.	Part Name & Description	Remarks
LCD901	YEXDCM1245	LCD	

LAMPS

Ref. No.	Part No.	Part Name & Description	Remarks
PL920	YEALHSKB001	Pilot Lamp	
PL921	YEALHSLG002	Pilot Lamp	
PL922	YEALHSLG002	Pilot Lamp	
Z50	J0LE00000002	Neon Tube	

THERMISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
PT701	YERT7AR4R7MT	Thermister	

17.7. Accessories

PRINTINGS

Ref. No.	Part No.	Part Name & Description	Remarks
	YEFM283537	Operating Instructions	A
	YEFM283511	Operating Instructions	B,C

INSTALLATION PARTS

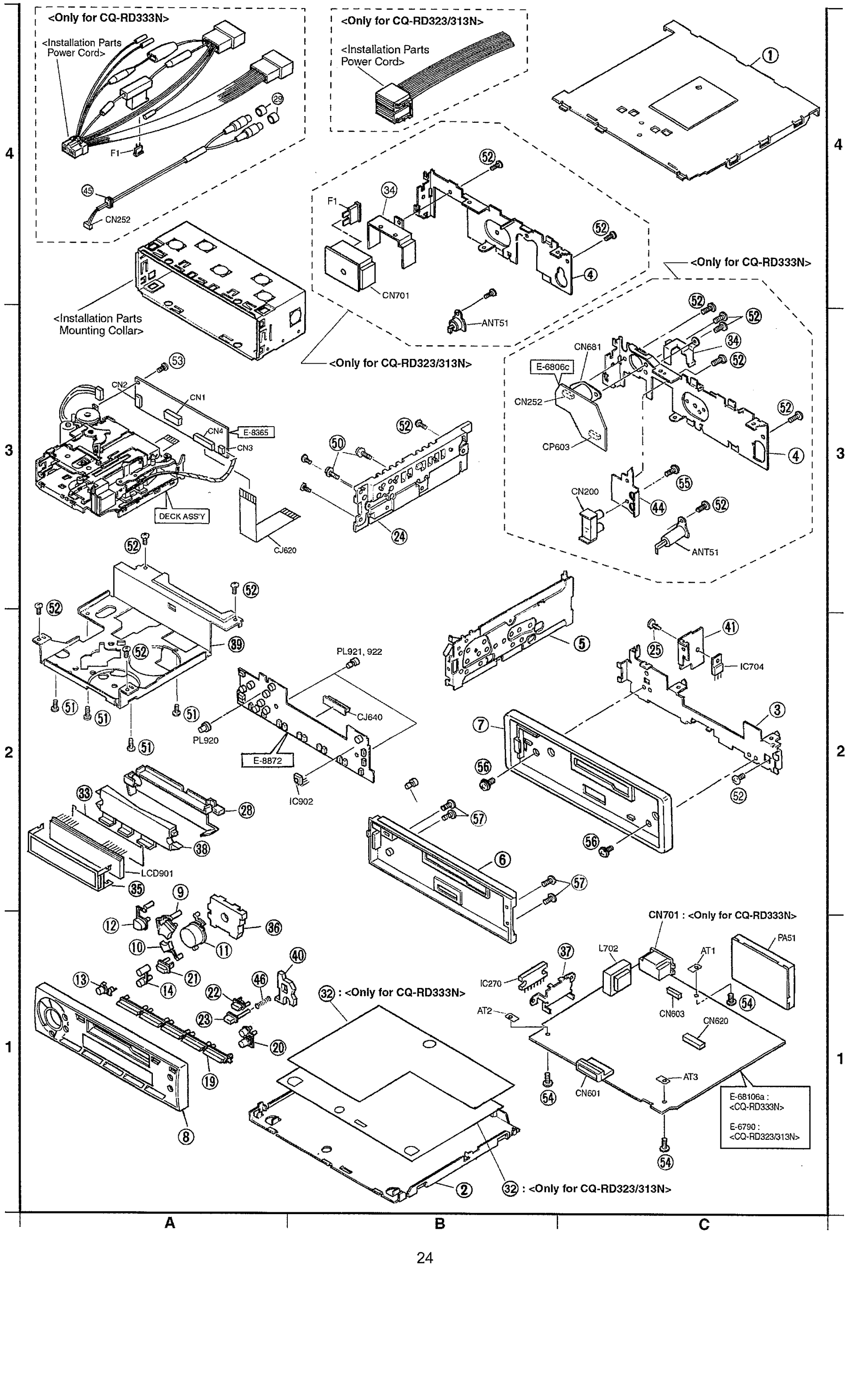
Ref. No.	Part No.	Part Name & Description	Remarks
	YEAJ02764	Power Cord	A
	YESAJ01221	Power Cord	B,C
	YEAA33144	Antenna Accessory	
	YEFA131302	Detachable Unit Case	
	YEFX0214198	Mounting Collar	
	YEFX9991721	Unlock Key	A
	YEFX9992108	Unlock Key	B,C
	YEFX9992013	Remote Controller	B
	YEJV01060	Bolt, 5mm * 8mm	A
	YEJV01108	Bolt	B,C

17.8. Mechanical Parts

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
F1	YEAF02015	Fuse, 15A	⚠
F2	YEAF02007	Fuse, 1A	⚠ A
ANT51	YGAA10082	Antenna Receptacle	
AT1-3	K4ZZ01000048	Terminal	
1	YEFA031354E	Upper Cover	A (4-C)
1	YEFA05758	Upper Cover	B,C (4-C)
2	YEFA05594B	Bottom Cover	(1-B)
3	YEFA07394	Front Plate	A (2-C)
3	YEFA07489	Front Plate	B,C (2-C)
4	YEFA08404BK	Rear Plate	A (3-C)
4	YEFA08496AK	Rear Plate	B,C (3-C)
5	YEFA09485A	Side Plate	A (3-C)
5	YEFA09650	Side Plate	B,C (3-C)
6	YEFA131511	Cover, Detachable	(2-B)
7	YEFC026830	Escutcheon Ass´y, Unit	A,B (2-C)
7	YEFC026455	Escutcheon Ass´y, Unit	C (2-C)
8	YEFC026857	Escutcheon Ass´y, Detachable	A (1-A)
8	YEFC026696	Escutcheon Ass´y, Detachable	B,C (1-A)
9	YEFE136132	Button, VOL UP	(1-A)
10	YEFE136133	Button, VOL DOWN	(1-A)
11	YEFE136134	Button, MODE/BAND	(1-A)
12	YEFE136135	Button, SEL	(1-A)
13	YEFE136136	Button, PWR	(1-A)
14	YEFE136137	Button, ATT/LOUD	(1-A)
19	YEFE136074	Button, PRESET	(1-A)
20	YEFE136138	Button, DISP/P	(1-A)
21	YEFE136072	Button, PROG	(1-A)
22	YEFE136073	Button, EJECT	(1-A)
23	YEFE136131	Button, RLSE	(1-A)
24	YEFF01832C	Heat Sink	A (3-B)
24	YEFF01987	Heat Sink	B,C (3-B)
25	YEFJ05046	Color Rivet	(2-C)
28	YEFK06917	Holder, LCD	(2-A)
29	YEFR04187	Lead Cap	A (4-B)
32	YEFV011813	Insulator	A (1-B)
32	YEFV011975	Insulator	B,C (1-B)
33	YEFV021718	Optical Shade LCD	(2-A)
34	YEFX0213649A	Bracket, CN701	A (3-C)
34	YESAE308	Bracket, CN701	B,C (3-C)
35	YEFX0214956	Bracket, LCD	(2-A)
36	YEFX0012051	Transparent Plate	(1-A)
37	YEFX0213945B	Bracket, IC270	(1-B)
38	YEFX0012063	Transparent Plate LCD	(2-A)
39	YEFX0214197B	Bracket, Deck	(2-A)
40	YEFX0012044	Transparent Plate	(1-A)
41	YEFX0214167	Bracket, IC704	(2-C)
44	YEFX0213673	Bracket, RCA	A (3-B)
45	YEFX007380	Cord Clamper	A (4-A)
46	YEFX0052506	Spring	(1-A)
50	YEJS06092	Screw, 3mm * 10mm	
51	YEJS03022	Screw, 3mm * 3mm	
52	XTB3+6FFX	Tapping Screw, 3mm * 6mm	
53	YEJT03163	Tapping Screw, 2mm * 6mm	
54	YEJT03009	Tapping Screw, 3mm * 8mm	
55	XTB3+8GFX	Tapping Screw, 3mm * 8mm	
56	YGJT03156	Tapping Screw, 2.6mm * 5mm	
57	XTN2+8GFZ	Tapping Screw, 2mm * 8mm	

