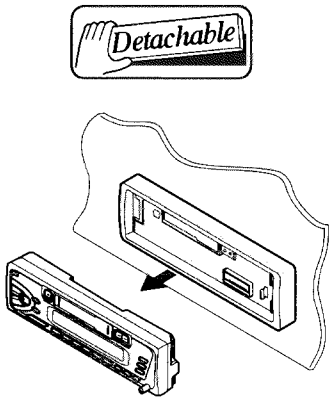
KS-F150
KS-FX12

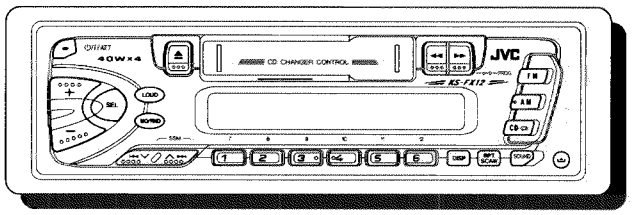
JVC

SERVICE MANUAL

CASSETTE RECEIVER

KS-FX12
KS-FX12WT
KS-F150





SYSTEM CPU
LC72362N
HEAD AMP
UPC1228HA
PLAYBACK HEAD
1-0036-7016S

Area Suffix
[KS-F150]
J ..... Northern America

Area Suffix
[KS-FX12WT]
J ..... Northern America

Area Suffix
[KS-FX12]
J ..... Northern America
E ... Continental Europe

Contents

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No.49522
Nov. 1999

Safety Precaution

⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.**

■Feature Check List

Features \ Model	KS-F150 J	KS-FX12/FX12WT J	KS-FX12 E
Changer Control	—	○	○
Line Rear Output	○	—	○

KS-F150
KS-FX12

Instructions

JVC

CASSETTE RECEIVER KS-FX12/KS-FX12WT

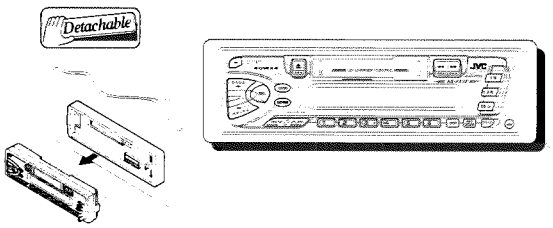
RECEPTOR-REPRODUCTOR DE CASSETTE KS-FX12/KS-FX12WT

RADIOCASSETTE KS-FX12/KS-FX12WT

ENGLISH

ESPAÑOL

FRANÇAIS



For installation and connections, refer to the separate manual.
Para la instalación y las conexiones, refiérase al manual separado.
Pour l'installation et les raccordements, se référer au manuel séparé.

Having TROUBLE with operation?
Please reset your unit
Refer to page of How to reset
Still having trouble??
USA ONLY
Call 1-800-252-5722
http://www.jvcservice.com
We can help you!

INSTRUCTIONS
MANUAL DE INSTRUCCIONES
MANUEL D'INSTRUCTIONS

For customer Use:
Enter below the Model No. and Serial No. which are located on the top or bottom of the cabinet. Retain this information for future reference.

Model No.

Serial No.

FSUN3098-631
[J]

EN, SP, FR

1099HISFLEJES

Thank you for purchasing a JVC product. Please read all instructions carefully before operation, to ensure your complete understanding and to obtain the best possible performance from the unit.

ENGLISH

CONTENTS

BEFORE USE

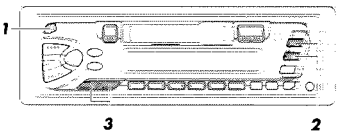
- *For safety....*
- *Do not raise the volume level too much, as this will block outside sounds, making driving dangerous.*
- *Stop the car before performing any complicated operations.*
- *Temperature inside the car....*
  If you have parked the car for a long time in hot or cold weather, wait until the temperature in the car becomes normal before operating the unit.

KS-F150
KS-FX12

RADIO OPERATIONS

ENGLISH

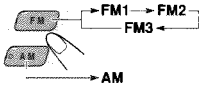
Listening to the radio



1 Turn on the power.

Note on One-Touch Operation:
When you select a band in step 2 below, the power automatically comes on. You do not have to press this button to turn on the power.

2 Select the band (FM1, FM2, FM3 or AM).
You can select any one of FM1, FM2, and FM3 to listen to an FM station.



Note:
When a cassette is in the cassette compartment, you cannot select the tuner. Be sure to eject the cassette from the cassette compartment to listen to the radio.

3 Start searching a station.
When a station is received, searching stops.

To search stations of higher frequencies.
To search stations of lower frequencies.

To stop searching before a station is received, press the same button you have pressed for searching.

To tune in a particular frequency manually:

1 Press FM or AM to select the band.
2 Press and hold ∧ ►►| or |◄◄ ∨ until "M" starts flashing on the display.
Now you can manually change the frequency while "M" is flashing.
3 Press ∧ ►►| or |◄◄ ∨ repeatedly until the frequency you want is reached.
• If you hold down the button, the frequency keeps changing until you release the button.

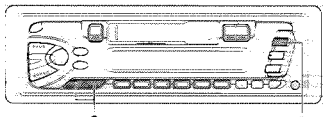
Storing stations in memory

ENGLISH

You can use one of the following two methods to store broadcasting stations in memory.
• Automatic preset of FM stations: SSM (Strong-station Sequential Memory)
• Manual preset of both FM and AM stations.

FM station automatic preset: SSM

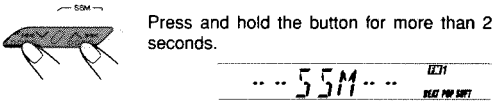
You can preset 6 local FM stations in each FM band (FM1, FM2 and FM3).



1 FM1 → FM2 → FM3

Select the FM band number (FM1, FM2 or FM3) you want to store FM stations into.

2 Press and hold the button for more than 2 seconds.



"SSM" appears, then disappears when automatic preset is over.

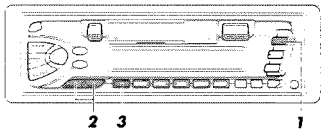
Local FM stations with the strongest signals are searched and stored automatically in the band number you have selected (FM1, FM2 or FM3). These stations are preset in the number buttons — No. 1 (lowest frequency) to No. 6 (highest frequency).
When automatic preset is over, the station stored in number button 1 will be automatically tuned in.

ENGLISH

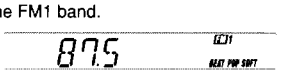
Manual preset

You can preset up to 6 stations in each band (FM1, FM2, FM3 and AM) manually.

Example: Storing an FM station of 88.3 MHz into the preset number 1 of the FM1 band.

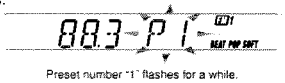


1 Select the FM1 band.



2 Tune into a station of 88.3 MHz.
See page 4 to tune into a station.

3 Press and hold the button for more than 2 seconds.



Preset number "1" flashes for a while.

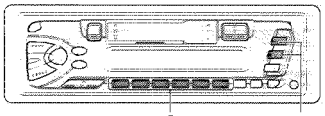
4 Repeat the above procedure to store other stations into other preset numbers.

Notes:
• *A previously preset station is erased when a new station is stored in the same preset number.*
• *Preset stations are erased when the power supply to the memory circuit is interrupted (for example, during battery replacement). If this occurs, preset the stations again.*

Tuning into a preset station

ENGLISH

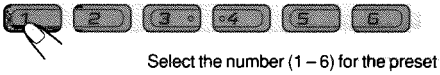
You can easily tune into a preset station.
Remember that you must store stations first. If you have not stored them yet, see page 5 or 6.



1 FM1 → FM2 → FM3 → AM

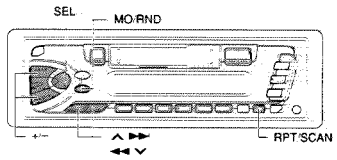
Select the band (FM1, FM2, FM3 or AM) you want.

2 Select the number (1 – 6) for the preset station you want.



ENGLISH

Other convenient tuner functions



Scanning broadcast stations

When you press RPT/SCAN while listening to the radio, station scanning starts. Each time a broadcast is tuned in, scanning stops for about 5 seconds (tuned frequency number flashes on the display), and you can check what program is now being broadcast.

If you want to listen to that program, press the same button again to stop scanning.

Selecting FM reception sound

When an FM stereo broadcast is hard to receive:

Press MO/RND while listening to an FM stereo broadcast. The sound you hear becomes monaural but reception will be improved.

Lights when receiving an FM broadcast in stereo

To restore the stereo effect, press the same button again.

Changing the AM/FM channel intervals

When using this unit in an area other than North or South America:

When this unit is shipped from the factory, the channel intervals are set to 10 kHz for AM and 200 kHz for FM. You can change the channel intervals by following the procedure below.

1 Press SEL (select) for more than 2 seconds.
"CLOCK H," "CLOCK M" or "AREA" appears on the display.
2 If "AREA" does not appear, press ∧ ►►| or |◄◄ ∨ until it appears.
3 Press +.
"AREA EU" appears and the channel intervals are set to 9 kHz for AM and 50 kHz (for manual tuning) / 100 kHz (for searching) for FM.

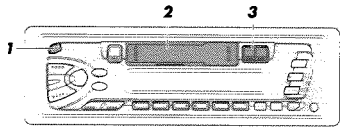
To reset to the factory setting, follow the above step 1 and 2, then press – in step 3 ("AREA US" appears on the display.)

AREA EU: Select this when used in an area other than North and South America.
AREA US: Select this when used in North or South America.

TAPE OPERATIONS

ENGLISH

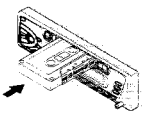
Listening to a tape



1

Turn on the power.

2



Insert a cassette.

When one side of the tape reaches its end during play, the other side of the tape automatically starts playing. (Auto Reverse)

3

Select the tape direction.

• *Press the both buttons at the same time.*

Each time you press the button, the tape direction changes alternatively – forward (TAPE ▷) and reverse (TAPE ◁).

To stop play and eject the cassette

Press ⏏.

Tape play stops and the cassette ejects from the cassette compartment.

You can hear the last received station.

• *You can also eject the cassette with the unit turned off.*

To fast-wind a tape

Press either ►► or ◄◄.

The tape will be wound in the direction of the arrows (►► or ◄◄).

To restart playback, press ►► or ◄◄ lightly.

SOUND ADJUSTMENTS

ENGLISH

Turning on/off the loudness function

The human ear is less sensitive to low and high frequencies at low volumes.
The loudness function can boost these frequencies to produce a well-balanced sound at low volume levels.
Each time you press LOUD, the loudness function turns on/off alternatively.

Selecting preset sound modes

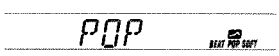
You can select a preset sound adjustment suitable to the music genre.

Each time you press SOUND, the sound mode changes as follows.

Indication	For:	Preset values		
		Bass	Treble	Loudness
SCM OFF	(Flat sound)	00	00	On
BEAT	Rock or disco music	+2	00	On
POP	Light music	+4	+1	Off
SOFT	Quiet background music	+1	–3	Off

Notes:

• *You can adjust the preset sound mode to your preference, and store it in memory. If you want to adjust and store your original sound mode, see "Storing your own sound adjustments" on page 12.*
• *To adjust only the bass and treble reinforcement levels to your preference, see "Adjusting the sound" on page 11.*
• *When one of the sound modes is selected, it is shown on the display as follows:*

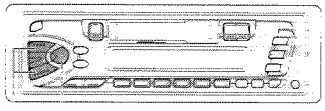


For example, when "POP" is selected.

ENGLISH

Adjusting the sound

You can adjust the treble/bass sound and the speaker balance.



1

Select the item you want to adjust.

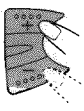
→BAS→TRE→FAD→BAL→VOL←

Indication	To do:	Range
BAS (bass)	Adjust the bass	–6 (min.) — +6 (max.)
TRE (treble)	Adjust the treble	–6 (min.) — +6 (max.)
FAD (Fader)*	Adjust the front and rear speaker balance	R6 (rear only) — F6 (front only)
BAL (Balance)	Adjust the left and right speaker balance	L6 (left only) — R6 (right only)
VOL (Volume)	Adjust the volume	00 (min.) — 50 (max.)

Note:

* *If you are using a two-speaker system, set the fader level to "00".*

2



Adjust the level.

Note:

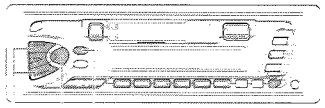
Normally the + and – buttons work as the volume control buttons. So you do not have to select "VOL" to adjust the volume level.

KS-F150
KS-FX12

ENGLISH

Storing your own sound adjustments

You can adjust the sound modes (BEAT, POP, SOFT; see page 10) to your preference and store your own adjustments in memory.



3 2 2 1,4

1 Call up the sound mode you want to adjust.
See page 10 for details.

Within 5 seconds

2 To adjust the bass or treble sound level
Select "BAS" or "TRE."

To turn on or off the loudness function
Each time you press LOUD, the loudness function turns on and off alternatively. (→ go to step 4)

Within 5 seconds

3 Adjust the bass or treble level.
See page 11 for details.

Within 5 seconds

4 Press and hold SOUND until the sound mode you have selected in step **1** flashes on the display.
Your setting is stored in memory.

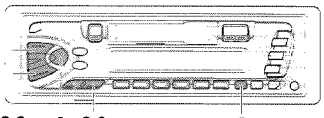
5 Repeat the same procedure to store other settings.

To reset to the factory settings
Repeat the same procedure and reassign the preset values listed in the table on page 10.

OTHER MAIN FUNCTIONS

ENGLISH

Setting the clock



2,3 1 2,3 4

1 Press and hold the button for more than 2 seconds.
"CLOCK H," "CLOCK M" or "AREA" appears on the display.

2 Set the hour.
1. Select "CLOCK H" if not shown on the display.
2. Adjust the hour.

3 Set the minute.
1. Select "CLOCK M."
2. Adjust the minute.

4 Start the clock.

To check the current clock time (changing the display mode)
Press DISP repeatedly. Each time you press the button, the display mode changes as follows.

During tuner operation:	During tape operation:	During CD operation:
Frequency ⇄ Clock	Play mode ⇄ Clock	Elapsed playing time ⇄ Clock

ENGLISH

Detaching the control panel

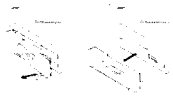
You can detach the control panel when leaving the car.
When detaching or attaching the control panel, be careful not to damage the connectors on the back of the control panel and on the panel holder.

How to detach the control panel

Before detaching the control panel, be sure to turn off the power.

1 Unlock the control panel.

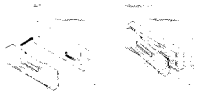
2 Lift and pull the control panel out of the unit.



3 Put the detached control panel into the provided case.

How to attach the control panel

1 Insert the left side of the control panel into the groove on the panel holder.



2 Press the right side of the control panel to fix it to the panel holder.

Note on cleaning the connectors:
If you frequently detach the control panel, the connectors will deteriorate.
To minimize this possibility, periodically wipe the connectors with a cotton swab or cloth moistened with alcohol, being careful not to damage the connectors.

Connectors

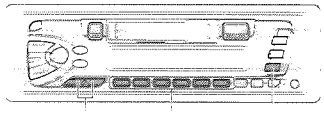
CD CHANGER OPERATIONS

ENGLISH

We recommend that you use one of the CH-X series with your unit.
If you have another CD automatic changer, consult your JVC car audio dealer for connections.
• *For example, if your CD automatic changer is one of the KD-MK series, you need a cord (KS-U15K) for connecting it to this unit.*

Before operating your CD automatic changer:
- Refer also to the instructions supplied with your CD changer.
- If no discs are in the magazine of the CD changer or the discs are inserted upside down, "NO CD" or "NO DISC" will appear on the display. If this happens, remove the magazine and set the discs correctly.
- If "RESET 1 - RESET 8" appears on the display, something is wrong with the connection between this unit and the CD changer. If this happens, check the connection, connect the connecting cord(s) firmly if necessary, then press the reset button of the CD changer.

Playing CDs



Number buttons 1

1 Select the CD automatic changer.
Playback starts from the first track of the first disc.
All tracks of all discs are played back.

Disc number

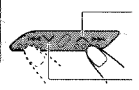
Track number

Elapsed playing time
(The clock time is shown if you have pressed DISP to see the clock time. See page 13.)

Note on One-Touch Operation:
When you press CD-CH, the power automatically comes on. You do not have to press ⏻/ATT to turn on the power.

ENGLISH

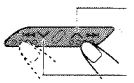
To fast forward or reverse the track



Press and hold ∧ ▶▶|, while playing a CD, to fast forward the track.

Press and hold |◀◀ ∨, while playing a CD, to reverse the track.

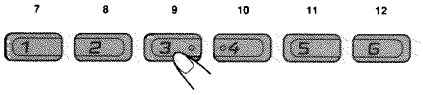
To go to the next track or the previous track



Press ∧ ▶▶| briefly, while playing a CD, to go ahead to the beginning of the next track. Each time you press the button consecutively, the beginning of the next tracks is located and played back.

Press |◀◀ ∨ briefly, while playing a CD, to go back to the beginning of the current track. Each time you press the button consecutively, the beginning of the previous tracks is located and played back.

To go to a particular disc directly

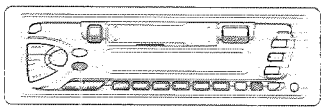


Press the number button corresponding to the disc number to start its playback.

- To select a disc number from 1 – 6:
  Press 1 (7) – 6 (12) briefly.
- To select a disc number from 7 – 12:
  Press and hold 1 (7) – 6 (12) for more than 1 second.

Ex. When disc number 3 is selected

Selecting CD playback modes



To play back tracks at random (Random Play)

Each time you press MO/RND (Mono/Random) while playing a CD, CD random play mode changes as follows:

→ RND1 (Random1) → RND2 (Random2) → Canceled →

Mode	RND Indicator	Plays at random
RND1	Lights	All tracks of the current disc, then the tracks of the next disc, and so on.
RND2	Flashes	All tracks of all discs inserted in the magazine.

To play back tracks repeatedly (Repeat Play)

Each time you press RPT/SCAN (Repeat/Scan) while playing a CD, CD repeat play mode changes as follows:

→ RPT1 (Repeat1) → RPT2 (Repeat2) → Canceled →

Mode	RPT Indicator	Plays repeatedly
RPT1	Lights	The current track (or specified track).
RPT2	Flashes	All tracks of the current disc (or specified disc).

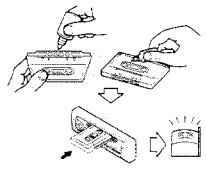
ENGLISH

MAINTENANCE

To extend the lifetime of the unit

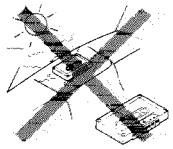
This unit requires very little attention, but you will be able to extend the life of the unit if you follow the instructions below.

To clean the heads



- Clean the heads after every 10 hours of use using a wet-type head cleaning tape (available at an audio store).
  When the head becomes dirty, you may realize the following symptoms:
  – Sound quality is reduced.
  – Sound level decreases.
  – Sound drops out.
- Do not play dirty or dusty tapes.
- Do not touch the highly-polished head with any metallic or magnetic tools.

To keep the tape clean



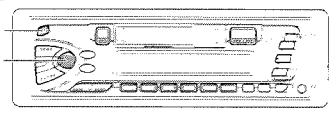
- Always store the tapes to their storage cases after use.
- Do not store tapes in the following places:
  – Subject to direct sunlight
  – With high humidity
  – At extremely hot temperatures

CAUTIONS:

- *Do not play the tapes with peeling labels; otherwise, they can damage the unit.*
- *Tighten tapes to remove slack since loose tape may become entangled with the mechanism.*
- *Do not leave a cassette in the cassette compartment after use, as the tape may become slack.*

How to reset your unit

Press and hold both the SEL (Select) and ⏻/I/ATT (Standby/On/ATT) buttons at the same time for several seconds.
This will reset the built-in microcomputer.
NOTE: Your preset adjustments — such as preset channels or sound adjustments — will also be erased.



TROUBLESHOOTING

What appears to be trouble is not always serious. Check the following points before calling a service center.

Symptoms	Causes	Remedies
• A cassette tape cannot be inserted.	You have tried to insert a cassette in the wrong way.	Insert the cassette with the exposed tape facing right.
• Cassette tapes become hot.	This is not a malfunction.	———
• Tape sound is at very low level and sound quality is degraded.	The tape head is dirty.	Clean it with a head cleaning tape.
• Sound is sometimes interrupted.	Connections are not good.	Check the cords and connections.
• Sound cannot be heard from the speakers.	The volume control is turned to the minimum level.	Adjust it to the optimum level.
	Connections are incorrect.	Check the cords and connections.
• Static noise while listening to the radio.	The antenna is not connected firmly.	Connect the antenna firmly.
• "NO CD" or "NO DISC" appears on the display.	No CD is in the magazine.	Insert CDs into the magazine.
	CDs are inserted incorrectly.	Insert them correctly.
• "RESET 8" appears on the display.	This unit is not connected to a CD changer correctly.	Connect this unit and the CD changer correctly and press the reset button of the CD changer.
• "RESET 1-RESET 7" appears on the display.	———	Press the reset button of the CD changer.
• The unit does not work at all.	The built-in microcomputer may function incorrectly due to noise, etc.	While holding SEL, press ⏻/I/ATT for more than 2 seconds to reset the unit. (The clock setting and preset stations stored in memory are erased.) (See page 18).

ENGLISH

SPECIFICATIONS

AUDIO AMPLIFIER SECTION

Maximum Power Output:
Front: 40 watts per channel
Rear: 40 watts per channel
Continuous Power Output (RMS):
Front: 16 watts per channel into 4 Ω, 40 to 20,000 Hz at no more than 0.8% total harmonic distortion.
Rear: 16 watts per channel into 4 Ω, 40 to 20,000 Hz at no more than 0.8% total harmonic distortion.
Load Impedance: 4 Ω (4 to 8 Ω allowance)
Tone Control Range
Bass: ±10 dB at 100 Hz
Treble: ±10 dB at 10 kHz
Frequency Response: 40 to 20,000 Hz
Signal-to-Noise Ratio: 70 dB

TUNER SECTION

Frequency Range
FM: 87.5 to 107.9 MHz
(with channel interval set to 200 kHz)
87.5 to 108.0 MHz
(with channel interval set to 50 kHz)
AM: 530 to 1,710 kHz
(with channel interval set to 10 kHz)
531 to 1,602 kHz
(with channel interval set to 9 kHz)

[FM Tuner]
Usable Sensitivity: 11.3 dBf (1.0 μV/75 Ω)
50 dB Quieting Sensitivity:
16.3 dBf (1.8 μV/75 Ω)
Alternate Channel Selectivity (400 kHz):
65 dB
Frequency Response: 40 to 15,000 Hz
Stereo Separation: 35 dB
Capture Ratio: 2.0 dB

[AM Tuner]
Sensitivity: 20 μV
Selectivity: 35 dB

CASSETTE DECK SECTION

Wow & Flutter: 0.15% (WRMS)
Fast-Wind Time: 190 sec. (C-60)
Frequency Response:
50 to 14,000 Hz (±3 dB)
Signal-to-Noise Ratio: 52 dB
Stereo Separation: 40 dB

GENERAL

Power Requirement
Operating Voltage: DC 14.4 volts (11 to 16 volts allowance)
Grounding System: Negative ground
Dimensions (W x H x D)
Installation Size:
182 x 52 x 150 mm
(7-3/16" x 2-1/16" x 5-15/16")
Panel Size: 188 x 58 x 14 mm
(7-7/16" x 2-5/16" x 5/8")
Mass: 1.3 kg (2.9 lbs) (excluding accessories)

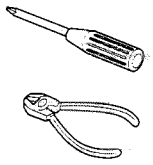
Design and specifications subject to change without notice.

If a kit is necessary for your car, consult your telephone directory for the nearest car audio speciality shop.

JVC

KS-FX12
KS-FX12WT

Installation/Connection Manual
Manual de instalación/conexión
Manuel d'installation/raccordement



FSUN3098-T631
[J]

1099HISFLEJES
EN. SP. FR

ENGLISH

- This unit is designed to operate on 12 volts DC, NEGATIVE ground electrical systems.

INSTALLATION (IN-DASH MOUNTING)

- The following illustration shows a typical installation. However, you should make adjustments corresponding to your specific car. If you have any questions or require information regarding installation kits, consult your JVC car audio dealer or a company supplying kits.

1 Before mounting: Press ⏏ (Control Panel Release button) to detach the control panel.

2 Remove the trim plate.

3 Remove the sleeve after disengaging the sleeve locks.

1 Stand the unit.

Note: When you stand the unit, be careful not to damage the fuse on the rear.

2 Insert the 2 handles between the unit and the sleeve, as illustrated, to disengage the sleeve locks.

3 Remove the sleeve.

Note: Be sure to keep the handles for future use after installing the unit.

4 Install the sleeve in the dashboard.

* After the sleeve is correctly installed in the dashboard, bend the appropriate tabs to hold the sleeve firmly in place, as illustrated.

5 Fix the mounting bolt to the rear of the unit's body and place the rubber cushion over the end of the bolt.

6 Do the required electrical connections explained on the back of this instructions.

7 Slide the unit into the sleeve until it is locked.

8 Attach the trim plate.

9 Attach the control panel.

ESPAÑOL

- Esta unidad está diseñada para funcionar con 12 voltios de CC, con sistemas eléctricos de masa NEGATIVA.

INSTALACION (MONTAJE EN EL TABLERO DE INSTRUMENTOS)

- La siguiente ilustración muestra una instalación típica. Sin embargo usted deberá efectuar los ajustes correspondientes a su automóvil. Si tiene alguna pregunta o necesita información acerca de las herramientas para instalación, consulte con su concesionario de JVC de equipos de audio para automóviles o a una compañía que suministra tales herramientas.

