


# Service Manual

## AUTOMOTIVE CONSUMER ELECTRONICS

### CQ-FX45EW

#### Full-Flap Face High-Power Cassette Player/RDS Receiver



Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.  
 "DOLBY" and the double-D symbol  are trade marks of Dolby Laboratories Licensing Corporation.

#### Specifications\*

##### General

Power Supply	: DC 12V (11V - 16V), Test Voltage 14.4V Negative Ground
Tone Controls	: Bass; $\pm 12\text{dB}$ at 100Hz Treble; $\pm 12\text{dB}$ at 10kHz
Current Consumption	: Less than 2.5A (Tape mode, 0.5W 4-Speaker)
Maximum Power Output	: 40W $\times 4$ (at 4 $\Omega$ )
Power Output	: 20W $\times 4$ (DIN45 324 at 4 $\Omega$ )
Speaker Impedance	: 4 - 8 $\Omega$

##### FM Stereo Radio

Frequency Range	: 87.5 - 108MHz
Usable Sensitivity	: 6dB/ $\mu\text{V}$ (S/N 30dB)
Stereo Separation	: 35 dB (at 1kHz)

##### MW Radio

Frequency Range	: 531 - 1,602kHz
Usable Sensitivity	: 28dB/ $\mu\text{V}$ (S/N 20dB)

##### LW Radio

Frequency Range	: 153 - 279kHz
Usable Sensitivity	: 32dB/ $\mu\text{V}$ (S/N 20dB)

##### Cassette Player

Reproduction System	: 4-track, 2-program stereo
Tape Speed	: 4.76cm/sec.
FF/Rewind Time	: Less than 110sec. (C-60)
Frequency Response	: 30 - 17,000Hz (Normal) 30 - 18,000Hz (Metal)
Wow and Flutter	: 0.12% (WRMS)
Signal to Noise Ratio	: 52dB (Dolby B NR on ; 62dB)

##### Dimensions\*\*

Main unit	: 178(W) $\times$ 50(H) $\times$ 150(D) mm
-----------	--

##### Weight\*\*

Main unit	: 1.6kg
-----------	---------

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

\*\* Dimensions and Weight shown are approximate.

# Panasonic®

©1997 Matsushita Communication Industrial Co., Ltd.  
 All rights reserved. Unauthorized copying and  
 distribution is a violation of law.

**⚠ 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.

**CONTENTS**

	Page
DIMENSIONS .....	1
FEATURES .....	1
FUSE .....	1
MAINTENANCE .....	1
ALIGNMENT JIG .....	1
 < OPERATING INSTRUCTIONS >	
Precautions .....	2
Power and Sound Controls .....	3, 4
Radio Basics .....	5, 6
RDS Reception .....	6~10
Cassette Tape Play Basics .....	10, 11
CD Changer Basics .....	12, 13
Remote Control Basics .....	13
Anti-Theft System .....	14, 15
Installation .....	15, 16
Electrical Connection .....	17
Speaker Connections .....	17
BLOCK DIAGRAM .....	18
SCHEMATIC DIAGRAM (DISPLAY) .....	19
WIRING DIAGRAM (DISPLAY) .....	20
TERMINALS DESCRIPTION .....	20
IC BLOCK DIAGRAM .....	20, 23
SCHEMATIC DIAGRAM (MAIN) .....	21
WIRING DIAGRAM (MAIN) .....	22
SCHEMATIC DIAGRAM (TAPE) .....	23
WIRING DIAGRAM (TAPE) .....	23
ALIGNMENT INSTRUCTIONS .....	24
ALIGNMENT POINTS .....	24
NOTES FOR INSTALLATION OF	
SIDE PLATE ASS'Y .....	24
REPLACEMENT PARTS LIST .....	25~31, 33, 35
EXPLODED VIEW (UNIT) .....	32
EXPLODED VIEW (TAPE) .....	34

**FEATURES**

- 24-Stations Preset (18-FM, 6-AM).
- Radio Data System (PS, AF, CT, PI).
- Dolby B NR Circuit.
- CD Changer Control.
- Electronic Control of Volume, Bass, Treble, Balance and Fader.
- Warning Alarm System.
- Front Panel AUX Jack.
- Detachable Face Plate Security.

**FUSE**

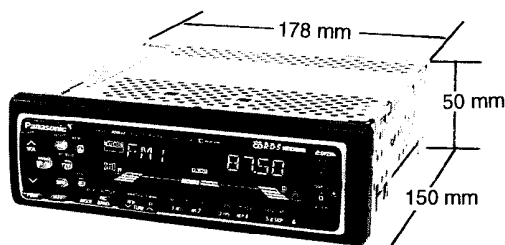
Be sure to use a fuse of the specified rating (15A) when replacing a blown fuse. Fuses with higher capacity ratings, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit.

**MAINTENANCE**

To clean the exterior of this unit, use a soft cloth to wipe the surface. Do not use benzine, thinner, or any other type of solvents.

**ALIGNMENT JIG**

- DOLBY NR ALIGNMENT ;  
Test Tape : RFKZ0038

**DIMENSIONS****WARNING!**

**Lithium batteries. Explosion danger.**  
Change of batteries must only be done by qualified personnel and as described in the service manual.  
Furthermore, that the batteries must only be changed with batteries of the same manufacture and type.

## Precautions (ISO connector)

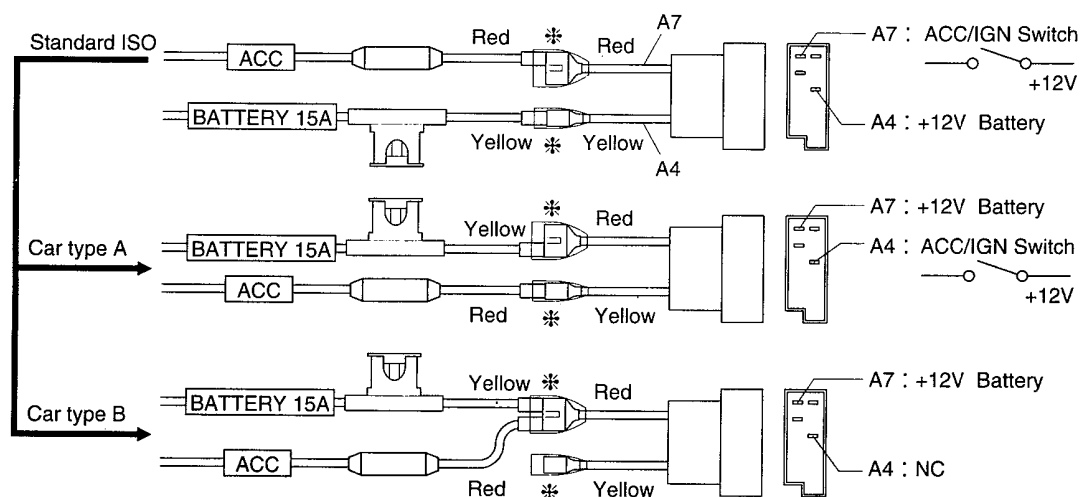
- Wiring for the power connector conforms to the arrangement of standard ISO connectors.
- In case of some car types, the arrangement of connector may differ from the standard ISO as shown in Table 1, even though ISO connectors are adopted.

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)

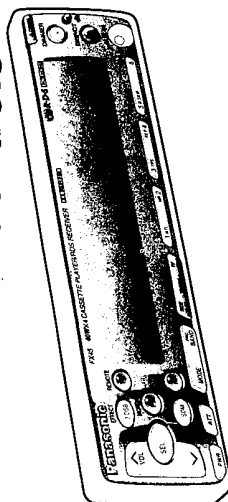
- Make sure the ISO connector arrangement in your car side is as same as the standard ISO.
- In case of arrangement for Car type A or B, change connections of the red/yellow leads at the re-connectable joint (\*) as shown in Fig. 1.

Fig. 1



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

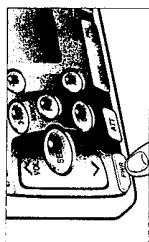
# Power and Sound Controls



## 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.  
Press and hold PWR again to switch off the power.

**Note:** When power is switched on for the first time, demonstration display appears. To release this display, press and hold PWR and switch power off.



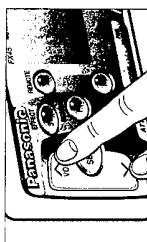
## Volume

Press "VOL^" or "VOL-" to increase or decrease volume.

VOLUME 40 — Volume Level

0 to 40

Press "VOL^" or "VOL-" for more than a half second to sequentially change numeric levels on the display.



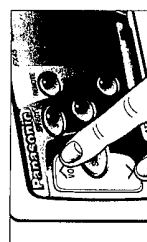
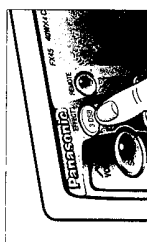
## 3•DSB (3-Dimensional Surround and Super Bass) and Loud Switching

① Press 3•DSB to switch on or off 3•DSB and Loud as follows.

3 DSB OFF → 3 DSB ON → LOUD OFF → LOUD ON

② Press and hold 3•DSB for more than 2 seconds when 3•DSB is ON, a degree of effect can be selected.

Press ^VOL^ to select one of the 10 degrees (0 through 9).



### 3•DSB System

It is a new sound system combining 3-dimensional sound from two front speakers with rear channel super bass.

The 3•DSB employs Spatializer® ICs of Desper Products, Inc.

• When 3•DSB is turned on while receiving an AM monaural broadcast or when you are listening to an FM broadcast in monaural mode, you will be able to listen to it with a virtual stereo effect from 4ch speakers.

**Note:** This unit is equipped with 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 below. When PWR is first pressed to switch on, the volume level is low. After that, the volume level gradually returns to the level when the switch is turned off.

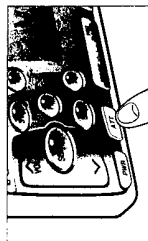
Anti-volume-blast circuit is not effective when volume level is lower than position 20 at the display.

## Attenuator

• Press ATT to decrease Volume to about 1/10 of the previous level.

ATT

• Press ATT again to cancel.

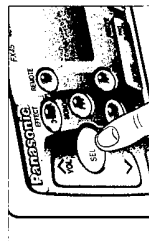


## Changing Audio Modes

Press SEL to switch the audio mode in the following order.

Normal Mode → VOL → BAS → TRE → BAL → FAD

↑



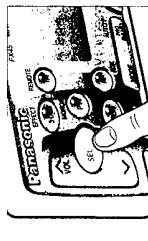
## Bass and Treble

Press SEL to select the BASS (TREBLE) mode. Press "VOL^" or "VOL-" to increase or decrease the bass (treble) response.

BASS + 3dB TREBLE + 3dB

-12 to +12

-12 to +12



## Balance

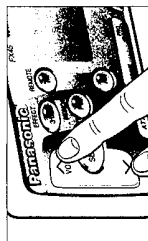
Press SEL to select the BALANCE mode. Press "VOL^" or "VOL-" to shift the sound volume to the right or left speakers.

BALANCE L 2 BALANCE ENT BALANCE R 2

1 to 15

Balance Center

1 to 15



## Fader

Press SEL to select the FADER mode. Press "VOL^" or "VOL-" to shift the sound volume to the front or rear speakers.

FADER F 3 FADER ENT FADER R 3

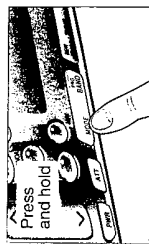
1 to 15

Fader Center

1 to 15



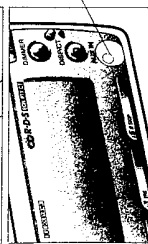
# Power and Sound Controls continued



**Selecting Auxiliary Source**  
 1. Press and hold MODE (AUX) for more than 2 seconds to select AUX Input mode.



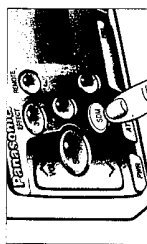
2. Connect the auxiliary equipment (any other appropriate equipment) to the AUX Jack.  
 AUX Jack



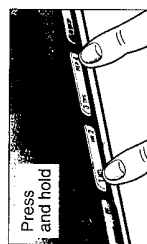
## Canceling AUX Input mode

Press MODE (AUX) to resume the previous mode.

## Sound Memory



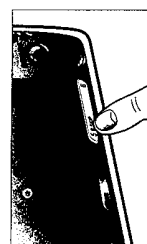
**Sound Design Memory Mode Selection**  
 A desired sound setting (except for VOL and ATT) can be memorized and recalled.  
 Press SDM to select the sound design memory mode.



**Sound Design Memory Input**  
 • To preset a desired sound setting, press the corresponding preset memory button (1 to 4) for more than 2 seconds in sound design memory mode.



• The preset memory buttons 5 and 6 are not valid for memory write.



**Sound Design Memory Call**  
 • When a desired preset memory button is pressed in sound design memory mode, the corresponding sound setting is called out.



The called preset number is displayed.

• The preset memory button 5 is recommended for setting.  
 • The preset memory button 6 is used to release all sound settings.

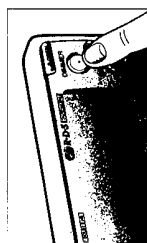


## To change to normal mode

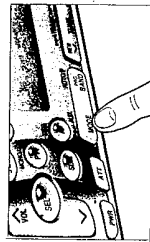
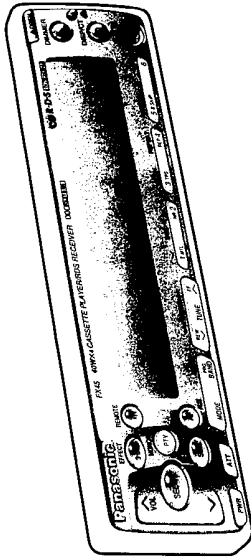
Press MODE or SDM to change to the normal mode.  
**Note:** When the sound design memory mode is selected but no operation is made within 5 seconds, the mode will return to the normal mode.

## Dimmer Switching

Press DIMMER (☉) to change the brightness of the LCD from one level to another in a cycle of 3 levels as follows:



# Radio Basics



## To change Tuner Mode

Press MODE to switch the operation mode in the following order.

① In case of local control

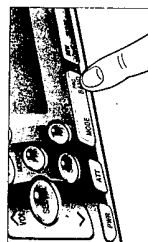
TUNER → TAPE → CD Changer Control

Press and hold MODE (AUX) for more than 2 seconds to select AUX Input mode.

② In case of remote control

TUNER → TAPE → CD Changer Control

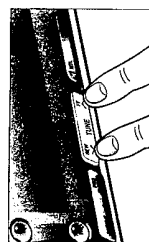
↑ AUX



## Selecting a Band

Press BAND to select the bands in the following order.  
"ST" indicator lights if the station is broadcasting in stereo.

FM1 → FM2 → FM3 → AM(LW/MW)

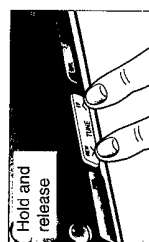


## Manual Tuning

Press "VTUNE" or "TUNE^" to move to a higher or lower frequency.



Press and hold "VTUNE" or "TUNE^" to move to a lower or higher frequency rapidly.



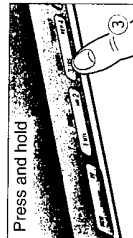
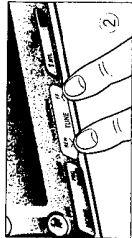
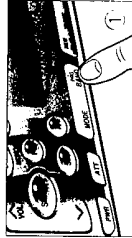
## Seek Tuning

Press and hold "VTUNE" or "TUNE^" for more than a half 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(LW/MW)
6 stations	6 stations	6 stations	6 stations



Press and hold

## 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 for more than 2 seconds until the display blinks. Repeat the process to set other stations for the FM1 to AM bands.

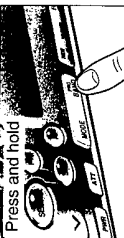


Preset Channel Indicator

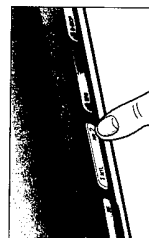
Note: You can change the memory setting by repeating the above procedure.

## 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.



Press and hold



## Auto Station Preset

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

- The six 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 each.
- Press the appropriate preset button for the station you want to hear.

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

# Radio Basics

continued

## MONO/LOCAL Selection

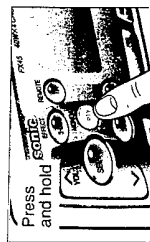
- Much interference is reduced during a weak FM stereo broadcast, when MONO is ON. (Only for FM mode)
- Searching stops automatically at a strong wave station only when LOCAL is ON.

Press PTY (MONO/LOC) to switch the mode in the following order.

### ① During FM broadcasts.

Press and hold PTY (MONO/LOC) to switch the mode in the following order. Release your finger at the desired mode.

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



### ② During AM broadcasts.

Press PTY (MONO/LOC) on or off the LOC 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.

### PS (Program Service Name)

When an RDS station is received, the RDS indicator lights and automatically displays the name of that station instead of the frequency. When D (DISP) is pressed during PS display, the frequency is displayed for 3 seconds, then PS display returns.

### 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.

### 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

### 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 tour listening to a tape, CD changer, or AUX source until it ends, then you will listen again to whatever you have been listening to.

### 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.

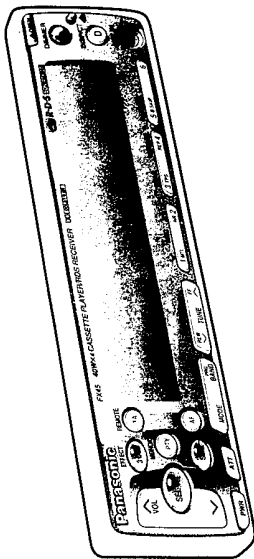
## WHAT PROVIDES EON CAPABILITIES

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 switch to TA off in advance.

# RDS (Radio Data System) Reception continued

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



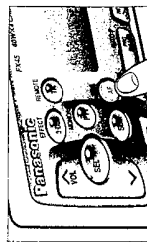
### RDS Reception

Press AF when receiving a station in the FM1, FM2 or FM3 band.

- The operating mode changes to AF ON or AF OFF, respectively.



- 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.



### 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.

### To Change AF Mode

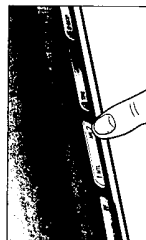
Press AF to change AF ON and activate Best Station Research at the same time. (3 seconds maximum)



#### Notes:

- Default mode is AF1.
- AF1 has a low level of AF operating sensitivity in urban areas. Therefore, AF dose not frequently operate even of sensitivity is temporarily lowered between skyscrapers, for examples.
- AF2 is for suburban areas with a higher level of sensitivity than AF1.

For Seek Tuning, RDS Station Preset, Tuning in a RDS preset station, and Auto RDS Station Preset, please refer to Radio Basics (page 5 to 6).



