ORDER NO. ACED0001101

Service Manual

AUTOMOTIVE CONSUMER ELECTRONICS

CQ-R215P

FM Band High-Power Cassette Player/Receiver with Changer Control

Specifications*

General

Power supply	: 12V DC (11V-16V) Test Voltage 14.4V, Negative ground
Tone Controls	: Bass ; ±12 dB at 100Hz Treble ; ±12 dB at 10kHz
Current Consumption	: Less than 2.5 A (Tape mode, 0.5W 4-speaker)
Maximum Power Output	: 40W × 4 channels (at 4Ω)
Power Output	: 20W × 4 channels (DIN45 324, at 4Ω)
Pre-Amp Output Voltage	: 2 V (CD Play mode; 1kHz 0 dB)
Speaker Impedance	: 4 - 8 Ω

FM Stereo Radio

Frequency Range	: 87.5 - 108 MHz/64.0 - 74.0 MHz
Useable Sensitivity	: 6 dBμV (S/N 30 dB)
Stereo Separation	: 35 dB (at 1kHz)

MW Radio

Frequency Range	: 531 - 1,620 kHz
Useable Sensitivity	: 28 dB/μV (S/N 20 dB)

Cassette Player

Reproduction System	: 4 - track, 2-program stereo
Tape Speed	: 4.76cm/sec
FF/REW Time	: Less than 110 sec (C-60)
Frequency Response	: 30 - 14,000Hz (Normal) 30 - 17,000Hz (Metal)
Wow and Flutter	: 0.12 % (WRMS)
Signal to Noise Ratio	: 52 dB

Dimensions** (W × H × D)	: 178 × 50 × 150 (mm)
Weight**	: 1.6 kg

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

** Dimensions and weight shown are approximate.

Panasonic

(Recycled Paper)

⚠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 products dealt with in this service information by anyone else could result in serious injury or death.

CONTENTS

FEATURES

- PLL (Phase Locked Loop) Synthesized Tuning
- 1DIN Size Body with Cassette Player, AM FM Tuner, Power AMP (40Xx4)
- 18-FM, 6-AM stations presed
- Auto preset and scan function
- CD Changer Control function

REPLACING THE FUSE

Be sure to use a fuse of the specified rating (12A) when replacing a blown fuse. Fuses with higher capacity ratings, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit.

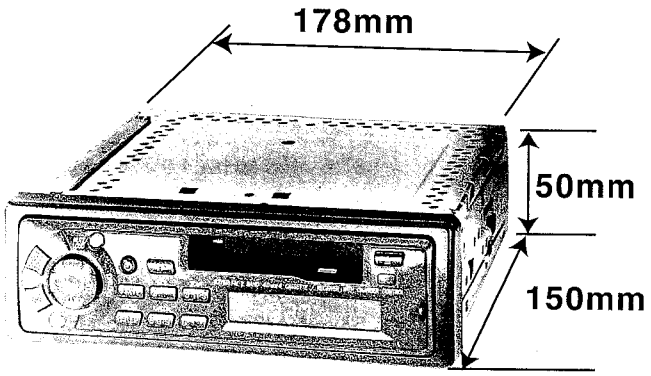
MAINTENANCE

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

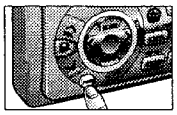
RADIO ALIGNMENT

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

DIMENSIONS

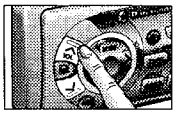


Power and Sound Controls



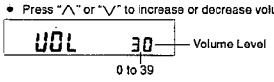
Power

If the car is not already running, turn the key in the ignition until the accessory indicator lights.
Press PWR to switch on the power.

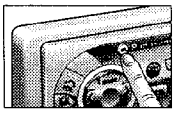


Volume

- Press "Λ" or "V" to increase or decrease volume.

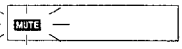


- Press "Λ" or "V" for more than 0.5 second to change numeric levels on the display rapidly.

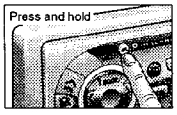


Mute

- Press M/L (MUTE/LOUD) to mute the sound completely.
- "MUTE" blinks while this operation.



- Press M/L (MUTE/LOUD) again to cancel.

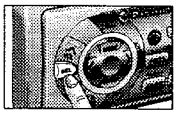


Tone Enhancement

- Press and hold M/L (MUTE/LOUD) for more than 2 seconds to enhance bass and treble tones when listening at low or medium volume.

- Press and hold M/L (MUTE/LOUD) for more than 2 seconds again to deactivate.

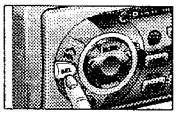
Note: This unit is equipped with an anti-volume-blast circuit which serves as an automatic volume level adjuster so that you will not be deafened with sudden loud volume.
This system operates as follows. When PWR is switched on, the volume level is low. After that, the volume level gradually returns to its previous level prior to switching off the unit.



Changing Audio Modes

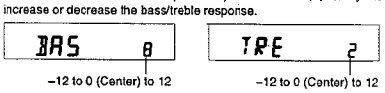
Press SEL to switch the audio mode as follows.

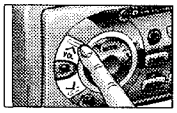
VOL (Volume) → BAS (Bass) → TRE (Treble) → BAL (Balance) → FAd (Fader) → VOL



Bass and Treble

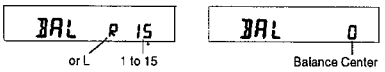
Press SEL to select the BASS (TREBLE) mode. Press "Λ" or "V" to increase or decrease the bass/treble response.





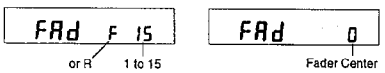
Balance

Press SEL to select the BALANCE mode. Press "Λ" or "V" to shift the sound volume to the right or left speakers.



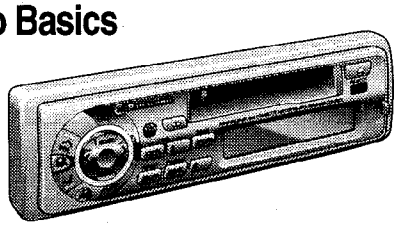
Fader

Press SEL to select the FADER mode. Press "Λ" or "V" to shift the sound volume to the front or rear speakers.



Note: When a control mode (BAS/TRE/BAL/FAd) is selected but no operation is made within 5 seconds (2 seconds at volume mode), the display will return to the normal operation (Radio, Cassette, etc.) mode. In such a case, press SEL again to select the next control mode.

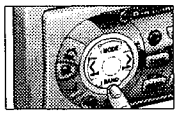
Radio Basics



Change to the Tuner Mode

Press MODE to switch the operation mode as follows.

TUNER → TAPE (When Tape is inserted) → CD Changer Control (When connecting CD Changer) → TUNER

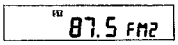


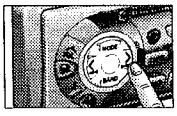
Selecting a Band

Press BAND to select the bands as follows.

FM1→FM2→FM3→AM→FM1

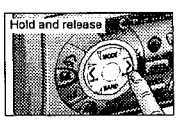
"ST" indicator lights if the station is broadcasting in stereo.





Manual Tuning

Press ">" or "<" to move to a higher or lower frequency.



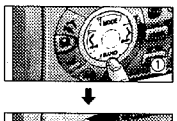
Seek Tuning

Press and hold ">" or "<" for more than 0.5 second, then release.
The radio automatically stops on the next station.

Preset Station Setting

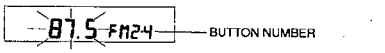
Up to 24 stations can be preset in the station memory as follows.

FM1	FM2	FM3	AM
6 stations	6 stations	6 stations	6 stations

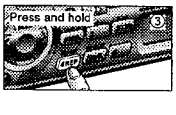


Manual Station Preset

① Press BAND to select a desired band.
② Use manual or seek tuning to find a station that you want to program into memory.
③ Press and hold one of the station selector buttons 1 through 6 until the display blinks. The memory is now set for that button on the band you have selected.
Repeat the process to set other stations for the AM bands. (SW3) bands.

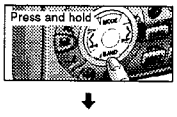


Note: You can change the memory setting by repeating the above procedure.



Tuning in a Preset Station

Press any of the buttons 1 through 6 to tune in the station preset by the above steps ① to ③.



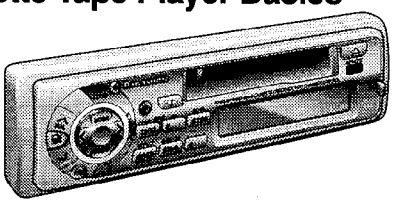
Auto Preset Memory

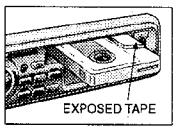
Select a band, and press and hold BAND (APM) for more than 2 seconds.

- The 6 strongest available stations will be automatically set in memory on preset buttons 1 through 6.
- Once set, the preset stations are sequentially scanned for 5 seconds.
- Press the appropriate preset button for the station you want to hear.

CAUTION: For safety reasons, do not attempt to program while driving.

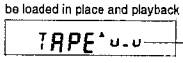
Cassette Tape Player Basics

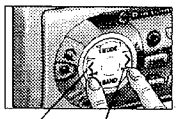




Loading a Cassette

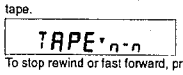
Insert the cassette with the exposed tape side facing to the right. Gently push the cassette in until the loading begins. The cassette will be loaded in place and playback starts.





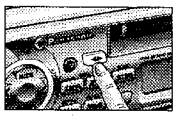
Rewind and Fast Forward

Press either "◀◀ (REW)" to rewind or "▶▶ (FF)" to fast forward the tape.



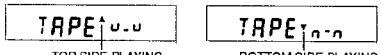
To stop rewind or fast forward, press ◆.

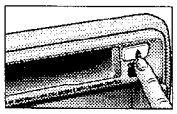
If you rewind the tape fully, it will play on the same program side again.
If you fast forward to the end, play will resume from the beginning of the other side of the tape.



Changing Sides

Press ◆ to switch to the program on the other side of the tape.
The display changes to indicate which program is playing.



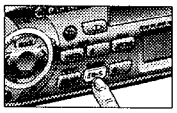


Ejecting the Tape

Press ⏏ and the cassette will eject for removal, and the previous mode of operation will be resumed.

Notes:

- If power is switched off before ⏏ is pressed, the cassette will not eject. Switch on the power again and press ⏏ to eject the cassette.
- The cassette tape should always be removed from the cassette slot when not in use.



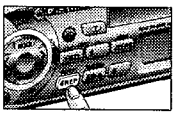
Blank Skip

Press 5 (B-S) to skip long unrecorded portions on the tape.

This is most convenient if you quickly want to skip the remaining unrecorded portions at the end of the tape and fast forward to the beginning of the first music on the reverse side of the tape.
To turn it off, press 5 (B-S) again.

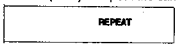
Notes:

- "B-SKIP" indicator lights. However, the blank skip operation will not work if REPEAT is on. The repeat function has priority over that of the blank skip function.
- Also the blank skip operation will not work when the unrecorded portion of the tape is less than 15 seconds.

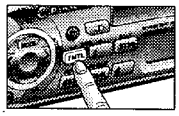


Repeat Play

Press 4 (REP) to repeat the same music you are now listening to.

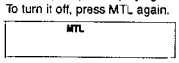


After finishing the music just listened to, the rewind starts automatically until the beginning of music, and the same music starts playing again.
To turn it off, press 4 (REP) again.



Metal Tape Mode

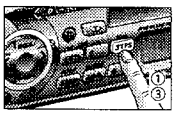
Press 1 (MTL) when playing metal or chromium dioxide (CrO_2) tapes.
To turn it off, press MTL again.

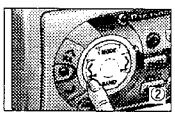


Note: Playing non-metal tapes in MTL mode causes high frequency imbalance, which affects tone quality.

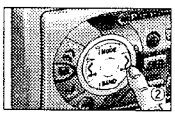
CAUTION: To maintain your cassette player in top condition, avoid using tapes that are longer than 90 minutes (C-90).

Cassette Tape Player Basics continued





or



TPS Operation (Tape Program Search)

① Press 3 (TPS) to activate the tape program search mode.