18 EXPLODED VIEW (Unit)



19 TAPE PLAYER PARTS

19.1. IC´s and Transistors

[E8365]

Ref. No.	Part No.	Part Name & Description	Remarks
IC1	YEAMLB1641	IC	
IC2	YEAMCX2510AQ	IC	
Q1	YEANB1237QRT	Transistor	
Q2	YEANC113ZKTX	Transistor	
Q3	YEANC113ZKTX	Transistor	
Q4	YEANC113ZKTX	Transistor	

19.2. Diodes

[E8365]

Ref. No.	Part No.	Part Name & Description	Remarks
D1	YEAD11ES2	Diode	
D2	YEADRD43EST1	Diode	

19.3. Capacitors

[E8365]

Ref. No.	Part No.	Part Name & Description	Remarks
C1	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C2	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C3	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C4	YECUS1H103KX	Ceramic, 0.01µF 50WV	
C5	ECEA1AKS330I	Electrolytic, 33µF 10WV	
C6	ECEA1CKS470I	Electrolytic, 47µF 16WV	
C7	ECEA1CKS470I	Electrolytic, 47µF 16WV	
C8	ECEA1HKS2R2I	Electrolytic, 2.2µF 50WV	
C9	ECEA1HKS2R2I	Electrolytic, 2.2µF 50WV	
C10	YECUS1C104KX	Ceramic, 0.1µF 16WV	
C11	YECUS1C104KX	Ceramic, 0.1µF 16WV	
C12	YECUS1C104KX	Ceramic, 0.1µF 16WV	
C15	YECUS1E223KX	Ceramic, 0.022µF 25WV	
C16	YECUS1C224KX	Ceramic, 0.22µF 16WV	
C17	ECEA1CKS100I	Electrolytic, 10µF 16WV	
C18	ECEA1CKS100I	Electrolytic, 10µF 16WV	
C19	YECUS1H391JM	Ceramic, 390PF 50WV	
C20	YECUS1H391JM	Ceramic, 390PF 50WV	
C21	YECUS1H391JM	Ceramic, 390PF 50WV	
C22	YECUS1H391JM	Ceramic, 390PF 50WV	
C24	YECUS1H822KX	Ceramic, 0.0082µF 50WV	

19.4. Resistors

[E8365]

Ref. No.	Part No.	Part Name & Description	Remarks
J101	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J102	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J103	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J104	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J105	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J106	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J107	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J108	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J109	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J110	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J111	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J112	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J113	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J114	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J115	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J116	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J117	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J118	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J119	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J120	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J121	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J122	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J123	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J124	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J125	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
J126	ERJ8GEY0R00V	Chip, 0Ω 1/8W	
R1	ERJ6GEYJ683	Chip, 68kΩ 1/10W	
R2	ERJ6GEYJ223	Chip, 22kΩ 1/10W	
R3	ERJ6GEYJ683	Chip, 68kΩ 1/10W	
R4	ERJ6GEYJ683	Chip, 68kΩ 1/10W	
R5	ERJ6GEYJ683	Chip, 68kΩ 1/10W	
R6	ERJ6GEYJ271	Chip, 270Ω 1/10W	
R7	ERJ6GEYJ271	Chip, 270Ω 1/10W	
R8	ERJ6GEYJ104	Chip, 100kΩ 1/10W	
R9	ERJ6GEYJ392	Chip, 3.9kΩ 1/10W	
R12	ERJ8GEYJ103V	Chip, 10kΩ 1/8W	
R13	ERJ8GEYJ103V	Chip, 10kΩ 1/8W	
R14	ERJ8GEYJ103V	Chip, 10kΩ 1/8W	
R15	ERJ8GEYJ222V	Chip, 2.2kΩ 1/8W	
R17	ERJ6GEYJ223	Chip, 22kΩ 1/10W	
R18	ERG1SJ100	Metal Oxid, 10Ω 1W	
R19	ERJ6GEYJ121	Chip, 120Ω 1/10W	
R22	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R23	ERJ6GEYJ473	Chip, 47kΩ 1/10W	
R24	ERJ6GEYJ183	Chip, 18kΩ 1/10W	
R25	ERJ6GEYJ183	Chip, 18kΩ 1/10W	
R26	ERJ6GEYJ183	Chip, 18kΩ 1/10W	
R27	ERJ6GEYJ123	Chip, 12kΩ 1/10W	
R28	ERJ6GEYJ123	Chip, 12kΩ 1/10W	
R29	ERJ6GEYJ334	Chip, 330kΩ 1/10W	
R30	ERJ6GEYJ334	Chip, 330kΩ 1/10W	
R31	ERJ8GEYJ152V	Chip, 1.5kΩ 1/8W	
R33	ERJ8GEYJ101V	Chip, 100Ω 1/8W	

19.5. Connectors

[E8365]

Ref. No.	Part No.	Part Name & Description	Remarks
CN1	YEAE5597A09	Connector, 9P	
CN2	YEAE5325404	Connector, 4P	
CN3	YEAE012684	Connector, 5P	
CN4	YEAE012659	Connector, 22P	

19.6. Electric Parts

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW1	YEAS08031B62	Switch	

VARIABLE RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
VR1	EVNDCAA03BQ2	Variablr resistor	
VR2	EVNDCAA03BQ2	Variablr resistor	

OTHER

Ref. No.	Part No.	Part Name & Description	Remarks
TP201	YEAT03240	Terminal	
TP301	YEAT03240	Terminal	

19.7. Mechanical Parts

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
1	YESFA01055	Chassis Rivet Ass´y	(2-B)
4	YESFX046056	Main Plate	(1-C)
5	YESFX003049	B Gear	(2-B)