### 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.

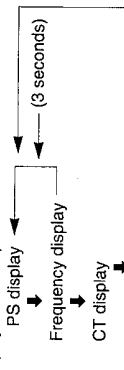


#### Note:

If you wish to stay with the same program, keep REG ON. If you keep REG OFF, there is a higher possibility of returning in 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) to change the display. (Frequency display continues for only 3 seconds, returning to PS display after that.)



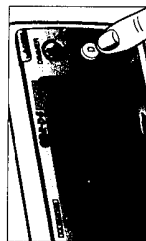
### Clock Time (CT) System

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.



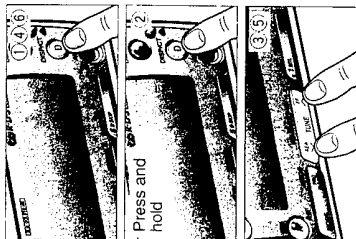
### Clock Display

Press D (DISP) to indicate the clock display.





# RDS (Radio Data System) Reception continued



## Initial Time Setting

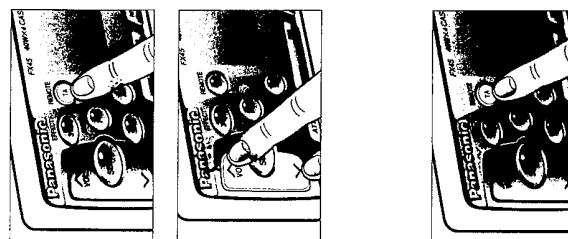
Press **BAND** to change to **AM** mode.

1. Press **D(DISP)** "AM NO CT" is displayed.
2. Press and hold **D(DISP)** again for more than 2 seconds "hours" blinks indicating the time setting mode is activated.
3. To set hours, press "TUNE" or "TUNE".
4. Press **D(DISP)** again for minutes setting.
5. To set minutes, press **TUNE** or "TUNE". Hold "▲" or "▼" change numbers rapidly.
6. When set the time, press **D (DISP)**.

### Notes:

- If CT display is kept on, it remains on even if PWR and ACC are tuned off and back on again.
- In other mode, press **D (DISP)** to get RDS CT-service.

## B. TP Reception



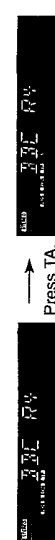
## Select traffic information (TA on) mode

Press **TA** to switch ON and keep it there when you wish to listen to traffic information. Press **TA** to switch OFF when no traffic information is needed.

## Volume Setting (Only for TA on mode)

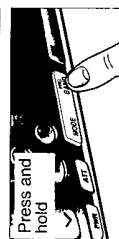
Adjust the volume as desired using "VOL▲" or "▼VOL" while receiving traffic announcement. (TA)  
After volume for traffic announcement (TA) is set, the difference between normal volume and TA volume is automatically stored in the memory (up to 5 levels) so that next traffic information will be received 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 an adjusted level of volume 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.



## TP Seek Tuning

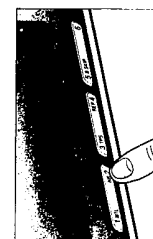
Press "▼TUNE" or "TUNE▲" for more than a half second, then release. The radio automatically stops on the next available TP station.



## Auto TP Station Preset

Press and hold **BAND (AUTO · P)** for more than 2 seconds. The six strongest available TP stations are automatically set in memory on the preset button 1 through 6.

Once set, the preset stations are sequentially scanned for 5 seconds each.



## Tuning in a TP station preset

Press any of the preset buttons 1 through 6 that you want to hear. And then 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.  
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-C/Aux TA on

Press **TA** during tape, CD changer, AUX mode.  
**TA** on mode is selected, while listening to the source in that mode, wait for Traffic Announcement to being.



## Switching to TA off Mode

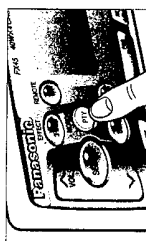
Select either one of the following steps.

- 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-C/AUX **TA** is ON.

# RDS (Radio Data System) Reception continued

## 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 is displayed.



"NO PTY" is shown if there is no corresponding program type.



### Changing PTY Display Language

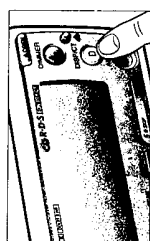
Pressing D(DISP) each time in PTY mode to alternate the language between English and Swedish.

Press D(DISP).



<English>

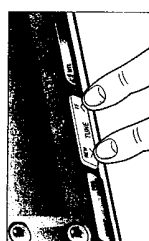
<Swedish>



### Program Type Selection

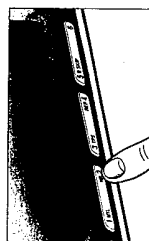
Press "TUNE" or "TUNE/" to select the program type in sequence as follows.

SPEECH - NEWS - AFFAIRS - INFO - SPORT - EDUCATE - DRAMA  
 ROCK M - POP M - MUSIC - 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



### TABLE of PTY CODE and program Type

Press any of the preset buttons 1 through 6 that you want to desire the program type. Those buttons are already stored program types as below. (Initial setting)

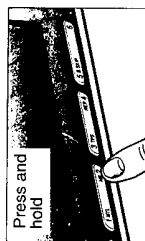


<PRESET PTY>

Preset NO.	1	2	3	4	5	6
Program Type	NEWS	SPEECH	SPORT	POP MUSIC	CLASSICS	MUSIC
Display	NEWS	SPEECH	SPORT	POP M	CLASSICS	MUSIC
	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

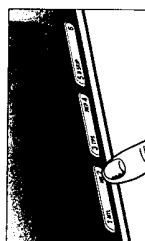
### Program Type Preset

Press and hold one of the buttons 1 through 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 through 6 that you want to hear.

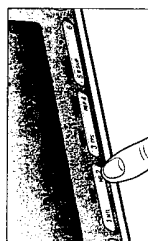


#### Note :

Seek tuning does not operate as long as "NO PTY" is displayed.

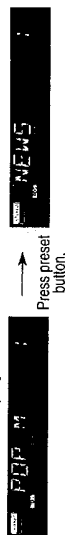
When the desired selection has been made, press BAND. Then automatic seek will start to tune into the station broadcasting the selected program type.

# RDS (Radio Data System) Reception continued



## Searching for PTY

- 1) Select the desired station from among those preset in the preset number buttons 1 through 6. Then, the preset PTY and that preset number are displayed for 5 seconds.

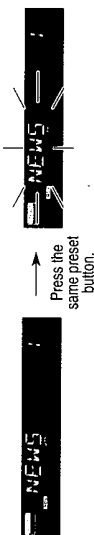


- 2 While the desired type from 6 presets is displayed, take either of the following two steps.

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.

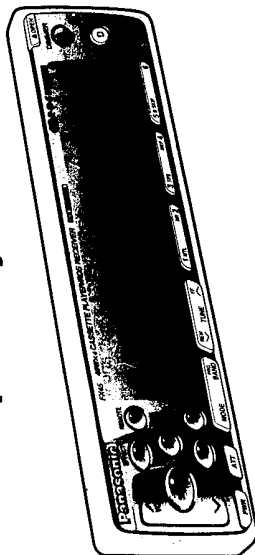
The set returns to the state existing before PTY mode while the receiving frequency remains unchanged.



## Emergency Announcement Reception

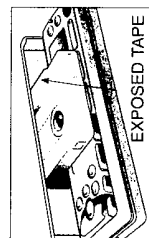
(Some areas are not covered by emergency announcement service.) If an emergency announcement is broadcast during tape/CD changer/AUX mode, the radio is automatically selected to receive the emergency announcement. "ALARM" blinks.

# Cassette Tape Player Basics



## Loading a Cassette

- 1 Press **Δ** (OPEN) to open the front panel.
- 2 Insert the cassette with the exposed tape side facing to the right.
- 3 Close the front panel by hand.



**Note:**

- If the front panel is open with power OFF, the PWR button only is valid.
- If the front panel is open with power ON, cassette insertion and **Δ** (OPEN) button only are valid.



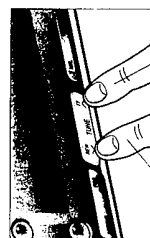
## Rewind and Fast Forward

Press either **REW** to rewind or **FF** to fast forward the tape.

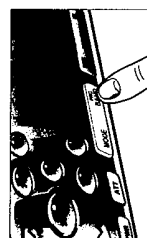


- If you rewind the tape fully, it will play same program side again.
- If you fast forward to the end, play will resume from the beginning of other side of the tape.

To stop rewind or fast forward, press **PRG**.



REWIND FAST FORWARD



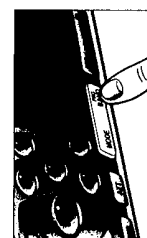
## Changing Sides

Press **PRG** to switch to the program on the other side of the tape.



TOP SIDE PLAYING

BOTTOM SIDE PLAYING



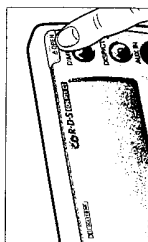
# Cassette Tape Player Basics continued

## Ejecting the Tape

Press  $\Delta$  (OPEN) to open the front panel. Press  $\Delta$  (OPEN) again to eject the cassette for removal, and the previous mode of operation will be resumed.

### Notes:

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



## Blank Skip

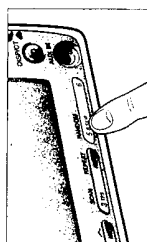
- Press 5 (B-SKIP) to skip long unrecorded portions on the tape.



- Press 5 (B-SKIP) again to cancel.

### 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 portions of the tape is less than 15 seconds.

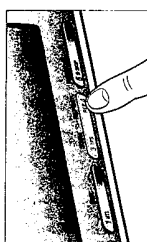


## Repeat Play

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



- Press 4 (REP) again to cancel.

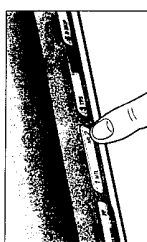


## Dolby Noise Reduction

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



- Press 2 (NR) again to cancel.
- Set the Dolby B NR mode when playing back a tape recorded with Dolby B Noise Reduction.



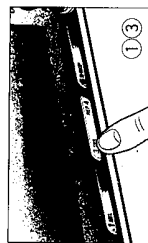
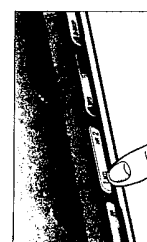
## Metal Tape Mode

- Press 1 (MTL) when playing metal or chromium dioxide (CrO<sub>2</sub>) tapes.

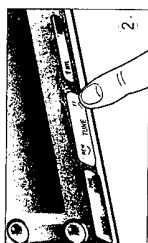


- Press 1 (MTL) again to cancel.

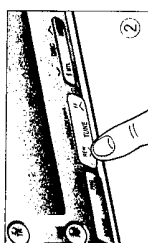
**Note:** Playing non-metal tapes in MTL mode causes high frequency imbalance, which affects tone quality.



Or



Or

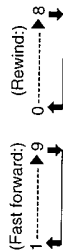


## TPS Operation (Tape Program Search)

- 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 "FF (TUNE^)" several times forward (up to 9 programs) or press "REW (^TUNE)" several times backward (up to 8) to select the corresponding program number.



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



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



EX3. To select the next program backward of the press 3 (TPS) once and press "TUNE^" once.



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

- 3 Press 3 (TPS) again to cancel.

### Note:

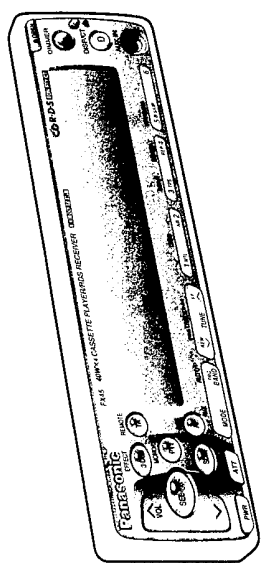
The TPS mode may not work correctly in the following cases. This, however, does not mean that the unit is defective.

- 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.

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

# CD Changer Basics

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



## To start the CD Changer

While CD changer is connected, press MODE to change into the CD changer mode and playback starts automatically.



## Selecting a Disc

Press "V/DISC" or "DISC/\`" to select discs in descending or ascending order.



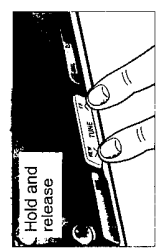
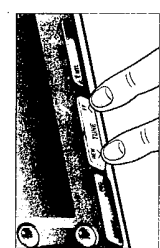
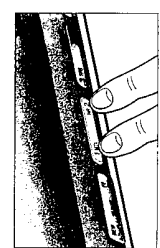
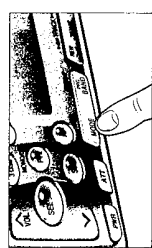
Then, the selected disc will start to play from the first track.

## Selecting a Track

- Press "TRACK >>>" once to go to the next track.
- Press "<<< TRACK" once to play from the beginning of the current track. Press twice to play the previous track.
- Press repeatedly to skip the desired number of tracks.

## Searching a Track

- Press and hold "TRACK <<<" or ">>> TRACK" for more than a half second to activate fast forward or reverse through a track.
- Release "TRACK >>>" or "<<< TRACK" to resume the normal CD play.



## Repeating a Track

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



- Press 4 (REPEAT) again to cancel.

## Random Selection

- Press 5 (RANDOM). A random selection of music is played from all available tracks.



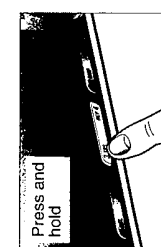
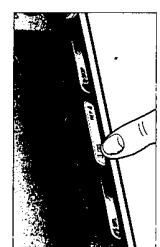
- Press 5 (RANDOM) again to cancel.

**Note:**

The "V/DISC" or "DISC/\`" is operated, has priority over that of Random play mode. The Random mode will stop and the disc select function will operate once the "V/DISC" or "DISC/\`" is pressed.

## Scanning Tracks

- 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.

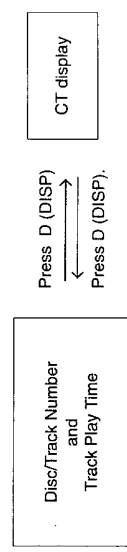


## Scanning Discs

- 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.
- Press and hold 3(SCAN) again for more than 2 seconds to cancel.

## Changing the Display

Press D(DISP) to switch the display in sequence as follows.



# CD Changer Basics

continued

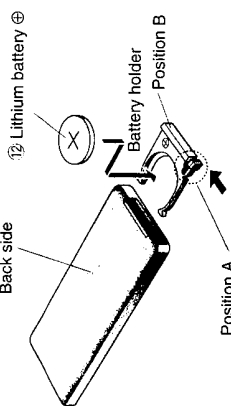
## Error Display Messages

	Displays when the compact disc is dirty or upside down. Selects the next available compact disc.
	Displays when compact disc is scratched. Selects next available compact disc.
	Displays when the unit stops operating for some reason. Press RESET on the CD Changer (optional).
	Displays when there is no disc in the magazine.

# Remote Control Basics

## Battery Replacement:

- Remove the battery holder.**  
Pull the holder by the Position B while pushing Position A in the direction indicated by the arrow.
- Replace the battery.**  
Set a new battery properly with (+) side up as illustrated.
- Insert the battery holder.**  
Push in the holder to the original position.



## Note on Batteries:

Old batteries must immediately be removed and disposed.

Battery Information:

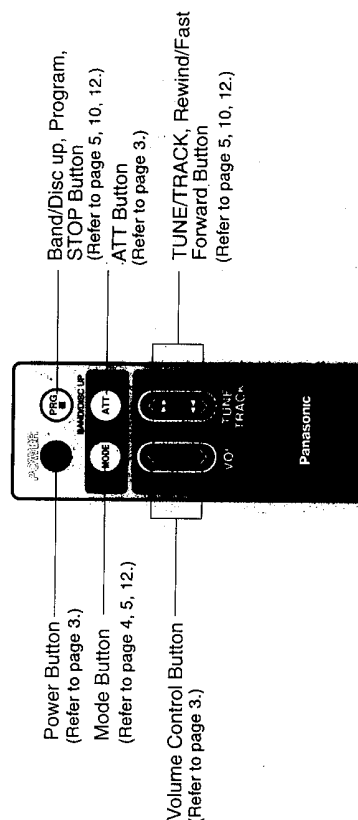
- Designated Battery: Panasonic Lithium Battery (CR2025)
- Battery Life: 6 months with normal use (in normal room temperature)

### Caution:

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

- Do not disassemble or short the batteries. Do not throw the batteries into the fire.
- To avoid the risk of accident, keep the batteries out of reach of children.

## Names of Main Controls



# 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.

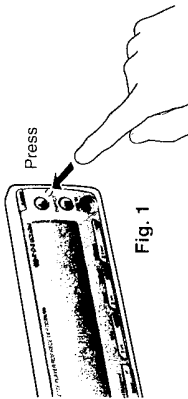


Fig. 1

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

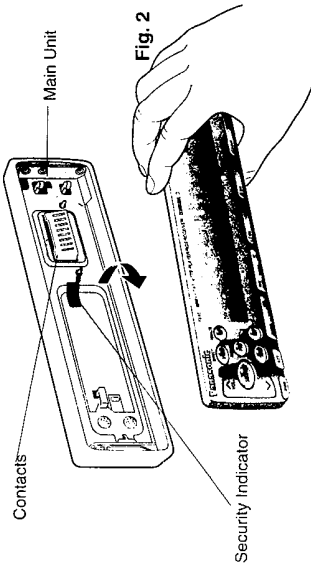


Fig. 2

- 4 As shown in Fig. 3, gently push the lower side of the case and open its cover. Keep the removable face plate in the case. Then, you can bring the plate safely.

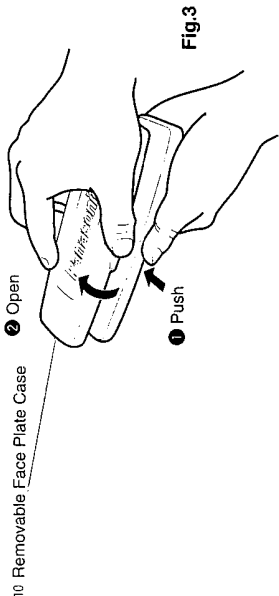


Fig. 3

## To install the Removable Face Plate

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

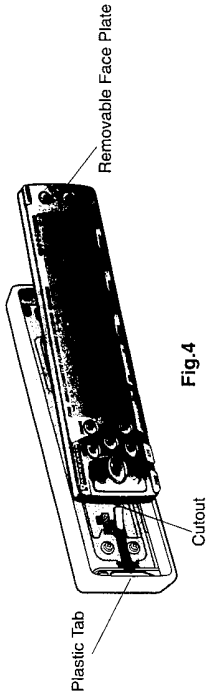


Fig. 4

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

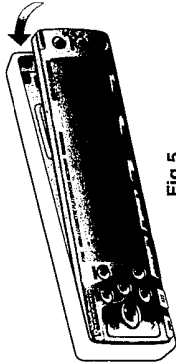


Fig. 5

### 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.
- 7. When installing or removing the Removable Face Plate, keep the front panel closed. The Removable Face Plate cannot be installed or removed when the front panel is open. Its forcible mounting or removal will cause trouble.