② From the current selection, decide which program you want to select. Now, press "▶▶" several times forward (up to 9 programs) or press "◀◀" several times backward (up to 8) to select the corresponding program number.

(Fast forward:) 1 ----------▶ 9
(Rewind:) 0 ----------▶ 8

EX1. To select the current program again press 3 (TPS), and press "◀◀" once.

EX2. To select the 1st program backward of the current selection, press 3 (TPS) once, and press "◀◀" two times.

EX3. To select the next program, press 3 (TPS) and press "▶▶" once.

EX4. To select the 3rd program forward of the current selection, press 3 (TPS) once, and press "▶▶" three times.

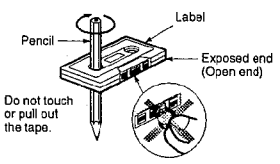
③ To turn it off, press 3 (TPS) again.

Note:
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 4 seconds or having a high level of noise or hum between programs.
- There is particularly low-level passage during the program.

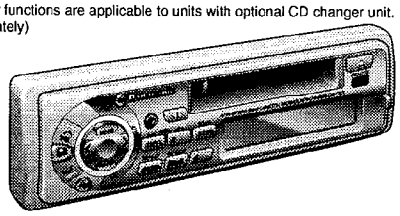
Notes on Cassette Tapes

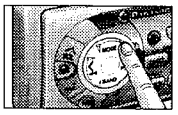
Tape Slack:
Use a pencil or similar object to take up the slack as shown. If a loose tape is used, this may result in the tape becoming tangled in the rotating parts of the unit.



CD Changer Basics

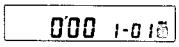
Note:
CD changer functions are applicable to units with optional CD changer unit. (sold separately)

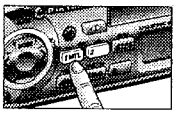




To Changer Mode

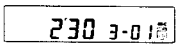
While a disc magazine inserted in the CD changer, press MODE. Play starts from first track.

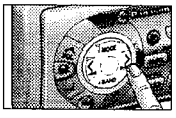




Selecting a Disc

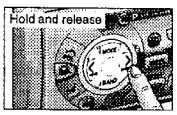
Press "1 (∨DISC)" or "2 (DISC∧)" to select discs in ascending or descending order.





Selecting a Track

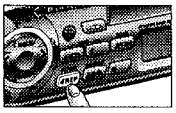
Press "▶▶" once to go to the next track. Press repeatedly to step forward through all the tracks.
Press "◀◀" once to play from the beginning of the current track. Press twice to play the previous track. Press repeatedly to step backward through all the tracks.



Searching a Track

Press and hold "▶▶" or "◀◀" for more than 0.5 second to activate fast forward or reverse through a track. Release "▶▶" or "◀◀" to resume the normal CD play from that position.

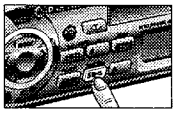
CD Changer Basics continued



Repeating a Track

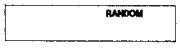
Press 4 (REPEAT) to repeat the current selection. REPEAT indicator lights.

The current selection continues to repeat until you press 4. (REPEAT) again.

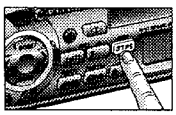


Random Selection

Press 5 (RANDOM) to random selection of music is played from all available CDs. RANDOM indicator lights.

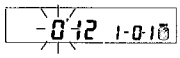


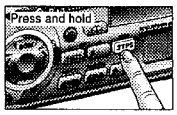
To turn it off, press 5 (RANDOM) again.



Scanning Tracks

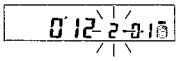
Press 3 (SCAN). The track number blinks and the first 10 seconds of each track on the discs play in sequence.
To stop scanning and continue with the current track, press 3 (SCAN) again.





Scanning Discs

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. Also, Disc Number blinks at the same time. To stop the current play of the disc scanning, press and hold 3 (SCAN) for more than 2 seconds again.

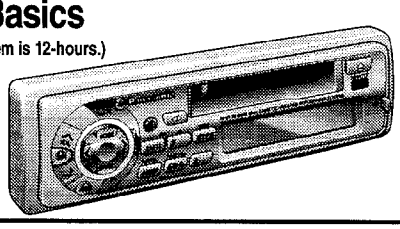


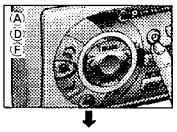
❑ Error Display Messages

E-1	Displays when the compact disc is dirty or upside down. Selects the next available compact disc.	E-3	Displays when the compact disc stops operating for some reason. Please turn off the car engine (ACC off) and remove the fuse from yellow lead for 3 minutes. Then reinstall the fuse.
E-2	Displays when compact disc is scratched. Selects next available compact disc.	NO DISC	Displays when there is no disc in the magazine.

Clock Basics

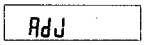
(The clock system is 12-hours.)



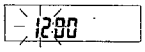


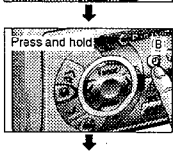
Initial Time Setting

Ⓐ Press ⏎, "AdJ" is displayed.

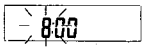


Ⓑ Press and hold ⏎ again for more than 2 seconds. "12" blinks indicating the time setting mode is activated.



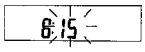


Ⓒ To set hours, press ">" or "<".

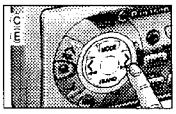


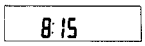
Ⓓ Press again ⏎ for minute setting.

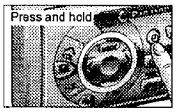
Ⓔ To set minutes, press ">" or "<". Hold ">" or "<" to change numbers rapidly.



Ⓕ When you have set the time, press ⏎.

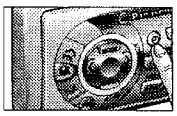






Resetting the Time

When you want to reset the time, press and hold ⏎ for more than 2 seconds to activate the time setting mode. Then, repeat step Ⓒ to Ⓕ above.



Selecting the Clock Display

Press ⏎ for clock display.
Press ⏎ once again, the current audio display mode resumes.

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.

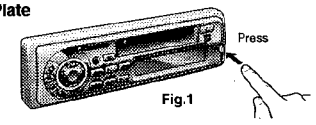


Fig.1

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

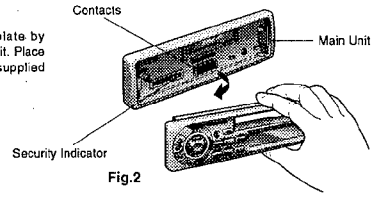


Fig.2

④ As shown in Fig.3, insert the removable face plate with the arrow pointing toward the removable face plate case until you hear a "click". Keep the removable face plate in the case. Then, you can bring the plate safely.

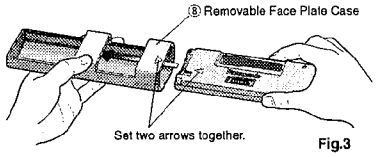


Fig.3

To install the Removable Face Plate

① Slide the left side of the removable face plate in place
② Press the right end of removable face plate until "click" is heard.

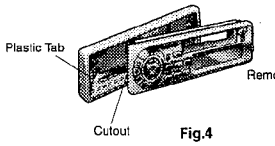


Fig.4

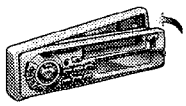


Fig.5

Caution:
1. Before removing the removable face plate, make sure the power is off.
2. This removable face plate is not water-proof. Do not expose it to water or excessive moisture.
3. Do not remove the removable face plate while driving your car.
4. Do not place the removable face plate on the dashboard or nearby areas where the temperature rises to high levels.
5. Do not touch the contacts on the removable 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 with a clean, dry cloth.

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 circuitting.

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. 1. The car's dashboard should have a thickness of 4.5 mm - 6 mm in order to make the installation of the unit.

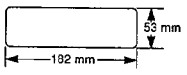


Fig. 1

Installation Precautions

This equipment, 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 connection on page 18 carefully. Failure to do so may result in damage to the unit.
3. Connect the power lead after other connections are made.
4. Be sure to connect the YELLOW lead to the positive terminal (+) of the battery or fuse block (BAT) terminal.
5. Insulate all exposed wires to prevent short circuitting.
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 Hardwares

No.	Item	Diagram	Q'ty
①	Mounting Collar		1
②	Hex. Nut (5 mmϕ)		1
③	Rear Support Strap		1
④	Tapping Screw (5 mmϕ x 16 mm)		1

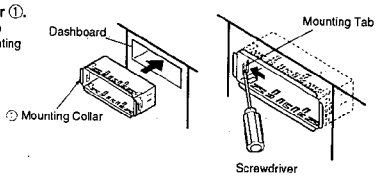
No.	Item	Diagram	Q'ty
⑤	Mounting Bolt (5 mmϕ)		1
⑥	Power Connector		1
⑦	Dismounting Plate		1
⑧	Removable Face Plate Case		1

Installation Procedures

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

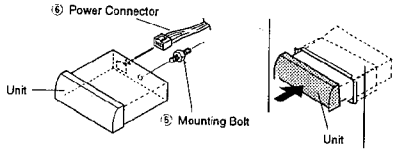
1. Secure the Mounting Collar ①.

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 the Mounting Bolt ⑤, using a suitable wrench.
c) Insert the unit into Mounting Collar ① and push it in until "click" is heard.
d) Insert the Power Connector ⑥ to the unit.



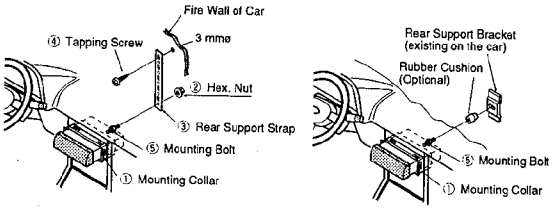
e) Secure the rear of the unit to the car by either of the two recommended methods as follows.

■ Using the Rear Support Strap ③

Affix one end of the Rear Support Strap ③ 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 (Optional)

(If there is an existing Rear Support Bracket on the Fire Wall of Car.)
Cover Mounting Bolt ⑤ on the rear of the unit with Rubber Cushion (Optional), and mount it into the existing Rear Support Bracket.

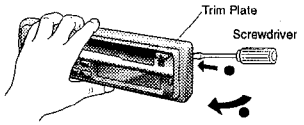


Installation continued

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

To Remove the Unit

a) Remove the trim plate with a screwdriver as shown in the figure.



b) Pull out the unit while pushing the two lock levers using Dismounting Plate ⑦ as follows.(Fig 1, 2).
c) Remove the unit pulling with both hands. (Fig 3).

Fig 1

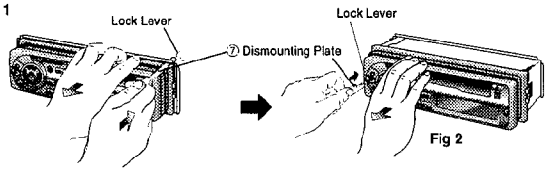
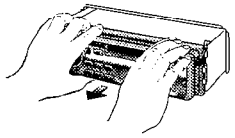


Fig 3

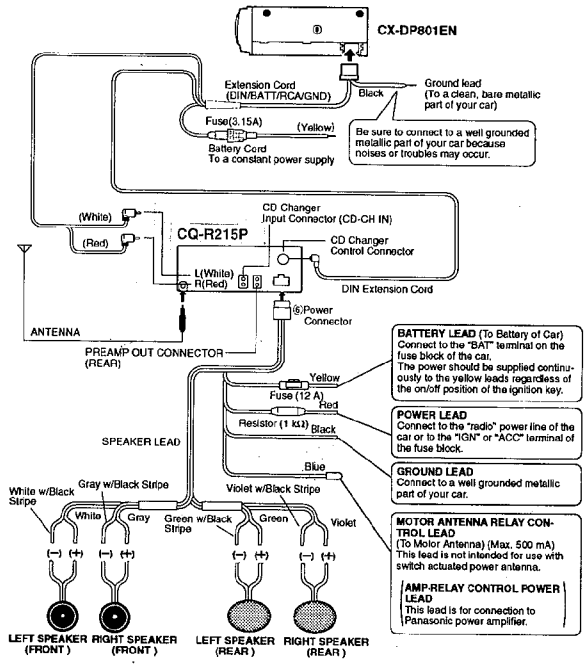


Note: Do not lose the Dismounting Plate. It will be needed to remove the unit from the car's dashboard.