1 Antes de instalar: Presione ⏏ (botón de liberación del panel de control) para desmontar el panel de control.

2 Retire la placa de guarnición.

3 Retire la cubierta después de desenganchar los retenes de la cubierta.

1 Ponga la unidad vertical.

Nota: Al poner la unidad vertical, tenga cuidado de no dañar el fusible provisto en la parte posterior.

2 Inserte las dos asas entre la unidad y la cubierta tal como en la ilustración y desenganche los retenes de la cubierta.

3 Retire la cubierta.

Nota: Después de instalar la unidad, asegúrese de guardar las asas para uso futuro.

4 Instale la cubierta en el tablero de instrumentos.

* Después de que la cubierta esté correctamente instalada en el tablero de instrumentos, doble las lengüetas correspondientes para sostener la cubierta firmemente en su lugar, tal como se muestra.

5 Fixe el perno de montaje o la parte trasera del cuerpo de la unidad y coloque el cojín de goma sobre el extremo del perno.

6 Realice las conexiones eléctricas requeridas en base a las explicaciones que figuran en la parte de atrás de estas instrucciones.

7 Deslice la unidad dentro de la cubierta hasta que quede trabada.

8 Coloque la placa de guarnición.

9 Coloque el panel de control.

FRANÇAIS

- *Cet appareil est conçu pour fonctionner sur des sources de courant continu de 12 volts à masse NEGATIVE.*

INSTALLATION (MONTAGE DANS LE TABLEAU DE BORD)

- *L'illustration suivante est un exemple d'installation typique. Cependant, vous devez faire les ajustements correspondant à votre voiture particulière. Si vous avez des questions ou avez besoin d'information sur des kits d'installation, consulter votre revendeur d'autoradios JVC ou une compagnie d'approvisionnement.*

***1* Avant le montage:** *Appuyer sur ⏏ (touche de libération du panneau de commande) pour détacher le panneau de commande.*

2 *Retirer la plaque d'assemblage.*

3 *Libérer les verrous du manchon et retirer le manchon.*

1 Poser l'appareil à la verticale.

Remarque: *Lorsque vous mettez l'appareil à la verticale, faire attention de ne pas endommager le fusible situé sur le fond.*

2 Insérer les 2 poignées entre l'appareil et le manchon comme indiqué pour désengagé les verrous de manchon.

3 Retirer le manchon.

Remarque: *S'assurer de garder les poignées pour une utilisation ultérieur, après l'installation de l'appareil.*

4 *Installer le manchon dans le tableau de bord.*

* *Après installation correcte du manchon dans le tableau de bord, plier les bonnes pattes pour maintenir fermement le manchon en place, comme montré.*

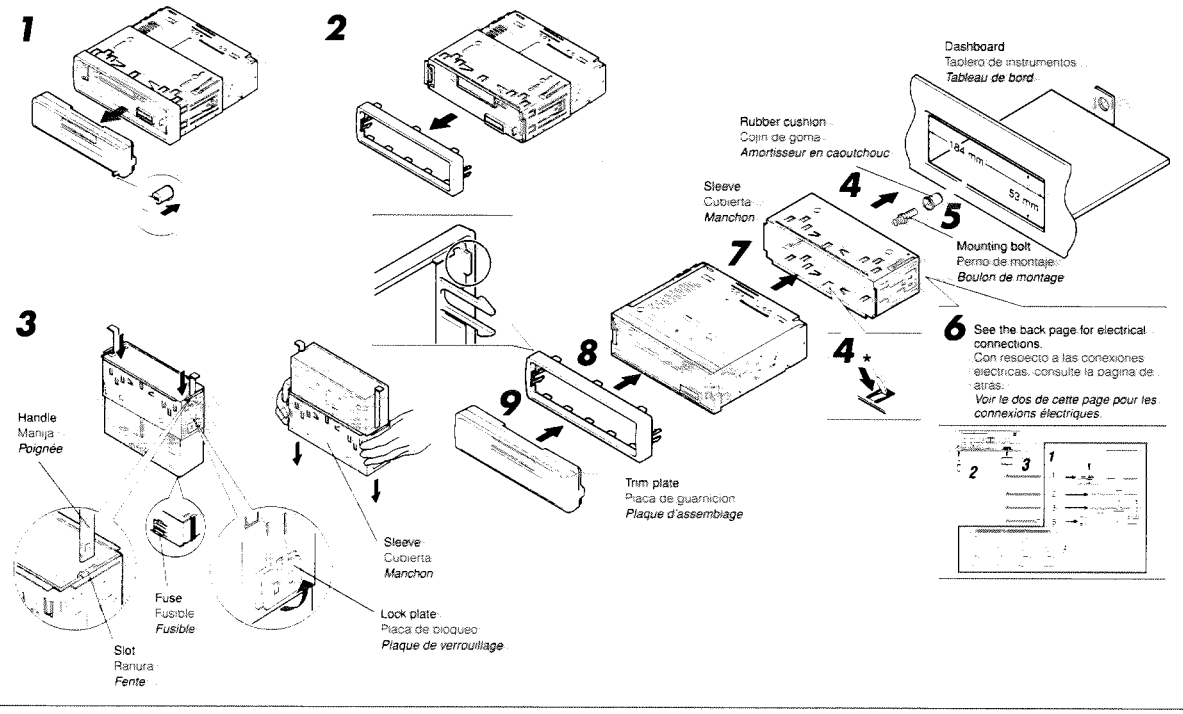
5 *Monter le boulon de montage sur l'arrière du corps de l'appareil puis passer l'amortisseur en caoutchouc sur l'extrémité du boulon.*

6 *Réalisez les connexions électriques expliquées au dos de cette page.*

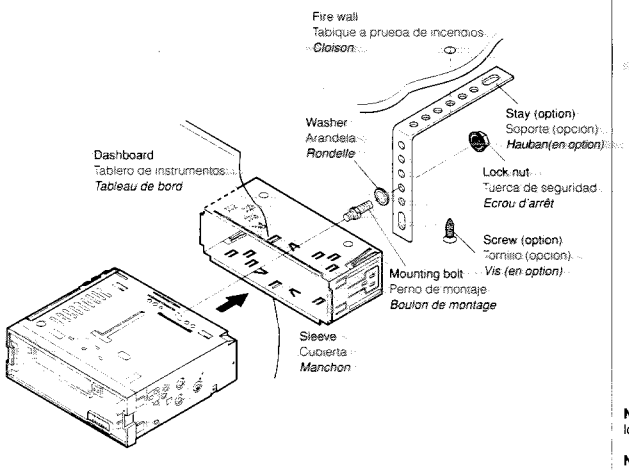
7 *Faire glisser l'appareil dans le manchon jusqu'à ce qu'il soit verrouillé.*

8 *Fixer la plaque d'assemblage.*

9 *Remonter le panneau de commande.*

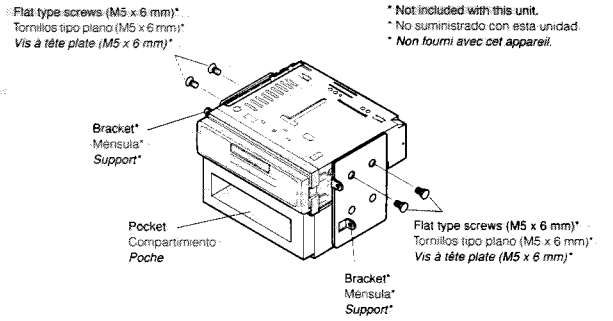


• When using the optional stay
• Cuando emplea un soporte opcional
• Lors de l'utilisation du hauban en option



• When installing the unit without using the sleeve
• Instalación de la unidad sin utilizar la cubierta
• Lors de l'installation de l'appareil sans utiliser de manchon

In a Toyota for example, first remove the car radio and install the unit in its place.
En un Toyota por ejemplo, primero extraiga la radio del automóvil y luego instale la unidad en su lugar.
Par exemple dans une Toyota, retirer d'abord l'autoradio et installer l'appareil à la place.



Note: When installing the unit on the mounting bracket, make sure to use the 6 mm-long screws. If longer screws are used, they could damage the unit.

Nota: Cuando instala la unidad en la ménsula de montaje, asegúrese de utilizar los tornillos de 6 mm de longitud. Si se utilizan tornillos más largos, éstos pueden dañar la unidad.

Remarque: *Lors de l'installation de l'appareil sur le support de montage, s'assurer d'utiliser des vis d'une longueur de 6 mm. Si des vis plus longues sont utilisées, elles peuvent endommager l'appareil.*

Removing the unit

• Before removing the unit, release the rear section.

1 Remove the control panel.

2 Remove the trim plate.

3 Insert the 2 handles into the slots, as shown. Then, while gently pulling the handles away from each other, slide out the unit. **(Be sure to keep the handles after installing it.)**

Extracción de la unidad

• Antes de extraer la unidad, libere la sección trasera.

1 Extraiga el panel de control.

2 Retire la placa de guarnición.

3 Inserte las 2 manijas entre las ranuras, como se muestra. Luego, separe gentilmente las manijas y extraiga la unidad. **(Asegúrese de conservar las manijas después de instalarlo.)**

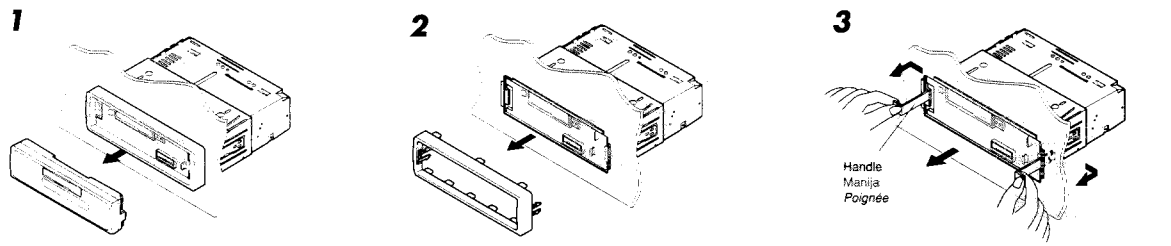
Retrait de l'appareil

• *Avant de retirer l'appareil, libérer la section arrière.*

1 *Retirer le panneau de commande.*

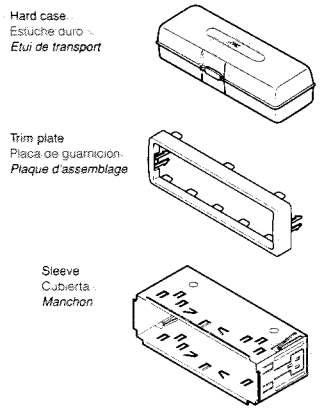
2 *Retirer la plaque d'assemblage.*

3 *Introduire les deux poignées dans les fentes, comme montré. Puis, tout en tirant doucement les poignées écartées, faire glisser l'appareil pour le sortir.* **(S'assurer de conserver les poignées après l'installation de l'appareil.)**



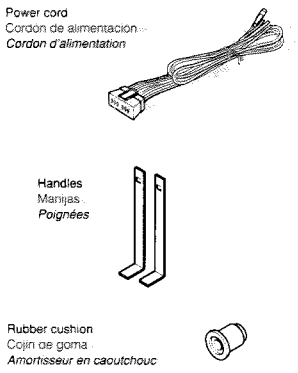
Parts list for installation and connection

The following parts are provided with this unit.
After checking them, please set them correctly.



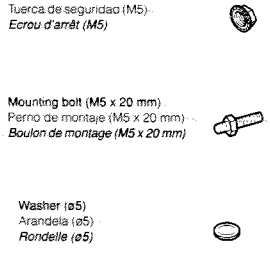
Lista de piezas para instalación y conexión

Con esta unidad se suministran las siguientes piezas.
Después de inspeccionarlas, colóquelas correctamente.



Liste des pièces pour l'installation et raccordement

Les pièces suivantes sont fournies avec cet appareil.
Après vérification, veuillez les placer correctement.



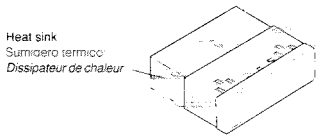
ENGLISH

ELECTRICAL CONNECTIONS

To prevent short circuits, we recommend that you disconnect the battery's negative terminal and make all electrical connections before installing the unit. If you are not sure how to install this unit correctly, have it installed by a qualified technician.

Note:
This unit is designed to operate on **12 volts DC, NEGATIVE ground electrical systems**. If your vehicle does not have this system, a voltage inverter is required, which can be purchased at JVC car audio dealers.

- Replace the fuse with one of the specified rating. If the fuse blows frequently, consult your JVC car audio dealer.
- If noise is a problem...
  This unit incorporates a noise filter in the power circuit. However, with some vehicles, clicking or other unwanted noise may occur. If this happens, connect the unit's **rear ground terminal** (See connection diagram below.) to the car's chassis using shorter and thicker cords, such as copper braiding or gauge wire. If noise still persists, consult your JVC car audio dealer.
- Maximum input of the speakers should be more than 40 watts at the rear and 40 watts at the front, with an impedance of **4 to 8 ohms**.
- **Be sure to ground this unit to the car's chassis.**
- The heat sink becomes very hot after use. Be careful not to touch it when removing this unit.



ESPAÑOL

CONEXIONES ELECTRICAS

Para evitar cortocircuitos, recomendamos que desconecte el terminal negativo de la bateria y que efectue todas las conexiones eléctricas antes de instalar la unidad. Si usted no esta seguro de como instalar correctamente la unidad, hágala instalar por un tecnico cualificado.

Nota:
Esta unidad está diseñada para funcionar con **12 voltios de CC, con sistemas eléctricos de masa NEGATIVA**. Si su vehiculo no posee este sistema, será necesario un inversor de tensión, que puede ser adquirido en los concesionarios de JVC de equipos de audio para automóviles.

- Reemplace el fusible por uno con la corriente especificada. Si el fusible se quemase frecuentemente consulte con su concesionario de JVC de equipos de audio para automóviles.
- Si el ruido fuese un problema...
  Esta unidad tiene un filtro de ruido en el circuito de alimentación. Sin embargo, en algunos vehículos, pueden producirse chasquidos u otros ruidos indeseados. En tal caso conecte el **terminal de tierra posterior** (Ver diagrama de conexión abajo.) del receptor al chasis del automóvil, utilizando cordones mas gruesos y cortos tales como alambre de cobre trenzado o de grueso calibre. Si el ruido persiste, consulte a su concesionario de JVC de equipos de audio para automóvil.
- La entrada maxima de los altavoces traseros debe ser mayor de 40 vatios y la de los delanteros de 40 vatios, con una impedancia de **4 a 8 ohmnios**
- **Asegúrese de conectar esta unidad a tierra en el chasis del automóvil.**
- El sumidero termico estará muy caliente despues del uso. Asegurese de no tocarlo al desmontar esta unidad.

FRANÇAIS

RACCORDEMENTS ELECTRIQUES

Pour éviter tout court-circuit, nous vous recommandons de débrancher la borne négative de la batterie et d'effectuer tous les raccordements électriques avant d'installer l'appareil. Si l'on n'est pas sûr de pouvoir installer correctement cet appareil, le faire installer par un technicien qualifié.

Remarque:
Cet appareil est conçu pour fonctionner sur des sources de courant continu de **12 volts à masse NEGATIVE**. *Si votre véhicule n'offre pas ce type d'alimentation, il vous faut un convertisseur de tension, que vous pouvez acheter chez un revendeur d'autoradios JVC.*

- *Remplacer le fusible par un de la valeur précisée. Si le fusible saute souvent, consulter votre revendeur d'autoradios JVC.*
- *Si le bruit est un problème...*
  Cet appareil incorpore un filtre de bruit dans le circuit d'alimentation. Cependant, avec certains véhicules, quelques claquements ou autres bruits non désirés risquent de se produire. Si cela arrive, raccorder la **borne de masse arrière** *de l'appareil au châssis de la voiture (voir le schéma de raccordement ci-dessous) en utilisant des cordons les plus gros et les plus courts possibles telle qu'une barre de cuivre ou une tresse. Si le bruit persiste, consulter votre revendeur d'autoradios JVC.*
- *La puissance admissible des haut-parleurs doit être supérieure à 40 watts à l'arrière et à 40 watts l'avant, avec une impédance de* **4 à 8 ohms**.
- **S'assurer de raccorder la mise à la masse de cet appareil au châssis de la voiture.**
- *Le radiateur devient très chaud après usage. Faire attention de ne pas le toucher en retirant cet appareil.*

A Typical Connections / Conexiones típicas / Raccordements typiques

Before connecting: Check the wiring in the vehicle carefully. Incorrect connection may cause serious damage to this unit.

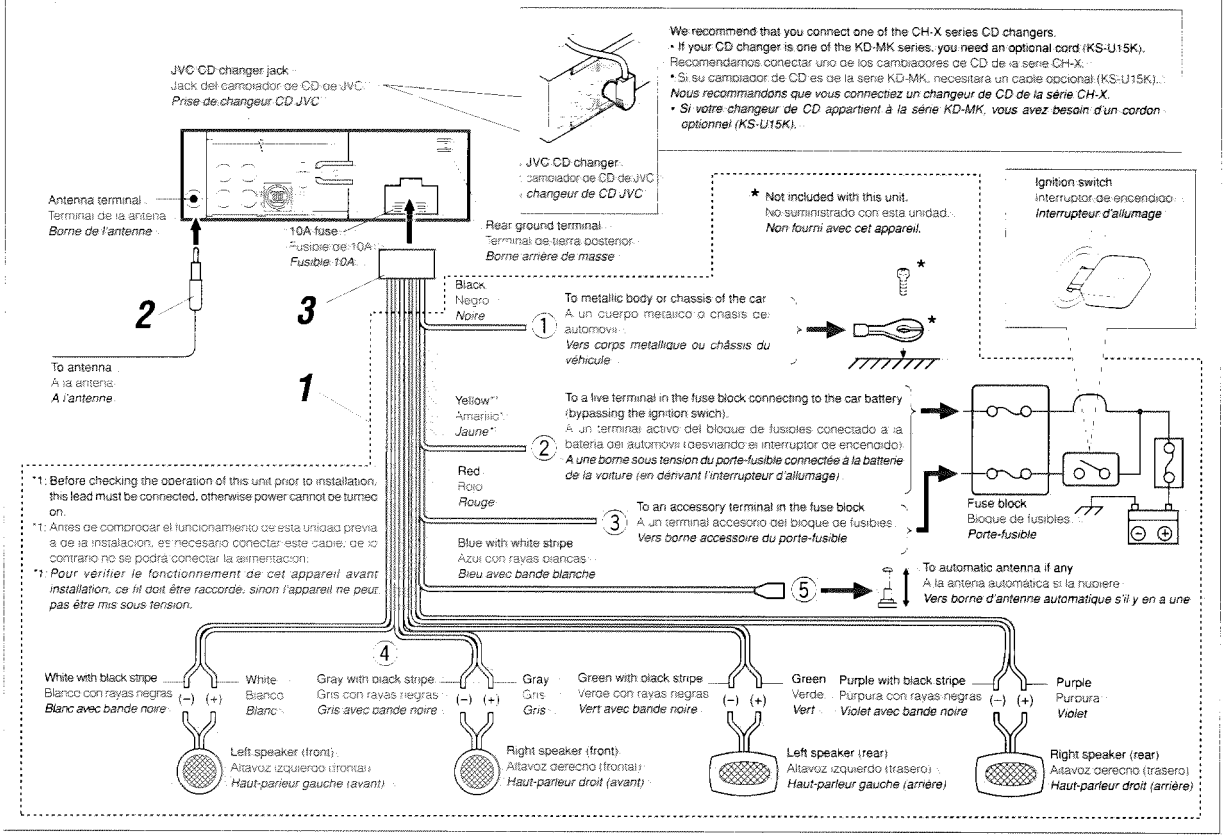
1 Connect the colored leads of the power cord to the car battery, speakers and automatic antenna (if any) in the following sequence.
   1. Black: ground
   2. Yellow: to car battery (constant 12V)
   3. Red: to an accessory terminal
   4. Others (except blue with white stripe): to speakers
   5. Blue with white stripe: to automatic antenna (200mA max.)
2 Connect the antenna cord.
3 Finally connect the wiring harness to the unit.

Antes de la conexión: Verifique atentamente el conexionado del vehiculo. Una conexion incorrecta podria producir daños graves en la unidad.

1 Conecte los conductores de color del cable de alimentación a la bateria del automovil, altavoces y antena automatica (si la hubiere) en la secuencia siguiente.
   1. Negro: a tierra.
   2. Amarillo: a la bateria del automóvil (12V constantes)
   3. Rojo: a un terminal de accesorio
   4. Otros, excepto azul con rayas blancas: a los altavoces
   5. Azul con rayas blancas: a la antena automática (200mA max.)
2 Conecte el cable de antena.
3 Por ultimo, conecte a la unidad el cableado preformado.

Avant de commencer la connexion: *vérifiez attentivement le câblage du véhicule. Une connexion incorrecte peut endommager sérieusement l'appareil.*

1 *Connectez les fils de couleur du cordon d'alimentation à la batterie de la voiture, aux enceintes et à l'antenne automatique (s'il y en a une) dans l'ordre suivant.*
   1. *Noir: a la masse*
   2. *Jaune: a la batterie de la voiture (12V constant)*
   3. *Rouge: à la prise accessoire*
   4. *Autres fils à l'exception du fil bleu à bandes blanches: aux enceintes*
   5. *Bleu à bandes blanches: à l'antenne automatique (200mA max.)*
2 *Connectez le cordon d'antenne.*
3 *Finalement, connectez le faisceau de fils à l'appareil.*



PRECAUTIONS on power supply and speaker connections:

- **DO NOT connect the speaker leads of the power cord to the car battery; otherwise, the unit will be seriously damaged.**
- Connect the black lead (ground), yellow lead (to car battery, constant 12V), and red lead (to an accessory terminal) correctly.
- BEFORE connecting the speaker leads of the power cord to the speakers, check the speaker wiring in your car.
  - **If the speaker wiring in your car is as illustrated in Fig. 1 and Fig. 2 below,** DO NOT connect the unit using that original speaker wiring. If you do, the unit will be seriously damaged. Redo the speaker wiring so that you can connect the unit to the speakers as illustrated in Fig. 3.
  - **If the speaker wiring in your car is as illustrated in Fig. 3,** you can connect the unit using the original speaker wiring in your car.
  - If you are not sure of the speaker wiring of your car, consult your car dealer.

PRECAUCIONES sobre las conexiones de la fuente de alimentación y de los altavoces:

- **NO conecte los conductores de altavoz del cable de alimentación a la batería de automóvil, pues podrían producirse graves daños en la unidad.**
- Conecte correctamente el conductor negro (a tierra), el conductor amarillo (a la batería del automóvil, 12V constantes), y el conductor rojo (a un terminal de accesorio).
- ANTES de conectar a los altavoces los conductores de altavoz del cable de alimentación, verifique el conexionado de altavoz de su automóvil.
  - **Si el conexionado de altavoz de su automóvil es como se indica en las Figs. 1 y 2 de abajo,** NO conecte la unidad utilizando ese conexionado de altavoz original. Si lo hace, se producirán daños graves en la unidad. Vuelva a efectuar el conexionado de altavoz de manera que pueda conectar la unidad a los altavoces de la manera indicada en la Fig.3.
  - **Si el conexionado de altavoz de su automóvil es como se indica en la Fig.3,** podrá conectar la unidad utilizando el conexionado de altavoz original de su automóvil.
  - Si tiene dudas sobre el conexionado de altavoz de su automóvil, consulte con su concesionario.

PRECAUTIONS sur l'alimentation et la connexion des enceintes:

- **NE CONNECTEZ PAS les fils d'enceintes du cordon d'alimentation à la batterie; sinon, l'appareil serait sérieusement endommagé.**
- *Connectez correctement le fil noir (à la masse), le fil jaune (à la batterie de la voiture, 12V constant) et le fil rouge (à la prise accessoire).*
- *AVANT de connecter les fils d'enceintes du cordon d'alimentation aux enceintes, vérifiez le câblage des enceintes de votre voiture.*
  - **Si le câblage des enceintes de votre voiture est réalisé comme montré sur la Fig. 1 ou Fig. 2 ci-dessous,** *NE CONNECTEZ PAS l'appareil en utilisant ce câblage original d'enceintes. Si vous le faites, l'appareil sera sérieusement endommagé. Recommencez le câblage des enceintes de façon que vous puissiez connecter l'appareil aux enceintes comme montré sur la Fig. 3.*
  - **Si le câblage des enceintes de votre voiture est comme montré sur la Fig. 3,** *vous pouvez connecter l'appareil en utilisant ce câblage original d'enceintes pour votre voiture.*
  - *Si vous n'êtes pas sûrs du câblage d'enceintes de votre voiture, consulter le concessionnaire de votre voiture.*

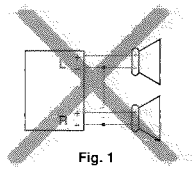


Fig. 1

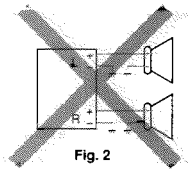


Fig. 2

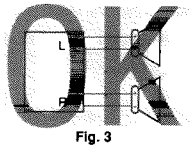
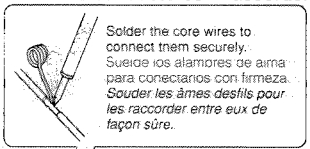


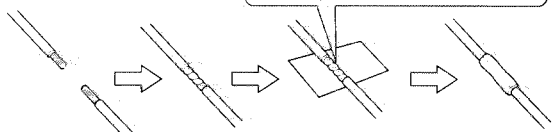
Fig. 3

Connecting the leads / Conexión de los conductores / Raccordement des fils

Twist the core wires when connecting.
Retuerza los alambres de alma para conectarlos.
Torsader les âmes des fils en les raccordant.