# Anti-Theft System continued

## Warning Alarm/Horn Alert

### Caution

This car radio is equipped with an integrated Warning Alarm & Horn Alert 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 & Horn Alert 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 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"/"Horn Alert" will be secured. If the main unit is not correctly wired and installed, the system may accidentally sound the alarm.

## Warning Alarm, Horn Alert and Security Indicator

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

1. Press and hold SEL for more than 4 seconds when the power is ON. "ALARM ON" is displayed, and the security indicator and Warning Alarm turn ON.

**Note:** The ALARM mode is inactivated when it is shipped.

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	Blinks	Warning Alarm	Horn Alert	Panel Removal Alarm
ALARM ON	ON	ON	ON	ON	ON
ALARM OFF	OFF	OFF	OFF	OFF	OFF

(Press and hold SEL for more than 4 seconds.)

### Caution:

1. Warning Alarm and Horn Alert 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.
2. If the main unit is not correctly wired and installed, the system may accidentally sound the alarm.
3. When removing or installing the unit, make sure that it is in the ALARM OFF mode.

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 steps of procedure.

- Install the removable face plate.
- Disconnect the power connector.

## 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).

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

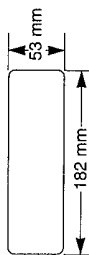


Fig. 1

## 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 34 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 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 Hardwares

No.	Item	Diagram	Q'ty
①	Mounting Collar		1
②	Plain Washer (5 mmφ)		2
③	Spring Washer (5 mmφ)		2
④	Hex. Nut (5 mmφ)		2
⑤	Rear Support Strap		1
⑥	Hex. Bolt (5 mmφ x 25 mm)		1
⑦	Toothed Lock Washer (5 mmφ)		1

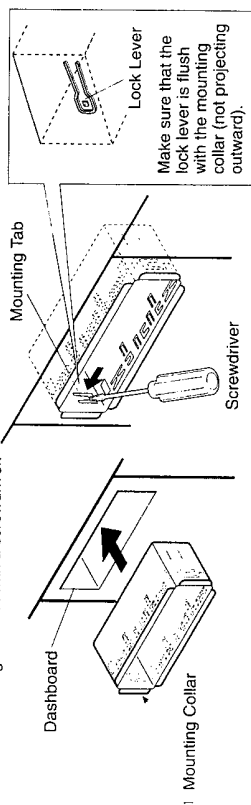
No.	Item	Diagram	Q'ty
⑧	Mounting Bolt (5 mmφ)		1
⑨	Power Connector		1
⑩	Removable Face Plate Case		1
⑪	Remote Control Unit		1
⑫	Lithium Battery (CR2025)		1
⑬	Dismounting Plate		1
⑭	Trim Plate		1



## Installation continued

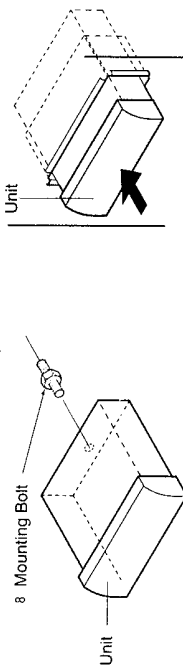
### Installation Procedures

- 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 ⑧, using a suitable wrench.  
c) Insert the unit into Mounting Collar ① and push it in until "click" is heard.



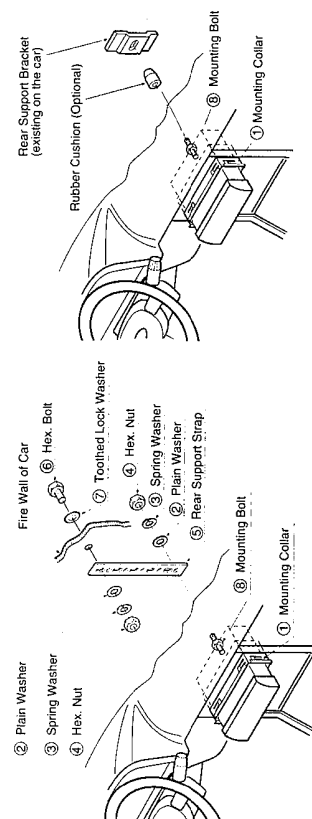
- d) Secure the rear of the unit to the car by either of the two recommended methods.

■ **Using the Rear Support Strap ⑤**

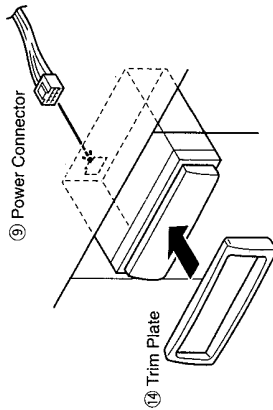
Affix one end of the Rear Support Strap ⑤ to the rear of the unit, and the other end to the Fire Wall of Car, or some other metallic area.

■ **Using the Rubber Cushion (Optional)**

(If there is an existing Rear Support Bracket on the Fire Wall of Car.)  
Cover Mounting Bolt ⑧ on the rear of the unit with Rubber Cushion (Optional), and mount it into the existing Rear Support Bracket.



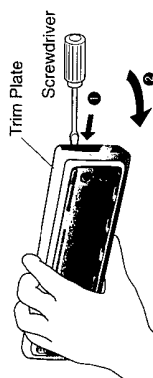
3. a) Plug the Power Connector ⑨.  
b) Install the Trim Plate ⑭.



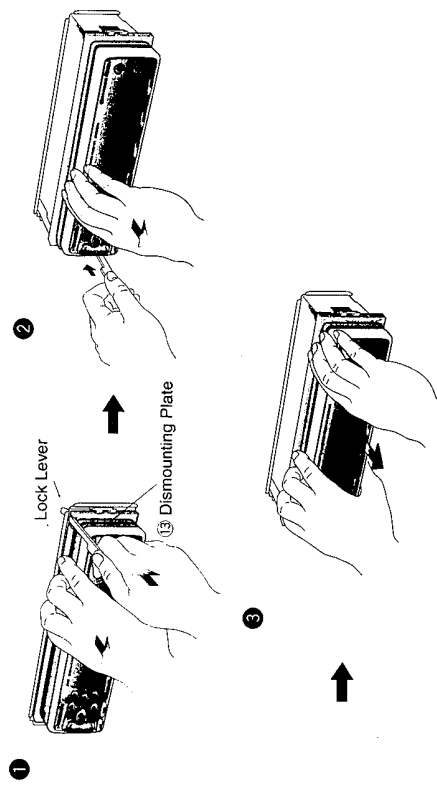
4. After installation reconnect the negative (-) battery terminal.

**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 lock lever using Dismounting Plate ⑬.  
c) Remove the unit pulling with both hands.

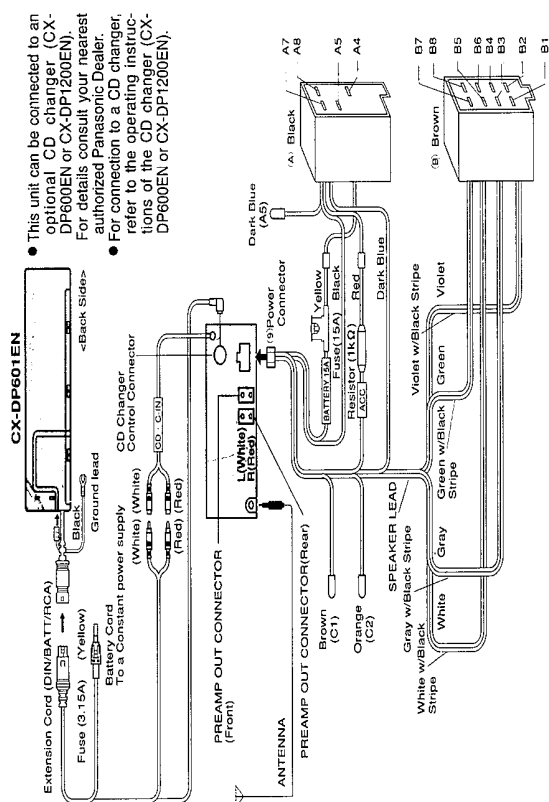


**Note:** Do not lose the Dismounting Plate. It will be needed to remove the unit from the car's dashboard.

# Electrical Connection

## Caution:

- Confirm the note on page 3, and make connections to the connectors on car side.
- 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. (the cords 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.



- This unit can be connected to an optional CD changer (CX-DP600EN or CX-DP1200EN). For details consult your nearest authorized Panasonic Dealer.
- For connection to a CD changer, refer to the operating instructions of the CD changer (CX-DP600EN or CX-DP1200EN).

## 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)

**A4**  
**BATTERY LEAD** (To Battery of Car) (Yellow)  
Connect to the "BAT" terminal on the fuse block of the car. The power should be supplied continuously to the yellow leads regardless of the on/off position of the ignition key.

**A5**  
**MOTOR ANTENNA RELAY CONTROL LEAD** (Dark Blue)  
(To Motor Antenna) (Max. 500mA)  
This lead is not intended for use with switch actuated power antenna.

**AMP-RELAY CONTROL POWER LEAD**  
This lead is for connection to Panasonic power amplifier.

**A7**  
**POWER LEAD** (Red)  
Connect to the "radio" power line of the car or to the "IGN" or "ACC" terminal of the fuse block.

**C2**  
**TELEPHONE MUTE LEAD** (Orange)  
(To car telephone mute line)  
**TELEPHONE MUTE**  
The telephone mute lead, if connected to the car telephone mute line, will activate the muting circuit and the sound from the speakers cannot be heard while the telephone conversation is in progress.  
Note: The telephone mute lead is for connection only to the radio mute line. Be sure to ascertain this because it will not work with other type of output system.

**A8**  
**GROUND LEAD** (Black)  
Connect to a well grounded metallic part of your car.

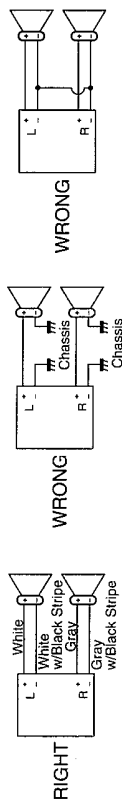
**C1**  
**Horn Alert CONTROL LEAD** (Brown)  
(To Horn Alert UNIT) (CA-HAL1EN)

# Speaker Connections

## CAUTION:

- Use ungrounded speakers only.
- 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.
- 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.
- 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.
- The speaker cords and the power amplifier unit should be kept away (about 30cm apart) from the antenna and antenna extension cord.
- 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.

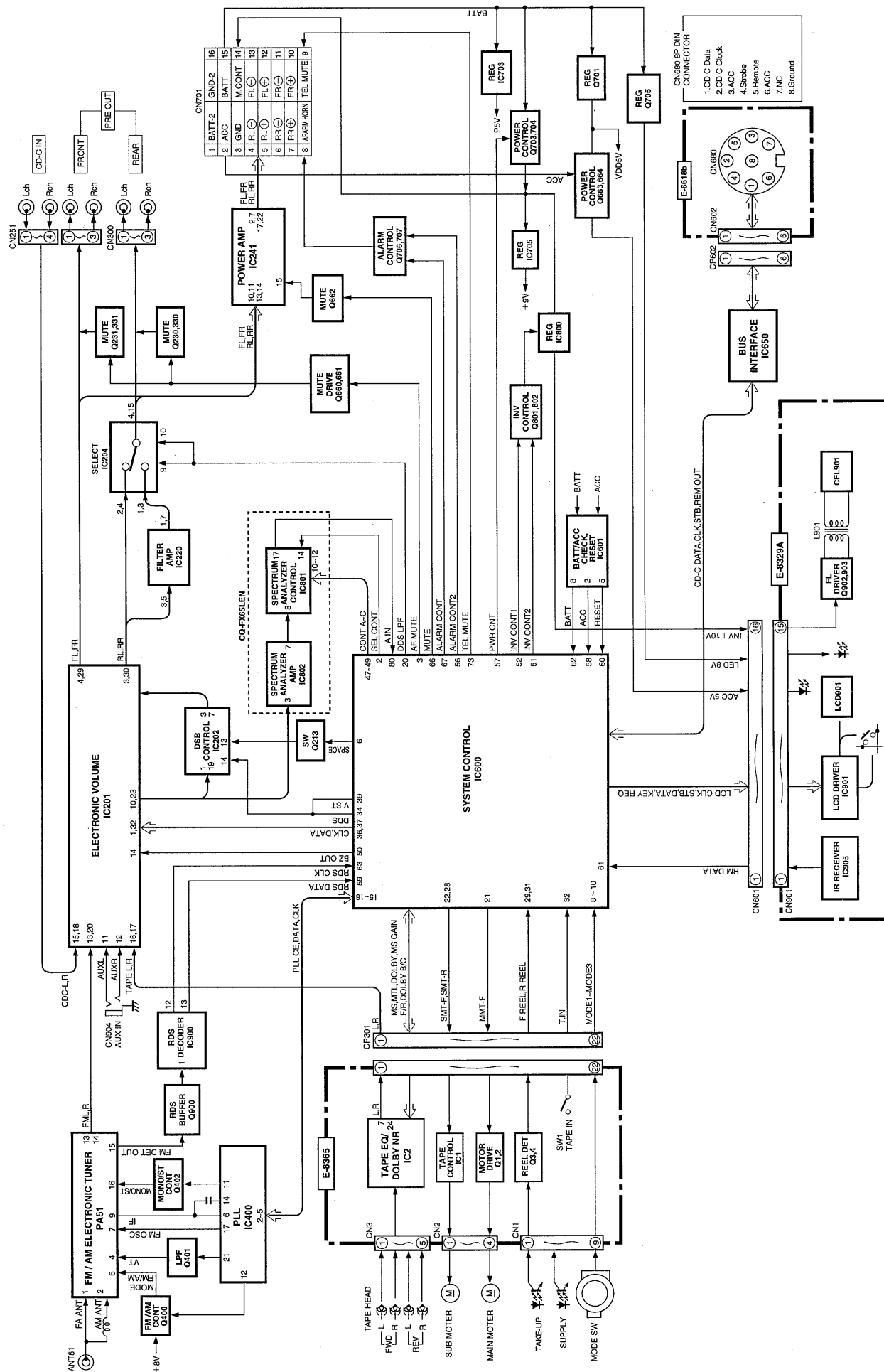


- Do not connect more than one speaker to one set of speaker leads.