Electrical Connection

- This unit can be connected to an optional CD changer (CX-DP801EN). For details consult your nearest Panasonic dealers.
- For connection to a CD changer, refer to the operating instructions of the CD Changer (CX-DP801EN).

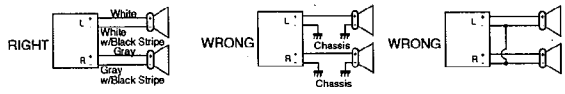
Caution:
- To prevent damage to the unit, be sure to follow the connection diagram below.
- Remove the covering of the leads about 5 mm long from their end before connecting.
- Do not insert the power connector into the unit until the wiring is completed.
- Be sure to insulate any exposed wires from a possible short-circuit from the car chassis. Bundle all cables and keep cable terminals free from touching any metal parts.



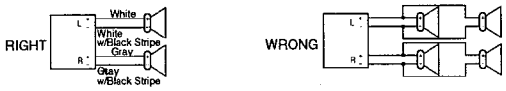
Speaker Connections

Caution:
1. Use ungrounded speakers only.
2. The speakers to be used with this unit should be able to handle more than 40 W 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 ohms. 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 30 cm 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.**

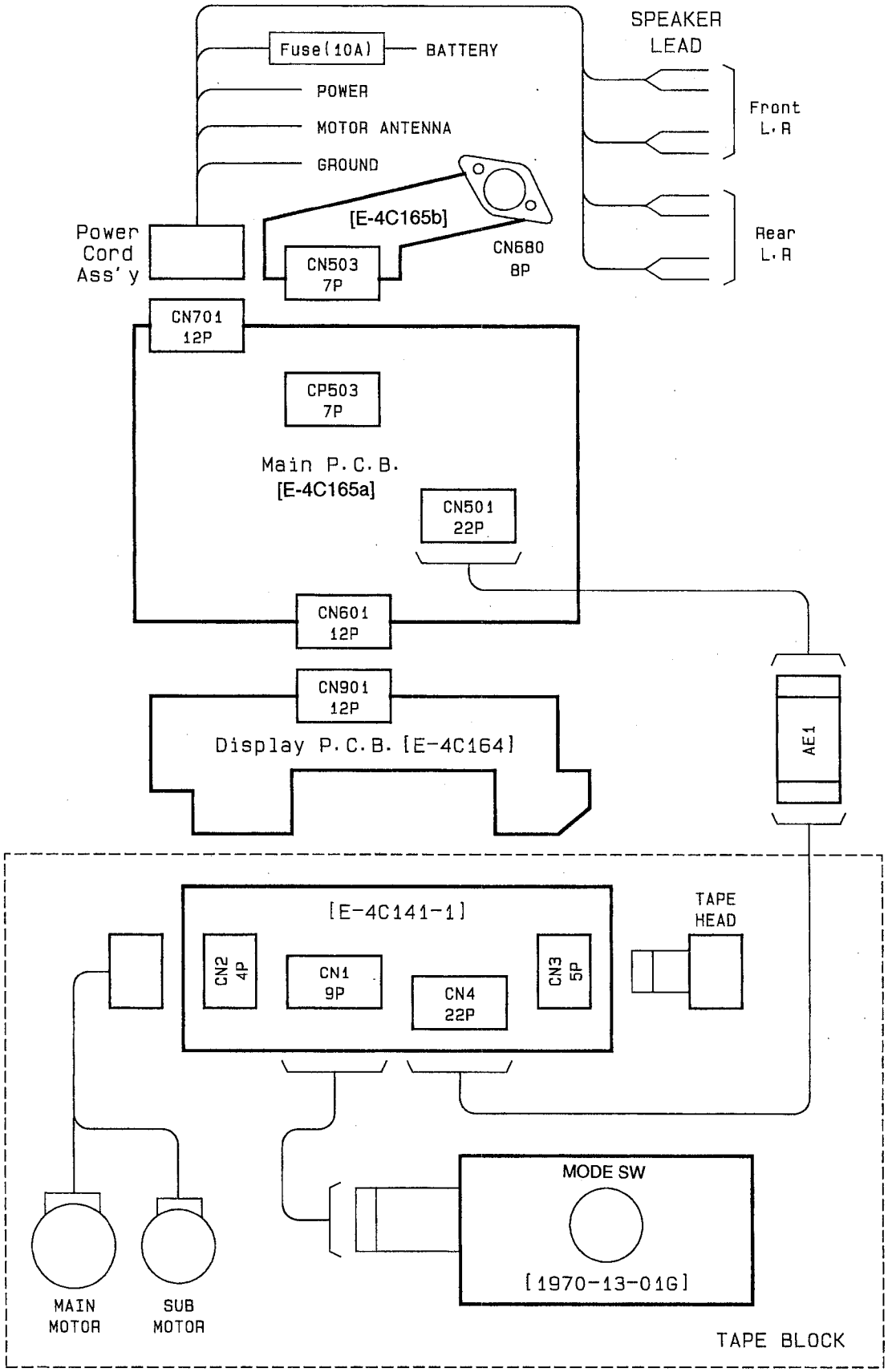


Troubleshooting

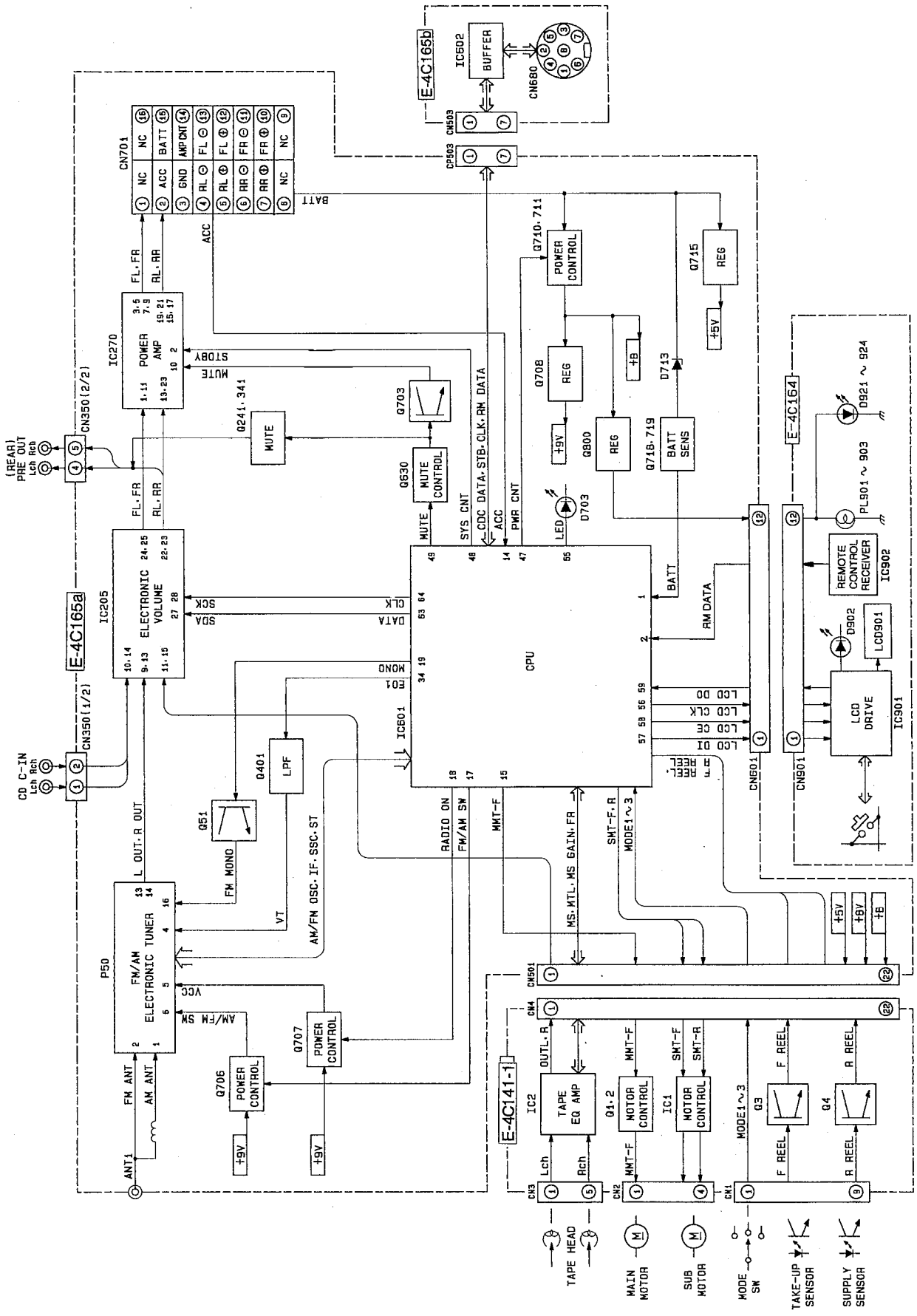
❑ Troubleshooting Tips

PROBLEM	POSSIBLE CAUSE	PROBABLE SOLUTION
Unit won't turn on.	Dead vehicle battery. Ignition not on. Bad power line connection. Fuse burned out.	Charge vehicle battery. Turn ignition to On or Accessory. Check connections. Replace fuse.
Radio has static.	Antenna not hooked up. Close to high power lines.	Hook up antenna. Move away from high power lines.
Radio memory buttons don't work.	Not holding buttons down long enough.	Press and hold buttons for more than 2 seconds.
Tape sound quality is poor.	Heads are dirty. Poor quality tape.	Clean heads. (Ask a service representative for advice.) Use better quality tape.
Tape won't change programs.	Not pressing "▶▶ (FF)" and "◀◀ (REW)" buttons at the same time.	Press "▶▶ (FF)" and "◀◀ (REW)" buttons at the same time.
CD Changer won't operate.	Unit not properly connected. Unit not switched into CD Change mode. No CDs in the magazine.	Check connections. Press MODE to switch to the CD Changer mode. Check disc magazine.
CD Change won't play a specific disc.	Disc loaded upside down. Disc damaged. Disc not loaded in magazine.	Reload disc properly. Check disc for scratches, chips. Check disc magazine.