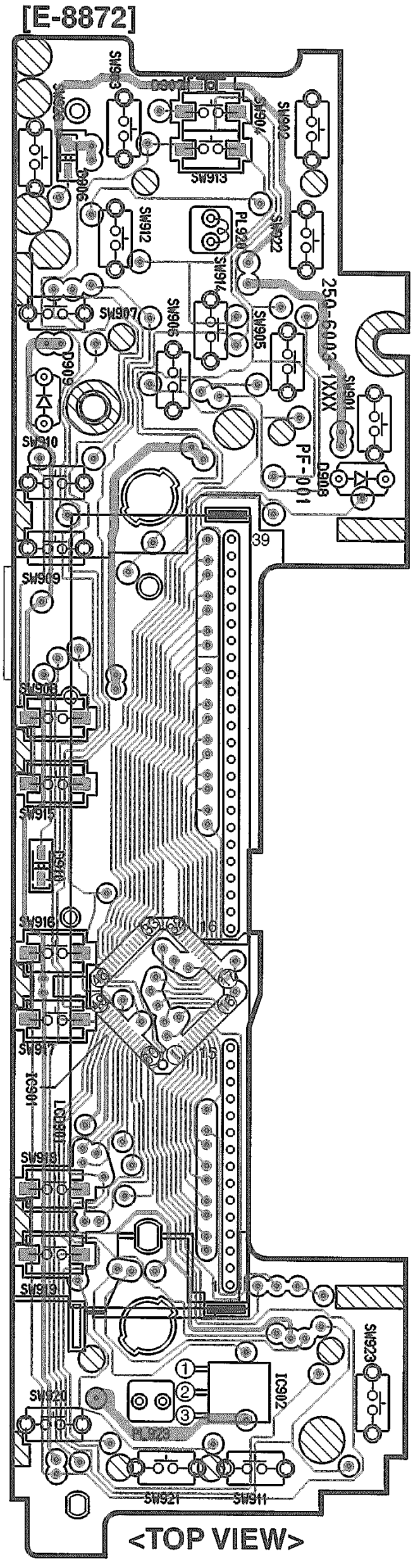
Ref. No.	Part No.	Part Name & Description	Remarks
6	YESFX003050	C Gear	(2-A)
7	YESFX003051	D Gear	(1-B)
8	YESFX003052	P Gear	(2-B)
9	YESFX003053	P.G Plate	(2-A) (3-B)
10	YESFG02021	Guide BKT	(2-C)
11	YESFX026013	Middle Pulley	(2-B)
15	YESFX046057	Head Panel Ass´y	(2-C)
16	YESAH006	P.Head P-5544SD-9949	(2-C)
17	YESFX046058	Head SP Plate	(2-C)
20	YESFX046059	O.P Plate Ass´y	(1-B)
21	YESFX215015	Eject Lever Rivet Ass´y	(3-A)
22	YESFX046060	S.B Plate Rivet Ass´y	(1-C)
23	YESFX046061	O.P Plate Holder	(3-A)
26	YESFX003054	FR Gear	(1-B)
27	YESFX046062	FR Plate	(1-A)
30	YESFX218011	Pinch Roller Arm (F) Ass´y	(3-C)
31	YESFX218012	Pinch Roller Arm (R) Ass´y	(2-C)
32	YESFX046063	SW Actuator B	(3-C)
33	YESFX005088	SA Spring M	(3-C)
36	YESFX209007	Reel Ass´y	(2-A) (3-B)
37	YESFX005074	B.Tension Spring (F)	(2-A) (3-B)
40	YESAK01013	Sub Motor Ass´y	(4-A) (3-B)
43	YESAK01014	Main Motor Ass´y	(4-A)
44	YESAE283	M Conector Ass´y	(4-A)
45	YESFX006002	Wire Clamper	(3-A)
48	YESFX213004	FL Capstan Ass´y	(1-B)
49	YEFSFR03003	Main Belt	(1-B)
52	YESFX046064	Case Lifter	(4-B)
53	YESFX239006	Cassette Case	(3-B)
54	YESFS04007	Cusion Rubber	(3-B)
56	YESFX046065	P.S Actuator Plate	(4-B)
57	YESFX005075	P.S Spring	(4-B)
58	YESFX046066	Pack Slider	(4-B)
61	YESAP151	Reel PWB Ass´y	(2-A)
200	YESJS01090	Camera Screw (Tams) 2.0~2.2	(1-A)
201	YESJW01019	Lumilar Washer (Cut) 1.55~3.5~0.5	(3-A) (3-B)
202	YEJS01070	Adjust Screw 2.0~13	(2-C)
203	YEFT03084	Camera Tapping Screw S 2.0~3.0	(3-A) (4-B)
204	YEJS06130	Tams Screw 2.0~3.0	(3-A)
205	YEJW05130	P.Washer (Cut) 0.85~2.8~0.25	(2-B)
206	YESJW01012	P.Washer (Cut) 1.55~3.5~0.5	(2-A) (3-C)
207	YESJW01013	P.Washer 2.1~3.5~0.2	(2-A) (3-C)
208	YESJW01014	Lumilar Washer 2.1~3.5~0.1	(1-B)
209	YESJS01091	PK Collar Screw A	(1-C)

20 EXPLODED VIEW (Tape Deck)

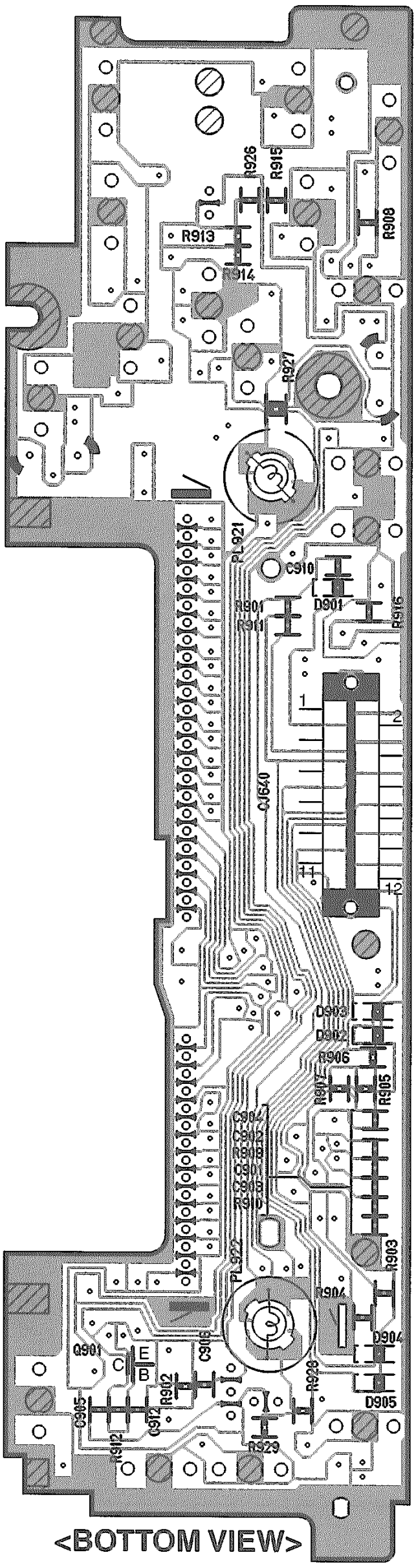
21 WIRING DIAGRAM

21.1. Display Block

[E-8872]