# BLOCK DIAGRAM MODELS CQ-FX65LEN/CQ-FX45LEN

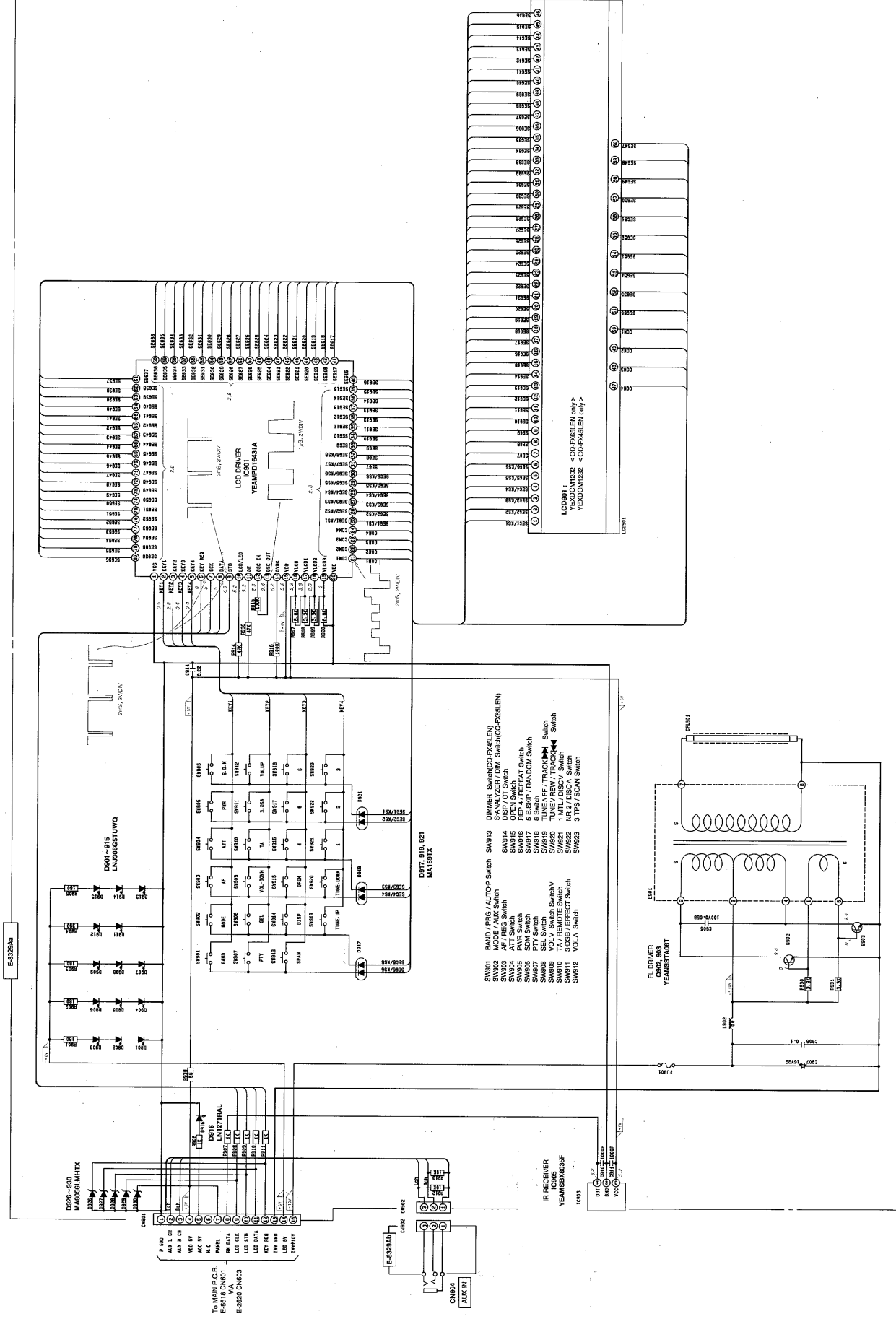


Full-Flap Face High-Power Cassette Player/RDS Receiver

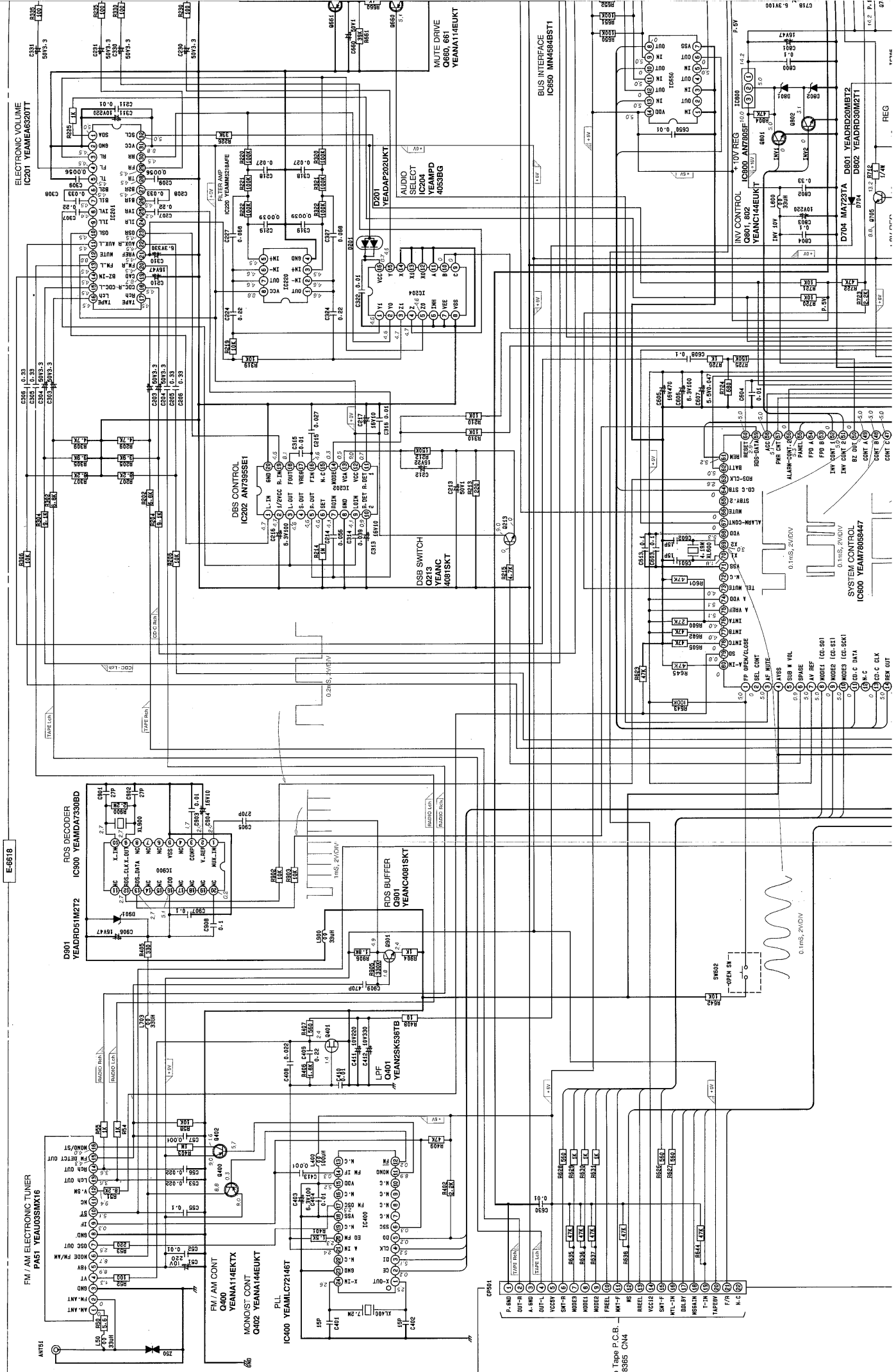
CQ-FX65LEN  
CQ-FX45LEN

CQ-FX65LEN  
CQ-FX45LEN

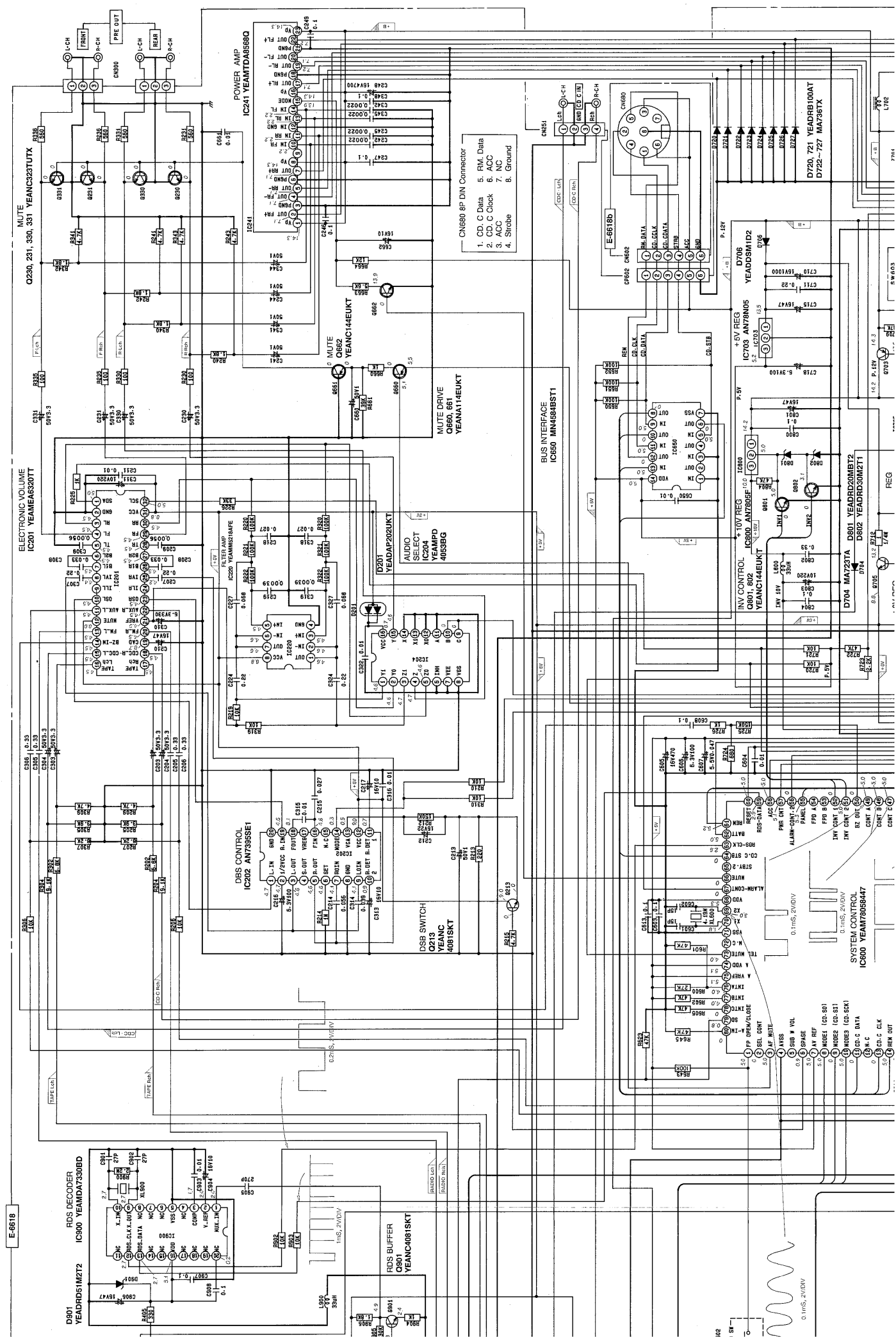
# SCHEMATIC DIAGRAM / SCHALTBLT (Display Block) MODELS CQ-FX65LEN/CQ-FX45LEN



# SCHEMATIC DIAGRAM (Main Block) MODEL CQ-FX45EW

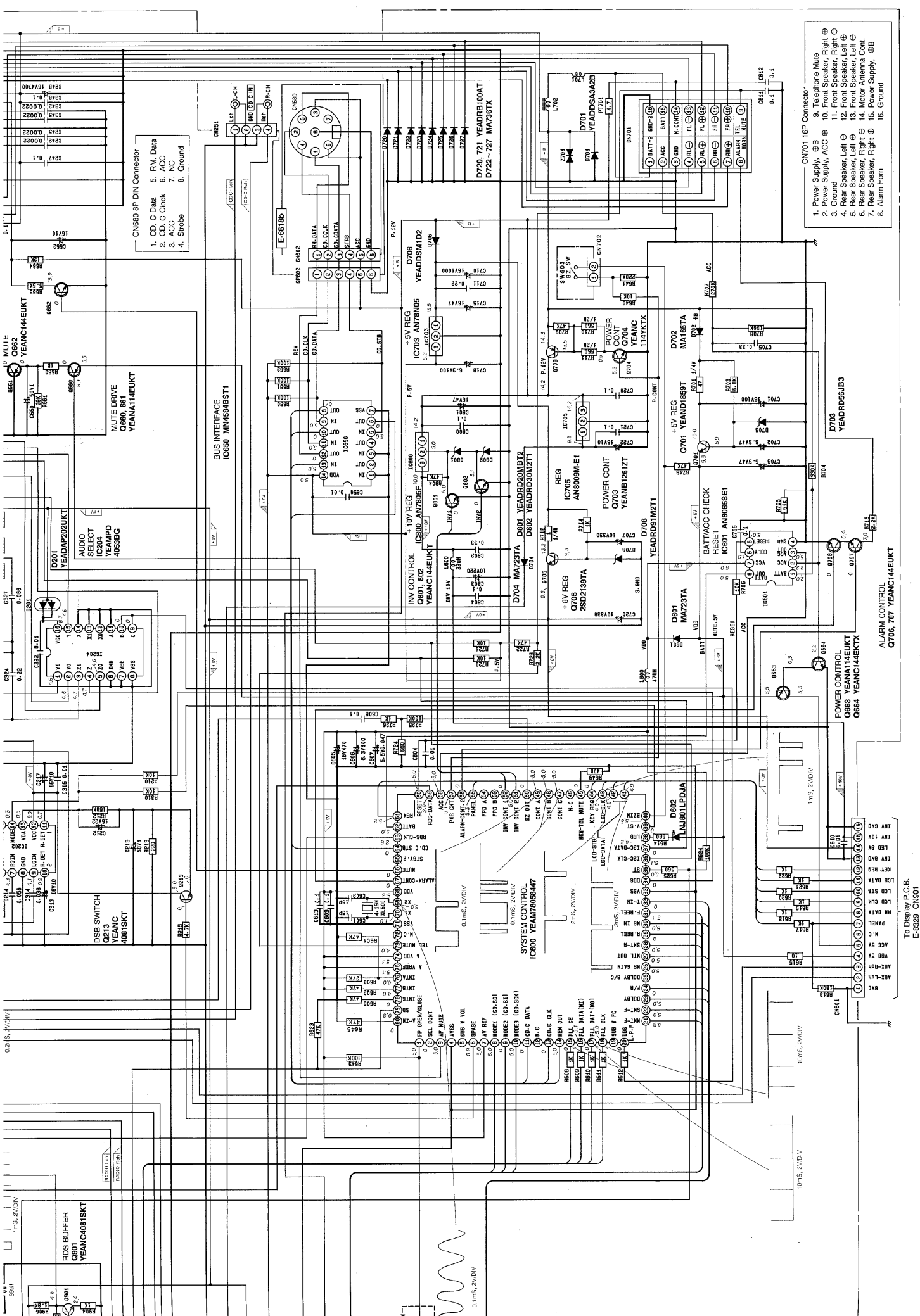


To Tape P.C.B.  
E-8365 ON4









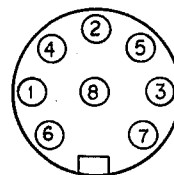
# WIRING DIAGRAM (Main Block) MODEL CQ-FX45EW

Q230	Q230, 231	Q330, 331	Q400	Q401	Q402
B 0V	B 0V	B 0V	B 0.3V	G 1.4V	B 5.7V
C 9.0V	C 0V	C 0V	C 8.8V	D 2.4V	C 1.6V
E 0V	E 0V	E 0V	E 9.0V	S 0V	E 9.0V

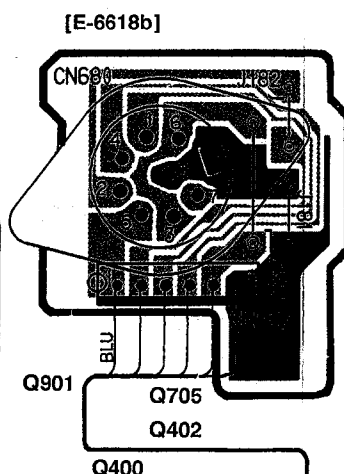
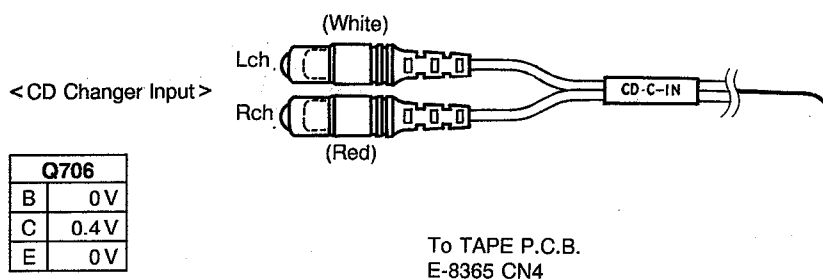
Q662	Q663	Q664	Q701	Q703	Q704
B 0V	B 0.3V	B 2.2V	B 5.9V	B 13.5V	B 5.2V
C 13.9V	C 5.3V	C 0.3V	C 13.0V	C 14.2V	C 0.5V
E 0V	E 5.3V	E V	E 5.3V	E 14.3V	E 0V

Q707	Q801	Q802	Q901	Q660	Q661
B 0V	B 0V	B 0V	B 1.8V	B 5.1V	B 0V
C 3.0V	C 5.0V	C 3.1V	C 4.9V	C 0V	C 0V
E 0.4V	E 0V	E 0V	E 2.4V	E 5.5V	E 0V

Q705	Q706
B 9.3V	B 0V
C 13.2V	C 0.4V
E 8.8V	E 0V



1. CD. C Data
2. CD. C Clock
3. ACC
4. Strobe
5. RM. Data
6. ACC
7. NC
8. Ground



[E-6618]

PA51

Q401

Q400

IC201

CJ702

GRY

2

RED

1

IC202

IC204

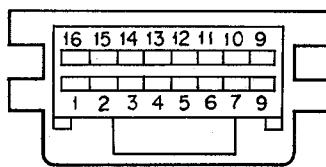
IC220

Q213

IC900

1. CD. C Data
2. CD. C Clock
3. ACC
4. Strobe
5. RM. Data
6. ACC
7. NC
8. Ground

— CN701 16P Connector —



- |                          |                            |
|--------------------------|----------------------------|
| 1. Power Supply, ⊕B      | 9. Telephone Mute          |
| 2. Power Supply, ACC ⊕   | 10. Front Speaker, Right ⊕ |
| 3. Ground                | 11. Front Speaker, Right ⊖ |
| 4. Rear Speaker, Left ⊖  | 12. Front Speaker, Left ⊕  |
| 5. Rear Speaker, Left ⊕  | 13. Front Speaker, Left ⊖  |
| 6. Rear Speaker, Right ⊖ | 14. Motor Antenna Cont.    |
| 7. Rear Speaker, Right ⊕ | 15. Power Supply, ⊕B       |
| 8. Alarm Horn            | 16. Ground                 |

<CONNECTOR A>

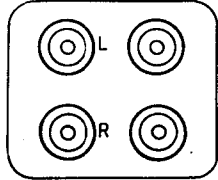
- |                            |             |
|----------------------------|-------------|
| A4 : Power Supply, ⊕B      | (Yellow)    |
| A5 : Motor Antenna Control | (Dark Blue) |
| A7 : Power Supply, ACC     | (Red)       |
| A8 : Ground                | (Black)     |

<CONNECTOR B>

- |                             |                |
|-----------------------------|----------------|
| B1 : Rear Speaker, Right ⊕  | (Violet)       |
| B2 : Rear Speaker, Right ⊖  | (Violet/Black) |
| B3 : Front Speaker, Right ⊕ | (Gray)         |
| B4 : Front Speaker, Right ⊖ | (Gray/Black)   |
| B5 : Front Speaker, Left ⊕  | (White)        |
| B6 : Front Speaker, Left ⊖  | (White/Black)  |
| B7 : Rear Speaker, Left ⊕   | (Green)        |
| B8 : Rear Speaker, Left ⊖   | (Green/Black)  |

CN300

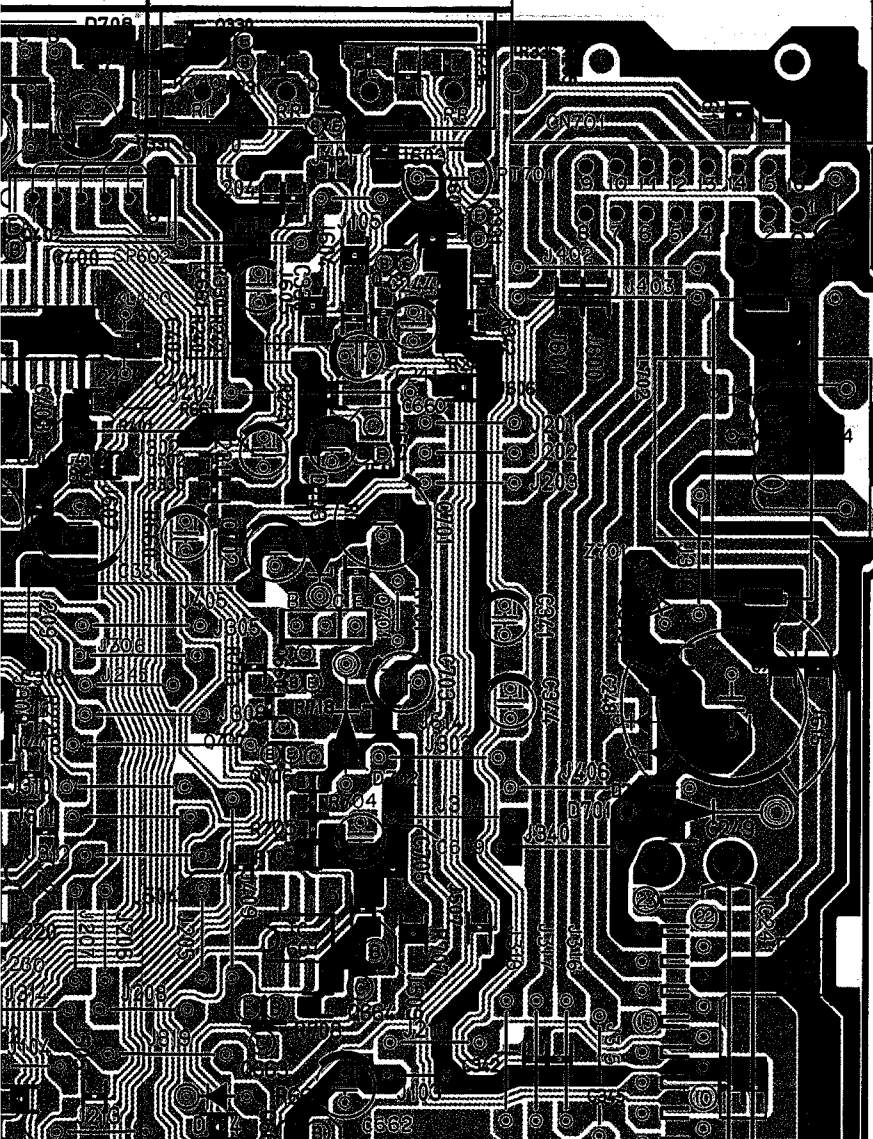
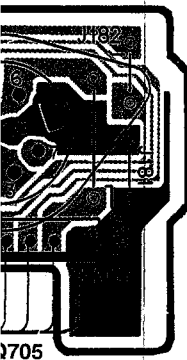
REAR FRONT