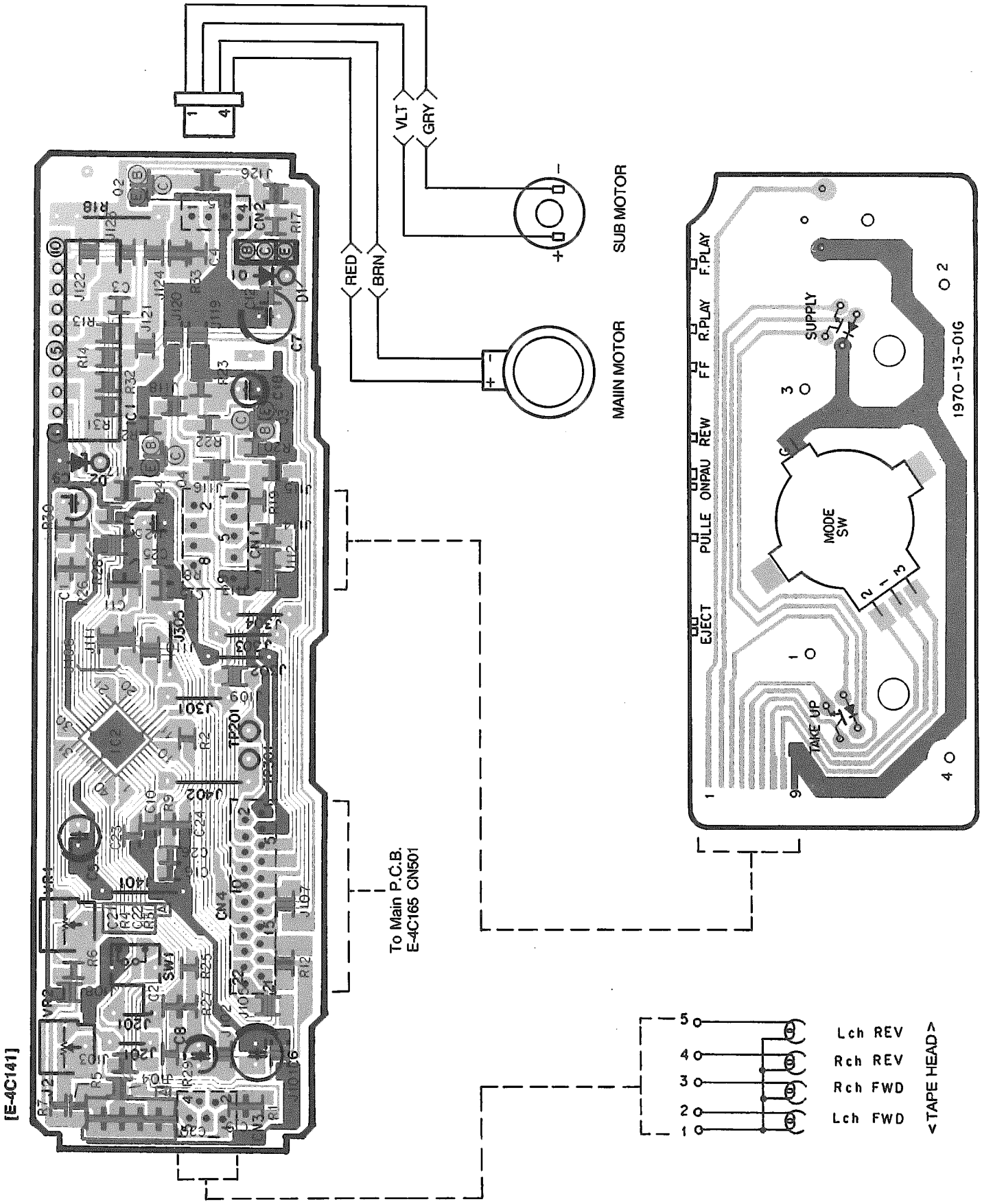
WIRING CONNECTION



BLOCK DIAGRAM MODEL CQ-R215P



WIRING DIAGRAM (Tape Block) MODEL CQ-R215P



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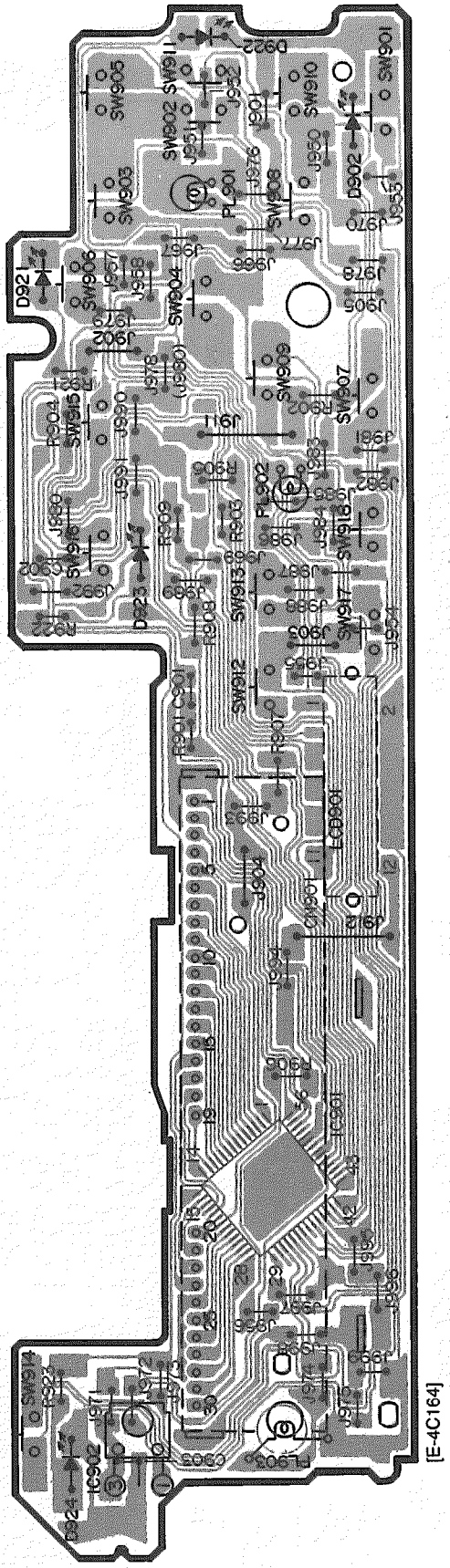
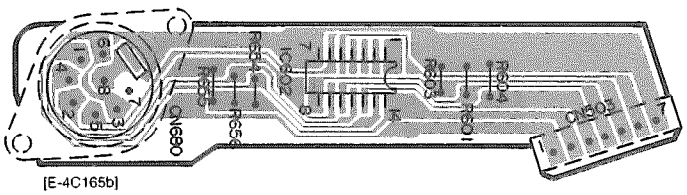
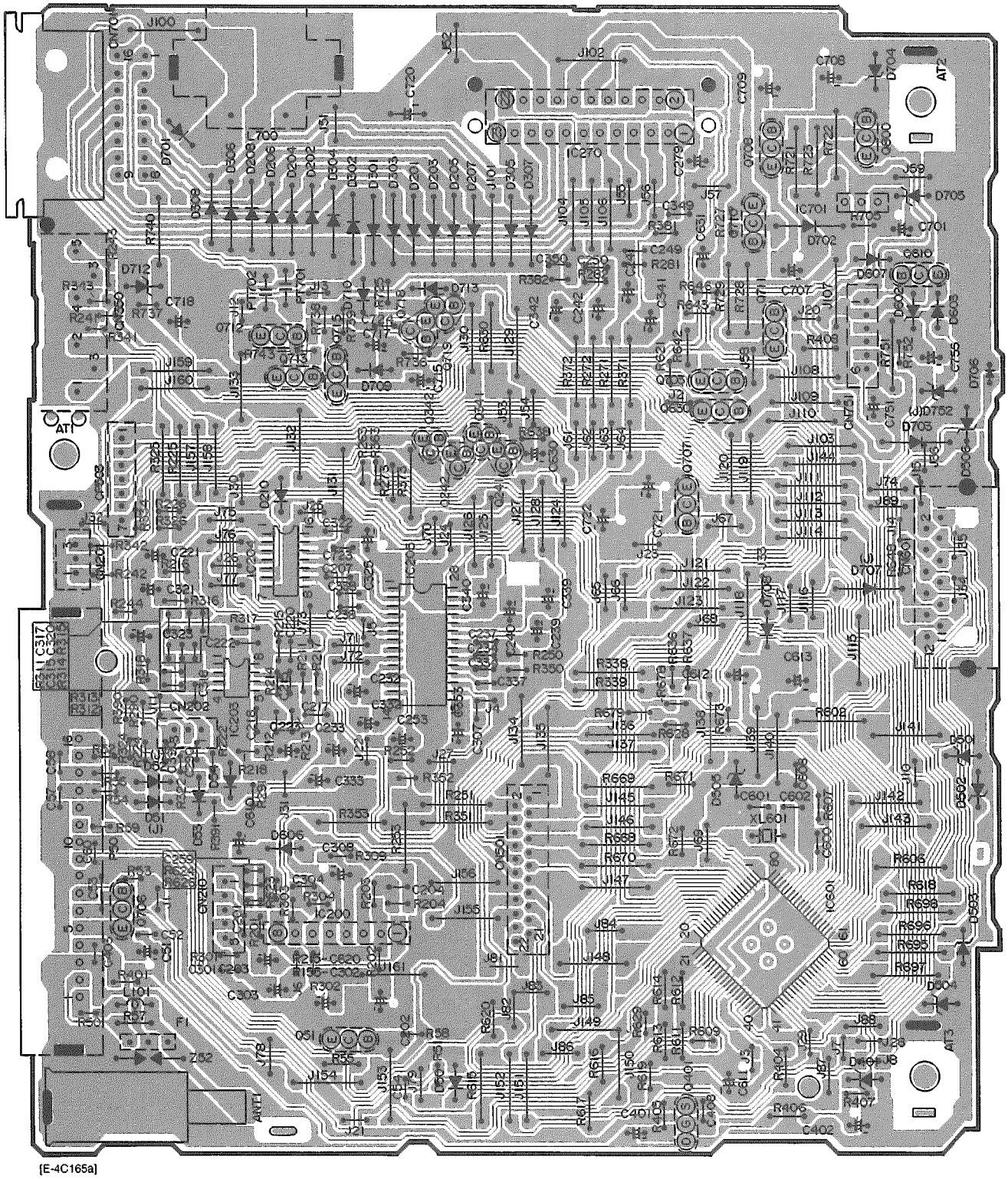


WIRING DIAGRAM (Main Block) MODEL CQ-R215P

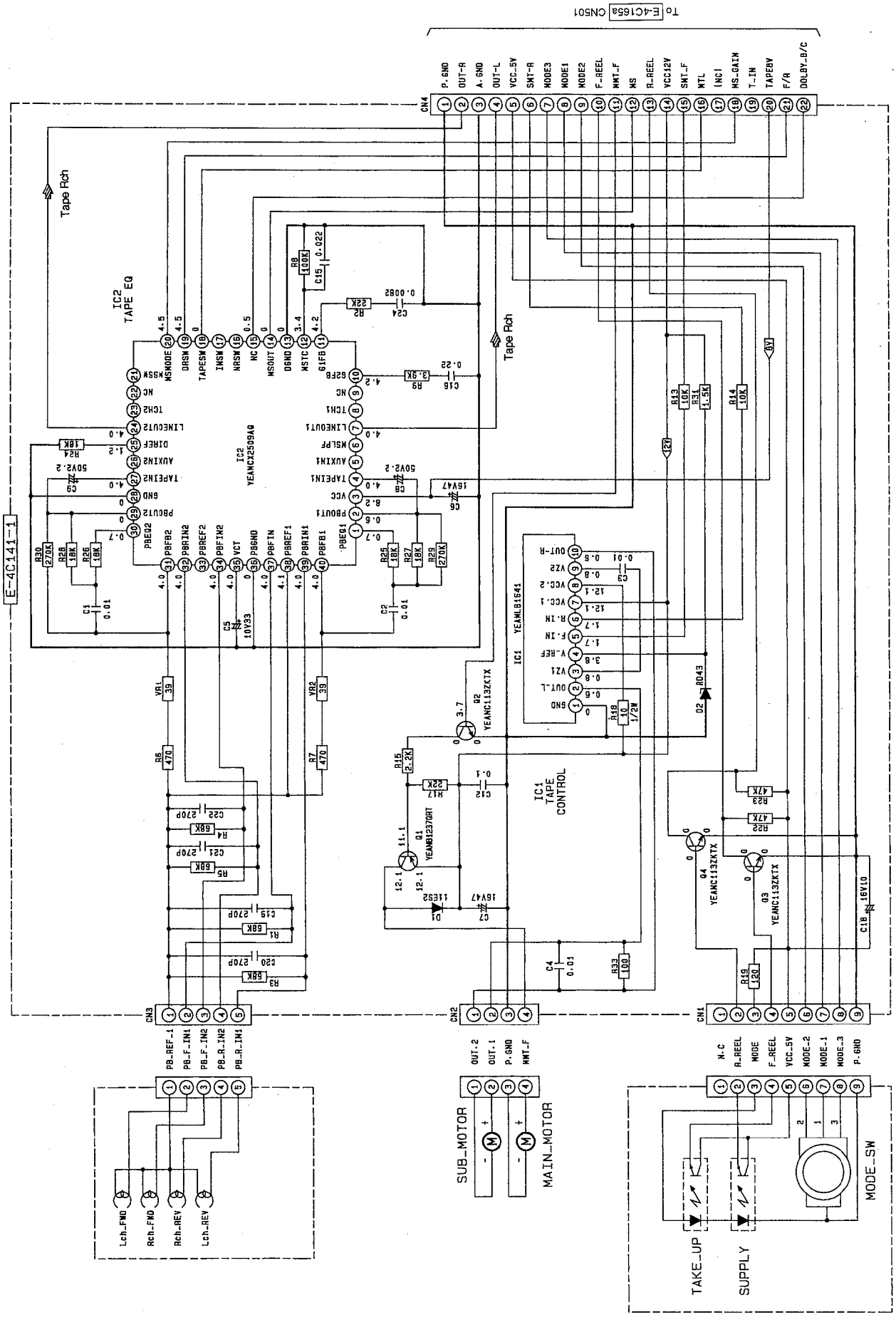


[E-4C165b]