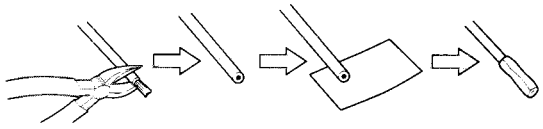


Solder the core wires to connect them securely.
Suelde los alambres de alma para conectarlos con firmeza.
Souder les âmes des fils pour les raccorder entre eux de façon sûre.



CAUTION / PRECAUCION / PRECAUTION:

- **To prevent short-circuit, cover the terminals of the UNUSED leads with insulating tape.**
- **Para evitar cortocircuitos, cubra los cables NO UTILIZADOS con cinta aislante.**
- **Pour éviter les court-circuits, couvrir les bornes des fils qui ne sont PAS utilisés avec de la bande isolante**



TROUBLESHOOTING

- **The fuse blows.**
  - Are the red and black leads connected correctly?
- **Power cannot be turned on.**
  - Is the yellow lead connected?
- **No sound from the speakers.**
  - Is the speaker output lead short-circuited?
- **Sound is distorted.**
  - Is the speaker output lead grounded?
  - Are the "−" terminals of L and R speakers grounded in common?
- **Unit becomes hot.**
  - Is the speaker output lead grounded?
  - Are the "−" terminals of L and R speakers grounded in common?

LOCALIZACION DE AVERIAS

- **El fusible se quema.**
  - ¿Están los conductores rojo y negro correctamente conectados?
- **No es posible conectar la alimentación.**
  - ¿Está el cable amarillo conectado?
- **No sale sonido de los altavoces.**
  - ¿Está el cable de salida del altavoz cortocircuitado?
- **El sonido presenta distorsión.**
  - ¿Está el cable de salida del altavoz conectado a masa?
  - ¿Están los terminales "−" de los altavoces L y R conectados a una masa común?
- **La unidad se calienta.**
  - ¿Está el cable de salida del altavoz conectado a masa?
  - ¿Están los terminales "−" de los altavoces L y R conectados a una masa común?

EN CAS DE DIFFICULTÉS

- **Le fusible saute.**
  - *Les fils rouge et noir sont-ils racordés correctement?*
- **L'appareil ne peut pas être mise sous tension.**
  - *Le fil jaune est-elle raccordée?*
- **Pas de son des haut-parleurs.**
  - *Le fil de sortie de haut-parleur est-il court-circuité?*
- **Le son est déformé.**
  - *Le fil de sortie de haut-parleur est-il à la masse?*
  - *Les bornes "−" des haut-parleurs gauche et droit sont-elles mises ensemble à la masse?*
- **L'appareil devient chaud.**
  - *Le fil de sortie de haut-parleur est-il à la masse?*
  - *Les bornes "−" des haut-parleurs gauche et droit sont-elles mises ensemble à la masse?*

Disassembly Method

■Detaching the Front Panel Unit

(See Fig.1)

Push the Release button in the direction of arrow to detach the front panel unit.

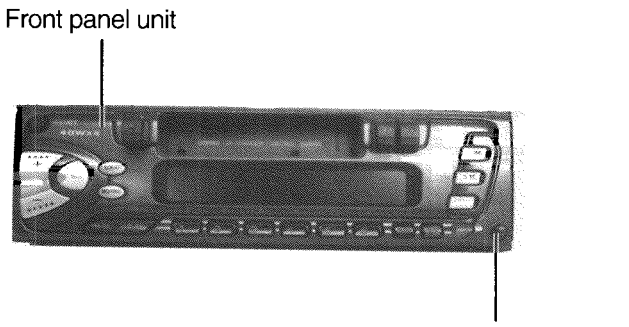


Fig. 1

■Removing the Front Chassis

(See Fig. 2 and 3)

Disengage the four tabs (a) in the right and left sides of unit and pull the front chassis forward to remove it.

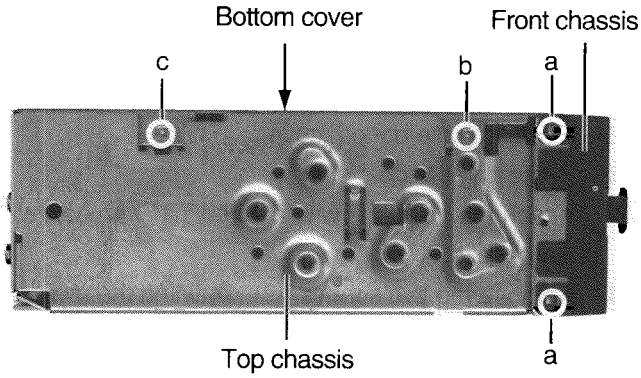


Fig. 2

■Removing the Bottom Cover

(See Fig. 2 to 4)

1. Removing the front chassis.
2. Turn the unit up side down.
3. Insert the six engagements (b, c, d, e, f) to the screwdriver .
4. Turn the screwdriver and remove the bottom cover.

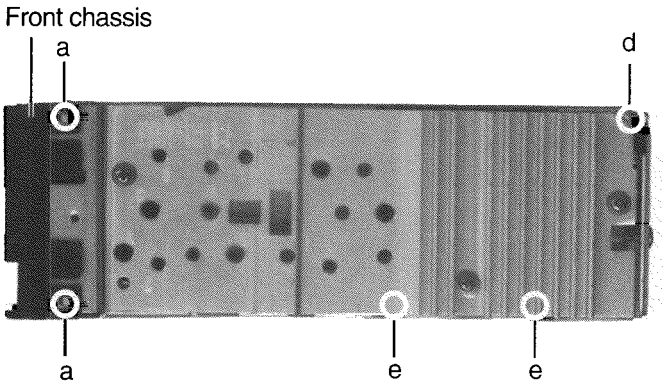


Fig. 3

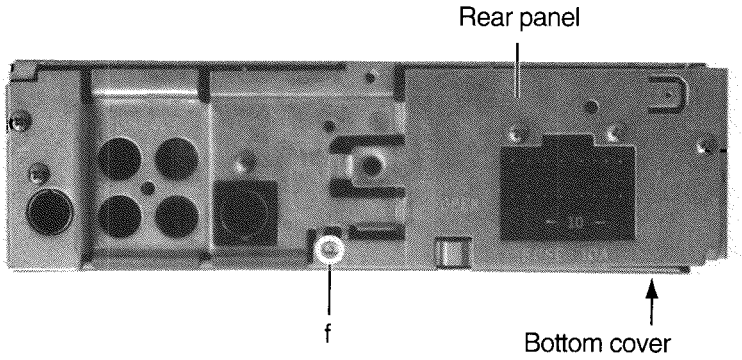


Fig. 4

■Removing the Heat Sink (See Fig. 5)

1. Removing the front chassis.
2. Removing the bottom cover.
3. Remove the three screws (1 and 1`) retaining the heat sink.

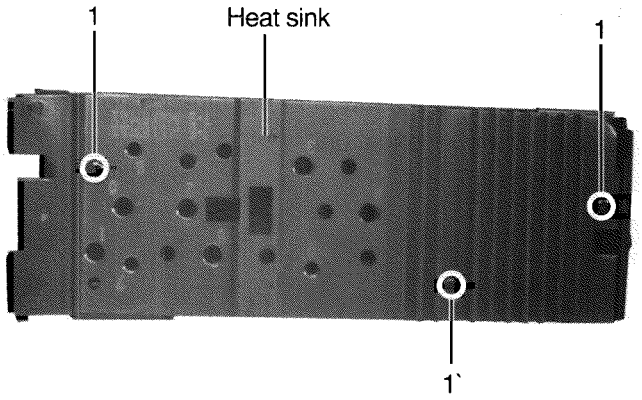


Fig. 5

■Removing the Main Board Assembly

(See Fig. 5 to 7)

1. Removing the front chassis.
2. Removing the bottom cover.
3. Removing the heat sink.
   (Attach the heat sink with a screw (1`) on operating checks.)
4. Remove the two screws (2) retaining the main board assembly.
5. Remove the two screws (3) retaining the rear panel .
6. Separate the main board assembly and cassette mechanism assembly.
7. Take out the main board assembly.

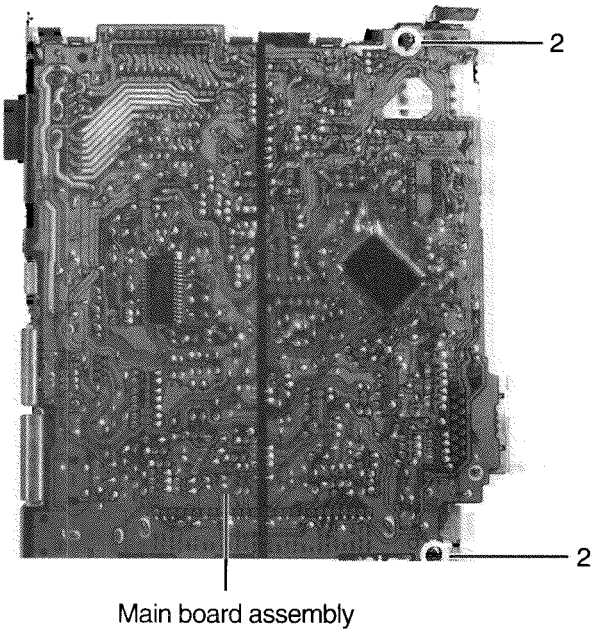


Fig. 6

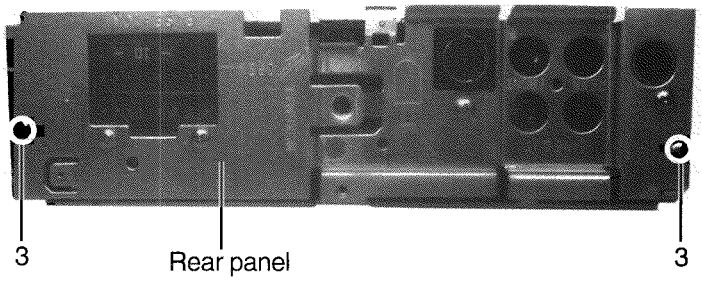


Fig. 7

■Removing the Cassette Mechanism assembly

(See Fig. 8)

1. Removing the front chassis.
2. Removing the bottom cover.
3. Removing the heat sink.
4. Removing the main board assembly.
5. Remove the four screws (4) retaining the cassette mechanism.
6. Separate the top chassis and cassette mechanism.

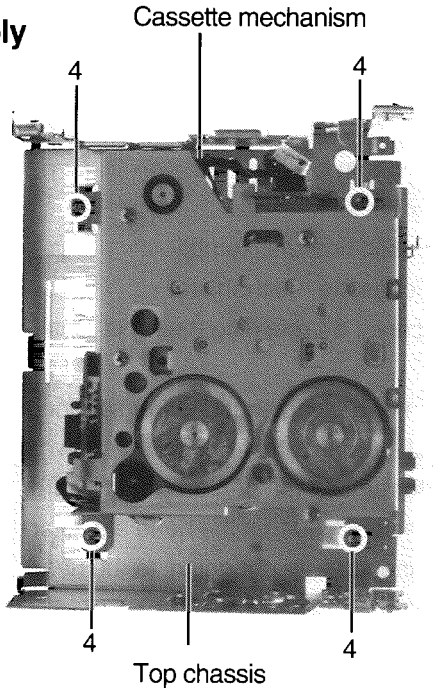


Fig. 8

■Removing the Operation Switch board

(See Fig. 9 to 11)

1. Detaching the front panel unit.
2. Turn the front panel back side down.
3. Remove the four screws (5) retaining the front cover.
4. Open the front cover gradually by disengaging the three engagements (g) while pushing the top of the front cover in the arrow "A" direction, then disengage the three engagements (h) on the both sides.
5. Place the front panel unit front side down.
6. Disengage the three engagements (i) on the bottom to separate the front cover from the front panel.
   (Be careful not to lose the button springs.)

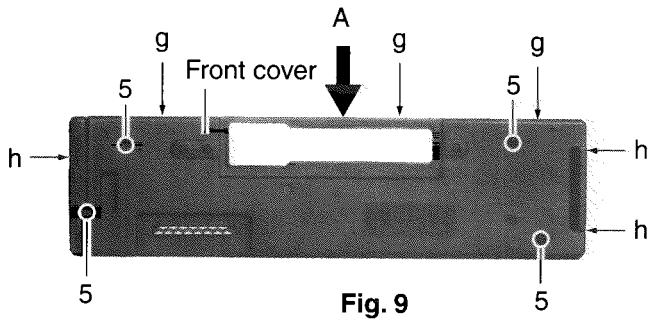


Fig. 9

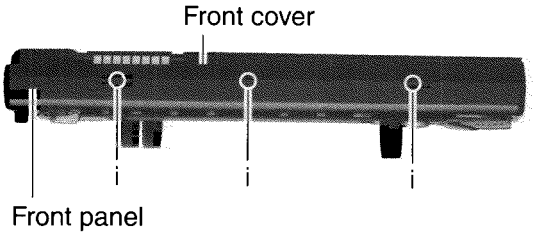


Fig. 10

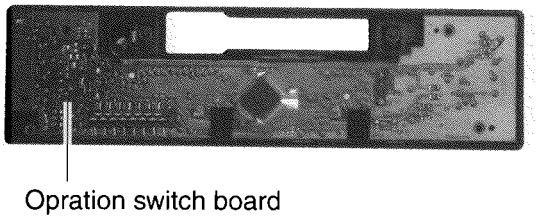


Fig. 11

■Removing the Head Amplifier Board

(See Fig. 12)

1. Removing the front chassis.
2. Removing the bottom cover.
3. Removing the heat sink.
4. Removing the main board assembly.
5. Removing the cassette mechanism.
6. Remove the screw (6) retaining the head amplifier board.
7. Shift the two inter rocking sections (j) securing the head amplifier board in the direction shown by the arrow "B" to remove the printed circuit board.
8. From the connector CJ901 on the head amplifier board from connector wire out going to the head relay board.

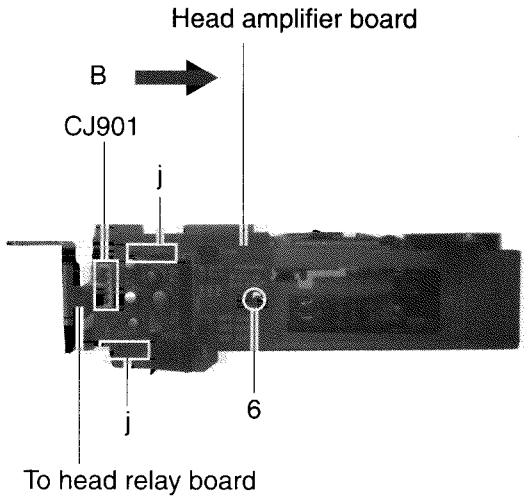


Fig. 12

■Removing the Chassis Assembly

(See Fig. 13 and 14)

1. Removing the front chassis.
2. Removing the bottom cover.
3. Removing the heat sink.
4. Removing the main board assembly.
5. Removing the cassette mechanism.
6. Removing the head amplifier board.
7. Turn the left side to cassette mechanism.
8. Remove the screw (7) retaining the relay board.
9. Shift the one inter rocking sections (k) securing the relay board in the direction shown by the arrow "C" to remove the printed circuit board.
10. Turn the back side down, remove the four screws (8) retaining the chassis assembly.

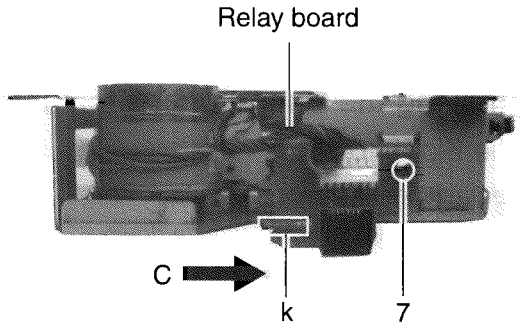


Fig. 13

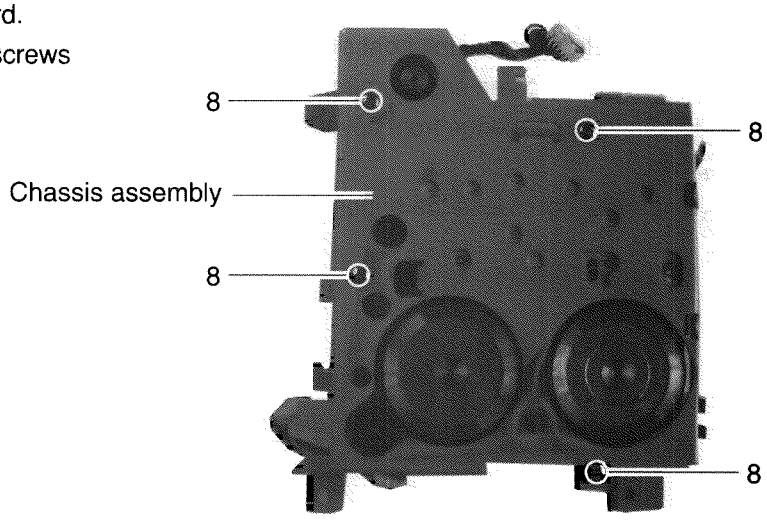


Fig. 14

<Cassette Mechanism Sections>

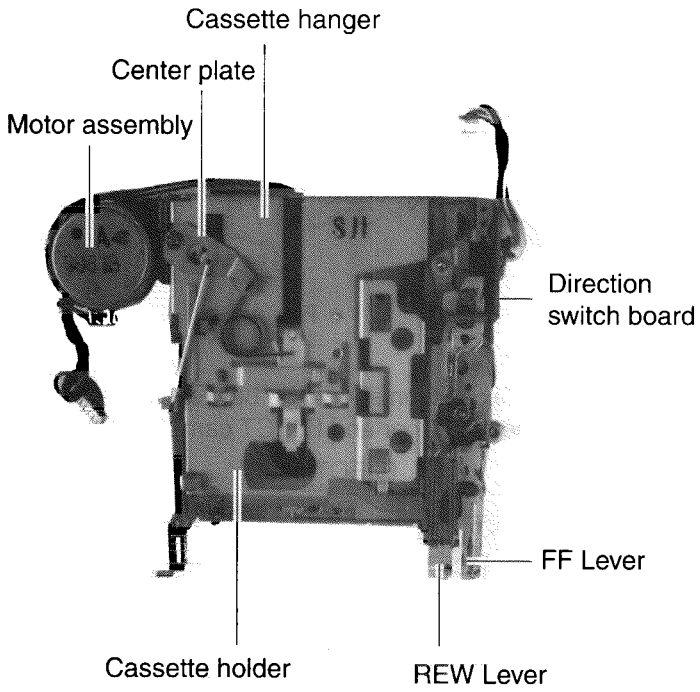


Fig. 1

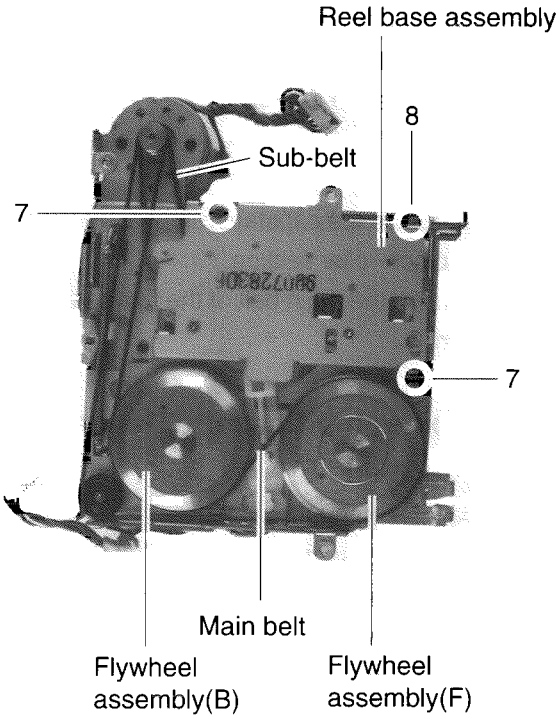


Fig. 2

■Removing the Main Parts of Cassette Mechanism

1. Remove the cassette hanger and FF, REW, EJECT lever etc. , when you need to replace or adjusting head.
2. The main belt can be replaced directly.
3. To change the sub-belt, remove the three screws (7) and loosen one screw (8).
   Then raise the belt side of the reel base assembly slightly.

■Removing the Cassette Hanger

(See Fig.1 and 5)

1. From the rear of the unit, bend the cassette hanger and chassis the five claws (a), (b) outwards.
2. While pressing the EJECT lever, remove the cassette hanger.
3. Remove the return link from the center plate of the cassette hanger.

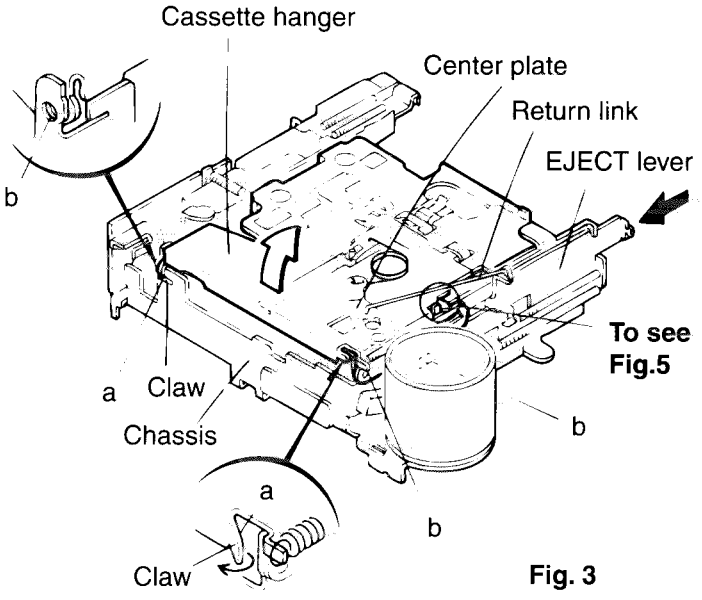


Fig. 3

Note : The reel disk and capstan can now be replaced.

1-1 Remove the C washer at the top of the reel disk to remove the reel disk.
caution : Replace with a new C washer after repairing.

1-2 To replace the capstan, remove the E washer in the pinch-roller section.
Remove the main belt of the flywheel beforehand.

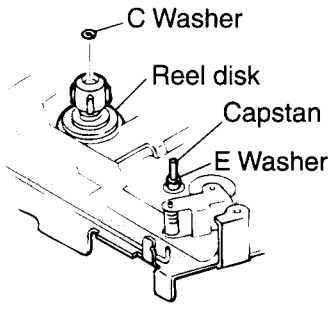


Fig. 4

■Assembling the Cassette Hanger

(See Fig. 1 and 5)

1. Assemble the return link.
2. Install the cassette hanger on the chassis.

Note : While pressing the EJECT lever, assemble in the order shown below.

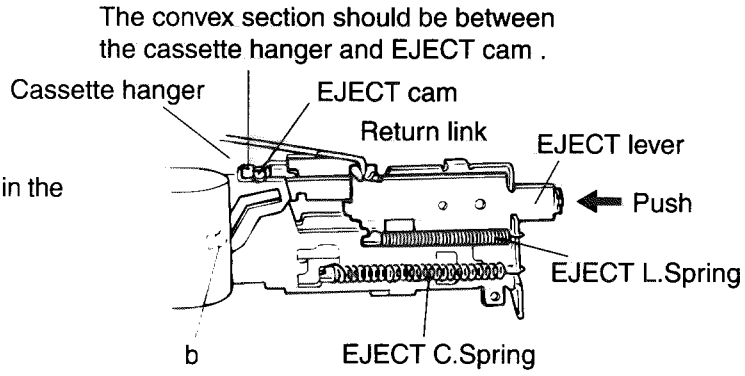


Fig. 5

■Removing the FF/REW lever assembly

(See Fig. 6)

1. From the rear of unit, remove the FF/REW lever assembly retaining the one screw (1).
2. From the upper part of the FF/REW lever assembly, remove the FF/REW lever assembly retaining the one screw (2).
3. From the front of unit, remove the FF/REW lever assembly upwards and pull it slightly to the front.

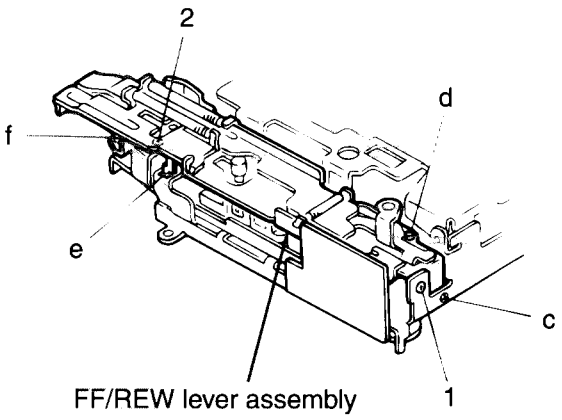


Fig. 6

■Assembling the FF/REW lever Assembly

1. Assemble the FF/REW lever assembly to the chassis of rear section (c).
2. Assemble the pinch-roller shaft (d), change lever (B) (e) and return link (f) to chassis.