IC703	
1	13.5 V
2	0 V
3	5.2 V
IC705	
1	9.3 V
2	0 V
3	14.2 V

IC800	
1	14.2 V
2	5.0 V
3	0 V

IC201			
1	5.0 V	17	4.5 V
2	0 V	18	4.5 V
3	4.5 V	19	8.7 V
4	4.5 V	20	4.5 V
5	4.5 V	21	5.0 V
6	4.5 V	22	0 V
7	4.5 V	23	4.5 V
8	4.5 V	24	—
9	—	25	4.2 V
10	4.5 V	26	4.5 V
11	4.5 V	27	4.5 V
12	8.8 V	28	4.5 V
13	4.5 V	29	4.5 V
14	4.5 V	30	4.5 V
15	4.5 V	31	8.8 V
16	4.5 V	32	5.0 V



Q330  
Q230  
Q331  
Q231

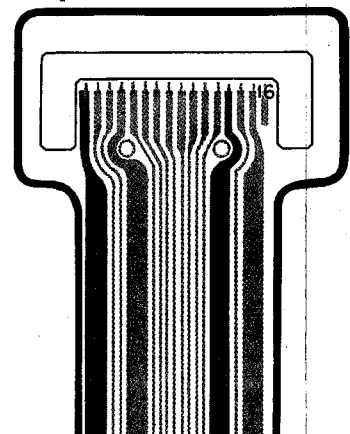
IC400  
Q661

Q701  
Q660  
Q707

IC601  
IC241  
Q664

Q663  
Q662

[E-2620]

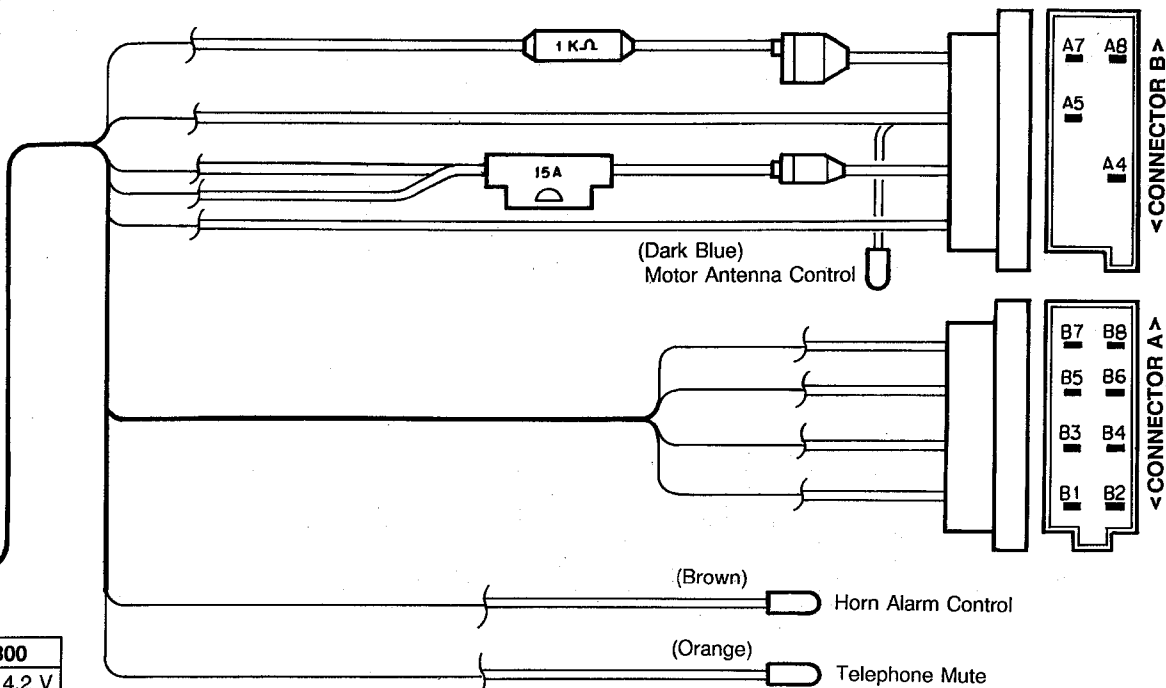


DBB (Yellow)  
Control (Dark Blue)  
ACC (Red)  
(Black)

ghtB⊕ (Violet)  
ghtB⊖ (Violet/Black)  
ght⊕ (Gray)  
ght⊖ (Gray/Black)  
ft⊕ (White)  
ft⊖ (White/Black)  
t⊕ (Green)  
t⊖ (Green/Black)

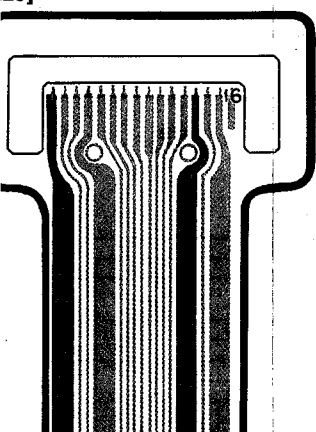
IC703	
1	13.5 V
2	0 V
3	5.2 V
IC705	
1	9.3 V
2	0 V
3	14.2 V

IC201			
1	5.0 V	17	4.5 V
2	0 V	18	4.5 V
3	4.5 V	19	8.7 V
4	4.5 V	20	4.5 V
5	4.5 V	21	5.0 V
6	4.5 V	22	0 V
7	4.5 V	23	4.5 V
8	4.5 V	24	—
9	—	25	4.2 V
10	4.5 V	26	4.5 V
11	4.5 V	27	4.5 V
12	8.8 V	28	4.5 V
13	4.5 V	29	4.5 V
14	4.5 V	30	4.5 V
15	4.5 V	31	8.8 V
16	4.5 V	32	5.0 V

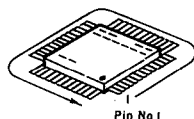


Pin	PA51	IC202	IC204	IC220	IC241	IC400	IC601	IC650	IC900
1	0V	4.7V	4.6V	4.6V	14.3V	2.5V	2.0V	0V	2.4V
2	0V	4.7V	4.6V	4.6V	7.1V	0.2V	2.2V	—	2.4V
3	0V	4.6V	4.7V	4.5V	0V	5.1V	5.0V	0V	1.7V
4	1.3V	—	4.7V	0V	7.1V	5.2V	0V	—	—
5	8.9V	4.6V	4.6V	4.5V	7.1	0.2V	5.0V	5.0V	0V
6	8.7V	4.6V	0V	4.6V	0V	0.3V	1.9V	0V	—
7	2.5V	4.1V	0V	4.6V	7.1V	—	5.0V	0V	—
8	0V	0V	0V	8.8V	14.3V	—	5.0V	0V	—
9	0.3V	4.1V	0V	—	—	—	5.0V	2.7V	—
10	5.1V	0.9V	0V	—	2.2V	—	0V	2.7V	—
11	—	0.7V	0V	—	2.2V	8.9V	5.0V	—	—
12	9.4V	9.0V	0V	—	0V	0.2V	0V	2.7V	—
13	3.6V	0.5V	0V	—	2.2V	—	5.0V	2.7V	—
14	4.3V	0.3V	0V	—	2.2V	0.3V	5.0V	—	—
15	4.0V	—	4.6V	—	13.9V	5.2V	—	—	—
16	—	4.6V	8.7V	—	14.3V	—	—	5.1V	—
17	—	—	—	—	7.1V	2.5V	—	—	—
18	—	8.1V	—	—	0V	0V	—	—	—
19	—	4.6V	—	—	7.2V	—	—	—	—
20	—	0V	—	—	7.1V	2.3V	—	—	0.2V
21	—	—	—	—	0V	2.4V	—	—	—
22	—	—	—	—	7.2V	—	—	—	—
23	—	—	—	—	14.3V	0V	—	—	—
24	—	—	—	—	V	2.6V	—	—	—

IC201



## ICs & Transistors



IC600 80Pin



IC703 3Pin



• Q701

C	13.2V	C	0.4V
E	8.8V	E	0V

To TAPE P.C.B.  
E-8365 CN4

Q901	Q705
	Q402
Q400	

[E-6618]

PA51

Q401

Q400

IC201

CJ702

GRY 2  
RED 1

IC202

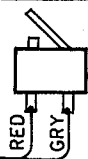
IC204

IC220

Q213

IC900

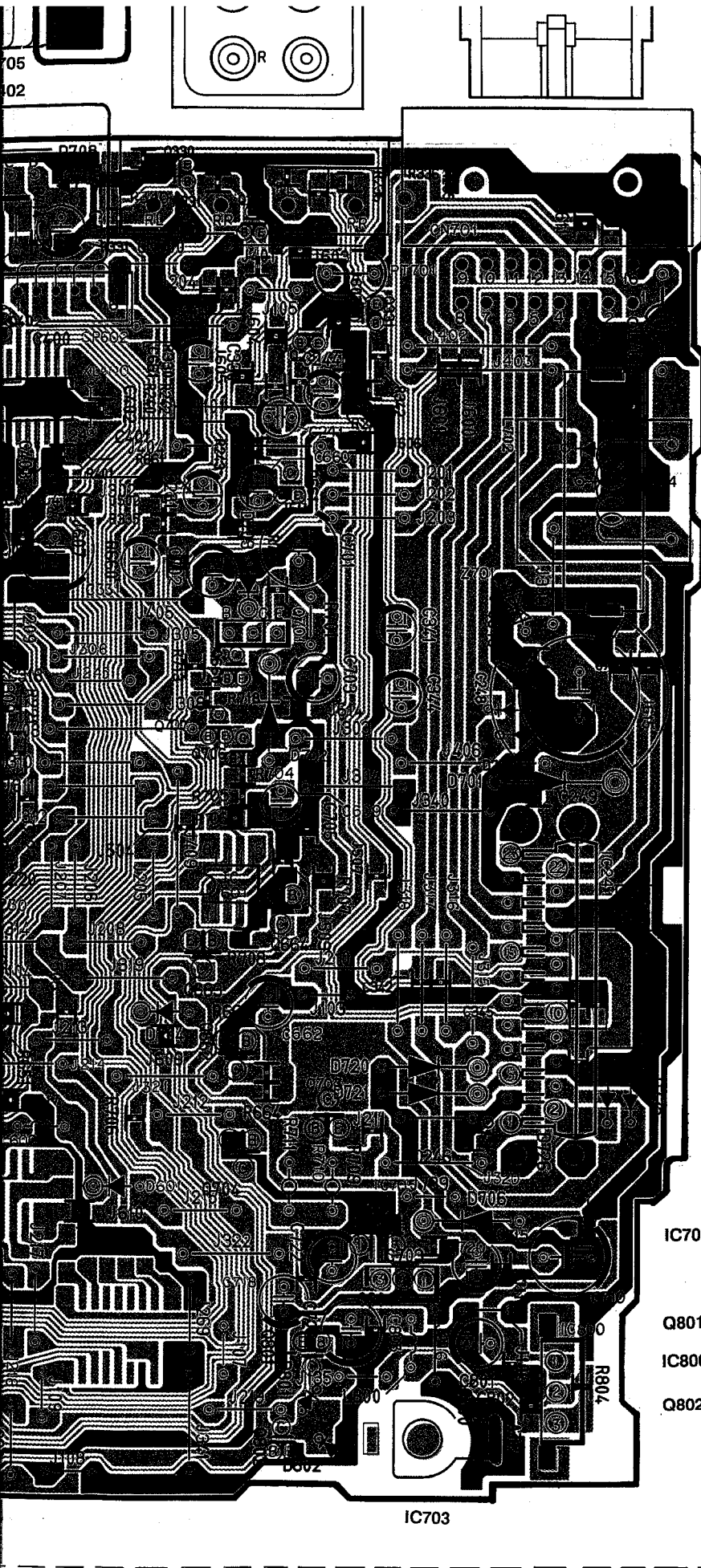
SW602  
OPEN  
SWITCH



SW603  
BZ SW

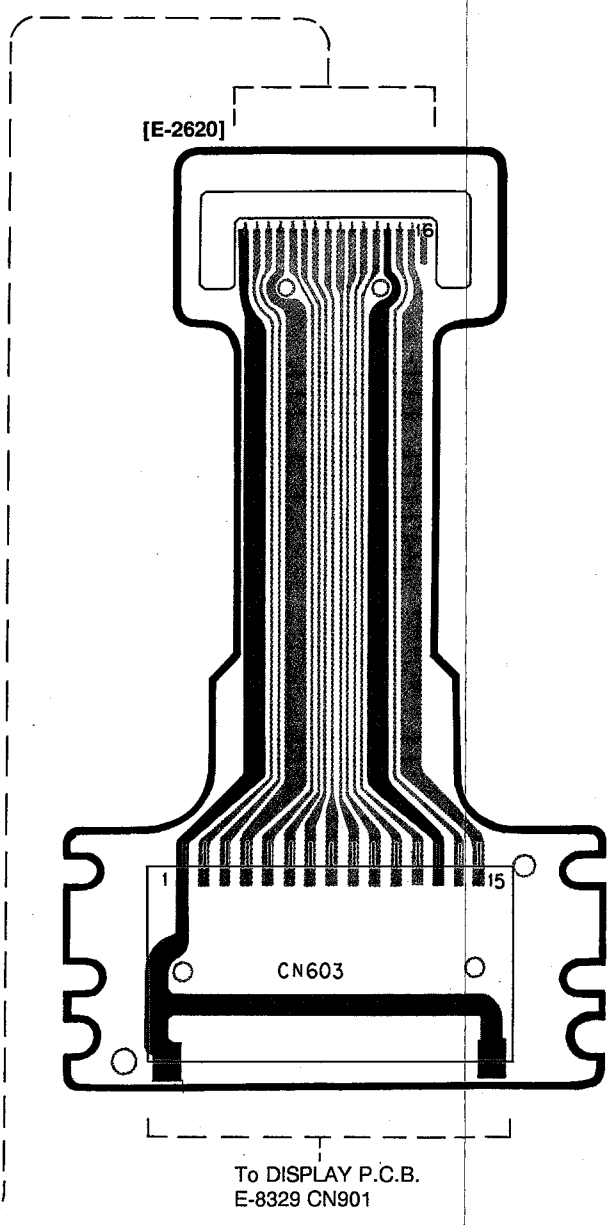
IC600

IC650



3	5.2 V	3	0 V
IC705			
1	9.3 V		
2	0 V		
3	14.2 V		

IC201			
1	5.0 V	17	4.5 V
2	0 V	18	4.5 V
3	4.5 V	19	8.7 V
4	4.5 V	20	4.5 V
5	4.5 V	21	5.0 V
6	4.5 V	22	0 V
7	4.5 V	23	4.5 V
8	4.5 V	24	—
9	—	25	4.2 V
10	4.5 V	26	4.5 V
11	4.5 V	27	4.5 V
12	8.8 V	28	4.5 V
13	4.5 V	29	4.5 V
14	4.5 V	30	4.5 V
15	4.5 V	31	8.8 V
16	4.5 V	32	5.0 V



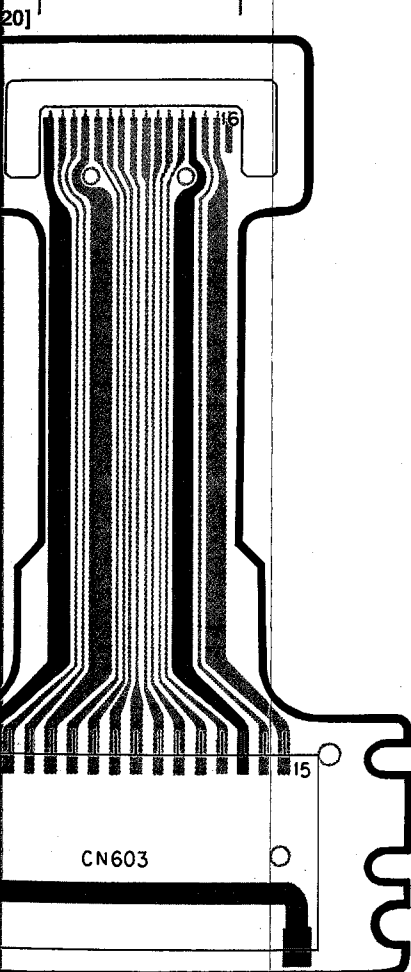


3	5.2 V	3	0 V
---	-------	---	-----

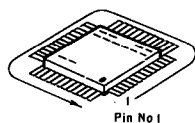
IC705	
1	9.3 V
2	0 V
3	14.2 V

IC201			
1	5.0 V	17	4.5 V
2	0 V	18	4.5 V
3	4.5 V	19	8.7 V
4	4.5 V	20	4.5 V
5	4.5 V	21	5.0 V
6	4.5 V	22	0 V
7	4.5 V	23	4.5 V
8	4.5 V	24	—
9	—	25	4.2 V
10	4.5 V	26	4.5 V
11	4.5 V	27	4.5 V
12	8.8 V	28	4.5 V
13	4.5 V	29	4.5 V
14	4.5 V	30	4.5 V
15	4.5 V	31	8.8 V
16	4.5 V	32	5.0 V

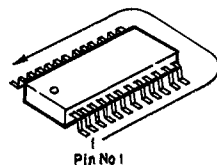
Pin	PA51	IC202	IC204	IC220	IC241	IC400	IC601	IC650	IC900
1	0V	4.7V	4.6V	4.6V	14.3V	2.5V	2.0V	0V	2.4V
2	0V	4.7V	4.6V	4.6V	7.1V	0.2V	2.2V	—	2.4V
3	0V	4.6V	4.7V	4.5V	0V	5.1V	5.0V	0V	1.7V
4	1.3V	—	4.7V	0V	7.1V	5.2V	0V	—	—
5	8.9V	4.6V	4.6V	4.5V	7.1	0.2V	5.0V	5.0V	0V
6	8.7V	4.6V	0V	4.6V	0V	0.3V	1.9V	0V	—
7	2.5V	4.1V	0V	4.6V	7.1V	—	5.0V	0V	—
8	0V	0V	0V	8.8V	14.3V	—	5.0V	0V	—
9	0.3V	4.1V	0V	—	—	—	5.0V	2.7V	—
10	5.1V	0.9V	0V	—	2.2V	—	—	0V	2.7V
11	—	0.7V	0V	—	2.2V	8.9V	—	5.0V	—
12	9.4V	9.0V	0V	—	0V	0.2V	—	0V	2.7V
13	3.6V	0.5V	0V	—	2.2V	—	—	5.0V	2.7V
14	4.3V	0.3V	0V	—	2.2V	0.3V	—	5.0V	—
15	4.0V	—	4.6V	—	13.9V	5.2V	—	—	—
16	—	4.6V	8.7V	—	14.3V	—	—	—	5.1V
17	—	—	—	—	7.1V	2.5V	—	—	—
18	—	8.1V	—	—	0V	0V	—	—	—
19	—	4.6V	—	—	7.2V	—	—	—	—
20	—	0V	—	—	7.1V	2.3V	—	—	0.2V
21	—	—	—	—	0V	2.4V	—	—	—
22	—	—	—	—	7.2V	—	—	—	—
23	—	—	—	—	14.3V	0V	—	—	—
24	—	—	—	—	V	2.6V	—	—	—