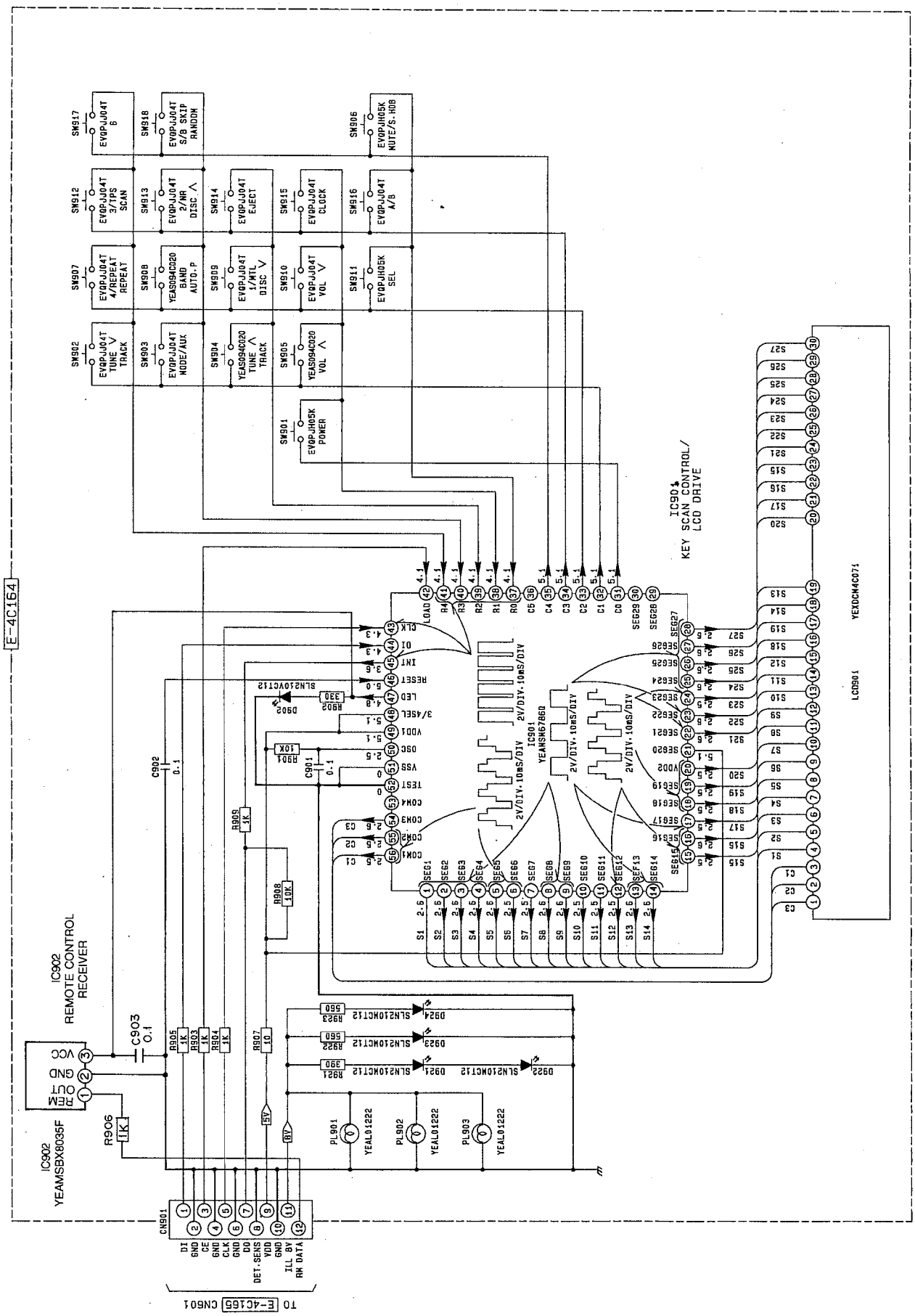


[E-4C165a]

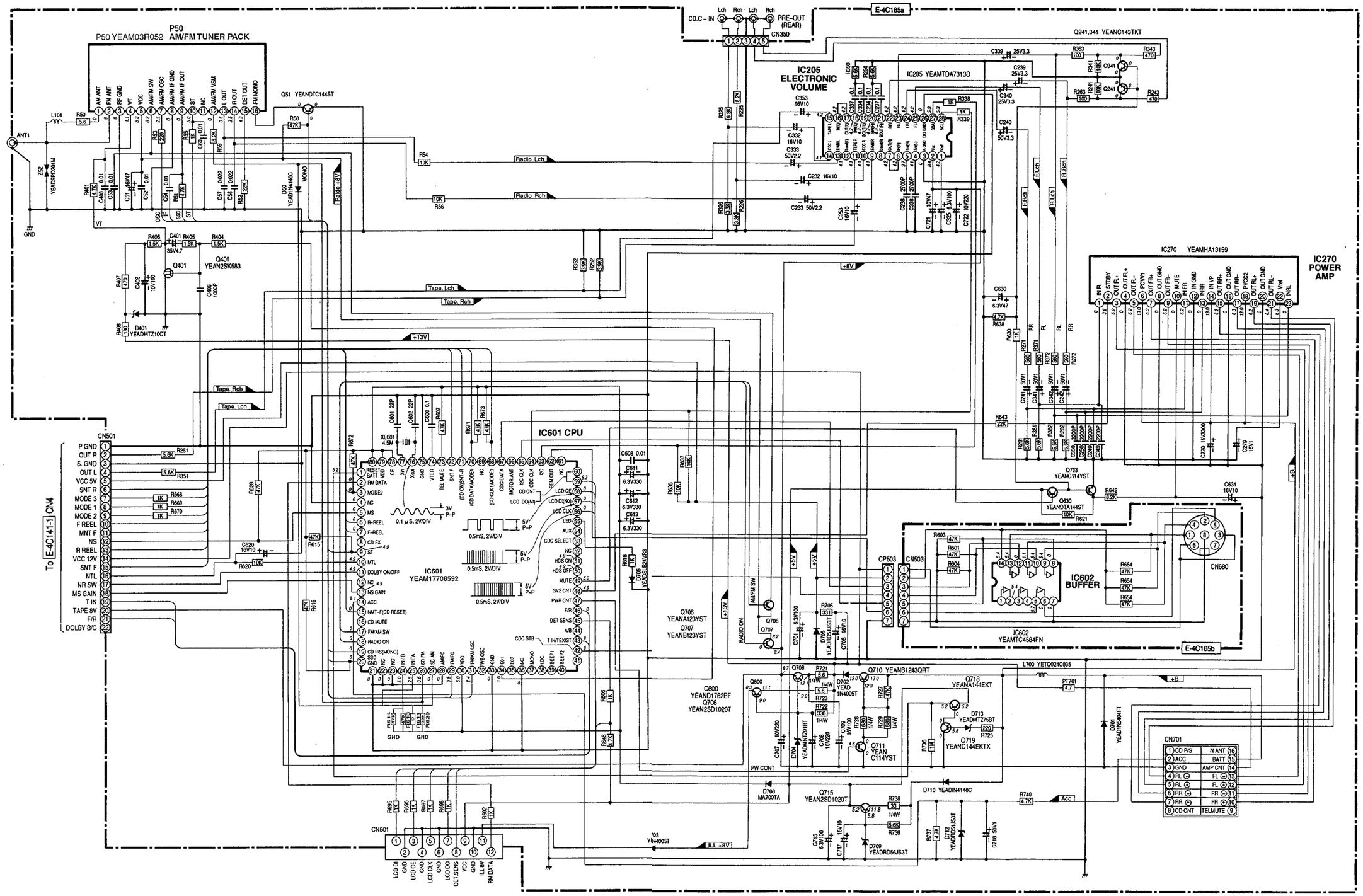
SCHEMATIC DIAGRAM (Tape Block) MODEL CQ-R215P



SCHEMATIC DIAGRAM (Display Block) MODEL CQ-R215P



SCHEMATIC DIAGRAM (Main Blcok) MODEL CQ-R215P



TERMINALS DESCRIPTION

■ IC601 YEAM17708597

Pin No.	Name	Description	I/O	Vol. (V) AM	FM	TAPE
1	BATT	Battery Detection	I	5.1	5.1	5.1
2	REM DATA (NC)	—	—	—	—	—
3	MODE2	Tape Detection Input	I	4.7	4.7	4.7
4	(NC)	(Connect to Ground)	—	—	—	—
5	MS	No Sound Detection (TPS)	I	0	0	0
6	R-REEL	Reel Pulse Detection (R)	I	1.5	2.3	3.0
7	F-REEL	Reel Pulse Detection (F)	I	1.4	2.0	3.1
8	CD EX (NC)	—	—	—	—	—
9	ST	Stereo Signal Input	I	4.6	4.6	0.8
10	MTL	Deck Metal Output H:ON	O	0	0	0
11	DOLBY ON (NC)	—	—	—	—	—
12	(NC)	—	—	—	—	—
13	MS GAIN	Music Search Gain Control	O	0	0	0
14	ACC	ACC Detection	I	5.1	5.1	5.1
15	MMT-F	Main Motor Control	I/O	4.8	4.8	4.8
16	CD MUTE (NC)	—	—	—	—	—
17	FM/AM SW	FM/AM Select Switch	O	8.1	0	0
18	RADIO ON	AM/FM Tuner ON	O	0	0	8.4
19	MONO	FM MONO SW	O	7.1	7.1	7.1
20	SSC	FM /AM SSC Control	O	0	0	0
21	GND	Ground	—	0	0	0
22	(NC)	(Connect to Ground)	—	—	—	—
23	(NC)	(Connect to Ground)	—	—	—	—
24	INIT B	(Connect to +5V)	—	4.7	4.7	4.7
25	INIT A	(Connect to Ground)	—	0	0	0
26	SD FM	FM SD Input	I	0	0	0
27	SD AM	AM SD Input	I	0	0	0
28	AMIFC (NC)	(Connect to Ground)	—	—	—	—
29	FMIFC	FM IF Input	I	5.1	0	0
30	VDD	Power supply +5V	—	4.8	4.8	4.8
31	FM/AM OSC	FM OSC Input	I	2.6	2.6	0
32	WB OSC (NC)	—	—	—	—	—
33	GND	Ground	—	0	0	0
34	E01	FM /AM VT Output	O	1.4	1.4	1.4
35	E02 (NC)	—	—	—	—	—
36	(NC)	—	—	—	—	—
37	MONO (NC)	—	—	—	—	—
38	LOC (NC)	—	—	—	—	—
39	BEEP1 (NC)	—	—	—	—	—
40	BEEP2 (NC)	—	—	—	—	—

Pin No.	Name	Description	I/O	Vol. (V) AM	FM	TAPE
41	CD CLK2 (NC)	—	—	—	—	—
42	CDC STB	CD changer Strobe	I	0	0	0
43	T IN/T EXIST	Tape-in Switch Signal	I	0	0	0
44	A/B	Tape A/B side detection	I	0.5	0.5	0.5
45	DET SENS	Panel Detect	0	0	0	0
46	F/R	Foward/Reverse Select	O	0.5	0.5	4.7
47	PW CNT	System Power Control	O	4.7	4.7	4.7
48	SYS CNT	AMP ST-BY Control	O	4.7	4.7	4.7
49	MUTE	Mute Control	O	4.7	4.7	4.7
50	PL ON (NC)	—	—	—	—	—
51	HDB ON (NC)	—	—	—	—	—
52	(NC)	—	—	—	—	—
53	CDC SELECT (NC)	—	—	—	—	—
54	AUX (NC)	—	—	—	—	—
55	LED	Alarm LED Output	O	0	0	0
56	LCD CLK	LCD Clock	O	4.4	4.4	4.4
57	LCD DI (MO)	LCD Data Input	O	4.4	4.4	4.4
58	LCD CE	LCD Chip Enble	O	0	0	0
59	LCD DO (MI)	LCD Data Output	I	3.8	3.8	3.8
60	(NC)	—	—	—	—	—
61	(NC)	—	—	—	—	—
62	REMOUT	Remoto Data Output	O	4.8	4.8	4.8
63	I2C DATA	I2C Data	I	5.1	5.1	5.1
64	I2C CLK	I2C Clock	O	5.1	5.1	5.1
65	CDC CLK	CD Changer Clock	I	0	0	0
66	MOTOR ANT (NC)	—	—	—	—	—
67	CDC DATA	CD Changer Data	I	0	0	0
68	MODE3	Tape Deck Mode3	O	4.8	4.8	4.8
69	NC	—	—	—	—	—
70	MODE1	Tape Deck Mode1	I	4.8	4.8	4.8
71	SMT-R	Sub Motor Control (R)	I	4.8	4.8	4.8
72	SMT-F	Sub Motor Control (F)	O	0	4.8	0
73	TELMUTE	(+5V Pull Up)	—	—	—	—
74	VTER (NC)	—	—	—	—	—
75	GND	Ground	—	0	0	0
76	X OUT	Crystal Oscilator	O	2.2	2.2	2.2
77	X IN	Crystal Oscilator	I	2.0	2.0	2.3
78	CE	Chip Enable	I	4.8	4.8	4.8
79	VDD	Power supply +5V	—	4.8	4.8	4.8
80	RESET	Reset input	I	4.8	4.8	4.8