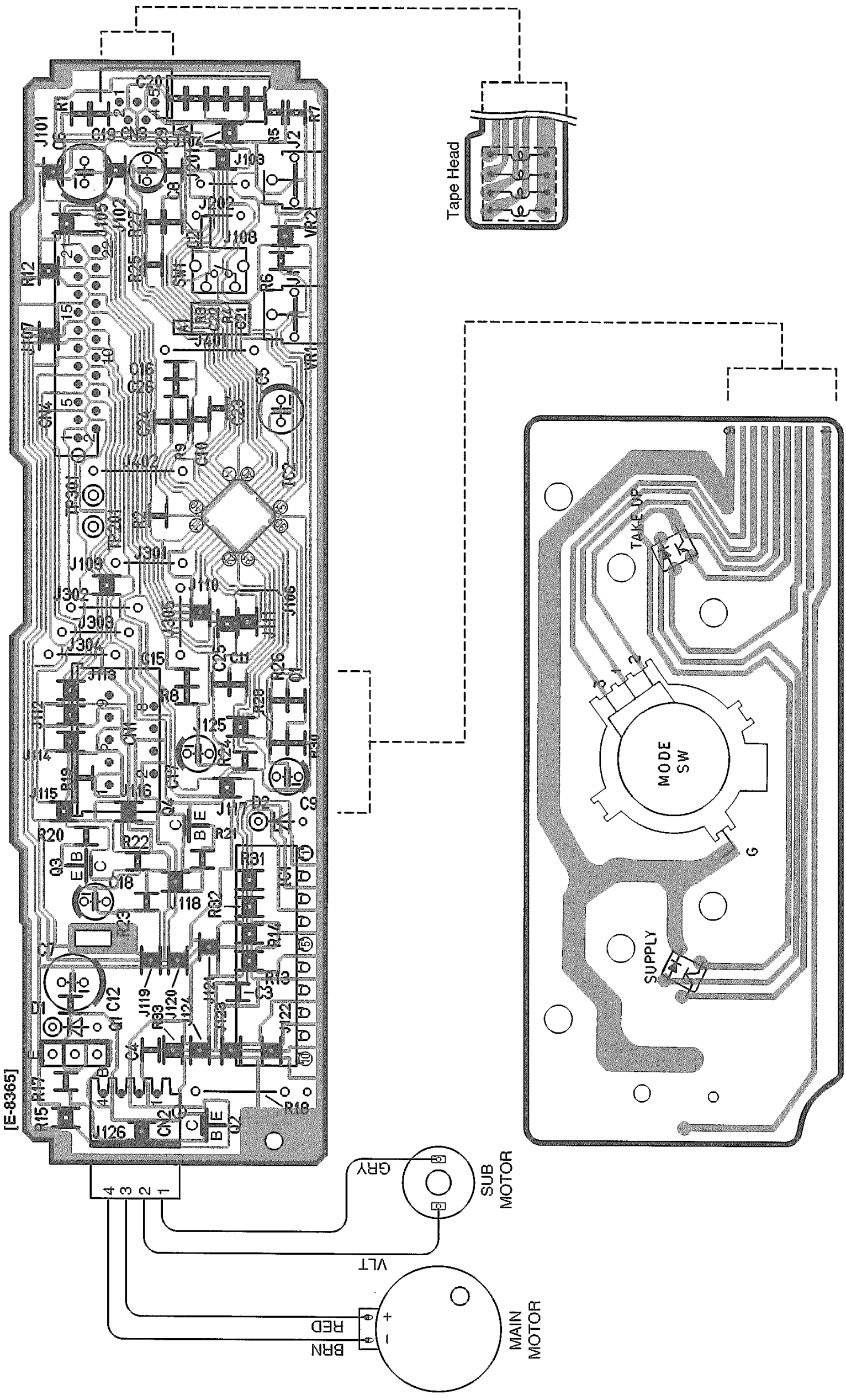


<TOP VIEW>



<BOTTOM VIEW>

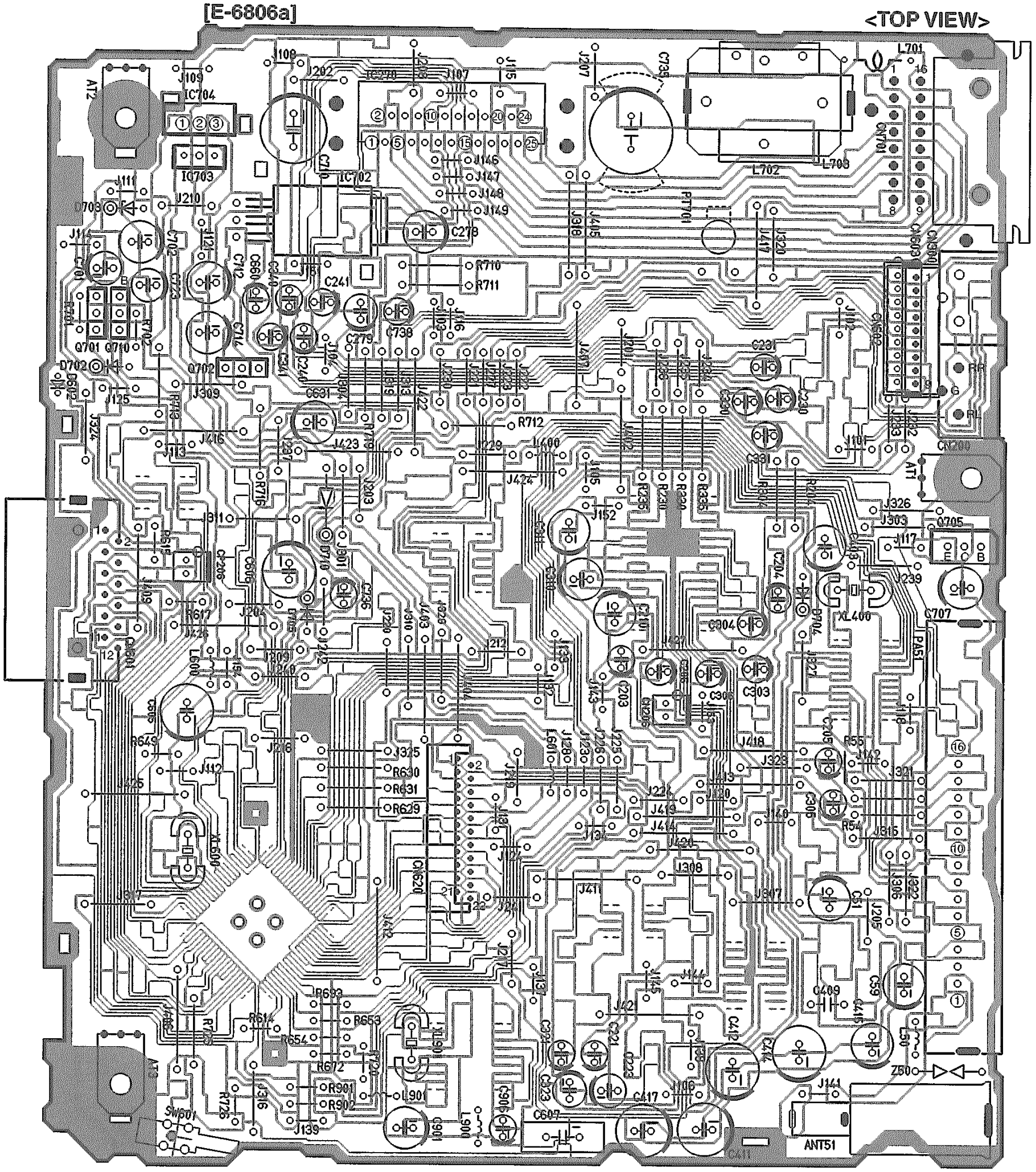
21.2. Tape Block



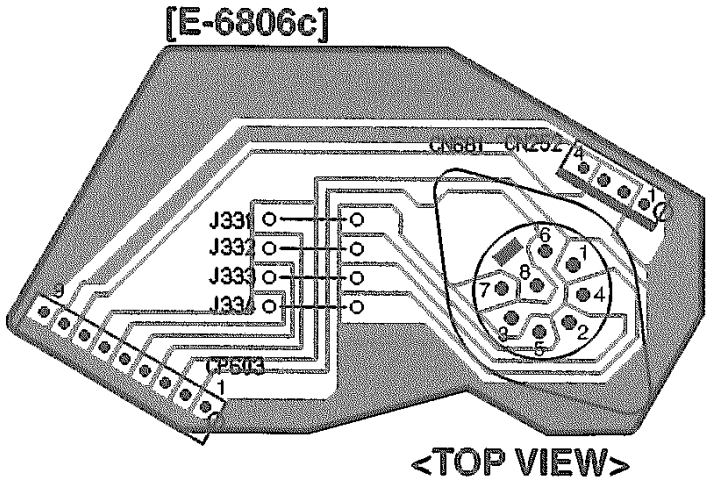
21.3. Main Block (CQ-RD333N : Top View)