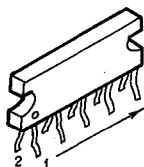
### ICs & Transistors



IC600 80Pin



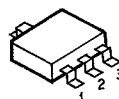
IC201	32Pin
IC202, 900	20Pin
IC204	16Pin
IC220, 601	8Pin
IC400	24Pin
IC650	14Pin



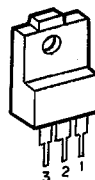
IC241 23Pin



IC703 3Pin



IC705 3Pin



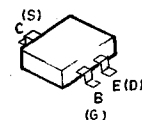
IC800 3Pin



• Q701



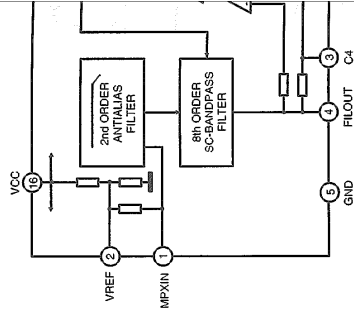
• Q705



• Other transistors

<Main Block 2/2>

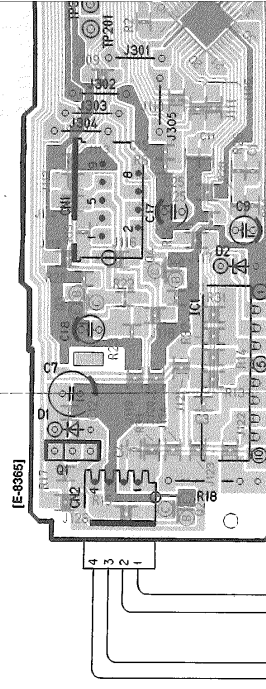
- IC900 YEAMDA7330E



● IC241 YEAMTDA8568Q

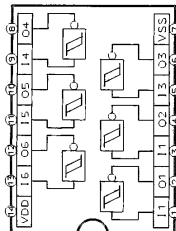


- 

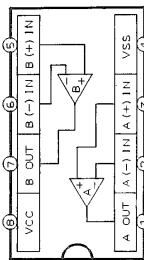




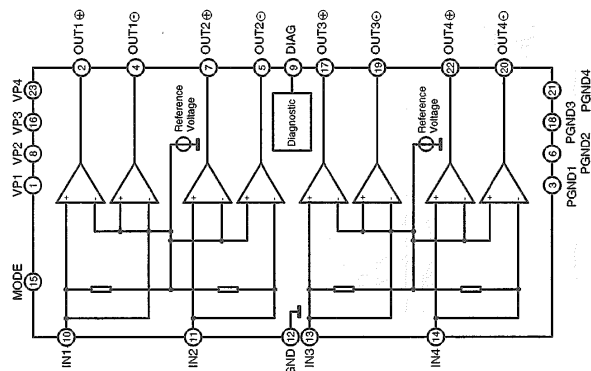
● IC650 MN4584BST1



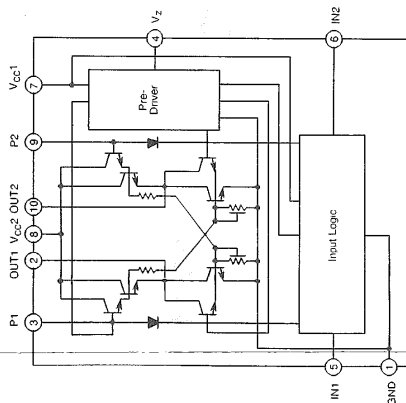
- IC220, 802 YEAM5218AFE



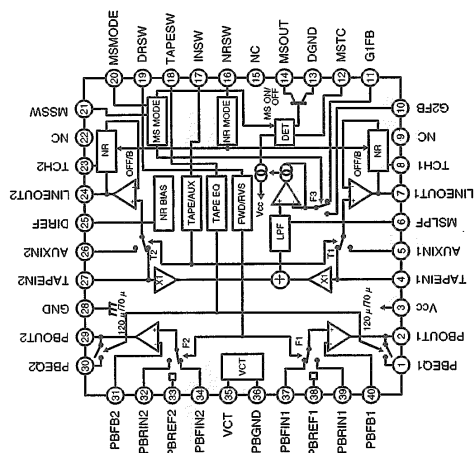
● IC241 YEAMTDA8568Q



● IC1 YEAMLB1641

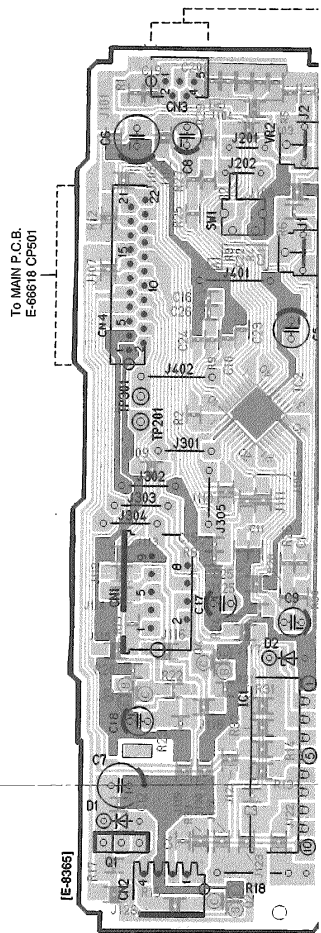
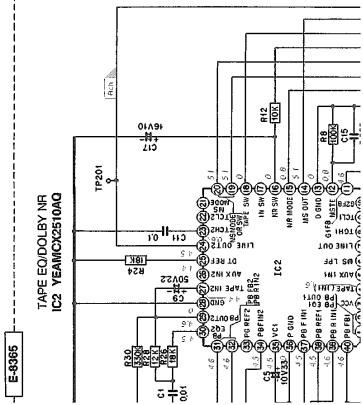


● IC2 YEAMCX2510AQ



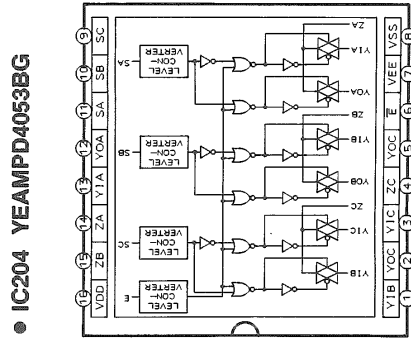
**WIRING DIAGRAM (Tape Block) MODEL CQ-FX45EW**

## DEL CQ-FX45EW

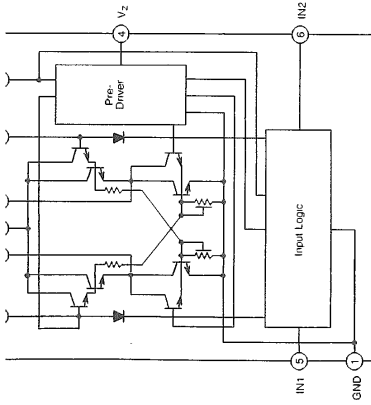
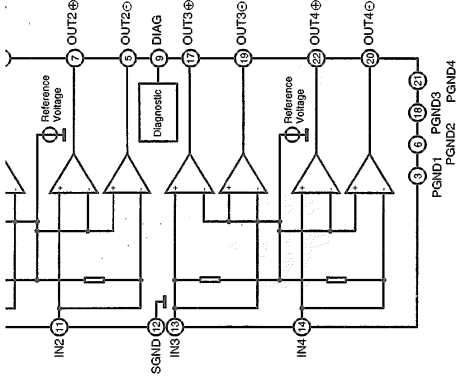
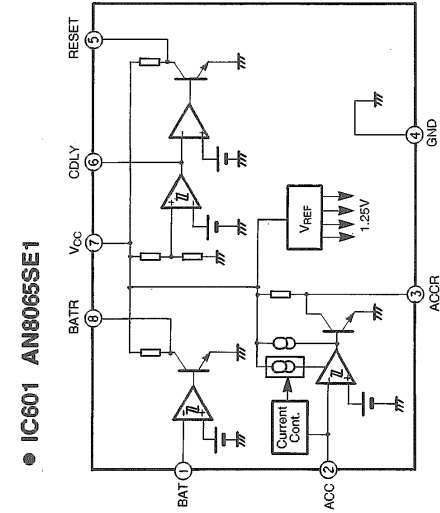


IC2	
1	4.25 V 21
2	4.5 V 22
3	8.9 V 23
4	4.6 V 24
5	—
6	26
7	4.5 V 27
8	0.8 V 28
9	0 V 29
10	4.7 V 30
11	4.6 V 31
12	0.8 V 32
13	0 V 33
14	5.1 V 34
15	0.8 V 35

● IC204 YEAMPD4053BG

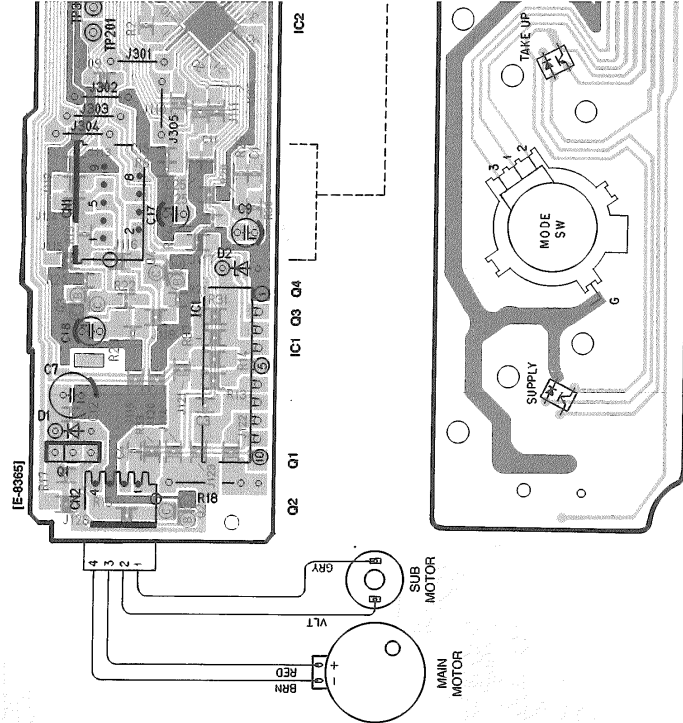
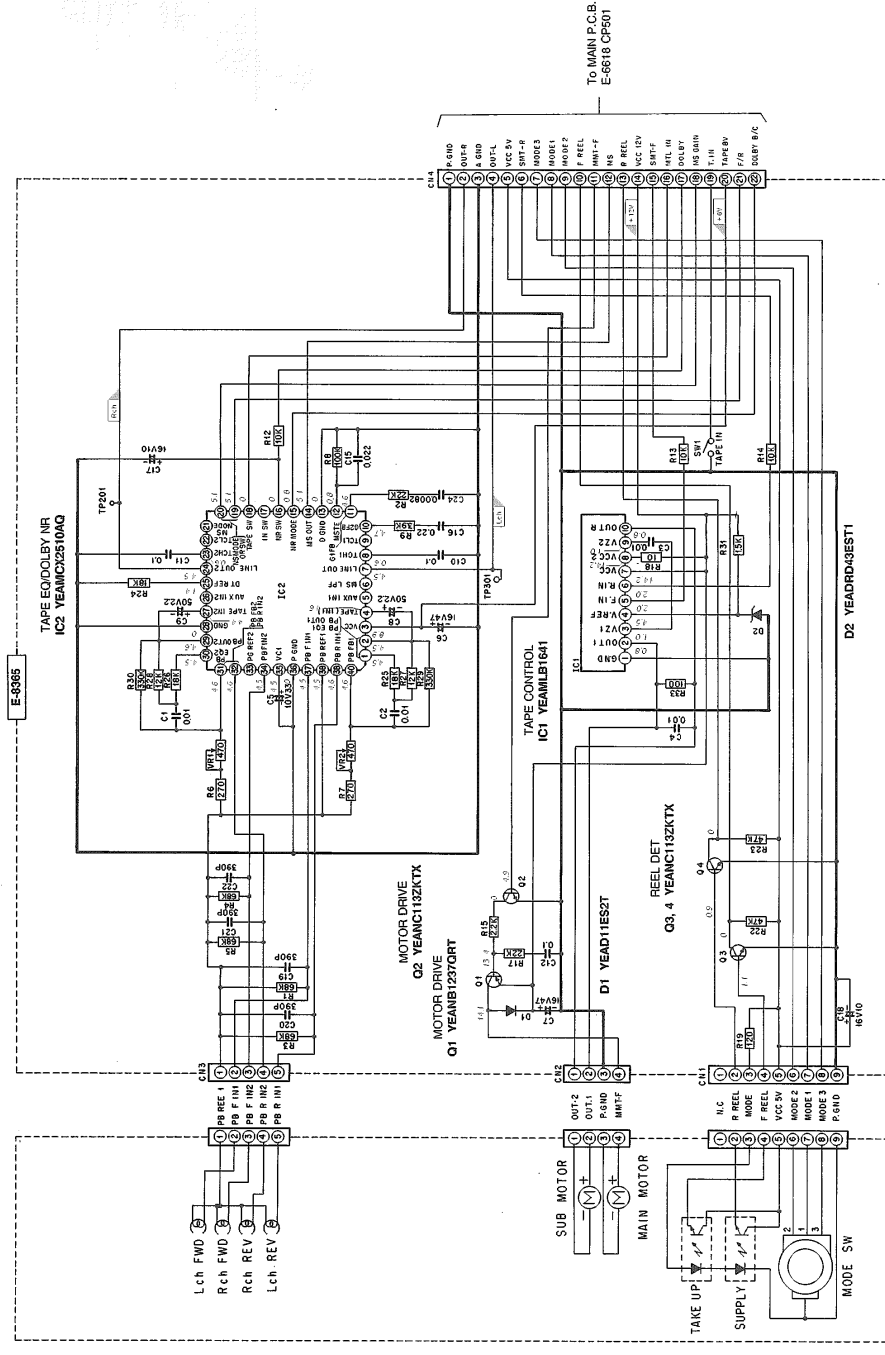


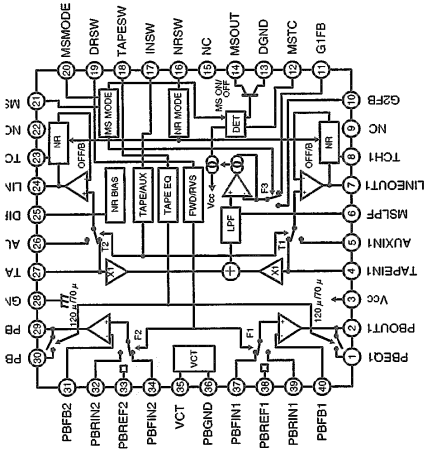
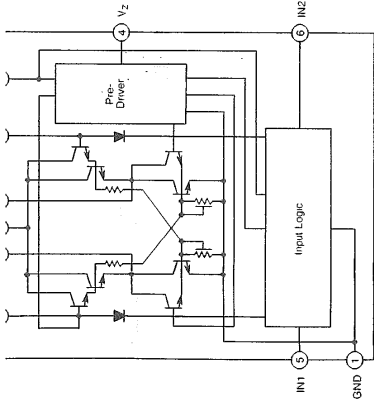
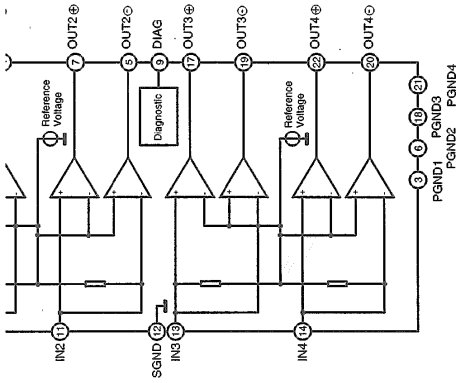
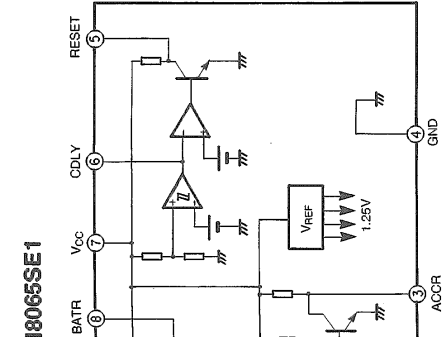
● IC601 AN8065SE1



SCHEMATIC DIAGRAM (Tape Block) MODEL CQ-FX45EW

WIRING DIAGRAM (Tape Block) MODEL CQ-FX45EW

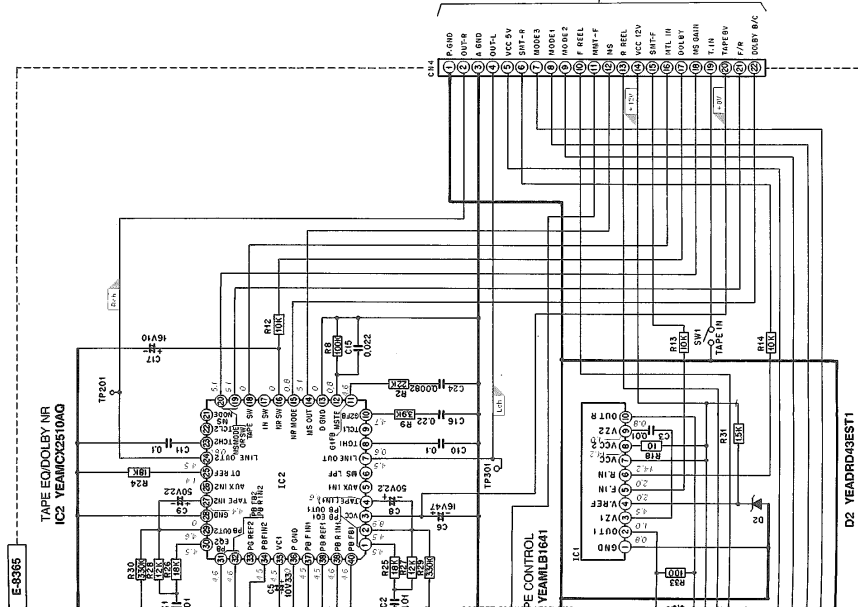




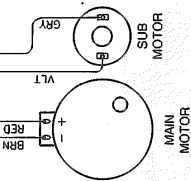
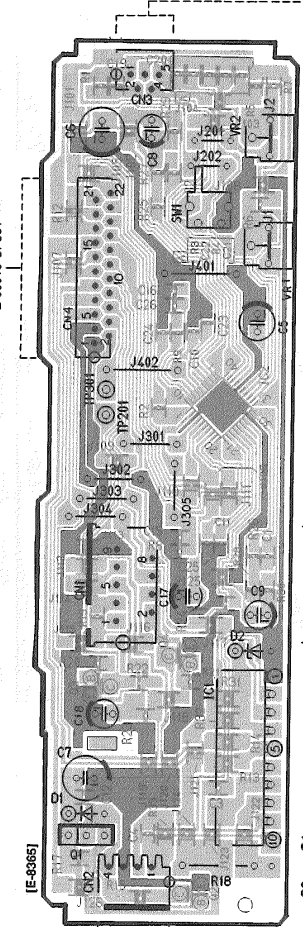
DEL CQ-FX45EW