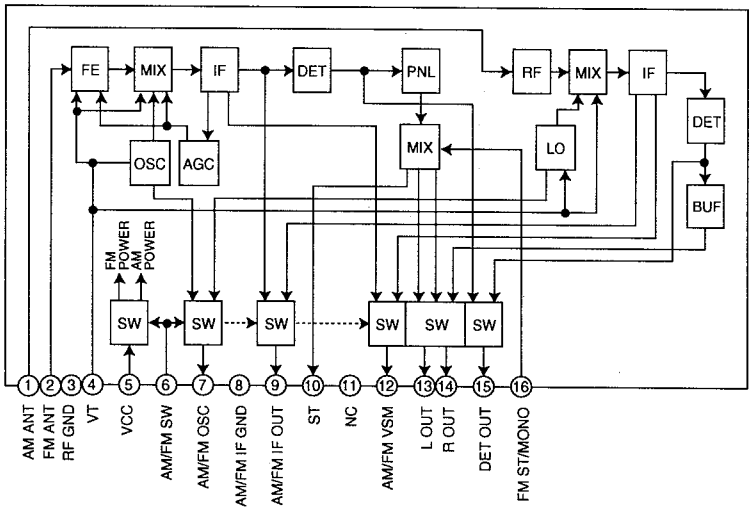
■ IC901 YEAMSM6786Q

Pin No.	Name	Description	I/O	Vol.(V)
1	SEG1 (NC)	—	—	—
2	SEG2	LCD segment data 2	O	2.6
3	SEG3	LCD segment data 3	O	2.6
4	SEG4	LCD segment data 4	O	2.6
5	SEG5	LCD segment data 5	O	2.6
6	SEG6	LCD segment data 6	O	2.6
7	SEG7	LCD segment data 7	O	2.6
8	SEG8	LCD segment data 8	O	2.6
9	SEG9	LCD segment data 9	O	2.6
10	SEG10	LCD segment data 10	O	2.6
11	SEG11	LCD segment data 11	O	2.6
12	SEG12	LCD segment data 12	O	2.6
13	SEG13	LCD segment data 13	O	2.6
14	SEG14	LCD segment data 14	O	2.6
15	SEG15	LCD segment data 15	O	2.6
16	SEG16	LCD segment data 16	O	2.6
17	SEG17	LCD segment data 17	O	2.6
18	SEG18	LCD segment data 18	O	2.6
19	SEG19	LCD segment data 19	O	2.6
20	SEG20	LCD segment data 20	O	2.6
21	VDD2	+5V Power Supply	—	5.1
22	SEG21	LCD segment data 21	O	2.6
23	SEG22	LCD segment data 22	O	2.6
24	SEG23	LCD segment data 23	O	2.6
25	SEG24	LCD segment data 24	O	2.6
26	SEG25	LCD segment data 25	O	2.6
27	SEG26	LCD segment data 26	O	2.6
28	SEG27	LCD segment data 27	O	2.6
29	SEG28 (NC)	—	—	—
30	SEG29 (NC)	—	—	—
31	C0	Key Control 0	O	5.1
32	C1	Key Control 1	O	5.1
33	C2	Key Control 2	O	5.1
34	C3	Key Control 3	O	5.1
35	C4	Key Control 4	O	5.1
36	C5 (NC)	—	—	—
37	R0	Key Return 0	I	4.1
38	R1	Key Return 1	I	4.1
39	R2	Key Return 2	I	4.1
40	R3	Key Return 3	I	4.1
41	R4	Key Return 4	I	4.1
42	LOAD	LCD LSI Chip Enable	I	4.1
43	CLK	LCD Clock	I	4.3
44	DI	LCD Data Input	I	4.3
45	INT	LCD Data Output	O	3.6
46	RESET	Reset	I	5.0
47	LED	LED Control	O	4.8
48	3/4 SEL	(+5v Pull-up)	—	5.1
49	VDD1	+5v Power Supply	—	2.5
50	OSC	CR Osclator	—	2.2
51	VSS	Ground	—	0
52	TEST	(Connecting to ground)	—	0
53	COM4 (NC)	—	—	—
54	COM3	LCD Common 3	O	2.5
55	COM2	LCD Common 2	O	2.5
56	COM1	LCD Common 1	O	2.5

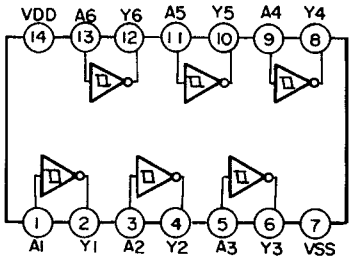
PACKAGE AND IC BLOCK DIAGRAM

[Main/Display Block]

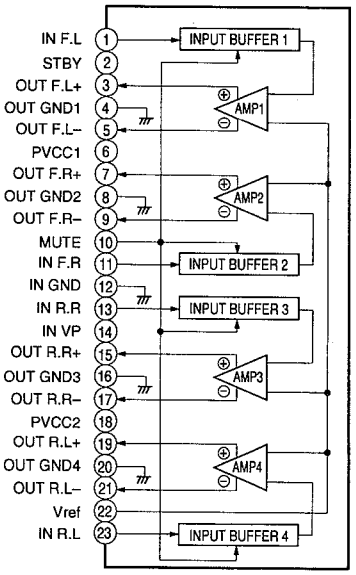
■ P50 YEAM03R052[E-4C165]



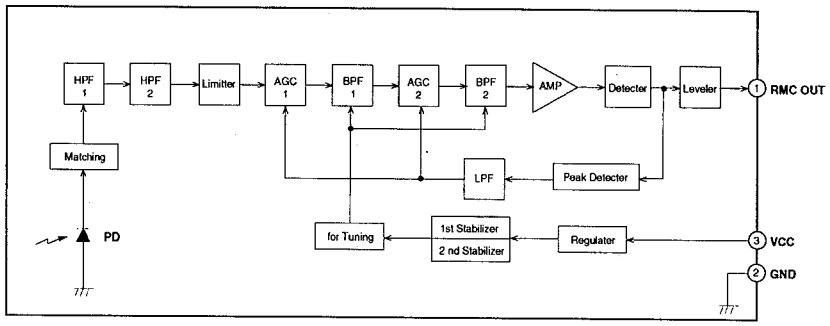
■ IC602 YEAMTC4584FN [E-4C165]



■ IC270 YEAMHA13159 [E-4C165]

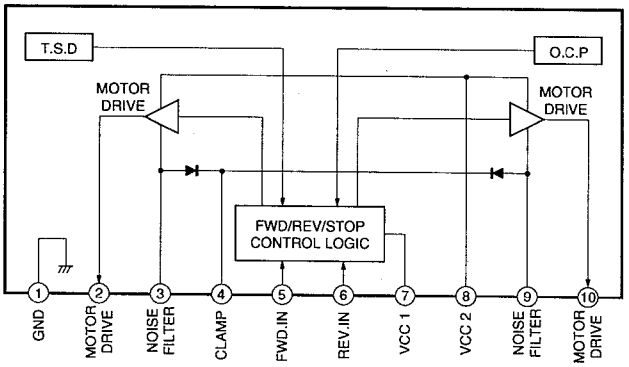


■ IC902 YEAMSBX8035F [E-4C164]

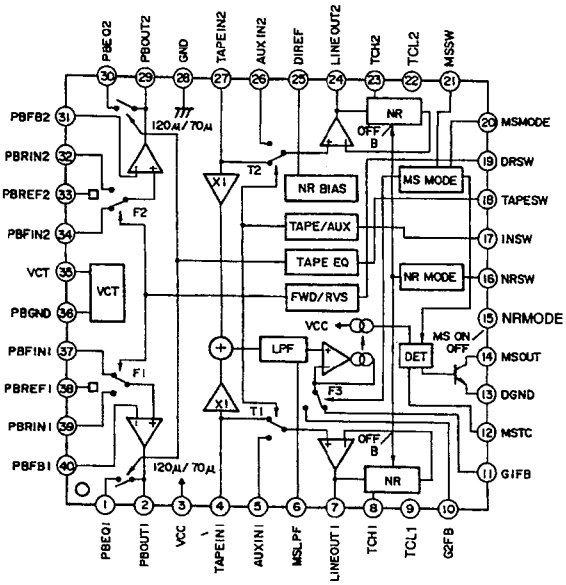


[Tape Block]

■ IC1 YEAMLB1641 [E-4C141-1]



■ IC2 YEAMCX2510AQ [E-4C141-1]



1 Replacement Parts List

Note:

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 load 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 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. "T" marks in remarks column are indicated supply parts of TAMACO.

1.1. IC's and Transistors

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
IC205	YEAMTDA7313D	IC	T
IC270	YEAMHA13159	IC	T
IC601	YEAM17708597	IC	T
IC602	YEAMTC4584FN	IC	T
P50	YEAU03R052	FM/AM Tuner Pack	T
Q51	YEANDTC144ST	Transistor	
Q241	YEANDTC323TK	Transistor	
Q341	YEANDTC323TK	Transistor	
Q401	YEAN2SK583	Transistor	
Q630	YEANDTA144ST	Transistor	
Q703	YEANC114YST	Transistor	
Q706	YEANA123YST	Transistor	
Q707	YEANB123YST	Transistor	
Q708	YEAN2SD1020T	Transistor	
Q710	YEANB1243QRT	Transistor	
Q711	YEANC114YST	Transistor	
Q715	YEAN2SD1020T	Transistor	
Q718	YEANA144EKT	Transistor	
Q719	YEANC144EKTX	Transistor	
Q800	YEAND1762EF	Transistor	

DISPLAY BLOCK [E-4C164]

Ref. No.	Part No.	Part Name & Description	Remarks
IC901	YEAMSM6786Q	IC	T
IC902	YEAMSBX8035F	Sensor IC	

TAPE BLOCK [E-4C141-1]

Ref. No.	Part No.	Part Name & Description	Remarks
IC1	YEAMLB1641	IC	T
IC2	YEAMCX2509AQ	IC	
Q1	YEANB1237QRT	Transistor	
Q2	YEANC113ZKTX	Transistor	
Q3	YEANC113ZKTX	Transistor	
Q4	YEANC113ZKTX	Transistor	

1.2. Diodes

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
D50	YEAD1N4148C	Diode	T
D401	YEADMTZ10CT	Diode	T
D606	YEAD1N4148C	Diode	T
D701	YEAD1N5404FT	Diode	T
D702	YEAD1N4005T	Diode	T
D703	YEAD1N4005T	Diode	T
D704	YEADMTZ91BT	Zener Diode	T
D705	YEADRD51JS3T	Zener Diode	
D706	YEADSLB24VR3	LED (Red)	T
D708	MA700TA	Diode	T
D709	YEADRD56JS3T	Zener Diode	T
D710	YEAD1N4148C	Diode	T
D712	YEADRD51JS3T	Zener Diode	
D713	YEADMTZ75BT	Zener Diode	T

DISPLAY BLOCK [E-4C164]