[E-6806a]

<TOP VIEW>



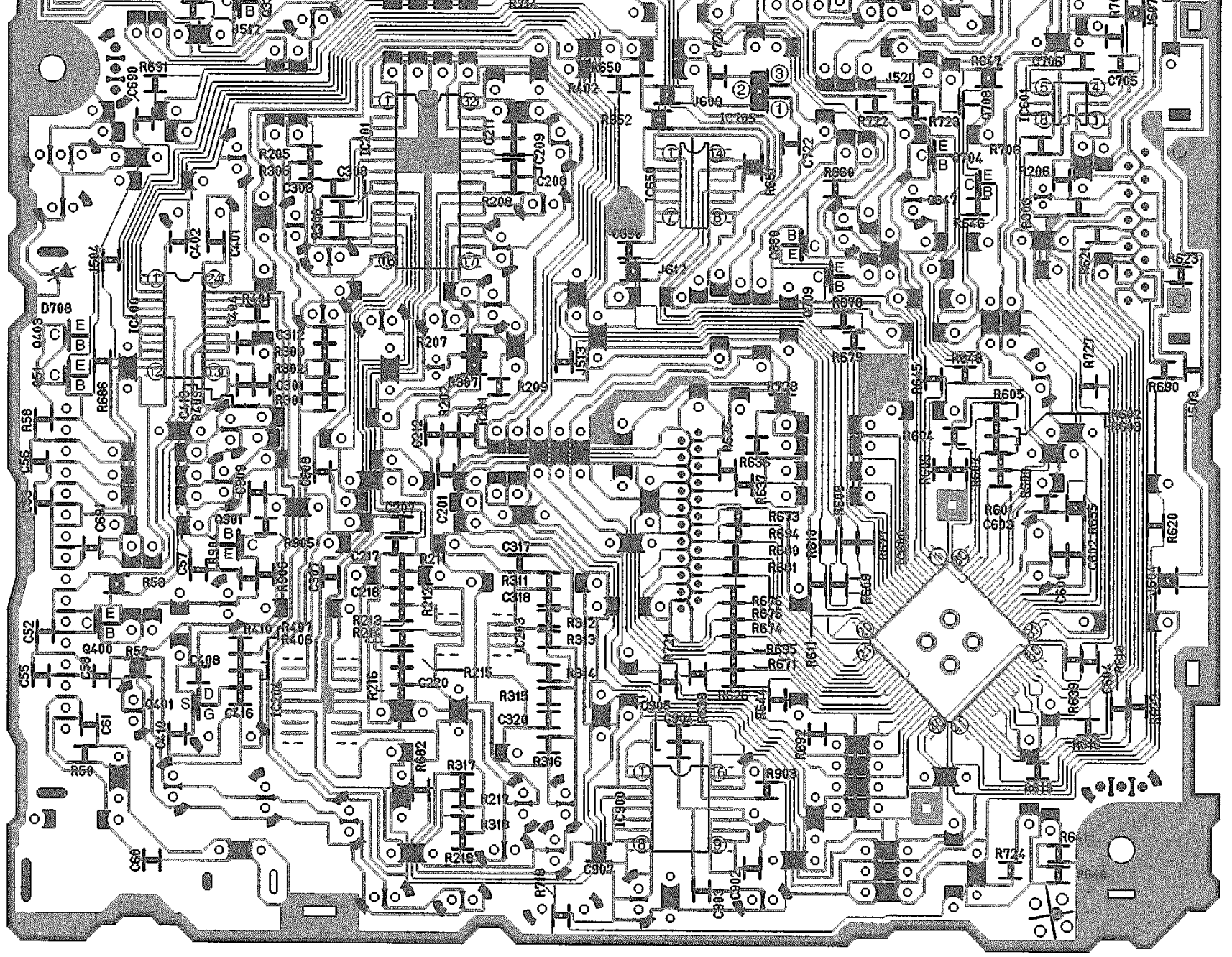
[E-6806c]