WIRING DIAGRAM (Tape Block) MODEL CQ-FX45EW

E-8365  
TAPE EQDOLBY NR  
IC2 YEAMCK2510AQ

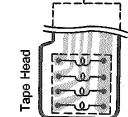
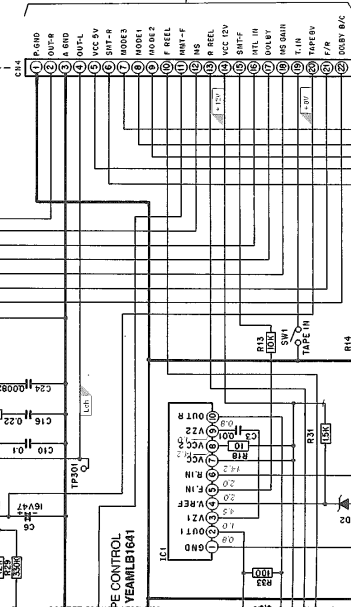


To MAIN P.C.B.  
E-6618 CP501



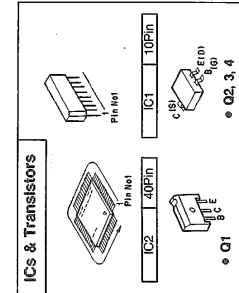
Q1 Q2 Q3 Q4 IC1 IC2

To MAIN P.C.B.  
E-6618 CP501



Q1	Q2	Q3	Q4
13.4	14.1	14.2	0
4.9	0	0	0
1.1	0	0	0
0.9	0	0	0

Pin	IC1	IC2
1	0	0
2	0.8	0
3	1.0	0
4	4.5	0
5	2.0	0
6	2.0	0
7	14.2	0
8	14.2	0
9	1.0	0
10	0.8	0



## ALIGNMENT INSTRUCTIONS

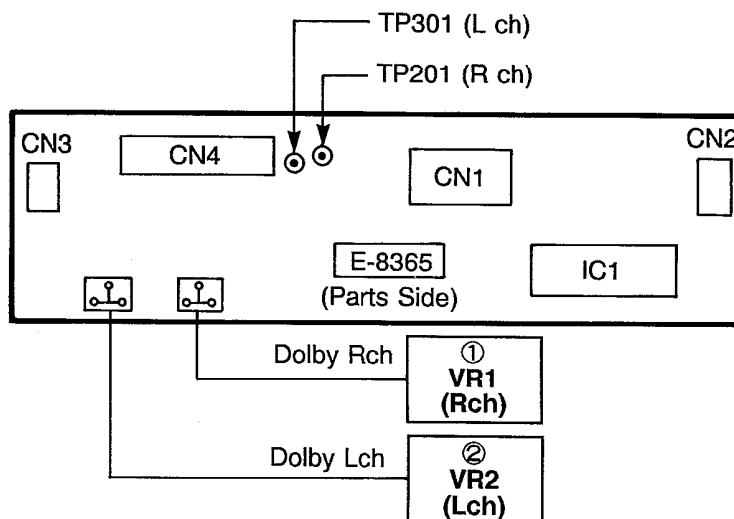
- Power Supply Voltage : DC 14.4V
- Output Impedance :  $4\Omega$
- Output Power : 0.5W
- Balance, Fader Control : Center
- Tone Control (Bass/Tre) : Center

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

### 1. DOLBY NR ALIGNMENT

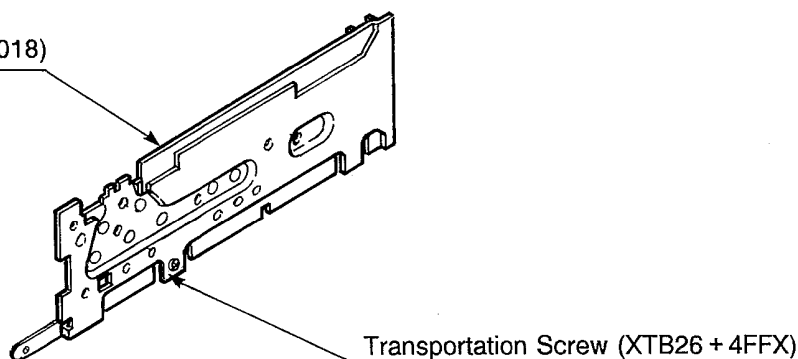
Step	Alignment Item	Test Tape	VTVM Connection	Adjust	Remarks
①	DOLBY NR Rch	RFKZ0038	TP201-GND	VR1	• Adjust for 388mV
②	DOLBY NR Lch	RFKZ0038	TP301-GND	VR2	• Adjust for 388mV

### ALIGNMENT POINTS



### NOTES FOR INSTALLATION OF SIDE PLATE ASS'Y

Side Plate Ass'y (YEP0FX9018)



- After the side plate Ass'y has been completely mounted, remove transportation screw at part (A). (Available as repair parts only)

# Replacement Parts List

## Model NO. CQ-FX45EW

### NOTES :

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice : Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Next to the Ref. No. in the parts list is a location key, to show 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.

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
[E-6618C]					
MAIN BLOCK					
PA51	YEAU03SMX16		Electronic Tuner	1	
IC201	YEAMEA6320TT		IC	1	
IC202	AN7395SE1		IC	1	
IC204	YEAMPD4053BG		IC	1	
IC220	YEAMM5218AFE		IC	1	
IC241	YEAMTDA8568Q		IC	1	
IC400	YEAMLC72146T		IC	1	
IC600	YEAM78058447		IC	1	
IC601	AN8065SE1		IC	1	
IC650	MN4584BST1		IC	1	
IC703	AN78N05		IC	1	
IC705	AN8009M-E1		IC	1	
IC800	AN7805F		IC	1	
IC900	YEAMIDA7330BD		IC	1	
Q213	YEANC4081SKT		Transistor	1	
Q230, 231	YEANC323TUTX		Transistor	2	
Q330, 331	YEANC323TUTX		Transistor	2	
Q400	YEANA114EKT		Transistor	1	
Q401	YEAN2SK536TB		Transistor	1	
Q402	YEANA144EUKT		Transistor	1	
Q660, 661	YEANA114EUKT		Transistor	2	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
MODEL CQ-FX45EW					
Q662	YEANC144EUKT		Transistor	1	
Q663	YEANA114EUKT		Transistor	1	
Q664	YEANC144EKT		Transistor	1	
Q701	YEAND1859T		Transistor	1	
Q703	YEANB1261ZT		Transistor	1	
Q704	YEANC114YKTX		Transistor	1	
Q705	2SD2139TA		Transistor	1	
Q706, 707	YEANC144EUKT		Transistor	2	
Q801, 802	YEANC144EUKT		Transistor	2	
Q901	YEANC4081SKT		Transistor	1	
[E-8329C]					
DISPLAY BLOCK					
IC901	YEAMPD16431A		IC	1	
IC905	YEAMSBX8035F		IC	1	
Q902, 903	YEANSSTA06T		Transistor	2	
[E-8365B]					
TAPE BLOCK					
IC1	YEAMLB1641		IC	1	
IC2	YEAMCX2510AQ		IC	1	
Q1	YEANB1237QRT		Transistor	1	
Q2 to 4	YEANC113ZKTX		Transistor	3	
[E-6618C]					
DIODES					
MAIN BLOCK					
D201	YEADAP202UKT		Diode	1	
D601	MA723TA		Diode	1	
D602	LNJ801LPDJA		LED	1	

MODEL CQ-FX45EW

Ref. No.	Part No.	Part Name & Description	Pcs set	Remarks
D701	YEADDS9A2B	Diode	1	
D702	MA165TA	Diode	1	
D703	YEADRD56JB3	Diode	1	
D704	MA723TA	Diode	1	
D706	YEADDSM1D2	Diode	1	
D708	YEADRD91M2T1	Diode	1	
D720, 721	YEADRB100AT	Diode	2	
D722 to 727	MA735TX	Diode	6	
D801	YEADRD20MBT2	Diode	1	
D802	YEADRD30M2T1	Diode	1	
D901	YEADRD51M2T2	Diode	1	
Z701	ERZC07DK470	ZNR	1	
<b>DISPLAY BLOCK</b>				
[E-8329C]				
D901 to 909	LNJ306G5TUWQ	LED	9	
D911 to 915	LNJ306G5TUWQ	LED	5	
D916	LN1271RAL	LED	1	
D917, 919	MA159TX	Diode	2	
D921	MA159TX	Diode	1	
D926 to 930	MA8056LMHTX	Diode	5	
<b>TAPE BLOCK</b>				
[E-8365B]				
D1	YEAD11ES2T	Diode	1	
D2	YEADRD43EST1	Diode	1	
<b>CAPACITORS</b>				
<b>MAIN BLOCK</b>				
[E-8618C]				
C51	ECA1AM221I	Electrolytic, 220MFD 10WV	1	

Ref. No.	Part No.	Part Name & Description	Pcs set	Remarks
C52	YECUS1H103KX	Ceramic, 0.01MFD 50WV	1	
C53	YECUS1E223KX	Ceramic, 0.022MFD 25WV	1	
C55	YECUS1C104KX	Ceramic, 0.1MFD 16WV	1	
C56	YECUS1E223KX	Ceramic, 0.022MFD 25WV	1	
C57	YECUV2A102KX	Ceramic, 0.001MFD 100WV	1	
C203, 204	ECA1HSA3R3I	Electrolytic, 3.3MFD 50WV	2	
C205, 206	YECUX1C334KX	Ceramic, 0.33MFD 16WV	2	
C207	YECUS1C224KX	Ceramic, 0.22MFD 16WV	1	
C208	YECUS1E333KX	Ceramic, 0.033MFD 25WV	1	
C209	YECUS1H562KX	Ceramic, 0.0056MFD 50WV	1	
C210	ECA1CSA470I	Electrolytic, 47MFD 16WV	1	
C211	YECUS1H103KX	Ceramic, 0.01MFD 50WV	1	
C212	ECA1CSA220I	Electrolytic, 22MFD 16WV	1	
C213	ECA1HSA010I	Electrolytic, 1MFD 50WV	1	
C214	YECUS1C563KX	Ceramic, 0.056MFD 16WV	1	
C215	YECUV1H273KX	Ceramic, 0.027MFD 50WV	1	
C216	ECA0JM101I	Electrolytic, 100MFD 6.3WV	1	
C217	ECA1CM100I	Electrolytic, 10MFD 16WV	1	
C218	YECUS1E273KX	Ceramic, 0.027MFD 25WV	1	
C219	YECUS1H392KX	Ceramic, 0.0039MFD 50WV	1	
C224	YECUS1C224KX	Ceramic, 0.22MFD 16WV	1	
C227	YECUS1C683KX	Ceramic, 0.068MFD 16WV	1	
C230, 231	ECA1HSA3R3I	Electrolytic, 3.3MFD 50WV	2	
C241	ECA1HSA010I	Electrolytic, 1MFD 50WV	1	
C242	YECUS1H222JM	Ceramic, 0.0022MFD 50WV	1	
C244	ECA1HSA010I	Electrolytic, 1MFD 50WV	1	
C245	YECUS1H222JM	Ceramic, 0.0022MFD 50WV	1	
C246, 247	YECUS1E104ZF	Ceramic, 0.1MFD 25WV	2	
C248	ECA1CDT472Y	Electrolytic, 4700MFD 16WV	1	
C249	YECUS1E104ZF	Ceramic, 0.1MFD 25WV	1	
C303, 304	ECA1HSA3R3I	Electrolytic, 3.3MFD 50WV	2	
C305, 306	YECUX1C334KX	Ceramic, 0.33MFD 16WV	2	
C307	YECUS1C224KX	Ceramic, 0.22MFD 16WV	1	
C308	YECUS1E333KX	Ceramic, 0.033MFD 25WV	1	

[illegible]

MODEL CQ-FX45EW

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
<b>DISPLAY BLOCK</b>					
[E-8329C]					
C905	YECUM2A683JN		Ceramic, 0.068MFD 100WV	1	
C906	YECUS1C104KX		Ceramic, 0.1MFD 16WV	1	
C907	ECEV1CA220SR		Electrolytic, 22MFD 16WV	1	
C910, 911	YECUS1H102KX		Ceramic, 0.001MFD 50WV	2	
C914	YECUS1C224ZF		Ceramic, 0.22MFD 16WV	1	
<b>TAPE BLOCK</b>					
[E-8365B]					
C1 to 4	YECUS1H103KX		Ceramic, 0.01MFD 50WV	4	
C5	ECEA1AKS330I		Electrolytic, 33MFD 10WV	1	
C6, 7	ECEA1CKS470I		Electrolytic, 47MFD 16WV	2	
C8, 9	ECEA1HKS2R2I		Electrolytic, 2.2MFD 50WV	2	
C10 to 12	YECUS1C104KX		Ceramic, 0.1MFD 16WV	3	
C15	YECUS1H223KX		Ceramic, 0.022MFD 50WV	1	
C16	YECUS1C224KX		Ceramic, 0.22MFD 16WV	1	
C17, 18	ECEA1CKS100I		Electrolytic, 10MFD 16WV	2	
C19 to 22	YECUS1H391JM		Ceramic, 390PF 50WV	4	
C24	YECUS1H822KX		Ceramic, 0.0082MFD 50WV	1	
<b>RESISTORS</b>					
<b>MAIN BLOCK</b>					
[E-8618C]					
R50	ERJ6GEYJ5R6		Chip, 5.6 ohms 0.1W	1	
R51	ERJ6GEYJ822		Chip, 8.2k ohms 0.1W	1	
R52	ERJ6GEYJ101V		Chip, 100 ohms 0.13W	1	
R53	ERJ6GEYJ221V		Chip, 220 ohms 0.13W	1	
R54, 55	ERJ6GEYJ102		Chip, 1k ohms 0.1W	2	
R58	ERJ6GEYJ103V		Chip, 10k ohms 0.13W	1	
R202	ERJ6GEYJ682		Chip, 6.8k ohms 0.1W	1	
R204	ERJ6GEYJ912		Chip, 9.1k ohms 0.1W	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R205	ERJ6GEYJ392		Chip, 3.9k ohms 0.1W	1	
R206	ERJ6GEYJ103V		Chip, 10k ohms 0.13W	1	
R207	ERJ6GEYJ822		Chip, 8.2k ohms 0.1W	1	
R209	ERJ6GEYJ472		Chip, 4.7k ohms 0.1W	1	
R210	ERJ6GEYJ103		Chip, 10k ohms 0.1W	1	
R212	ERJ6GEYJ154		Chip, 150k ohms 0.1W	1	
R213	ERJ6GEYJ221		Chip, 220 ohms 0.1W	1	
R214	ERJ6GEYJ105		Chip, 1M ohms 0.1W	1	
R215	ERD25TJ472		Carbon, 4.7k ohms 0.25W	1	
R219	ERJ6GEYJ103		Chip, 10k ohms 0.1W	1	
R220 to 222	ERJ6GEYJ104		Chip, 100k ohms 0.1W	3	
R225	ERJ6GEYJ102V		Chip, 1k ohms 0.13W	1	
R226	ERJ6GEYJ333V		Chip, 33k ohms 0.13W	1	
R230	ERJ6GEYJ101		Chip, 100 ohms 0.1W	1	
R231	ERJ6GEYJ561		Chip, 560 ohms 0.1W	1	
R235	ERJ6GEYJ101		Chip, 100 ohms 0.1W	1	
R236	ERJ6GEYJ561		Chip, 560 ohms 0.1W	1	
R240	ERJ6GEYJ182		Chip, 1.8k ohms 0.1W	1	
R241	ERJ6GEYJ472		Chip, 4.7k ohms 0.1W	1	
R242	ERJ6GEYJ182		Chip, 1.8k ohms 0.1W	1	
R243	ERJ6GEYJ472V		Chip, 4.7k ohms 0.13W	1	
R302	ERJ6GEYJ682		Chip, 6.8k ohms 0.1W	1	
R304	ERJ6GEYJ912		Chip, 9.1k ohms 0.1W	1	
R305	ERJ6GEYJ392		Chip, 3.9k ohms 0.1W	1	
R306	ERJ6GEYJ103		Chip, 10k ohms 0.1W	1	
R307	ERJ6GEYJ822		Chip, 8.2k ohms 0.1W	1	
R309	ERJ6GEYJ472		Chip, 4.7k ohms 0.1W	1	
R310, 319	ERJ6GEYJ103		Chip, 10k ohms 0.1W	2	
R320 to 322	ERJ6GEYJ104		Chip, 100k ohms 0.1W	3	
R330	ERJ6GEYJ101		Chip, 100 ohms 0.1W	1	
R331	ERJ6GEYJ561		Chip, 560 ohms 0.1W	1	
R335	ERJ6GEYJ101		Chip, 100 ohms 0.1W	1	
R336	ERJ6GEYJ561		Chip, 560 ohms 0.1W	1	
R340	ERJ6GEYJ182V		Chip, 1.8k ohms 0.13W	1	