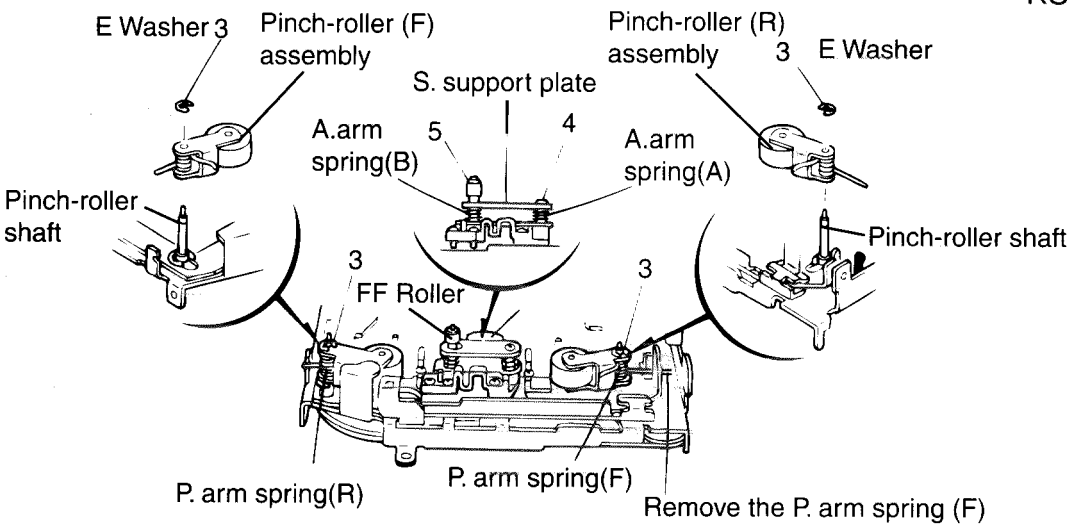


Fig. 7

■Removing the Pinch-Roller assembly (See Fig. 7)

1. Remove the two E Washers (3) retaining the pinch-roller shaft.
2. Remove the P.Arm spring (F) from the chassis.
3. Remove the P.Arm spring (R) from the chassis.
4. Pull out the pinch-roller(F,R) assemblies from the left and right sides.

Note : The P.arm spring (F) and P.arm spring (R) are different.

Note : The Pinch-roller (F) and Pinch-roller(R)assemblies are different.

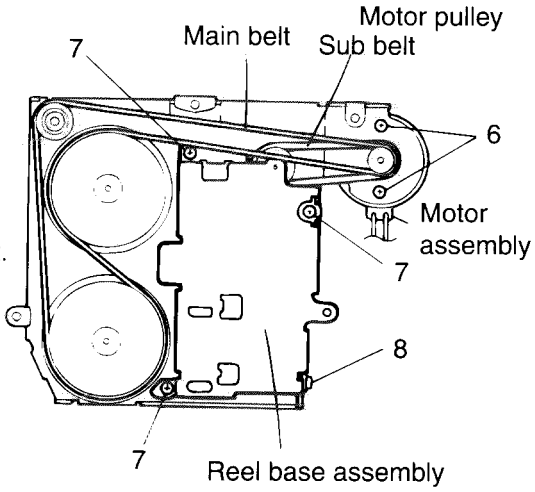


Fig. 8

■Removing the Playback Head (See Fig. 7)

1. Remove the one fixed screw (4) retaining the playback head.
2. Remove the C Washer (5) to pull the FF roller out .
3. Remove the S. support plate to remove the A.arm springs (A,B) and playback head.

Note : The A. arm spring (A) and A. arm spring (B) are different.

■Removing the Motor Assembly (See Fig. 8)

1. Remove the main belt and sub-belt from the back side unit.
2. Remove the two screws (6) retaining the motor assembly.

■Changing the Sub-Belt (See Fig. 8)

1. Remove the main belt from the back side unit..
2. Remove the sub-belt from the motor pulley.
3. Remove the four screws (7), (8) retaining the reel base assembly.
4. Lift up the reel base assembly slightly to change the belts.

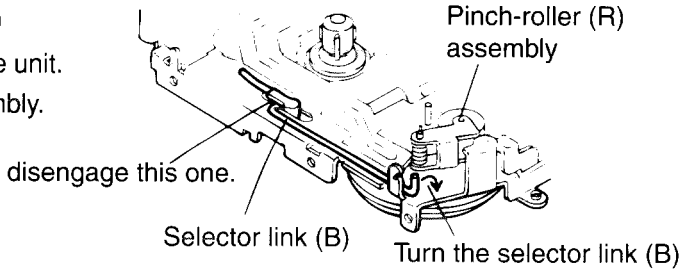


Fig. 9

■Removing the Reel Base Assembly

(See Fig. 8 and 10)

1. Remove the selector link (B) from the front unit by turning the selector link (B) near the pinch-roller as shown in the figure 9.
2. Remove the four screws (7), (8) retaining the reel base assembly.
3. Remove the reel base assembly carefully.

Note : Service for the reel base assembly is not available.

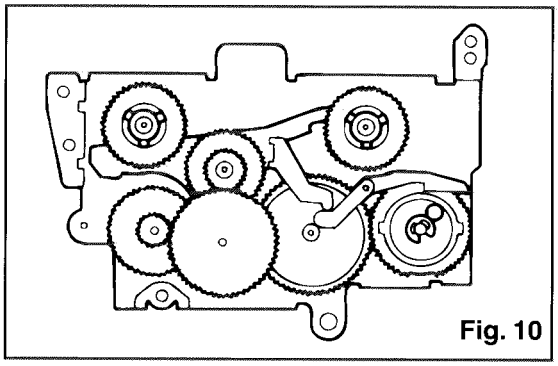


Fig. 10

Back side view of the reel base assembly

KS-F150
KS-FX12

Adjustment Method

■Test Instruments reqired for adjustment

1. Digital oscllioscope(100MHz)
2. Frequency Counter meter
3. Electric voltmeter
4. Wow & flutter meter
5. Test Tapes
   VT724 ..... for DOLBY level measurement
   VT739 ..... For playback frequency measurement
   VT712 .... For wow flutter & tape speed measurement
   VT703 ..... For head azimuth measurement
6. Torque gauge ..... Cassette type for CTG-N
   (mechanism adjustment)

■Measuring conditions(Amplifier section)

Power supply voltage ..... DC14.4V (10.5 - 16V)
Load impedance ..... 4 Ω (2Speakers connection)
Line out 20kΩ

■Standard volume position

Balance and Bass,Treble volume .Fader
:Center(Indication"0")
Loudness,Dolby NR,Sound,Cruise:Off
Volume position is about 2V at speaker output with following conditions.Playback the test tape VT721.

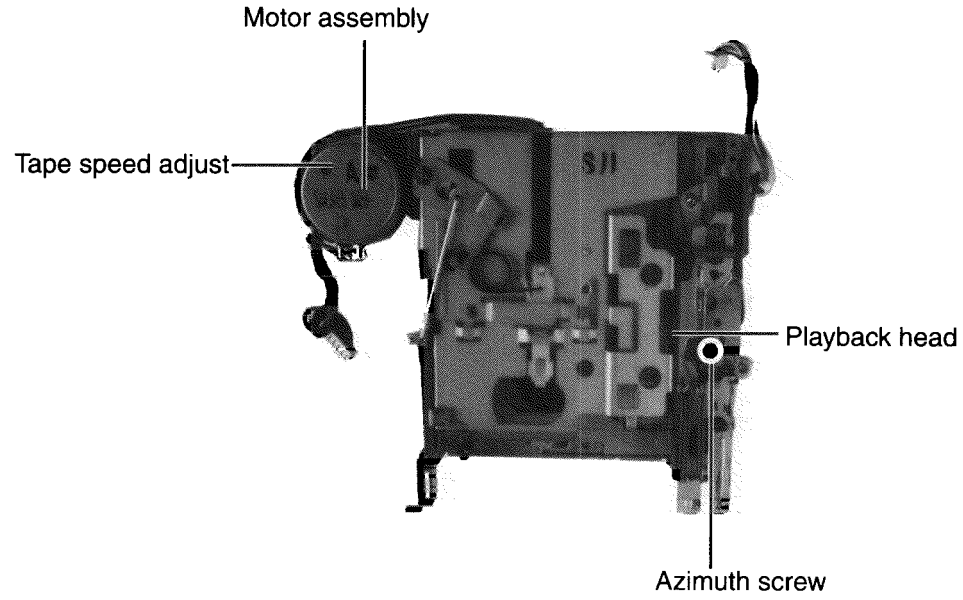
AM mode	999kHz/62dB,INT/400Hz,30% modulation signal on recieving.
FM mono mode	97.9MHz/66dB,INT/400Hz,22.5kHz deviation pilot off mono
FM stereo mode	1kHz,67.5kHz dev. pilot7.5kHz dev.
Output level	0dB(1 μV,50 Ω /open terminal)

■Frequency Band

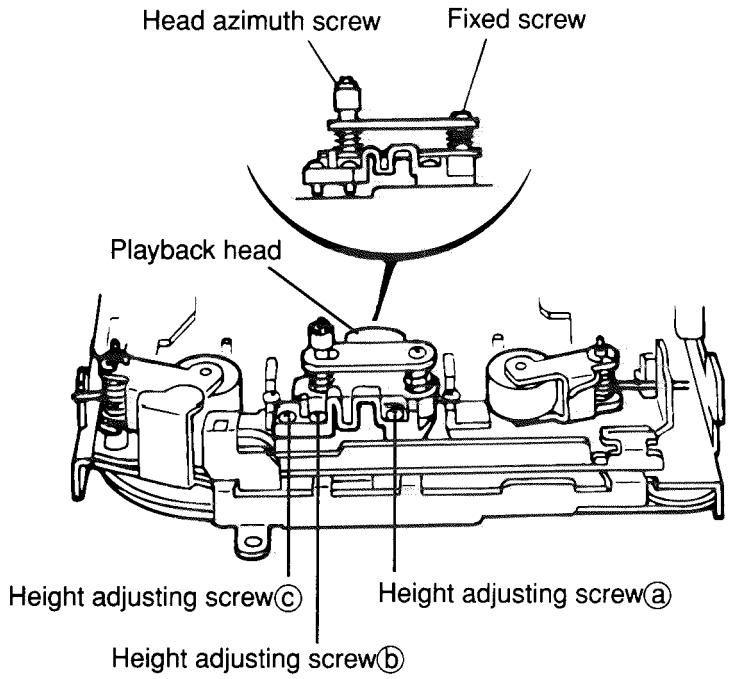
MODEL			KS-F150/FX12	
Band	FM	J	87.5-107.9MHz	200KHz step
		E	87.5-108MHz	50KHz step
	MW	J	530-1710KHz	10KHz step
		E	522-1620KHz	9KHz step
	LW	E	144-279KHz	

■Arrangement of Adjusting & Test points

Cassette mechanism
(Surface)



Head section view



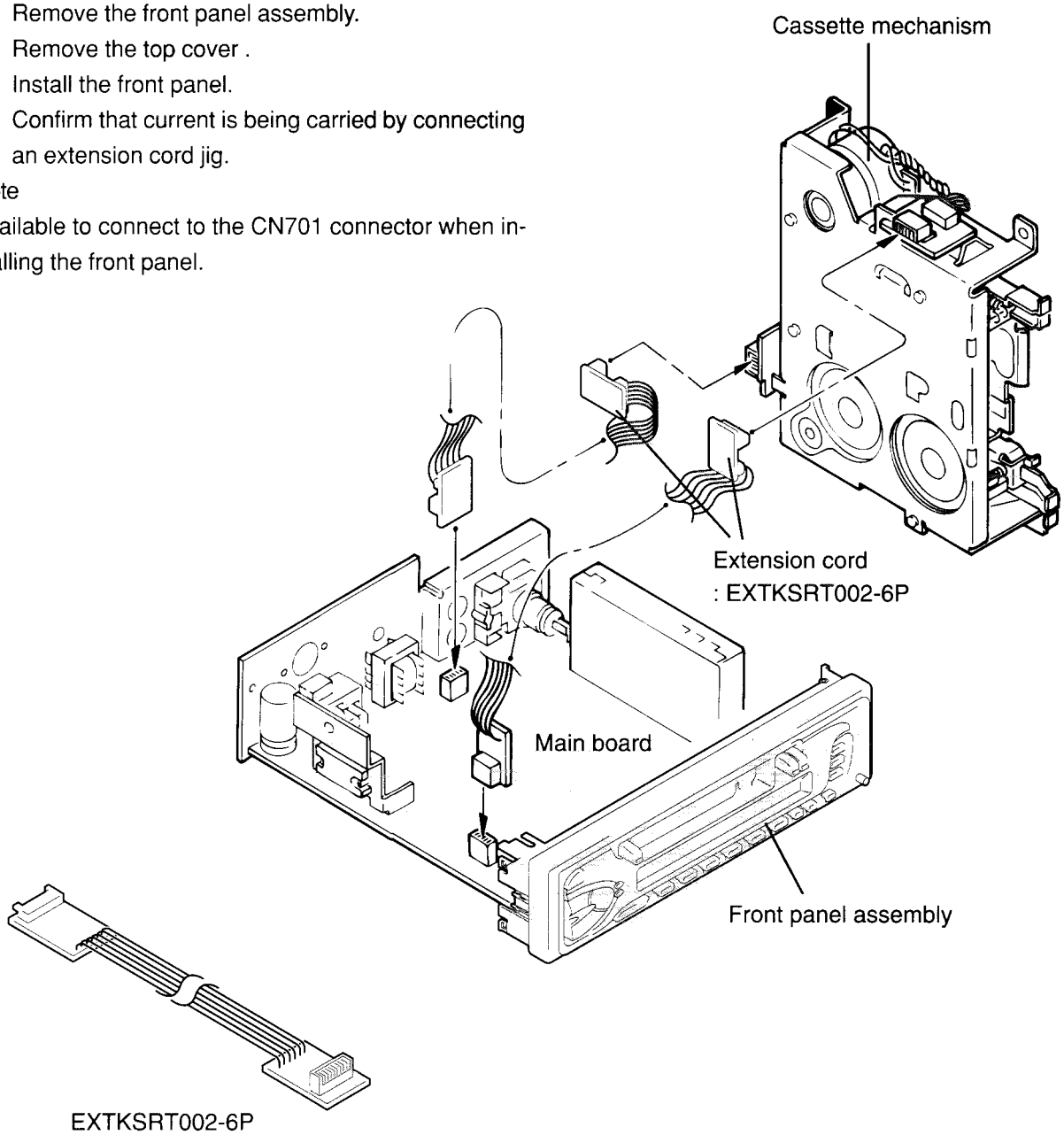
■Information for using a Car Audio Service Jig

1. For 1995 and 1996 , we're advancing efforts to make our extension cords common for all car audio products. Please use this type of extension cord as follows.
2. As a U-shape type top cover is employed, this type of extension cord is needed to check operation of the mechanism assembly after disassembly.
3. Extension cord : EXTKSRT002-6P (6 pin extension cord) For connection between mechanism assembly and main board assembly.
   Check for mechanism driving section such as motor ,etc..

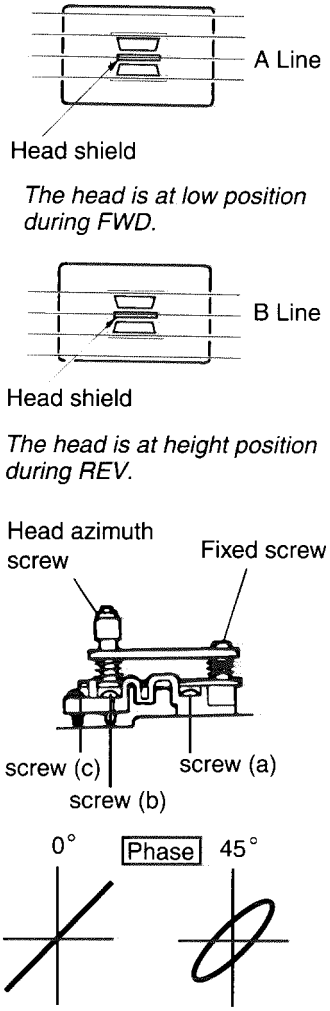
■Disassembly Method

1. Remove the bottom cover.
2. Remove the front panel assembly.
3. Remove the top cover .
4. Install the front panel.
5. Confirm that current is being carried by connecting an extension cord jig.

Note
Available to connect to the CN701 connector when installing the front panel.

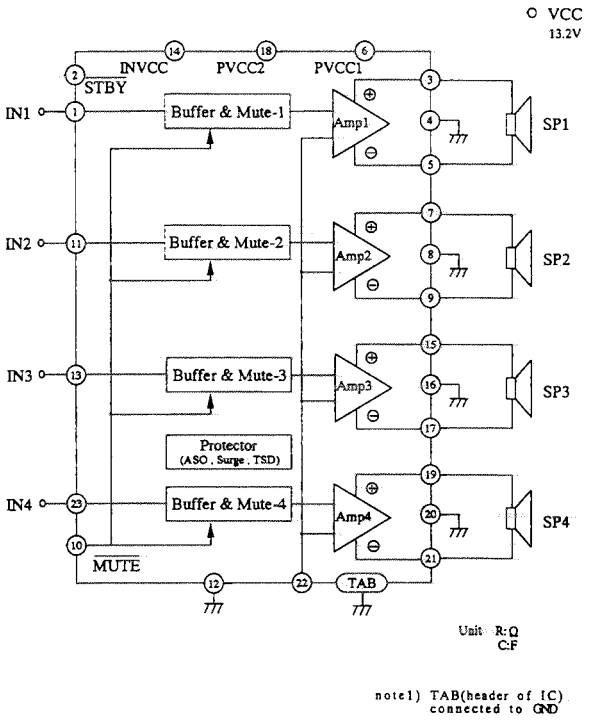


■Mechanism Adjustment Section

Item	Adjusting & Confirmation Methods	Adjust	Std. Value
1.Head azimuth	"Head Height Adjustment" Note Adjust the azimuth directly. When you adjust the height using a mirror tape, remove the cassette housing from the mechanism chassis. After installing the cassette housing, perform the azimuth adjustment. 1.load the mirror tape (SCC-1659). Adjust with height adjustmentscrew (a) and azimuth adjustment screw (b) so that line "A" of the mirror tape runs in the center between Lch and Rch in the reverse play mode. 2.After switching from REV to FWD then to REV, check that the head position set in procedure "1" is not changed. *If the position has shifted, adjust again and check. 3.Adjust the azimuth screw (b) so that line "B" of the mirror tape runs in the center between Lch and Rch in the forward play mode. "Head Azimuth Adjustment" 1.Load the test tape (VT724: 1kHz) and play it back in the reverse play mode. set the Rch output level to maximum. 2.Load the test tape (VT703: 10kHz) and play it back in the forward play mode. Adjust the Rch and Lch output levels tomaximum, with azimuth adjustment screw (b). In this case, the phase difference should be within 45° . 3.Engage the reverse mode and adjust the output level to maximum, with azimuth adjustment screw (c). *The phase difference should be 45_Kor more. 4.When switching between forward and reverse modes, the difference between channels should be within 3dB. *Between FWD Lch and Rch, REV Lch and Rch. 5.When the test tape (VT721 : 315Hz) is played back, the level difference between channels should be within 1.5dB.		
2.Tape Speed and Wow & Flutter	1.Check to see if the reading of the frequency counter & Wow flutter meter is within 2940-3090 Hz(FWD/REV), and less than 0.35% (JIS RMS). 2.In case of out of specification, adjust the motor with a built-in volume resistor.	Built-in volume resistor	Tape Speed 2940-3090Hz Wow&Flutter Less than 0.35% (JIS RMS)
3.Playback Frequency response	1.Play the test tape (VT724 : 1kHz) back and set the volume position at 2V. 2.Play the test tape (VT739)back and confirm 0 ± 3dB at1kHz/8kHz and -4+2dB at 1kHz/125Hz. 3.When 8kHz is out of specification, it will be necessary to read adjust the azimuth.		Speaker out 1kHz/8kHz : 0dB_}3dB, 125Hz/1kHz : -4dB+2dB,

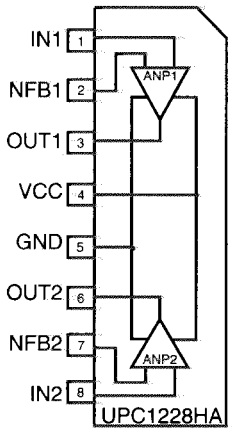
Description of major ICs

■UPC1228HA (IC901) : Head Amplifier



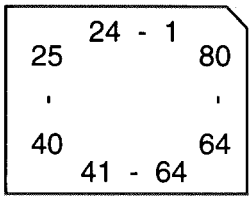
note1) TAB(header of IC) connected to GND

■HA13158 (IC981) : BTL Amplifier



■LC72362N-9595 (IC701) : System Controller

1.Terminal Layout

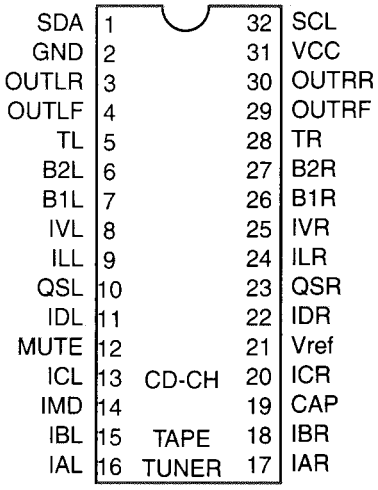


2.Description

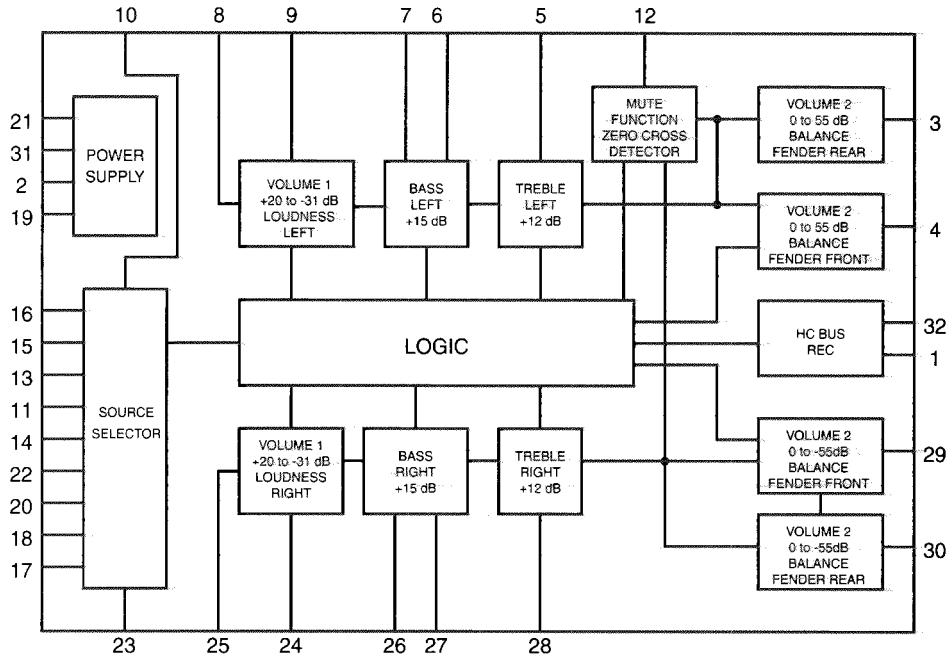
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XIN	I	Crystal oscillator	41	NC	-	Non connect
2	GND	-	To GND	42	NC	-	Non connect
3	J BUS SI	I	Bus serial data input from CP751	43	NC	-	Non connect
4	J BUS SO	O	Bus serial data output to CP751	44	BEEP	-	Non connect
5	J BUS SCK	O	Bus serial clock output to CP751	45	NC	-	Non connect
6	J BUS I/O SEL	O	BUS I/O switch signal output	46	NC	-	Non connect
7	NC	-	Non connect	47	NC	-	Non connect
8	LCD SO	O	Serial data output to IC651	48	TAPE IN	I	H:RADIO L:TAPE
9	LCD SCK	O	Serial clock output to IC651	49	F/R SENSE	I	FORWARD/REVERSE switch detector
10	LCD CE	O	Chip enable output to IC651	50	TAPE MUTE	I	DIR.FF/REW.MUTE
11	NC	-	Non connect	51	SD/ST	I	Station detector and ST input
12	E.VOL SO	O	Serial data output	52	NC	-	Non connect
13	E.VOL SCK	O	Serial clock output	53	DETACH	I	Detection of Front Panel
14	NC	-	Non connect	54	NC	-	Non connect
15	TUNER ILLUM	-	Non connect	55	J BUS INT	I	BUS interruption signal detection communication
16	TAPE ILLUM	-	Non connect	56	REMOCON	-	To GND
17	CD ILLUM	-	Non connect	57	FM/AM	I	Change over the FM/AM input
18	DIMMER OUT	-	Non connect	58	DOLBY	-	Non connect
19	NC	-	Non connect	59	NC	-	Non connect
20	NC	-	Non connect	60	MUTE	-	The mute time is controlled by the connected capacitor when changing over the FM/AM
21	NC	-	Non connect				
22	NC	-	Non connect				
23	NC	-	Non connect	61	MEMORY DET	I	Memory detector input
24	NC	-	Non connect	62	LEVEL METER	I	———
25	KS1	-	Non connect	63	SMETER	I	Signal meter input
26	KS0	O	Initializing output port	64	KEY 2	I	Momentary key input
27	K3	I	Initializing input port	65	KEY1	I	Momentary key input
28	K2	I	Initializing input port	66	KEY0	I	Momentary key input
29	K1	-	Non connect	67	ACCDET	I	ACC DET
30	K0	I	Initializing input port	68	SENS	-	To GND
31	Vdd	-	Power supply	69	NC	I	Non connect
32	TEST	I	Test input	70	FM/AM IF COUNT	-	AM/FM Frequency detection
33	NC	-	Non connect	71	NC	-	Non connect
				72	NC	-	Non connect
34	SEEK/STOP	O	Output the "If signal request"	73	Vdd	I	Power supply
35	MONO	O	Monaural and stereo change over output	74	AM OSC	I	Input the local oscillator signal of AM
				75	FM OSC	-	Input the local oscillator signal of FM
36	RADIO/TAPE	-	Non connect	76	Vss	-	Power supply
37	BEEP LEVEL	-	Non connect	77	NC	O	Non connect
38	POWER CNT	O	Power control output	78	ED	-	PLL Error signal output
39	Acc	-	Power supply	79	TEST 1	O	To GND
40	NC	-	Non connect	80	XOUT		Crystal oscillator

■TEA6320T (IC931) : E.volume

1.Terminal Layout



2.Block Diagram

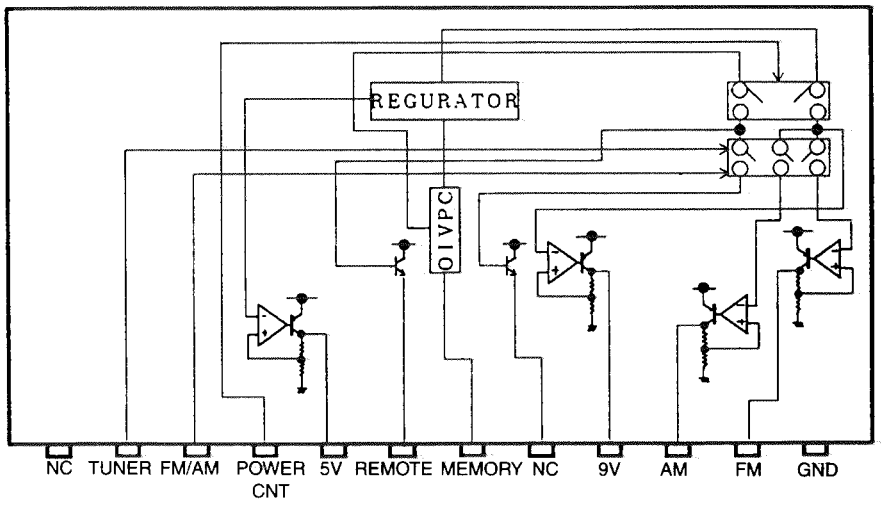


3.Pin Functions

Pin No.	Symbol	I/O	Functions
1	SDA	I/O	Serial data input/output.
2	GND	-	Ground.
3	OUTLR	O	output left rear.
4	OUTLF	O	output left front.
5	TL	I	Treble control capacitor left channel or input from an external equalizer.
6	B2L	-	Bass control capacitor leftchannel or output to an external equalizer.
7	B1L	-	Bass control capacitor left channel.
8	IVL	I	Input volume 1. left control part.
9	ILL	I	Input loudness. left control part.
10	QSL	O	Output source selector. left channel.
11	IDL	-	Not used
12	MUTE	-	Not used
13	ICL	I	Input C left source.
14	IMO	-	Not used
15	IBL	I	Input B left source.
16	IAL	I	Input A left source.
17	IAR	I	Input A right source.
18	IBR	I	Input B right source.
19	CAP	-	Electronic filtering for supply.
20	ICR	I	Input C right source.
21	Vref	-	Reference voltage (0.5Vcc)
22	IDR	-	Not used
23	QSR	O	Output source selector right channel.
24	ILR	I	Input loudness right channel.
25	IVR	I	Input volume 1. right control part.
26	B1R	-	Bass control capacitor right channel
27	B2R	O	Bass control capacitor right channel or output to an external equalizer.
28	TR	I	Treble control capacitor right channel or input from an external equalizer.
29	OUTRF	O	Output right front.
30	OUTRR	O	Output right rear.
31	Vcc	-	Supply voltage.
32	SCL	I	Serial clock input.