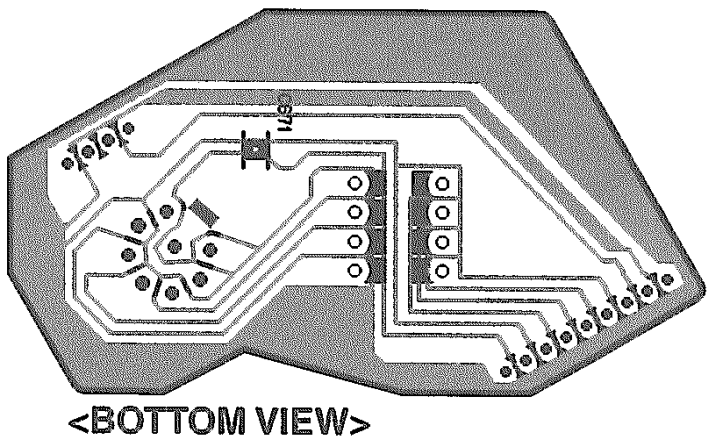


<TOP VIEW>

21.4. Main Block (CQ-RD333N : Bottom View)

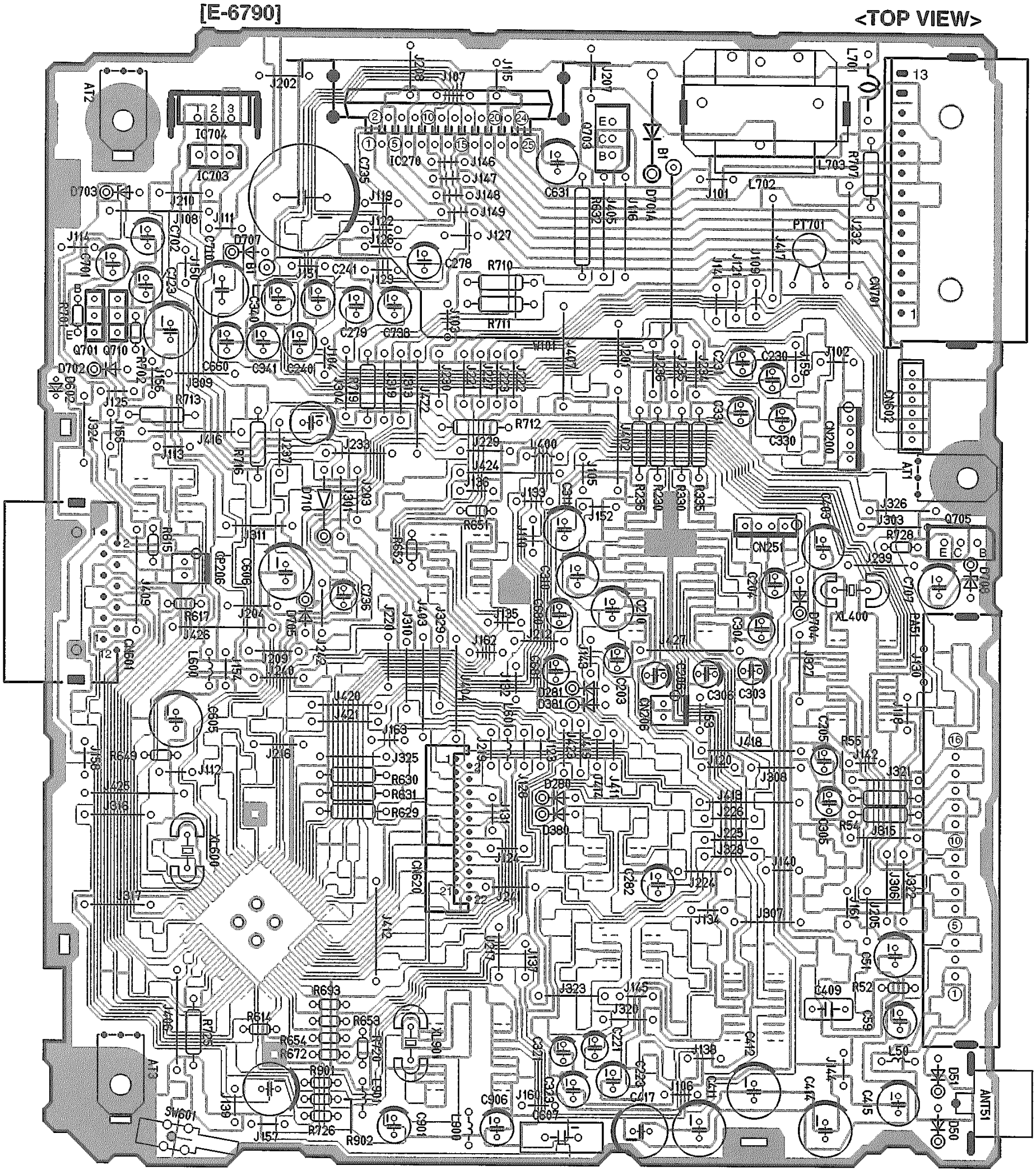
<BOTTOM VIEW>





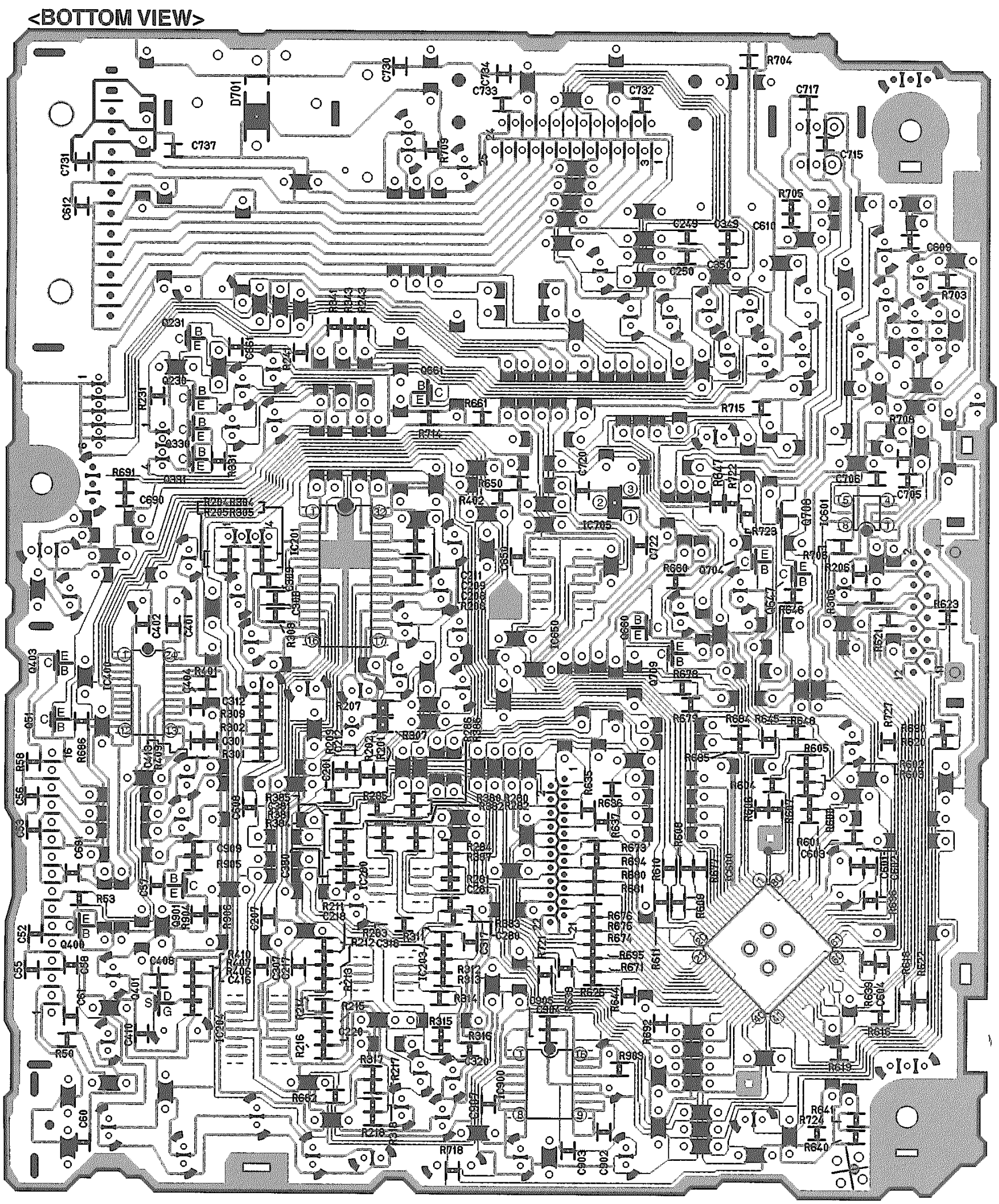
<BOTTOM VIEW>

21.5. Main Block (CQ-RD323/313N : Top View)



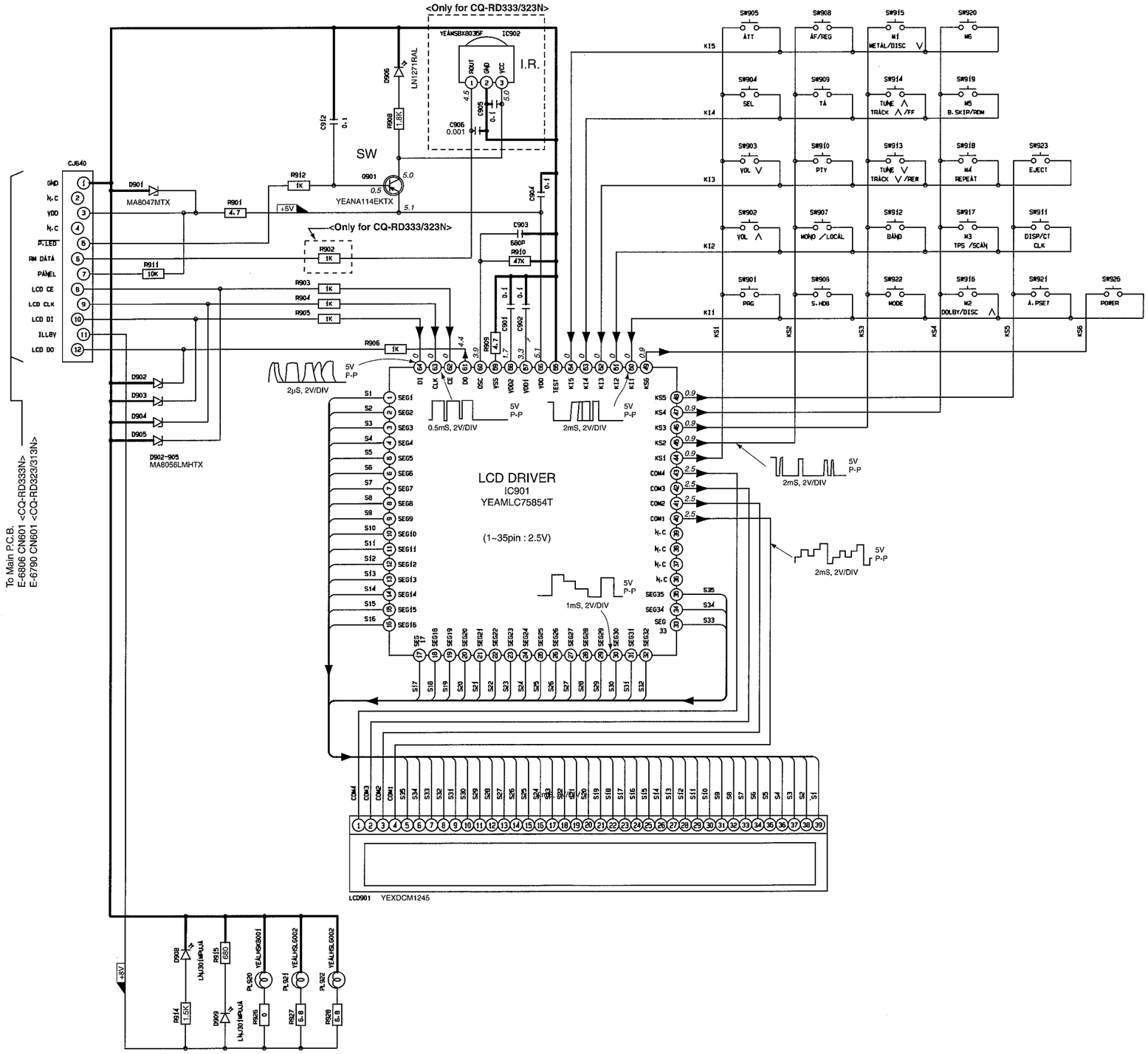
21.6. Main Block (CQ-RD323/313N : Bottom View)