MODEL CQ-FX45EW

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R341	ERJ6GEYJ472		Chip, 4.7k ohms 0.1W	1	
R342	ERJ6GEYJ182		Chip, 1.8k ohms 0.1W	1	
R343	ERJ6GEYJ472		Chip, 4.7k ohms 0.1W	1	
R401	ERJ6GEYJ152		Chip, 1.5k ohms 0.1W	1	
R402	ERJ6GEYJ222		Chip, 2.2k ohms 0.1W	1	
R403	ERJ6GEYJ105		Chip, 1M ohms 0.1W	1	
R405	ERJ6GEYJ331		Chip, 330 ohms 0.1W	1	
R406	ERJ6GEYJ182		Chip, 1.8k ohms 0.1W	1	
R407	ERJ6GEYJ561		Chip, 560 ohms 0.1W	1	
R408	ERJ6GEYJ100V		Chip, 10 ohms 0.1W	1	
R409	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R600	ERJ6GEYJ273		Chip, 27k ohms 0.1W	1	
R601	ERJ6GEYJ473V		Chip, 47k ohms 0.13W	1	
R602	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R605	ERJ6GEYJ473V		Chip, 47k ohms 0.13W	1	
R608, 609	ERJ6GEYJ102		Chip, 1k ohms 0.1W	2	
R610, 611	ERJ6GEYJ102V		Chip, 1k ohms 0.13W	2	
R612	ERJ6GEYJ102		Chip, 1k ohms 0.1W	1	
R613	ERJ6GEYJ184		Chip, 180k ohms 0.1W	1	
R614	ERJ6GEYJ681		Chip, 680 ohms 0.1W	1	
R615	ERJ6GEYJ100		Chip, 10 ohms 0.1W	1	
R617, 618	ERJ6GEYJ102V		Chip, 1k ohms 0.13W	2	
R619	ERJ6GEYJ102		Chip, 1k ohms 0.1W	1	
R620	ERJ6GEYJ102V		Chip, 1k ohms 0.13W	1	
R621, 622	ERJ6GEYJ102		Chip, 1k ohms 0.1W	2	
R623	ERJ6GEYJ473V		Chip, 47k ohms 0.13W	1	
R624	ERJ6GEYJ104		Chip, 100k ohms 0.1W	1	
R625 to 628	ERJ6GEYJ561		Chip, 560 ohms 0.1W	4	
R629	ERJ6GEYJ102		Chip, 1k ohms 0.1W	1	
R630	ERJ6GEYJ102V		Chip, 1k ohms 0.13W	1	
R631	ERJ6GEYJ102		Chip, 1k ohms 0.1W	1	
R635	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R636	ERJ6GEYJ473V		Chip, 47k ohms 0.13W	1	
R637, 638	ERJ6GEYJ473		Chip, 47k ohms 0.1W	2	
R640	ERJ6GEYJ103		Chip, 10k ohms 0.1W	1	
R641	ERJ6GEYJ224		Chip, 220k ohms 0.1W	1	
R642	ERJ6GEYJ103		Chip, 10k ohms 0.1W	1	
R643	ERJ6GEYJ104		Chip, 100k ohms 0.1W	1	
R644, 645	ERJ6GEYJ473		Chip, 47k ohms 0.1W	2	
R649	ERJ6GEYJ473V		Chip, 47k ohms 0.13W	1	
R650	ERJ6GEYJ104V		Chip, 100k ohms 0.13W	1	
R651	ERJ6GEYJ104		Chip, 100k ohms 0.1W	1	
R652	ERJ6GEYJ104V		Chip, 100k ohms 0.13W	1	
R660	ERJ6GEYJ102V		Chip, 1k ohms 0.13W	1	
R661	ERJ6GEYJ393		Chip, 39k ohms 0.1W	1	
R663	ERJ6GEYJ562		Chip, 5.6k ohms 0.1W	1	
R664	ERJ6GEYJ123		Chip, 12k ohms 0.1W	1	
R701	ERDS2FJ470		Carbon, 47 ohms 0.25W	1	
R703	ERJ6GEYJ682		Chip, 6.8k ohms 0.1W	1	
R704	ERJ6GEYJ334		Chip, 330k ohms 0.1W	1	
R705	ERJ6GEYJ513		Chip, 51k ohms 0.1W	1	
R706	ERJ6GEYJ103		Chip, 10k ohms 0.1W	1	
R707	ERJ6GEYJ274V		Chip, 270k ohms 0.13W	1	
R708	ERJ6GEYJ124		Chip, 120k ohms 0.1W	1	
R709	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R710, 711	ERDS1FVJ561T		Carbon, 560 ohms 0.5W	2	
R712	ERDS2FJ1R0T		Carbon, 1 ohm 0.25W	1	
R713	ERJ6GEYJ222		Chip, 2.2k ohms 0.1W	1	
R714	ERJ6GEYJ102		Chip, 1k ohms 0.1W	1	
R718	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R720, 721	ERJ6GEYJ103		Chip, 10k ohms 0.1W	2	
R722	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R723	ERJ6GEYJ222		Chip, 2.2k ohms 0.1W	1	
R724	ERJ6GEYJ681		Chip, 680 ohms 0.1W	1	
R725	ERJ6GEYJ154V		Chip, 150k ohms 0.13W	1	
R726	ERJ6GEYJ102		Chip, 1k ohms 0.1W	1	
R804	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R900	ERJ6GEYJ225V		Chip, 2.2M ohms 0.1W	1	


MODEL CQ-FX45EW

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R902, 903	ERJ6GEYJ103		Chip, 10k ohms 0.1W	2	
R904	ERJ8GEYJ102V		Chip, 1k ohms 0.13W	1	
R905	ERJ6GEYJ334		Chip, 330k ohms 0.1W	1	
R906	ERJ6GEYJ182		Chip, 1.8k ohms 0.1W	1	
[E-8329C]					
DISPLAY BLOCK					
R901 to 903	ERJ6GEYJ181		Chip, 180 ohms 0.1W	3	
R904	ERJ6GEYJ391		Chip, 390 ohms 0.1W	1	
R905	ERJ6GEYJ181		Chip, 180 ohms 0.1W	1	
R906 to 911	ERJ6GEYJ102		Chip, 1k ohms 0.1W	6	
R912, 913	ERJ6GEYJ103		Chip, 10k ohms 0.1W	2	
R914	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R915, 916	ERJ6GEYJ104		Chip, 100k ohms 0.1W	2	
R917	ERJ6GEYJ682		Chip, 6.8k ohms 0.1W	1	
R918, 919	ERJ6GEYJ332		Chip, 3.3k ohms 0.1W	2	
R920	ERJ6GEYJ682		Chip, 6.8k ohms 0.1W	1	
R930, 931	ERJ6GEYJ332		Chip, 3.3k ohms 0.1W	2	
R936	ERJ6GEYJ473		Chip, 47k ohms 0.1W	1	
R938	ERJ6GEYJ560		Chip, 56 ohms 0.1W	1	
R941	ERJ6GEYJ103		Chip, 10k ohms 0.1W	1	
[E-8365B]					
TAPE BLOCK					
R1	ERJ6GEYJ683		Chip, 68k ohms 0.1W	1	
R2	ERJ6GEYJ223		Chip, 22k ohms 0.1W	1	
R3 to 5	ERJ6GEYJ683		Chip, 68k ohms 0.1W	3	
R6, 7	ERJ6GEYJ271		Chip, 270 ohms 0.1W	2	
R8	ERJ6GEYJ104		Chip, 100k ohms 0.1W	1	
R9	ERJ6GEYJ392		Chip, 3.9k ohms 0.1W	1	
R12 to 14	ERJ8GEYJ103V		Chip, 10k ohms 0.13W	3	
R15	ERJ8GEYJ222V		Chip, 2.2k ohms 0.13W	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R17	ERJ6GEYJ223		Chip, 22k ohms 0.1W	1	
R18	ERG1SJ100		Metal Oxid, 10 ohms 1W	1	
R19	ERJ6GEYJ121		Chip, 120 ohms 0.1W	1	
R22, 23	ERJ6GEYJ473		Chip, 47k ohms 0.1W	2	
R24 to 26	ERJ6GEYJ183		Chip, 18k ohms 0.1W	3	
R27, 28	ERJ6GEYJ123		Chip, 12k ohms 0.1W	2	
R29, 30	ERJ6GEYJ334		Chip, 330k ohms 0.1W	2	
R31	ERJ8GEYJ152V		Chip, 1.5k ohms 0.13W	1	
R33	ERJ8GEYJ101V		Chip, 100 ohms 0.13W	1	
CONNECTORS					
MAIN BLOCK					
[E-8618C]					
CJ501	YEAES22B100B		Connector, 22P Flexible	1	
CJ702	YEAEO12692		Connector, 2P	1	
CN251	YEAEO12503		Connector, 2P RCA (CD-C IN)	1	
CN300	YEAEO2166		Connector, 4P RCA (PRE-OUT)	1	
CN601	YEAES2089162		Connector, 16P	1	
CN603	YEAEO12657		Connector, 16P	1	
CN680	YEAEO12307		Connector, 8P DIN	1	
CN701	YEAEO12194		Connector, 16P	1	
CN702	YEAEM2002L		Connector, 2P	1	
CP501	YEAEO12659		Connector, 22P	1	
CP602	YEAETSBP0607		Connector, 6P	1	
DISPLAY BLOCK					
[E-8329C]					
CJ902	YEAEO12654A		Connector, 3P	1	
CN901	YEAEO12658		Connector, 15P	1	
CN902	YEAES326103		Connector, 3P	1	
CN904	YEAEO2175		Jack (AUX)	1	

MODEL CQ-FX45EW

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
<b>TAPE BLOCK</b>					
CN1	YEA5597A09		Connector, 9P	1	
CN2	YEA55325404		Connector, 4P	1	
CN3	YEA5012684		Connector, 5P	1	
CN4	YEA5012659		Connector, 22P	1	
<b>SWITCHES</b>					
SW602	YEAS08031B62		Switch	1	
SW603	YEAS08038		Switch	1	
SW901 to 923	EVQPJX05M		Switch	23	
SW1	YEAS08031B62		Switch	1	
<b>CRYSTALS</b>					
XL400	YGXL49U072TA		Crystal OSC	1	
XL600	YGXL49U0419T		Crystal OSC	1	
XL900	YGXL49U0433T		Crystal OSC	1	
<b>COILS</b>					
L50	YELT02C330KT		Coil	1	
L400	YELT02C101KT		Coil	1	
L600	YELT02C470KT		Coil	1	
L701	YELTBL01R1AT		Coil	1	
L702	YETQ026F143		Coil	1	
L703	YELT02C330KT		Coil	1	
L800	ELEY330KA		Coil	1	
L900	YELT02C330KT		Coil	1	
L901	YELT216825TG		Coil	1	
L902	YELTD75F101T		Coil	1	
<b>LCD</b>					
LCD901	YEXDCM1203		LCD	1	
<b>VARIABLE RESISTORS</b>					
VR1, 2	EVNDCAA03BQ2		Variable Resistor	2	
<b>THERMISTOR</b>					
PT701	YERT7AR4R7MT		Thermistor	1	
<b>PRINTING</b>					
	YEFM282682		Operating Instructions	1	
<b>INSTALLATION PARTS</b>					
	YEP9FZ2478		Screw kit	1	
	CR2025/1F		Battery, Remote Control Unit	1	
	YEAJ02764		Power Connector	1	
	YEF05554		Trim Plate	1	
	YFEG04019		Rear Support Strap	1	
	YEFX9991526A		Remote Control Unit	1	
	YEV08042		Bolt	4	
	YEFA131302		Removable Face Plate Case	1	
	YEFX9991721		Disconnecting Plate	1	
	YEFX0214198		Mounting Color	1	
<b>MISCELLANEOUS</b>					
F1 	YFAF02015		Fuse, 15A	1	
ANT51	YGAA10082		Antenna Receptacle	1	
AT1 to 3	YEAT03420		Terminal	3	

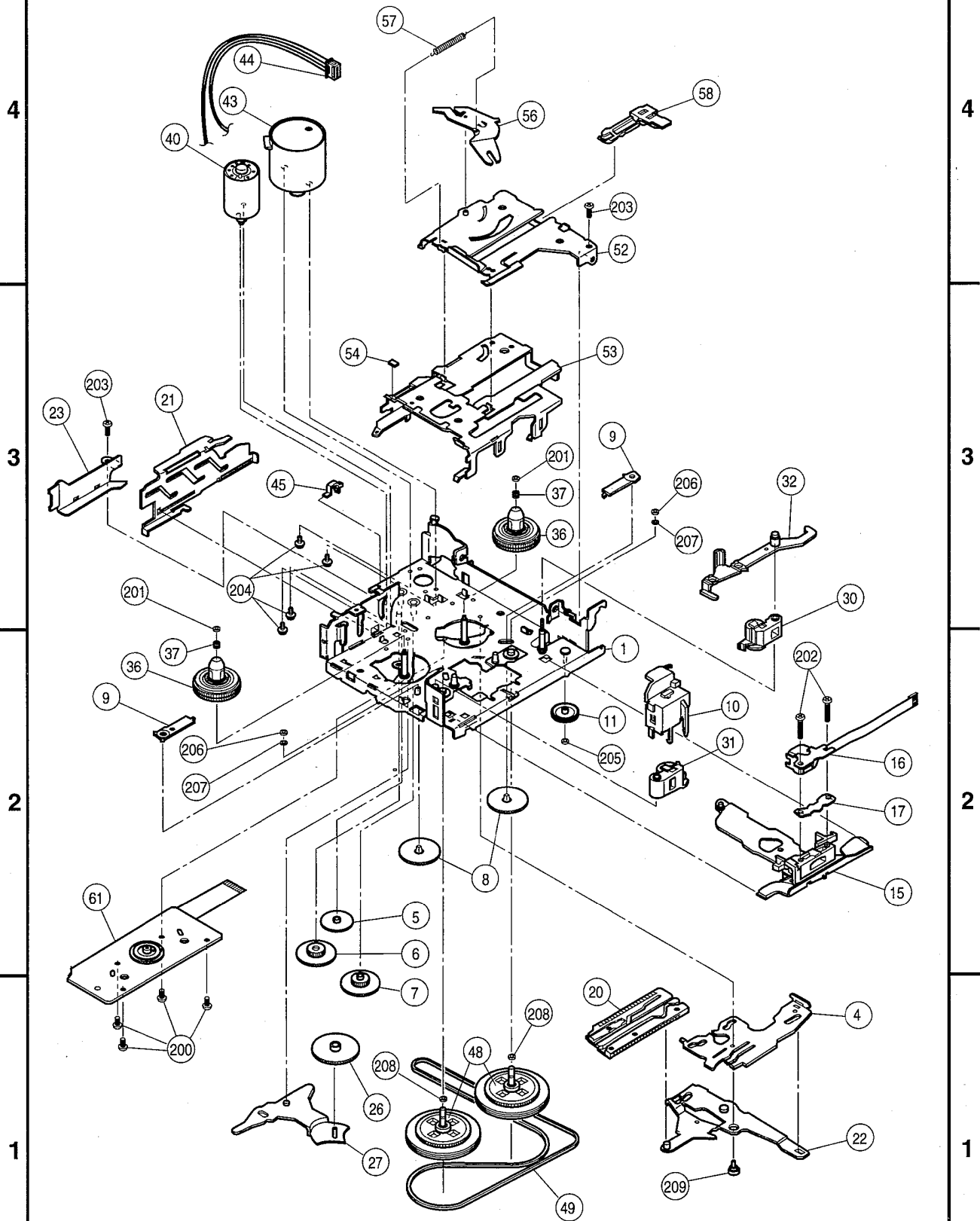


## MODEL CQ-FX45EW

[illegible]

**EXPLODED VIEW (TAPE DECK)**

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



MODEL CQ-FX45EW

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
53	(3-B) YESFX239006		Cassette Case	1	1970-12-02
54	(3-B) YESFS04007		Cusion Rubber	1	1970-12-06
56	(4-B) YESFX046065		P.S Actuator Plate	1	1970-12-04
57	(4-B) YESFX006075		P.S Spring	1	1970-12-05
58	(4-C) YESFX046066		Pack Slider	1	1970-12-03
61	(2-A) YESAP151		Reel PWB Ass'y	1	1970-13-301
200	(1-A) YESJS01090		Camera Screw (Tams) 2.0 x 2.2	4	9C01-20-223
201	(3-A)(3-B) YESJW01019		Lumilar Washer 1.55 x 3.5 x 0.5	2	9W08-50-020
202	(2-C) YEJS01070		Adjust Screw 2.0 x 13	2	9F22-20-131
203	(3-A)(4-C) YEFT03084		Camera Screw 2.0 x 3.0	2	9C04-20-303
204	(3-A) YEJS06130		Tams Screw 2.0 x 3.0	4	9P02-20-031
205	(2-B) YEJW05130		P. Washer (Cut) 0.85 x 2.8 x 0.25	1	9W02-25-010
206	(2-A)(3-C) YESJW01012		P. Washer (Cut) 1.55 x 3.5 x 0.5	2	9W02-50-040
207	(2-A)(3-C) YESJW01013		P. Washer 2.1 x 3.5 x 0.2	2	9W01-20-050
208	(1-B) YESJW01014		Lumilar Washer 2.1 x 3.5 x 0.1	2	9W07-10-047
209	(1-C) YESJS01091		PK Collar Screw A	1	1821-12-23

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
TAPE PLAYER PARTS					
MISCELLANEOUS					
1	(2-B) YESFA01051		Chassis Rivet Ass'y	1	1970-01-501
4	(1-C) YESFX046056		Main Plate	1	1970-02-01
5	(2-B) YESFX003049		B Gear	1	1970-02-02
6	(2-B) YESFX003050		C Gear	1	1970-02-03
7	(1-B) YESFX003051		D Gear	1	1970-02-04
8	(2-B) YESFX003052		P Gear	2	1970-02-05
9	(2-A)(3-B) YESFX003053		P.G Plate	2	1970-02-06
10	(2-C) YESFG02021		Guide BKT	1	1970-02-07
11	(2-B) YESFX026014		Middle Pulley	1	1970-02-09
15	(2-C) YESFX046057		Head Panel Ass'y	1	1970-03-301
16	(2-C) YESAH006		P. Head P-5544SD-9949	1	6201-07-57
17	(2-C) YESFX046058		Head SP Plate	1	1950-03-11
20	(1-B) YESFX046059		O.P Plate Ass'y	1	1970-04-301
21	(3-A) YESFX215015		Eject Lever Rivet Ass'y	1	1970-04-501
22	(1-C) YESFX046060		S.B Plate Rivet Ass'y	1	1970-04-502
23	(3-A) YESFX046061		O.P Plate Holder	1	1970-04-07
26	(1-B) YESFX003054		FR Gear	1	1970-06-02
27	(1-B) YESFX046062		FR Plate	1	1970-06-01
30	(3-C) YESFX218011		Pinch Roller Arm (F) Ass'y	1	1970-07-301
31	(2-C) YESFX218012		Pinch Roller Arm (R) Ass'y	1	1970-07-302
32	(3-C) YESFX046063		SW Actuator B	1	1970-07-04
36	(2-A)(3-B) YESFX209007		Reel Ass'y	2	1970-08-301
37	(2-A)(3-B) YESFX005074		B.Tension Spring (F)	2	1970-08-09
40	(4-A) YESAK01013		Sub Motor Ass'y	1	1970-09-301
43	(4-A) YESAK01014		Main Motor Ass'y	1	1970-10-301
44	(4-A) YESAE283		M Connector Ass'y	1	1970-10-02
45	(3-A) YESFX006002		Wire Clamper	1	1970-14-138
48	(1-B) YESFX213004		FL Capstan Ass'y	2	1970-11-301
49	(1-B) YESFR03003		Main Belt	1	1970-11-03
52	(4-C) YESFX046064		Case Lifter	1	1970-12-01