■AN80T05 (IC781) : Regulator

1.Block Diagram

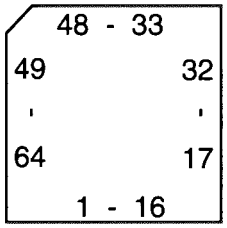


2.Pin Functions

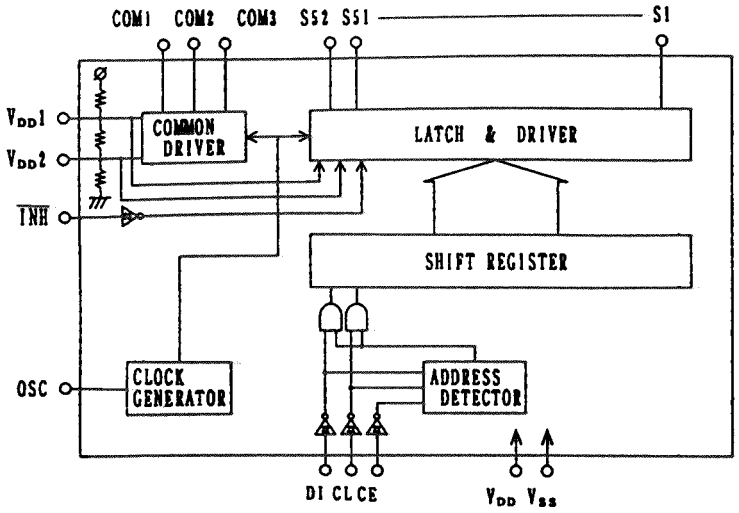
Pin No.	Symbol	I/O	Functions
1	NC	-	Not used
2	TUNER	O	Output selector of AM and ANT.
3	FM/AM	O	Output selector for AM or FM or both outputs is off.
4	POWER CNT	O	Output selector of COM and AMP. Only VDD output is on at STAND BY.
5	5V	-	Output level is 5.6v. Output current is 100mA(min). It is voltage supply for micro computer. Whenever Vcc terminal is connected, output always keep running
6	REMOTE	-	Voltage which is about 1V lower than Vcc unit voitage. Output current is 500mA(min). Voltage supply for Remote Amp.
7	MEMORY	O	To be continued to BACK UP and ACC of car.
8	NC	-	Not used
9	9V	-	Output level is 8.7V. Output current is 150mA(min). It can be used for system common power supply;tone control, volume control,balance control, equalize amplifier.
10	AM	-	Not used
11	FM	-	Output level is 8.7V. Output current is 250mA(min). Voltage supply for FM Radio Tuner.
12	GND	-	To GND

■LC75823W (IC651) : LCD Driver

1.Terminal Layout



2.Block Diagram

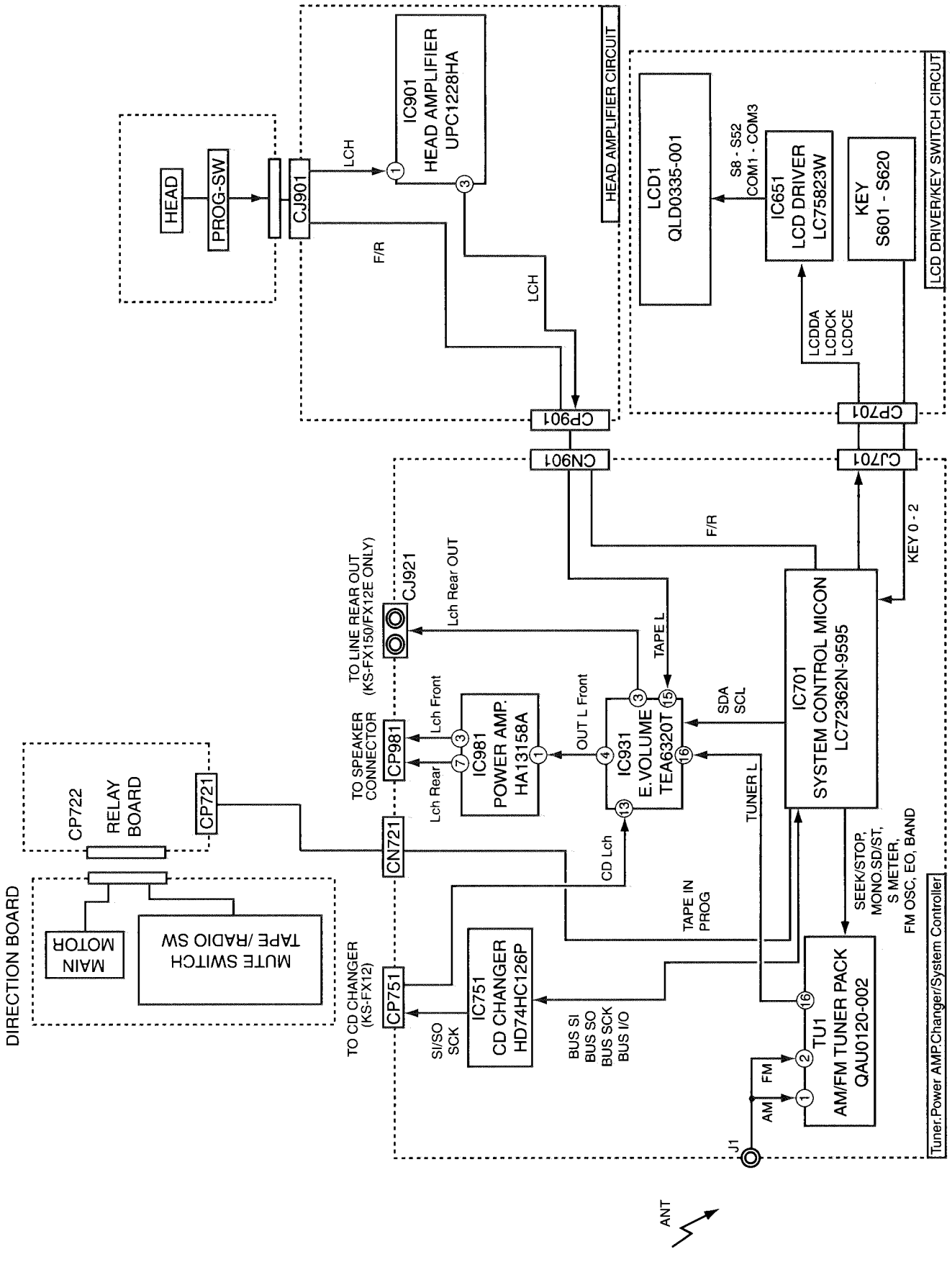


3.Pin Function

PIN No.	Symbol	I/O	Functions
1 - 9		-	NOT USED
10 - 52	S10 - S52	O	Segment outputs that display data transferred from serial data.
53 - 55	COM1 - COM3	O	The frame frequency (fo) for the common driver output is (fosc/384)Hz.
56	VDD	-	Power supply
57	/INH	I	Forcibly terns off the display. regardless of internal data. Serial data can be input. whether this pin is high or low
58 59		- -	NOT USED
60	VSS	-	To GND
61	OSC	I	Oscillator connection (for the common segment alternating waveform)
62 63 64	CE CL DI	I I I	Serial data transfer pins.connected to a microprocessor. ┌ CE : Chip enable CL : Sync.clock └ DI : Transfer data

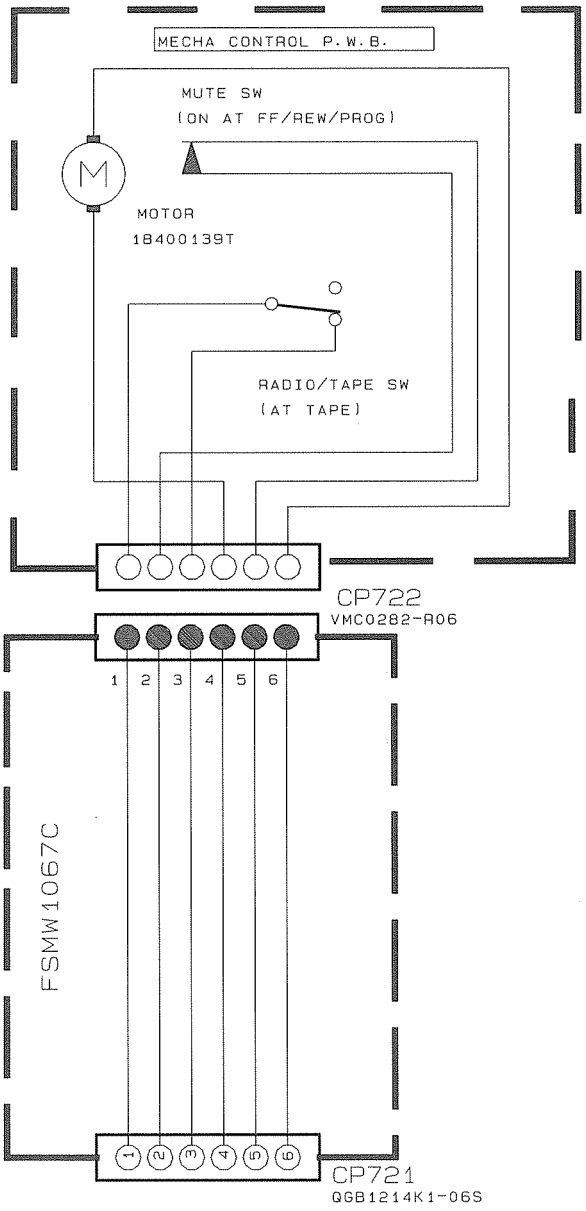
KS-F150
KS-FX12

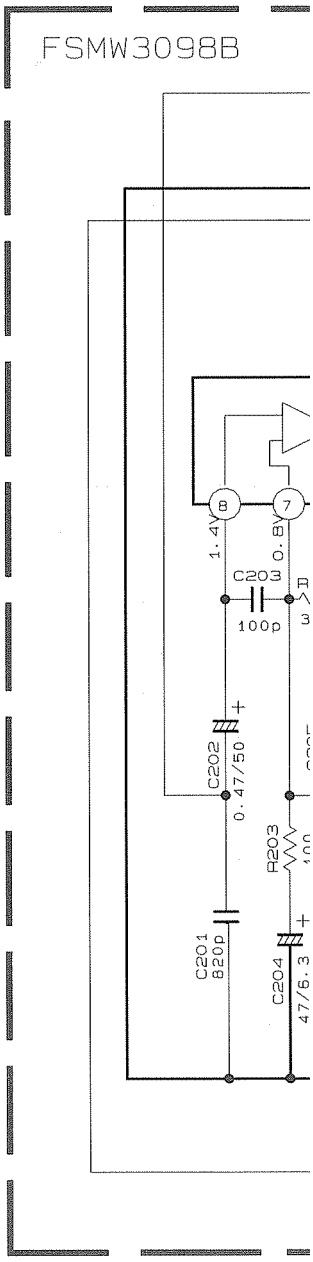
Block Diagram



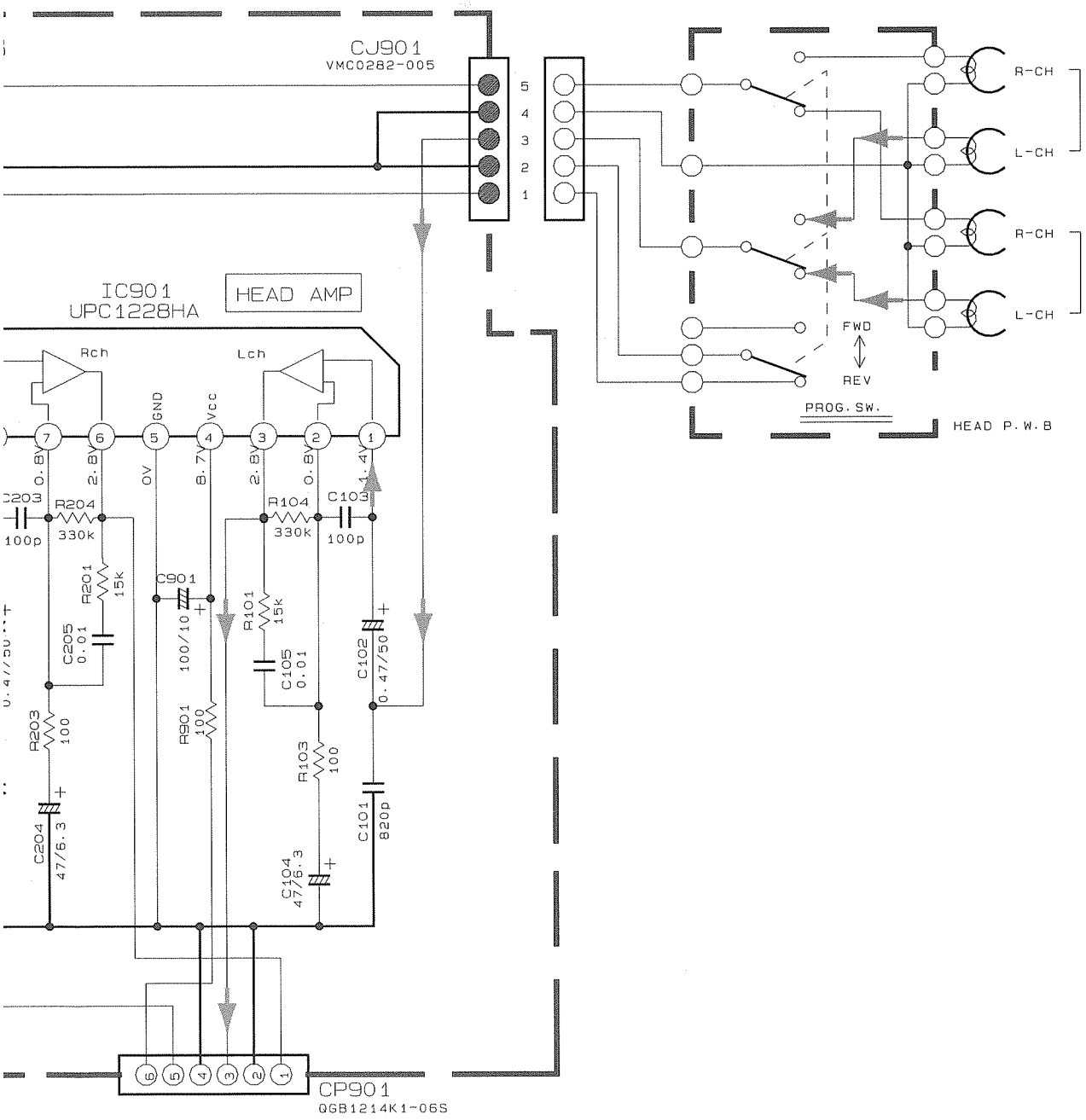
Stndard Schematic Diagrams

■Head amplifier circuit section





OF

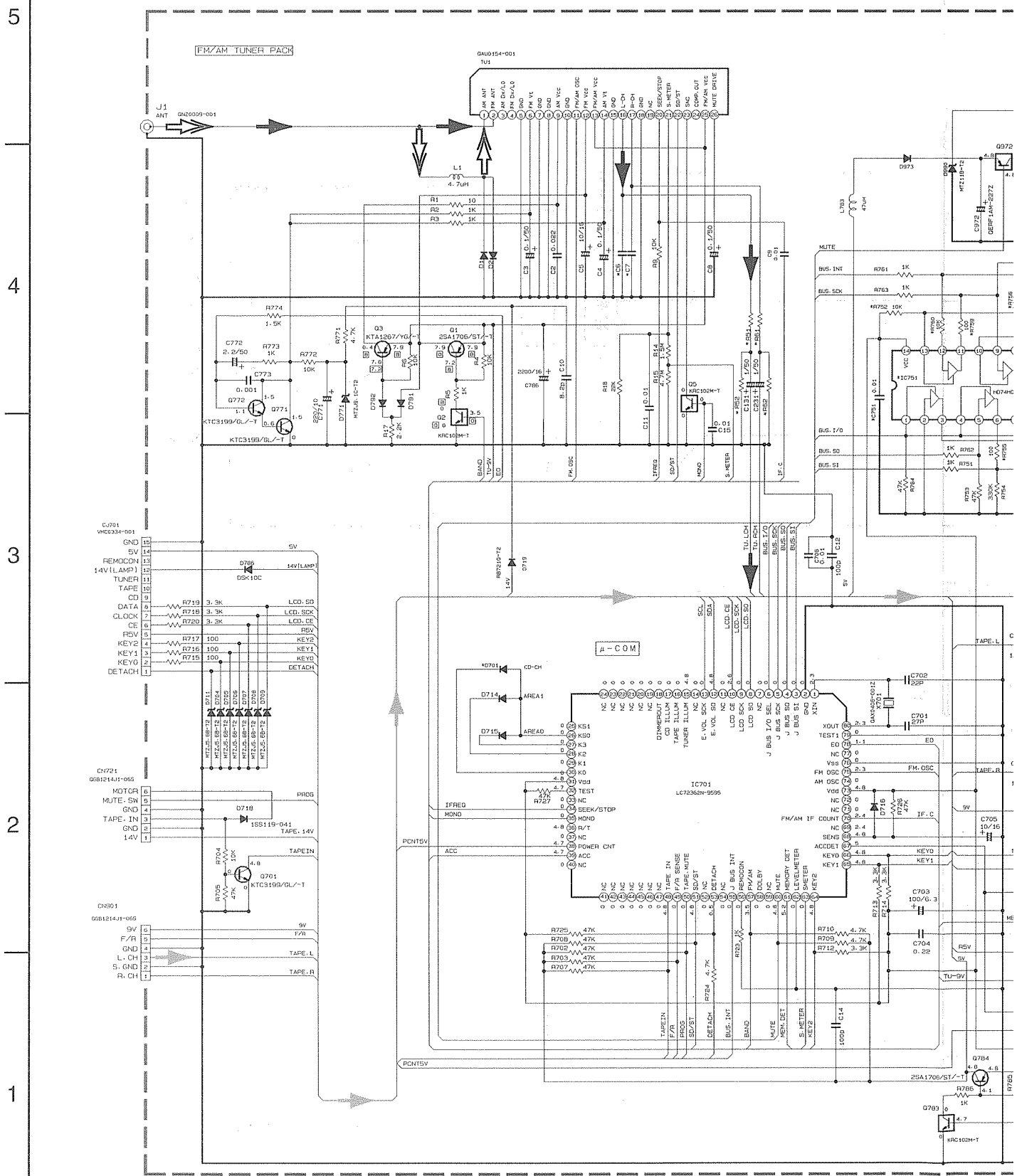


Tape PB/Main Signal

OF FSDH3098-006AW SHEET 1

E F G

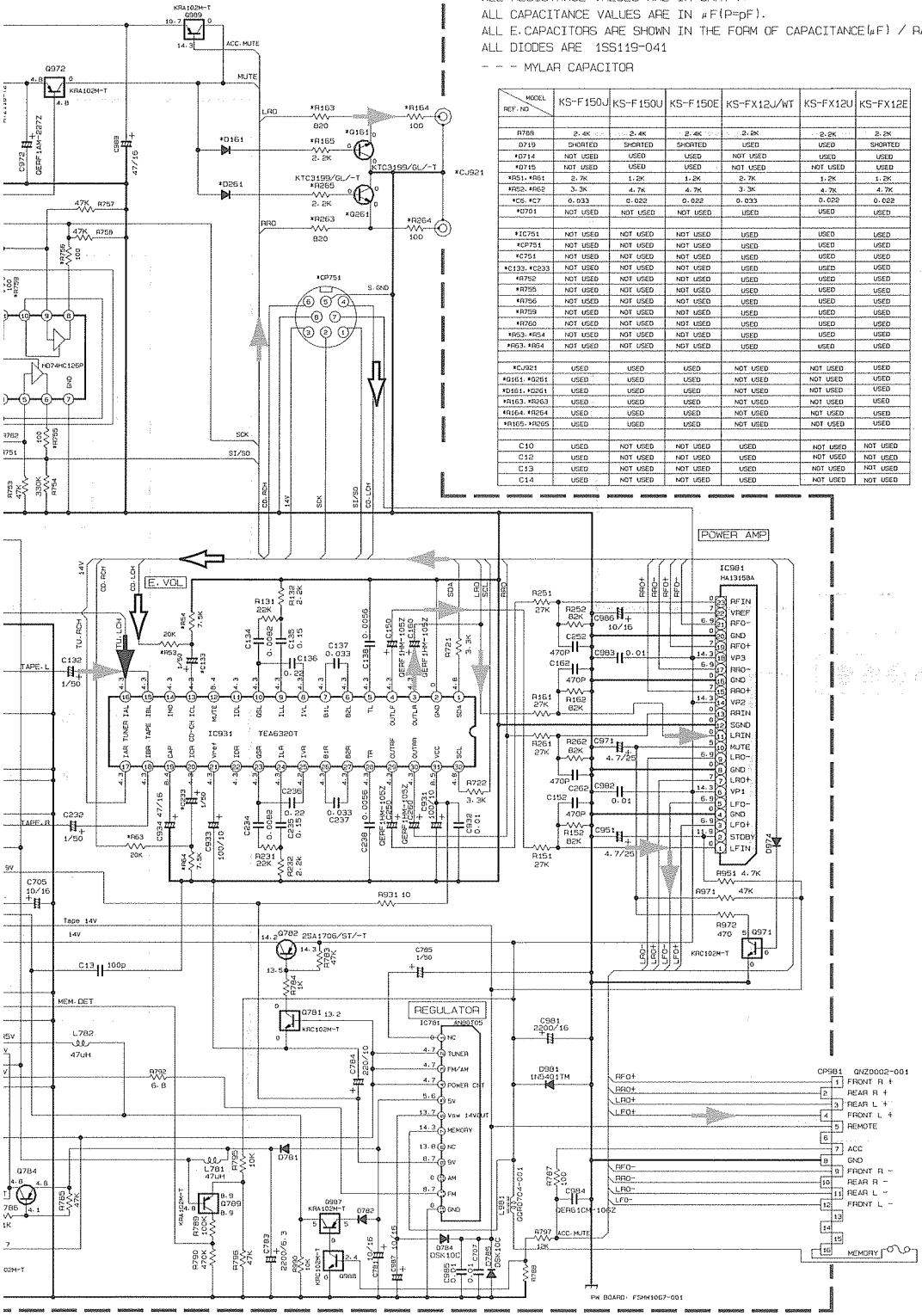
■Receiver & Operation switch circuit section



NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION - - - FM MODE. (AM MODE [ ])
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/6W 5% CARBON RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) / RATED VOLTAGE(V).
   ALL DIODES ARE 1SS119-041
   - - - MYLAR CAPACITOR