<BOTTOM VIEW>

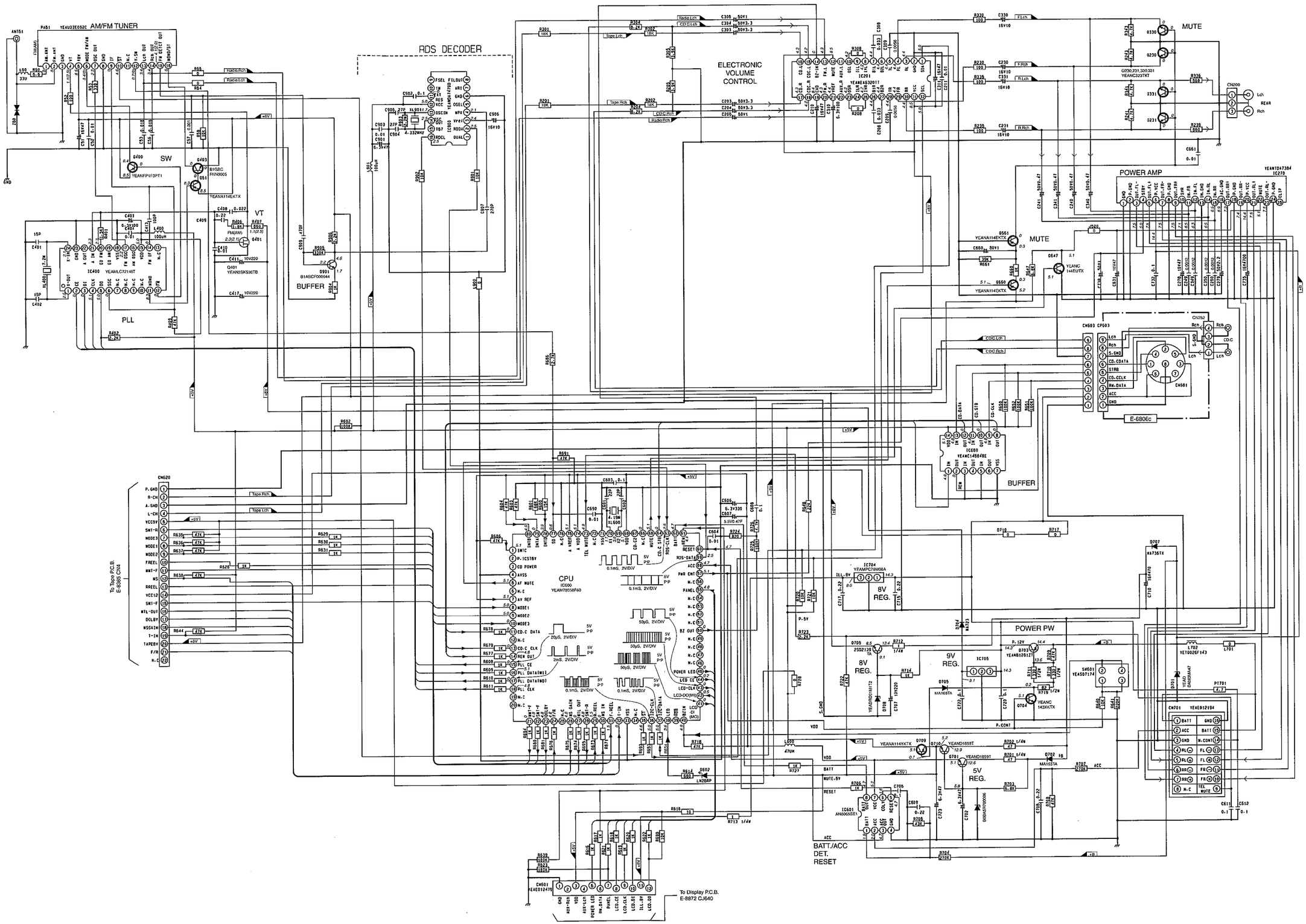


22 SCHEMATIC DIAGRAM

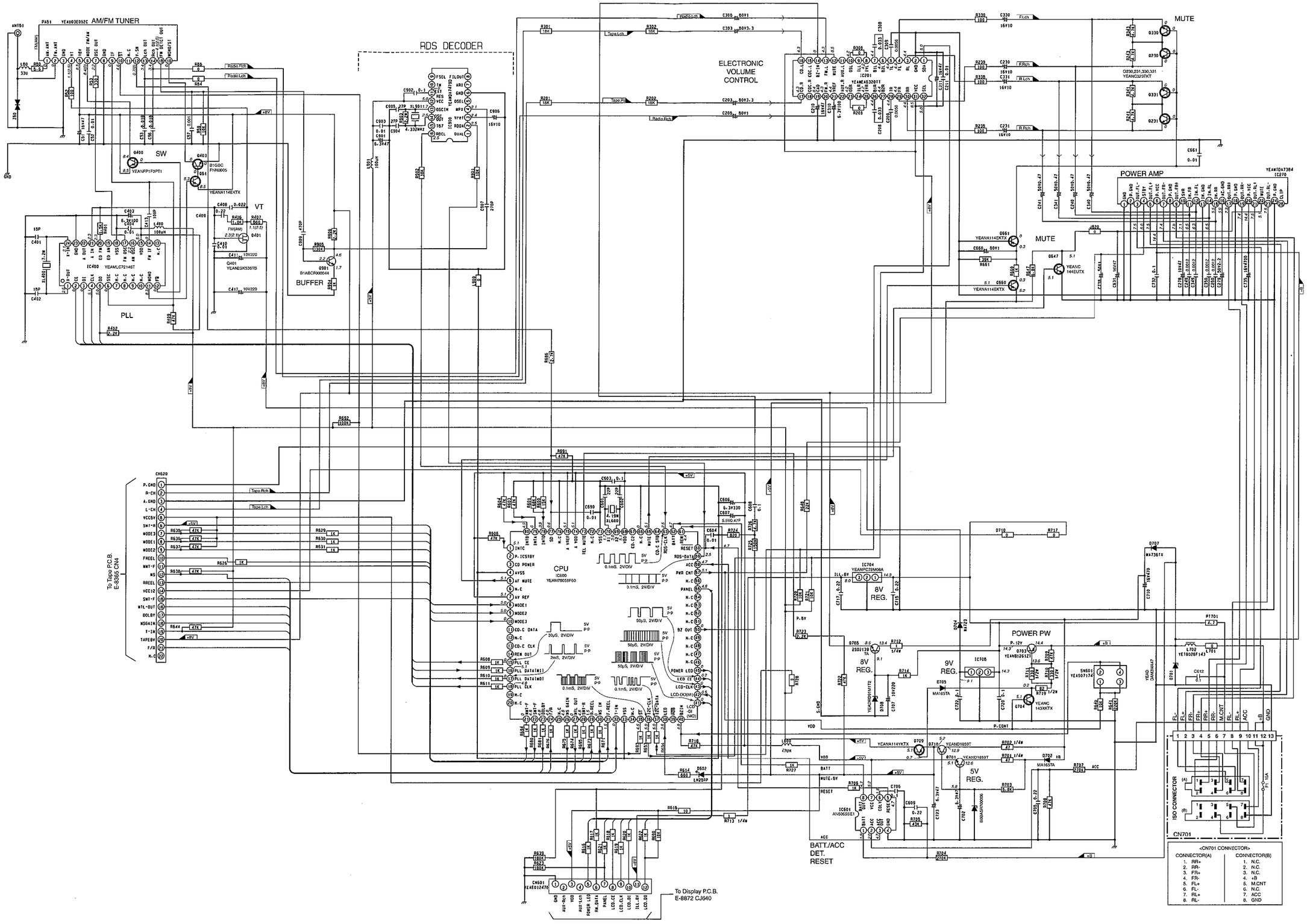
22.1. Display Block



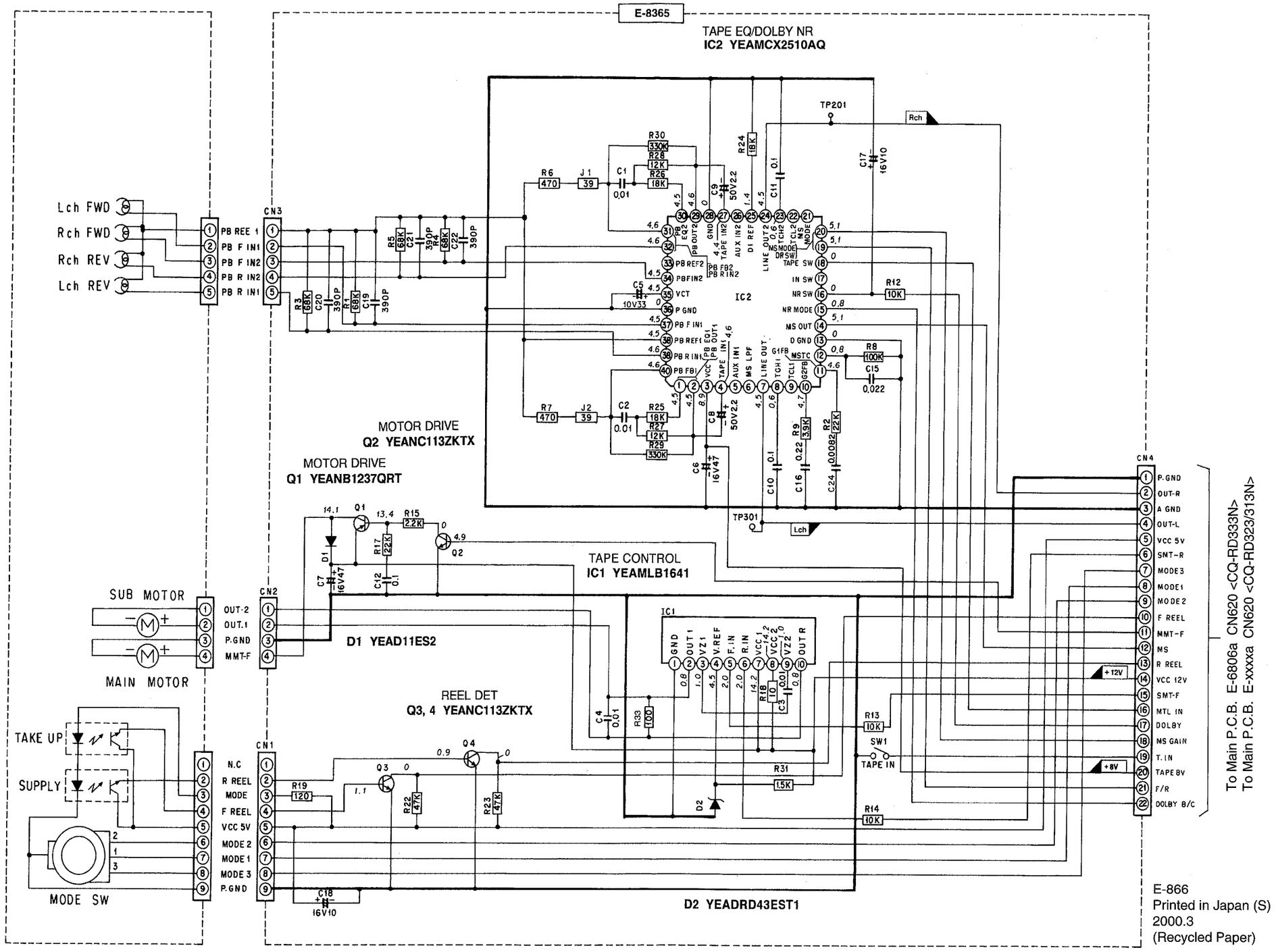
22.2. Main Block <CQ-RD333N>



22.3. Main Block <CQ-RD323/313N>



22.4. Tape Block



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