Ref. No.	Part No.	Part Name & Description	Remarks
D902	SLN210VCT12	LED (Red)	T
D921	SLN210MCT12	LED (Green)	T
D922	SLN210MCT12	LED (Green)	T
D923	SLN210MCT12	LED (Green)	T
D924	SLN210MCT12	LED (Green)	T

TAPE BLOCK [E-4C141-1]

Ref. No.	Part No.	Part Name & Description	Remarks
D1	YEAD1A3T	Diode	T
D2	YEADMTZ43BT	Zener Diode	T

1.3. Capacitors

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
C51	ECEA1CKS470I	Electrolytic,47µF 16WV	
C52	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
C53	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
C54	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
C57	ECUV1H333KBN	Ceramic,0.033µF 50WV	T
C58	ECUV1H333KBN	Ceramic,0.033µF 50WV	T
C60	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
C232	ECEA1CKS100I	Electrolytic,10µF 16WV	
C233	ECEA1HKS2R2I	Electrolytic,2.2µF 50WV	
C234	ECUV1H104KBN	Ceramic,0.1µF 50WV	T
C237	ECUV1H104KBN	Ceramic,0.1µF 50WV	T
C238	ECUV1H272KBN	Ceramic,2700pF 50WV	T
C239	ECEA1EKS3R3I	Electrolytic,3.3µF 25WV	
C240	ECEA1EKS3R3I	Electrolytic,3.3µF 25WV	
C241	ECEA1HKS010I	Electrolytic,1µF 50WV	
C242	ECEA1HKS010I	Electrolytic,1µF 50WV	
C249	ECUV1H222KBN	Ceramic,2200pF 50WV	T
C250	ECUV1H222KBN	Ceramic,2200pF 50WV	T
C253	ECEA1CKS100I	Electrolytic,10µF 16WV	
C279	ECEA1CKS010I	Electrolytic,1µF 16WV	T
C325	ECEA0JKS101	Electrolytic,100µF 6.3WV	
C332	ECEA1CKS100I	Electrolytic,10µF 16WV	
C333	ECEA1HKS2R2I	Electrolytic,2.2µF 50WV	
C334	ECUV1H104KBN	Ceramic,0.1µF 50WV	T
C337	ECUV1H104KBN	Ceramic,0.1µF 50WV	T
C338	ECUV1H272KBN	Ceramic,2700pF 50WV	T
C339	ECEA1EKS3R3I	Electrolytic,3.3µF 25WV	
C340	ECEA1EKS3R3I	Electrolytic,3.3µF 25WV	
C341	ECEA1HKS010I	Electrolytic,1µF 50WV	
C342	ECEA1HKS010I	Electrolytic,1µF 50WV	
C349	ECUV1H222KBN	Ceramic,2200pF 50WV	T
C350	ECUV1H222KBN	Ceramic,2200pF 50WV	T
C353	ECEA1CKS100I	Electrolytic,10µF 16WV	
C401	ECEA1VSN4R7I	Electrolytic,4.7µF 35WV	T
C402	ECEA1AKS101I	Electrolytic,100µF 10WV	
C403	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
C408	ECUV1H102KBN	Ceramic,0.001µF 50WV	T
C600	ECUV1H104KBN	Ceramic,0.1µF 50WV	T
C601	ECUV1H220JC	Ceramic,22PF 50WV	T
C602	ECUV1H220JC	Ceramic,22PF 50WV	T
C608	ECUV1H103KBN	Ceramic,0.01µF 50WV	T

Ref. No.	Part No.	Part Name & Description	Remarks
C611	ECEA0JKS331I	Electrolytic,330µF 6.3WV	
C612	ECEA0JKS331I	Electrolytic,330µF 6.3WV	
C613	ECEA0JKS331I	Electrolytic,330µF 6.3WV	
C620	ECEA1CKS100I	Electrolytic,10µF 16WV	
C630	ECEA0JKS470I	Electrolytic,47µF 6.3WV	
C631	ECEA1CKS100I	Electrolytic,10µF 16WV	
C701	ECEA0JKS101	Electrolytic,100µF 6.3WV	
C707	ECEA1AKS221I	Electrolytic,220µF 10WV	
C708	ECEA1AKS221I	Electrolytic,220µF 10WV	
C709	ECEA1CKS101I	Electrolytic,100µF 16WV	
C715	ECEA0JKS101	Electrolytic,100µF 6.3WV	
C717	ECEA1CKS100I	Electrolytic,10µF 16WV	
C718	ECEA1HKS010I	Electrolytic,1µF 50WV	
C720	ECEA1CU332C	Electrolytic,3300µF 16WV	T
C721	ECEA1AKS470I	Electrolytic,47µF 10WV	
C722	ECEA1AKS221I	Electrolytic,220µF 10WV	

DISPLAY BLOCK [E-4C164]

Ref. No.	Part No.	Part Name & Description	Remarks
C901	ECUV1H104KBN	Ceramic,0.1µF 50WV	T
C902	ECUV1H104ZFN	Ceramic,0.1µF 50WV	T
C903	ECUV1H104ZFN	Ceramic,0.1µF 50WV	T

TAPE BLOCK [E-4C141-1]

Ref. No.	Part No.	Part Name & Description	Remarks
C1	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
C2	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
C3	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
C4	ECUV1H103KBN	Ceramic,0.01µF 50WV	T
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	
C12	ECEA1H104KBN	Electrolytic,0.1µF 50WV	T
C15	ECUV1H223KBN	Ceramic,0.022µF 50WV	T
C16	ECUV1C224KBN	Ceramic,0.22µF 16WV	T
C18	ECEA1CKS100I	Electrolytic,10µF 16WV	
C19	ECUV1H271KCN	Ceramic,270pF 50WV	T
C20	ECUV1H271KCN	Ceramic,270pF 50WV	T
C21	ECUV1H271KCN	Ceramic,270pF 50WV	T
C22	ECUV1H271KCN	Ceramic,270pF 50WV	T
C24	ECUV1H822KBN	Ceramic,8200pF 50WV	T

1.4. Resistors

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
R50	ERJ6GEYJ5R6	Chip,5.6Ω 1/10W	
R51	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R52	ERJ6GEYJ223	Chip,22kΩ 1/10W	
R53	ERJ6GEYJ221	Chip,220Ω 1/10W	
R54	ERJ8GEYJ102V	Chip, 1kΩ 1/8W	
R55	ERDS2TJ102	Carbon,1kΩ 1/4W	
R56	ERJ8GEYJ102V	Chip, 1kΩ 1/8W	
R58	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R59	ERJ6GEYJ822	Chip,8.2kΩ 1/10W	
R225	ERD25TJ822	Carbon,8.2kΩ 1/4W	
R226	ERJ6GEYJ332	Chip,3.3kΩ 1/10W	
R241	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R243	ERJ6GEYJ471	Chip,470Ω 1/10W	
R250	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R251	ERD25TJ562	Carbon,5.6kΩ 1/4W	
R252	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R253	ERD25TJ562	Carbon,5.6kΩ 1/4W	
R263	ERJ6GEYJ101	Chip,100Ω 1/10W	
R271	ERD25TJ101	Carbon,100Ω 1/4W	
R272	ERD25TJ101	Carbon,100Ω 1/4W	
R281	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R282	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R325	ERD25TJ822T	Carbon,8.2kΩ 1/4W	
R326	ERJ6GEYJ332	Chip,3.3kΩ 1/10W	
R338	ERD25TJ102	Carbon,1kΩ 1/4W	
R339	ERD25TJ102	Carbon,1kΩ 1/4W	
R341	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R343	ERJ6GEYJ471	Chip,470Ω 1/10W	
R350	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R351	ERD25TJ562	Carbon,5.6kΩ 1/4W	
R352	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R353	ERD25TJ562	Carbon,5.6kΩ 1/4W	
R363	ERJ6GEYJ101	Chip,100Ω 1/10W	
R371	ERD25TJ101	Carbon,100Ω 1/4W	
R372	ERD25TJ101	Carbon,100Ω 1/4W	
R381	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R382	ERJ6GEYJ562	Chip,5.6kΩ 1/10W	
R401	ERJ8GEYJ472V	Chip,4.7kΩ 1/8W	
R404	ERDS2TJ152	Carbon,1.5kΩ 1/4W	
R405	ERJ8GEYJ152V	Chip,1.5kΩ 1/8W	
R406	ERDS2TJ152	Carbon,1.5kΩ 1/4W	
R407	ERJ6GEYJ471	Chip,470Ω 1/10W	
R408	ERDS2TJ181	Carbon,180Ω 1/4W	
R601	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R602	ERD25TJ102	Carbon,1kΩ 1/4W	
R603	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R604	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R606	ERD25TJ102	Carbon,1kΩ 1/4W	
R607	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R613	ERDS2TJ473	Carbon,47kΩ 1/4W	
R614	ERDS2TJ473	Carbon,47kΩ 1/4W	
R615	ERD25TJ473	Carbon,47kΩ 1/4W	
R616	ERDS2TJ473	Carbon,47kΩ 1/4W	
R618	ERDS25TJ102	Carbon,1kΩ 1/4W	T
R620	ERDS2TJ103	Carbon,10kΩ 1/4W	
R621	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R628	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R629	ERJ6GEYJ333	Chip,33kΩ 1/10W	
R630	ERD25TJ102	Carbon,1kΩ 1/4W	
R636	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R637	ERJ6GEYJ103	Chip,10kΩ 1/10W	
R638	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R642	ERDS2TJ822	Carbon,8.2kΩ 1/4W	
R643	ERJ8GEYJ223V	Chip,22kΩ 1/8W	
R646	ERJ6GEYJ102	Chip,1kΩ 1/10W	
R648	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R654	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R655	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R656	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R668	ERD25TJ102	Carbon,1kΩ 1/4W	
R669	ERD25TJ102	Carbon,1kΩ 1/4W	
R670	ERD25TJ102	Carbon,1kΩ 1/4W	
R671	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R672	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R673	ERJ6GEYJ473	Chip,47kΩ 1/10W	
R695	ERD25TJ102	Carbon,1kΩ 1/4W	
R696	ERD25TJ102	Carbon,1kΩ 1/4W	
R697	ERD25TJ102	Carbon,1kΩ 1/4W	
R698	ERD25TJ102	Carbon,1kΩ 1/4W	
R705	ERJ6GEYJ331	Chip,330Ω 1/10W	
R721	ERD25FJ5R6	Carbon,5.6Ω 1/4W	
R722	ERD25TJ331	Carbon,330Ω 1/4W	
R723	ERD25FJ5R6	Carbon,5.6Ω 1/4W	
R725	ERJ8GEYJ221V	Chip,220Ω 1/8W	
R727	ERJ8GEYJ473V	Chip,47kΩ 1/8W	
R728	ERD25TJ681	Carbon,680Ω 1/4W	
R729	ERD25TJ681	Carbon,680Ω 1/4W	
R736	ERJ6GEYJ105	Chip,1000kΩ 1/10W	
R737	ERJ6GEYJ472	Chip,4.7kΩ 1/10W	
R738	ERJ8GEYJ330V	Chip,33Ω 1/8W	
R739	ERJ8GEYJ562V	Chip,5.6kΩ 1/8W	
R740	ERD25TJ472	Carbon,4.7kΩ 1/4W	

DISPLAY BLOCK [E-4C164]

Ref. No.	Part No.	Part Name & Description	Remarks
R901	ERJ6GEYJ103	Chip, 10kΩ 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R902	ERJ6GEYJ561V	Chip, 330Ω 1/8W	
R903	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R904	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R905	ERJ8GEYJ102V	Chip, 1kΩ 1/8W	
R906	ERJ8GEYJ102V	Chip, 1kΩ 1/8W	
R907	ERJ8GEYJ100V	Chip, 10Ω 1/8W	
R908	ERJ8GEYJ103V	Chip, 10kΩ 1/8W	
R909	ERJ6GEYJ102	Chip, 1kΩ 1/10W	
R921	ERJ6GEYJ561	Chip, 560Ω 1/10W	
R922	ERJ6GEYJ561	Chip, 560Ω 1/10W	
R923	ERJ8GEYJ271V	Chip, 270Ω 1/8W	

TAPE BLOCK [E-4C141-1]