MODEL / REF.NO	KS-F150J	KS-F150U	KS-F150E	KS-FX12J/WT	KS-FX12U	KS-FX12E
R788	2.4K	2.4K	2.4K	2.2K	2.2K	2.2K
D719	SHORTED	SHORTED	SHORTED	USED	USED	SHORTED
*D714	NOT USED	USED	USED	NOT USED	USED	USED
*D715	NOT USED	USED	USED	NOT USED	NOT USED	USED
*R51.*R61	2.7K	1.2K	1.2K	2.7K	1.2K	1.2K
*R52.*R62	3.3K	4.7K	4.7K	3.3K	4.7K	4.7K
*C6.*C7	0.033	0.022	0.022	0.033	0.022	0.022
*D701	NOT USED	NOT USED	NOT USED	USED	USED	USED
*IC751	NOT USED	NOT USED	NOT USED	USED	USED	USED
*CP751	NOT USED	NOT USED	NOT USED	USED	USED	USED
*C751	NOT USED	NOT USED	NOT USED	USED	USED	USED
*C133.*C233	NOT USED	NOT USED	NOT USED	USED	USED	USED
*R752	NOT USED	NOT USED	NOT USED	USED	USED	USED
*R755	NOT USED	NOT USED	NOT USED	USED	USED	USED
*R756	NOT USED	NOT USED	NOT USED	USED	USED	USED
*R759	NOT USED	NOT USED	NOT USED	USED	USED	USED
*R760	NOT USED	NOT USED	NOT USED	USED	USED	USED
*R53.*R54	NOT USED	NOT USED	NOT USED	USED	USED	USED
*R63.*R64	NOT USED	NOT USED	NOT USED	USED	USED	USED
*CJ921	USED	USED	USED	NOT USED	NOT USED	USED
*G161.*D261	USED	USED	USED	NOT USED	NOT USED	USED
*D161.*D261	USED	USED	USED	NOT USED	NOT USED	USED
*R163.*R263	USED	USED	USED	NOT USED	NOT USED	USED
*R164.*R264	USED	USED	USED	NOT USED	NOT USED	USED
*R165.*R265	USED	USED	USED	NOT USED	NOT USED	USED
C10	USED	NOT USED	NOT USED	USED	NOT USED	NOT USED
C12	USED	NOT USED	NOT USED	USED	NOT USED	NOT USED
C13	USED	NOT USED	NOT USED	USED	NOT USED	NOT USED
C14	USED	NOT USED	NOT USED	USED	NOT USED	NOT USED

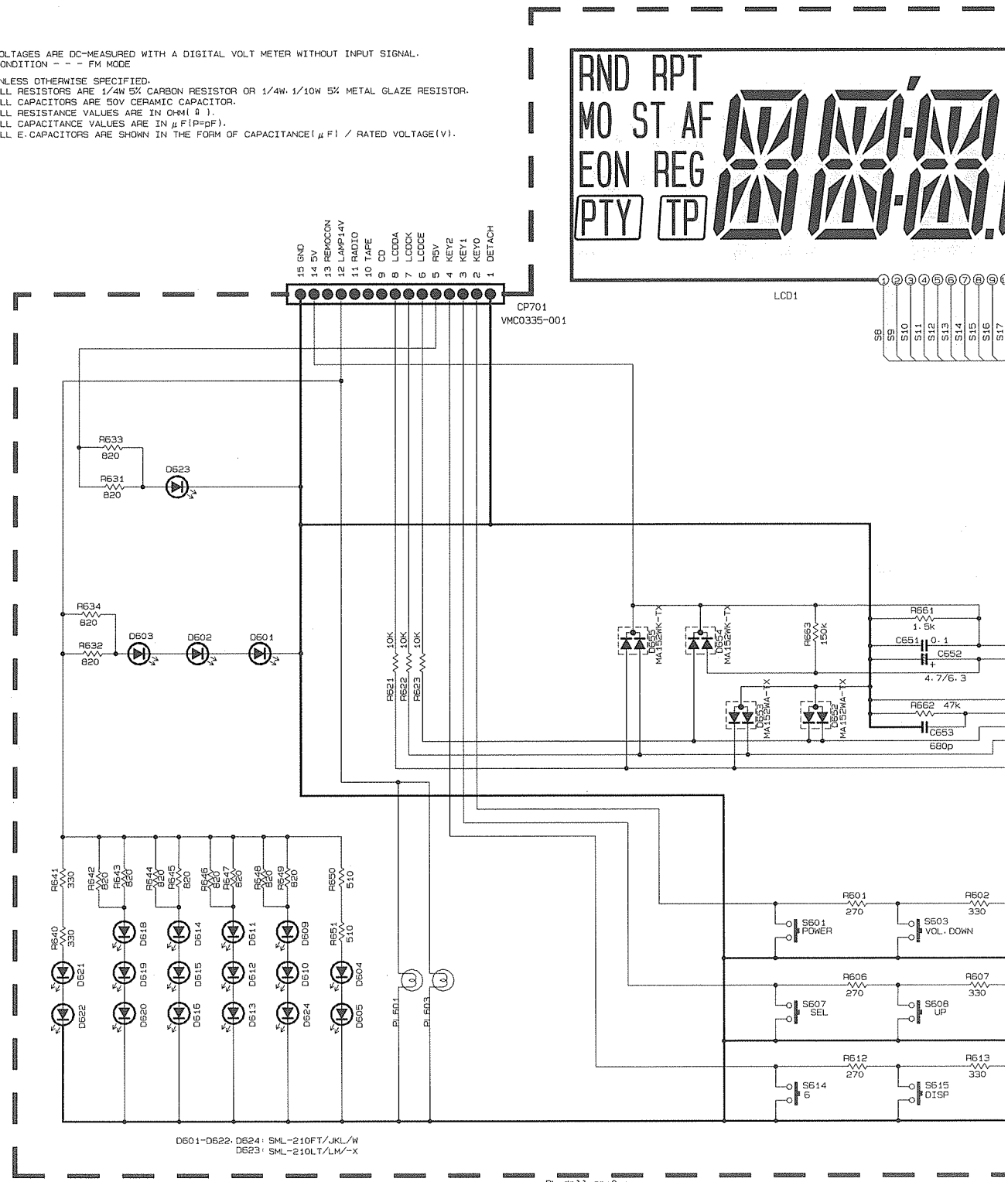


■LCD driver & Operation switch circuit section

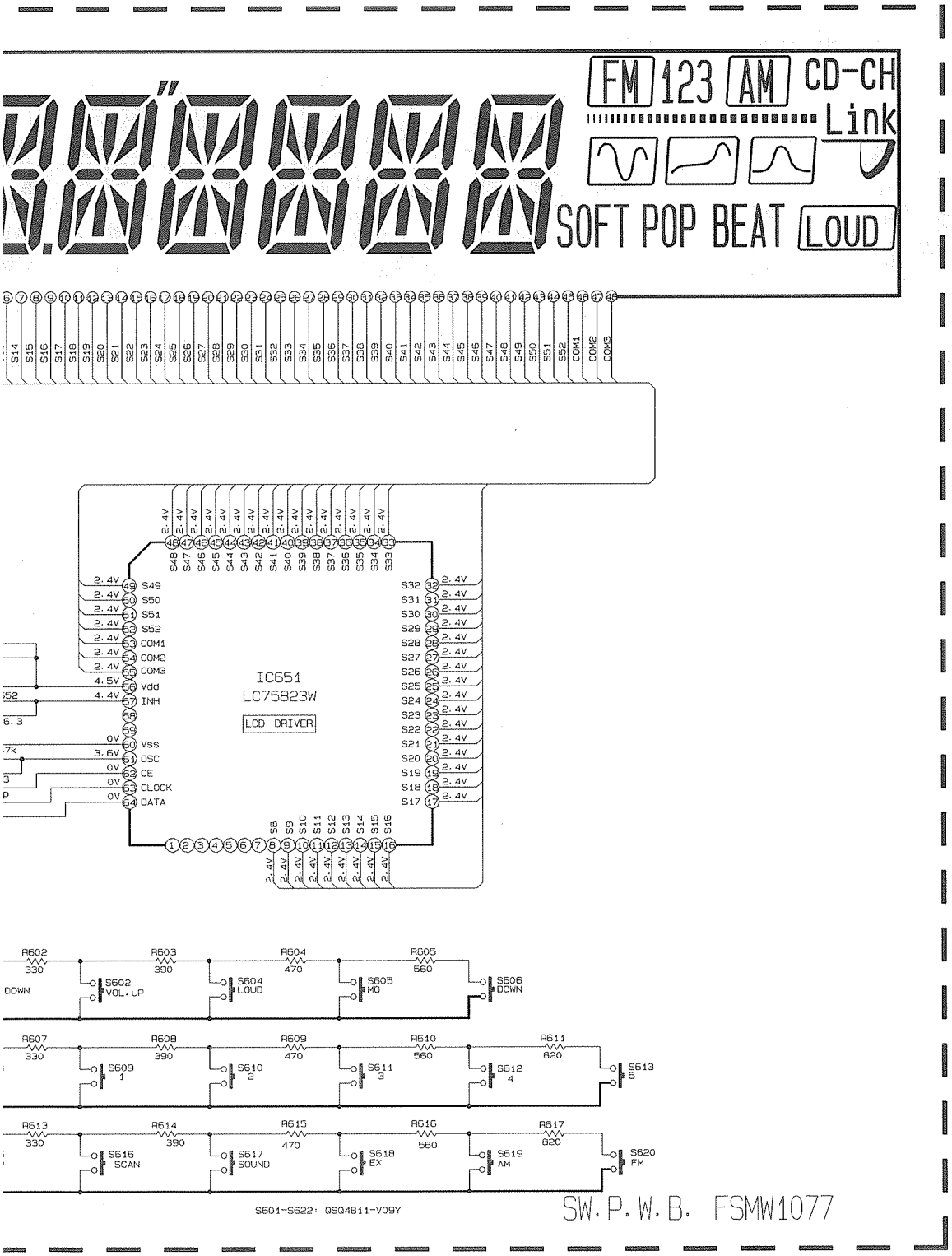
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION - - - FM MODE

2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/4W 5% CARBON RESISTOR OR 1/4W, 1/10W 5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) / RATED VOLTAGE(V).

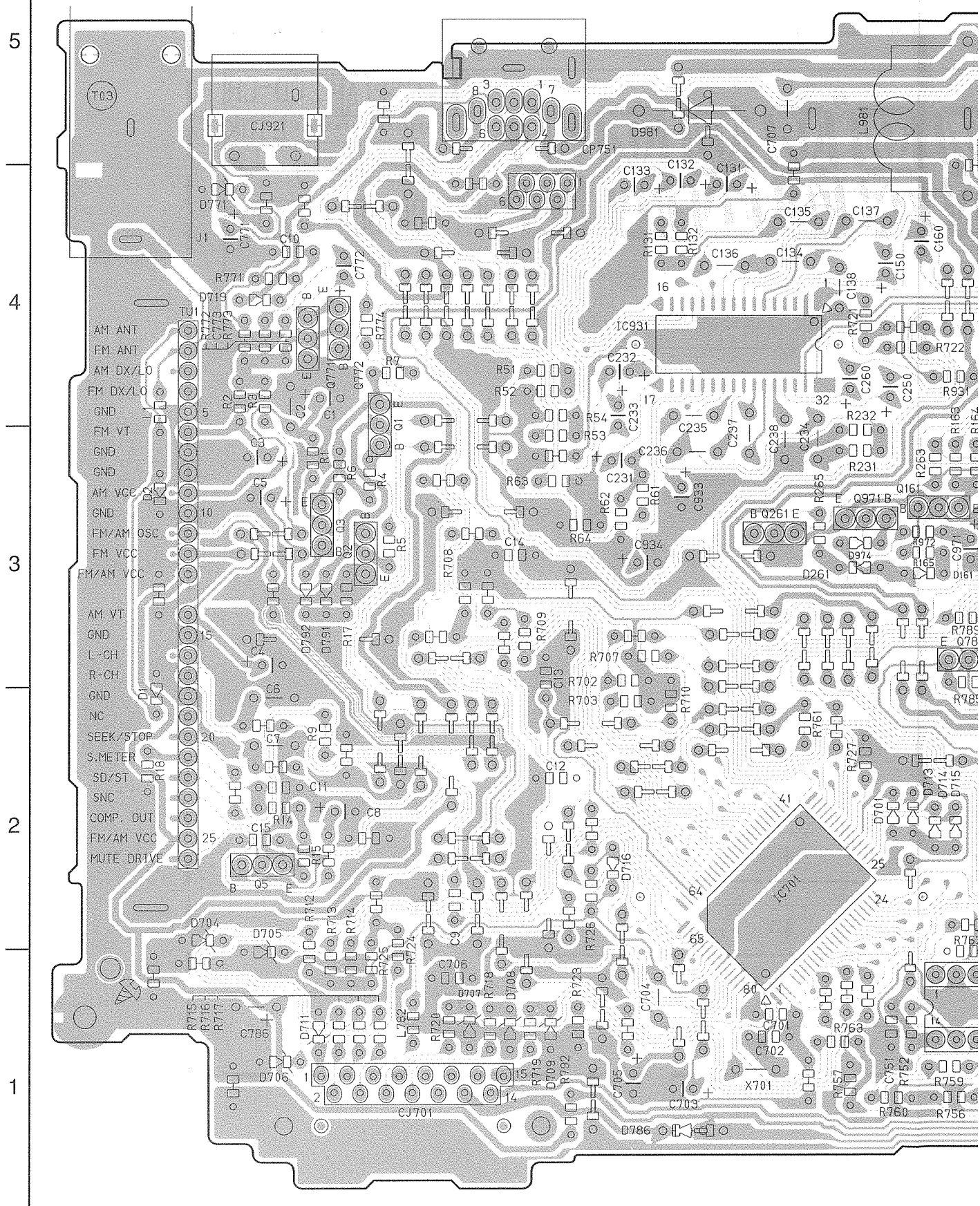


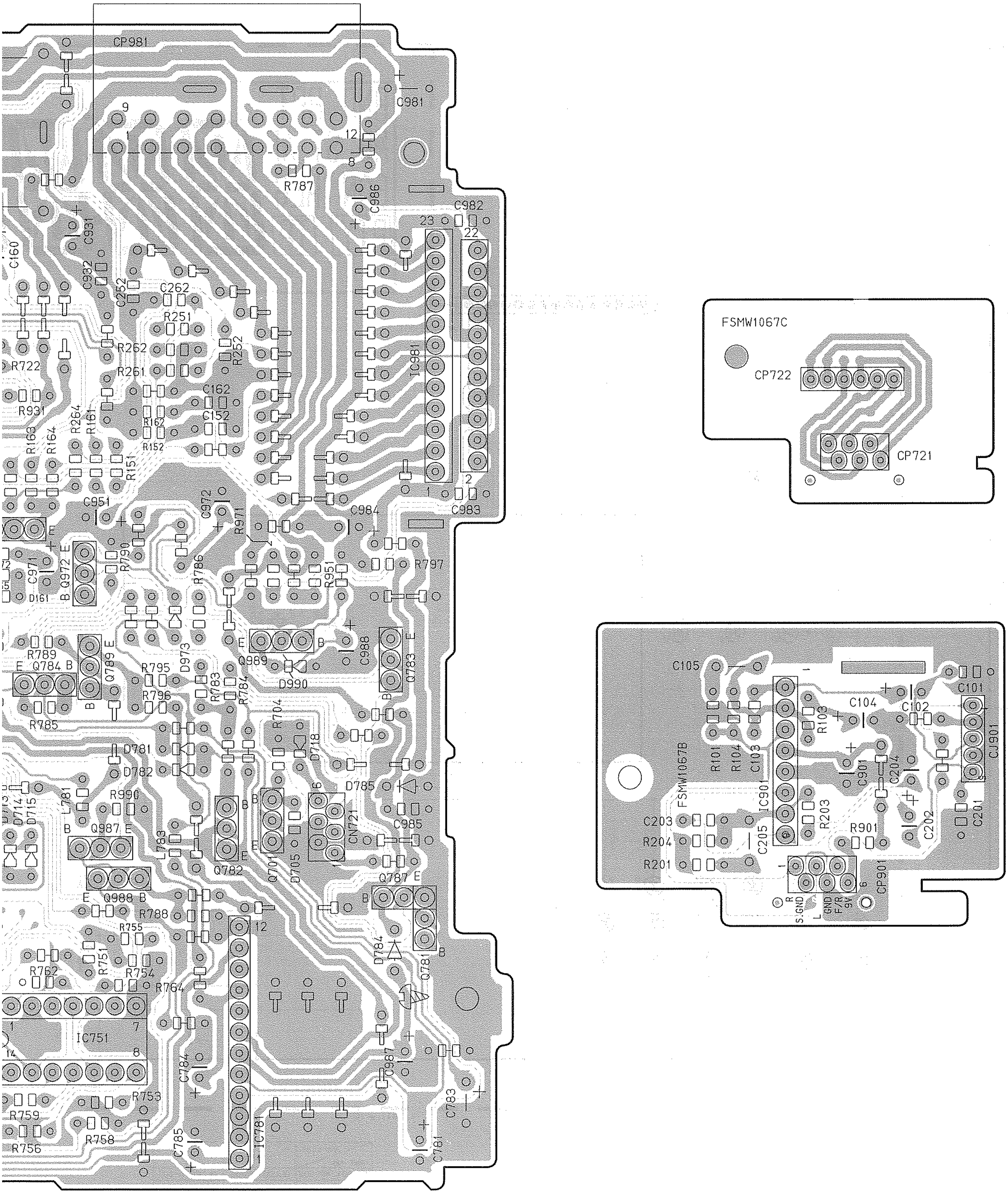
Ref. No. \ Version	J, U, WT	E
*PL601, *PL603	QLL0070-001	QLL0070-001
*LCD1	QLD0099-001	QLD0099-001


FM 123 AM CD-CH
Link
SOFT POP BEAT LOUD
IC651
LC75823W
LCD DRIVER
Vdd
INH
Vss
OSC
CE
CLOCK
DATA
COM1
COM2
COM3
R602 330
R603 390
R604 470
R605 560
S602 VOL. UP
S604 LOUD
S605 MO
S606 DOWN
R607 330
R608 390
R609 470
R610 560
R611 820
S609 1
S610 2
S611 3
S612 4
S613 5
R613 330
R614 390
R615 470
R616 560
R617 820
S616 SCAN
S617 SOUND
S618 EX
S619 AM
S620 FM
S601-S622: QSQ4B11-V09Y
SW. P. W. B. FSMW1077

Printed Circuit Boards

■Main boards : No. [0] [1]

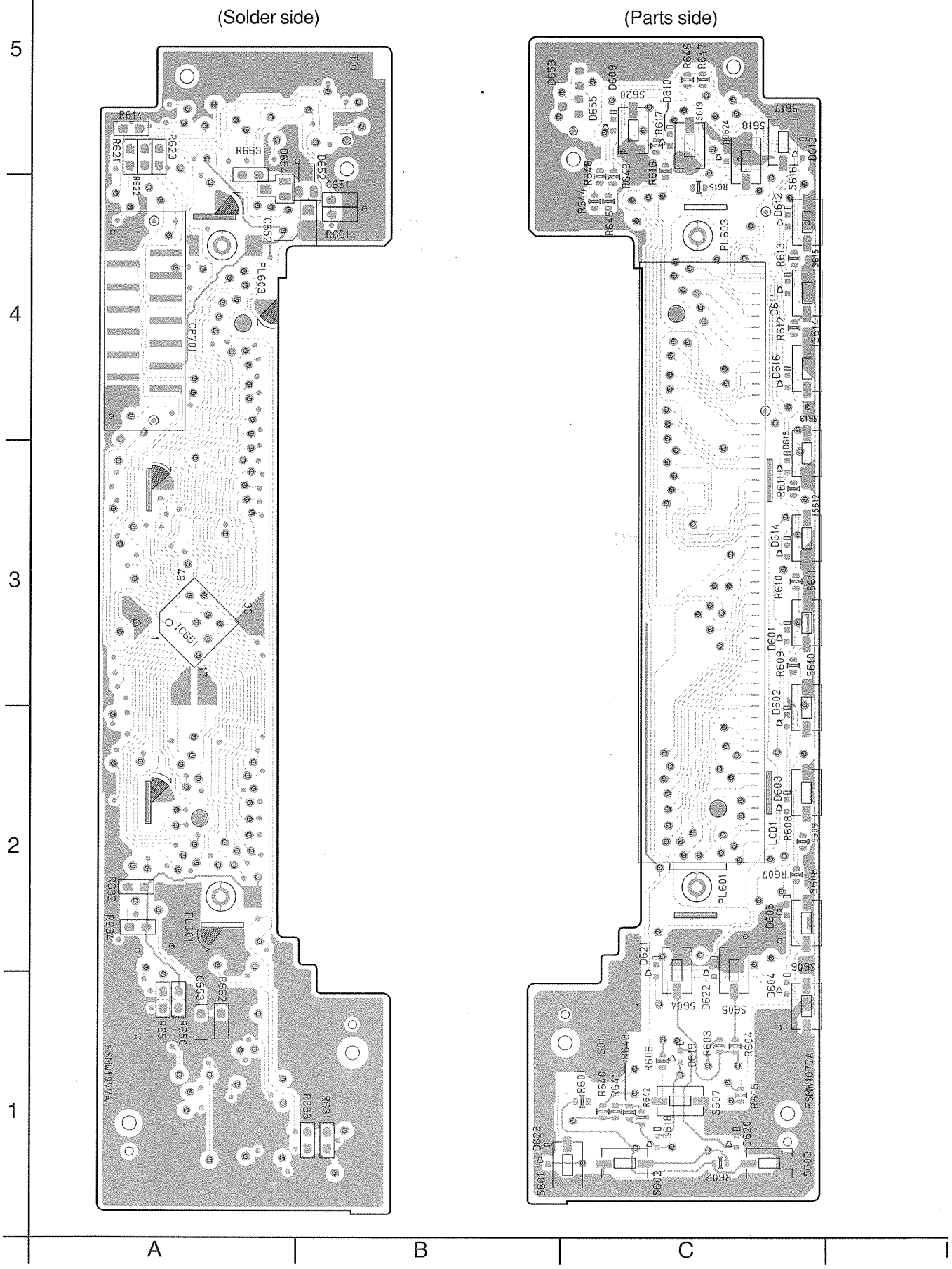




CP981
C981
R787
C986
C982
IC981
C983
C984
R797
R951
C988
Q783
Q989
D990
Q972
Q789
Q784
R789
R785
R795
R796
D973
R783
R784
R704
D718
D781
D782
D785
C985
R990
Q987
Q988
Q782
Q701
D705
CN721
Q787
Q781
D784
R788
R755
R751
R754
R762
R764
IC751
IC781
C784
C785
C783
C781
C987
R753
R759
R758
R756
C931
C932
C160
C252
C262
R251
R252
R262
R261
R722
R931
C162
C152
R162
R152
R264
R161
R163
R164
R151
C951
C972
R971
R790
R786
C971
D161
L781
L783
D714
D715
FSMW1067C
CP722
CP721
FSMW1067B
C105
C104
C102
C101
R103
R101
R104
C103
IC901
C901
C204
CJ901
R203
R901
C202
C201
C203
R204
R201
C205
CP901
S.GND
GND
F/R
9V

D	E	F	G

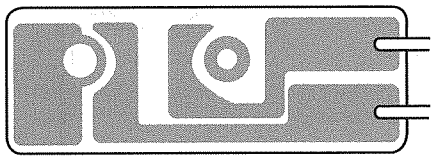
■LCD Driver & Operation switch board : No. 0 2



■Cassette mchanism boards : No.

5

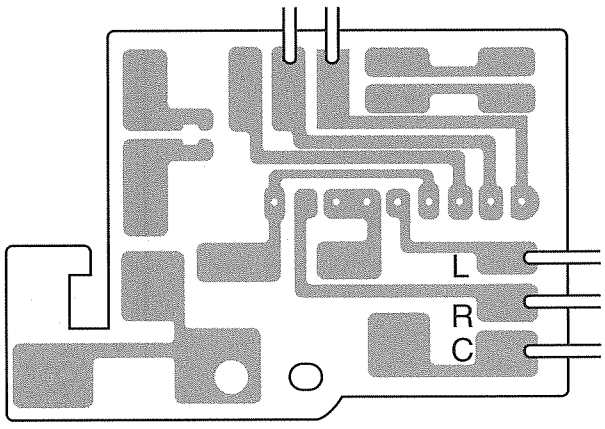
Mute Board



4

3

Direction swith Board



2

1

A B C

PARTS LIST

[KS-FX12]
[KS-FX12WT]
[KS-F150]

* All printed circuit boards and its assemblies are not available as service parts.

Area Suffix
[KS-F150]
J ..... Northern America

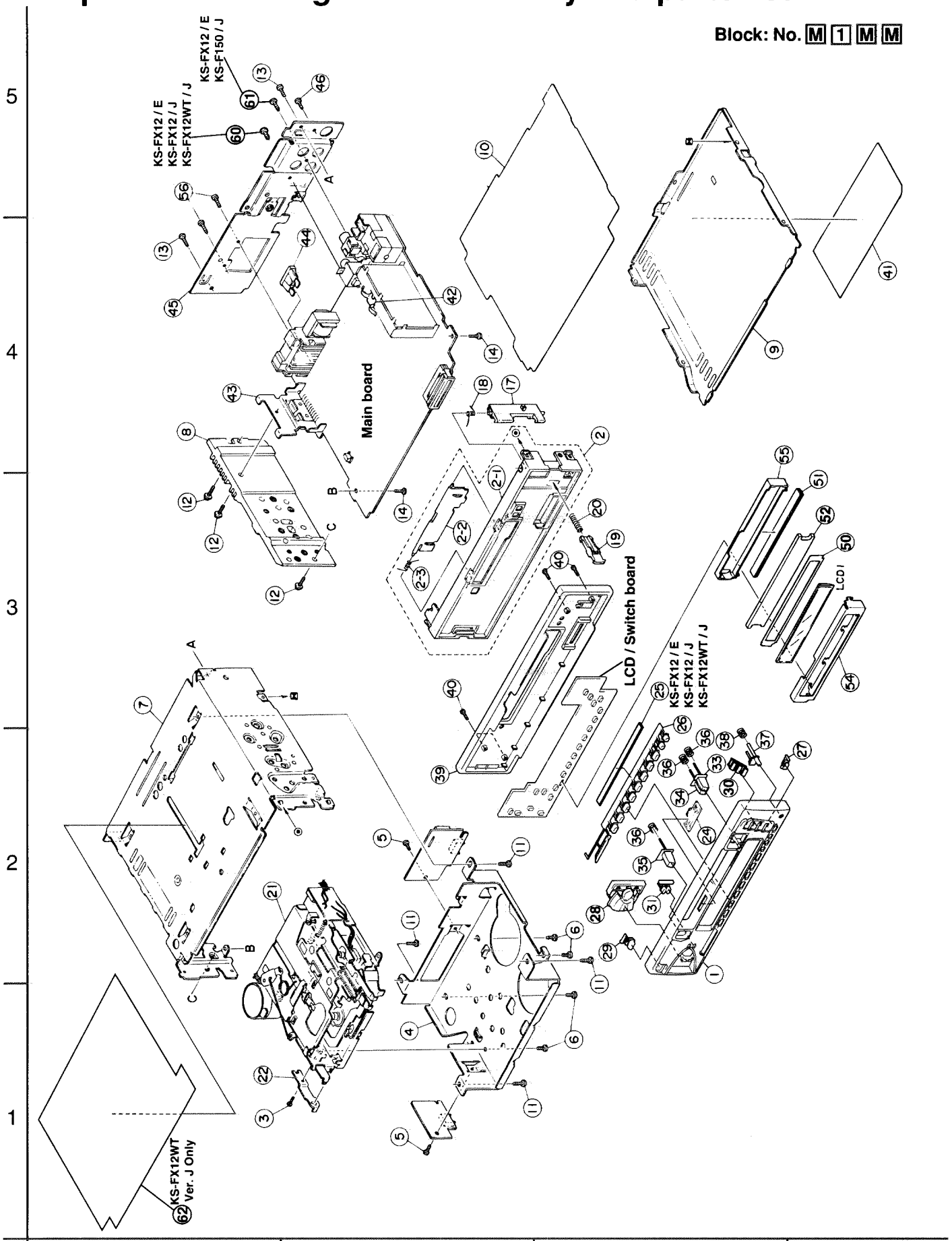
Area Suffix
[KS-FX12]
J ..... Northern America
E ..... Continental Europe

Area Suffix
[KS-FX12WT]
J ..... Northern America

- Contents -

KS-F150
KS-FX12

Exploded view of general assembly and parts list



■Parts list (General assembly)

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	FSJC3013-00A	F.PANEL ASS'Y	KS-F150	1	J	
		FSJC3013-00E	F.PANEL ASS'Y	KS-FX12WT	1	J	
		FSJC3013-00B	F.PANEL ASS'Y	KS-FX12	1	J,E	
	2	ZCKSFX12J-FB	FRONT CASS.ASSY	KS-FX12	1	J,E	
		ZCKSFX12J-FB	FRONT CHAS.ASSY	KS-FX12WT	1	J	
		ZCKSF150J-FB	FRONT CHAS.ASSY	KS-F150	1	J	
	2-1	FSJC1055-001	FRONT CASSIS		1		
	2-2	FSJC4003-027	CASSETTE LID	KS-FX12	1	J,E	
		FSJC4003-027	CASSETTE LID	KS-FX12WT	1	J	
		FSJC4003-029	CASSETTE LID	KS-F150	1	J	
	2-3	VKW4947-002	DOOR SPRING		1		
	3	QYSPSPT2625Z	MINI SCREW		1		
	4	FSKM2005-002	MECHA BRACKET		1		
	5	QYSDST2605Z	SCREW	PCB+MECHA	2		
	6	QYSDSP2604Z	SCREW	MECHA+M.BKT	4		
	7	FSJC1029-012	TOP CHASSIS		1		
	8	FSMH3001-201	SIDE PANEL		1		
	9	FSKM3011-002	BOTTOM COVER		1		
	10	FSMA3004-203	INSULATOR		1		
	11	QYSDST2605Z	SCREW	CHASSIS+MECHA B	4		
	12	FSKZ4005-001	SCREW		3		
	13	QYSDST2606Z	SCREW	CHASSIS+REAR BK	2		
	14	QYSDST2606Z	SCREW	CHASSIS+MAIN PW	2		
	17	FSKS3010-001	LOCK LEVER		1		
	18	FSKW4005-003	TORSION SPRING		1		
	19	FSXP3026-002	RLS KNOB		1		
	20	FSKW3002-004	COMP.SPRING		1		
	21	----------	CASSETTE MECHA	MECHA W/O METAL	1		
	22	VKL7821-001	EJECT LEVER		1		
	24	FSJK3014-001	LIGHT LENS		1		
	25	FSYH4036-031	BUTTON SHEET	KS-FX12WT	1	J	
		FSYH4036-031	BUTTON SHEET	KS-FX12	1	J,E	
	26	FSXP2035-058	PRESET BUTTON	KS-FX12WT	1	J	
		FSXP2035-059	PRESET BUTTON	KS-F150	1	J	
		FSXP2035-058	PRESET BUTTON	KS-FX12	1	J,E	
	27	FSXP4005-016	BBE BUTTON		1		
	28	FSXP2044-001	COMBO BUTTON		1		
	29	FSXP3053-002	POWER BUTTON		1		
	30	FSXP2034-037	D.FUNC BUTTON	KS-FX12	1	J,E	
		FSXP2034-037	D.FUNC BUTTON	KS-FX12WT	1	J	
		FSXP2034-038	D.FUNC BUTTON	KS-F150	1	J	
	31	FSXP3068-001	PUSH BUTTON	KS-FX12WT	1	J	
		FSXP3068-003	PUSH BUTTON	KS-F150	1	J	
		FSXP3068-001	PUSH BUTTON	KS-FX12	1	J,E	
	33	FSXP3066-001	FF BUTTON		1		
	34	FSXP3067-001	REW BUTTON		1		
	35	FSXP3065-001	EJECT BUTTON		1		
	36	FSKW3002-003	COMP. SPRING	FOR REW BUTTON	3		
	37	FSXP3055-001	DETACH BUTTON		1		
	38	FSKW3002-012	COMP. SPRING	FOR DETACH BUTT	1		
	39	FSJC1054-001	REAR COVER	KS-F150	1	J	
		FSJC1054-002	REAR COVER	KS-FX12WT	1	J	
		FSJC1054-001	REAR COVER	KS-FX12	1	J,E	
	40	VKZ4777-001	MINI SCREW	F.PANEL+REAR CO	4		
	41	FSYN3098-D006	NAME PLATE	KS-FX12	1	J	

KS-F150
KS-FX12

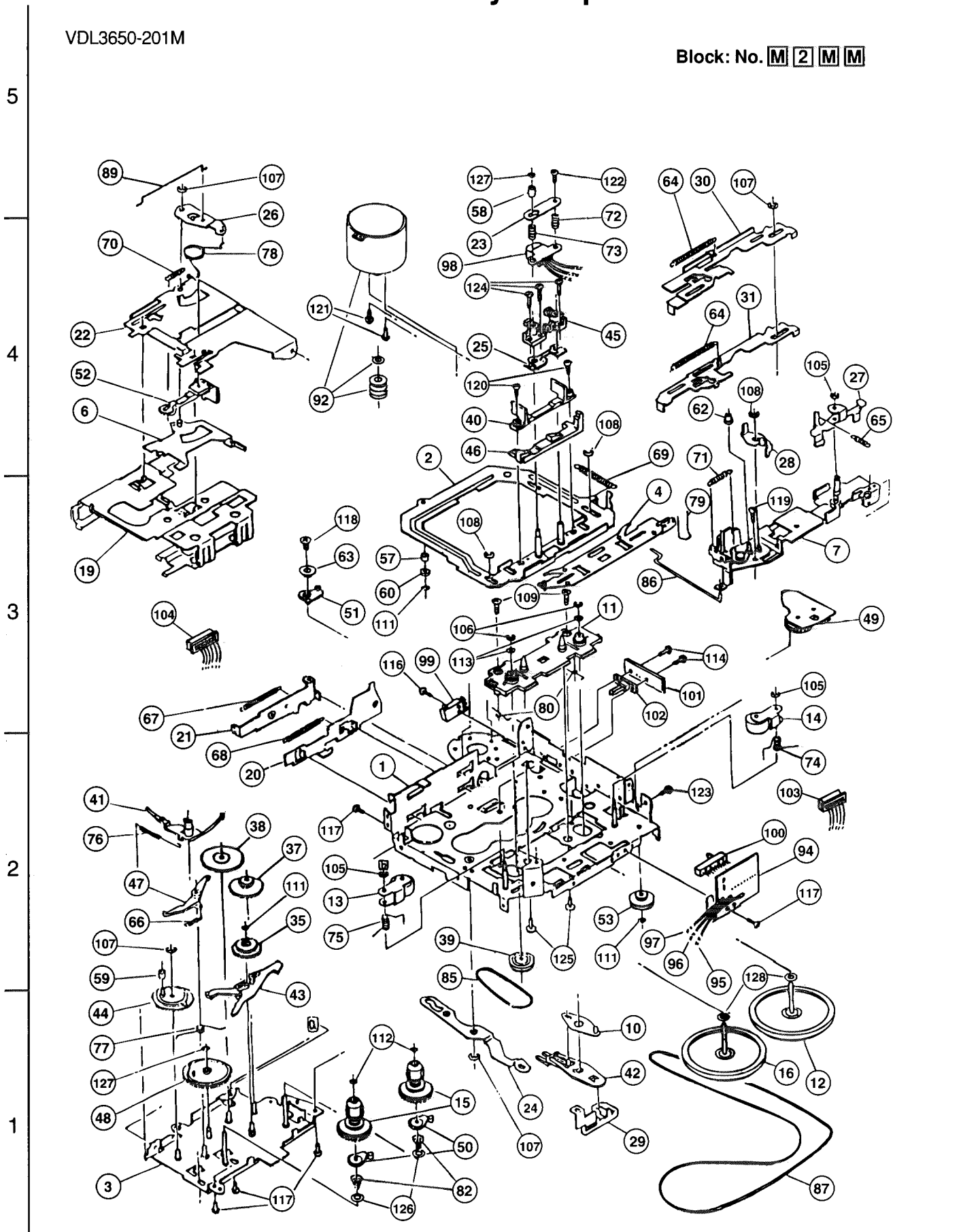
BLOCK NO. M1MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
		FSYN3096-D006	NAME PLATE	KS-F150	1	J	
		FSYN3098-D005	NAME PLATE	KS-FX12	1	E	
		FSYN3127-D006	NAME PLATE	KS-FX12WT	1	J	
	42	VMA4652-001SS	EARTH PLATE		1		
	43	FSKL4018-00B	IC BRACKET		1		
⚠	44	QMFZ021-100-J1	FUSE		1		
	45	FSKM3010-011	REAR BRACKET	KS-FX12WT	1	J	
		FSKM3010-013	REAR BRACKET	KS-F150	1	J	
		FSKM3010-011	REAR BRACKET	KS-FX12	1	J,E	
	46	QYSDST2606Z	SCREW	REAR BKT+ANT JA	1		
	50	FSYH4076-001	LIGHTING SHEET		1		
	51	QNZ0439-001	RUBBER CONNE		1		
	52	FSJK3034-001	LCD LENS		1		
	54	FSYH3022-001	LCD CASE		1		
	55	FSKS3021-001	LENS CASE		1		
	56	QYSDST2606Z	SCREW	REAR BKT+15P CN	2		
	60	QYSDST2606Z	SCREW	KS-FX12	1	J,E	
		QYSDST2606Z	SCREW	KS-FX12WT	1	J	
	61	QYSDST2606Z	SCREW	KS-FX12	1	E	
		QYSDST2606Z	SCREW	KS-F150	1	J	
	62	FSZL3001-001	TOP SHEET	KS-FX12WT	1	J	
	LCD 1	QLD0099-001	LCD MODULE		1		

Cassette mechanism assembly and parts list

VDL3650-201M

Block: No. M 2 M M



KS-F150
KS-FX12

■Parts list (Cassette mechanism)

BLOCK NO. M2MM[ ][ ][ ]

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	X-0036-1001S	MAIN CHASSIS AS		1		
	2	X-0036-6082S	HEAD PLATE ASSY		1		
	3	X-0036-1009S	REEL BASE ASS'Y		1		
	4	X-0036-1010S	FR CHANGE ARM A		1		
	6	X-0036-1019S	EJ.CAM LOCK ASY		1		
	7	X-0036-6077S	LEVER BKT ASS'Y		1		
	10	X-0036-1025S	FR ARM(A)ASS'Y		1		
	11	X-0138-2006S	CM BKT ASS'Y(X)		1		
	12	1-0036-6010-0S	FLYWHEEL ASY(BF		1		
	13	1-0138-6002S	PINCH ARM(R)ASS		1		
	14	1-0138-6003S	PINCH ARM(F)ASS		1		
	15	X-0036-6080S	REEL SPINDLE AS		2		
	16	1-0036-6010-1S	FLYWHEEL ASY(BR		1		
	19	1-0138-1010S	CASSETTE HOLDER		1		
	20	1-0036-1006S	EJECT CAM		1		
	21	1-0036-1007S	EJECT LEVER		1		
	22	1-0138-1002S	CASSETTE HANGER		1		
	23	1-0036-1015S	SPG SUPPORT PLT		1		
	24	1-0036-1016S	CONVERSION LEVE		1		
	25	1-0138-1006S	ADJUSTER SHIN(X		1		
	26	1-0036-1018S	CENTER PLATE		1		
	27	1-0036-1013S	LOCK ARM		1		
	28	1-0036-1023S	CHANGE LEVER(B)		1		
	29	1-0036-1026S	FR ARM(B)		1		
	30	1-0036-1065S	FF LEVER(JVC)		1		
	31	1-0036-1066S	REW LEVER(JVC)		1		
	35	1-0036-2001S	IDLE GEAR		1		
	37	1-0036-2004-0S	REDUCT.GEAR(A)		1		
	38	1-0036-2003S	REDUCT.GEAR(B)		1		
	39	1-0036-2005-0S	PULLEY GEAR		1		
	40	1-0038-2018S	TAPE GUIDE		1		
	41	1-0036-2007S	RATCHET		1		
	42	1-0036-2008S	FF ARM		1		
	43	1-0036-2009S	SENSOR ARM		1		
	44	1-0036-2010S	SELECTOR GEAR		1		
	45	1-0138-2005-3S	ADJUSTER ARM(B)		1		
	46	1-0138-2004S	ADJUSTER LINC(X		1		
	47	1-0038-2014S	GEAR LOCK ARM		1		
	48	1-0036-2014S	DETECTOR GEAR		1		
	49	X-0036-2015S	TU GEAR ARM ASY		1		
	50	X-0136-2001S	DETEC. CAM ASSY		2		
	51	1-0038-2034S	MUTE ARM(N)		1		
	52	1-0058-2004S	TAPE HOOKER		1		
	53	1-0058-2021-5S	IDLE PULLEY(A)		1		
	57	1-0036-3024S	HP ROLLER(B)		1		
	58	1-0036-3004S	FF ROLLER		1		
	59	1-0036-3018S	COLLER	SELECTOR GEAR	1		
	60	1-0036-3002S	HP ROLLER(A)		1		
	62	1-0038-3012S	PROGRAM ROLLER		1		
	63	1-0038-3015S	MUTE ARM COLLER		1		
	64	1-0036-4001S	FF/REW LEVER SP		2		
	65	1-0036-4002S	LOCK LEVER SPG		1		
	66	1-0036-4003S	GEAR LOCK ARM S		1		
	67	1-0036-4004S	EJECT LEVER SPG		1		
	68	1-0036-4005S	EJECT CAM SPG		1		

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	69	1-0036-4006S	HEAD PLATE SPG		1		
	70	1-0036-4007S	EJ.CAM LOCK SPG		1		
	71	1-0036-4008S	PROGRAM ARM SPG		1		
	72	1-0036-4010S	ADJUST ARM SP(A		1		
	73	1-0036-4011S	ADJUST ARM SP(B		1		
	74	1-0036-4012S	PINCH ARM SPG(F		1		
	75	1-0036-4013S	PINCH ARM SPG(R		1		
	76	1-0038-4014S	RATCHET SPG		1		
	77	1-0036-4015S	DASH SPG		1		
	78	1-0036-4023S	CENTER PLT SP(B		1		
	79	1-0036-4017S	CHANGING ARM SP		1		
	80	1-0036-4018S	EARTH SPG(R)		2		
	82	1-0138-4001S	BACK TEMSION SP		2		
	85	1-0036-5001S	SUB BELT		1		
	86	1-0138-5001S	SELECTOR LINK(B		1		
	87	1-0036-5020S	MAIN BELT(AL)		1		
	89	1-0036-5006S	RETURN LINK		1		
	92	X-0036-6075S	MOTOR ASS'Y		1		
	94	1-0036-7001S	SW PWB		1		
	95	1-0036-7002S	WIRE(A)	BLACK 60MM	1		
	96	1-0036-7003S	WIRE(B)	RED 60MM	1		
	97	1-0036-7004S	WIRE(C)	YELLOW 55MM	1		
	98	1-0036-7016S	HEAD	P-7542-CF-0358	1		
	99	1-0058-7013S	POWER SW	MQS-4S	1		
	100	1-0036-7007S	SLIDE SW		1		
	101	1-0138-7002S	MUTE PWB		1		
	102	1-0138-7087S	MUTE SW		1		
	103	1-0036-7088S	5P WIRE ASY(JVC		1		
	104	1-0036-7089S	6P WIRE ASY(JVC		1		
	105	2-1711-5040-16S	E RING	1.5	3		
	106	2-1711-6032-96S	E RING	1.6X3.2	2		
	107	2-1712-0050-16S	E RING	2	4		
	108	2-1712-5060-16S	E RING	2.5	3		
	109	2-1331-7030-C2S	SCREW S	PL M1.7X3	2		
	111	2-1812-0030-D2S	POLY WASHER(S)	1.2X3X0.25	3		
	112	1-0036-5023S	PSW(REEL)	1.5X3.2X0.2	2		
	113	2-1821-0032-21S	PSW	2.1X3.2X0.2	2		
	114	2-1331-7040-C2S	SCREW S	PL M1.7X4	2		
	116	2-1331-7060-C2S	SCREW S	PL M1.7X6	1		
	117	2-1382-0030-C2S	SCREW B	PL M2X3	5		
	118	2-1362-0040-F2S	SCREW B	FL M2X4	1		
	119	2-1332-0040-C1S	SCREW S	PL M2X4	1		
	120	2-1032-0070-C2S	SCREW	PL M2X7	2		
	121	2-1032-0025-C2S	SCREW	PL M2X2.5	2		
	122	2-1012-0040-C2S	SCREW	PL M2X4	1		
	123	2-1012-0030-F2S	SCREW	FL M2X3	1		
	124	1-0138-5002S	AZIMUTH SCREW	PL M2X5	3		
	125	1-0036-5005S	EJ HOOK SCREW	M2X5	2		
	126	1-0136-5001S	LMW(RED)	2.1X3.5X0.05	2		
	127	1-0036-5024S	PSW(REEL)	1.5X3.2X0.25	2		
	128	1-0036-5028S	LMW(FLY)	2.1X5.5X0.05	2		

Electrical parts list

■Main board

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 2	QDX11EK-223Z	C CAPACITOR		
	C 3	QERF1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 4	QERF1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 5	QER41CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 6	QDX11EK-333Z	C CAPACITOR	KS-FX12/KS-F150	J
	C 6	QDX11EK-333Z	C CAPACITOR	KS-FX12WT	J
	C 6	QDX11EK-223Z	C CAPACITOR	KS-FX12	E
	C 7	QDX11EK-333Z	C CAPACITOR	KS-FX12/KS-F150	J
	C 7	QDX11EK-333Z	C CAPACITOR	KS-FX12WT	J
	C 7	QDX11EK-223Z	C CAPACITOR	KS-FX12	E
	C 8	QERF1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 9	QDYB1CM-103Y	C CAPACITOR		
	C 10	QCSB1HK-8R2Y	C CAPACITOR	KS-FX12/KS-F150	J
	C 10	QCSB1HK-8R2Y	C CAPACITOR	KS-FX12WT	J
	C 11	QDYB1CM-103Y	C CAPACITOR		
	C 12	QCBB1HK-101Y	C CAPACITOR	KS-FX12/KS-F150	J
	C 12	QCBB1HK-101Y	C CAPACITOR	KS-FX12WT	J
	C 13	QCBB1HK-101Y	C CAPACITOR	KS-FX12/KS-F150	J
	C 13	QCBB1HK-101Y	C CAPACITOR	KS-FX12WT	J
	C 14	QCBB1HK-101Y	C CAPACITOR	KS-FX12/KS-F150	J
	C 14	QCBB1HK-101Y	C CAPACITOR	KS-FX12WT	J
	C 15	QDYB1CM-103Y	C CAPACITOR		
	C 101	QDGB1HK-821Y	C CAPACITOR		
	C 102	QERF1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 103	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 104	QERF0JM-476Z	E CAPACITOR	47MF 20% 6.3V	
	C 105	QFV61HJ-103Z	TF CAPACITOR	.010MF 5% 50V	
	C 131	QERF1HM-105Z	E CAPACITOR	FM	
	C 132	QERF1HM-105Z	E CAPACITOR	TAPE	
	C 133	QERF1HM-105Z	E CAPACITOR	KS-FX12	J,E
	C 133	QERF1HM-105Z	E CAPACITOR	KS-FX12WT	J
	C 134	QFLK1HJ-822Z	M CAPACITOR	8200PF 5% 50V	
	C 135	QFV61HJ-154Z	TF CAPACITOR	.15MF 5% 50V	
	C 136	QFV61HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 137	QFV61HJ-333Z	TF CAPACITOR	.033MF 5% 50V	
	C 138	QFLK1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C 150	QERF1HM-105ZM	E CAPACITOR	FRONT	
	C 152	QCBB1HK-471Y	C CAPACITOR	FRONT	
	C 160	QERF1HM-105ZM	E CAPACITOR	REAR	
	C 162	QCBB1HK-471Y	C CAPACITOR	REAR	
	C 201	QDGB1HK-821Y	C CAPACITOR		
	C 202	QERF1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 203	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 204	QERF0JM-476Z	E CAPACITOR	47MF 20% 6.3V	
	C 205	QFV61HJ-103Z	TF CAPACITOR	.010MF 5% 50V	
	C 231	QERF1HM-105Z	E CAPACITOR	FM	
	C 232	QERF1HM-105Z	E CAPACITOR	TAPE	
	C 233	QERF1HM-105Z	E CAPACITOR	KS-FX12	J,E
	C 233	QERF1HM-105Z	E CAPACITOR	KS-FX12WT	J
	C 234	QFLK1HJ-822Z	M CAPACITOR	8200PF 5% 50V	
	C 235	QFV61HJ-154Z	TF CAPACITOR	.15MF 5% 50V	
	C 236	QFV61HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 237	QFV61HJ-333Z	TF CAPACITOR	.033MF 5% 50V	
	C 238	QFLK1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C 250	QERF1HM-105ZM	E CAPACITOR	FRONT	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 252	QCBB1HK-471Y	C CAPACITOR	FRONT	
	C 260	QERF1HM-105ZM	E CAPACITOR	REAR	
	C 262	QCBB1HK-471Y	C CAPACITOR	REAR	
	C 701	QDUB1HJ-270Y	C CAPACITOR		
	C 702	QDCB1HJ-220Y	C CAPACITOR		
	C 703	QERF0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 704	QFV61HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C 705	QERF1CM-106ZM	E CAPACITOR	10MF 20% 16V	
	C 706	QDYB1CM-103Y	C CAPACITOR		
	C 707	QFV61HJ-103Z	TF CAPACITOR	.010MF 5% 50V	
	C 751	QDYB1CM-103Y	C CAPACITOR	KS-FX12	J,E
	C 751	QDYB1CM-103Y	C CAPACITOR	KS-FX12WT	J
	C 771	QERF1AM-227ZM	E CAPACITOR	220MF 20% 10V	
	C 772	QERF1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 773	QDGB1HK-102Y	C CAPACITOR		
	C 781	QERF1CM-106ZM	E CAPACITOR	10MF 20% 16V	
	C 783	QETN0JM-228Z	E CAPACITOR	2200MF 20% 6.3V	
	C 784	QERF1AM-227ZM	E CAPACITOR	220MF 20% 10V	
	C 785	QERF1HM-105ZM	E CAPACITOR	1.0MF 20% 50V	
	C 786	QETM1AM-228	E CAPACITOR	2200MF 20% 10V	
	C 901	QERF1AM-107ZM	E CAPACITOR	100MF 20% 10V	
	C 931	QERF1AM-107ZM	E CAPACITOR	100MF 20% 10V	
	C 932	QDYB1CM-103Y	C CAPACITOR		
	C 933	QERF1AM-107ZM	E CAPACITOR	100MF 20% 10V	
	C 934	QERF1CM-476ZM	E CAPACITOR	47MF 20% 16V	
	C 951	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 971	QERF1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 972	QERF1AM-227ZM	E CAPACITOR	220MF 20% 10V	
	C 981	QEZ0337-228	E CAPACITOR	2200MF	
	C 982	QDYB1CM-103Y	C CAPACITOR		
	C 983	QDYB1CM-103Y	C CAPACITOR		
	C 984	QERF1CM-106ZM	E CAPACITOR	10MF 20% 16V	
	C 985	QRE141J-472Y	C RESISTOR	KS-FX12	J,E
	C 985	QRE141J-472Y	C RESISTOR	KS-FX12WT	J
	C 985	QRE141J-472Y	C CAPACITOR	KS-F150	J
	C 986	QERF1CM-106ZM	E CAPACITOR	10MF 20% 16V	
	C 987	QERF1CM-106ZM	E CAPACITOR	10MF 20% 16V	
	C 988	QERF1CM-476ZM	E CAPACITOR	47MF 20% 16V	
	CJ701	VMC0334-001	CONNECTOR	TO FRONT PANEL	
	CJ901	QGA2002C1-05	CONNECTOR		
	CJ921	QNN0183-001	PIN JACK	KS-F150	J
	CJ921	QNN0183-001	PIN JACK	KS-FX12	E
	CN721	QGB1214J1-06S	CONNECTOR	TO MECHA	
	CN901	QGB1214J1-06S	CONNECTOR	TO MECHA	
	CP721	QGB1214K1-06S	CONNECTOR		
	CP722	QGA2002F1-06	CONNECTOR		
	CP751	QNZ0095-001	CONNECTOR	KS-FX12	J,E
	CP751	QNZ0095-001	CONNECTOR	KS-FX12WT	J
	CP901	QGB1214K1-06S	CONNECTOR		
	CP981	QNZ0002-001	16P CONNECTOR		
	D 1	1SS119-041	SI DIODE		
	D 2	1SS119-041	SI DIODE		
	D 161	1SS119-041	ZENER DIODE	KS-F150	J
	D 161	1SS119-041	ZENER DIODE	KS-FX12	E
	D 261	1SS119-041	ZENER DIODE	KS-F150	J

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	D 261	1SS119-041	ZENER DIODE	KS-FX12	E
	D 701	1SS119-041	SI DIODE	KS-FX12	J,E
	D 701	1SS119-041	SI DIODE	KS-FX12WT	J
	D 704	MTZJ5.6B-T2	ZENER DIODE		
	D 705	MTZJ5.6B-T2	ZENER DIODE		
	D 706	MTZJ5.6B-T2	ZENER DIODE		
	D 707	MTZJ5.6B-T2	ZENER DIODE		
	D 708	MTZJ5.6B-T2	ZENER DIODE		
	D 709	MTZJ5.6B-T2	ZENER DIODE		
	D 711	MTZJ5.6B-T2	ZENER DIODE		
	D 714	1SS119-041	ZENER DIODE	KS-FX12	E
	D 715	1SS119-041	ZENER DIODE	KS-FX12	E
	D 716	1SS119-041	SI DIODE		
	D 718	1SS119-041	SI DIODE		
	D 719	RB721Q-T2	SI.DIODE	KS-FX12	J
	D 719	RB721Q-T2	SI.DIODE	KS-FX12WT	J
	D 771	MTZJ9.1C-T2	Z DIODE I/M		
	D 781	1SS119-041	SI DIODE		
	D 782	1SS119-041	SI DIODE		
	D 784	DSK10C-T1	DIODE		
	D 785	DSK10C-T1	DIODE		
	D 786	DSK10C-T1	DIODE		
	D 791	1SS119-041	SI DIODE		
	D 792	1SS119-041	SI DIODE		
	D 973	1SS119-041	SI DIODE		
	D 974	1SS119-041	SI DIODE		
	D 981	1N5401-TM	DIODE		
	D 990	MTZ11B-T2	SI DIODE		
	IC701	LC72362N-9595	IC		
	IC751	HD74HC126P	IC	KS-FX12	J,E
	IC751	HD74HC126P	I.C(DIGI-MOS)	KS-FX12WT	J
	IC781	AN80T05LF	IC	REGULATOR	
	IC901	UPC1228HA	IC		
	IC931	TEA6320T-X	IC		
	IC981	HA13158A	IC		
	J 1	QNZ0009-001	CAR ANT JACK		
	L 1	QQL231K-4R7Y	INDUCTOR		
	L 781	QQL231K-470Y	INDUCTOR		
	L 782	QQL231K-470Y	INDUCTOR		
	L 783	QQL231K-470Y	INDUCTOR		
	L 981	QQR0704-001	CHOKE COIL		
	Q 2	KRC102M-T	D.TR.I.M		
	Q 3	KTA1267/YG/-T	TRANSISTOR		
	Q 5	KRC102M-T	D.TR.I.M		
	Q 161	2SD1450/ST/-T	SI.TRANSISTOR	KS-F150	J
	Q 161	2SD1450/ST/-T	SI.TRANSISTOR	KS-FX12	E
	Q 261	2SD1450/ST/-T	SI.TRANSISTOR	KS-F150	J
	Q 261	2SD1450/ST/-T	SI.TRANSISTOR	KS-FX12	E
	Q 701	KTC3199/GL/-T	TRANSISTOR		
	Q 771	KTC3199/GL/-T	TRANSISTOR		
	Q 772	KTC3199/GL/-T	TRANSISTOR		
	Q 781	KRC102M-T	D.TR.I.M		
	Q 782	2SA1706/ST/-T	TRANSISTOR		
	Q 783	KRC102M-T	D.TR.I.M		
	Q 784	2SA1706/ST/-T	TRANSISTOR		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	Q 789	KRA102M-T	D.TR.I.M		
	Q 971	KRC102M-T	D.TR.I.M		
	Q 972	KRA102M-T	D.TR.I.M		
	Q 987	KRA102M-T	D.TR.I.M		
	Q 988	KRC102M-T	D.TR.I.M		
	Q 989	KRA102M-T	D.TR.I.M		
	R 1	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R 2	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 3	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 4	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 5	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 6	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 9	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 14	QRE141J-155Y	C RESISTOR	1.5M 5% 1/4W	
	R 15	QRE141J-475Y	C RESISTOR	4.7M 5% 1/4W	
	R 17	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 18	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 51	QRE141J-272Y	C RESISTOR	KS-FX12/KS-F150	J
	R 51	QRE141J-272Y	C RESISTOR	KS-FX12WT	J
	R 51	QRE141J-122Y	C RESISTOR	KS-FX12	E
	R 52	QRE141J-332Y	C RESISTOR	KS-FX12/KS-F150	J
	R 52	QRE141J-332Y	C RESISTOR	KS-FX12WT	J
	R 52	QRE141J-472Y	C RESISTOR	KS-FX12	E
	R 53	QRE141J-203Y	C RESISTOR	KS-FX12WT	J
	R 53	QRE141J-203Y	C RESISTOR	KS-FX12	J,E
	R 54	QRE141J-752Y	C RESISTOR	KS-FX12	J,E
	R 54	QRE141J-752Y	C RESISTOR	KS-FX12WT	J
	R 61	QRE141J-272Y	C RESISTOR	KS-FX12/KS-F150	J
	R 61	QRE141J-272Y	C RESISTOR	KS-FX12WT	J
	R 61	QRE141J-122Y	C RESISTOR	KS-FX12	E
	R 62	QRE141J-332Y	C RESISTOR	KS-FX12/KS-F150	J
	R 62	QRE141J-472Y	C RESISTOR	KS-FX12	E
	R 62	QRE141J-332Y	C RESISTOR	KS-FX12WT	J
	R 63	QRE141J-203Y	C RESISTOR	KS-FX12	J,E
	R 63	QRE141J-203Y	C RESISTOR	KS-FX12WT	J
	R 64	QRE141J-752Y	C RESISTOR	KS-FX12	J,E
	R 64	QRE141J-752Y	C RESISTOR	KS-FX12WT	J
	R 101	NRSA02J-104X	C RESISTOR	15K 5% 1/4W	
	R 103	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 104	QRE141J-334Y	C RESISTOR	330K 5% 1/4W	
	R 131	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 132	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 151	QRE141J-273Y	C RESISTOR	FRONT	
	R 152	QRE141J-823Y	C RESISTOR	FRONT	
	R 161	QRE141J-273Y	C RESISTOR	REAR	
	R 162	QRE141J-823Y	C RESISTOR	REAR	
	R 163	QRE141J-821Y	C RESISTOR	KS-F150	J
	R 163	QRE141J-821Y	C RESISTOR	KS-FX12	E
	R 164	QRE141J-101Y	C RESISTOR	KS-F150	J
	R 164	QRE141J-101Y	C RESISTOR	KS-FX12	E
	R 165	QRE141J-222Y	C RESISTOR	KS-F150	J
	R 165	QRE141J-222Y	C RESISTOR	KS-FX12	E
	R 201	NRSA02J-104X	C RESISTOR	15K 5% 1/4W	
	R 203	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 204	QRE141J-334Y	C RESISTOR	330K 5% 1/4W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 231	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 232	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 251	QRE141J-273Y	C RESISTOR	FRONT	
	R 252	QRE141J-823Y	C RESISTOR	FRONT	
	R 261	QRE141J-273Y	C RESISTOR	REAR	
	R 262	QRE141J-823Y	C RESISTOR	REAR	
	R 263	QRE141J-821Y	C RESISTOR	KS-F150	J
	R 263	QRE141J-821Y	C RESISTOR	KS-FX12	E
	R 264	QRE141J-101Y	C RESISTOR	KS-F150	J
	R 264	QRE141J-101Y	C RESISTOR	KS-FX12	E
	R 265	QRE141J-222Y	C RESISTOR	KS-F150	J
	R 265	QRE141J-222Y	C RESISTOR	KS-FX12	E
	R 702	QRE141J-473Y	C RESISTOR	MSIN	
	R 703	QRE141J-473Y	C RESISTOR	F/R	
	R 704	QRE141J-103Y	C RESISTOR	TO MECHA	
	R 705	QRE141J-473Y	C RESISTOR	TO MECHA	
	R 707	QRE141J-473Y	C RESISTOR	TAPEIN	
	R 708	QRE141J-473Y	C RESISTOR	SD/ST	
	R 709	QRE141J-472Y	C RESISTOR	MUTE	
	R 710	QRE141J-472Y	C RESISTOR	FM/AM	
	R 712	QRE141J-332Y	C RESISTOR	KEY2	
	R 713	QRE141J-332Y	C RESISTOR	KEY1	
	R 714	QRE141J-332Y	C RESISTOR	KEY0	
	R 715	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 716	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 717	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 718	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 719	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 720	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 721	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 722	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 723	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 724	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 725	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 726	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 727	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 751	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 752	QRE141J-103Y	C RESISTOR	KS-FX12	J,E
	R 752	QRE141J-103Y	C RESISTOR	KS-FX12WT	J
	R 753	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 754	QRE141J-334Y	C RESISTOR	330K 5% 1/4W	
	R 755	QRE141J-101Y	C RESISTOR	KS-FX12	J,E
	R 755	QRE141J-101Y	C RESISTOR	KS-FX12WT	J
	R 756	QRE141J-101Y	C RESISTOR	KS-FX12	J,E
	R 756	QRE141J-101Y	C RESISTOR	KS-FX12WT	J
	R 757	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 758	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 759	QRE141J-101Y	C RESISTOR	KS-FX12	J,E
	R 759	QRE141J-101Y	C RESISTOR	KS-FX12WT	J
	R 760	QRE141J-103Y	C RESISTOR	KS-FX12	J,E
	R 760	QRE141J-103Y	C RESISTOR	KS-FX12WT	J
	R 761	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 762	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 763	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 764	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 771	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 772	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 773	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 774	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R 783	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 784	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 785	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 786	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 787	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 788	QRE141J-222Y	C RESISTOR	KS-FX12	J
	R 788	QRE141J-222Y	C RESISTOR	KS-FX12WT	J
	R 788	QRE141J-242Y	C RESISTOR	KS-FX12	E
	R 789	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 790	QRE141J-474Y	C RESISTOR	470K 5% 1/4W	
	R 792	QRE141J-6R8Y	C RESISTOR	6.8 5% 1/4W	
	R 795	QRE141J-183Y	C RESISTOR	KS-FX12	J,E
	R 795	QRE141J-183Y	C RESISTOR	KS-FX12WT	J
	R 795	QRE141J-183Y	C RESISTOR	KS-F150	J
	R 796	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 797	QRE141J-123Y	C RESISTOR	12K 5% 1/4W	
	R 901	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 931	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R 951	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 971	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 972	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 990	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	TU 1	QAU0154-001	TUNER		
	X 701	QAX0406-001Z	CRYSTAL		

■LCD switch board

BLOCK NO. 02□□□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 651	NCB21EK-104X	C CAPACITOR		
	C 652	NBE20JM-475X	TS E CAPACITOR		
	C 653	NCB21HK-681X	C CAPACITOR		
	CP701	VMC0335-001	CONNECTOR		
	D 601	LNJ308G81/1-3/X	LED		
	D 602	LNJ308G81/1-3/X	LED		
	D 603	LNJ308G81/1-3/X	LED		
	D 604	LNJ308G81/1-3/X	LED		
	D 605	LNJ308G81/1-3/X	LED		
	D 609	LNJ308G81/1-3/X	LED		
	D 610	LNJ308G81/1-3/X	LED		
	D 611	LNJ308G81/1-3/X	LED		
	D 612	LNJ308G81/1-3/X	LED		
	D 613	LNJ308G81/1-3/X	LED		
	D 614	LNJ308G81/1-3/X	LED		
	D 615	LNJ308G81/1-3/X	LED		
	D 616	LNJ308G81/1-3/X	LED		
	D 618	LNJ308G81/1-3/X	LED		
	D 619	LNJ308G81/1-3/X	LED		
	D 620	LNJ308G81/1-3/X	LED		
	D 621	LNJ308G81/1-3/X	LED		
	D 622	LNJ308G81/1-3/X	LED		
	D 623	SML-310LT/MN/-X	LED		
	D 624	LNJ308G81/1-3/X	LED		
	IC651	LC75823W	IC		
	PL601	QLL0070-001	PILOT LAMP		
	PL603	QLL0070-001	PILOT LAMP		
	Q 1	2SA1706/ST/-T	TRANSISTOR		
	R 601	NRSA02J-271X	MG RESISTOR		
	R 602	NRSA02J-331X	MG RESISTOR		
	R 603	NRSA02J-391X	MG RESISTOR		
	R 604	NRSA02J-471X	MG RESISTOR		
	R 605	NRSA02J-561X	MG RESISTOR		
	R 606	NRSA02J-271X	MG RESISTOR		
	R 607	NRSA02J-331X	MG RESISTOR		
	R 608	NRSA02J-391X	MG RESISTOR		
	R 609	NRSA02J-471X	MG RESISTOR		
	R 610	NRSA02J-561X	MG RESISTOR		
	R 611	NRSA02J-821X	MG RESISTOR		
	R 612	NRSA02J-271X	MG RESISTOR		
	R 613	NRSA02J-331X	MG RESISTOR		
	R 614	NRSA02J-391X	MG RESISTOR		
	R 615	NRSA02J-471X	MG RESISTOR		
	R 616	NRSA02J-561X	MG RESISTOR		
	R 617	NRSA02J-821X	MG RESISTOR		
	R 621	NRSA02J-103X	MG RESISTOR		
	R 622	NRSA02J-103X	MG RESISTOR		
	R 623	NRSA02J-103X	MG RESISTOR		
	R 631	NRSA02J-821X	MG RESISTOR		
	R 632	NRSA02J-821X	MG RESISTOR		
	R 633	NRSA02J-821X	MG RESISTOR		
	R 634	NRSA02J-821X	MG RESISTOR		
	R 640	NRSA02J-331X	MG RESISTOR		
	R 641	NRSA02J-331X	MG RESISTOR		
	R 642	NRSA02J-821X	MG RESISTOR		

BLOCK NO. 02□□□□□

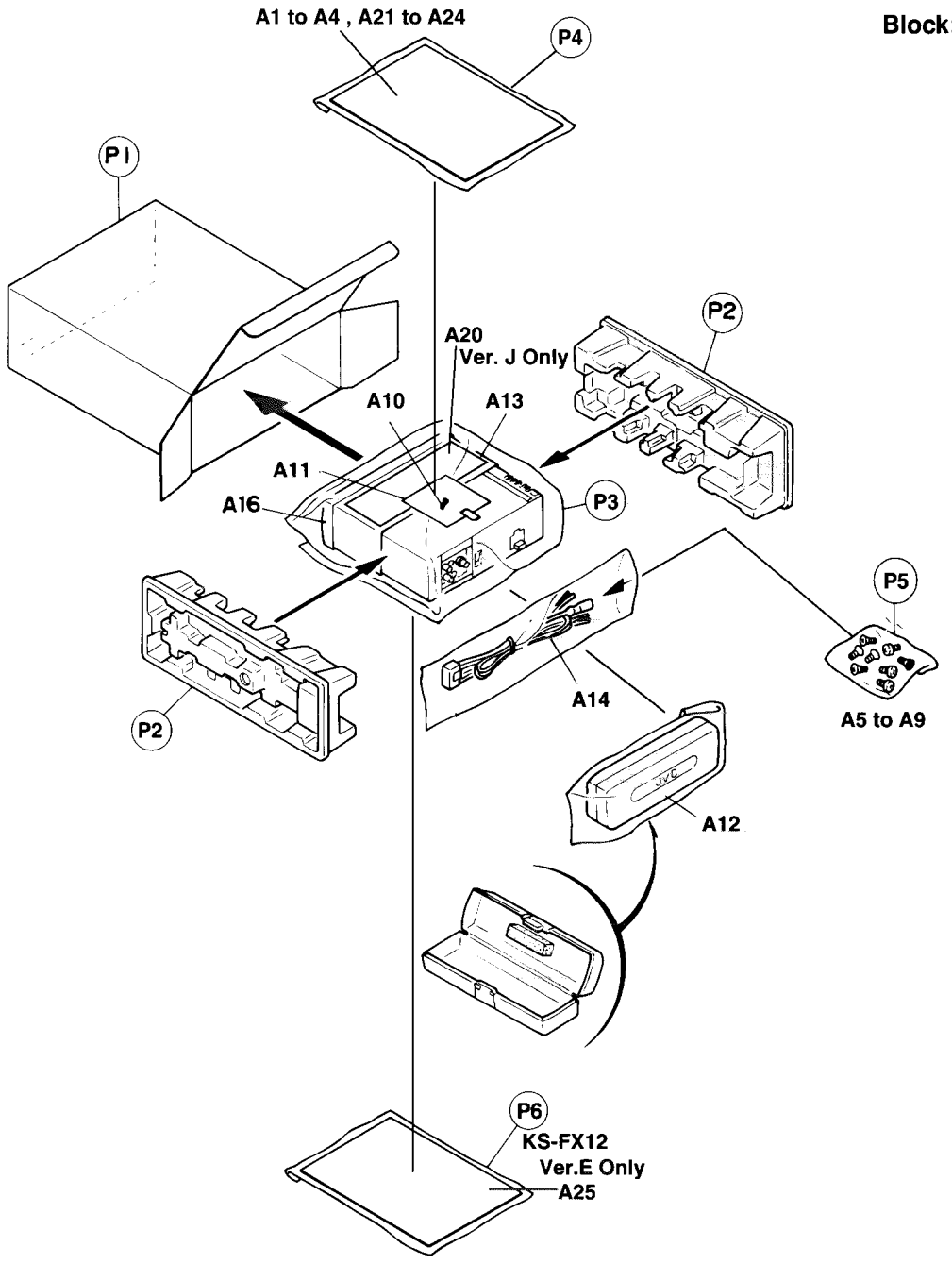
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 644	NRSA02J-821X	MG RESISTOR		
	R 646	NRSA02J-821X	MG RESISTOR		
	R 648	NRSA02J-821X	MG RESISTOR		
	R 650	NRSA02J-511X	MG RESISTOR		
	R 651	NRSA02J-511X	MG RESISTOR		
	R 661	NRSA02J-152X	MG RESISTOR		
	R 662	NRSA02J-473X	MG RESISTOR		
	R 663	NRSA02J-154X	MG RESISTOR		
	S 601	NSW0066-001X	TACT SW		
	S 602	NSW0066-001X	TACT SW		
	S 603	NSW0066-001X	TACT SW		
	S 604	NSW0066-001X	TACT SW		
	S 605	NSW0066-001X	TACT SW		
	S 606	NSW0066-001X	TACT SW		
	S 607	NSW0066-001X	TACT SW		
	S 608	NSW0066-001X	TACT SW		
	S 609	NSW0066-001X	TACT SW		
	S 610	NSW0066-001X	TACT SW		
	S 611	NSW0066-001X	TACT SW		
	S 612	NSW0066-001X	TACT SW		
	S 613	NSW0066-001X	TACT SW		
	S 614	NSW0066-001X	TACT SW		
	S 615	NSW0066-001X	TACT SW		
	S 616	NSW0066-001X	TACT SW		
	S 617	NSW0066-001X	TACT SW		
	S 618	NSW0066-001X	TACT SW		
	S 619	NSW0066-001X	TACT SW		
	S 620	NSW0066-001X	TACT SW		

KS-F150
KS-FX12

Packing materials and accessories parts list

Block: No. M 3 M M

Block: No. M 4 M M



SCREW KIT 1

A9 Hook

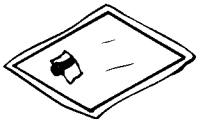
A6 Mount Bolt

A7 Lock Nut

A5 Plug Nut

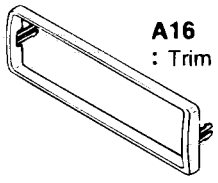
A8 Washer

SCREW KIT 2



A10 Screw

A11 Sheet



A16 : Trim Plate

■Packing parts list

BLOCK NO. M3MM[ ][ ][ ]

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	FSPE3004-040	CARTON	KS-F150	1	J	
		FSPE3004-043	CARTON	KS-FX12	1	E	
		FSPE3004-079	CARTON	KS-FX12WT	1	J	
		FSPE3004-082	CARTON	KS-FX12	1	J	
	P 2	FSPH1018-002	PAPER CUSHION	KS-FX12	2	J,E	
		FSPH1018-002	PAPER CUSHION	KS-FX12WT	2	J	
		FSPH1018-002	PAPER CUSHION	KS-F150	2	J	
	P 3	VPE3005-064	POLY BAG		1		
	P 4	QPA01703505P	POLY BAG	INST.BOOK	1		
	P 5	QPA00801205	POLY BAG		1		
	P 6	QPA01703505P	POLY BAG	KS-FX12	1	E	

■Accessories list

BLOCK NO. M4MM[ ][ ][ ]

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	FSUN3098-631	INSTRUCTIONS	KS-FX12	1	J	
		FSUN3098-321	INSTRUCTIONS	KS-FX12	1	E	
		FSUN3098-631	INSTRUCTIONS	KS-FX12WT	1	J	
		FSUN3096-631	INSTRUCTIONS	KS-F150	1	J	
	A 2	FSUN3098-T211	INSTALL MANUAL	KS-FX12	1	E	
		FSUN3098-T451	INSTALL MANUAL	KS-FX12	1	E	
		FSUN3098-T481	INSTALL MANUAL	KS-FX12	1	E	
		FSUN3098-T631	INSTALL MANUAL	KS-FX12WT	1	J	
		FSUN3096-T631	INSTALL MANUAL	KS-F150	1	J	
		FSUN3098-T631	INSTALL MANUAL	KS-FX12	1	J	
	A 3	BT-51018-1	WARRANTY CARD	KS-FX12/KS-F150	1	J	
		BT-51018-1	WARRANTY CARD	KS-FX12WT	1	J	
	A 4	BT-51020-2	REGISTER CARD	KS-FX12WT	1	J	
		BT-51020-2	REGISTER CARD	KS-FX12/KS-F150	1	J	
	A 5	VKZ4027-202	PLUG NUT		1		
	A 6	VKH4871-001SS	MOUNT BOLT		1		
	A 7	VKZ4328-001	LOCK NUT	FOR M5	1		
	A 8	WNS5000Z	WASHER		1		
	A 9	FSKL4010-002	HOOK		2		
	A 10	VKZ4777-001	MINI SCREW	THEFT PREVENTIO	1		
	A 11	FSYA4001-001	SHEET		1		
	A 12	FSJB3002-00A	HARD CASE		1		
	A 13	FSKM2004-202	MOUNTING SLEEVE		1		
	A 14	QAM0013-006	16P CORD ASS'Y	KS-FX12/KS-F150	1	J	
		QAM0013-006	16P CORD ASS'Y	KS-FX12WT	1	J	
		QAM0089-001	16P CORD ASS'Y	KS-FX12	1	E	
	A 16	FSJD2034-001	TRIM PLATE	KS-F150	1	J	
		FSJD2034-003	TRIM PLATE	KS-FX12WT	1	J	
		FSJD2034-001	TRIM PLATE	KS-FX12	1	J,E	
	A 20	LV41417-001A	CAUTION SHEET	KS-FX12/KS-F150	1	J	
		LV41417-001A	CAUTION SHEET	KS-FX12WT	1	J	
	A 21	LVT0328-001B	TROUBLE SHOOTIN	KS-FX12WT	1	J	
		LVT0328-001B	TROUBLE SHOOTIN	KS-FX12/KS-F150	1	J	
	A 22	BT-52001-4	WARRANTY CARD	KS-FX12/KS-F150	1	J	
		BT-52001-4	WARRANTY CARD	KS-FX12WT	1	J	
	A 23	BT-20071B	SERVICE NETWORK	KS-FX12/KS-F150	1	J	
		BT-20071B	SERVICE NETWORK	KS-FX12WT	1	J	
	A 24	BT-54013-1	WARRANTY CARD	KS-FX12	1	E	
	A 25	FSUN3098-311	INSTRUCTIONS	KS-FX12	1	E	
	KIT 1	KDGS717K-SCREW1	SCREW PARTS KIT	A5-A9	1		
	KIT 2	KDGS727J-SCREW2	SCREW PARTS KIT	A10,A11	1		

KS-F150
KS-FX12

JVC

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