Ref. No.	Part No.	Part Name & Description	Remarks
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	ERJ6GEYJ471	Chip,470Ω 1/10W	
R7	ERJ6GEYJ471	Chip,470Ω 1/10W	
R8	ERJ6GEYJ104	Chip,100kΩ 1/10W	
R9	ERJ6GEYJ392	Chip,3.9kΩ 1/10W	
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	REDS1FJ100T	Carbon,10Ω 1/2W	
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	ERJ6GEYJ183	Chip,18kΩ 1/10W	
R28	ERJ6GEYJ183	Chip,18kΩ 1/10W	
R29	ERJ6GEYJ274	Chip,270kΩ 1/10W	
R30	ERJ6GEYJ274	Chip,270kΩ 1/10W	
R31	ERJ8GEYJ152V	Chip,1.5kΩ 1/8W	
R33	ERJ8GEYJ101V	Chip,100Ω 1/8W	
VR1	ERDS2TJ390	Carbon,39Ω 1/4W	
VR2	ERDS2TJ390	Carbon,39Ω 1/4W	

1.5. Connectors

MAIN BLOCK [E-4C165]

Ref. No.	Part No.	Part Name & Description	Remarks
CN350	YEAE02166	Connector, RCAx4	
CN501	YEAE012659	Connector	
CN503	YEAE4C01083	Connector	T
CN601	YEAE012475	Connector	
CN680	YEAE4CDIN023	Connector	T
CN701	YEAE4CCON013	Connector	T
CP503	YEAE4C1084	Connector	T

DISPLAY BLOCK [E-4C164]

Ref. No.	Part No.	Part Name & Description	Remarks
CN901	YEAE012476	Connector	

TAPE BLOCK [E-4C141-1]

Ref. No.	Part No.	Part Name & Description	Remarks
CN1	YEAE5597A09	Connector	
CN2	YEAE5325404	Connector	
CN3	YEAE012684	Connector	
CN4	YEAE012659	Connector	

1.6. Electric Parts

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW901	EVQPJH05K	SWITCH	
SW902	EVQPJJ04T	SWITCH	
SW903	YEAS094C020	SWITCH	T
SW904	YEAS094C020	SWITCH	T
SW905	YEAS094C020	SWITCH	T
SW906	EVQPJH05K	SWITCH	
SW907	EVQPJJ04T	SWITCH	
SW908	YEAS094C020	SWITCH	T
SW909	EVQPJJ04T	SWITCH	
SW910	EVQPJJ04T	SWITCH	
SW911	EVQPJH05K	SWITCH	
SW912	EVQPJJ04T	SWITCH	
SW913	EVQPJJ04T	SWITCH	
SW914	EVQPJJ04T	SWITCH	
SW915	EVQPJJ04T	SWITCH	
SW916	EVQPJJ04T	SWITCH	
SW917	EVQPJJ04T	SWITCH	
SW918	EVQPJJ04T	SWITCH	

CRYSTAL

Ref. No.	Part No.	Part Name & Description	Remarks
XL601	YEXL4C45TT	Crystal	T

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L101	YELT02CR22KT	Axial coil	T
L700	YETQ024C035	Choke Coil	T

LCD

Ref. No.	Part No.	Part Name & Description	Remarks
LCD901	YEXDCM4C071	LCD	T

LAMPS

Ref. No.	Part No.	Part Name & Description	Remarks
PL901	YEAL01222	Lamp	
PL902	YEAL01222	Lamp	
PL903	YEAL01222	Lamp	

POSISTOR

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

1.7. Accessories

PRINTING

Ref. No.	Part No.	Part Name & Description	Remarks
	YFM284C312ZA	Operating Instructions	T

INSTALLATION PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
	YAJ024C063ZA	Power Cord Ass'y	T
	ZZBISR115	Screw Kit and Dismounting Pin	T
	YEFG044C002	Rear Support Strap	T
	YFC054C048ZA	Panel Case	T

1.8. Mechanical Parts

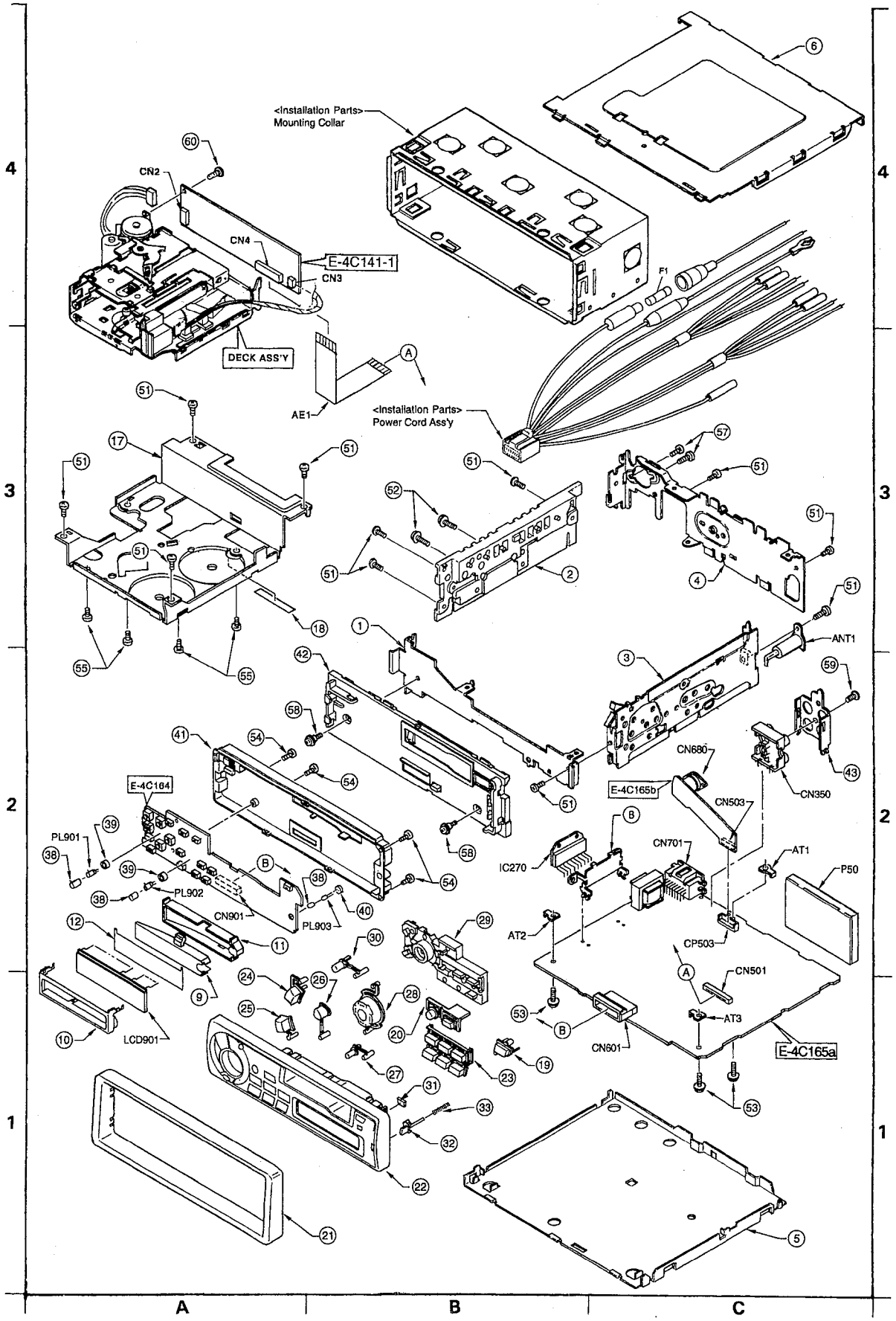
MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
F1 ⚠	XBB1F100NS5	Fuse, 10A	
ANT1	YAA104C700ZA	Antenna Jack	T
Z52	YEADSPD201M	Surge Protector	T
AT1	YEAT03420	Terminal	
AT2	YEAT03420	Terminal	

Ref. No.	Part No.	Part Name & Description	Remarks
AT3	YEAT03420	Terminal	
AE1	YEAEFFC005	Flexible Circuit Board (22P)	T
1	YFA074C027YA	Front Plate	T(3-B)
2	YFF014C032XA	Heat Sink	T(3-B)
3	YFA094C080ZA	Right Plate Ass'y	T(2-C)
4	YFA084C022ZA	Rear Plate	T(3-C)
5	YFA054C026YF	Under Cover	T(1-C)
6	YFA034C031ZC	Upper Cover	T(4-C)
8	FX0214C172XA	IC Bracket	T(2-C)
9	FX0014C047ZA	Panel Light	T(1-A)
10	FX0214C213ZA	LCD Bracket	T(1-A)
11	YFX184C013ZA	LCD Holder	T(2-A)
12	YFV024C039ZA	Sheet, LCD	T(2-A)
17	FX0214C215ZA	Deck Bracket	T(3-A)
18	YFV014C040ZA	Sheet	T(3-B)
19	YFE134C246ZA	Button (EJECT)	T(1-B)
20	YFE134C245ZA	Button (CLK/PLAY)	T(1-B)
21	YGFC05545	Trim Plate	(1-A)
22	YFC024C449ZA	Escutcheon Ass'y, Detachable	T(1-B)
23	YFE134C243ZA	Button (1-6)	T(1-B)
24	YFE134C249ZA	Button (UP)	T(1-A)
25	YFE134C250ZA	Button (DOWN)	T(1-A)
26	YFE134C252ZA	Button (SEL)	T(1-B)
27	YFE134C242ZA	Button (PWR)	T(1-B)
28	YFE134C244ZA	Button (MODE/BAND)	T(1-B)
29	FX0014C050ZA	Panel Light	T(2-B)
30	YFE134C262ZA	Button (M/L)	T(2-B)
31	YFJ014C047ZA	Sensor Cap	T(1-B)
32	YFE134C194ZA	Release Button	T(1-B)
33	FX0054C027ZA	Spring	T(1-B)
38	YEFR04276	Illumination Cap	(2-A) (2-B)
39	YEFK044C007	Lamp Gum	T(2-A)
40	YFK044C011ZA	Lamp Holder	T(2-B)
41	YFC024C415YA	Rear Cover	T(2-A)
42	YFC024C431YA	Escutcheon Ass'y, Unit	T(2-A)
43	FX0214C187YA	RCA Jack Bracket	T(2-C)
51	XTB3+6FFXS	Screw	
52	YEJT034C019	Screw (Cup Tight), 3mm×12mm	T(3-B)
53	YEJT034C001	Screw	T(1-B) (1-C)
54	XTN2+6CFZ	Screw	T(2-A) (2-B)
55	XSB26+4FX	Screw	(2-A)
56	YEJT034C007	Screw	T(4-A)
57	XSB3+6FXS	Screw	(3-C)
58	YJT034C015Z	Step Screw	T(2-A) (2-B)
59	XTW3+10C	Screw	T(2-C)
60	XTW2+5FFXS	Screw	T(4-A)

EXPLODED VIEW (Unit) MODEL CQ-R215P

■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST



1 Tape Player Parts List

Note:

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 load map.
4. "T" marks in remarks column are indicated supply parts of TAMACO.

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
1	YESFA01051	ChassisRivet Ass'y	(2-B)
4	YESFX046056	Main Plate	(1-C)
5	YESFX003049	B Gear	(2-B)
6	YESFX003050	C Gear	(2-B)
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-B)
30	YESFX218015	Pinch Roller Arm (F) Ass'y	(3-C)
31	YESFX218016	Pinch Roller Arm (R) Ass'y	(2-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)
43	YESAK01014	Main Motor Ass'y	(4-A)
44	YESAE283	M Connector 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-A)
53	YESFX239006	Cassette Case	(3-B)
54	YESFS04007	Cusion Rubber	(3-B)
56	YESFX046065	P.S Actuator Plate	(4-A)
57	YESFX005075	P.S Spring	(4-A)
58	YESFX046066	Pack Slider	(4-C)
61	YESAP151	Reel PWB Ass'y	(2-A)
200	YESJS01133	CameraScrew (Tams) 2.0×2.2	(1-A)
201	YESJW01019	Lumilar Washer (Cut) 1.55×3.5×0.5	(3-A) (3-B)
202	YESJS01070	Adjust Screw 2.0×13	(2-C)
203	YEFT03084	Camera Tapping Screw S2.0×3.0	(3-A) (4-A)
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)

EXPLODED VIEW (TAPE DECK) MODEL CQ-R215P

■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST